Catalogue

Version2018

Turning

ZCC Cutting Tools Europe GmbH

your Partner your Value

WELCOME TO ZCC CUTTING TOOLS EUROPE

ZCC-CT, one of the World's leading carbide tooling manufacturers, welcomes you to its products. We are able to offer you a wide product range of high performance cutting tools at economic prices and a good supply service to support the production and productivity at your manufacturing facilities. You will find the main tool types in the various sections of the catalogue, Turning is in section A, Milling in section B and Drilling in section C of the catalogue.

We are looking forward to working with you and developing good cooperation together. Our team at ZCC Cutting Tools Europe is ready to support you in all of your requirements.

Member of Minmetals Group

HAUPTSITZ IN EUROPA:
ZCC Cutting Tools Europe GmbH, Wanheimer Str.57, 40472 Düsseldorf, Germany
Tel.: +49 (0) 211/989240-0, Fax: +49 (0) 211/ 989240-111
E-Mail: info@zccct-europe.com, www.zccct-europe.com, www.zccct.com


C·CT


MC 734/MT


CTD

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QEGD2020L13


DCLNR2525M12

General turning

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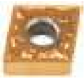
Carbide and cermet inserts

Double sided, negative – Finishing

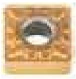

CNEG-NF	CNMG-ADF	CNMG-DF	CNMG-EF	CNMG-SF	
12	12	09 12	09 12	09 12	Edge length
A44	A43	A43	A43	A43	Page



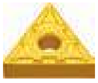


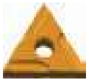


DNEG-NF	DNEG-NGF	DNMG-ADF	DNMG-DF	DNMG-EF	DNMG-FM	DNMG-SF	
15	15	15	11 15	11 15	15	11 15	Edge length
A56	A56	A53	A53	A56	A56	A53	Page

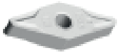



SNMG-ADF	SNMG-DF	SNMG-EF	SNMG-SF	
12	12	09 12 15	09 12	Edge length
A62	A62	A63	A62	Page

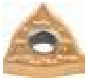



TNMG-ADF	TNMG-DF	TNMG-EF	TNMG-FM	TNMG-SF	
16	16 22	11 16 22	16	11 16 22	Edge length
A77	A77	A79	A79	A78	Page



VNEG-NF	VNEG-NGF	VNMG-ADF	VNMG-DF	VNMG-EF	VNMG-SF	
16	16	16	16	16	16	Edge length
A88	A89	A88	A88	A88	A89	Page



WNEG-NF	WNMG-ADF	WNMG-DF	WNMG-EF	WNMG-NF	WNMG-SF	
08	08	06 08	06 08	06	06 08	Edge length
A93	A92	A92	A93	A93	A92	Page

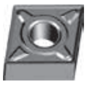
Double sided, negative, Wiper – Finishing



CNMG-WG	TNMX-WG	WNMG-WG	
12	16	08	Edge length
A43	A77	A93	Page

Carbide and cermet inserts

Double sided, negative – Medium machining

								
CNMG	**CNMG-DM**	**CNMG-EG**	**CNMG-EM**	**CNMG-NM**	**CNMG-PM**	**CNMG-TC**	**CNMG-ZM**	
12 16 19	09 12 16 19	12	12 16	12	09 12 16 19	12 16	12	Edge length
A52	A45	A45	A45	A47	A44	A47	A46	Page

								
DNMG	**DNMG-DM**	**DNMG-EG**	**DNMG-EM**	**DNMG-NM**	**DNMG-PM**	**DNMG-TC**	**DNMG-ZM**	
15 19	11 15	15	11 15	15	11 15	15	15	Edge length
A61	A54	A57	A57	A57	A54	A57	A55	Page

								
RNMG	**SNMG**	**SNMG-DM**	**SNMG-EG**	**SNMG-EM**	**SNMG-NM**	**SNMG-PM**	**SNMG-TC**	
12	09 12 25	09 12 15 19	12	12 15	12	09 12 15 19	12 15	Edge length
A97	A73	A65	A65	A66	A67	A64	A66	Page

								
TNMG	**TNMG-DM**	**TNMG-EG**	**TNMG-EM**	**TNMG-PM**	**TNMG-TC**	**TNMG-ZM**		
11 16 22 27 33	11 16 22	16	16 22	11 16 22	16 22	16		Edge length
A86	A80	A82	A82	A80	A82	A81		Page

								
VNMG	**VNMG-DM**	**VNMG-EM**	**VNMG-NM**	**VNMG-TC**	**VNMG-ZM**			
16	16	16	16	16	16			Edge length
A90	A90	A90	A90	A91	A91			Page

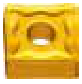
								
WNMG-DM	**WNMG-EG**	**WNMG-EM**	**WNMG-NM**	**WNMG-PM**	**WNMG-TC**	**WNMG-ZM**		
06 08	08	06 08	08	06 08	08	08		Edge length
A94	A94	A94	A96	A95	A96	A95		Page

Double sided, negative – Medium machining to roughing

						
CNMA	**DNMA**	**SNMA**	**SNUN**	**TNMA**	**WNMA**	
12 16 19	15	12 15 19	09 12 19 25	16 22	06 08	Edge length
A52	A59	A74	A76	A87	A96	Page

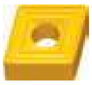
Carbide and cermet inserts

Double sided, negative – Roughing

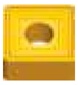
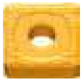
								
CNMG-DR	**CNMG-ER**	**CNMG-SNR**	**DNMG-DR**	**DNMG-ER**	**DNMG-SNR**	**SNMG-DR**	**SNMG-ER**	
12 16 19 25	12 16 19	12 16 19	15	15	15	12 15 19 25	12 15 19	Edge length
A47	A49	A48	A58	A59	A58	A67	A68	Page

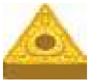
			
TNMG-DR	**TNMG-ER**	**WNMG-DR**	
16 22 27	16 22	06 08	Edge length
A83	A84	A96	Page

Single sided, negative – Roughing

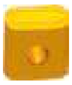
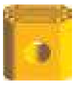
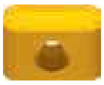
						
CNMM	**CNMM-DR**	**CNMM-ER**	**CNMM-HDR**	**CNMM-HPR**	**CNMM-LR**	
12 19	12 16 19 25	25	12 16 19 25	19 25	12 16 19 25	Edge length
A51	A49	A49	A51	A51	A50	Page

				
DNMM-DR	**DNMM-ER**	**DNMM-HDR**	**DNMM-LR**	
15	15	15	15	Edge length
A60	A60	A60	A60	Page

					
SNMM	**SNMM-DR**	**SNMM-HDR**	**SNMM-HPR**	**SNMM-LR**	
12 19 25	15 19 25	12 15 19 25	19 25	12 15 19 25	Edge length
A73	A69	A71	A72	A70	Page

				
TNMM	**TNMM-DR**	**TNMM-HDR**	**TNMM-LR**	
16 22 27	16 22 27	22 27	16	Edge length
A87	A84	A85	A84	Page

Special form – Roughing

							
175.32-22 · 227	**175.32-24**	**175.32-25**	**175.32-28 · 31**	**KNUX**	**TNMX**	**YNMX · YNUX**	
				16	11 15	18 25	Edge length
A99	A99	A99	A99	A98	A100	A101	Page

Carbide and cermet inserts

Positive – Fine-finishing







CCGT-SF	CCGT-USF	CPGT-SF	DCGT-SF	DCGT-USF	DPGT-SF	DPGT-USF	
06 09	09	06 09	07 11	07 11	07 11	07 11	Edge length
A102	A102	A109	A110	A111	A116	A116	Page





TBGH	TCGT-SF	TCGT-USF	TPGH	TPGT-SF	
06	06 09 11	11	09 11	09 11	Edge length
A124	A125	A125	A131	A131	Page



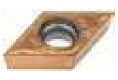

VBGT-SF	VCGT-SF	VCGT-USF	VPGT-USF	
11	11 16	08 11	08 11	Edge length
A139	A132	A133	A137	Page

Positive – Finishing

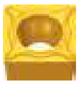




CCMT-AHF	CCMT-EF	CCMT-HF	CPGT	CPMT-HF	
06 09 12	06 09 12	06 09 12	05	06	Edge length
A103	A105	A103	A104	A109	Page





DCMT-AHF	DCMT-EF	DCMT-HF	SCMT-AHF	SCMT-EF	SCMT-HF	
07 11	07 11	07 11	09	09	09	Edge length
A110	A112	A112	A119	A119	A120	Page



TCMT-AHF	TCMT-EF	TCMT-HF	
11 16	09 11 16	09 11 16	Edge length
A126	A127	A126	Page





VBET-NF	VBET-NGF	VBMT-AHF	VBMT-EF	VBMT-HF	
16	16	16	11 16	11	Edge length
A138	A140	A138	A138	A138	Page

Carbide and cermet inserts

Positive – Finishing

VCGT	VCGT-HF	VCGT-NF	VCMT-EF	
13	11	16	16	Edge length
A133	A132	A132	A136	Page

Positive – Medium machining

CCMT-EM	CCMT-HM	CCMW	CPGW	CPMT-HM	
06 09 12	06 09 12	06 09 12	06	09	Edge length
A105	A106	A107	A109	A109	Page

DCMT-EM	DCMT-HM	DCMW	DPMW	
07 11	07 11	07 11	11	Edge length
A112	A113	A114	A116	Page

SCMT	SCMT-EM	SCMT-HM	SPMW	
09 12	09 12	09 12	09 12	Edge length
A121	A119	A120	A123	Page

TCMT	TCMT-EM	TCMT-HM	TCMW	VBMT-EM	VBMT-HM	VCMT-EM	
22	09 11 16	09 11 16	11 16 22	11 16	16	16	Edge length
A129	A127	A128	A128	A140	A140	A136	Page

Positive – Roughing

CCMT-HR	CCMT-TC	DCMT-HR	RCMT · RCGT	RCMX	RCMX-PV	SCMT-HR	TCMT-HR	
06 09 12	06 09 12	11	08 10 12 16 20 25	08 10 12 16 20 25 32	32	09 12	09 11 16 22	Edge length
A107	A107	A114	A117	A118	A118	A121	A128	Page

VBGT-HR	VBMT-HR	VBMT-SNR	
16	16	16	Edge length
A140	A141	A141	Page

Carbide and cermet inserts

Positive – Aluminium machining





CCGX-LC	CCGX-LH	DCGX-LC	DCGX-LH	RCGX-LH	
06 09 12	06 09 12	07 11	07 11	08 12	Edge length
A108	A108	A114	A115	A117	Page






SCGX-LC	SCGX-LH	TCGX-LC	TCGX-LH	VCGX-LC	VCGX-LH	
09 12	09 12	09 11 16	09 11 16	11 16 22	11 16 22	Edge length
A121	A122	A130	A130	A134	A135	Page

PCBN & PCD

Negative





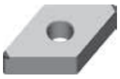

CNGA	DNGA	SNGA	TNGA	VNGA	WNGA	
12	15	12	16	16	06 08	Edge length
A146	A147	A148	A149	A150	A151	Page





CNGN	DNGN	RNGN	SNGN	WNGN	
09 12	11	09 12 15	09 12 15	06 08	Edge length
A157	A158	A161	A159	A160	Page

Positive


CCGW	DCGW	TCGW	VBGW	VCGW	
06 09 12	07 11	11 16	16	16	Edge length
A163	A165	A154	A169	A171	Page





CCGT	DCGT	TCGT	VBMW	VCGT	
06 09 12	07 11	11 16	16	16	Edge length
A162	A164	A166	A141	A170	Page

Ceramic inserts

Negative

 **CNGA**	 **CNGN**	 **CNGX**	 **DNGA**	 **DNGN**	 **DNGX**	
12 16	12 16	12	15	15	15	Edge length
A176	A177	A178	A179	A180	A181	Page

 **RNGN**	 **SNGA**	 **SNGN**	 **SNGX**	 **TNGA**	 **TNGN**	 **WNGA**	
09 12 15 19 25	12	09 12 15 19 25	12	16 22	16 22	08	Edge length
A187	A182	A184	A183	A185	A186	A188	Page

External tool holders

Holder with double clamping







DCLNR/L	DDJNR/L	DSBNR/L	DTGNR/L	DVJNR/L	DVVNN	DWLNR/L	
95°	93°	75°	90°	93°	72.5°	95°	Angle
A197	A198	A199	A200	A202	A201	A203	Page

Holder with knee lever clamping







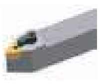

PCBNR/L	PCLNR/L	PDJNR/L	PDNNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	
75°	95°	93°	63°	75°	45°	75°	45°	Angle
A204	A205	A206	A207	A208	A210	A211	A212	Page




PTFNR/L	PTGNR/L	PTTNR/L	PWLNR/L	
91°	90°	60°	95°	Angle
A213	A215	A214	A217	Page

Holder with multi clamping





MCBNR/L	MCLNR/L	MDJNR/L	MDPNN	MRDNN	MRGNR/L	MSBNR/L	MSDNN	
75°	95°	93°	62.5°	45°	90°	75°	45°	Angle
A218	A219	A220	A221	A233	A234	A222	A225	Page





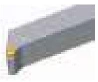



MSKNR/L	MSRNR/L	MTFNR/L	MTGNR/L	MTJNR/L	MTJNR/L-Z	MVJNR/L	MVVNN	
75°	75°	90°	90°	93°	93°	93°	72.5°	Angle
A224	A223	A229	A226	A227	A228	A231	A230	Page

MWLNR/L	
95°	Angle
A232	Page

External tool holders

Holder with screw clamping

SCACR/L	**SCLCR/L**	**SDACR/L**	**SDJCR/L**	**SDNCN**	**SRDCN**	**SRGCR/L**	**SSBCR/L**	
								
90°	95°	90°	93°	63°	45°	90°	75°	Angle
A235	A236	A237	A238	A239	A254	A255	A245	Page

SSDCN	**SSKCR/L**	**SSSCR/L**	**STACR/L**	**STFCR/L**	**STGCR/L**	**STTCR/L**	**SVABR/L**	
								
45°	75°	45°	90°	90°	90°	60°	90°	Angle
A246	A247	A248	A249	A250	A251	A252	A241	Page

SVJBR/L	**SVJCR/L**	**SVVBN**	**SVVCN**	**SWACR/L**	
					
93°	93°	72.5°	72.5°	90°	Angle
A240	A244	A242	A243	A253	Page

Holder with top clamping

CKJNR/L	**CKNNR/L**	
		
93°	63°	Angle
A256	A257	Page

Tool holder for ceramic inserts and solid CBN inserts

CCLNR/L	**CDJNR/L**	**CRDNN**	**CSDNN**	**CSKNR/L**	**CSRNR/L**	**CTJNR/L**	**CTUNR/L**	
								
95°	93°	45°	45°	75°	75°	93°	93°	Angle
A258	A260	A264	A265	A262	A263	A259	A261	Page

JCLNR/L	**JDJNR/L**	**JSDNN**	
			
95°	93°	45°	Angle
A266	A267	A268	Page

Swiss turning

SCACR/L-SC	**SCLCR/L-SC**	**SDACR/L-SC**	**SDHCR/L-SC**	**SDJCR/L-SC**	**SDNCN-SC**	**SVACR/L-SC**	**SVJCR/L-SC**	
								
90°	95°	90°	107°30'	93°	62°30'	90°	93°	Angle
A272	A273	A274	A275	A276	A277	A278	A279	Page

Boring bars

Steel boring bars with knee lever clamping






PCLNR/L	PDSNR/L	PDUNR/L	PSKNR/L	PTFNR/L	PWLNR/L	
95°	45°	93°	75°	90°	95°	Angle
A284	A286	A287	A289	A290	A291	Page

Steel boring bars with screw clamping








SCFCR/L	SCLCR/L	SCLPR/L	SDQCR/L	SDQPR/L	SDUCR/L	SDUPR/L	SDZCR/L	
90°	95°	95°	107.5°	107.5°	93°	93°	95°	Angle
A310	A293	A306	A295	A307	A296	A308	A297	Page







SSKCR/L	STFCR/L	STUPR/L	SVQBR/L	SVQCR/L	SVUBR/L	SVUCR/L	
75°	90°	93°	107.5°	107.5°	93°	93°	Angle
A298	A300	A309	A304	A302	A305	A303	Page

Solid carbide boring bars with screw clamping








SCLCR/L	SCLPR/L	SDQCR/L	SDQPR/L	SDUCR/L	SDUPR/L	STFCR/L	STFPR/L	
95°	95°	107.5°	107.5°	93°	93°	90°	90°	Angle
A313	A312	A315	A314	A317	A316	A319	A320	Page



STUPR/L	SVQCR/L	SVUCR/L	
93°	107.5°	93°	Angle
A318	A321	A322	Page

New

ADF & AHF chip breaker

Optimised geometry series especially for machining of steel and stainless steel.

-ADF

Negative inserts
e.g. **CNMG ...**

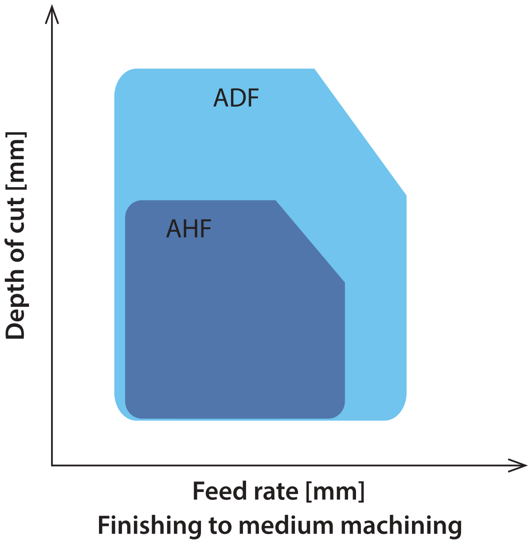
Ground, double sided chip breaker with good chip control. Wide range of application due to excellent balance of sharpness and cutting edge stability.

-AHF

Positive inserts
e.g. **CCMT ...**

Ground, single sided chip breaker with good chip control. Wide range of application due to excellent balance of sharpness and cutting edge stability.

Range of chip breaker



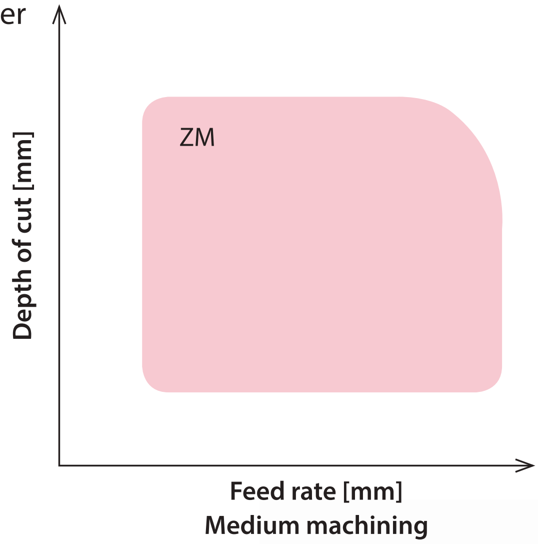
New

ZM chip breaker

-ZM

Double sided chip breaker for medium machining. Wide range of application due to stable cutting edge and large rake angle. Very suitable for machining of steel.

Range of chip breaker



New

NGF & SNR chip breaker

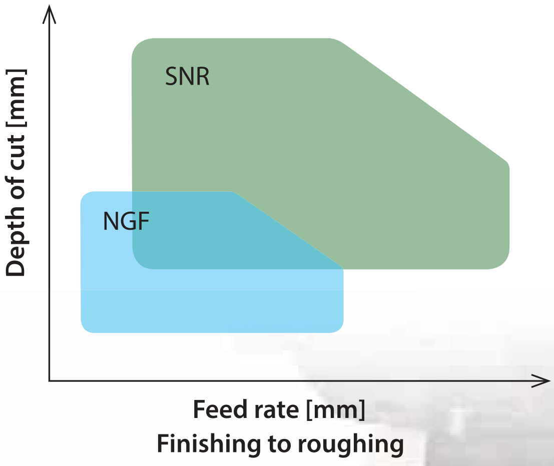
Special chip breaker series for machining of heat-resistant alloys.

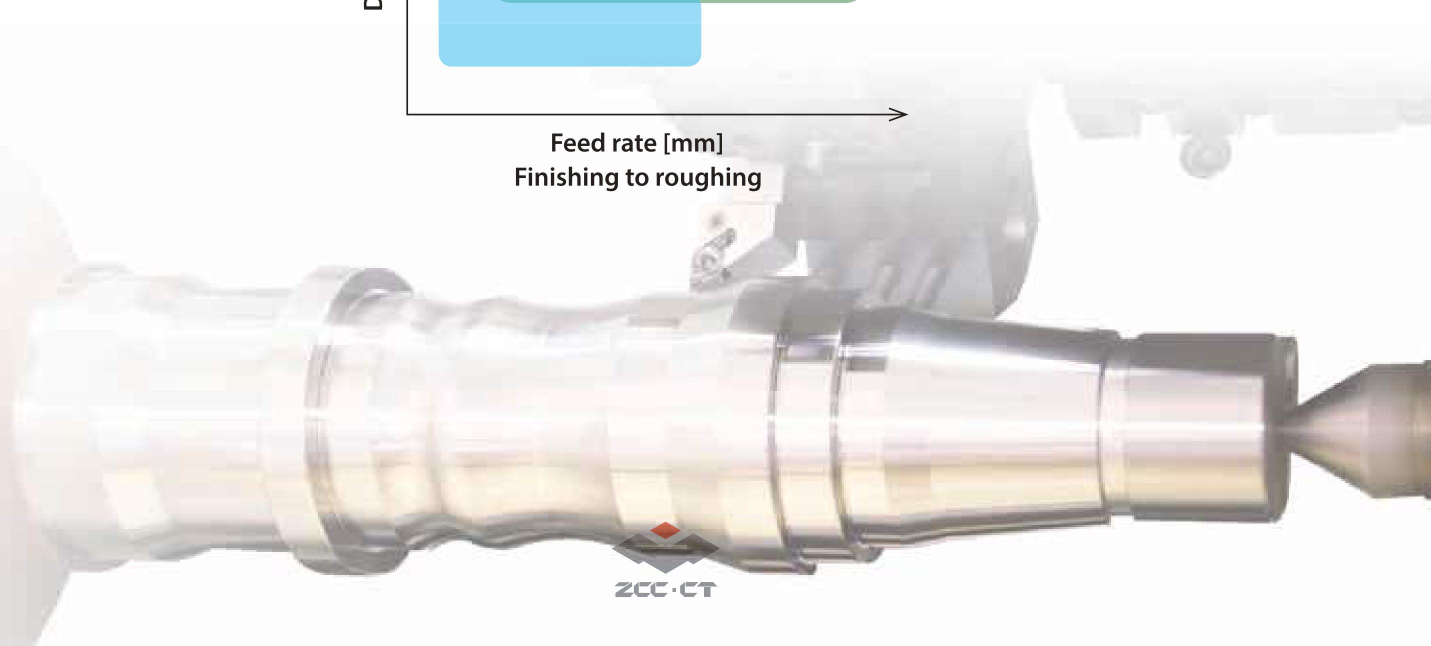
-NGF

Double sided chip breaker with ground cutting edge and large rake angle for finishing. E-tolerance for high repeatability.

-SNR

Double sided chip breaker for roughing. Wide range of application due to excellent balance of sharpness and cutting edge stability.



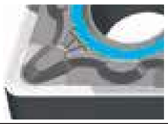
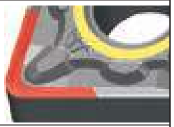


Simply coloured

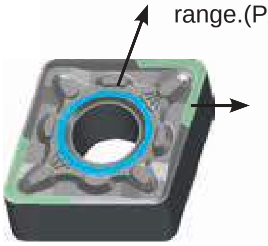
The revolution in wear identification

P YBC
M YBM **F** **SERIES**
SERIE

Easy choice on the basis of the table without any further knowledge and without looking at the insert box.

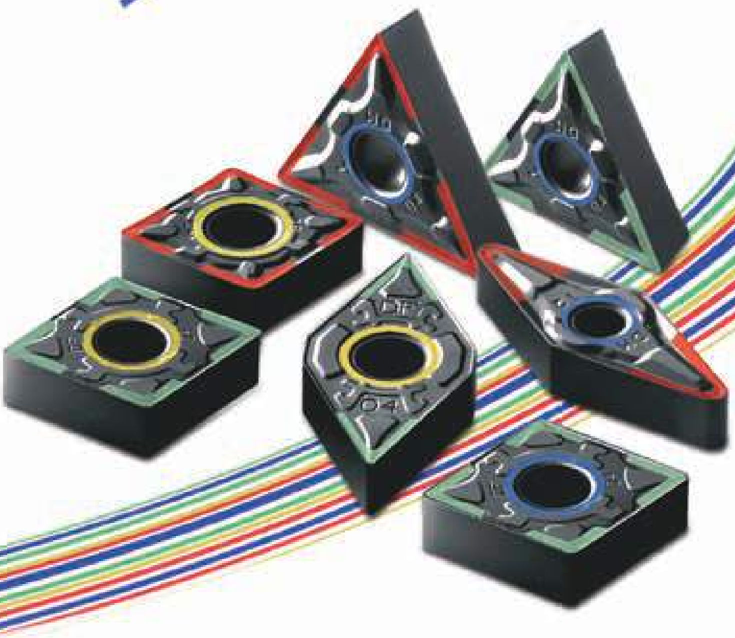
	P	M
	○	○
05	**YBC052F** 	
15	**YBC152F** 	**YBM153F** 
25	**YBC252F** 	**YBM253F** 
35	**YBC352F** 	

Recommended for wet machining



The colour of the inner ring indicates the application range.(P/M)

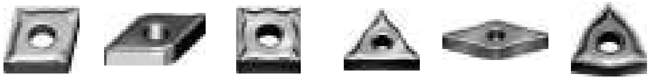
The colour of the cutting edge indicates the grade, such as P15.



Negative inserts

Finishing

SF P M K

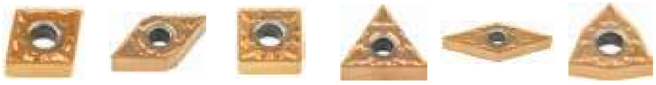


Double sided chip breaker with good chip control. Suitable for finishing and medium machining of steel and cast iron.

DF P K

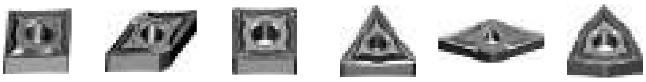
Double sided chip breaker with good chip control. Suitable for finishing and medium machining of steel and cast iron.

ADF P M



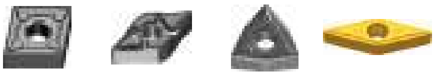
Ground, double sided chip breaker with good chip control. Wide range of application due to excellent balance of sharpness and cutting edge stability.

EF M S



Double sided chip breaker with sharp cutting edge and large rake angle for finishing of stainless steel.

NF S M



Double sided chip breaker with ground cutting edge and large rake angle for finishing. E-tolerance for high repeatability.

NGF S M

Double sided chip breaker with ground cutting edge and large rake angle for finishing. E-tolerance for high repeatability.

Negative inserts

Wiper

WG **P** **M** **K**

Double sided chip breaker with wiper geometry. Allows to double the feed rate and improves the surface quality.

Medium machining

DM **P** **K**

Double sided chip breaker for medium machining. Wide range of application due to excellent balance of sharpness and cutting edge stability.

ZM **P**

Double sided chip breaker for medium machining. Wide range of application due to stable cutting edge and large rake angle. Very suitable for machining of steel.

PM **P** **K**

Double sided chip breaker for medium machining. Wide range of application in steel and cast iron.

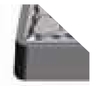
TC **K** **P**

Double sided chip breaker with surrounding cutting edge. Process reliable machining due to highest cutting edge stability.

Negative inserts

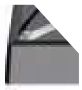
Medium machining

NM **S** **M**



Double sided chip breaker with ground cutting edge and large rake angle for medium machining of heat-resistant materials.

EM **M** **S**



Double sided chip breaker with sharp cutting edge and large rake angle. Process reliable medium machining of stainless steel.

EG **M** **S**

Double sided chip breaker with ground cutting edge and large rake angle. Wide range of application for medium machining of stainless steel.

Basic **P** **K**

Double sided chip breaker with surrounding cutting edge for universal machining of steel and cast iron.

Roughing

DR **double sided** **P** **K**

Double sided chip breaker with positive rake angle and stable cutting edge for light to medium roughing of steel and cast iron.

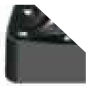
Negative inserts

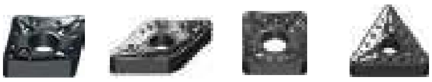
Roughing

DR single sided **P** **K**

Single sided chipbreaker with positive rake angle and stable cutting edge for light to medium roughing of steel and cast iron.

LR **P** **M**





Single sided chip breaker with curved cutting edge and unique bumpy geometry. Low cutting pressure for process reliable machining. Light roughing of steel and stainless steel.

ER double sided **M** **S**

Double sided chip breaker with large rake angle for low cutting forces. Suitable for roughing of stainless steel.

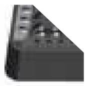
ER single sided **M** **S**

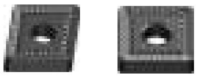
Single sided chip breaker with large rake angle for low cutting forces. Suitable for roughing of stainless steel.

HDR **P** **K**

Single sided chip breaker with high cutting edge stability and deformation resistance. Excellent for roughing with high cutting depths in steel and stainless steel.

HPR **P** **K**



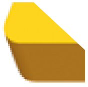


Single sided chip breaker with high cutting edge stability and large chip space. Excellent for heavy roughing in steel and cast iron.

Negative inserts

Roughing

Flat K



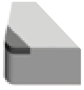
Double sided insert without chip breaker. Stable cutting edge design, due to missing microgeometry. Excellent for roughing in cast iron.

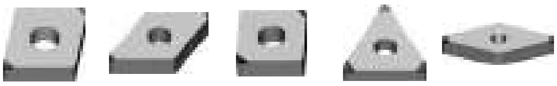
SNR S M

Double sided chip breaker for roughing. Wide range of application due to excellent balance of sharpness and cutting edge stability.

PCBN & PCD inserts

Flat N H





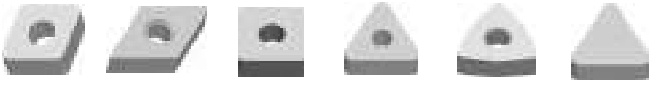
With brazed CBN or PCD cutting edge. For machining of hardened steel (CBN) or non-ferrous metals (PCD).

Flat H K

Solid CBN insert for machining of steel and cast iron.

Ceramic inserts

Flat K H

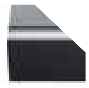


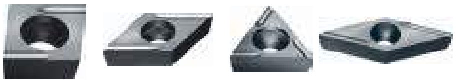
Ceramic inserts for machining of low hardened steel and cast iron.

Positive inserts

Fine-finishing

USF **P** **M**

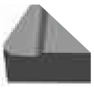




Single sided chip breaker for fine finishing. Sharp cutting edge with large hollow flute, excellently suitable for machining small work pieces. G-tolerance for high repeatability.

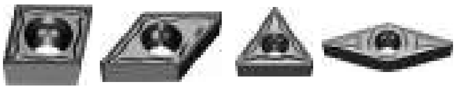
Finishing

R/L **P** **M**



Single sided chip breaker for fine finishing. Excellent for high surface quality. G-tolerance for high repeatability.

SF **P** **M**



Single sided chip breaker in combination with cermet grades. Geometry with high sharpness for improved chip control and great surface quality. Ideal for machining with small cutting depths and feed rates.

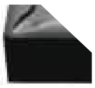
HF **P** **K**

Single sided chip breaker with good chip control. Suitable for finishing to medium machining of steel and cast iron.

AHF **P** **M**

Ground, single sided chip breaker with good chip control. Wide range of application due to excellent balance of sharpness and cutting edge stability.

EF **M** **S**

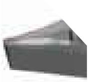


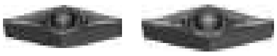
Single sided chip breaker with sharp cutting edge and large rake angle for finishing of stainless steel.

Positive inserts

Finishing

NF M S





Single sided chip breaker with ground cutting edge and large rake angle for finishing. E-tolerance for high repeatability.

NGF M S

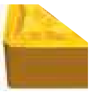
Single sided chip breaker with ground cutting edge and large rake angle for finishing. E-tolerance for high repeatability.

Medium machining

TC K P

Single sided chip breaker with encircling cutting edge. Process reliable machining due to highest cutting edge stability.

HM P K



Single sided chip breaker for medium machining. Wide range of application due to excellent balance of sharpness and cutting edge stability.

EM M S

Single sided chip breaker with sharp cutting edge and large rake angle. Process reliable medium machining of stainless steel.

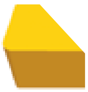
Basic P K

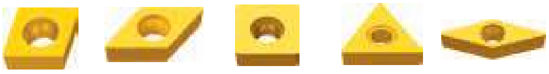
Single sided chip breaker with encircling cutting edge for universal machining of steel and cast iron.

Positive inserts

Roughing

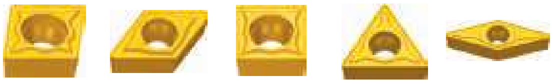
Flat **K**





Single sided insert without chip breaker. Stable cutting edge design due to missing microgeometry. Excellent for roughing in cast iron.

HR **P** **K**



Single sided chip breaker with positive rake angle and stable cutting edge for light to medium roughing of steel and cast iron.

SNR **S** **M**

Single sided chip breaker for roughing. Wide range of application due to excellent balance of sharpness and cutting edge stability.

Basic **P** **K**

Single sided chip breaker with encircling cutting edge for universal machining of steel and cast iron.

Aluminium machining

LC **N**

Single sided chip breaker with excellent cutting edge design. Sharp cutting edge with positive rake angle. G-tolerance for high repeatability.

Positive inserts

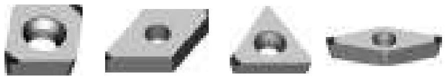
Aluminium machining

LH **N**

Single sided chipbreaker for machining of cast aluminium alloys. Sharp cutting edge with positive rake angle. G-tolerance for high repeatability.

PCBN & PCD inserts

Flat **N** **H**



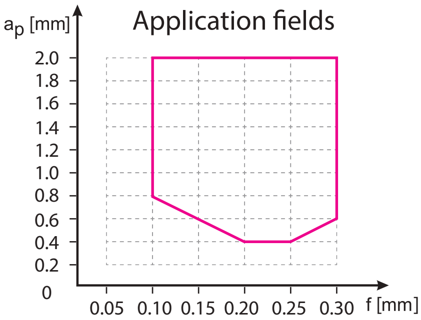
With brazed CBN or PCD cutting edge. For machining of hardened steel (CBN) or non-ferrous metals (PCD).

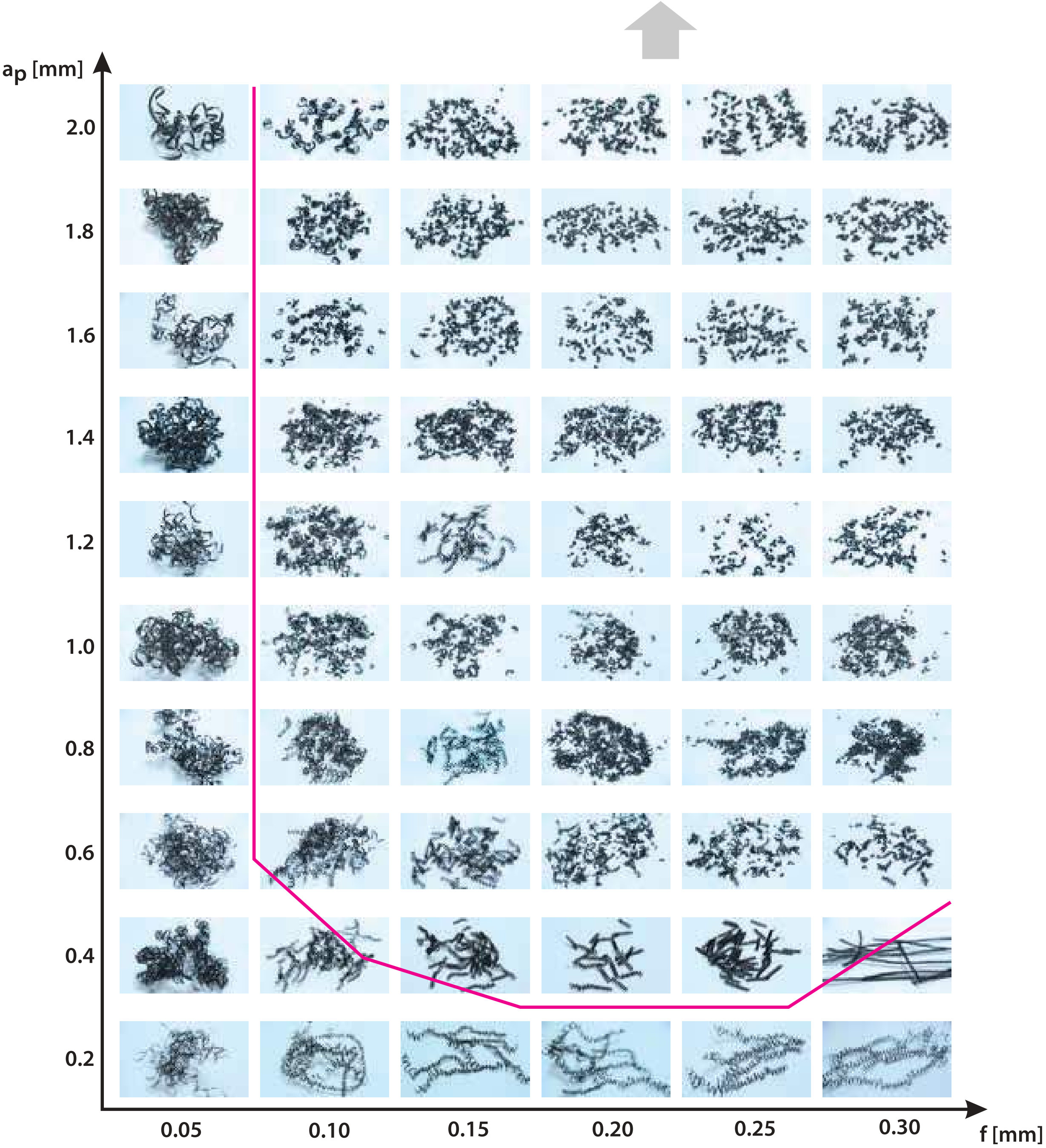
General turning

Application fields of chip breakers determination

Example

Insert:	CNMG120408-DF
Holder:	PCLNL2525M12
Material:	C 45 steel
V_c:	200 m/min

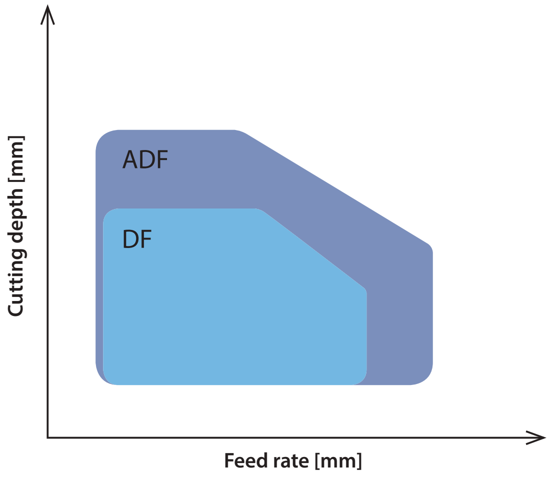




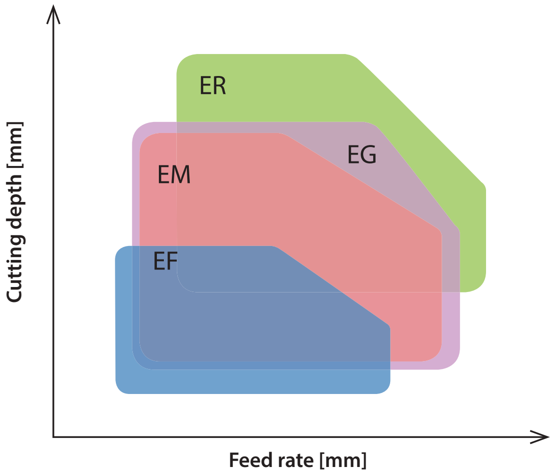
General turning

Application fields of chip breakers

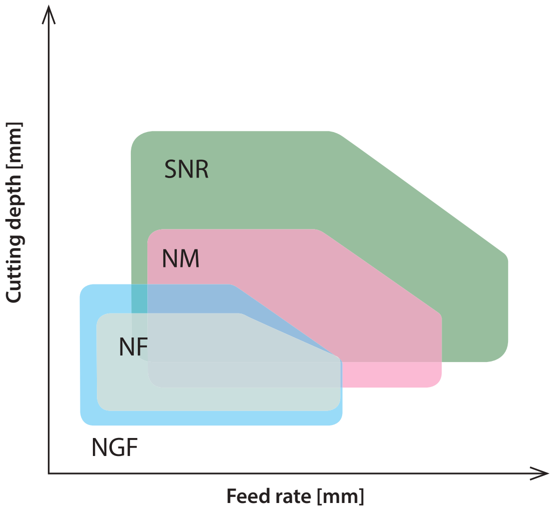
Negative inserts



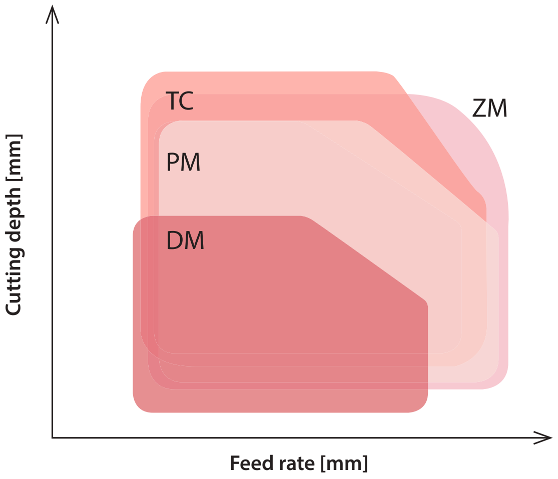
Finishing to medium machining



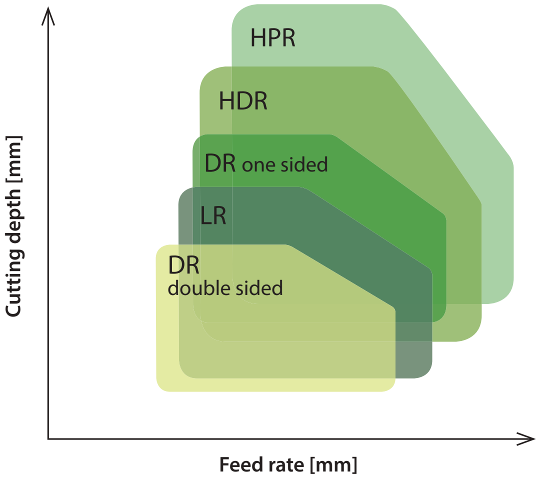
Finishing to roughing



Finishing to roughing

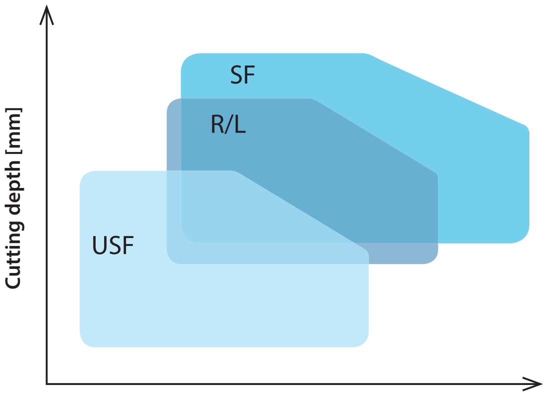


Medium machining

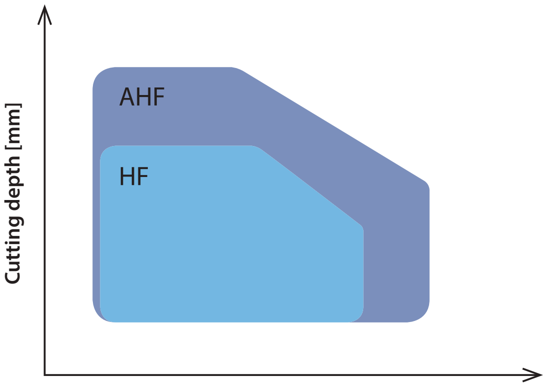


Roughing

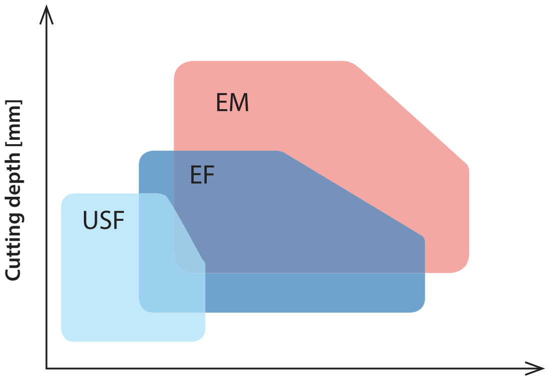
Positive inserts



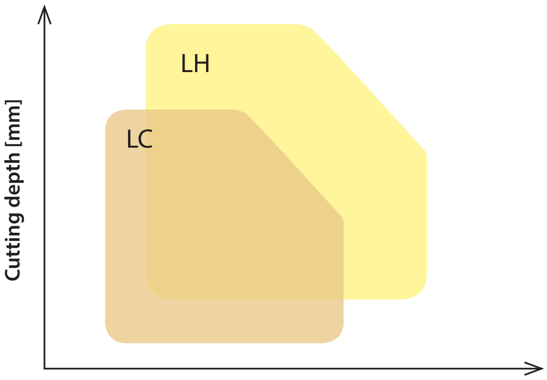
Fine-finishing



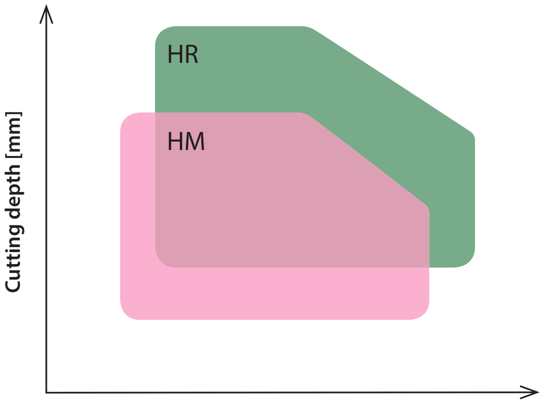
Finishing to medium machining



Finishing to medium machining



Finishing to medium machining



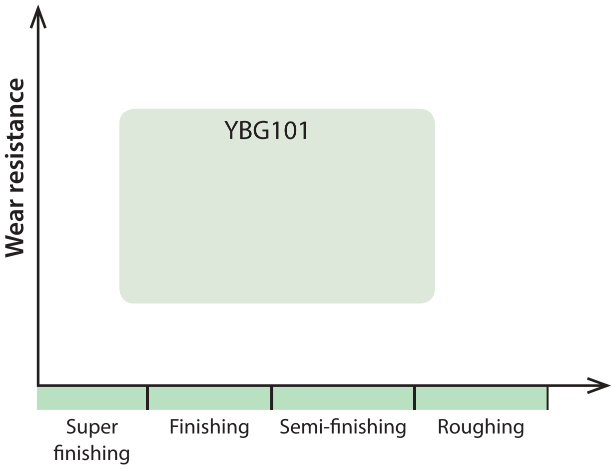
Medium machining to roughing

New

YBG101

Turning grades for aluminum

PVD coated N05–N20 carbide substrate for finishing to medium application in aluminum material. Coating only on the top face, in combination with the aluminum chip breaker, prevents build up edges and gives a smooth cut.

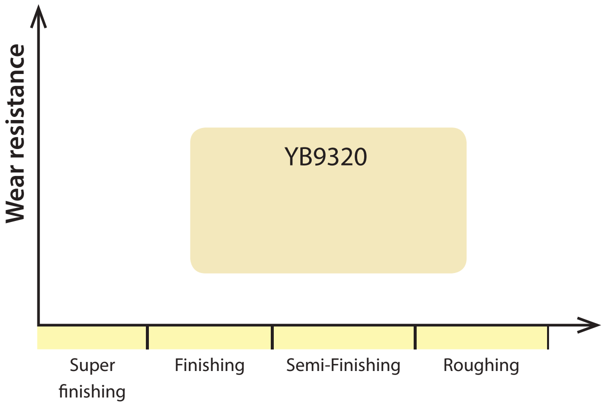


New

YB9320

PVD coated cemented carbide

PVD multilayer coated M10–M25/P10–P30 carbide substrate for finishing to medium application of stainless steel, super alloy and steel (grooving/milling). Optimized coating stability for higher wear resistance and thermal stability in a wide application field.

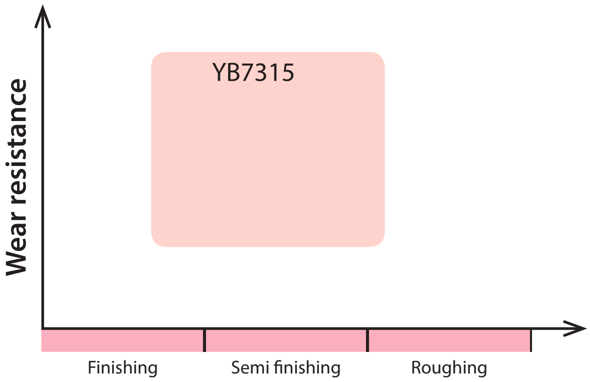


New

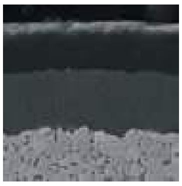
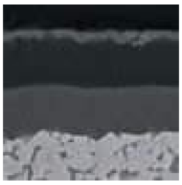
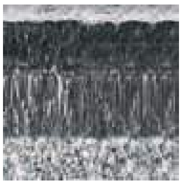
YB7315

For high efficient machining of cast irons

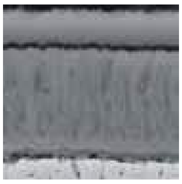
CVD coated K10–K25 carbide substrate. Optimized for medium to roughing operation of cast iron. Improved wear resistance and toughness at high cutting speed.



Coated cemented carbide CVD

Sorte	ISO	Micro structure	Grade description
YB6315	P05 – 20		CVD coated P10–P20 carbide grade for finishing to medium operation of steel, casting steel and high chrome material. Outstanding performance under high cutting speed and temperature with excellent wear resistance.
YBC152	P10 – 20		CVD coated P10–P20 carbide grade for finishing to medium operation of steel and casting steel. Outstanding performance under higher cutting speed and temperature with excellent wear resistance.
YBC251	P20 – P35		CVD coated P20–P35 carbide grade for medium operation to roughing of steel and casting steel in lower cutting speed.
YBC252	P20 – P35		CVD coated P20–P35 carbide grade for medium operation to roughing of steel and casting steel. Optimal performance of wear resistance and toughness for a wide application field.
YBC351	P20 – P40		CVD coated P20–P40 carbide grade for roughing operation of steel and casting steel in lower cutting speed.
YBC352	P20 – P40		CVD coated P20–P40 carbide grade for roughing operation of steel and casting steel. Optimal performance of wear resistance and toughness for a wide application field.
YBM153	M10 – M25		CVD coated M10–M25 carbide grade for finishing to medium application in stainless steel. High wear resistance and capability against plasctic deformation at higher cutting speed.
YBD052	K05 – K15		CVD coated K05–K15 carbide grade for cast iron material, special grey cast iron. Excellent wear resistance in higher cutting speed and dry machining.

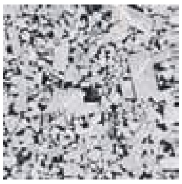
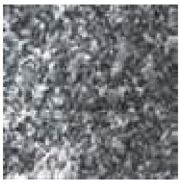
Coated cemented carbide CVD

Grade	ISO	Micro structure	Grade description
YBM253	M15 – M35		CVD coated M15–M35 carbide grade for medium to roughing operation in stainless steel with wide application field. High wear resistance and capability against plasctic deformation at higher cutting speed.
YBD102	K05 – K20		CVD coated K05–K20 carbide substrate. Optimized for medium operation of cast iron, special nodular cast iron and hard steel at high cutting speed.
YB7315	K10 – K25		CVD coated K10–K25 carbide substrate. Optimized for medium to roughing operation of cast iron. Improved wear resistance and toughness at high cutting speed.
YBD152	K10 – K25		CVD coated K10–K25 carbide substrate. Optimized for medium to roughing operation of cast iron. Good wear resistance and toughness at higher cutting speed.
YBD152C	K05 – K25		Thick Al_2O_3 CVD coated K05–K25 carbide substrate. Optimized for medium to roughing operation of cast iron. Higher wear resistance and toughness at higher cutting speed in combination with TC chip breaker.

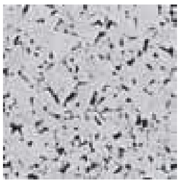
Coated cemented carbide PVD

Grade	ISO	Micro structure	Grade description
YBG102	S05 – S15		PVD coated S05–S15 carbide substrate for finishing to medium application of super alloy material, stainless steel and aluminum. Good wear resistance in a wide application field.
YBG105	S05 – S20		PVD multilayer coated S05–S20 carbide substrate for finishing to medium application of super alloy material but also stainless steel. Good wear resistance and thermal stability in a wide application field.
YBG202	P10 – P30 M10 – M25		PVD coated M10–M25/P10–P30 carbide substrate for finishing to medium application of stainless steel and steel (milling). Good wear resistance in a wide application field.
YBG205	P10 – P30 M20 – M40 S15 – S25		PVD multilayer coated M20–M40/S15–S25/P10–P30 carbide substrate for finishing to medium application of stainless steel, super alloy and steel (milling). Good wear resistance and thermal stability in a wide application field.
YB9320	P10 – P30 M20 – M40		PVD multilayer coated M10–M25/P10–P30 carbide substrate for finishing to medium application of stainless steel, super alloy and steel (grooving/milling). Optimized coating stability for higher wear resistance and thermal stability in a wide application field.
YBG302	P15 – P30 M25 – M40		PVD coated M25–M40/P15–P30 carbide substrate for medium roughing application of stainless steel and steel (milling). Good wear resistance and toughness.
YBG101	N05 – N20		PVD coated N05–N20 carbide substrate for finishing to medium application in aluminum material. Coating only on the top face, in combination with the aluminum chip breaker, prevents build up edges and gives a smooth cut.

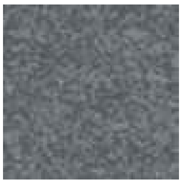
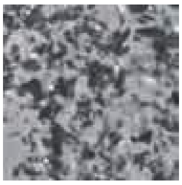
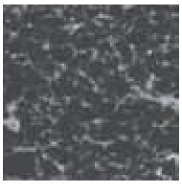
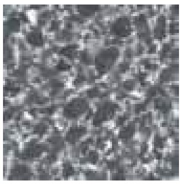
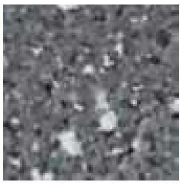
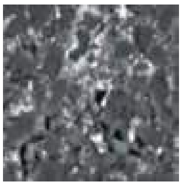
Ceramic

Grade	ISO	Micro structure	Grade description
CA1000	H10 – H25 K10 – K25		Uncoated H10–H25/K10–K25 mixed ceramic grade for finishing to medium operation in hardened steel and nodular cast iron. Good wear resistance and toughness.
CN1000	K05 – K15		Uncoated K05-K15 Si_3N_4 ceramic grade for finishing to medium operation in grey cast iron. Good wear resistance and thermal stability.
CN2000	K15 – K30		Uncoated K10–K30 Si_3N_4 Ceramic grade for medium operation in grey cast iron also with interrupted cut. Good wear resistance, toughness and thermal stability.

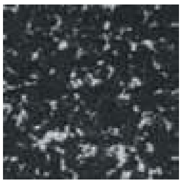
Uncoated cemented carbide

Grade	ISO	Micro structure	Grade description
YD101	N05 – N20 K05 – K20		Uncoated N05–N20/K05–K20 carbide substrate for fine to medium application in aluminum and other material.
YD201	N10 – N30 K10 – K30		Uncoated N10–N30/K10–K30 carbide substrate for medium application in aluminum and other material.

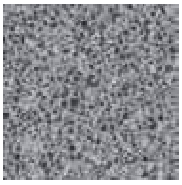
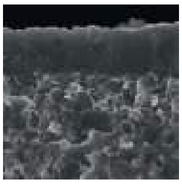
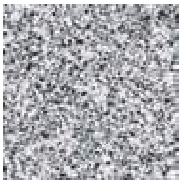
CBN

Grade	ISO	Micro structure	Grade description
YCB111	H01 – H10		Uncoated, brazed H01–H10 CBN grade for fine finishing operation in hardened steel with continuous cut. High wear resistance and productivity at higher cutting speed.
YCB121	H10 – H25		Uncoated, brazed H10–H25 CBN grade for fine to medium application in hardened steel from continuous to light interrupted cut. Good wear resistance and toughness for universal use.
YCB131	H20 – H35		Uncoated, brazed H20–H35 CBN grade for fine to medium application in hardened steel with interrupted cut. Good wear resistance and optimized toughness for safe process.
YZB121	H10 – H25		Uncoated H10–H25 solid CBN grade for medium application in hardened steel, HSS or bearing steel also in light interrupted cut. Good wear resistance and toughness.
YCB211	K10 – K25		Uncoated, brazed K10–K25 CBN grade for fine to medium machining of cast iron. Good wear resistance and thermal conductivity.
YZB221	K10 – K25		Uncoated K10–K25 solid CBN grade for medium application in grey cast iron, nodular cast iron and Ni/Cr basic alloy., also in light interrupted cut. Good wear resistance and thermal conductivity.
YZB231	K20 – K30		Uncoated K20–K30 solid CBN grade for medium to roughing application in grey cast iron and nodular cast iron in interrupted cut. Good wear resistance, toughness and thermal conductivity.

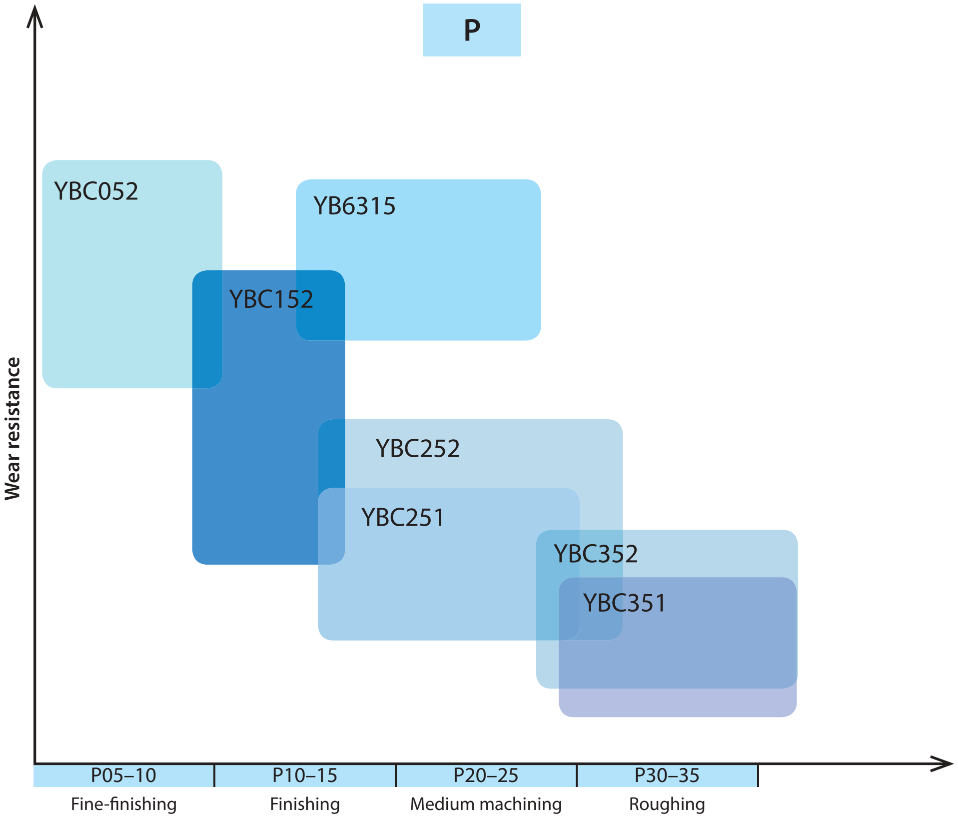
PCD

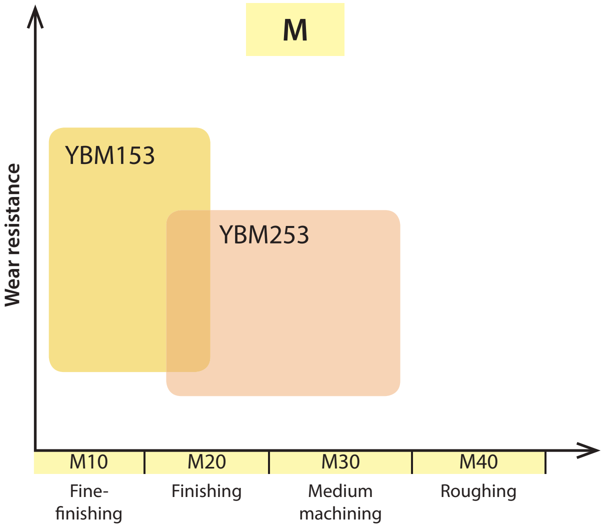
Grade	ISO	Micro structure	Grade description
YCD421	N01 – N10		Uncoated, brazed N01–N10 PCD grade for fine finishing operation of aluminum alloys less than 12 % Si, composites, copper/magnesium and other alloys. Medium grain size grade with good wear resistance for a wide application field.

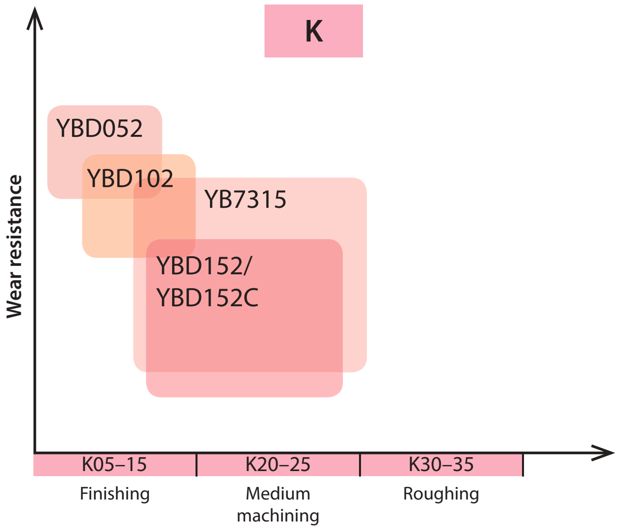
Cermet

Grade	ISO	Micro structure	Grade description
YNG151	P05 – P15		Uncoated P05–P15 cermet grade for fine finishing operation of steel and stainless steel. Good resistance against plastic deformation for good surface finishing.
YNG151C	P05 – P15		PVD coated P05–P15 cermet grade for fine finishing operation of steel and stainless steel. Good wear resistance and capability against plastic deformation for good surface roughness.
YNT251	P10 – P25		Uncoated P10–P25 cermet grade for fine finishing to medium operation of steel and stainless steel. Good wear resistance and toughness. Suitable also in light interrupted cut.

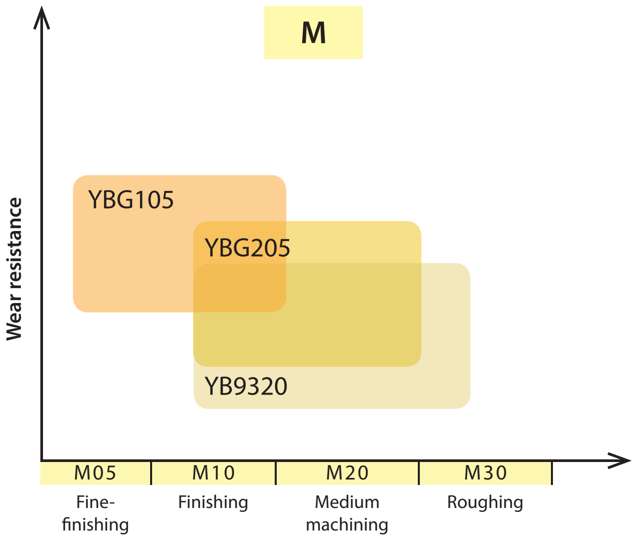
CVD grades for steel, stainless steel and cast iron

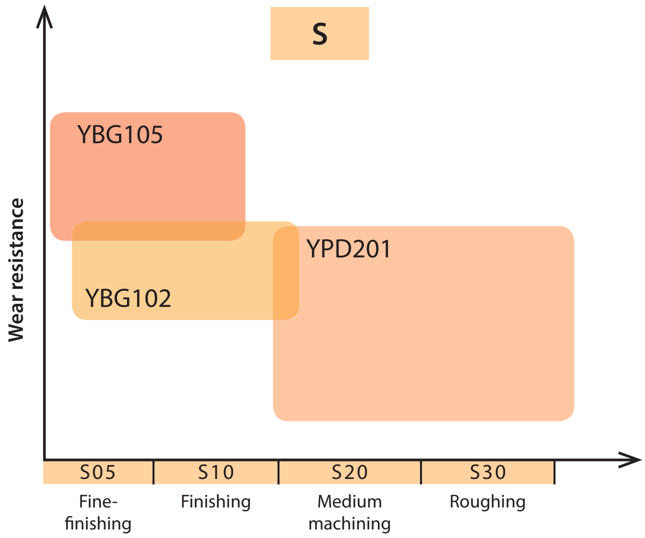




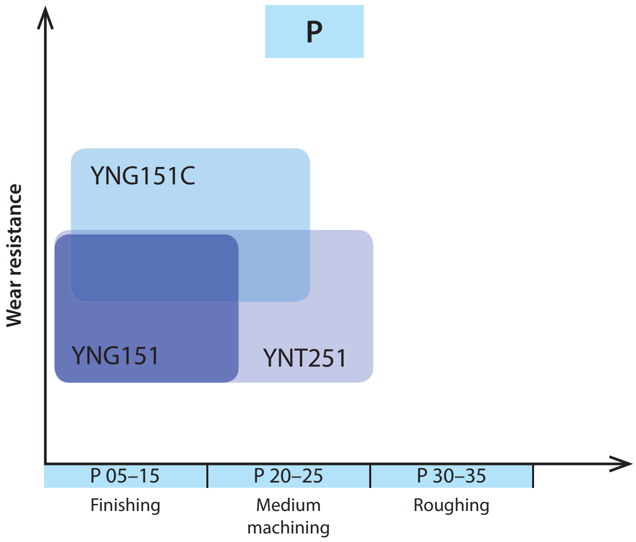


PVD grade for stainless steel and heat-resistant alloys

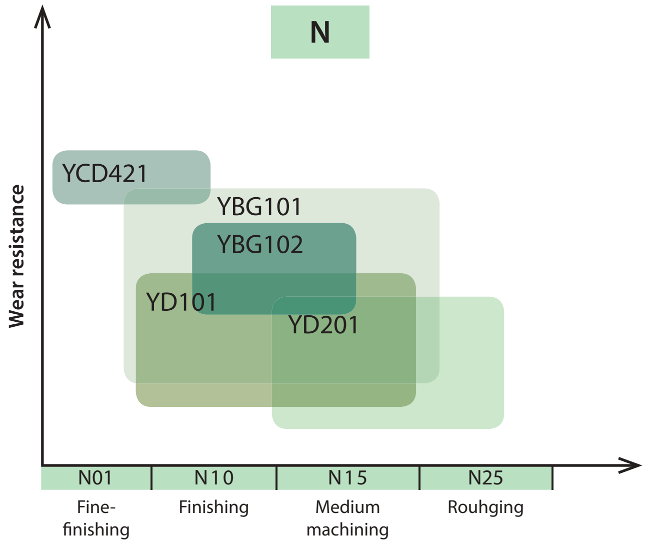




Cermet grades for steel



Turning grades for non-ferrous metals

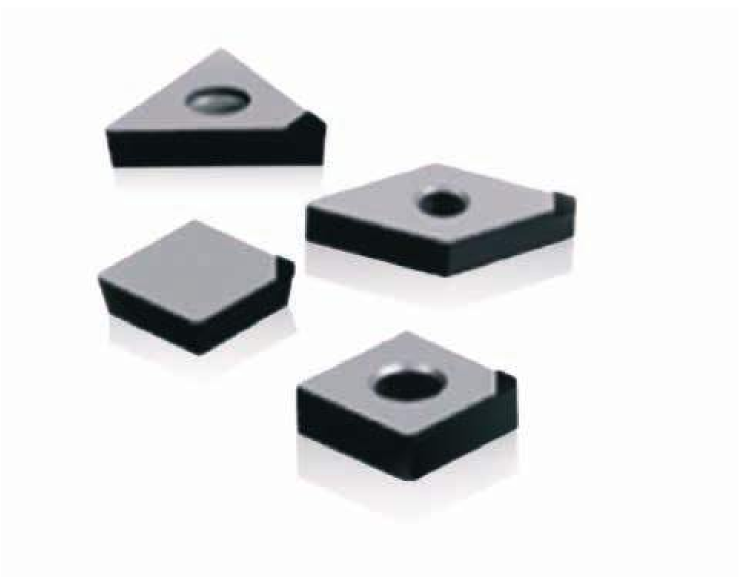


Application fields of grades

	ISO	HC^1 (CVD)	HC^1 (PVD)	HT	HC^2	Keramik	HW	CBN	PCD
P	P01	YB6315 YBC152		YNG151 YNT251	YNG151C	CA1000			
	P10	YB6315 YBC152 YBC251 YBC252		YNG151 YNT251	YNG151C	CA1000			
	P20	YB6315 YBC152 YBC251 YBC252 YBC351 YBC352		YNG151 YNT251	YNG151C	CA1000			
	P30	YBC251 YBC252 YBC351 YBC352							
	P40	YBC351 YBC352							
M	M01	YBM153	YBG105	YNG151	YNG151C				
	M10	YBM153 YBM253	YBG105 YBG202 YBG205 YB9320	YNG151	YNG151C				
	M20	YBM153 YBM253	YBG105 YBG202 YBG205 YB9320	YNG151	YNG151C				
	M30	YBM153 YBM253							
	M40								
K	K01	YBD052 YBD152C YB7315				CN1000		YCB211 YZB221	
	K10	YBD052 YBD102 YBD152 YBD152C YB7315				CN1000 CN2000	YD201	YCB211 YZB221	
	K20	YBD102 YBD152 YBD152C YB7315				CN2000	YD201	YCB211 YZB221 YZB231	
	K30	YBD152C				CN2000	YD201	YZB231	
N	N01						YD101		
	N10		YBG102				YD101 YD201		YCD421
	N20		YBG102				YD101 YD201		YCD421
	N30						YD201		
S	S01		YBG105		YNG151C				
	S10		YB9320 YBG102 YBG105 YBG202 YBG205	YNT251	YNG151C				
	S20		YB9320 YBG202 YBG205	YNT251					
	S30								
H	H01							YCB111 YZB121	
	H10							YCB111 YCB121 YZB121	
	H20							YCB121 YZB121	
	H30							YCB131	

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metals
S	Heat-resistant alloys
H	Hardened materials

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide



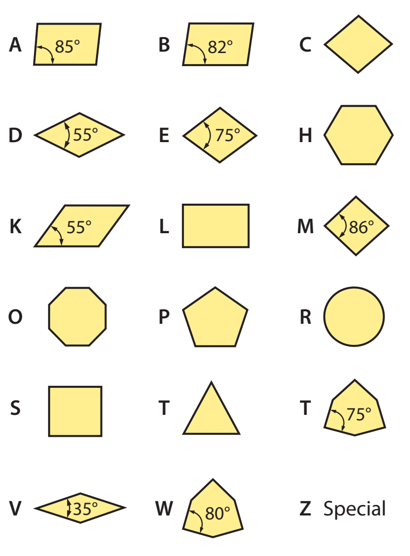
Turning inserts

A Turning
B Milling
C Drilling
D Technical Information
E Index

ISO standard

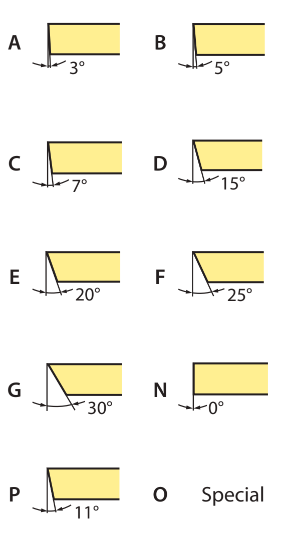
T	N	M	G	22	04	08	(N)	–	DM
1	2	3	4	5	6	7	8		9

Insert shape



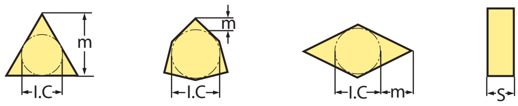
1

Clearance angle



2

Tolerance class

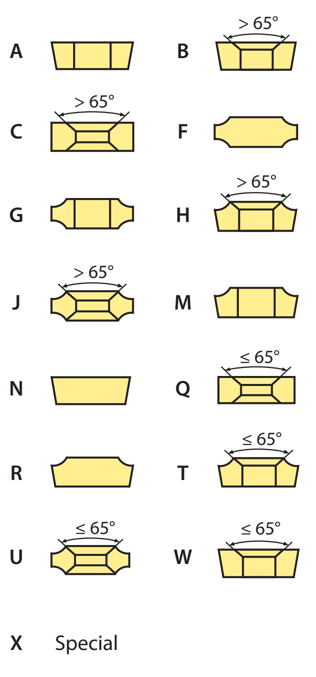


Code	I.C [mm]	m [mm]	S [mm]
A	±0.025	±0.005	±0.025
C	±0.025	±0.013	±0.025
E	±0.025	±0.025	±0.025
F	±0.013	±0.005	±0.025
G	±0.025	±0.025	±0.130
H	±0.013	±0.013	±0.025
J	±0.05–0.15	±0.005	±0.025
K	±0.05–0.15	±0.013	±0.025
L	±0.05–0.15	±0.025	±0.025
M	±0.05–0.15	±0.08–0.20	±0.130
N	±0.05–0.15	±0.08–0.20	±0.025
U	±0.08–0.25	±0.13–0.38	±0.130

3

Fastening features (metric)

Insert shape



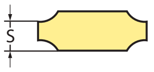
4

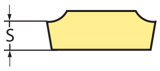
Cutting edge length l [mm]

I.C [mm]	Insert shape							
	C	D	R	S	T	V	W	K
3.97					06			
5.0			05					
5.56					09			
6.0			06					
6.35	06	07			11	11		
8.0			08					
9.525	09	11	09	09	16	16	06	16
10.0			10					
12.0			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16.0		19	16					
19.05	19		19	19	33			
20.0			20					
25.0	25	25	25					
25.4			25	25				
31.75			31					
32			32					

5

Insert thickness S [mm]

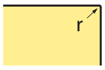




Code	S	Code	S
00	0.79	**T5**	5.95
T0	0.99	**06**	6.35
01	1.59	**T6**	6.75
T1	1.98	**07**	7.94
02	2.38	**09**	9.52
T2	2.58	**T9**	9.72
03	3.18	**11**	11.11
T3	3.97	**12**	12.70
04	4.76		
T4	4.96		
05	5.56		

6

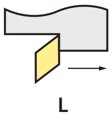
Nose radius r [mm]

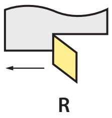


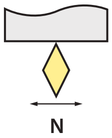
Code	r
00	–
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	Special
MO	Round inserts

7

Cutting direction







8

Chip breaker overview (on page A16)

9

ANSI standard

T	N	M	G	**4**	**3**	**2**	(N)	–	DM
1	2	3	4	**5**	**6**	**7**	8		9

Inner circle

Code	mm	Inch
2	6.35	0.250
3	9.525	0.375
4	12.7	0.500
5	15.875	0.625
6	19.05	0.750
8	25.4	1.000

5

Insert thickness

Code	mm	Inch
2	3.18	0.125
3	4.76	0.187
4	6.35	0.250
5	7.94	0.313
6	9.52	0.375

6

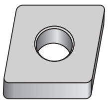
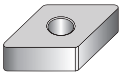
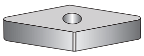
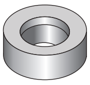
Nose radius

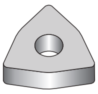
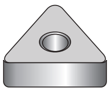
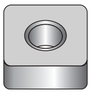
Code	mm	Inch
0	0.2	0.008
1	0.4	0.016
2	0.8	0.031
3	1.2	0.047
4	1.6	0.063
5	2.0	0.079
6	2.4	0.094

7

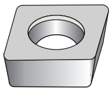
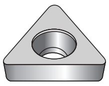
Conversion table for general turning inserts (metric/imperial system)

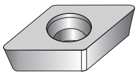
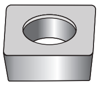
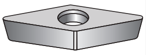
Negative angle/insert

	ISO	Inch
Insert shape C 	090304	321
	090308	322
	120404	431
	120408	432
	120412	433
	120416	434
	160608	542
	160612	543
	160616	544
	190608	642
	190612	643
	190616	644
	190624	646
	250724	856
	250732	858
	250924	866
	250932	868
Insert shape D 	110404	331
	110408	332
	110412	333
	150404	431
	150408	432
	150412	433
	150604	441
	150608	442
	150612	443
	150616	444
	190608	542
	190612	543
Insert shape V 	160404	331
	160408	332
	160412	333
Insert shape R 	0903MO	32
	1204MO	43

	ISO	Inch
Insert shape W 	06T304	3(2.5)1
	06T308	3(2.5)2
	06T312	3(2.5)3
	060404	331
	060408	332
	060412	333
	080404	431
	080408	432
	080412	433
Insert shape T 	113304	221
	110308	222
	160404	331
	160408	332
	160412	333
	220404	431
	220408	432
	220412	433
	220416	434
	270608	542
	270612	543
	270616	544
Insert shape S 	090304	321
	090308	322
	090312	323
	120404	431
	120408	432
	120412	433
	120416	434
	150608	542
	150612	543
	150616	544
	190412	633
	190424	636
	190612	643
	190616	644
	250724	856
	250732	858
	250924	866
	250932	868

Positive angle/insert

	ISO	Inch
Insert shape C 	060202	2(1.5)0
	060204	2(1.5)1
	060208	2(1.5)2
	09T302	3(2.5)0
	09T304	3(2.5)1
	09T308	3(2.5)2
	120404	431
	120408	432
	120412	433
Inserts shape T 	06T102	1.2(1.2)0
	06T104	1.2(1.2)1
	06T108	1.2(1.2)2
	090202	1.8(1.5)0
	090204	1.8(1.5)1
	090208	1.8(1.5)2
	110202	2(1.5)0
	110204	2(1.5)1
	110208	2(1.5)2
	110302	220
	110304	221
	110308	222
	16T302	30
	16T304	31
	16T308	32
	16T312	33
	160400	330
	220408	432
	220412	433
	220416	434
	270408	532
	27041 2	533
	330612	643
	330616	644

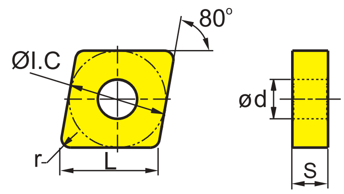
	ISO	Inch
Insert shape D 	070202	2(1.5)0
	070204	2(1.5)1
	070208	2(1.5)2
	11T302	3(2.5)0
	11T304	3(2.5)1
	11T308	3(2.5)2
	11T312	3(2.5)3
Insert shape S 	060204	2(1.5)1
	09T302	3(2.5)0
	09T304	3(2.5)1
	09T308	3(2.5) 2
	120404	431
	120408	432
	120412	433
	150404	531
	150408	532
	150412	533
	190408	632
	190412	633
	190416	634
Inserts shape V 	110202	2(1.5)0
	110204	2(1.5)1
	110208	2(1.5)2
	110302	220
	110304	221
	110308	222
	160402	330
	160404	331
	160408	332
	160412	333

Turning inserts

◯ Ideal machining conditions
✣ Normal machining conditions
✺ Unfavourable machining conditions

CNMG	L	I.C	S	d
09 03	9.7	9.525	3.18	3.81
12 04	12.9	12.7	4.76	5.16

CN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✣	✣	✺	✺											✣	✣	✣	◯	✣	◯		
M							◯	✣							◯	◯	✣	✣	✣	◯	✣	◯		
K									◯	◯	✣	✣	✣											
N														◯	◯								◯	✣
S															◯	◯	✣	✣	✣				◯	✣
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
WG  Wiper	**CNMG120404-WG**	0.4	0.25-3.00	0.05-0.25		○																						
	CNMG120408-WG	0.8	0.5-5.0	0.15-0.70		●	●						○			○												
	CNMG120412-WG	1.2	0.8-6.0	0.20-0.75		●																						
ADF  Finishing	**CNMG120404-ADF**	0.4	0.5-3.0	0.05-0.30	○	○															●	●						
	CNMG120408-ADF	0.8	0.5-3.0	0.1-0.4	○	○															●	●			●			
	CNMG120412-ADF	1.2	0.8-3.0	0.15-0.50	○																●				●			
DF  Finishing	**CNMG090304-DF**	0.4	0.25-1.50	0.07-0.30		●	●																					
	CNMG090308-DF	0.8	0.3-1.5	0.1-0.3		●	●																					
	CNMG120404-DF	0.4	0.25-1.50	0.07-0.30		●	●	○															○	○				
	CNMG120408-DF	0.8	0.3-1.5	0.1-0.4		●	●	○		○																		
	CNMG120412-DF	1.2	0.35-1.50	0.10-0.35		●	●																					
EF  Finishing	**CNMG090304-EF**	0.4	0.5-2.0	0.05-0.20							●											●	○					
	CNMG090308-EF	0.8	0.5-2.0	0.05-0.25							○											●	○					
	CNMG120404-EF	0.4	0.5-2.5	0.05-0.20				○			●								○			●	○					
	CNMG120408-EF	0.8	0.5-2.5	0.05-0.25				○			●								○			●	○					
	CNMG120412-EF	1.2	0.5-2.5	0.10-0.35							○											●	○					
SF  Finishing	**CNMG090304-SF**	0.4	0.05-0.50	0.05-0.30																						●		
	CNMG090308-SF	0.8	0.05-0.50	0.10-0.35																						●		
	CNMG120404-SF	0.4	0.1-1.5	0.05-0.30																						●		
	CNMG120408-SF	0.8	0.1-1.5	0.10-0.35																						●		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

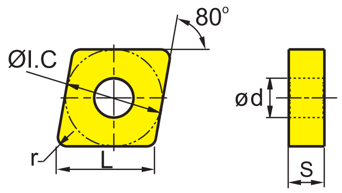
System code A40 Grade selection A38 Technical info A445 Cutting data A324

CN**	L	I.C	S	d
09 03	9.7	9.525	3.18	3.81
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94

Turning inserts

◯ Ideal machining conditions
✤ Normal machining conditions
❋ Unfavourable machining conditions

CN** negative insert



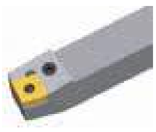
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✤	✤	❋	❋											✤	✤	✤	◯	✤	◯		
M							◯	✤							◯	◯	✤	✤	✤	◯	✤	◯		
K									◯	◯	✤	✤	✤											
N														◯	◯								◯	✤
S															◯	◯	✤	✤	✤				◯	✤
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
NF  Finishing	**CNEG120404-NF**	0.4	0.2-2.5	0.05-0.30															○	●							○	
	CNEG120408-NF	0.8	0.2-2.5	0.10-0.35															○	●							○	
	CNEG120412-NF	1.2	0.2-2.5	0.13-0.40															○	○							○	
PM  Medium Cut	**CNMG090304-PM**	0.4	0.4-4.0	0.1-0.3			●	●																				
	CNMG090308-PM	0.8	0.5-4.0	0.15-0.50			●	●																				
	CNMG120404-PM	0.4	0.4-5.5	0.1-0.3	○	●	●	●		●				●		●												
	CNMG120408-PM	0.8	0.5-5.5	0.15-0.50		●	●	●	●	○			○	●		●												
	CNMG120412-PM	1.2	0.8-5.5	0.18-0.60	○	●	●	○		○			●	●		●												
	CNMG120416-PM	1.6	1.0-5.5	0.23-0.65		●	●	○					●	●		●												
	CNMG160608-PM	0.8	0.5-7.2	0.15-0.50		●	●	●		●			○	○		○												
	CNMG160612-PM	1.2	0.8-7.2	0.18-0.60		●	●	●		●			○	●		●												
	CNMG160616-PM	1.6	1.0-7.2	0.23-0.65			●	●						●		○												
	CNMG190608-PM	0.8	0.5-8.6	0.15-0.50			●	●		●																		
	CNMG190612-PM	1.2	0.8-8.6	0.18-0.60			●	●		○				○		●												
	CNMG190616-PM	1.6	1.0-8.6	0.23-0.65			●	●						○		●												

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

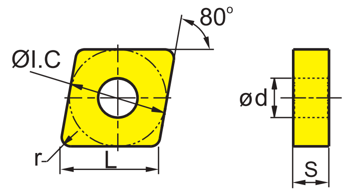
System code A40
Grade selection A38
Technical info A445
Cutting data A324

CNMG	L	I.C	S	d
09 03	9.7	9.525	3.18	3.81
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✸ Unfavourable machining conditions

CN** negative insert



	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
					HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
P					◯	◯	✲	✲	✸	✸											✲	✲	✲	◯	✲	◯		
M											◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K													◯	◯	✲	✲	✲											
N																		◯	◯								◯	✲
S																			◯	◯	✲	✲	✲				◯	✲
H																												
DM  Medium Cut	**CNMG090304-DM**	0.4	0.4-4.0	0.1-0.3		●	●	●																				
	CNMG090308-DM	0.8	0.5-4.0	0.15-0.50		●	●	●																				
	CNMG090312-DM	1.2	0.5-3.0	0.1-0.4			○																					
	CNMG120404-DM	0.4	0.4-5.5	0.1-0.3		●	●	●		○													○					
	CNMG120408-DM	0.8	0.5-5.5	0.15-0.50		●	●	●	●	○	●	●											○					
	CNMG120412-DM	1.2	0.8-5.5	0.18-0.60		●	●	●		○	●	○																
	CNMG120416-DM	1.6	1.0-5.5	0.23-0.65		○	●	○																				
	CNMG160608-DM	0.8	0.5-7.2	0.15-0.50	○	●	●	○		○																		
	CNMG160612-DM	1.2	0.8-7.2	0.18-0.60		●	●	●		○																		
	CNMG160616-DM	1.6	1.0-7.2	0.23-0.65		●	●	●		●																		
	CNMG190608-DM	0.8	0.5-8.6	0.15-0.50		●	●	●																				
	CNMG190612-DM	1.2	0.8-8.6	0.18-0.60		●	●	●		●																		
	CNMG190616-DM	1.6	1.0-8.6	0.23-0.65		○	●	●		●																		
EG  Medium Cut	**CNMG120404-EG**	0.4	0.5-4.0	0.05-0.30							●	●									●	○						
	CNMG120408-EG	0.8	0.5-4.0	0.1-0.4							●	●									●	●						
	CNMG120412-EG	1.2	0.5-4.0	0.2-0.5							○	●									●	●						
EM  Medium Cut	**CNMG120404-EM**	0.4	0.5-4.0	0.05-0.30							●	●										●	○					
	CNMG120408-EM	0.8	0.5-5.7	0.15-0.45							●	●										●	○					
	CNMG120412-EM	1.2	0.5-5.7	0.25-0.60							●	●										●						
	CNMG160608-EM	0.8	0.5-7.2	0.15-0.45							●	●										●						
	CNMG160612-EM	1.2	0.5-7.2	0.25-0.60							●	●										●	○					

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

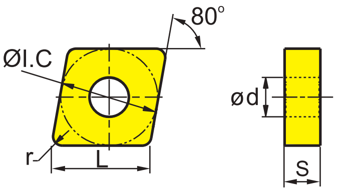
System code › A40 Grade selection › A38 Technical info › A445 Cutting data › A324

General turning
Negative inserts

Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✳ Unfavourable machining conditions

CNMG	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16



CN** negative insert	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2		HW				
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C		YD101	YD201			
P	◯	◯	❂	❂	✳	✳											❂	❂	❂	◯	❂	◯						
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯						
K									◯	◯	❂	❂	❂															
N														◯	◯									◯	❂			
S															◯	◯	❂	❂	❂					◯	❂			
H																												

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C		YD101	YD201			
ZM  Medium Cut	**CNMG120404-ZM**	0.4	0.5-3.0	0.05-0.30	○																											
	CNMG120408-ZM	0.8	0.5-4.0	0.1-0.5	○																											

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

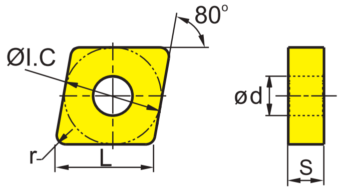
System code A40
Grade selection A38
Technical info A445
Cutting data A324

CNMG	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94
25 09	25.79	25.4	9.525	9.12

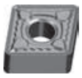
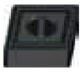
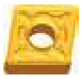
◯ Ideal machining conditions
✳ Normal machining conditions
❋ Unfavourable machining conditions

Turning inserts

CN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✳	✳	❋	❋											✳	✳	✳	◯	✳	◯		
M							◯	✳							◯	◯	✳	✳	✳	◯	✳	◯		
K									◯	◯	✳	✳	✳											
N														◯	◯								◯	✳
S															◯	◯	✳	✳	✳				◯	✳
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
NM  Medium Cut	**CNMG120404-NM**	0.4	0.2-3.0	0.05-0.30															○	●								
	CNMG120408-NM	0.8	0.2-4.0	0.1-0.5															○	●	●	○					○	
	CNMG120412-NM	1.2	0.2-4.0	0.2-0.6															○	●								
TC  Medium Cut	**CNMG120404-TC**	0.4	0.5-5.0	0.08-0.40											●		●											
	CNMG120408-TC	0.8	0.5-5.0	0.15-0.50											●		●											
	CNMG120412-TC	1.2	0.5-5.0	0.2-0.6											●		●											
	CNMG120416-TC	1.6	0.5-5.0	0.20-0.65											●		●											
	CNMG160608-TC	0.8	1-7	0.15-0.50											●		●											
	CNMG160612-TC	1.2	1-7	0.2-0.6											●		○											
	CNMG160616-TC	1.6	1-7	0.20-0.65											●		○											
DR  Roughing	**CNMG120408-DR**	0.8	0.7-7.0	0.2-0.5		●	●	●	●	●			○	●		●												
	CNMG120412-DR	1.2	1-7	0.25-0.70		●	●	○	●	○			○	●		●												
	CNMG120416-DR	1.6	1.5-7.0	0.32-0.75		●	●	●		●				●		●												
	CNMG160608-DR	0.8	0.7-8.0	0.2-0.5		○	●	●		○				●		○												
	CNMG160612-DR	1.2	1-8	0.25-0.70		●	●	●	●	○				●		●												
	CNMG160616-DR	1.6	1.5-8.0	0.3-0.8		●	●	●	●	○				○		●												
	CNMG190608-DR	0.8	0.7-10.0	0.2-0.5		●	●	○						●		●												
	CNMG190612-DR	1.2	1-10	0.25-0.70		●	●	●	●	●				○		●												
	CNMG190616-DR	1.6	1.5-10.0	0.3-0.8		●	●	●	●	○				○		●												
	CNMG190624-DR	2.4	2-10	0.32-0.90			●	●		○						○												
	CNMG250924-DR	2.4	2-15	0.4-1.0			●			○																		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

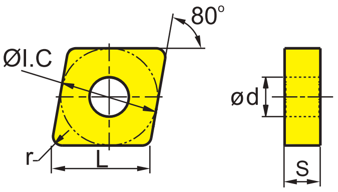
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

○ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

CNMG	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94

CN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	⊛	⊛	✺	✺											⊛	⊛	⊛	○	⊛	○		
M							○	⊛							○	○	⊛	⊛	⊛	○	⊛	○		
K									○	○	⊛	⊛	⊛											
N														○	○								○	⊛
S															○	○	⊛	⊛	⊛				○	⊛
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
SNR  Roughing	**CNMG120408-SNR**	0.8	1-3	0.1-0.4																●								●
	CNMG120412-SNR	1.2	1-3	0.2-0.6																●								●
	CNMG160608-SNR	0.8	2-6	0.1-0.4																●								●
	CNMG190616-SNR	1.6	2-7	0.2-0.6																○								●

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

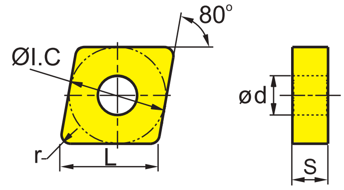
System code A40 Grade selection A38 Technical info A445 Cutting data A324

CN**	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94
25 07	25.79	25.4	7.94	9.12
25 09	25.79	25.4	9.525	9.12

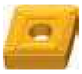
- ◯ Ideal machining conditions
- ⊕ Normal machining conditions
- ✳ Unfavourable machining conditions

Turning inserts

CN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊕	⊕	✳	✳											⊕	⊕	⊕	◯	⊕	◯		
M							◯	⊕							◯	◯	⊕	⊕	⊕	◯	⊕	◯		
K									◯	◯	⊕	⊕	⊕											
N														◯	◯								◯	⊕
S															◯	◯	⊕	⊕	⊕				◯	⊕
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DR  Roughing	**CNMM120412-DR**	1.2	1.0-7.5	0.25-0.70		●	●	○	●		○	○																
	CNMM160612-DR	1.2	1.0-9.5	0.25-0.70	○	●	●	●																				
	CNMM160616-DR	1.6	1.5-9.5	0.32-0.90		●	●		○	●																		
	CNMM190612-DR	1.2	1-12	0.25-0.70		●	●	●	●	●		●																
	CNMM190616-DR	1.6	1.5-12.0	0.32-0.90		●	●	●	●	○																		
	CNMM190624-DR	2.4	2-12	0.35-1.20		●	●	●		○																		
	CNMM250924-DR	2.4	2.0-12.5	0.2-1.2		○	●	●	●	○																		
ER  Roughing	**CNMG120408-ER**	0.8	2.0-7.6	0.15-0.55								●																
	CNMG120412-ER	1.2	2.0-7.6	0.25-0.80								●																
	CNMG160612-ER	1.2	2-10	0.35-0.80								●																
	CNMG160616-ER	1.6	2-10	0.45-1.00								●																
	CNMG190612-ER	1.2	2.0-11.4	0.35-1.00			○					●										●						
	CNMG190616-ER	1.6	2.0-11.4	0.45-1.10								●																
ER  Roughing	**CNMM250724-ER**	2.4	2.0-12.5	0.3-1.4			●																					
	CNMM250732-ER	3.2	2.0-12.5	0.45-1.80			●					○																
	CNMM250924-ER	2.4	2.0-12.5	0.3-1.4			●					●																
	CNMM250932-ER	3.2	2.0-12.5	0.45-1.80			●					○																

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

System code A40 Grade selection A38 Technical info A445 Cutting data A324

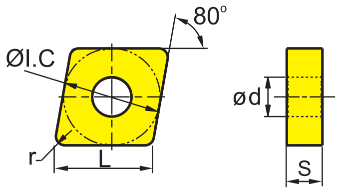
A Turning
B Milling
C Drilling
D Technical Information
E Index

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

CNMM	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94
25 09	25.79	25.4	9.525	9.12

CN** negative insert



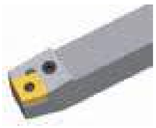
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	✺	✺											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
LR  Roughing	**CNMM120408-LR**	0.8	1-5	0.1-0.5		●	●					●																
	CNMM120412-LR	1.2	2-6	0.2-0.7		●	●					●																
	CNMM120416-LR	1.6	2.0-6.5	0.25-0.80		●	●																					
	CNMM160608-LR	0.8	1-7	0.2-0.6		●	●					●																
	CNMM160612-LR	1.2	1.0-7.5	0.2-0.7		●	●					●																
	CNMM160616-LR	1.6	1.0-8.5	0.25-0.80		●	●																					
	CNMM160624-LR	2.4	2.0-8.5	0.25-0.70		○	○																					
	CNMM190612-LR	1.2	2.0-10.5	0.2-0.7		●	●					●																
	CNMM190616-LR	1.6	2.0-10.5	0.3-1.0		●	●					●																
	CNMM190624-LR	2.4	2.0-10.5	0.3-1.1		●	●		○																			
	CNMM250924-LR	2.4	2.0-12.5	0.3-1.2		○	●																					

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

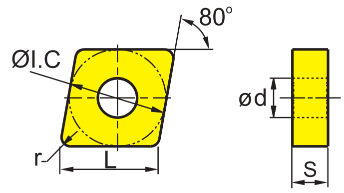
System code A40 Grade selection A38 Technical info A445 Cutting data A324

CNMM	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94
25 09	25.79	25.4	9.525	9.12

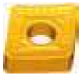
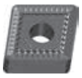
◎ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

Turning inserts

CN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◎	◎	✲	✲	❋	❋											✲	✲	✲	◎	✲	◎		
M							◎	✲							◎	◎	✲	✲	✲	◎	✲	◎		
K									◎	◎	✲	✲	✲											
N														◎	◎								◎	✲
S															◎	◎	✲	✲	✲				◎	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic  Medium Cut	**CNMM120404**	0.4	0.5-7.0	0.1-0.5				○																				
	CNMM120408	0.8	0.5-7.0	0.1-0.6				○																				
	CNMM190612	1.2	0.5-10.5	0.1-0.8				●																				
	CNMM190616	1.6	0.5-10.5	0.1-1.0				○																				
HDR  Roughing	**CNMM120408-HDR**	0.8	1-7	0.2-0.6		●	●	●		○																		
	CNMM120412-HDR	1.2	1-7	0.3-0.8	○	○	●	●		○																		
	CNMM120416-HDR	1.6	1-7	0.4-1.0		●	●			●																		
	CNMM160612-HDR	1.2	1.5-7.5	0.3-0.8		●	●	●		○																		
	CNMM160616-HDR	1.6	1.5-8.5	0.4-1.0		○	●	●		○																		
	CNMM160624-HDR	2.4	1.5-10.5	0.8-1.2		○	●																					
	CNMM190608-HDR	0.8	2.0-12.5	0.3-0.7		●																						
	CNMM190612-HDR	1.2	2.0-12.5	0.35-0.80		●	●	●		●																		
	CNMM190616-HDR	1.6	2.0-12.5	0.5-1.1		●	●	●	●	●						○	○											
	CNMM190624-HDR	2.4	2.0-12.5	0.8-1.2		●	●	○																				
	CNMM250924-HDR	2.4	2.0-12.5	0.8-1.4		○	●																					
HPR  Roughing	**CNMM190616-HPR**	1.6	2.0-10.5	0.5-1.0			●																					
	CNMM190624-HPR	2.4	2.0-10.5	0.7-1.4		○	●																					
	CNMM250924-HPR	2.4	2.0-12.5	0.7-1.4			●		●																			

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

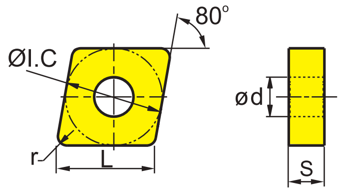
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

CN**	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94

CN** negative insert



CN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P					◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M											◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K													◯	◯	✲	✲	✲											
N																		◯	◯								◯	✲
S																			◯	◯	✲	✲	✲				◯	✲
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Flat 	**CNMA120404**	0.4	0.2-5.0	0.05-0.40									●	○														
	CNMA120408	0.8	0.2-5.0	0.05-0.50									●	●		●	●											
	CNMA120412	1.2	0.2-5.0	0.1-0.6									●	●	●	●	●											○
	CNMA120416	1.6	0.2-5.0	0.10-0.65									○	●		●												
	CNMA160608	0.8	0.2-7.0	0.1-0.5										○		●												
	CNMA160612	1.2	0.2-7.0	0.1-0.6										●		●												
	CNMA160616	1.6	0.2-7.0	0.15-0.65									●	●		●												
	CNMA160620	2	0.2-7.0	0.15-0.70												○												
	CNMA160630	3	0.2-7.0	0.15-0.80													○											
	CNMA190612	1.2	0.2-8.0	0.15-0.70									○	●		●												
	CNMA190616	1.6	0.2-8.0	0.15-0.70									○	●		●												
Basic 	**CNMG120404**	0.4	0.1-5.0	0.05-0.50			○	○																				
	CNMG120408	0.8	0.1-5.0	0.1-0.6		○	○	●								●												○
	CNMG120412	1.2	0.1-5.0	0.1-0.7		○	○	●																				○
	CNMG160608	0.8	0.1-7.0	0.1-0.6				○																				
	CNMG160612	1.2	0.1-7.0	0.1-0.7				○																				
	CNMG190608	0.8	0.1-8.0	0.1-0.7				○																				
	CNMG190612	1.2	0.1-8.0	0.1-0.8				○																				
	CNMG190616	1.6	0.1-8.0	0.1-1.0						○																		○

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1 Coated carbide
HT Uncoated cermet
HC^2 Coated cermet
HW Uncoated carbide

Tool holder

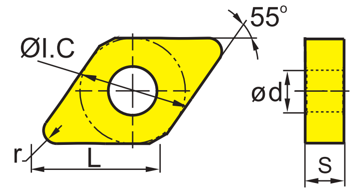
DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

System code A40
Grade selection A38
Technical info A445
Cutting data A324

DNMG	L	I.C	S	d
11 04	11.6	9.525	4.76	3.81
15 04	15.5	12.7	4.76	5.16
15 06	15.5	12.7	6.35	5.16

◯ Ideal machining conditions
✤ Normal machining conditions
❋ Unfavourable machining conditions

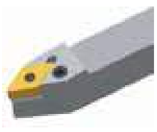
Turning inserts

DN** negative insert					HC^{1} (CVD)													HC^{1} (PVD)						HT		HC^{2}	HW	
 P					◯	◯	✤	✤	❋	❋											✤	✤	✤	◯	✤	◯		
M											◯	✤							◯	◯	✤	✤	✤	◯	✤	◯		
K													◯	◯	✤	✤	✤											
N																		◯	◯								◯	✤
S																			◯	◯	✤	✤	✤				◯	✤
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
ADF  Finishing	**DNMG150604-ADF**	0.4	0.5-6.0	0.15-0.50	○																●				○			
	DNMG150608-ADF	0.8	0.1-4.0	0.08-0.50	○	●															●	●			○			
	DNMG150612-ADF	1.2	0.5-4.0	0.15-0.50	○																●							
DF  Finishing	**DNMG110404-DF**	0.4	0.15-2.00	0.08-0.25		●	●	○																				
	DNMG110408-DF	0.8	0.15-2.00	0.1-0.3		●	●																					
	DNMG110412-DF	1.2	0.35-1.50	0.15-0.50		●	○																					
	DNMG150404-DF	0.4	0.15-2.00	0.08-0.25		●	●	○																				
	DNMG150408-DF	0.8	0.15-2.00	0.1-0.3		●	●	○																				
	DNMG150412-DF	1.2	0.35-1.50	0.15-0.50		○	○																					
	DNMG150604-DF	0.4	0.8-6.0	0.18-0.60		●	●	○																				
	DNMG150608-DF	0.8	0.15-2.00	0.1-0.3		●	●	●																				
	DNMG150612-DF	1.2	0.2-2.5	0.10-0.35		●	○																					
SF  Finishing	**DNMG110404-SF**	0.4	0.05-0.50	0.05-0.25																						●		
	DNMG150404-SF	0.4	0.05-0.50	0.05-0.25																						●		
	DNMG150408-SF	0.8	0.05-0.50	0.10-0.35																						●		
	DNMG150604-SF	0.4	0.05-0.50	0.05-0.25																						●		
	DNMG150608-SF	0.8	0.05-0.50	0.10-0.35																						●		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^{1}	Coated carbide
HT	Uncoated cermet
HC^{2}	Coated cermet
HW	Uncoated carbide

Tool holder

DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

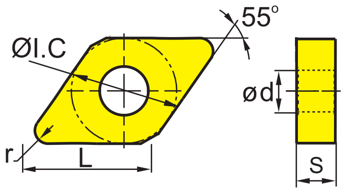
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

DNMG	L	I.C	S	d
11 04	11.6	9.525	4.76	3.81
15 04	15.5	12.7	4.76	5.16
15 06	15.5	12.7	6.35	5.16

DN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DM  Medium Cut	**DNMG110404-DM**	0.4	0.4-5.0	0.1-0.3		●	●	●																				
	DNMG110408-DM	0.8	0.5-5.0	0.15-0.50		●	●	●		○																		
	DNMG110412-DM	1.2	0.8-5.0	0.18-0.50		●	●																					
	DNMG150404-DM	0.4	0.4-6.0	0.1-0.3		●	●	●																				
	DNMG150408-DM	0.8	0.5-6.0	0.15-0.50		●	●	○																				
	DNMG150412-DM	1.2	0.8-6.0	0.18-0.60		○	●																					
	DNMG150604-DM	0.4	1-6	0.23-0.65		●	●	●																				
	DNMG150608-DM	0.8	0.5-6.0	0.15-0.50		●	●	●		○		●																
	DNMG150612-DM	1.2	0.8-6.0	0.18-0.60		●	●	●		○																		
	DNMG150616-DM	1.6	1-6	0.23-0.65	○	●	●	●		○																		
PM  Medium Cut	**DNMG110404-PM**	0.4	0.4-5.0	0.1-0.3			●	●						○														
	DNMG110408-PM	0.8	0.5-5.0	0.15-0.50		○	○	●		○				●														
	DNMG110412-PM	1.2	0.8-5.0	0.18-0.50			○						○	●														
	DNMG150404-PM	0.4	0.4-6.0	0.1-0.3		○		○																				
	DNMG150408-PM	0.8	0.5-6.0	0.15-0.50		●	●	●					○	●		●												
	DNMG150412-PM	1.2	0.8-6.0	0.18-0.60			●	○						○		○												
	DNMG150416-PM	1.6	1-6	0.23-0.65			○																					
	DNMG150604-PM	0.4	0.4-6.0	0.1-0.3	○	●	●	●					●	●		○												
	DNMG150608-PM	0.8	0.5-6.0	0.15-0.50		●	●	●	●	○			○	●		●												
	DNMG150612-PM	1.2	0.8-6.0	0.18-0.60	○	●	●	●		○			○	●		●												
	DNMG150616-PM	1.6	1-6	0.23-0.65			●	●					○															

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

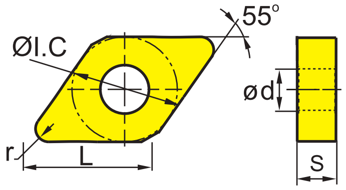
DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

○ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

DNMG	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16

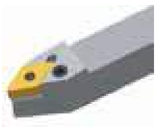


DN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P					○	○	⊛	⊛	✺	✺											⊛	⊛	⊛	○	⊛	○		
M											○	⊛							○	○	⊛	⊛	⊛	○	⊛	○		
K													○	○	⊛	⊛	⊛											
N																		○	○								○	⊛
S																			○	○	⊛	⊛	⊛				○	⊛
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
ZM  Medium Cut	**DNMG150612-ZM**	1.2	1.0-5.5	0.15-0.60	○		●																					

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

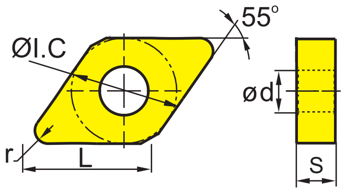
DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

General turning Negative inserts

Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

DN**	L	I.C	S	d
11 04	11.6	9.525	4.76	3.81
15 04	15.5	12.7	4.76	5.16
15 06	15.5	12.7	6.35	5.16

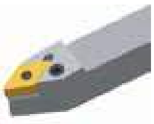


DN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P					◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M											◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K													◯	◯	❂	❂	❂											
N																		◯	◯								◯	❂
S																			◯	◯	❂	❂	❂				◯	❂
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EF  Finishing	**DNMG110404-EF**	0.4	0.1-1.5	0.05-0.20							○											●	○					
	DNMG110408-EF	0.8	0.1-1.5	0.1-0.4							○											●	○					
	DNMG150404-EF	0.4	0.1-1.5	0.05-0.30																		●						
	DNMG150408-EF	0.8	0.1-1.5	0.1-0.4																		●						
	DNMG150604-EF	0.4	0.1-1.5	0.05-0.30				○			●											●	○					
	DNMG150608-EF	0.8	0.1-1.5	0.1-0.4				○			●											●	○					
	DNMG150612-EF	1.2	0.1-1.5	0.15-0.50																		●						
FM  Finishing	**DNMG150604L-FM**	0.4	0.5-3.0	0.05-0.30		●	●															●						
	DNMG150604R-FM	0.4	0.5-3.0	0.05-0.30		●	●															●						
	DNMG150608L-FM	0.8	0.5-3.0	0.1-0.5		●	●															●						
	DNMG150608R-FM	0.8	0.5-3.0	0.1-0.5		●	●															●						
NF  Finishing	**DNEG150404-NF**	0.4	0.2-3.0	0.05-0.30																○								
	DNEG150408-NF	0.8	0.2-3.0	0.1-0.4																●								
	DNEG150604-NF	0.4	0.2-3.0	0.05-0.30															○	●							○	
	DNEG150608-NF	0.8	0.2-3.0	0.1-0.4															●	●							○	
NGF  Finishing	**DNEG150408-NGF**	0.8	0.2-3.0	0.05-0.40															○									
	DNEG150412-NGF	1.2	0.2-3.0	0.1-0.5															○									
	DNEG150608-NGF	0.8	0.2-3.0	0.05-0.40															○	●								
	DNEG150612-NGF	1.2	0.2-3.0	0.1-0.5															○	●								

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

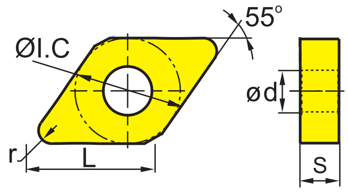
System code A40 Grade selection A38 Technical info A445 Cutting data A324

DNMG	L	I.C	S	d
11 04	11.6	9.525	4.76	3.81
15 04	15.5	12.7	4.76	5.16
15 06	15.5	12.7	6.35	5.16

Turning inserts

◯ Ideal machining conditions
❁ Normal machining conditions
✺ Unfavourable machining conditions

DN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❁	❁	✺	✺											❁	❁	❁	◯	❁	◯		
M							◯	❁							◯	◯	❁	❁	❁	◯	❁	◯		
K									◯	◯	❁	❁	❁											
N														◯	◯								◯	❁
S															◯	◯	❁	❁	❁				◯	❁
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EG  Medium Cut	**DNMG150604-EG**	0.4	1-3	0.05-0.30							●										●							
	DNMG150608-EG	0.8	1-3	0.1-0.4							●	●									●	●						
	DNMG150612-EG	1.2	1-3	0.2-0.6							●	●									●	●						
EM  Medium Cut	**DNMG110404-EM**	0.4	0.5-4.4	0.05-0.30							●											●	○					
	DNMG110408-EM	0.8	0.5-4.4	0.10-0.45							●											●						
	DNMG110412-EM	1.2	0.5-4.4	0.1-0.6																								
	DNMG150404-EM	0.4	0.5-6.4	0.05-0.30							○											○						
	DNMG150408-EM	0.8	0.5-6.4	0.10-0.45							○											●						
	DNMG150412-EM	1.2	0.5-6.4	0.1-0.6							○																	
	DNMG150604-EM	0.4	0.2-6.4	0.05-0.30							●	●										●	○					
	DNMG150608-EM	0.8	0.5-6.4	0.10-0.45							●	●										●	○					
	DNMG150612-EM	1.2	0.5-6.4	0.1-0.6							●	●										●						
NM  Medium Cut	**DNMG150412-NM**	1.2	0.2-4.0	0.2-0.6																○								
	DNMG150608-NM	1.2	0.2-4.0	0.1-0.4															○	●								
	DNMG150612-NM	1.2	0.2-4.0	0.2-0.6															○	●								
TC  Medium Cut	**DNMG150608-TC**	0.8	0.5-5.0	0.15-0.40											●		●											
	DNMG150612-TC	1.2	0.5-5.0	0.2-0.6											●		○											

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

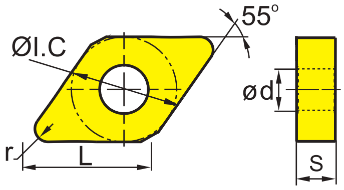
System code A40 Grade selection A38 Technical info A445 Cutting data A324

General turning
Negative inserts

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✱ Unfavourable machining conditions

DNMG	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16



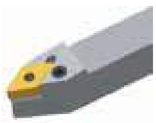
DN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P					◯	◯	✲	✲	✱	✱											✲	✲	✲	◯	✲	◯		
M											◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K													◯	◯	✲	✲	✲											
N																		◯	◯								◯	✲
S																			◯	◯	✲	✲	✲				◯	✲
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DR  Roughing	**DNMG150608-DR**	0.8	1-6	0.2-0.5		●	●	●		●				●		●												
	DNMG150612-DR	1.2	1-6	0.25-0.70		●	●	●		○				●		●												
	DNMG150616-DR	1.6	1-6	0.32-0.75	○	●		○		○				●		○												
SNR  Roughing	**DNMG150608-SNR**	0.8	0.2-6.0	0.1-0.5																●								●
	DNMG150612-SNR	1.2	0.2-6.0	0.2-0.6																○								●

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

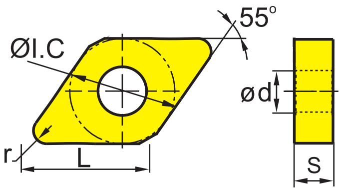
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

- ◯ Ideal machining conditions
- ✿ Normal machining conditions
- ✻ Unfavourable machining conditions

DN**	L	I.C	S	d
15 04	15.5	12.7	4.76	5.16
15 06	15.5	12.7	6.35	5.16

DN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✿	✿	✻	✻											✿	✿	✿	◯	✿	◯		
M							◯	✿							◯	◯	✿	✿	✿	◯	✿	◯		
K									◯	◯	✿	✿	✿											
N														◯	◯								◯	✿
S															◯	◯	✿	✿	✿				◯	✿
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Flat  Medium Cut	**DNMA150404**	0.4	0.2-6.0	0.1-0.3													○											
	DNMA150408	0.8	0.2-6.0	0.1-0.6										○														
	DNMA150604	0.4	0.2-6.0	0.1-0.3									●	●		○												
	DNMA150608	0.8	0.2-6.0	0.1-0.6									●	●		●												
	DNMA150612	1.2	0.2-6.0	0.15-0.70										●		●	○											
	DNMA150616	1.6	0.2-6.0	0.2-0.8									●	○		○												
ER  Roughing	**DNMG150608-ER**	0.8	2-6	0.15-0.55								●																
	DNMG150612-ER	1.2	2-6	0.25-0.80								●																

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

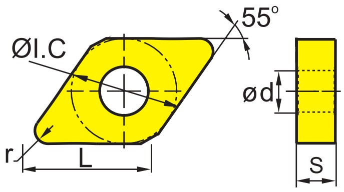
System code A40
Grade selection A38
Technical info A445
Cutting data A324

Turning inserts

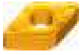
◯ Ideal machining conditions
◍ Normal machining conditions
✺ Unfavourable machining conditions

DNMM	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16

DN** negative insert



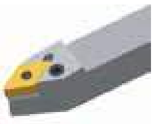
	HC^{1} (CVD)													HC^{1} (PVD)						HT		HC^{2}	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	◍	◍	✺	✺											◍	◍	◍	◯	◍	◯		
M							◯	◍							◯	◯	◍	◍	◍	◯	◍	◯		
K									◯	◯	◍	◍	◍											
N														◯	◯								◯	◍
S															◯	◯	◍	◍	◍				◯	◍
H																								

ISO		r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DR  Roughing	**DNMM150608-DR**	0.8	0.7-6.0	0.20-0.55	○	●	●	○																				
	DNMM150612-DR	1.2	1-6	0.25-0.70	○	●	●	○	●																			
	DNMM150616-DR	1.6	1.5-6.0	0.32-0.90		●	●																					
ER  Roughing	**DNMM150608-ER**	0.8	0.7-6.0	0.20-0.55							●																	
	DNMM150612-ER	1.2	1-6	0.25-0.70								●																
HDR  Roughing	**DNMM150608-HDR**	0.8	1-7	0.25-0.60		●	●	○		○																		
	DNMM150612-HDR	1.2	1-7	0.3-0.8		○				○																		
	DNMM150616-HDR	1.6	1.5-7.0	0.4-1.0		○		○		○																		
LR  Roughing	**DNMM150608-LR**	0.8	2-6	0.1-0.6		●	●					●																
	DNMM150612-LR	1.2	2-6	0.2-0.8	○	●	●					●																
	DNMM150616-LR	1.6	2-6	0.25-1.00		●	●					○																

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^{1}	Coated carbide
HT	Uncoated cermet
HC^{2}	Coated cermet
HW	Uncoated carbide

Tool holder

DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

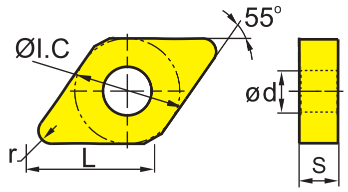
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

- ◯ Ideal machining conditions
- ◍ Normal machining conditions
- ⊛ Unfavourable machining conditions

DNMG	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16
19 06	19.3	15.875	6.35	7.94

DN** negative insert



	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P	◯	◯	◍	◍	⊛	⊛											◍	◍	◍	◯	◍	◯		
M							◯	◍							◯	◯	◍	◍	◍	◯	◍	◯		
K									◯	◯	◍	◍	◍											
N														◯	◯								◯	◍
S															◯	◯	◍	◍	◍				◯	◍
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic 	**DNMG150604**	0.4	0.4-6.0	0.1-0.3			○																					
	DNMG150608	0.8	0.5-6.0	0.15-0.50			○																					
	DNMG150612	1.2	0.8-6.0	0.18-0.60																								
	DNMG150616	1.6	1-6	0.23-0.65																								
	DNMG190608	0.8	0.2-6.0	0.1-0.6			○																					
	DNMG190612	1.2	0.2-6.0	0.08-0.60			○																					

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	S***-PDSNR/L	S***-PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 45°	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

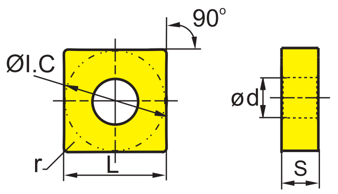
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

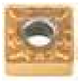
- ◯ Ideal machining conditions
- ⊛ Normal machining conditions
- ✳ Unfavourable machining conditions

SNMG		L	I.C	S	d
09	03	9.525	9.525	3.18	3.81
12	04	12.7	12.7	4.76	5.16

SN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	✳	✳											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

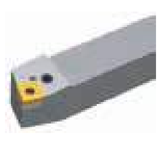
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
ADF  Finishing	**SNMG120404-ADF**	0.4	0.5-5.0	0.1-0.3	○																●							
	SNMG120408-ADF	0.8	0.5-5.0	0.12-0.50	○																●							
	SNMG120412-ADF	1.2	1-5	0.2-0.6	○																●							
DF  Finishing	**SNMG120408-DF**	0.8	0.3-1.5	0.1-0.4		●	●	○																				
	SNMG120412-DF	1.2	0.35-1.50	0.15-0.50		●	●	○																				
SF  Finishing	**SNMG090304-SF**	0.4	0.05-0.50	0.05-0.20																						●		
	SNMG090308-SF	0.8	0.05-0.50	0.10-0.35																						●		
	SNMG120404-SF	0.4	0.05-0.50	0.05-0.20																						○		
	SNMG120408-SF	0.8	0.05-0.50	0.10-0.35																						○		

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

System code A40 Grade selection A38 Technical info A445 Cutting data A324

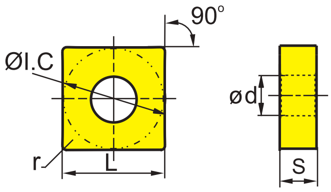
A Turning
B Milling
C Drilling
D Technical Information
E Index

Turning inserts

◯ Ideal machining conditions
✤ Normal machining conditions
✺ Unfavourable machining conditions

SNMG		L	I.C	S	d
09	03	9.525	9.525	3.18	3.81
12	04	12.7	12.7	4.76	5.16
15	06	15.875	15.875	6.35	6.35

SN** negative insert



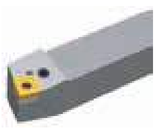
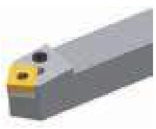
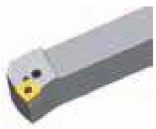
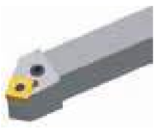
	HC^{1} (CVD)													HC^{1} (PVD)						HT		HC^{2}	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✤	✤	✺	✺											✤	✤	✤	◯	✤	◯		
M							◯	✤							◯	◯	✤	✤	✤	◯	✤	◯		
K									◯	◯	✤	✤	✤											
N														◯	◯								◯	✤
S															◯	◯	✤	✤	✤				◯	✤
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EF  Finishing	**SNMG090304-EF**	0.4	0.5-2.0	0.05-0.30							●											●	○					
	SNMG090308-EF	0.8	0.5-2.0	0.05-0.40							●											●						
	SNMG090312-EF	1.2	0.5-2.0	0.05-0.45							○																	
	SNMG120404-EF	0.4	0.8-3.0	0.05-0.30							●											●	○					
	SNMG120408-EF	0.8	0.8-3.0	0.1-0.4							●											●	○					
	SNMG120412-EF	1.2	0.8-3.0	0.15-0.45							○											●	○					
	SNMG150608-EF	0.8	1-4	0.1-0.4							●												○					
	SNMG150612-EF	1.2	1-4	0.15-0.45							○																	

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^{1}	Coated carbide
HT	Uncoated cermet
HC^{2}	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

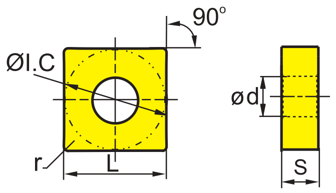
MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

System code A40 Grade selection A38 Technical info A445 Cutting data A324

SNMG	L	I.C	S	d
09 03	9.525	9.525	3.18	3.81
12 04	12.7	12.7	4.76	5.16
15 06	15.875	15.875	6.35	6.35
19 06	19.05	19.05	6.35	7.94

◯ Ideal machining conditions
⊛ Normal machining conditions
✳ Unfavourable machining conditions

Turning inserts

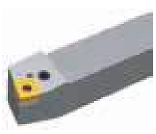
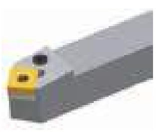
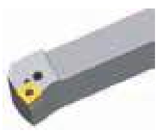


SN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
				P	◯	◯	⊛	⊛	✳	✳											⊛	⊛	⊛	◯	⊛	◯		
				M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
				K									◯	◯	⊛	⊛	⊛											
				N														◯	◯								◯	⊛
				S															◯	◯	⊛	⊛	⊛				◯	⊛
				H																								
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
PM  Medium Cut	**SNMG090304-PM**	0.4	0.4-4.5	0.1-0.3			○	●																				
	SNMG090308-PM	0.8	0.5-4.5	0.15-0.50			○	●		●			○	●		●												
	SNMG090312-PM	1.2	0.6-4.5	0.2-0.6			○																					
	SNMG120404-PM	0.4	0.4-6.0	0.1-0.3		●	○	●						○		○												
	SNMG120408-PM	0.8	0.5-6.0	0.15-0.50		●	●	●		○			○	●		●												
	SNMG120412-PM	1.2	0.8-6.0	0.18-0.60		●	●	●		●				○		●												
	SNMG120416-PM	1.6	1-6	0.23-0.65		○	○	○		○				○		○												
	SNMG150608-PM	0.8	0.7-7.5	0.14-0.50		○	○																					
	SNMG150612-PM	1.2	0.8-7.5	0.18-0.60		○	●	○		○				●		●												
	SNMG190612-PM	1.2	1.0-7.5	0.20-0.65		○	●	●		●			○	●		●												
	SNMG190616-PM	1.6	1.0-7.5	0.23-0.65				○																				

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

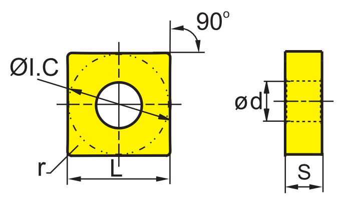
System code A40 Grade selection A38 Technical info A445 Cutting data A324

SNMG	L	I.C	S	d
09 03	9.525	9.525	3.18	3.81
12 04	12.7	12.7	4.76	5.16
15 06	15.875	15.875	6.35	6.35
19 06	19.05	19.05	6.35	7.94

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

Turning inserts

SN** negative insert



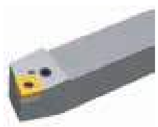
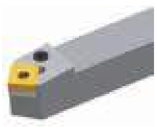
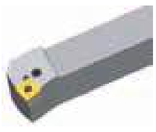
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P	◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DM  Medium Cut	**SNMG090304-DM**	0.4	0.4-4.5	0.1-0.3		●	●																					
	SNMG090308-DM	0.8	0.5-4.5	0.15-0.50		●	●	●		○																		
	SNMG120404-DM	0.4	0.4-6.0	0.1-0.3		●	●	●																				
	SNMG120408-DM	0.8	0.5-6.0	0.15-0.50		●	●	●	●	●																		
	SNMG120412-DM	1.2	0.8-6.0	0.18-0.60		●	●	●		○																		
	SNMG120416-DM	1.6	1-6	0.23-0.65	○	○	●	○		○																		
	SNMG150608-DM	0.8	0.8-7.5	0.1-0.5		●	●	●																				
	SNMG150612-DM	1.2	0.8-7.5	0.18-0.60		●	●	●																				
	SNMG190612-DM	1.2	1-9	0.18-0.60		●	●	○		○																		
	SNMG190616-DM	1.6	1-9	0.23-0.65	○	●	●	●		●																		
EG  Medium Cut	**SNMG120404-EG**	0.4	0.5-4.0	0.05-0.20																	○							
	SNMG120408-EG	0.8	0.5-4.0	0.1-0.5								●									●	●						
	SNMG120412-EG	1.2	0.5-4.0	0.2-0.6								●									●							

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

System code A40 Grade selection A38 Technical info A445 Cutting data A324

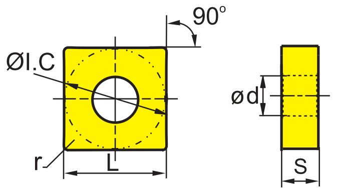
A Turning
B Milling
C Drilling
D Technical Information
E Index

Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

SNMG	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16
15 06	15.875	15.875	6.35	6.35

SN** negative insert



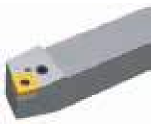
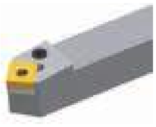
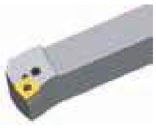
					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P					◯	◯	⊛	⊛	✺	✺											⊛	⊛	⊛	◯	⊛	◯		
M											◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K													◯	◯	⊛	⊛	⊛											
N																		◯	◯								◯	⊛
S																			◯	◯	⊛	⊛	⊛				◯	⊛
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EM  Medium Cut	**SNMG120404-EM**	0.4	0.50-6.35	0.05-0.30							●	○										●						
	SNMG120408-EM	0.8	0.50-6.35	0.20-0.45							●	●										●	○					
	SNMG120412-EM	1.2	0.50-6.35	0.25-0.60							●	●										●	○					
	SNMG120416-EM	1.6	0.50-6.35	0.30-0.75								○																
	SNMG150612-EM	1.2	0.5-8.0	0.25-0.60							○	●										●						
	SNMG150616-EM	1.6	0.5-8.0	0.30-0.75								●										●						
TC  Medium Cut	**SNMG120404-TC**	0.4	0.5-5.0	0.08-0.25											●													
	SNMG120408-TC	0.8	0.5-5.0	0.15-0.40											●		●											
	SNMG120412-TC	1.2	0.5-5.0	0.2-0.5											●		●											
	SNMG150616-TC	1.6	1-7	0.2-0.7											●													

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1 Coated carbide
HT Uncoated cermet
HC^2 Coated cermet
HW Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

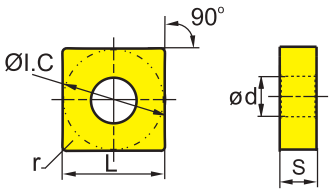
System code A40 Grade selection A38 Technical info A445 Cutting data A324

SNMG	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16
15 06	15.875	15.875	6.35	6.35
19 06	19.05	19.05	6.35	7.94
25 09	25.4	25.4	9.525	9.12

Turning inserts

◯ Ideal machining conditions
✤ Normal machining conditions
✱ Unfavourable machining conditions

SN** negative insert



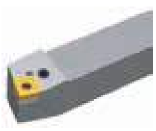
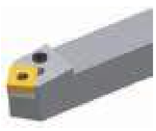
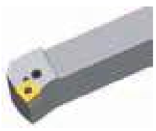
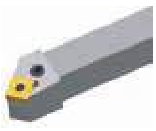
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✤	✤	✱	✱											✤	✤	✤	◯	✤	◯		
M							◯	✤							◯	◯	✤	✤	✤	◯	✤	◯		
K									◯	◯	✤	✤	✤											
N														◯	◯								◯	✤
S															◯	◯	✤	✤	✤				◯	✤
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
NM  Medium Cut	**SNMG120408-NM**	0.8	0.5-5.0	0.1-0.4															●	●							○	
	SNMG120412-NM	1.2	0.5-5.0	0.15-0.50																●								
DR  Roughing	**SNMG120408-DR**	0.8	0.7-7.0	0.2-0.5		○	●	●		○				●		●												
	SNMG120412-DR	1.2	1-7	0.25-0.70	○	●	●	●	●	○				●		●												
	SNMG120416-DR	1.6	1.5-7.0	0.32-0.75		○	●	●						●		●												
	SNMG150612-DR	1.2	1-8	0.25-0.70		●	●	○		●				●		●												
	SNMG150616-DR	1.6	1.5-8.0	0.3-0.8		●	●	●						○		●												
	SNMG190612-DR	1.2	1-10	0.25-0.70		●	●	●	●	●						●												
	SNMG190616-DR	1.6	1.5-10.0	0.3-0.8		●	●	●	●	●				○		●												
	SNMG190624-DR	2.4	2-10	0.32-0.90		○	●	●	●	○																		
	SNMG250924-DR	2.4	2-15	0.4-1.2			●		○	○																		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 45°
		
A224	A225	A289

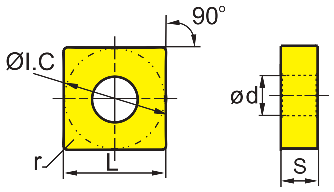
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

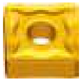
- ◯ Ideal machining conditions
- ✲ Normal machining conditions
- ❋ Unfavourable machining conditions

SNMG	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16
15 06	15.875	15.875	6.35	6.35
19 06	19.05	19.05	6.35	7.94

SN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

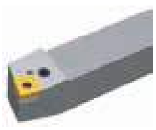
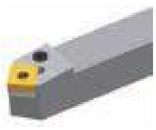
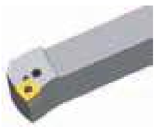
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
ER  Roughing	**SNMG120408-ER**	0.8	2.0-7.6	0.20-0.55							○	○																
	SNMG120412-ER	1.2	2.0-7.6	0.3-0.6							○	●																
	SNMG150608-ER	0.8	2.0-9.6	0.2-0.5							○	○																
	SNMG150612-ER	1.2	2.0-9.6	0.3-0.6							○	●																
	SNMG190612-ER	1.2	2.0-11.4	0.3-0.6							○	●																
	SNMG190616-ER	1.6	2.0-11.4	0.35-0.80							○	●																

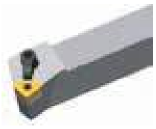
● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

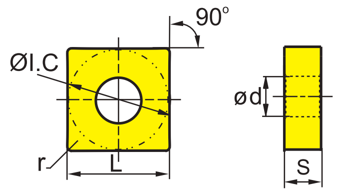
System code A40 Grade selection A38 Technical info A445 Cutting data A324

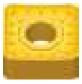
SNMM	L	I.C	S	d
15 06	15.875	15.875	6.35	6.35
19 06	19.05	19.05	6.35	7.94
25 07	25.4	25.4	7.94	9.12
25 09	25.4	25.4	9.525	9.12

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

Turning inserts

SN** negative insert



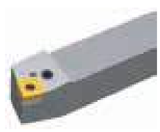
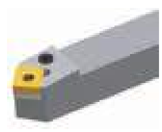
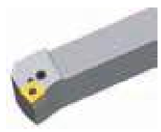
	ISO	r	a_p	f	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
P					◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M											◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K													◯	◯	❂	❂	❂											
N																		◯	◯								◯	❂
S																			◯	◯	❂	❂	❂				◯	❂
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DR  Roughing	**SNMM150612-DR**	1.2	1-7	0.25-0.60			●																					
	SNMM150616-DR	1.6	1.5-9.0	0.32-0.90		○	●	○	●																			
	SNMM190608-DR	0.8	2.0-10.5	0.25-0.50			○																					
	SNMM190612-DR	1.2	2.0-10.5	0.25-0.60		●	●	○	●	●																		
	SNMM190616-DR	1.6	2.0-10.5	0.35-0.90		●	●	●	●	●																		
	SNMM190624-DR	2.4	2.0-10.5	0.4-1.1		●	●	●		○																		
	SNMM250716-DR	1.6	2.5-12.5	0.4-1.0			●																					
	SNMM250724-DR	2.4	2.5-12.5	0.5-1.2		○	●	●		●																		
	SNMM250924-DR	2.4	2.5-12.5	0.5-1.2			●		●	●																		

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN
Kr: 75°	Kr: 45°
	
A224	A225

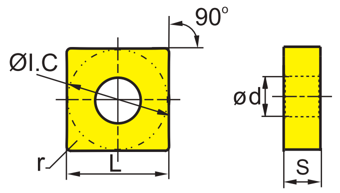
System code A40 Grade selection A38 Technical info A445 Cutting data A324

SNMM	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16
15 06	15.875	15.875	6.35	6.35
19 06	19.05	19.05	6.35	7.94
25 09	25.4	25.4	9.525	9.12

Turning inserts

◯ Ideal machining conditions
✢ Normal machining conditions
✻ Unfavourable machining conditions

SN** negative insert



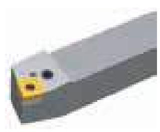
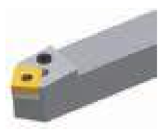
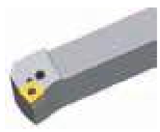
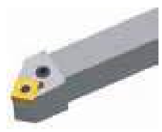
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✢	✢	✻	✻											✢	✢	✢	◯	✢	◯		
M							◯	✢							◯	◯	✢	✢	✢	◯	✢	◯		
K									◯	◯	✢	✢	✢											
N														◯	◯								◯	✢
S															◯	◯	✢	✢	✢				◯	✢
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
LR  Roughing	**SNMM120408-LR**	0.8	1-6	0.1-0.5		○	●																					
	SNMM120412-LR	1.2	1-6	0.2-0.6		○	●																					
	SNMM120416-LR	1.6	1-6	0.25-0.70		○	○																					
	SNMM150612-LR	1.2	1.5-7.0	0.1-0.5		○	●																					
	SNMM150616-LR	1.6	1.5-7.0	0.1-0.5		○	●																					
	SNMM190612-LR	1.2	2-10	0.25-0.70		○	●																					
	SNMM190616-LR	1.6	2-10	0.3-1.0		○	●																					
	SNMM190624-LR	2.4	2-10	0.3-1.1		○	●																					
	SNMM250924-LR	2.4	3.0-12.5	0.3-1.2		●	●		●																			

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

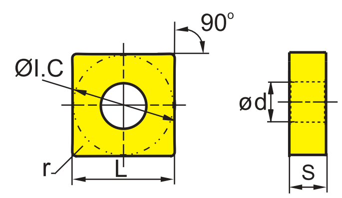
System code A40 Grade selection A38 Technical info A445 Cutting data A324

SNMM	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16
15 06	15.875	15.875	6.35	6.35
19 06	19.05	19.05	6.35	7.94
25 07	25.4	25.4	7.94	9.12
25 09	25.4	25.4	9.525	9.12

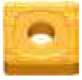
Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✳ Unfavourable machining conditions

SN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✳	✳											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

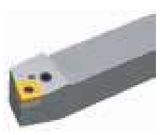
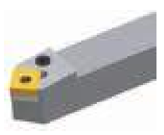
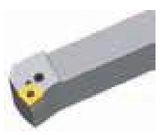
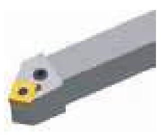
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
HDR  Roughing	**SNMM120408-HDR**	0.8	1-6	0.1-0.6			●	●		○																		
	SNMM120412-HDR	1.2	1.5-6.0	0.2-0.7			●	●		○																		
	SNMM120416-HDR	1.6	1.5-6.0	0.2-1.0			○																					
	SNMM150608-HDR	0.8	1-7	0.2-0.6			●																					
	SNMM150612-HDR	1.2	1-7	0.25-0.70		●	●	●		○																		
	SNMM150616-HDR	1.6	1.5-9.0	0.32-1.00			○	●		○																		
	SNMM150624-HDR	2.4	1.5-9.0	0.4-1.2			○																					
	SNMM190612-HDR	1.2	2.0-10.5	0.25-0.70		○	●	●																				
	SNMM190616-HDR	1.6	2.0-10.5	0.35-1.00		●	●	●				●																
	SNMM190624-HDR	2.4	2.0-10.5	0.4-1.2		●	●																					
	SNMM250724-HDR	2.4	2.5-12.5	0.5-1.4			●	○		●																		
	SNMM250924-HDR	2.4	2.5-12.5	0.5-1.4		●	●		●																			

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	**PSBNR/L**	**PSDNN**	**PSKNR/L**	**PSSNR/L**	**MSBNR/L**	**MSRNR/L**
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	**MSDNN**	**S***-PSKNR/L**
Kr: 75°	Kr: 75°	Kr: 45°
		
A224	A225	A289

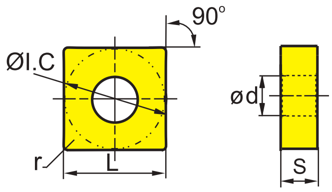
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊕ Normal machining conditions
❋ Unfavourable machining conditions

SNMM	L	I.C	S	d
19 06	19.05	19.05	6.35	7.94
25 09	25.4	25.4	9.525	9.12

SN** negative insert



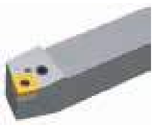
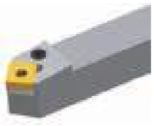
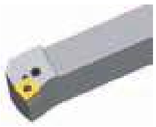
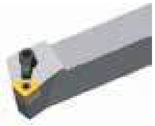
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊕	⊕	❋	❋											⊕	⊕	⊕	◯	⊕	◯		
M							◯	⊕							◯	◯	⊕	⊕	⊕	◯	⊕	◯		
K									◯	◯	⊕	⊕	⊕											
N														◯	◯								◯	⊕
S															◯	◯	⊕	⊕	⊕				◯	⊕
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
HPR  Roughing	**SNMM190616-HPR**	1.6	2.0-10.5	0.35-1.00			●																					
	SNMM190624-HPR	2.4	2.0-10.5	0.4-1.2		○	●																					
	SNMM250924-HPR	2.4	2.0-12.5	0.5-1.4		●	●		●																			

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L	MSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°	Kr: 75°
						
A208	A210	A211	A212	A222	A223	A224

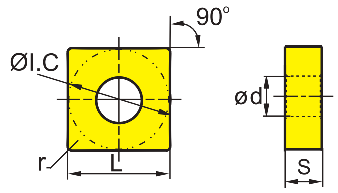
System code A40 Grade selection A38 Technical info A445 Cutting data A324

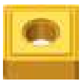
SN**	L	I.C	S	d
09 03	9.525	9.525	3.18	3.81
12 04	12.7	12.7	4.76	5.16
25 07	25.4	25.4	7.94	9.12
25 09	25.4	25.4	9.525	9.12

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

Turning inserts

SN** negative insert

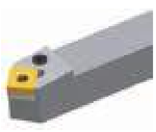
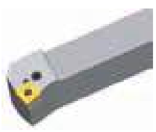
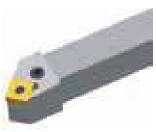


	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P					◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M											◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K													◯	◯	✲	✲	✲											
N																		◯	◯								◯	✲
S																			◯	◯	✲	✲	✲				◯	✲
H																												
Basic  Medium Cut	**SNMG090308**	0.8	0.3-5.0	0.1-0.6				●																				
	SNMG120408	0.8	0.5-6.0	0.1-0.6		●	●	●																				
	SNMG120412	1.2	0.5-6.0	0.1-0.7		●	●	○																				
	SNMG120416	1.6	0.5-6.0	0.1-0.8				○																				
	SNMG250724	2.4	1-9	0.1-1.1						●																		
	SNMG250924	2.4	1-9	0.1-1.1						●																		
Basic 	**SNMM120408**	0.8	0.5-5.0	0.1-0.5				●																				
	SNMM120412	1.2	1.5-7.0	0.2-0.6				○																				

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 75°	Kr: 75°
		
A224	A225	A289

System code A40 Grade selection A38 Technical info A445 Cutting data A324

General turning

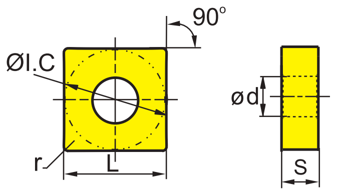
Negative inserts

SN**	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16
15 06	15.875	15.875	6.35	6.35
19 06	19.05	19.05	6.35	7.94
25 07	25.4	25.4	7.94	9.12

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

SN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Flat 	**SNMA120408**	0.8	0.5-5.0	0.1-0.5									●	●		●												
	SNMA120412	1.2	0.5-5.0	0.2-0.7									●	○		●	○											
	SNMA120416	1.6	0.5-5.0	0.2-1.0									○	○		○												
	SNMA150608	0.8	0.8-7.0	0.1-0.5												○												
	SNMA150612	1.2	0.8-7.0	0.2-0.7												●												
	SNMA190612	1.2	0.8-7.0	0.2-0.7									○	●		●												
	SNMA190616	1.6	0.8-7.0	0.3-0.8										○		●												
Basic 	**SNMM250724-1**	2.4	2.0-12.5	0.3-1.2			●	●	●																			

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	S***-PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

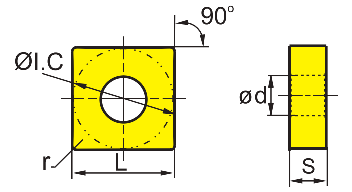
System code A40
Grade selection A38
Technical info A445
Cutting data A324

Turning inserts

◯ Ideal machining conditions
✻ Normal machining conditions
❋ Unfavourable machining conditions

SNMM	L	I.C	S	d
19 06	19.05	19.05	6.35	7.94
25 09	25.4	25.4	9.525	9.12

SN** negative insert



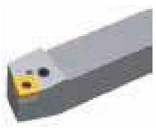
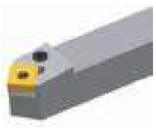
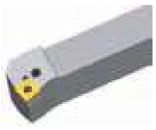
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✻	✻	❋	❋											✻	✻	✻	◯	✻	◯		
M							◯	✻							◯	◯	✻	✻	✻	◯	✻	◯		
K									◯	◯	✻	✻	✻											
N														◯	◯								◯	✻
S															◯	◯	✻	✻	✻				◯	✻
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic 	**SNMM190608**	0.8	1.0-10.5	0.15-0.50				●																				
	SNMM190612	1.2	1.5-10.5	0.2-0.7			○	●																				
	SNMM190616	1.6	0.5-10.5	0.2-1.0			●																					
	SNMM250924	2.4	2.0-12.5	0.3-1.2			●	○		●																		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L	MSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°	Kr: 75°
						
A208	A210	A211	A212	A222	A223	A224

System code A40 Grade selection A38 Technical info A445 Cutting data A324

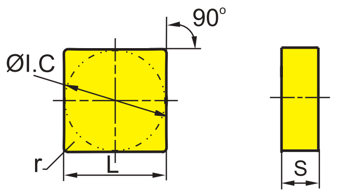
General turning
Negative inserts

SNUN	L	I.C	S
09 03	9.525	9.525	3.18
12 04	12.7	12.7	4.76
19 04	19.05	19.05	4.76
25 07	25.4	25.4	7.94
25 09	25.4	25.4	9.525

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

Turning inserts

SN** negative insert



SN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
				P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
				M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
				K									◯	◯	✲	✲	✲											
				N														◯	◯								◯	✲
				S															◯	◯	✲	✲	✲				◯	✲
				H																								
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Flat 	**SNUN090304**	0.4	0.5-4.0	0.1-0.3																								
	SNUN090308	0.8	0.5-4.0	0.2-0.5																							○	
	SNUN120408	0.8	0.7-6.0	0.2-0.5												●												
	SNUN120412	1.2	0.7-6.0	0.25-0.60				●		○				○		○											○	○
	SNUN190412	1.2	0.9-6.0	0.25-0.60																							○	
	SNUN190416	1.6	0.9-6.0	0.3-0.7																								○
	SNUN250724	2.4	1-9	0.5-1.0						○																		
	SNUN250924	2.4	1-9	0.5-1.0																								

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

CSKNR/L	CSRNR/L	CSDNN
Kr: 75°	Kr: 75°	Kr: 45°
		
A262	A263	A265

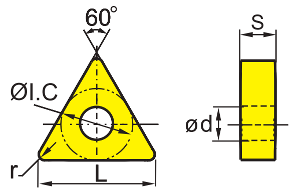
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✻ Normal machining conditions
✹ Unfavourable machining conditions

TN**	L	I.C	S	d
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16

TN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✻	✻	✹	✹											✻	✻	✻	◯	✻	◯		
M							◯	✻							◯	◯	✻	✻	✻	◯	✻	◯		
K									◯	◯	✻	✻	✻											
N														◯	◯								◯	✻
S															◯	◯	✻	✻	✻				◯	✻
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
WG  Wiper	**TNMX160408-WG**	0.8	0.5-5.0	0.15-0.70		●																						
	TNMX160412-WG	1.2	0.8-6.0	0.20-0.75		○																						
ADF  Finishing	**TNMG160404-ADF**	0.4	0.5-5.0	0.05-0.30	○																●				●			
	TNMG160408-ADF	0.8	0.5-5.0	0.1-0.4	○	○															●	○			●			
	TNMG160412-ADF	1.2	0.5-5.0	0.2-0.5	○																●							
DF  Finishing	**TNMG160404-DF**	0.4	0.15-2.00	0.08-0.25		●	●	○																				
	TNMG160408-DF	0.8	0.15-2.00	0.1-0.3		●	●	○																○				
	TNMG160412-DF	1.2	0.35-1.50	0.15-0.50		●	●	●																				
	TNMG220408-DF	0.8	0.3-1.5	0.1-0.4		●	●	○																				
	TNMG220412-DF	1.2	0.35-1.50	0.15-0.50		●	○	●																				

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

System code A40 Grade selection A38 Technical info A445 Cutting data A324

A
Turning
B
Milling
C
Drilling
D
Technical Information
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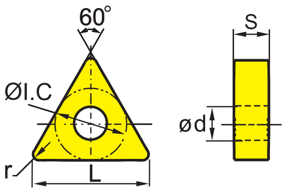
Index

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

TNMG	L	I.C	S	d
11 03	11	6.35	3.18	2.26
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16

TN** negative insert



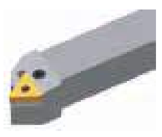
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
SF  Finishing	**TNMG110304-SF**	0.4	0.05-0.50	0.05-0.30																						○		
	TNMG160404-SF	0.4	0.05-1.00	0.05-0.30																				○		●		
	TNMG160408-SF	0.8	0.05-1.00	0.05-0.40																						●		
	TNMG220408-SF	0.8	0.05-1.50	0.05-0.40																						○		
	TNMG220412-SF	1.2	0.05-1.50	0.10-0.45																						○		

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

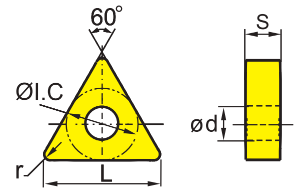
System code A40 Grade selection A38 Technical info A445 Cutting data A324

TNMG	L	I.C	S	d
11 03	11	6.35	3.18	2.26
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16

◯ Ideal machining conditions
⊛ Normal machining conditions
✲ Unfavourable machining conditions

Turning inserts

TN** negative insert



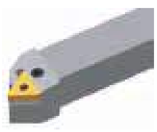
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	✲	✲											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EF  Finishing	**TNMG110304-EF**	0.4	0.1-1.0	0.05-0.20																		●						
	TNMG110308-EF	0.8	0.1-1.0	0.05-0.40																		●						
	TNMG160404-EF	0.4	0.1-1.5	0.05-0.30							●											●	○					
	TNMG160408-EF	0.8	0.1-1.5	0.1-0.4							●											●	○					
	TNMG160412-EF	1.2	0.2-2.5	0.15-0.40							○											●	●					
	TNMG220404-EF	0.4	0.5-2.5	0.05-0.25							○											●						
	TNMG220408-EF	0.8	0.5-2.5	0.1-0.4							○											●	○					
	TNMG220412-EF	1.2	0.5-2.5	0.1-0.5																			○					
FM  Finishing	**TNMG160404L-FM**	0.4	0.5-3.0	0.1-0.3			●															●						
	TNMG160404R-FM	0.4	0.5-3.0	0.1-0.3		○	●															●						
	TNMG160408L-FM	0.8	0.5-3.0	0.15-0.50		○	●															●						
	TNMG160408R-FM	0.8	0.5-3.0	0.15-0.50		●	●															●						

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

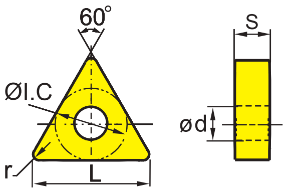
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

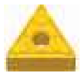
◯ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

TNMG	L	I.C	S	d
11 03	11	6.35	3.18	2.26
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16

TN** negative insert



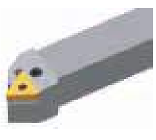
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	✺	✺											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DM  Medium Cut	**TNMG110308-DM**	0.8	0.3-3.0	0.1-0.4		●	●																					
	TNMG160404-DM	0.4	0.4-5.0	0.1-0.3		●	●	●		○		●												○				
	TNMG160408-DM	0.8	0.5-5.0	0.15-0.50		●	●	●		●		○												○				
	TNMG160412-DM	1.2	0.8-5.0	0.18-0.60	○	●	●	○		○																		
	TNMG220404-DM	0.4	0.4-6.6	0.1-0.3		●	●	●		○																		
	TNMG220408-DM	0.8	0.5-6.6	0.15-0.50		●	●	●		●																		
	TNMG220412-DM	1.2	0.8-6.6	0.18-0.60		●	●	●		●																		
	TNMG220416-DM	1.6	1.0-6.6	0.23-0.65		●	●	●		○																		
PM  Medium Cut	**TNMG110304-PM**	0.4	0.4-3.0	0.1-0.3			●	●																				
	TNMG110308-PM	0.8	0.4-3.0	0.15-0.40			●	●																				
	TNMG160404-PM	0.4	0.4-5.0	0.1-0.3		●	●	●		●			○	●		●												
	TNMG160408-PM	0.8	0.5-5.0	0.15-0.50		●	●	●		●			○	●		●												
	TNMG160412-PM	1.2	0.8-5.0	0.18-0.60		●	●	○					○	●		●												
	TNMG220408-PM	0.8	0.5-6.6	0.15-0.50		●	●	●		●				●		●												
	TNMG220412-PM	1.2	0.8-6.6	0.18-0.60		○	●	●		○			○	●		●												
	TNMG220416-PM	1.6	1.0-6.6	0.23-0.65			○	●		○			○	○		○												

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

System code A40 Grade selection A38 Technical info A445 Cutting data A324

A
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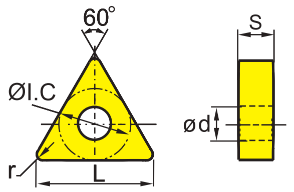
Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

TNMG	L	I.C	S	d
16 04	16.5	9.525	4.76	3.81

TN** negative insert



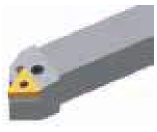
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	✺	✺											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
ZM  Medium Cut	**TNMG160404-ZM**	0.4	0.5-5.0	0.08-0.30	○																							
	TNMG160408-ZM	0.8	0.5-5.0	0.1-0.4	○																							
	TNMG160412-ZM	1.2	0.5-5.0	0.1-0.6	○																							

● Ex stock ○ On demand

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

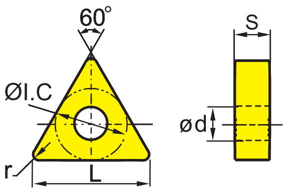
MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

General turning
Negative inserts

Turning inserts

◯ Ideal machining conditions
✣ Normal machining conditions
✺ Unfavourable machining conditions

TNMG	L	I.C	S	d
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16



TN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
				P	◯	◯	✣	✣	✺	✺											✣	✣	✣	◯	✣	◯		
				M							◯	✣							◯	◯	✣	✣	✣	◯	✣	◯		
				K									◯	◯	✣	✣	✣											
				N														◯	◯								◯	✣
				S															◯	◯	✣	✣	✣				◯	✣
				H																								
	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EG	**TNMG160404-EG**	0.4	0.5-4.0	0.1-0.3							●										●							
	**TNMG160408-EG**	0.8	0.5-4.0	0.1-0.4							●	●									●	●						
	TNMG160412-EG	1.2	0.5-4.0	0.15-0.50							●	●									●	●						
Medium Cut																												
EM	**TNMG160404-EM**	0.4	0.5-4.8	0.05-0.30							●	○										●	○					
	**TNMG160408-EM**	0.8	0.5-4.8	0.10-0.45							●	●										●	○					
	TNMG160412-EM	1.2	0.5-4.8	0.1-0.6							●	●										●	●					
	TNMG220408-EM	0.8	0.5-6.6	0.10-0.45							●	●										●	○					
Medium Cut	**TNMG220412-EM**	1.2	0.5-6.6	0.1-0.6							○	●										●	○					
	TNMG220416-EM	1.6	0.5-6.6	0.10-0.65								●										●						
TC	**TNMG160404-TC**	0.4	0.5-3.0	0.05-0.20											●		●											
	**TNMG160408-TC**	0.8	0.5-3.0	0.08-0.25											●		●											
	TNMG160412-TC	1.2	1-3	0.1-0.3											●		●											
	TNMG220412-TC	1.2	1-6	0.15-0.40											●		●											
Medium Cut	**TNMG220416-TC**	1.6	1-6	0.2-0.5											●													

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

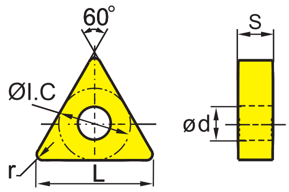
System code A40
Grade selection A38
Technical info A445
Cutting data A324

Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✱ Unfavourable machining conditions

TNMG	L	I.C	S	d
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16
27 06	27.5	15.875	6.35	6.35

TN** negative insert



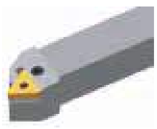
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✱	✱											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DR  Roughing	**TNMG160408-DR**	0.8	0.7-6.0	0.20-0.55	○	●	●	●						●		●												
	TNMG160412-DR	1.2	1-6	0.25-0.65		●	●	●		○				○		●												
	TNMG220408-DR	0.8	0.7-7.0	0.20-0.55			●	●		○						○												
	TNMG220412-DR	1.2	1-7	0.25-0.65		○	●	●	●	○				○		●												
	TNMG220416-DR	1.6	1.5-7.0	0.32-0.75		○	●	●		●				○		●												
	TNMG270608-DR	0.8	1.5-12.0	0.35-0.55						○																		
	TNMG270612-DR	1.2	2-12	0.35-0.75						●																		
	TNMG270616-DR	1.6	2-12	0.35-0.75						○																		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

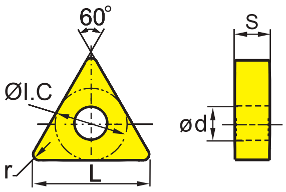
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✿ Normal machining conditions
❋ Unfavourable machining conditions

TN**	L	I.C	S	d
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16
27 06	27.5	15.875	6.35	5.16

TN** negative insert



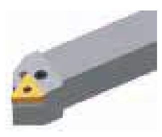
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✿	✿	❋	❋											✿	✿	✿	◯	✿	◯		
M							◯	✿							◯	◯	✿	✿	✿	◯	✿	◯		
K									◯	◯	✿	✿	✿											
N														◯	◯								◯	✿
S															◯	◯	✿	✿	✿				◯	✿
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DR  Roughing	**TNMM160408-DR**	0.8	0.7-6.0	0.20-0.55		○	●	●		○																		
	TNMM160412-DR	1.2	1-6	0.25-0.70		○	○	●																				
	TNMM220408-DR	0.8	0.7-8.0	0.20-0.55		○	○	●		○																		
	TNMM220412-DR	1.2	1-8	0.25-0.70			●	●		○																		
	TNMM220416-DR	1.6	1.5-8.0	0.32-0.90			○	○		○																		
	TNMM270612-DR	1.2	2.5-11.0	0.25-0.70			○																					
	TNMM270616-DR	1.6	2.5-11.0	0.3-0.9			○																					
ER  Roughing	**TNMG160408-ER**	0.8	2.0-5.6	0.15-0.55								○																
	TNMG160412-ER	1.2	2.0-5.6	0.15-0.60								○																
	TNMG220408-ER	0.8	2.0-7.7	0.15-0.55								○																
	TNMG220412-ER	1.2	2.0-7.7	0.15-0.60								○																
LR  Roughing	**TNMM160408-LR**	0.8	1-5	0.1-0.5		●	●					●																
	TNMM160412-LR	1.2	1.5-6.0	0.1-0.6		●	●					●																

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

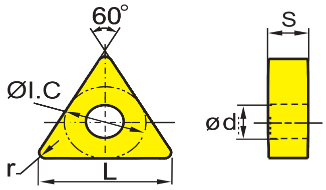
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
❋ Unfavourable machining conditions

TNMM	L	I.C	S	d
22 04	22	12.7	4.76	5.16
27 06	27.5	15.875	6.35	6.35

TN** negative insert



	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	P				◯	◯	⊛	⊛	❋	❋											⊛	⊛	⊛	◯	⊛	◯		
	M										◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
	K												◯	◯	⊛	⊛	⊛											
	N																	◯	◯								◯	⊛
	S																		◯	◯	⊛	⊛	⊛				◯	⊛
	H																											
HDR  Heavy Turning	**TNMM220412-HDR**	1.2	2-9	0.25-0.80		○																						
	TNMM220416-HDR	1.6	2-9	0.35-1.00			○																					
	TNMM270616-HDR	1.6	2-6	0.35-1.00			●																					
	TNMM270624-HDR	2.4	2-7	0.4-1.2			●					○																

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

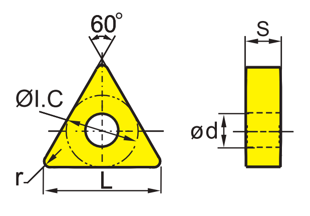
PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L	MTFNR/L
Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°	Kr: 91°
						
A213	A214	A215	A226	A227	A228	A229

System code A40 Grade selection A38 Technical info A445 Cutting data A324

TNMG	L	I.C	S	d
11 03	11	6.35	3.18	2.26
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16
27 06	27.5	15.875	6.35	6.35
33 09	33	19.05	9.525	7.94

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

Turning inserts

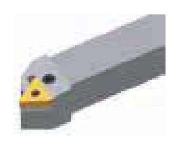


TN** negative insert					HC^{1} (CVD)													HC^{1} (PVD)						HT		HC^{2}	HW	
				P	◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
				M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
				K									◯	◯	❂	❂	❂											
				N														◯	◯								◯	❂
				S															◯	◯	❂	❂	❂				◯	❂
				H																								
	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic  Medium Cut	**TNMG110308**	0.8	0.2-4.0	0.08-0.30																								
	TNMG160404	0.4	0.2-4.0	0.05-0.20			○	●																				
	TNMG160408	0.8	0.2-4.0	0.08-0.30		●	●	●		○																		
	TNMG160412	1.2	0.2-4.0	0.1-0.4		●	●	○																				
	TNMG220404	0.4	0.2-6.0	0.05-0.20			○	○																				
	TNMG220408	0.8	0.2-6.0	0.1-0.3			○	●																				
	TNMG220412	1.2	0.2-6.0	0.1-0.4			○																					
	TNMG220416	1.6	0.2-6.0	0.1-0.5			○																					
	TNMG270612	1.2	0.2-9.0	0.1-0.5			○			●																		
	TNMG270616	1.6	0.2-9.0	0.1-0.5			○			●																		
	TNMG330916	1.6	0.2-11.0	0.1-0.5			○			○																		
	TNMG330924	2.4	0.2-11.0	0.1-0.7			○			○																		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^{1}	Coated carbide
HT	Uncoated cermet
HC^{2}	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

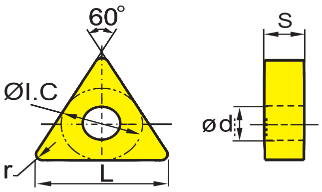
System code A40
Grade selection A38
Technical info A445
Cutting data A324

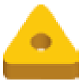
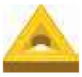
TN**	L	I.C	S	d
16 04	16.5	9.525	4.76	3.81
22 04	22	12.7	4.76	5.16
27 06	27.5	15.875	6.35	6.35

Turning inserts

◎ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

TN** negative insert



					HC^{1} (CVD)													HC^{1} (PVD)						HT		HC^{2}	HW	
				P	◎	◎	✲	✲	❋	❋											✲	✲	✲	◎	✲	◎		
				M							◎	✲							◎	◎	✲	✲	✲	◎	✲	◎		
				K									◎	◎	✲	✲	✲											
				N														◎	◎								◎	✲
				S															◎	◎	✲	✲	✲				◎	✲
				H																								
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Flat 	**TNMA160404**	0.4	0.2-4.0	0.05-0.20									○	○		●												
	TNMA160408	0.8	0.2-4.0	0.08-0.30									●	●		●												
	TNMA160412	1.2	0.2-4.0	0.1-0.4									○	●		●												
	TNMA160416	1.6	0.5-4.0	0.05-0.50									○	●		○												
	TNMA220404	0.4	0.2-6.0	0.05-0.20									○	○		●												
	TNMA220408	0.8	0.2-6.0	0.1-0.3									○	●		●												
	TNMA220412	1.2	0.2-6.0	0.1-0.4									○			●	●											
	TNMA220416	1.6	0.2-6.0	0.1-0.5									○				○											
Basic 	**TNMM160404**	0.4	0.2-7.0	0.05-0.60			○	●																				
	TNMM160408	0.8	0.5-7.0	0.05-0.60			○	○																				
	TNMM160412	1.2	0.5-7.0	0.05-0.60			○																					
	TNMM220408	0.8	0.5-7.0	0.05-0.60			○	●		○																		
	TNMM220412	1.2	1-7	0.1-0.6			○	●		○																		
	TNMM220416	1.6	0.5-7.0	0.05-0.60			○			○																		
	TNMM270616	1.6	0.5-6.5	0.05-0.70			○	○		●																		

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^{1}	Coated carbide
HT	Uncoated cermet
HC^{2}	Coated cermet
HW	Uncoated carbide

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

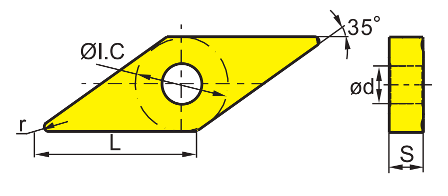
MTFNR/L	S***-PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✿ Normal machining conditions
❋ Unfavourable machining conditions

VN**	L	I.C	S	d
16 04	16.6	9.525	4.76	3.81

VN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
				**P**	◯	◯	✿	✿	❋	❋											✿	✿	✿	◯	✿	◯		
				M							◯	✿							◯	◯	✿	✿	✿	◯	✿	◯		
				K									◯	◯	✿	✿	✿											
				N														◯	◯								◯	✿
				S															◯	◯	✿	✿	✿				◯	✿
				H																								
	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
ADF  Finishing	**VNMG160404-ADF**	0.4	0.5-2.5	0.1-0.3	○																●							
	VNMG160408-ADF	0.8	0.5-2.5	0.1-0.5	○																●							
DF  Finishing	**VNMG160404-DF**	0.4	0.25-1.50	0.07-0.30		●	●	●																				
	VNMG160408-DF	0.8	0.3-1.5	0.1-0.4		●	●	●																				
EF  Finishing	**VNMG160404-EF**	0.4	0.1-1.5	0.05-0.25							●											●						
	VNMG160408-EF	0.8	0.2-2.5	0.08-0.35							●											●	○					
	VNMG160412-EF	1.2	0.2-2.5	0.10-0.45							○																	
NF  Finishing	**VNEG160404-NF**	0.4	0.2-4.0	0.05-0.30															●	●							○	
	VNEG160408-NF	0.8	0.2-4.0	0.05-0.50															●	●							○	

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

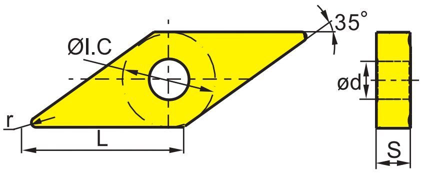
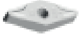
DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A201	A202	A230	A231

System code › A40
Grade selection › A38
Technical info › A445
Cutting data › A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

VN**	L	I.C	S	d
16 04	16.6	9.525	4.76	3.81

VN** negative insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
				P	◯	◯	✲	✲	✺	✺											✲	✲	✲	◯	✲	◯		
				M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
				K									◯	◯	✲	✲	✲											
				N														◯	◯								◯	✲
				S															◯	◯	✲	✲	✲				◯	✲
				H																								
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
NGF	**VNEG160408-NGF**	0.8	0.2-3.0	0.1-0.3															○	●								
	VNEG160412-NGF	1.2	0.2-3.0	0.1-0.5															○	○								
																												
Finishing																												
SF	**VNMG160404-SF**	0.4	0.05-3.00	0.05-0.20																						●		
	VNMG160408-SF	0.8	0.05-3.00	0.05-0.35																						●		
																												
Finishing																												

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A201	A202	A230	A231

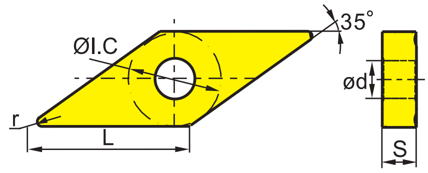
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✳ Unfavourable machining conditions

VNMG	L	I.C	S	d
16 04	16.6	9.525	4.76	3.81

VN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	✳	✳											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic  Medium Cut	**VNMG160404**	0.4	0.2-6.0	0.05-0.60		○																						
	VNMG160408	0.8	0.2-6.0	0.08-0.60		○																						
DM  Medium Cut	**VNMG160408-DM**	0.8	0.5-4.0	0.15-0.50	○	●	●	●		○																		
	VNMG160412-DM	1.2	0.8-4.0	0.18-0.60		●	●	●																				
EM  Medium Cut	**VNMG160404-EM**	0.4	0.2-3.0	0.05-0.30							●											●	○					
	VNMG160408-EM	0.8	0.5-4.0	0.10-0.45							●											●	○					
NM  Medium Cut	**VNMG160412-NM**	1.2	0.2-4.0	0.05-0.40																●								

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A201	A202	A230	A231

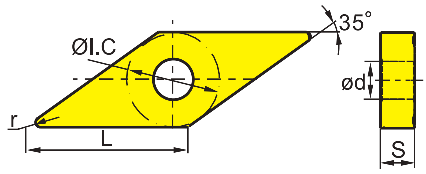
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

VNMG	L	I.C	S	d
16 04	16.6	9.525	4.76	3.81

VN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
TC	**VNMG160404-TC**	0.4	0.5-2.0	0.05-0.20											●		●											
	VNMG160408-TC	0.8	0.5-2.0	0.08-0.25											●		●											
	**VNMG160412-TC**	1.2	0.5-3.0	0.08-0.30											●		●											
Medium Cut																												
ZM	**VNMG160404-ZM**	0.4	0.5-3.0	0.08-0.30	○																							
	VNMG160408-ZM	0.8	0.5-3.0	0.1-0.4	○																							
																												
Medium Cut																												

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A201	A202	A230	A231

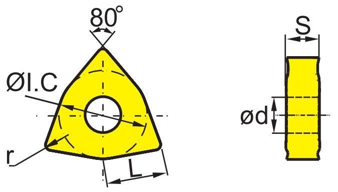
System code A40
Grade selection A38
Technical info A445
Cutting data A324

Turning inserts

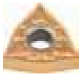
◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

WNMG	L	I.C	S	d
06 04	6.5	9.525	4.76	3.81
06 T3	6.5	9.525	3.97	3.81
08 04	8.7	12.7	4.76	5.16

WN** negative insert



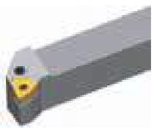
	HC^{1} (CVD)													HC^{1} (PVD)						HT		HC^{2}	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
ADF  Finishing	**WNMG080404-ADF**	0.4	0.2-2.5	0.05-0.30	○																●				●			
	WNMG080408-ADF	0.8	0.5-2.5	0.05-0.40	○	○															●	○			●			
	WNMG080412-ADF	1.2	0.5-2.5	0.05-0.50	○																●							
DF  Finishing	**WNMG060404-DF**	0.4	0.15-2.00	0.08-0.25		●	●	●																				
	WNMG060408-DF	0.8	0.15-2.00	0.1-0.3		●	●	●																				
	WNMG060412-DF	1.2	0.4-1.5	0.15-0.50		●																						
	WNMG080404-DF	0.4	0.15-2.00	0.08-0.25		●	●	○																				
	WNMG080408-DF	0.8	0.15-2.00	0.1-0.3		●	●	●																				
	WNMG080412-DF	1.2	0.2-2.5	0.10-0.35		●	●	●																				
SF  Finishing	**WNMG060404-SF**	0.4	0.05-0.50	0.05-0.20																						●		
	WNMG060408-SF	0.8	0.05-0.50	0.05-0.35																						●		
	WNMG06T304-SF	0.4	0.05-0.50	0.05-0.20																						●		
	WNMG06T308-SF	0.8	0.05-0.50	0.05-0.35																						●		
	WNMG080404-SF	0.4	0.05-0.50	0.05-0.20																						●		
	WNMG080408-SF	0.8	0.05-0.50	0.05-0.35																						●		
	WNMG080412-SF	1.2	0.05-0.50	0.05-0.40																						○		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^{1}	Coated carbide
HT	Uncoated cermet
HC^{2}	Coated cermet
HW	Uncoated carbide

Tool holder

DWLNR/L	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
			
A203	A217	A232	A291

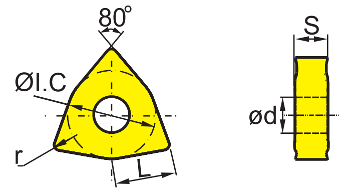
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

WN**	L	I.C	S	d
06 04	6.5	9.525	4.76	3.81
06 T3	6.5	9.525	3.97	3.81
08 04	8.7	12.7	4.76	5.16

WN** negative insert



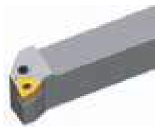
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	✺	✺											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
WG  Wiper	**WNMG080408-WG**	0.8	0.5-5.0	0.15-0.70		●	●																					
	WNMG080412-WG	1.2	0.8-6.0	0.20-0.75		●	○																					
EF  Finishing	**WNMG060404-EF**	0.4	0.1-1.5	0.05-0.30							●											●	○					
	WNMG060408-EF	0.8	0.1-1.5	0.1-0.4							○											●	○					
	WNMG06T308-EF	0.8	0.1-1.5	0.1-0.4																		●						
	WNMG06T312-EF	1.2	0.1-1.5	0.1-0.5																								
	WNMG080404-EF	0.4	0.1-1.5	0.05-0.30				○			●											●	●					
	WNMG080408-EF	0.8	0.1-1.5	0.1-0.4				○			●								○			●	○					
NF  Finishing	**WNEG080404-NF**	0.4	0.2-3.0	0.05-0.30															○	●								
	WNEG080408-NF	0.8	0.2-2.5	0.05-0.30																●								
NF  Finishing	**WNMG060408-NF**	0.8	0.2-2.5	0.05-0.30															○	●								

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DWLNR/L	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
			
A203	A217	A232	A291

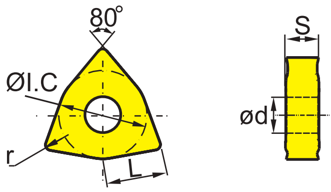
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

WNMG	L	I.C	S	d
06 04	6.5	9.525	4.76	3.81
06 T3	6.5	9.525	3.97	3.81
08 04	8.7	12.7	4.76	5.16

WN** negative insert



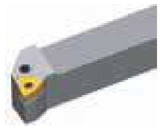
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
DM  Medium Cut	**WNMG060408-DM**	0.8	0.5-3.0	0.15-0.50		●	●	●		○																		
	WNMG060412-DM	1.2	0.8-3.0	0.18-0.60		●	●	●		○																		
	WNMG06T308-DM	0.8	0.5-3.0	0.15-0.15			○	●																				
	WNMG080404-DM	0.4	0.5-4.0	0.1-0.4		●	●	●		○																		
	WNMG080408-DM	0.8	0.5-4.0	0.15-0.50		●	●	●	●	○		●											○					
	WNMG080412-DM	1.2	0.8-4.0	0.18-0.60		●	●	●	●																			
	WNMG080416-DM	1.6	1-4	0.23-0.65		●	●																					
EG  Medium Cut	**WNMG080408-EG**	0.8	0.5-4.0	0.05-0.40							●	●									●	●						
	WNMG080412-EG	1.2	0.5-4.0	0.05-0.60							●	●									●	●						
EM  Medium Cut	**WNMG060404-EM**	0.4	0.5-3.0	0.05-0.30							●	●										●	○					
	WNMG060408-EM	0.8	0.5-3.0	0.1-0.5							●	●										●	○					
	WNMG06T304-EM	0.4	0.5-3.0	0.05-0.30							●																	
	WNMG06T308-EM	0.8	0.5-3.0	0.1-0.5							●																	
	WNMG06T312-EM	1.2	0.5-3.0	0.1-0.7							○											○						
	WNMG080404-EM	0.4	1-4	0.05-0.30							●	●										●	●					
	WNMG080408-EM	0.8	1-4	0.1-0.5							●	●										●	○					
	WNMG080412-EM	1.2	1-4	0.1-0.7							●	●										●						

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DWLNR/L	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
			
A203	A217	A232	A291

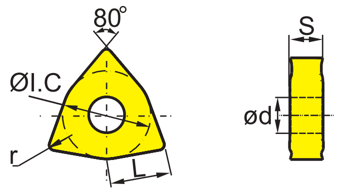
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✤ Normal machining conditions
❋ Unfavourable machining conditions

WNMG	L	I.C	S	d
06 04	6.5	9.525	4.76	3.81
08 04	8.7	12.7	4.76	5.16

WN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✤	✤	❋	❋											✤	✤	✤	◯	✤	◯		
M							◯	✤							◯	◯	✤	✤	✤	◯	✤	◯		
K									◯	◯	✤	✤	✤											
N														◯	◯								◯	✤
S															◯	◯	✤	✤	✤				◯	✤
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
PM  Medium Cut	**WNMG060408-PM**	0.8	0.5-3.0	0.15-0.50		●	●	●		●			○	●		●												
	WNMG060412-PM	1.2	0.8-3.0	0.18-0.60		●	○	●		○				○		○												
	WNMG080404-PM	0.4	0.4-4.0	0.12-0.40		●	●	●		●			○	●		●												
	WNMG080408-PM	0.8	0.5-4.0	0.15-0.50		●	●	●	●	●			○	●		●												
	WNMG080412-PM	1.2	0.8-4.0	0.18-0.60		●	●	●		●			○	●		●												
	WNMG080416-PM	1.6	1-4	0.23-0.65			●			○			○	●		●												
ZM  Medium Cut	**WNMG080408-ZM**	0.8	0.5-4.0	0.1-0.5	○																							
	WNMG080412-ZM	1.2	1.0-5.5	0.15-0.60	○																							

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

DWLNR/L	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
			
A203	A217	A232	A291

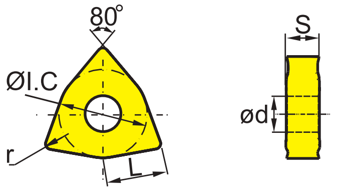
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

WN**	L	I.C	S	d
06 04	6.5	9.525	4.76	3.81
06 T3	6.5	9.525	3.97	3.81
08 04	8.7	12.7	4.76	5.16

WN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
NM  Medium Cut	**WNMG080404-NM**	0.4	0.2-3.0	0.05-0.30																●								
	WNMG080408-NM	0.8	0.2-3.0	0.1-0.3															●	●		○						
	WNMG080412-NM	1.2	0.2-4.0	0.1-0.4															●	●								
TC  Medium Cut	**WNMG080404-TC**	0.4	0.5-3.0	0.08-0.25											●		●											
	WNMG080408-TC	0.8	0.5-4.0	0.15-0.40											●		●											
	WNMG080412-TC	1.2	0.5-4.0	0.2-0.6											●		●											
DR  Roughing	**WNMG060408-DR**	0.8	0.7-3.5	0.20-0.45		●	●	●		○				●		●												
	WNMG060412-DR	1.2	0.8-3.5	0.25-0.55		●	●	●		○				○		○												
	WNMG080408-DR	0.8	0.7-5.0	0.20-0.55		●	●	●	●	●				●		●												
	WNMG080412-DR	1.2	1-5	0.25-0.70		●	●	●	●	○				●		●												
	WNMG080416-DR	1.6	1.5-5.0	0.32-0.75		○	●	●						●		○												
Flat 	**WNMA060408**	0.8	0.5-3.0	0.1-0.3									●	●		●												
	WNMA060412	1.2	0.5-3.0	0.15-0.30												●												
	WNMA06T308	0.8	0.5-3.0	0.1-0.3									○															
	WNMA080404	0.4	0.5-4.0	0.08-0.25										○		●	○											
	WNMA080408	0.8	0.5-4.0	0.15-0.30									●	●		●	●											
	WNMA080412	1.2	0.5-5.0	0.15-0.30									●	●		●	●											
	WNMA080416	1.6	0.5-5.0	0.2-0.5									○	○			○											

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

DWLNR/L	PWLNR/L	MWLNR/L	S***-PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
			
A203	A217	A232	A291

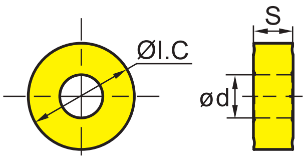
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
◍ Normal machining conditions
✲ Unfavourable machining conditions

RNMG	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16

RN** negative insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	◍	◍	✲	✲											◍	◍	◍	◯	◍	◯		
M							◯	◍							◯	◯	◍	◍	◍	◯	◍	◯		
K									◯	◯	◍	◍	◍											
N														◯	◯								◯	◍
S															◯	◯	◍	◍	◍				◯	◍
H																								

	ISO	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic  Medium Cut	**RNMG120400**	0.5-7.0	0.1-1.8				●								○	○											

● Ex stock ○ On demand

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

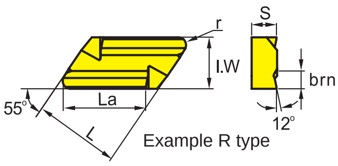
Tool holder	
MRDNN	**MRGNR/L**
	
A233	A234

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✻ Unfavourable machining conditions

KNUX	I.W	L	S
16 04	9.525	16.15	4.76

KN** negative insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2		HW			
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C		YD101	YD201		
P	◯	◯	✲	✲	✻	✻											✲	✲	✲	◯	✲	◯					
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯					
K									◯	◯	✲	✲	✲														
N														◯	◯									◯	✲		
S															◯	◯	✲	✲	✲					◯	✲		
H																											

ISO		brn	r	La	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C		YD101	YD201		
KNUX  Finishing	**KNUX160405L11**	2.2	0.5	16	0.2-6.0	0.05-0.70			●	●		○																			○		
	KNUX160405L12	2.2	0.5	16	0.2-6.0	0.05-0.70				●																							
	KNUX160405R11	2.2	0.5	16	0.2-6.0	0.05-0.70			●	●		○																			○		
	KNUX160405R12	2.2	0.5	16	0.2-6.0	0.05-0.70				●																							
	KNUX160410L11	2.2	1	16	0.2-6.0	0.05-0.70				●																							
	KNUX160410L12	2.2	1	16	0.2-6.0	0.05-15.00		○		●																							
	KNUX160410R11	2.2	1	16	0.2-6.0	0.05-0.70			●	●																							
	KNUX160410R12	2.2	1	16	0.2-6.0	0.05-0.70		○		●																							

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

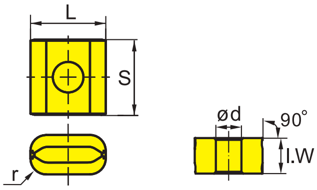
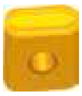
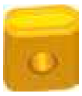
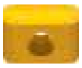
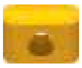
CKJNR/L	CKNNR/L
Kr: 93°	Kr: 63°
	
A256	A257

System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

175.	L	I.C	S	d
32 -1	19.05	10	19.05	6.35
32 -3	30	10	19.05	6.35

Railway wheel machining			HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
 L S r ød 90° I.W		**P**	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
		M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
		K									◯	◯	✲	✲	✲											
		N														◯	◯								◯	✲
		S															◯	◯	✲	✲	✲				◯	✲
		H																								
	ISO	r	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	**175.32-191940-22**	4				○																				
	**175.32-191940-227**	4				○																				
	**175.32-191940-24**	4				●																				
	175.32-301940-24	4		○		●																				
	**175.32-191940-25**	4				○																				
	**175.32-191940-28**	4		●	●	●																				
	**175.32-301940-31**	4			○	○																				

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

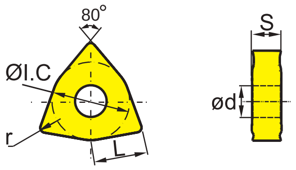
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✢ Normal machining conditions
✺ Unfavourable machining conditions

TNMX	L	I.C	S	d
11 06	11.389	15.875	6.35	6.35
15 09	15.945	22.225	9.52	7.94

TN** negative insert



						HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
					P	◯	◯	✢	✢	✺	✺											✢	✢	✢	◯	✢	◯		
					M							◯	✢							◯	◯	✢	✢	✢	◯	✢	◯		
					K									◯	◯	✢	✢	✢											
					N														◯	◯								◯	✢
					S															◯	◯	✢	✢	✢				◯	✢
					H																								
	ISO	r	a_p	f		YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic 	**TNMX1106-2**	1.6	0.4-5.0	0.1-0.4					○				○																
	TNMX1509-2	1.6	0.5-5.0	0.1-1.0									○																

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

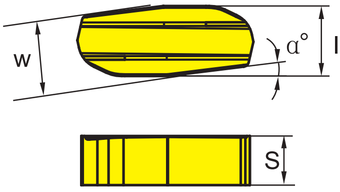
HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◎ Ideal machining conditions
✿ Normal machining conditions
❋ Unfavourable machining conditions

YN**	I.W	S
18 12	18	12
25 18	25	18



TN** negative insert	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◎	◎	✿	✿	❋	❋											✿	✿	✿	◎	✿	◎		
M							◎	✿							◎	◎	✿	✿	✿	◎	✿	◎		
K									◎	◎	✿	✿	✿											
N														◎	◎								◎	✿
S															◎	◎	✿	✿	✿				◎	✿
H																								

	ISO	w	α	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	**YNMX1812L**	22	20	0.5-2.5	0.05-0.30			○																					
	YNMX2518173L	25	7	0.5-2.5	0.05-0.30			○																					
	**YNUX1812150L**	18	15	0.5-2.5	0.05-0.50								○																

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

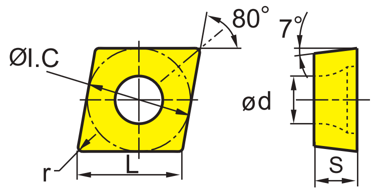
HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

CCGT	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4

CC** positive insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
SF  Finishing	**CCGT060202-SF**	0.2	0.05-2.00	0.05-0.18																				●		●		
	CCGT060204-SF	0.4	0.05-2.00	0.05-0.35																				●	●	●		
	CCGT09T304-SF	0.4	0.05-2.00	0.05-0.35																				●	●	●		
USF  Finishing	**CCGT09T301L-USF**	0.1	0.2-2.0	0.01-0.08																	○		○					
	CCGT09T302L-USF	0.2	0.2-2.0	0.05-0.18																		○	●					
	CCGT09T304L-USF	0.4	0.2-2.0	0.05-0.20																		●	●					
USF  Finishing	**CCGT09T301R-USF**	0.1	0.2-2.0	0.01-0.08																			○					
	CCGT09T302R-USF	0.2	0.2-2.0	0.05-0.18																			●					
	CCGT09T304R-USF	0.4	0.2-2.0	0.05-0.20																		●						

● Ex stock ○ On demand

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	S***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A235	A236	A272	A273	A293	A310	A311

E***-SCLCR/L
Kr: 95°

A313

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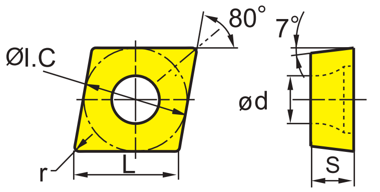
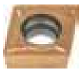
CCMT	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.56

◯ Ideal machining conditions
⊕ Normal machining conditions
⊛ Unfavourable machining conditions

Turning inserts



CC** positive insert	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊕	⊕	⊛	⊛											⊕	⊕	⊕	◯	⊕	◯		
M							◯	⊕							◯	◯	⊕	⊕	⊕	◯	⊕	◯		
K									◯	◯	⊕	⊕	⊕											
N														◯	◯								◯	⊕
S															◯	◯	⊕	⊕	⊕				◯	⊕
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
AHF  Finishing	**CCMT060204-AHF**	0.4	0.2-2.5	0.05-0.20	○																●	○			●			
	CCMT060208-AHF	0.8	0.3-2.5	0.05-0.30	○																●							
	CCMT09T304-AHF	0.4	0.2-3.0	0.05-0.30	○																●	○			●			
	CCMT09T308-AHF	0.8	0.3-3.0	0.05-0.40	○																●	○			●			
	CCMT120404-AHF	0.4	0.5-4.0	0.05-0.30	○																●	○						
	CCMT120408-AHF	0.8	0.8-4.0	0.08-0.40	○																●							
HF  Finishing	**CCMT060202-HF**	0.2	0.06-1.70	0.03-0.11		●	●	●															○	○		●		○
	CCMT060204-HF	0.4	0.1-1.7	0.05-0.17		●	●	●		○						○							●	○				
	CCMT060208-HF	0.8	0.1-1.7	0.05-0.30		○	●	●															○	○		●		
	CCMT09T302-HF	0.2	0.08-2.00	0.04-0.15		○	●	●															●	○		○		
	CCMT09T304-HF	0.4	0.11-2.00	0.06-0.23		●	●	●		○				○		●							●	○		○		
	CCMT09T308-HF	0.8	0.15-2.00	0.08-0.30		●	●	●		○				○		●							●					
	CCMT120404-HF	0.4	0.14-2.40	0.07-0.27		●	●	○																				
	CCMT120408-HF	0.8	0.2-3.0	0.08-0.30		●	○																					

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	S***-SCLCR/L	S***-SCFCR/L	S***-SCLCR
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A235	A236	A272	A273	A293	A310	A311

E***-SCLCR/L
Kr: 95°

A313

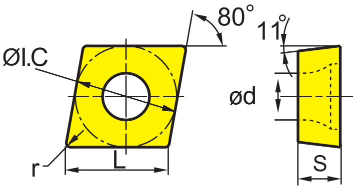
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
◍ Normal machining conditions
✱ Unfavourable machining conditions

CPGT	L	I.C	S	d
05 02	5.6	5.56	2.38	2.8

CP** positive insert



				HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P				◯	◯	◍	◍	✱	✱											◍	◍	◍	◯	◍	◯		
M										◯	◍							◯	◯	◍	◍	◍	◯	◍	◯		
K												◯	◯	◍	◍	◍											
N																	◯	◯								◯	◍
S																		◯	◯	◍	◍	◍				◯	◍
H																											
 **CPGT050204**	0.4	0.5-2.0	0.08-0.40				○																				

● Ex stock ○ On demand

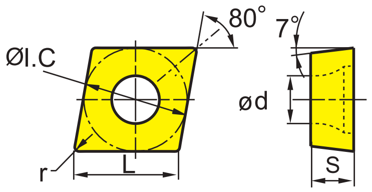
HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

CCMT	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.56

CC** positive insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	✺	✺											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

ISO		r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EF  Finishing	**CCMT060202-EF**	0.2	0.06-1.70	0.03-0.11							○											●	○					
	CCMT060204-EF	0.4	0.1-1.7	0.05-0.17							●											●	○					
	CCMT09T302-EF	0.2	0.08-2.00	0.04-0.15							●											●	○					
	CCMT09T304-EF	0.4	0.11-2.00	0.06-0.23							●									●		●	○					
	CCMT09T308-EF	0.8	0.15-2.00	0.08-0.30							●									○		●						
	CCMT120404-EF	0.4	0.14-2.40	0.07-0.27							●											●	○					
	CCMT120408-EF	0.8	0.2-3.0	0.1-0.3							●											●	○					
EM  Medium Cut	**CCMT060204-EM**	0.4	0.2-2.4	0.06-0.17							●	●										●	○					
	CCMT060208-EM	0.8	0.4-2.4	0.08-0.23							●	●										●	○					
	CCMT09T304-EM	0.4	0.25-3.00	0.08-0.23							●	●										●	○					
	CCMT09T308-EM	0.8	0.5-3.0	0.1-0.3							●	●										●	○					
	CCMT120404-EM	0.4	0.3-3.6	0.09-0.27							●	●										●	○					
	CCMT120408-EM	0.8	0.6-3.6	0.12-0.36							●	●										●						
	CCMT120412-EM	1.2	0.72-3.60	0.14-0.43								○																

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SCACR/L	SCLCR/L	SCLCR/L-SC	S***-SCLCR/L	S***-SCFCR/L	S***-SCLCR	E***-SCLCR/L
Kr: 90°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°
						
A235	A236	A273	A293	A310	A311	A313

SCACR/L-SC
Kr: 90°

A272

System code A40 Grade selection A38 Technical info A445 Cutting data A324

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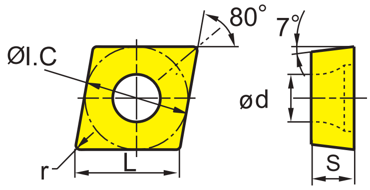
Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✹ Unfavourable machining conditions

CCMT	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.56

CC** positive insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✹	✹											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
HM  Medium Cut	**CCMT060204-HM**	0.4	0.2-2.4	0.06-0.17		●	●	●		○		●		●		●							●					
	CCMT060208-HM	0.8	0.2-3.0	0.08-0.20		●	●	●		○				●		●							●					
	CCMT09T304-HM	0.4	0.25-3.00	0.08-0.23		●	●	●		●		●		●		●							●					
	CCMT09T308-HM	0.8	0.5-3.0	0.1-0.3		●	●	●		●		●		●		●							●					
	CCMT120404-HM	0.4	0.3-3.6	0.09-0.27		●	●	●		●				○		●							●					
	CCMT120408-HM	0.8	0.6-3.6	0.12-0.36		●	●	●		●				●		●							●					
	CCMT120412-HM	1.2	0.72-3.60	0.14-0.43		●	○	●		●				○														

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SCACR/L	SCLCR/L	SCLCR/L-SC	S***-SCLCR/L	S***-SCFCR/L	S***-SCLCR	E***-SCLCR/L
Kr: 90°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°
						
A235	A236	A273	A293	A310	A311	A313

SCACR/L-SC
Kr: 90°

A272

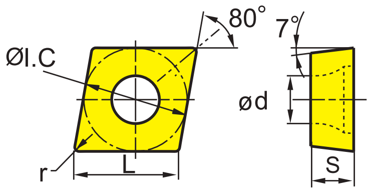
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

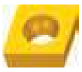
◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

CC**	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.56

CC** positive insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic  Medium Cut	**CCMW060204**	0.4	0.1-5.0	0.05-0.60																							○	
	CCMW09T304	0.4	0.1-5.0	0.05-0.50																								○
	CCMW09T308	0.8	0.2-5.0	0.05-0.50																								○
	CCMW120404	0.4	0.2-5.0	0.05-0.50																							●	○
	CCMW120408	0.8	0.5-5.0	0.08-0.50												○												○
TC  Medium Cut	**CCMT060204-TC**	0.4	0.5-3.0	0.1-0.3											●		●											
	CCMT09T304-TC	0.4	0.5-3.0	0.1-0.3											●		●											
	CCMT09T308-TC	0.8	0.5-3.0	0.1-0.4											●		●											
	CCMT120404-TC	0.4	1-4	0.1-0.3											●		●											
	CCMT120408-TC	0.8	1-4	0.1-0.4											●		●											
HR  Roughing	**CCMT060204-HR**	0.4	0.5-3.0	0.05-0.24		●	●	●		○																		○
	CCMT060208-HR	0.8	0.8-3.2	0.09-0.26		●	○	●								●												
	CCMT09T304-HR	0.4	0.2-4.0	0.05-0.30		●	●	●		○						●												
	CCMT09T308-HR	0.8	1-4	0.12-0.35		●	●	●		●			●	●		●												○
	CCMT120408-HR	0.8	1.2-4.8	0.14-0.42	○	●	●	●		○			○	●		●												
	CCMT120412-HR	1.2	1.44-4.80	0.17-0.50		●	●	●						○		○												

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

SCACR/L	SCLCR/L	SCLCR/L-SC	S***-SCLCR/L	S***-SCFCR/L	S***-SCLCR	E***-SCLCR/L
Kr: 90°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°
						
A235	A236	A273	A293	A310	A311	A313

SCACR/L-SC
Kr: 90°

A272

System code A40 Grade selection A38 Technical info A445 Cutting data A324

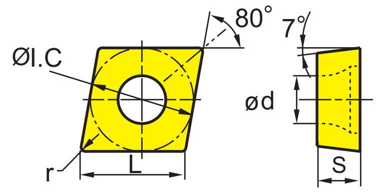
A Turning
B Milling
C Drilling
D Technical Information
E Index

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

CCGX	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.56

CC** positive insert



	ISO	r	a_p	f	HC[1] (CVD)													HC[1] (PVD)						HT		HC[2]	HW	
					YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	P				◯	◯	✲	✲	✺	✺											✲	✲	✲	◯	✲	◯		
	M										◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
	K												◯	◯	✲	✲	✲											
	N																	◯	◯								◯	✲
	S																		◯	◯	✲	✲	✲				◯	✲
	H																											
LC  Aluminium Machining	**CCGX060202-LC**	0.2	0.3-3.0	0.05-0.15														●									●	
	CCGX060204-LC	0.4	0.5-3.0	0.1-0.3														●									●	
	CCGX09T302-LC	0.2	0.5-4.0	0.1-0.2														●									●	
	CCGX09T304-LC	0.4	0.5-5.0	0.1-0.3														●									●	
	CCGX09T308-LC	0.8	0.5-5.0	0.15-0.60														●									●	
	CCGX120404-LC	0.4	0.5-7.0	0.1-0.3														●									●	
	CCGX120408-LC	0.8	0.5-7.0	0.15-0.60														●									●	
LH  Aluminium Machining	**CCGX060202-LH**	0.2	0.3-3.0	0.05-0.15															●								●	
	CCGX060204-LH	0.4	0.5-3.0	0.1-0.3															●								●	
	CCGX060208-LH	0.8	0.6-3.0	0.15-0.40																							●	
	CCGX09T302-LH	0.2	0.4-5.0	0.05-0.15															●								●	
	CCGX09T304-LH	0.4	0.5-5.0	0.1-0.3															●								●	
	CCGX09T308-LH	0.8	0.5-5.0	0.15-0.60															●								●	
	CCGX120402-LH	0.2	0.4-7.0	0.05-0.15															○								○	
	CCGX120404-LH	0.4	0.5-7.0	0.1-0.3															●								●	
	CCGX120408-LH	0.8	0.5-7.0	0.15-0.60															●				○				●	
	CCGX120412-LH	1.2	0.5-7.0	0.15-0.80															○								●	

● Ex stock ○ On demand

HC[1]	Coated carbide
HT	Uncoated cermet
HC[2]	Coated cermet
HW	Uncoated carbide

Tool holder

SCACR/L	SCLCR/L	SCLCR/L-SC	S***-SCLCR/L	S***-SCFCR/L	S***-SCLCR	E***-SCLCR/L
Kr: 90°	Kr: 95°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°
						
A235	A236	A273	A293	A310	A311	A313

SCACR/L-SC
Kr: 90°

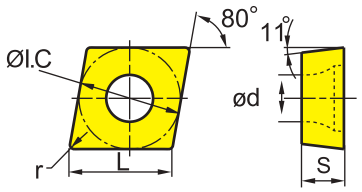
A272

System code › A40
Grade selection › A38
Technical info › A445
Cutting data › A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

CP**		L	I.C	S	d
06	02	6.4	6.35	2.38	2.8
09	T3	9.7	9.525	3.97	4.4



CP** positive insert	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

ISO		r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
HF  Finishing	**CPMT060204-HF**	0.4	0.1-1.5	0.04-0.18		●										○						○						
	CPMT060208-HF	0.8	0.1-1.5	0.05-0.25												○						●						
SF  Finishing	**CPGT060202-SF**	0.2	0.05-2.00	0.05-0.25																				○		○		
	CPGT060204-SF	0.4	0.05-2.00	0.05-0.35																				●		●		
	CPGT09T304-SF	0.4	0.05-2.00	0.05-0.35																				●		●		
Flat  Medium Cut	**CPGW060204**	0.4	0.5-1.5	0.05-0.40																							●	
HM  Medium Cut	**CPMT09T304-HM**	0.4	0.2-3.5	0.05-0.35			○							●						○		●						
	CPMT09T308-HM	0.8	0.2-3.5	0.10-0.55			○	●						●								●						

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder	
S*-SCLPR/L**	**C***-SCLPR/L**
Kr: 95°	Kr: 95°
	
A306	A312

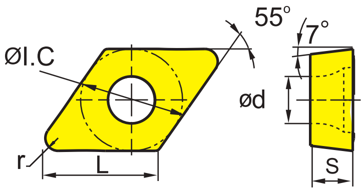
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
✳ Unfavourable machining conditions

DC**		L	I.C	S	d
07	02	7.8	6.35	2.38	2.8
11	T3	11.6	9.525	3.97	4.4

DC** positive insert



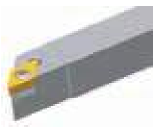
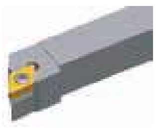
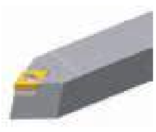
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	✳	✳											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
AHF  Finishing	**DCMT070204-AHF**	0.4	0.2-2.5	0.05-0.20	○																●	○			●			
	DCMT11T302-AHF	0.2	0.5-3.0	0.05-0.15	○																●	●			●			
	DCMT11T304-AHF	0.4	0.5-3.0	0.05-0.30	○	○															●	●			●			
	DCMT11T308-AHF	0.8	0.5-3.0	0.05-0.40	○																●							
SF  Finishing	**DCGT070202-SF**	0.2	0.05-1.50	0.05-0.15																				●	●	○		
	DCGT070204-SF	0.4	0.05-1.50	0.05-0.20																				○		●		
	DCGT070208-SF	0.8	0.05-1.50	0.05-0.30																						●		
	DCGT11T302-SF	0.2	0.05-2.00	0.05-0.15															●					●	●	●		
	DCGT11T304-SF	0.4	0.05-2.00	0.05-0.20																				●	●	●		
	DCGT11T308-SF	0.8	0.05-2.00	0.05-0.30																				●		●		

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

S***-SDQCR/L	S***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

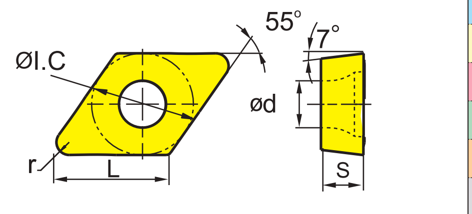
System code A40
Grade selection A38
Technical info A445
Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

DCGT		L	I.C	S	d
07	02	7.8	6.35	2.38	2.8
11	T3	11.6	9.525	3.97	4.4

DC** positive insert



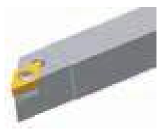
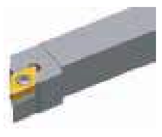
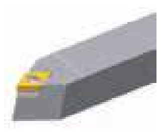
	HC^{1} (CVD)													HC^{1} (PVD)						HT		HC^{2}	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
USF  Finishing	**DCGT0702005L-USF**	0.05	0.1-2.0	0.01-0.04																			○					
	DCGT070201L-USF	0.1	0.1-2.0	0.03-0.08																			●					
	DCGT070202L-USF	0.2	0.1-2.0	0.05-0.18																			●					
	DCGT11T301L-USF	0.1	0.1-2.0	0.01-0.08																			○					
	DCGT11T302L-USF	0.2	0.2-2.0	0.05-0.18																			○					
USF  Finishing	**DCGT0702005R-USF**	0.05	0.1-2.0	0.01-0.04																			●					
	DCGT070201R-USF	0.1	0.1-2.0	0.03-0.08																			●					
	DCGT070202R-USF	0.2	0.1-2.0	0.05-0.18																			●					
	DCGT11T301R-USF	0.1	0.1-2.0	0.01-0.08																			○					
	DCGT11T302R-USF	0.2	0.2-2.0	0.05-0.18																			●					

● Ex stock ○ On demand

HC^{1}	Coated carbide
HT	Uncoated cermet
HC^{2}	Coated cermet
HW	Uncoated carbide

Tool holder

SDACR/L	**SDJCR/L**	**SDNCN**	**SDACR/L-SC**	**SDHCR/L-SC**	**SDJCR/L-SC**	**SDNCN-SC**
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

S*-SDQCR/L**	**S***-SDUCR/L**	**S***-SDZCR/L**	**E***-SDQCR/L**
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

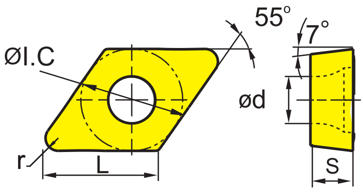
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
❋ Unfavourable machining conditions

DCMT		L	I.C	S	d
07	02	7.8	6.35	2.38	2.8
11	T3	11.6	9.525	3.97	4.4

DC** positive insert



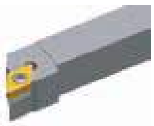
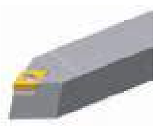
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	❋	❋											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EF  Finishing	**DCMT070202-EF**	0.2	0.06-1.50	0.03-0.11							○											●	●					
	DCMT070204-EF	0.4	0.08-1.50	0.05-0.17							●											●	○					
	DCMT11T302-EF	0.2	0.08-2.00	0.04-0.15							●											●	○					
	DCMT11T304-EF	0.4	0.11-2.00	0.06-0.23							●											●	○					
	DCMT11T308-EF	0.8	0.15-2.00	0.08-0.30							●											●	○					
HF  Finishing	**DCMT070202-HF**	0.2	0.06-1.50	0.03-0.11		○	●	●															●	○		○		
	DCMT070204-HF	0.4	0.08-1.50	0.05-0.17	○	●	●	●															●	●		○		
	DCMT070208-HF	0.8	0.08-1.50	0.05-0.30		●	○	●																				
	DCMT11T302-HF	0.2	0.08-2.00	0.04-0.15		○	●	●														●	●	●		○		
	DCMT11T304-HF	0.4	0.11-2.00	0.06-0.23	○	●	●	●		○				○		●							●	●		●		
	DCMT11T308-HF	0.8	0.15-2.00	0.08-0.30		●	●	●						○									○	○		○		
EM  Medium Cut	**DCMT070204-EM**	0.4	0.19-2.25	0.06-0.17							●	●										●	○					
	DCMT070208-EM	0.8	0.38-2.25	0.08-0.23							●	○										●						
	DCMT11T304-EM	0.4	0.25-3.00	0.08-0.23							●	●										●	○					
	DCMT11T308-EM	0.8	0.5-3.0	0.1-0.3							●	●										●	○					

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Tool holder

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

S***-SDQCR/L	S***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

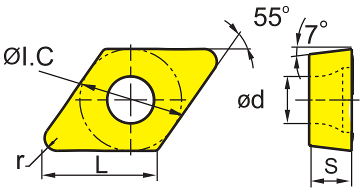
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

- ◯ Ideal machining conditions
- ✿ Normal machining conditions
- ❋ Unfavourable machining conditions

DCMT		L	I.C	S	d
07	02	7.8	6.35	2.38	2.8
11	T3	11.6	9.525	3.97	4.4

DC** positive insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✿	✿	❋	❋											✿	✿	✿	◯	✿	◯		
M							◯	✿							◯	◯	✿	✿	✿	◯	✿	◯		
K									◯	◯	✿	✿	✿											
N														◯	◯								◯	✿
S															◯	◯	✿	✿	✿				◯	✿
H																								

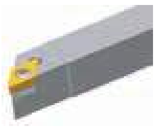
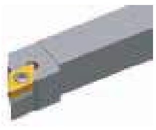
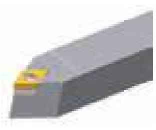
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
HM  Medium Cut	**DCMT070204-HM**	0.4	0.19-2.25	0.06-0.17		●	●	●		○				●		●						●	●					
	DCMT070208-HM	0.8	0.38-2.25	0.08-0.23	○	●	●	●		○				●		●							●					
	DCMT11T304-HM	0.4	0.25-3.00	0.08-0.23		●	●	●		○				●		●					●		●					
	DCMT11T308-HM	0.8	0.5-3.0	0.1-0.3		●	●	●		○				●		●					●		●					
	DCMT11T312-HM	1.2	0.6-3.0	0.12-0.36		○	●	●		○				○		○												

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

S***-SDQCR/L	S***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

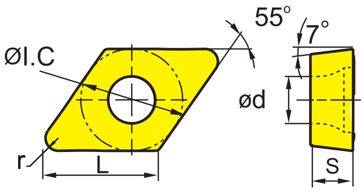
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✿ Normal machining conditions
❋ Unfavourable machining conditions

DC**		L	I.C	S	d
07	02	7.8	6.35	2.38	2.8
11	T3	11.6	9.525	3.97	4.4

DC** positive insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✿	✿	❋	❋											✿	✿	✿	◯	✿	◯		
M							◯	✿							◯	◯	✿	✿	✿	◯	✿	◯		
K									◯	◯	✿	✿	✿											
N														◯	◯								◯	✿
S															◯	◯	✿	✿	✿				◯	✿
H																								

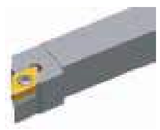
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Flat  Medium Cut	**DCMW070204**	0.4	0.5-3.0	0.05-0.20																								
	DCMW11T304	0.4	0.5-5.0	0.05-0.20										○														
	DCMW11T308	0.8	0.4-5.0	0.1-0.4										○														
HR  Roughing	**DCMT11T304-HR**	0.4	1-4	0.1-0.3		○	●	○		○				○		○												○
	DCMT11T308-HR	0.8	1-4	0.12-0.35	○	●	●	●		●			○	●		●												○
	DCMT11T312-HR	1.2	1.2-4.0	0.14-0.42		○	●	●						○														
LC  Aluminium Machining	**DCGX070201-LC**	0.1	0.3-4.0	0.05-0.10																							●	
	DCGX070202-LC	0.2	0.3-4.0	0.05-0.15														●									●	
	DCGX070204-LC	0.4	0.5-4.0	0.1-0.3														●									●	
	DCGX11T302-LC	0.2	0.3-5.5	0.05-0.15														●									●	
	DCGX11T304-LC	0.4	0.5-5.5	0.1-0.3														●									●	
	DCGX11T308-LC	0.8	0.5-5.5	0.15-0.60														●									●	

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

S***-SDQCR/L	S***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

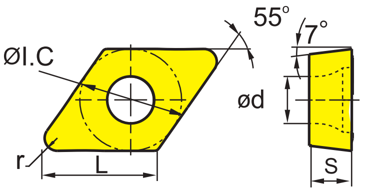
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
✱ Unfavourable machining conditions

DCGX	L	I.C	S	d
07 02	7.8	6.35	2.38	2.8
11 T3	11.6	9.525	3.97	4.4

DC** positive insert



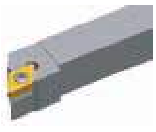
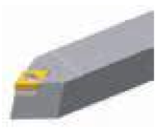
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	✱	✱											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
LH  Aluminium Machining	**DCGX070202-LH**	0.2	0.3-4.0	0.05-0.15															●				○				●	
	DCGX070204-LH	0.4	0.5-4.0	0.1-0.3															●				○				●	
	DCGX070208-LH	0.8	0.5-4.0	0.15-0.60															●								●	
	DCGX11T302-LH	0.2	0.3-5.5	0.05-0.15															●				●				●	
	DCGX11T304-LH	0.4	0.5-5.5	0.1-0.3															●				●				●	
	DCGX11T308-LH	0.8	0.5-5.5	0.15-0.60															●				○				●	

● Ex stock ○ On demand

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

S***-SDQCR/L	S***-SDUCR/L	S***-SDZCR/L	E***-SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

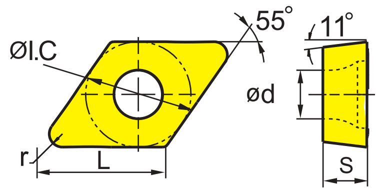
System code > A40 Grade selection > A38 Technical info > A445 Cutting data > A324

Turning inserts

◯ Ideal machining conditions
✳ Normal machining conditions
❋ Unfavourable machining conditions

DP**	L	I.C	S	d
07 02	7.8	6.35	2.38	2.8
11 T3	11.6	9.525	3.97	4.4

DP** positive insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✳	✳	❋	❋											✳	✳	✳	◯	✳	◯		
M							◯	✳							◯	◯	✳	✳	✳	◯	✳	◯		
K									◯	◯	✳	✳	✳											
N														◯	◯								◯	✳
S															◯	◯	✳	✳	✳				◯	✳
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
SF  Finishing	**DPGT070202-SF**	0.2	0.05-2.00	0.05-0.15																				○		●		
	DPGT070204-SF	0.4	0.05-2.00	0.05-0.30																				●		●		
	DPGT070208-SF	0.8	0.05-2.00	0.05-0.40																				○		●		
	DPGT11T304-SF	0.4	0.05-2.00	0.1-0.3																				●		●		
	DPGT11T308-SF	0.8	0.05-2.00	0.1-0.4																				●		○		
USF  Finishing	**DPGT0702005L-USF**	0.05	0.1-2.0	0.01-0.04																			○					
	DPGT070201L-USF	0.1	0.1-2.0	0.03-0.08																			○					
	DPGT11T301L-USF	0.1	0.1-2.0	0.03-0.08																			○					
USF  Finishing	**DPGT0702005R-USF**	0.05	0.1-2.0	0.01-0.04																			○					
	DPGT070201R-USF	0.1	0.1-2.0	0.03-0.08																			○					
	DPGT11T301R-USF	0.1	0.1-2.0	0.03-0.08																			○					
Basic  Medium Cut	**DPMW11T304**	0.4	0.5-4.0	0.1-0.3																								
	DPMW11T308	0.8	0.5-4.0	0.1-0.4																						○	○	

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

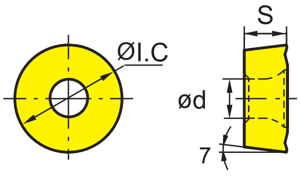
S***-SDQPR/L	S***-SDUPR/L	C***-SDQPR/L
Kr: 107°30'	Kr: 93°	Kr: 107°30'
		
A307	A308	A314

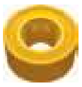
System code A40 Grade selection A38 Technical info A445 Cutting data A324

RC**	L	I.C	S	d
08 03	8	8	3.18	3.36
10 T3	10	10	3.97	3.6
12 04	12	12	4.76	4.4
16 06	16	16	6.35	5.5
20 06	20	20	6.35	6.5
25 07	25	25	7.94	7.7

◯ Ideal machining conditions
✻ Normal machining conditions
❋ Unfavourable machining conditions

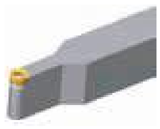
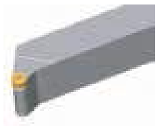
Turning inserts



RC** positive insert				HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	ISO	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P				◯	◯	✻	✻	❋	❋											✻	✻	✻	◯	✻	◯		
M										◯	✻							◯	◯	✻	✻	✻	◯	✻	◯		
K												◯	◯	✻	✻	✻											
N																	◯	◯								◯	✻
S																		◯	◯	✻	✻	✻				◯	✻
H																											
Basic  Medium Cut	**RCGT1204MO**	0.5-5.0	0.1-0.4				○																				
Basic  Medium Cut	**RCMT0803MO**	0.5-3.0	0.1-0.4			●							●														
	RCMT10T3MO	0.5-4.0	0.1-0.5			●	●						●									○					
	RCMT1204MO	0.8-5.0	0.1-0.6		●	●	●						●		●							●					
	RCMT1606MO	1-6	0.1-0.8		●	●	●		●		●	○	●														
	RCMT2006MO	1.2-8.0	0.1-1.0		●	●	●																				
	RCMT2507MO	1.4-10.0	0.1-1.2		○	●	●																				
LH  Aluminium Machining	**RCGX0803MO-LH**	1-4	0.2-0.5																							●	
	RCGX1204MO-LH	1.2-5.0	0.2-0.6																							●	

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

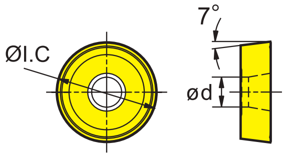
Tool holder	
SRDCN	SRGCR/L
	
A254	A255

RCMX	L	I.C	S	d
08 03	8	8	3.18	3.36
10 03	10	10	3.18	3.6
12 04	12	12	4.76	4.4
16 06	16	16	6.35	5.5
20 06	20	20	6.35	6.5
25 07	25	25	7.94	7.2
32 09	32	32	9.52	10.2

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

RC** positive insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	✺	✺											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic  Light Roughing	**RCMX0803MO**	0.5-4.0	0.1-0.5			●	●														○						
	RCMX1003MO	0.5-5.0	0.1-0.6			●	●		●																		
	RCMX1204MO	1-6	0.1-0.8		●	●	●		○																		
	RCMX1606MO	1-7	0.2-0.9		○	●	○		●		●										○					○	
	RCMX2006MO	1-9	0.2-1.0		●	●	●		●						●											○	
	RCMX2507MO	2-10	0.25-1.20		○	●			●																		
	RCMX3209MO	2-13	0.25-1.40		○	●	●		○																		
Basic  Light Roughing	**RCMX2507MO-1**	2-9	0.1-0.4		○		○																				
Basic  Light Roughing	**RCMX3209MO-A**	1-8	0.2-0.8	○	○	○																					
Basic  Light Roughing	**RCMX3209MO-PV**	3-12	0.1-0.4		○	●	●																				

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

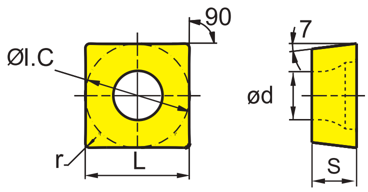
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
❁ Normal machining conditions
✺ Unfavourable machining conditions

SCMT	L	I.C	S	d
09 T3	9.525	9.525	3.97	4.4
12 04	12.7	12.7	4.76	5.56

SC** positive insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❁	❁	✺	✺											❁	❁	❁	◯	❁	◯		
M							◯	❁							◯	◯	❁	❁	❁	◯	❁	◯		
K									◯	◯	❁	❁	❁											
N														◯	◯								◯	❁
S															◯	◯	❁	❁	❁				◯	❁
H																								

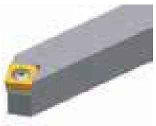
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
AHF  Finishing	**SCMT09T304-AHF**	0.4	0.5-3.0	0.05-0.30	○																●							
	SCMT09T308-AHF	0.8	0.5-3.0	0.05-0.40	○																●				●			
EF  Finishing	**SCMT09T302-EF**	0.2	0.07-2.00	0.05-0.15																		●	●					
	SCMT09T304-EF	0.4	0.11-2.00	0.06-0.23																		●						
	SCMT09T308-EF	0.8	0.15-2.00	0.08-0.30																		●						
EM  Finishing	**SCMT09T304-EM**	0.4	0.25-3.00	0.08-0.23							●	●										●						
	SCMT09T308-EM	0.8	0.5-3.0	0.1-0.3							●	●										●						
	SCMT120404-EM	0.4	0.3-3.6	0.09-0.27							○	●										●						
	SCMT120408-EM	0.8	0.6-3.6	0.12-0.36							●	●										●						
	SCMT120412-EM	1.2	0.72-3.60	0.14-0.43								○										●						

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SSBCR/L	SSDCN	SSKCR/L	SSSCR/L	S***-SSKCR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
				
A245	A246	A247	A248	A298

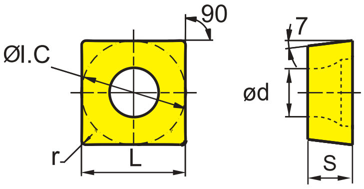
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

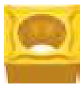
◯ Ideal machining conditions
✣ Normal machining conditions
✺ Unfavourable machining conditions

SCMT	L	I.C	S	d
09 T3	9.525	9.525	3.97	4.4
12 04	12.7	12.7	4.76	5.56

SC** positive insert



	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P	◯	◯	✣	✣	✺	✺											✣	✣	✣	◯	✣	◯		
M							◯	✣							◯	◯	✣	✣	✣	◯	✣	◯		
K									◯	◯	✣	✣	✣											
N														◯	◯								◯	✣
S															◯	◯	✣	✣	✣				◯	✣
H																								

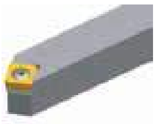
	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
HF  Finishing	**SCMT09T302-HF**	0.2	0.15-2.00	0.05-0.15				●																				
	SCMT09T304-HF	0.4	0.11-2.00	0.05-0.23			●	●															●					
	SCMT09T308-HF	0.8	0.15-2.00	0.05-0.30		●	●	○															●					
HM  Medium Cut	**SCMT09T304-HM**	0.4	0.25-3.00	0.08-0.23	○	●	●	●		○				●		●												
	SCMT09T308-HM	0.8	0.5-3.0	0.1-0.3		●	●	●		●				●		●							●					○
	SCMT120404-HM	0.4	0.3-3.6	0.09-0.27		●	○	●																				
	SCMT120408-HM	0.8	0.6-3.6	0.12-0.36		●	●	●		●			○	●		●							○					
	SCMT120412-HM	1.2	0.72-3.60	0.14-0.43			●	●																				

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1 Coated carbide
HT Uncoated cermet
HC^2 Coated cermet
HW Uncoated carbide

Tool holder

SSBCR/L	SSDCN	SSKCR/L	SSSCR/L	S***-SSKCR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
				
A245	A246	A247	A248	A298

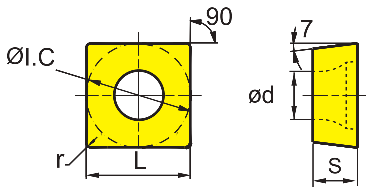
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

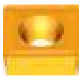
◯ Ideal machining conditions
⊛ Normal machining conditions
✲ Unfavourable machining conditions

SC**	L	I.C	S	d
09 T3	9.525	9.525	3.97	4.4
12 04	12.7	12.7	4.76	5.55.56

SC** positive insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	✲	✲											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

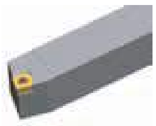
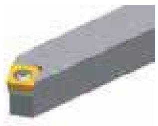
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic  Medium Cut	**SCMT09T304**	0.4	0.2-4.0	0.05-0.30				○																				○
	SCMT120404	0.4	0.5-6.0	0.08-0.30				○																				
	SCMT120408	0.8	0.5-6.0	0.1-0.6				○								○												
HR  Roughing	**SCMT09T304-HR**	0.4	0.2-4.0	0.05-0.40		○	●	●		○						○							○					
	SCMT09T308-HR	0.8	1-4	0.12-0.35		●	●	●		●			○	●		●												
	SCMT09T312-HR	1.2	1.2-4.0	0.14-0.42			○																					
	SCMT120404-HR	0.4	0.5-4.0	0.05-0.50		○	○	●		○																		
	SCMT120408-HR	0.8	1.2-4.8	0.14-0.42		●	●	●		●			○	●		●												
	SCMT120412-HR	1.2	1.44-4.80	0.17-0.50		●	●	●					○	●		○												
LC  Aluminium Machining	**SCGX09T304-LC**	0.4	0.5-5.0	0.1-0.5																							●	
	SCGX09T308-LC	0.8	0.5-5.0	0.15-0.60																							●	
	SCGX120408-LC	0.8	1-7	0.15-0.60														●									●	

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

SSBCR/L	SSDCN	SSKCR/L	SSSCR/L	S***-SSKCR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
				
A245	A246	A247	A248	A298

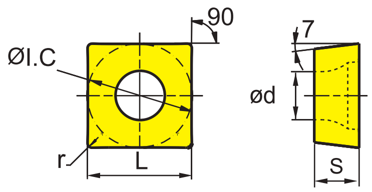
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊕ Normal machining conditions
✲ Unfavourable machining conditions

SCGX		L	I.C	S	d
09	T3	9.525	9.525	3.97	4.4
12	04	12.7	12.7	4.76	5.56

SC** positive insert



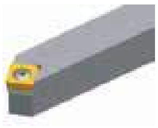
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊕	⊕	✲	✲											⊕	⊕	⊕	◯	⊕	◯		
M							◯	⊕							◯	◯	⊕	⊕	⊕	◯	⊕	◯		
K									◯	◯	⊕	⊕	⊕											
N														◯	◯								◯	⊕
S															◯	◯	⊕	⊕	⊕				◯	⊕
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
LH  Aluminium Machining	**SCGX09T302-LH**	0.2	0.5-4.0	0.05-0.15															○								●	
	SCGX09T304-LH	0.4	0.5-4.0	0.1-0.3															○								●	
	SCGX09T308-LH	0.8	0.5-4.0	0.15-0.60																							●	
	SCGX120404-LH	0.4	0.5-5.0	0.1-0.3																							○	
	SCGX120408-LH	0.8	0.5-5.0	0.15-0.60															○								●	

● Ex stock ○ On demand

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

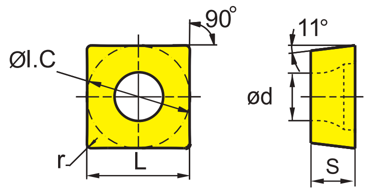
SSBCR/L	SSDCN	SSKCR/L	SSSCR/L	S***-SSKCR/L
Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°
				
A245	A246	A247	A248	A298

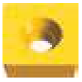
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
✳ Unfavourable machining conditions

SPMW		L	I.C	S	d
09	T3	9.525	9.525	3.97	4.4
12	04	12.7	12.7	4.76	5.56



SP** positive insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2		HW				
				P	◯	◯	⊛	⊛	✳	✳											⊛	⊛	⊛	◯	⊛	◯						
				M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯						
				K									◯	◯	⊛	⊛	⊛															
				N														◯	◯									◯	⊛			
				S															◯	◯	⊛	⊛	⊛					◯	⊛			
				H																												
ISO		r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C		YD101	YD201			
Flat 	**SPMW09T304**	0.4	0.5-4.0	0.1-0.4				○								○																
	SPMW09T308	0.8	0.5-4.0	0.2-0.4				○								○																
	SPMW120408	0.8	1-6	0.3-0.6												○																

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

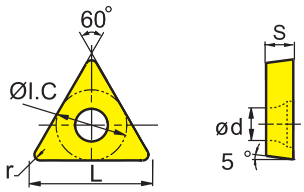
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

TBGH	L	I.C	S	d
06 01	6.87	3.97	1.59	2.2

TB** positive insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	**TBGH060102L**	0.2	0.5-3.5	0.05-0.40															●					●				
	TBGH060104L	0.4	0.5-3.5	0.05-0.40															○					●				

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

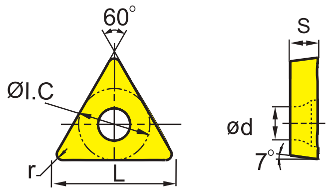
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

TCGT	L	I.C	S	d
06 T1	6.87	3.97	1.98	2.2
09 02	9.63	5.56	2.38	2.5
11 03	11	6.35	3.18	2.8

TC** positive insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
SF  Finishing	**TCGT06T102-SF**	0.2	0.05-2.00	0.05-0.15																				○		●		
	TCGT090202-SF	0.2	0.05-2.00	0.05-0.15																				○		○		
	TCGT090204-SF	0.4	0.05-2.00	0.1-0.3																				●		●		
	TCGT090208-SF	0.8	0.05-2.00	0.10-0.35																						●		
	TCGT110302-SF	0.2	0.05-2.00	0.05-0.15																						●		
	TCGT110304-SF	0.4	0.05-2.00	0.1-0.3																				●		●		
	TCGT110308-SF	0.8	0.05-2.00	0.10-0.35																						●		
USF  Finishing	**TCGT110301L-USF**	0.1	0.2-2.0	0.03-0.08																			○					
	TCGT110302L-USF	0.2	0.2-2.0	0.05-0.18																			●					
USF  Finishing	**TCGT110301R-USF**	0.1	0.2-2.0	0.03-0.08																			●					
	TCGT110302R-USF	0.2	0.2-2.0	0.05-0.18																			●					

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

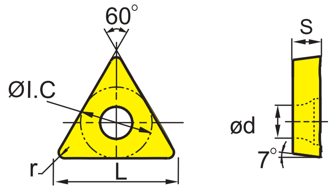
STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A249	A250	A251	A252	A300	A319

System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

TCMT		L	I.C	S	d
09	02	9.63	5.56	2.38	2.5
11	02	11	6.35	2.38	2.8
16	T3	16.5	9.525	3.97	4.4



TC** positive insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P					◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M											◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K													◯	◯	✲	✲	✲											
N																		◯	◯								◯	✲
S																			◯	◯	✲	✲	✲				◯	✲
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
AHF  Finishing	**TCMT110204-AHF**	0.4	0.2-2.5	0.05-0.30	○																●							
	TCMT110208-AHF	0.8	0.2-2.5	0.1-0.4	○																●							
	TCMT16T304-AHF	0.4	0.5-3.0	0.05-0.30	○																●							
	TCMT16T308-AHF	0.8	0.5-3.5	0.1-0.4	○																●							
HF  Finishing	**TCMT090202-HF**	0.2	0.06-1.70	0.03-0.13		○	●	●																○				
	TCMT090204-HF	0.4	0.1-1.7	0.05-0.19		○	●																	○				
	TCMT090208-HF	0.8	0.15-1.70	0.10-0.25		○	○	●																○				
	TCMT110202-HF	0.2	0.08-2.00	0.05-0.20			●	●															●					
	TCMT110204-HF	0.4	0.1-2.0	0.05-0.30		●	●	●		○						●								○		○		
	TCMT110208-HF	0.8	0.1-2.0	0.05-0.35		●	●	○		○				●										○				
	TCMT16T304-HF	0.4	0.11-2.00	0.05-0.23		●	●	●															○					
	TCMT16T308-HF	0.8	0.2-3.5	0.05-0.30		●		●																○				

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

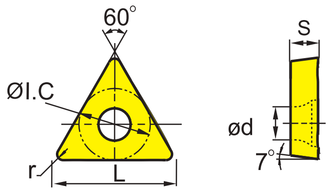
Tool holder

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A249	A250	A251	A252	A300	A319

TCMT	L	I.C	S	d
09 02	9.63	5.56	2.38	2.5
11 02	11	6.35	2.38	2.8
16 T3	16.5	9.525	3.97	4.4

Turning inserts

◯	Ideal machining conditions
❂	Normal machining conditions
✹	Unfavourable machining conditions



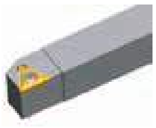
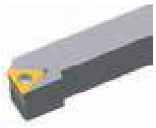
TC** positive insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
				P	◯	◯	❂	❂	✹	✹											❂	❂	❂	◯	❂	◯		
				M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
				K									◯	◯	❂	❂	❂											
				N														◯	◯								◯	❂
				S															◯	◯	❂	❂	❂				◯	❂
				H																								
ISO		r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EF  Finishing	**TCMT090202-EF**	0.2	0.06-1.70	0.03-0.13																			●					
	TCMT090204-EF	0.4	0.1-1.7	0.05-0.19																		●	○					
	TCMT110202-EF	0.2	0.2-2.0	0.05-0.13																		●	○					
	TCMT110204-EF	0.4	0.2-2.0	0.05-0.20																		●	○					
	TCMT110208-EF	0.8	0.2-2.0	0.05-0.30																			○					
	TCMT16T304-EF	0.4	0.3-3.0	0.05-0.23																		●	○					
	TCMT16T308-EF	0.8	0.3-3.0	0.1-0.4							●											●						
EM  Medium Cut	**TCMT090204-EM**	0.4	0.19-2.25	0.06-0.17							●											○	○					
	TCMT090208-EM	0.8	0.38-2.25	0.08-0.23							●																	
	TCMT110204-EM	0.4	0.2-2.7	0.05-0.30							●											●	○					
	TCMT110208-EM	0.8	0.8-2.7	0.08-0.30							●											●	○					
	TCMT110212-EM	1.2	0.2-2.7	0.05-0.30																			○					
	TCMT16T304-EM	0.4	0.25-3.00	0.08-0.23							●											●						
	TCMT16T308-EM	0.8	0.5-3.0	0.1-0.3							●	●										●						
	TCMT16T312-EM	1.2	0.6-3.0	0.12-0.36																			○					

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A249	A250	A251	A252	A300	A319

System code A40 Grade selection A38 Technical info A445 Cutting data A324

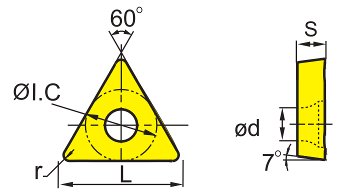
General turning

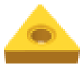
Positive inserts

TC**	L	I.C	S	d
09 02	9.63	5.56	2.38	2.5
11 02	11	6.35	2.38	2.8
16 T3	16.5	9.525	3.97	4.4
22 04	22	12.7	4.76	5.5

Turning inserts

◯ Ideal machining conditions
✻ Normal machining conditions
❋ Unfavourable machining conditions



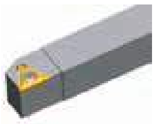
TC** positive insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	P				◯	◯	✻	✻	❋	❋											✻	✻	✻	◯	✻	◯		
	M										◯	✻							◯	◯	✻	✻	✻	◯	✻	◯		
	K												◯	◯	✻	✻	✻											
	N																	◯	◯								◯	✻
	S																		◯	◯	✻	✻	✻				◯	✻
	H																											
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Flat  Medium Cut	**TCMW110204**	0.4	0.1-3.5	0.05-0.40																								
	TCMW16T304	0.4	0.5-5.0	0.05-0.60																							●	
	TCMW16T308	0.8	0.5-5.0	0.05-0.60												○												
	TCMW16T312	1.2	0.5-4.0	0.05-0.40																								
	TCMW220408	0.8	0.5-4.0	0.08-0.50												○												
HM  Medium Cut	**TCMT090204-HM**	0.4	0.19-2.25	0.06-0.17		●	●	●						●		●												○
	TCMT090208-HM	0.8	0.38-2.25	0.08-0.23		○	●	●								○												
	TCMT110204-HM	0.4	0.2-2.7	0.07-0.20		●	●	●		○				●		●							●					
	TCMT110208-HM	0.8	0.5-2.7	0.1-0.3		●	●	●								●												
	TCMT16T304-HM	0.4	0.25-3.00	0.08-0.23	○	●	●	●		●				●		●							●					
	TCMT16T308-HM	0.8	0.5-3.0	0.1-0.3	○	●	●	●		●				●		●							●					
	TCMT16T312-HM	1.2	0.6-3.0	0.12-0.36		○	●	●		○																		
HR  Roughing	**TCMT090204-HR**	0.4	0.5-3.0	0.1-0.3			○	●																				
	TCMT090208-HR	0.8	0.5-3.5	0.08-0.50			○	○								●												
	TCMT110204-HR	0.4	0.5-3.0	0.1-0.4			●	●																				
	TCMT110208-HR	0.8	1-4	0.1-0.5			●	●																				
	TCMT16T304-HR	0.4	0.5-4.0	0.1-0.4		○	●	●						●														
	TCMT16T308-HR	0.8	1-4	0.12-0.35			●	●	●	●				●		●												
	TCMT16T312-HR	1.2	1.2-4.0	0.14-0.42		○		●					○	●		●												
	TCMT220408-HR	0.8	1.2-4.8	0.14-0.42		●	●	●		●						●												

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A249	A250	A251	A252	A300	A319

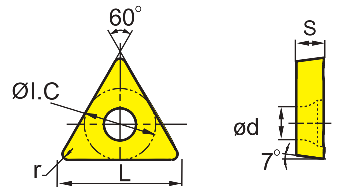
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

○ Ideal machining conditions
✣ Normal machining conditions
✺ Unfavourable machining conditions

TCMT	L	I.C	S	d
22 04	22	12.7	4.76	5.5

TC** positive insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	○	○	✣	✣	✺	✺											✣	✣	✣	○	✣	○		
M							○	✣							○	○	✣	✣	✣	○	✣	○		
K									○	○	✣	✣	✣											
N														○	○								○	✣
S															○	○	✣	✣	✣				○	✣
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
Basic 	**TCMT220408**	0.8	1.2-4.8	0.14-0.42				●						●														

● Ex stock ○ On demand

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

A
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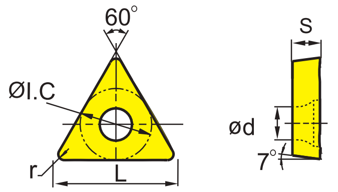
Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

TCGX		L	I.C	S	d
09	02	9.63	5.56	2.38	2.5
11	02	11	6.35	2.38	2.8
16	T3	16.5	9.525	3.97	4.4

TC** positive insert



TC** positive insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
P					◯	◯	⊛	⊛	✺	✺												⊛	⊛	⊛	◯	⊛	◯		
M											◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K													◯	◯	⊛	⊛	⊛											
N																		◯	◯								◯	⊛
S																			◯	◯	⊛	⊛	⊛				◯	⊛
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YBG9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
LC  Aluminium Machining	**TCGX090202-LC**	0.2	0.3-4.0	0.05-0.15														●									●	
	TCGX090204-LC	0.4	0.5-4.0	0.1-0.3														●									●	
	TCGX110202-LC	0.2	0.3-5.0	0.05-0.15														●									●	
	TCGX110204-LC	0.4	0.5-5.0	0.1-0.3														●									●	
	TCGX110208-LC	0.8	0.5-5.0	0.15-0.60														●									●	
	TCGX16T304-LC	0.4	0.5-7.0	0.1-0.3														●									●	
	TCGX16T308-LC	0.8	0.5-7.0	0.15-0.60														●									●	
LH  Aluminium Machining	**TCGX090202-LH**	0.2	0.3-4.0	0.05-0.15															○								●	
	TCGX090204-LH	0.4	0.5-4.0	0.1-0.3																							●	
	TCGX110202-LH	0.2	0.3-5.0	0.05-0.15															●								●	
	TCGX110204-LH	0.4	0.5-5.0	0.1-0.3															●								●	
	TCGX110208-LH	0.8	0.5-5.0	0.15-0.60																							●	
	TCGX16T302-LH	0.2	0.5-7.0	0.05-0.15																							●	
	TCGX16T304-LH	0.4	0.5-7.0	0.1-0.3															○								●	
	TCGX16T308-LH	0.8	0.5-7.0	0.15-0.60															○								●	

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

STACR/L	STFCR/L	STGCR/L	STTCR/L	S***-STFCR/L	E***-STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A249	A250	A251	A252	A300	A319

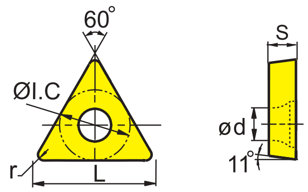
System code A40
Grade selection A38
Technical info A445
Cutting data A324

Turning inserts

◯ Ideal machining conditions
⊕ Normal machining conditions
✳ Unfavourable machining conditions

TP**		L	I.C	S	d
09	02	9.63	5.56	2.38	2.5
11	03	11	6.35	3.18	2.8

TP** positive insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊕	⊕	✳	✳											⊕	⊕	⊕	◯	⊕	◯		
M							◯	⊕							◯	◯	⊕	⊕	⊕	◯	⊕	◯		
K									◯	◯	⊕	⊕	⊕											
N														◯	◯								◯	⊕
S															◯	◯	⊕	⊕	⊕				◯	⊕
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
 Super Finishing	**TPGH090202L**	0.2	0.2-3.0	0.05-0.15															●					●	●			
	TPGH090204L	0.4	0.2-3.0	0.05-0.30															●					●	●			
	TPGH110302L	0.2	0.2-3.5	0.05-0.15															●					●	●			
	TPGH110304L	0.4	0.2-3.5	0.05-0.30															●					●	●			
SF  Finishing	**TPGT090202-SF**	0.2	0.05-2.00	0.05-0.15																						●		
	TPGT090204-SF	0.4	0.05-2.00	0.05-0.25															○					●		●		
	TPGT090208-SF	0.8	0.05-2.00	0.05-0.35																				●		○		
	TPGT110302-SF	0.2	0.05-2.00	0.05-0.15																				●		●		
	TPGT110304-SF	0.4	0.05-2.00	0.05-0.25																				○		●		
	TPGT110308-SF	0.8	0.05-2.00	0.05-0.35																				○		●		

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

S***-STUPR/L	C***-STUPR/L	E***-STFPR/L
Kr: 93°	Kr: 93°	Kr: 90°
		
A309	A318	A320

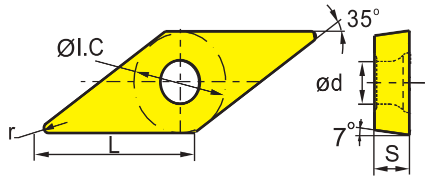
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

VCGT	L	I.C	S	d
11 03	11	6.35	3.18	2.8
16 04	16.5	9.525	4.76	4.4

VC** positive insert



	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
HF  Finishing	**VCGT110304-HF**	0.4	0.2-2.0	0.05-0.30				●														●						
NF  Finishing	**VCGT160408-NF**	0.8	0.2-2.0	0.1-0.4															○	●								
SF  Finishing	**VCGT110302-SF**	0.2	0.05-1.00	0.05-0.15																				●	●	●		
	VCGT110304-SF	0.4	0.05-1.00	0.05-0.25															○			●		●	○	●		
	VCGT160404-SF	0.4	0.05-1.50	0.05-0.25																						●		

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A243	A244	A278	A279	A302	A303	A321

C***-SVUCR/L
Kr: 93°

A322

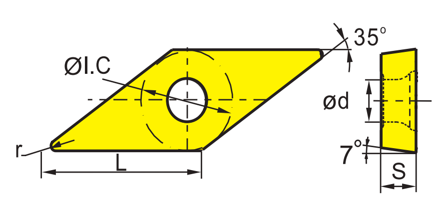
System code A40 Grade selection A38 Technical info A445 Cutting data A324

VCGT	L	I.C	S	d
08 02	8	4.76	2.38	2.3
11 03	11	6.35	3.18	2.8
13 03	13.8	7.94	3.18	3.4

Turning inserts

◯ Ideal machining conditions
⊕ Normal machining conditions
✻ Unfavourable machining conditions

VC** positive insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊕	⊕	✻	✻											⊕	⊕	⊕	◯	⊕	◯		
M							◯	⊕							◯	◯	⊕	⊕	⊕	◯	⊕	◯		
K									◯	◯	⊕	⊕	⊕											
N														◯	◯								◯	⊕
S															◯	◯	⊕	⊕	⊕				◯	⊕
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
USF  Finishing	**VCGT080201L-USF**	0.1	0.05-2.00	0.03-0.08																			○					
	VCGT080202L-USF	0.2	0.05-2.00	0.05-0.18																			○					
	VCGT110301L-USF	0.1	0.05-2.00	0.03-0.08																			●					
	VCGT110302L-USF	0.2	0.05-2.00	0.05-0.18																			●					
USF  Finishing	**VCGT080201R-USF**	0.1	0.05-2.00	0.03-0.08																			○					
	VCGT080202R-USF	0.2	0.05-2.00	0.05-0.18																			○					
	VCGT110301R-USF	0.1	0.05-2.00	0.03-0.08																			●					
	VCGT110302R-USF	0.2	0.05-2.00	0.05-0.18																			●					
	**VCGT130304**	0.4	1-5	0.1-0.3				●																				

● Ex stock ○ On demand

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A243	A244	A278	A279	A302	A303	A321

C***-SVUCR/L
Kr: 93°

A322

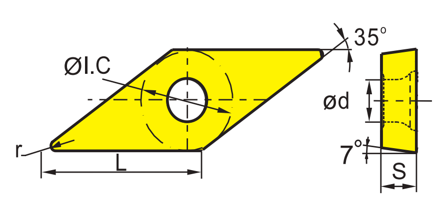
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning/Milliing inserts

◯ Ideal machining conditions
✪ Normal machining conditions
❋ Unfavourable machining conditions

VCGX	L	I.C	S	d
11 03	11	6.35	3.18	2.8
16 04	16.6	9.525	4.76	4.4
22 05	22	12.7	5.56	5.5

VC** turning/milling insert



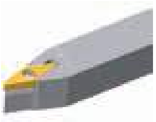
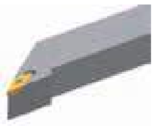
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2		HW			
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C		YD101	YD201		
P	◯	◯	✪	✪	❋	❋											✪	✪	✪	◯	✪	◯					
M							◯	✪							◯	◯	✪	✪	✪	◯	✪	◯					
K									◯	◯	✪	✪	✪														
N														◯	◯									◯	✪		
S															◯	◯	✪	✪	✪					◯	✪		
H																											

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C		YD101	YD201		
LC  Aluminium Machining	**VCGX110301-LC**	0.1	0.3-3.0	0.05-0.10														●				●						●			
	VCGX110302-LC	0.2	0.3-3.0	0.05-0.15														●				○	○					●			
	VCGX110304-LC	0.4	0.5-3.0	0.1-0.3														●										●			
	VCGX110308-LC	0.8	1-3	0.1-0.5														●										●			
	VCGX160404-LC	0.4	0.5-5.0	0.1-0.3														●										●			
	VCGX160408-LC	0.8	0.5-5.0	0.15-0.60														●										●			
	VCGX160412-LC	1.2	0.5-5.0	0.15-0.80														○										●			
	VCGX220530-LC	3	0.5-7.0	0.25-1.00														●										●	●		

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A243	A244	A278	A279	A302	A303	A321

C***-SVUCR/L
Kr: 93°

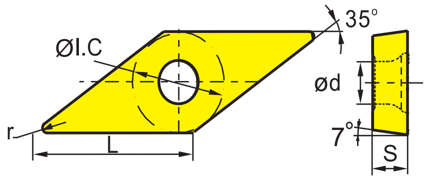
A322

System code A40 Grade selection A38 Technical info A445 Cutting data A324

VCGX	L	I.C	S	d
11 02	11	6.35	2.38	2.8
11 03	11	6.35	3.18	2.8
16 04	16.6	9.525	4.76	4.4
22 05	22	12.7	5.56	5.5

◯ Ideal machining conditions
⊕ Normal machining conditions
✱ Unfavourable machining conditions

Turning/Milliing inserts

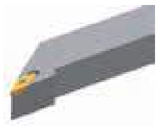


VC** turning/milling insert					HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	P				◯	◯	⊕	⊕	✱	✱											⊕	⊕	⊕	◯	⊕	◯		
	M										◯	⊕							◯	◯	⊕	⊕	⊕	◯	⊕	◯		
	K												◯	◯	⊕	⊕	⊕											
	N																	◯	◯								◯	⊕
	S																		◯	◯	⊕	⊕	⊕				◯	⊕
	H																											
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
LH  Aluminium Machining	**VCGX110204-LH**	0.4	0.5-3.0	0.1-0.3															●								●	
	VCGX110301-LH	0.1	0.5-3.0	0.05-0.10																			○				●	●
	VCGX110302-LH	0.2	0.3-3.0	0.05-0.15															●				●				●	●
	VCGX110304-LH	0.4	0.5-3.0	0.1-0.3															●				○				●	●
	VCGX110308-LH	0.8	0.5-3.0	0.15-0.60															○								●	
	VCGX160402-LH	0.2	0.5-5.0	0.05-0.10															●				●				●	
	VCGX160404-LH	0.4	0.5-5.0	0.1-0.3															●				●				●	
	VCGX160408-LH	0.8	0.5-5.0	0.15-0.60															●								●	
	VCGX160412-LH	1.2	0.5-5.0	0.15-0.80															○								●	
	VCGX220530-LH	3	0.5-7.0	0.25-1.00															○								●	○

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder

SVVCN	SVJCR/L	SVACR/L-SC	SVJCR/L-SC	S***-SVQCR/L	S***-SVUCR/L	C***-SVQCR/L
Kr: 72°30'	Kr: 93°	Kr: 90°	Kr: 93°	Kr: 107°30'	Kr: 93°	Kr: 107°30'
						
A243	A244	A278	A279	A302	A303	A321

C***-SVUCR/L
Kr: 93°

A322

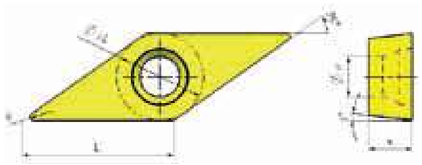
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
❁ Normal machining conditions
❃ Unfavourable machining conditions

VCMT	L	I.C	S	d
16 04	16	9.525	4.76	4.4

VC** positive insert



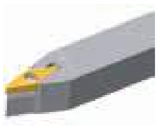
	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❁	❁	❃	❃											❁	❁	❁	◯	❁	◯		
M							◯	❁							◯	◯	❁	❁	❁	◯	❁	◯		
K									◯	◯	❁	❁	❁											
N														◯	◯								◯	❁
S															◯	◯	❁	❁	❁				◯	❁
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
EF  Medium Cut	**VCMT160404-EF**	0.4	0.5-2.5	0.05-0.20																		●						
EM  Medium Cut	**VCMT160404-EM**	0.4	0.5-2.5	0.05-0.35							●											●						
	VCMT160408-EM	0.8	0.5-2.5	0.10-0.45							●											●						

● Ex stock ○ On demand

YBC152F, YBC252F, YBM153F, YBM253F available

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

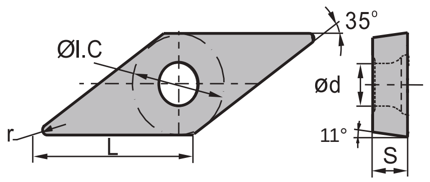
Tool holder		
SVVCN	**SVJCR/L**	**E***-SVUCR/L**
Kr: 72°30'	Kr: 93°	Kr: 93°
		
A243	A244	A322

System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

VPGT	L	I.C	S	d
08 02	8	4.76	2.43	2.3
11 03	11	6.35	3.18	2.8



VP** positive insert	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✲	✲	❋	❋											✲	✲	✲	◯	✲	◯		
M							◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K									◯	◯	✲	✲	✲											
N														◯	◯								◯	✲
S															◯	◯	✲	✲	✲				◯	✲
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
USF  Finishing	**VPGT080201L-USF**	0.1	0.2-2.0	0.03-0.08																			○					
	VPGT080202L-USF	0.2	0.2-2.0	0.05-0.15																			○					
	VPGT110301L-USF	0.1	0.3-2.5	0.03-0.08																			○					
USF  Finishing	**VPGT080201R-USF**	0.1	0.2-2.0	0.03-0.08																			○					
	VPGT080202R-USF	0.2	0.2-2.0	0.05-0.15																			○					
	VPGT110301FR-USF	0.1	0.3-2.5	0.03-0.08																			●					
	VPGT110301R-USF	0.1	0.2-2.5	0.03-0.08																			●					

● Ex stock ○ On demand

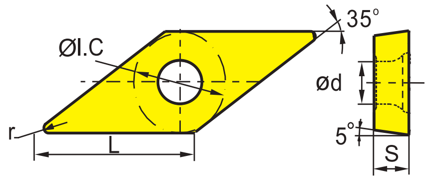
HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

VB**	L	I.C	S	d
11 02	11	6.35	2.38	2.8
11 03	11	6.35	3.18	2.8
16 04	16.5	9.525	4.76	4.4



VB** positive insert					HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
P					◯	◯	✲	✲	✺	✺											✲	✲	✲	◯	✲	◯		
M											◯	✲							◯	◯	✲	✲	✲	◯	✲	◯		
K													◯	◯	✲	✲	✲											
N																		◯	◯								◯	✲
S																			◯	◯	✲	✲	✲				◯	✲
H																												
	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
AHF  Finishing	**VBMT160404-AHF**	0.4	0.2-3.0	0.05-0.30	○																●							
	VBMT160408-AHF	0.8	0.8-3.5	0.08-0.40	○																●							
EF  Finishing	**VBMT110302-EF**	0.2	0.06-1.70	0.03-0.13																		●	○					
	VBMT110304-EF	0.4	0.1-1.7	0.05-0.19							●											●	○					
	VBMT110308-EF	0.8	0.13-1.70	0.07-0.26							●											●	○					
	VBMT160404-EF	0.4	0.1-1.8	0.05-0.20							●											●						
	VBMT160408-EF	0.8	0.14-1.80	0.07-0.27							●											●						
HF  Finishing	**VBMT110202-HF**	0.2	0.2-2.0	0.05-0.15				●		○													●					
	VBMT110204-HF	0.4	0.2-2.0	0.05-0.35				●															●	●		●		
	VBMT110208-HF	0.8	0.2-2.0	0.05-0.40				●															○					
NF  Finishing	**VBET160404-NF**	0.4	0.2-3.0	0.05-0.30															○	●								
	VBET160408-NF	0.8	0.2-3.0	0.08-0.40															○	●								

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

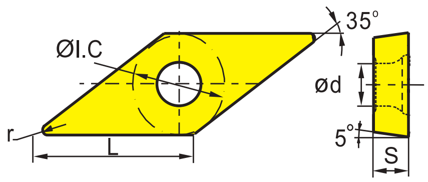
SVJBR/L	SVABR/L	SVVBN	S***-SVQBR/L	S***-SVUBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 93°
				
A240	A241	A242	A304	A305

Turning inserts

◯ Ideal machining conditions
⊛ Normal machining conditions
❋ Unfavourable machining conditions

VBGT	L	I.C	S	d
11 03	11	6.35	3.18	2.8

VB** positive insert

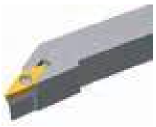


	HC^1 (CVD)													HC^1 (PVD)						HT		HC^2	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	⊛	⊛	❋	❋											⊛	⊛	⊛	◯	⊛	◯		
M							◯	⊛							◯	◯	⊛	⊛	⊛	◯	⊛	◯		
K									◯	◯	⊛	⊛	⊛											
N														◯	◯								◯	⊛
S															◯	◯	⊛	⊛	⊛				◯	⊛
H																								

	ISO	r	a$_p$	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
SF  Finishing	**VBGT110302-SF**	0.2	0.05-2.00	0.05-0.15																				○	●	●		
	VBGT110304-SF	0.4	0.05-2.00	0.05-0.20																					○	●		

● Ex stock ○ On demand

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Tool holder		
SVJBR/L	**SVABR/L**	**SVVBN**
Kr: 93°	Kr: 90°	Kr: 72°30'
		
A240	A241	A242

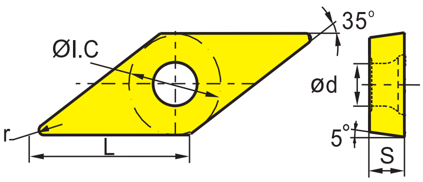
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

VB**		L	I.C	S	d
11	03	11	6.35	3.18	2.8
16	04	16.5	9.525	4.76	4.4

VB** positive insert



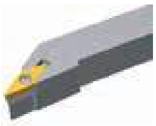
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	❂	❂	✺	✺											❂	❂	❂	◯	❂	◯		
M							◯	❂							◯	◯	❂	❂	❂	◯	❂	◯		
K									◯	◯	❂	❂	❂											
N														◯	◯								◯	❂
S															◯	◯	❂	❂	❂				◯	❂
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
NGF  Finishing	**VBET160408-NGF**	0.8	0.2-3.0	0.08-0.30															○	●								
	VBET160412-NGF	1.2	0.2-3.0	0.1-0.4															○	●								
EM  Medium Cut	**VBMT110304-EM**	0.4	0.15-2.00	0.07-0.20							●											●						
	VBMT110308-EM	0.8	0.2-2.0	0.09-0.27		○					●											●						
	VBMT160404-EM	0.4	0.23-2.70	0.07-0.20							●											●						
	VBMT160408-EM	0.8	0.45-2.70	0.09-0.27							●											●						
HM  Medium Cut	**VBMT160404-HM**	0.4	0.23-2.70	0.07-0.20		●	●	●		●	●			●									●					
	VBMT160408-HM	0.8	0.45-2.70	0.09-0.27		●	●	●		○	●	●		●		●							●					○
	VBMT160412-HM	1.2	0.54-2.70	0.11-0.32	○	●	●	●		○																		
HR  Medium Cut	**VBGT160408-HR**	0.8	1-4	0.15-0.40				○																				

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

SVJBR/L	SVABR/L	SVVBN	S***-SVQBR/L	S***-SVUBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 93°
				
A240	A241	A242	A304	A305

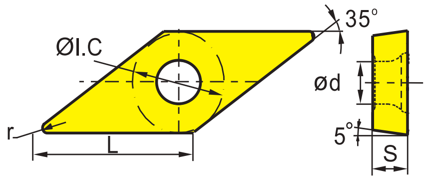
System code A40 Grade selection A38 Technical info A445 Cutting data A324

Turning inserts

◯ Ideal machining conditions
✤ Normal machining conditions
✱ Unfavourable machining conditions

VB**	L	I.C	S	d
16 04	16.5	9.525	4.76	4.4

VB** positive insert



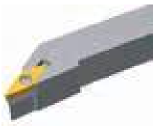
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
P	◯	◯	✤	✤	✱	✱											✤	✤	✤	◯	✤	◯		
M							◯	✤							◯	◯	✤	✤	✤	◯	✤	◯		
K									◯	◯	✤	✤	✤											
N														◯	◯								◯	✤
S															◯	◯	✤	✤	✤				◯	✤
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
HR	**VBMT160404-HR**	0.4	0.5-3.0	0.1-0.3		●	●																					
	VBMT160408-HR	0.8	0.9-3.6	0.11-0.32		●	●	●		○																		
	**VBMT160412-HR**	1.2	1.08-3.60	0.13-0.38		○	●	○		○			○															
Roughing																												
SNR	**VBMT160408-SNR**	0.8	0.5-4.0	0.1-0.3																●								○
	VBMT160412-SNR	1.2	0.5-4.0	0.3-0.6																○								○
																												
Roughing																												
Flat	**VBMW160404**	0.4	0.2-5.0	0.05-0.50																								
	VBMW160408	0.8	0.5-1.5	0.05-0.20																								
																												

● Ex stock ○ On demand
YBC152F, YBC252F, YBM153F, YBM253F available

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

Tool holder

SVJBR/L	SVABR/L	SVVBN	S***-SVQBR/L	S***-SVUBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 93°
				
A240	A241	A242	A304	A305

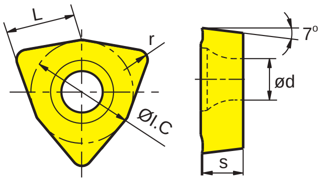
System code A40
Grade selection A38
Technical info A445
Cutting data A324

Turning inserts

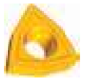
◯ Ideal machining conditions
✤ Normal machining conditions
✲ Unfavourable machining conditions

WCMX	L	I.C	S	d
04 02	4.3	6.35	2.38	3.1
06 T3	6.5	9.525	3.97	3.7
08 04	8.7	12.7	4.76	4.3

WC** drilling insert



	HC¹ (CVD)													HC¹ (PVD)						HT		HC²	HW	
	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
P	◯	◯	✤	✤	✲	✲											✤	✤	✤	◯	✤	◯		
M							◯	✤							◯	◯	✤	✤	✤	◯	✤	◯		
K									◯	◯	✤	✤	✤											
N														◯	◯								◯	◯
S															◯	◯	✤	✤	✤				◯	◯
H																								

	ISO	r	a_p	f	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
 Medium Cut	**WCMX040208R-53**	0.8	0.05-2.00	0.05-0.60																			●					○
	WCMX06T308R-53	0.8	0.1-3.0	0.05-0.60																			●					○
	WCMX080412R-53	1.2	0.2-4.0	0.05-0.80																			●					●

● Ex stock ○ On demand

HC¹	Coated carbide
HT	Uncoated cermet
HC²	Coated cermet
HW	Uncoated carbide

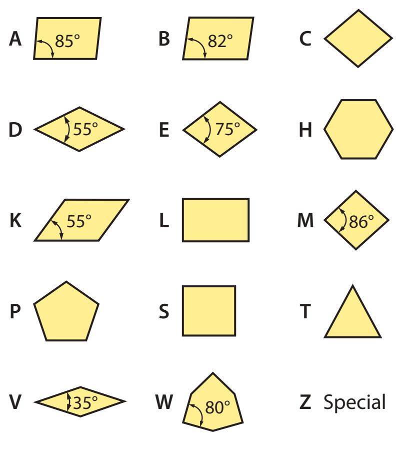
Tool holder
SWACR/L
Kr: 90°

A253

System code A40 Grade selection A38 Technical info A445 Cutting data A324

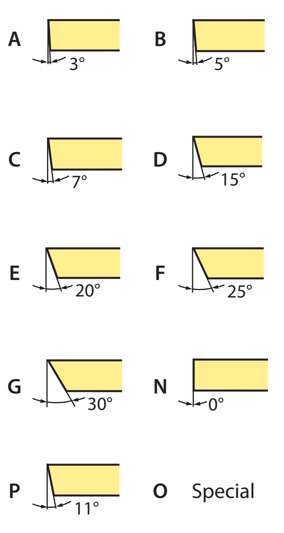
C	N	G	A	12	04	08	T	020	20	–	2	(W)
1	2	3	4	5	6	7	8	9	10		11	12

Insert shape



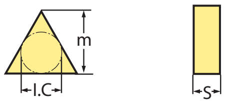
1

Clearance angle



2

Tolerance class

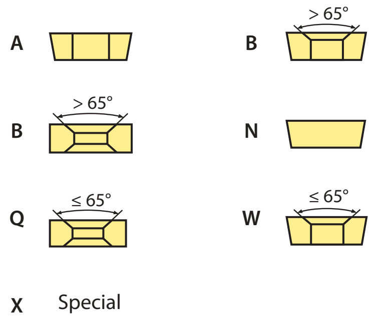


Code	I.C [mm]	m [mm]	S [mm]
A	±0.025	±0.005	±0.025
C	±0.025	±0.013	±0.025
E	±0.025	±0.025	±0.025
F	±0.013	±0.005	±0.025
G	±0.025	±0.025	±0.130
H	±0.013	±0.013	±0.025
J	±0.05–0.15	±0.005	±0.025
K	±0.05–0.15	±0.013	±0.025
L	±0.05–0.15	±0.025	±0.025
M	±0.05–0.15	±0.08–0.20	±0.130
N	±0.05–0.15	±0.08–0.20	±0.025
U	±0.08–0.25	±0.13–0.38	±0.130

3

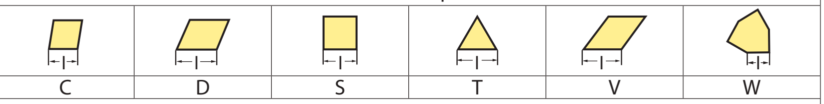
Fastening features (metric)

Insert shape



4

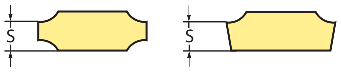
Cutting edge length l [mm]



I.C [mm]	Insert shape					
	C	D	S	T	V	W
3.97				06		
5.0						
5.56				09		
6.0						
6.35	06	07		11	11	
8.0						
9.525	09	11	09	16	16	06
10.0						
12.0						
12.7	12	15	12	22	22	08
15.875	16		15	27		
16.0		19				
19.05	19		19	33		
20.0						
25.0	25	25				
25.4			25			
31.75						
32						

5

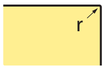
Insert thickness S [mm]



Code	S	Code	S
02	2.38	**06**	6.35
T2	2.58	**T6**	6.75
03	3.18	**07**	7.94
T3	3.97	**09**	9.52
04	4.76	**T9**	9.72
T4	4.96	**11**	11.11
05	5.56	**12**	12.70
T5	5.95		

6

Nose radius r [mm]



Code	r
00	–
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	Special
MO	Round inserts

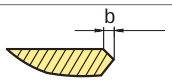
7

Cutting edge profile

Code	Cutting edge	Insert shape
E	Rounding	
F	Sharp edge	
T	Chamfer	
S	Chamfer + Rounding	

8

Chamfer width b [mm]



Code	b
010	0.10
015	0.15
020	0.20
025	0.25
030	0.30
035	0.35
040	0.40
045	0.45
050	0.50
100	1.00
200	2.00

9

Chamfer angle α

Code	α
05	5°
10	10°
15	15°
20	20°
25	25°
30	30°

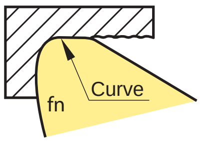
10

Cutting edges

Code	Form
1	
2	
3	
4	

11

Extra

Code	Description
W	Wiper 

12

Standard edge preparation

	CBN				Solid CBN			PCD
	YCB111	YCB121	YCB131	YCB211	YZB121	YZB221	YZB231	YCD421
Radius = 0.4 mm	S01525	S01520	S01525	S01020	S01020	T02020	T02025	F
Radius ≥ 0.8 mm	S01525	S02020	S02025	S01020	S01020	T02020	T02025	F

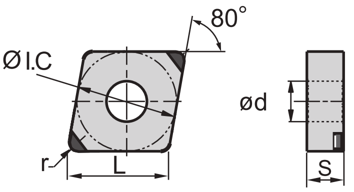
Other edge preparation on demand.

Turning CBN inserts

● Ideal machining conditions
◍ Normal machining conditions
❋ Unfavourable machining conditions

CNGA	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16

CN** negative insert



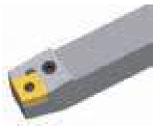
	BL (CBN)			BH (CBN)
	YCB111	YCB121	YCB131	YCB211
P				
K				●
N				
H	●	◍	❋	

	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
	**CNGA120404-2**	0.4	0.05-0.20	0.08-0.50	○	○	○	○
	CNGA120408-2	0.8	0.05-0.25	0.08-0.50	○	○	○	○
	CNGA120408-2W	0.8	0.05-0.25	0.08-0.50	○	○		
	CNGA120412-2	1.2	0.05-0.30	0.08-0.50	○	○	○	○
	CNGA120412-2W	1.2	0.05-0.30	0.08-0.50	○	○		

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
					
A197	A204	A205	A218	A219	A284

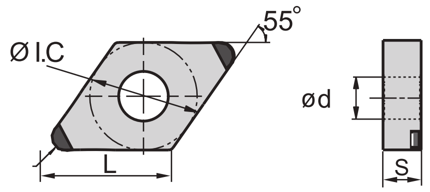
System code A144 Grade selection A38 Technical info A445 Cutting data A324

DNGA	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16

Turning CBN inserts

◯ Ideal machining conditions
❂ Normal machining conditions
❃ Unfavourable machining conditions

DN** negative insert



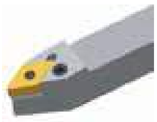
	BL (CBN)			BH (CBN)
	YCB111	YCB121	YCB131	YCB211
P				
K				◯
N				
H	◯	❂	❃	

	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
	**DNGA150604-2**	0.4	0.05-0.20	0.08-0.50	○	○	○	○
	DNGA150608-2	0.8	0.05-0.25	0.08-0.50	○	○	●	○
	DNGA150612-2	1.2	0.05-0.15	0.08-0.50	○	●	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

DDJNR/L	PDJNR/L	PDNNR/L	MDJNR/L	MDPNN	PDSNR/L	PDUNR/L
Kr: 93°	Kr: 93°	Kr: 63°	Kr: 93°	Kr: 62°30'	Kr: 62°30'	Kr: 93°
						
A198	A206	A207	A220	A221	A286	A287

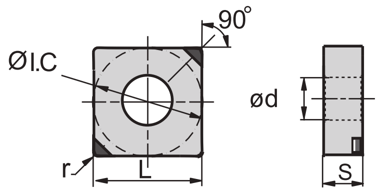
System code A144 Grade selection A38 Technical info A445 Cutting data A324

Turning CBN inserts

○	Ideal machining conditions
❂	Normal machining conditions
✲	Unfavourable machining conditions

SNGA	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16

SN** negative insert



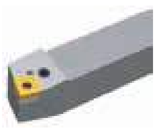
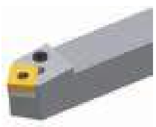
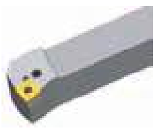
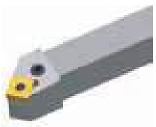
	BL (CBN)			BH (CBN)
	YCB111	YCB121	YCB131	YCB211
P				
K				○
N				
H	○	❂	✲	

	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
	**SNGA120408-2**	0.8	0.05-0.25	0.08-0.50	○	○	○	○
	SNGA120412-2	1.2	0.05-0.30	0.08-0.50	○	○	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

DSBNR/L	PSBNR/L	PSDNN	PSKNR/L	PSSNR/L	MSBNR/L	MSRNR/L
Kr: 75°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 45°	Kr: 75°	Kr: 75°
						
A199	A208	A210	A211	A212	A222	A223

MSKNR/L	MSDNN	PSKNR/L
Kr: 75°	Kr: 45°	Kr: 75°
		
A224	A225	A289

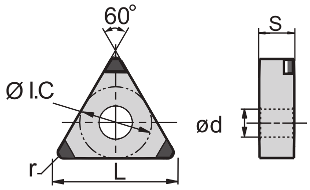
System code A144 Grade selection A38 Technical info A445 Cutting data A324

Turning CBN inserts

○ Ideal machining conditions
⊛ Normal machining conditions
❋ Unfavourable machining conditions

TNGA	L	I.C	S	d
16 04	16.5	9.525	4.76	3.81

TN** negative insert



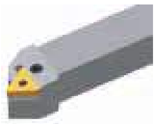
	BL (CBN)			BH (CBN)
P				
K				●
N				
H	○	⊛	❋	

	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
	**TNGA160404-3**	0.4	0.05-0.20	0.08-0.50	○	○		
	TNGA160408-3	0.8	0.05-0.25	0.08-0.50	○	○	○	○
	TNGA160412-3	1.2	0.05-0.30	0.08-0.50	○	○	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

DTGNR/L	PTFNR/L	PTTNR/L	PTGNR/L	MTGNR/L	MTJNR/L	MTJNR/L-Z
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

MTFNR/L	PTFNR/L
Kr: 91°	Kr: 90°
	
A229	A290

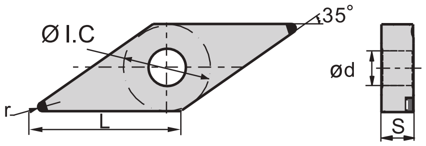
System code A144 Grade selection A38 Technical info A445 Cutting data A324

Turning CBN inserts

○ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

VNGA	L	I.C	S	d
16 04	16.6	9.525	4.76	3.81

VN** negative insert



	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
					BL (CBN)			BH (CBN)
	P							
	K							○
	N							
	H				○	⊛	✺	
	**VNGA160404-2**	0.4	0.05-0.20	0.08-0.50	○	●		
	VNGA160408-2	0.8	0.05-0.25	0.08-0.50	○	○		

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

DVVNN	**DVJNR/L**	**MVVNN**	**MVJNR/L**
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
			
A201	A202	A230	A231

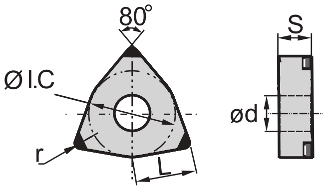
System code › A144 Grade selection › A38 Technical info › A445 Cutting data › A324

Turning CBN inserts

○ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

WNGA	L	I.C	S	d
08 04	8.69	12.7	4.76	5.16

WN** negative insert



	BL (CBN)			BH (CBN)
	YCB111	YCB121	YCB131	YCB211
P				
K				●
N				
H	○	✲	❋	

ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
WNGA080404-3	0.4	0.05-0.20	0.08-0.50			○	
WNGA080408-3	0.8	0.05-0.25	0.08-0.50		○	○	
WNGA080412-3	1.2	0.05-0.25	0.08-0.50		○		

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

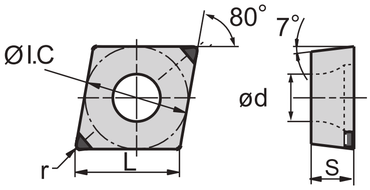
DWLNR/L	PWLNR/L	MWLNR/L	PWLNR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
			
A203	A217	A232	A291

Turning CBN inserts

○ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

CCGW	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.5

CC** positive insert



	BL (CBN)			BH (CBN)
	YCB111	YCB121	YCB131	YCB211
P				
K				●
N				
H	○	✲	❋	

ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
CCGW060204-1	0.4	0.05-0.20	0.08-0.50	○	○		
CCGW060208-1	0.8	0.05-0.25	0.08-0.50	○	○		
CCGW09T304-2	0.4	0.05-0.20	0.08-0.50	○	○	○	○
CCGW09T308-2	0.8	0.05-0.25	0.08-0.50	○	○	○	○
CCGW120404-2	0.4	0.05-0.20	0.08-0.50	○	○	○	○
CCGW120408-2	0.8	0.05-0.25	0.08-0.50	○	○	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

SCACR/L	**SCLCR/L**	**SCACR/L-SC**	**SCLCR/L-SC**	**SCLCR/L**	**SCFCR/L**	**SCLCR/L**
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A235	A236	A272	A273	A293	A310	A311

SCLCR/L
Kr: 95°

A313

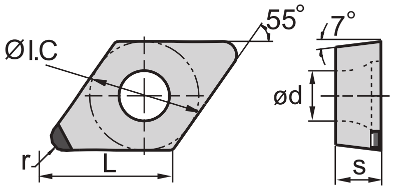
System code A144
Grade selection A38
Technical info A445
Cutting data A324

Turning CBN inserts

○ Ideal machining conditions
✲ Normal machining conditions
❃ Unfavourable machining conditions

DCGW		L	I.C	S	d
07	02	7.8	6.35	2.38	2.8
11	T3	11.6	9.525	3.97	4.4

DC** positive insert



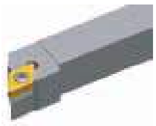
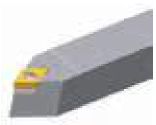
	BL (CBN)	BH (CBN)
P		
K		○
N		
H	○ ✲ ❃	

	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
	**DCGW070204-1**	0.4	0.05-0.20	0.08-0.50	○	●		
	DCGW070208-1	0.8	0.05-0.25	0.08-0.50	○	●		
	DCGW11T304-2	0.4	0.05-0.20	0.08-0.50	○	○	○	○
	DCGW11T308-2	0.8	0.05-0.25	0.08-0.50	○	●	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

SDQCR/L	SDUCR/L	SDZCR/L	SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

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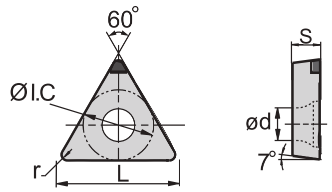
Turning CBN inserts

◯ Ideal machining conditions
✲ Normal machining conditions
✽ Unfavourable machining conditions

TCGW	L	I.C	S	d
11 02	11	6.35	2.38	2.5
16 T3	16.5	9.525	3.97	4.4

TC** positive insert



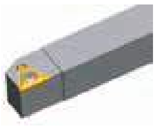
	BL (CBN)			BH (CBN)
	YCB111	YCB121	YCB131	YCB211
P				
K				◯
N				
H	◯	✲	✽	

	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
	**TCGW110204-1**	0.4	0.05-0.20	0.08-0.50	○	○	○	○
	TCGW110208-1	0.8	0.05-0.25	0.08-0.50	○	○	○	
	**TCGW16T304-3**	0.4	0.05-0.20	0.08-0.50	○	○	○	○
	TCGW16T308-3	0.8	0.05-0.25	0.08-0.50	○	○	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

STACR/L	STFCR/L	STGCR/L	STTCR/L	STFCR/L	STFCR/L
Kr: 90°	Kr: 91°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A249	A250	A251	A252	A300	A319

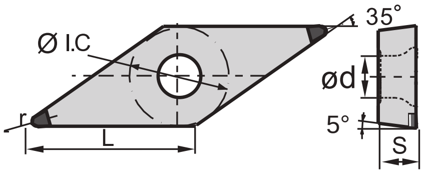
System code A144 Grade selection A38 Technical info A445 Cutting data A324

Turning CBN inserts

○ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

VBGW	L	I.C	S	d
16 04	16.6	9.525	4.76	4.4

VB** positive insert



	BL (CBN)			BH (CBN)
	YCB111	YCB121	YCB131	YCB211
P				
K				○
N				
H	○	✲	❋	

	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
	**VBGW160404-2**	0.4	0.05-0.20	0.08-0.50	○	○		○
	VBGW160408-2	0.8	0.05-0.25	0.08-0.50	○	○		○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

SVJBR/L	SVABR/L	SVVBN	SVQBR/L	SVUBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 93°
				
A240	A241	A242	A304	A305

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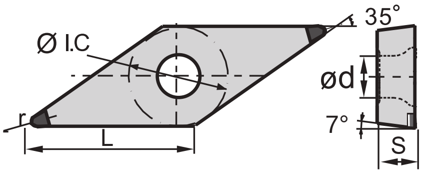
Turning CBN inserts

● Ideal machining conditions
◍ Normal machining conditions
✺ Unfavourable machining conditions

VCGW	L	I.C	S	d
16 04	16.6	9.525	4.76	4.4

VC** positive insert



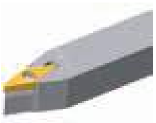
	BL (CBN)			BH (CBN)
	YCB111	YCB121	YCB131	YCB211
P				
K				●
N				
H	○	◍	✺	

	ISO	r	f	a_p	YCB111	YCB121	YCB131	YCB211
	**VCGW160404-2**	0.4	0.05-0.20	0.08-0.50	○	○		○
	VCGW160408-2	0.8	0.05-0.25	0.08-0.50	○	○		○

● Ex stock ○ On demand

BL	CBN with a low CBN content
BH	CBN with a high CBN content

Tool holder

SVVCN	SVJCR/L	SVQCR/L	SVUCR/L
Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°
			
A243	A244	A302	A322

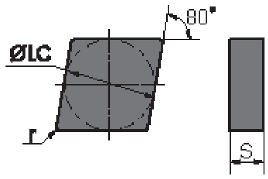
System code A144 Grade selection A38 Technical info A445 Cutting data A324

CNGN	L	I.C	S
09 03	9.7	9.525	3.18
12 04	12.9	12.7	4.76
12 07	12.9	12.7	7.94
12 T6	12.9	12.7	6.75

◯ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

Turning CBN inserts

CN** negative insert



	BL (CBN)	BH (CBN)	
	YZB121	YZB221	YZB231
P			
K		✺	✺
N			
H	⊛		

	ISO	r	f	a_p	YZB121	YZB221	YZB231
 Medium Cut	**CNGN090308**	0.8	0.3-0.5	0.5-2.0	○	○	○
	CNGN090312	1.2	0.3-0.5	0.5-2.0	○	○	○
	CNGN120404	0.4	0.3-0.5	0.5-2.0	○	○	○
	CNGN120408	0.8	0.3-0.5	0.5-2.0	●	●	●
	CNGN120412	1.2	0.3-0.5	0.5-2.0	○	●	●
	CNGN120416	1.6	0.3-0.5	0.5-2.0	○	●	○
	CNGN120712	1.2	0.3-0.5	0.5-2.0	○	○	○
	CNGN12T608	0.8	0.3-0.5	0.5-2.0	○	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder
CCLNR/L
Kr: 95°

A258

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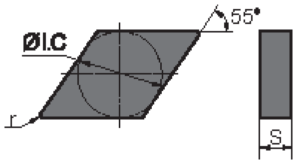
Turning CBN inserts

● Ideal machining conditions
✳ Normal machining conditions
❋ Unfavourable machining conditions

DNGN	L	I.C	S
11 04	15.5	9.525	4.76

DN** negative insert



	BL (CBN)	BH (CBN)	
	YZB121	YZB221	YZB231
P			
K		❋	❋
N			
H	✳		

ISO	r	f	a_p	YZB121	YZB221	YZB231
DNGN110404	0.4	0.3-0.5	0.5-2.0	○	○	○
DNGN110408	0.8	0.3-0.5	0.5-2.0	○	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

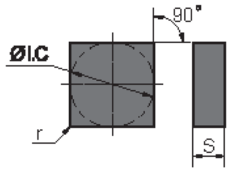
System code A144 Grade selection A38 Technical info A445 Cutting data A324

SNGN	L	I.C	S
09 03	9.525	9.525	3.18
12 04	12.7	12.7	4.76
12 T6	12.7	12.7	6.75
15 07	15.875	15.875	7.94

Turning CBN inserts

◯ Ideal machining conditions
⊕ Normal machining conditions
✳ Unfavourable machining conditions

SN** negative insert



	BL (CBN)	BH (CBN)	
	YZB121	YZB221	YZB231
P			
K		⊕	✳
N			
H	⊕		

ISO	r	f	a_p	YZB121	YZB221	YZB231
SNGN090308	0.8	0.3-0.5	0.5-2.0	○	○	○
SNGN090312	1.2	0.3-0.5	0.5-2.0	○	○	○
SNGN090316	1.6	0.3-0.5	0.5-2.0	○	○	○
SNGN120404	0.4	0.3-0.5	0.5-2.0	○	○	○
SNGN120408	0.8	0.3-0.5	0.5-2.0	●	●	○
SNGN120412	1.2	0.3-0.5	0.5-2.0	○	●	●
SNGN120416	1.6	0.3-0.5	0.5-2.0	○	●	○
SNGN12T612	1.2	0.3-0.5	0.5-2.0	○	○	○
SNGN150716	1.6	0.3-0.5	0.5-2.0	○	○	○
SNGN150720	2	0.3-0.5	0.5-2.0	○	○	○

● Ex stock ○ On demand

BL CBN with a low CBN content
BH CBN with a high CBN content

Tool holder

CSKNR/L	**CSRNR/L**	**CSDNN**
Kr: 75°	Kr: 75°	Kr: 45°
		
A262	A263	A265

System code A144 Grade selection A38 Technical info A445 Cutting data A324

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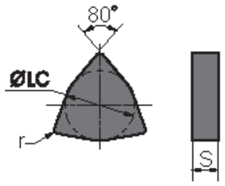
Turning CBN inserts

●	Ideal machining conditions
◍	Normal machining conditions
✳	Unfavourable machining conditions

WNGN	L	I.C	S
06 03	6.5	9.525	3.18
08 04	8.69	12.7	4.76

WN** negative insert



	BL (CBN)	BH (CBN)	
	YZB121	YZB221	YZB231
P			
K		◍	✳
N			
H	◍		

	ISO	r	f	a_p	YZB121	YZB221	YZB231
	**WNGN060304**	0.4	0.3-0.5	0.5-2.0	○	○	○
	WNGN080408	0.8	0.3-0.5	0.5-2.0	○	○	○
	WNGN080412	1.2	0.3-0.5	0.5-2.0	○	○	○

● Ex stock ○ On demand

BL	CBN with a low CBN content
BH	CBN with a high CBN content

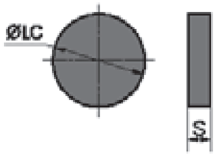
System code A144 Grade selection A38 Technical info A445 Cutting data A324

RNGN	L	I.C	S
09 03	9.525	9.525	3.18
12 03	12.7	12.7	3.18
12 04	12.7	12.7	4.76
12 07	12.7	12.7	7.94
15 07	15.875	15.875	7.94

🔵 Ideal machining conditions
✣ Normal machining conditions
❋ Unfavourable machining conditions

Turning CBN inserts

RN** negative insert



	BL (CBN)	BH (CBN)	
	YZB121	YZB221	YZB231
P			
K		✣	❋
N			
H	✣		

	ISO	f	a_p	YZB121	YZB221	YZB231
Medium Cut	**RNGN090300**	0.3-0.5	0.5-2.0	●	●	○
	RNGN120300	0.3-0.5	0.5-2.0	○	○	○
	RNGN120400	0.3-0.5	0.5-2.0	●	●	●
	RNGN120700	0.3-0.5	0.5-2.0	○	○	○
	RNGN150700	0.3-0.5	0.5-2.0	○	○	○

● Ex stock ○ On demand

BL	CBN with a low CBN content
BH	CBN with a high CBN content

Tool holder
CRDNN

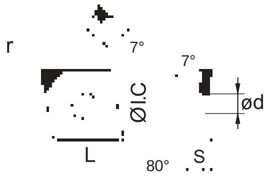
A264

System code A144 Grade selection A38 Technical info A445 Cutting data A324

Turning PKD inserts

○ Ideal machining conditions
✣ Normal machining conditions
✲ Unfavourable machining conditions

CCGT	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.56

CC** positive insert		DP
	**P**	
	K	
	N	○
	H	

	ISO	r	f	a_p	YCD421
	**CCGT060202****	0.2	0.05-0.15	0.05-0.50	●
	CCGT060204**	0.4	0.05-0.20	0.08-0.50	●
	CCGT09T304**	0.4	0.05-0.20	0.08-0.50	●
	CCGT09T308**	0.8	0.05-0.25	0.08-0.50	○
	CCGT120404**	0.4	0.05-0.20	0.08-0.50	●
	CCGT120408**	0.8	0.05-0.25	0.08-0.50	○

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

SCACR/L	SCLCR/L	SCACR/L-SC	SCLCR/L-SC	SCLCR/L	SCFCR/L	SCLCR/L
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A235	A236	A272	A273	A293	A310	A311

SCLCR/L
Kr: 95°

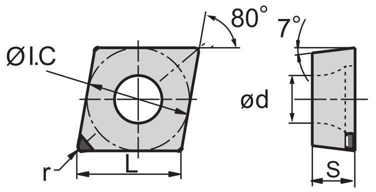
A313

System code A144 Grade selection A38 Technical info A445 Cutting data A324

CCGW	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.56

○ Ideal machining conditions
❂ Normal machining conditions
❃ Unfavourable machining conditions

Turning PKD inserts

CC** positive insert		DP
	**P**	
	K	
	N	○
	H	

	ISO	r	f	a_p	YCD421
	**CCGW060202****	0.2	0.05-0.15	0.08-0.50	●
	CCGW060204**	0.4	0.05-0.20	0.08-0.50	●
	CCGW09T304**	0.4	0.05-0.20	0.08-0.50	●
	CCGW09T308**	0.8	0.05-0.25	0.08-0.50	●
	CCGW120404**	0.4	0.05-0.20	0.08-0.50	●
	CCGW120408**	0.8	0.05-0.25	0.08-0.50	●

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

SCACR/L	**SCLCR/L**	**SCACR/L-SC**	**SCLCR/L-SC**	**SCLCR/L**	**SCFCR/L**	**SCLCR/L**
Kr: 90°	Kr: 95°	Kr: 90°	Kr: 95°	Kr: 95°	Kr: 90°	Kr: 95°
						
A235	A236	A272	A273	A293	A310	A311

SCLCR/L
Kr: 95°

A313

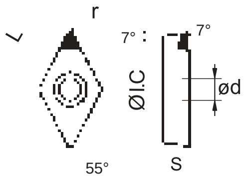
System code A144 Grade selection A38 Technical info A445 Cutting data A324

Turning PKD inserts

○ Ideal machining conditions
○ Normal machining conditions
○ Unfavourable machining conditions

DCGT	L	I.C	S	d
07 02	7.8	6.35	2.38	2.8
11 T3	11.6	9.525	3.97	4.4

DC** positive insert



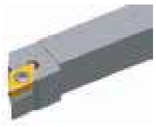
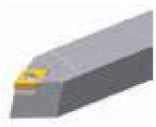
	DP YCD421
P	
K	
N	○
H	

	ISO	r	f	a_p	YCD421
	**DCGT070202****	0.2	0.05-0.15	0.08-0.50	●
	DCGT070204**	0.4	0.05-0.20	0.08-0.50	●
	DCGT11T302**	0.2	0.05-0.15	0.08-0.50	●
	DCGT11T304**	0.4	0.05-0.20	0.08-0.50	●
	DCGT11T308**	0.8	0.05-0.25	0.08-0.50	●

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

SDQCR/L	SDUCR/L	SDZCR/L	SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

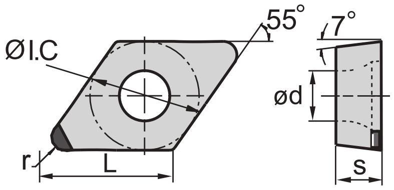
System code A144 Grade selection A38 Technical info A445 Cutting data A324

Turning PKD inserts

○ Ideal machining conditions
◍ Normal machining conditions
❋ Unfavourable machining conditions

DCGW	L	I.C	S	d
07 02	7.8	6.35	2.38	2.8
11 T3	11.6	9.525	3.97	4.4

DC** positive insert



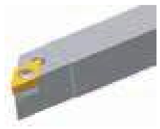
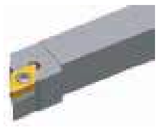
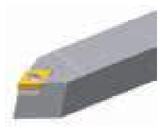
DP	YCD421
P	
K	
N	○
H	

	ISO	r	f	a_p	YCD421
	**DCGW070202****	0.2	0.05-0.15	0.08-0.50	●
	DCGW070204**	0.4	0.05-0.20	0.08-0.50	●
	DCGW070208**	0.8	0.05-0.25	0.08-0.50	●
	DCGW11T302**	0.2	0.05-0.15	0.08-0.50	●
	DCGW11T304**	0.4	0.05-0.20	0.08-0.50	●
	DCGW11T308**	0.8	0.05-0.25	0.08-0.50	●

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

SDACR/L	SDJCR/L	SDNCN	SDACR/L-SC	SDHCR/L-SC	SDJCR/L-SC	SDNCN-SC
Kr: 90°	Kr: 93°	Kr: 62°30'	Kr: 90°	Kr: 107°30'	Kr: 93°	Kr: 62°30'
						
A237	A238	A239	A274	A275	A276	A277

SDQCR/L	SDUCR/L	SDZCR/L	SDQCR/L
Kr: 107°30'	Kr: 93°	Kr: 85°	Kr: 107°30'
			
A295	A296	A297	A315

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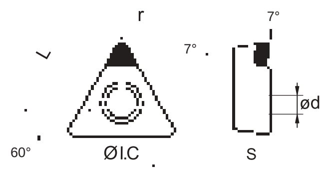
Turning PKD inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✺ Unfavourable machining conditions

TCGT	L	I.C	S	d
11 02	11	6.35	2.38	2.8
16 T3	16.5	9.525	3.97	4.4

TC** positive insert



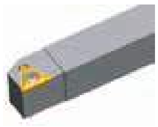
	DP
P	
K	
N	◯
H	

	ISO	r	f	a_p	YCD421
	**TCGT110202****	0.2	0.05-0.15	0.08-0.50	○
	TCGT110204**	0.4	0.05-0.20	0.08-0.50	○
	TCGT110208**	0.8	0.05-0.25	0.08-0.50	○
	TCGT16T304**	0.4	0.05-0.20	0.08-0.50	○
	TCGT16T308**	0.8	0.05-0.25	0.08-0.50	○

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

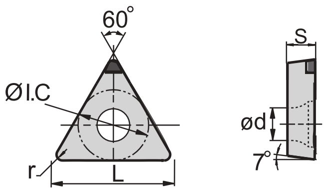
STFCR/L	**STACR/L**	**STGCR/L**	**STTCR/L**	**STFCR/L**	**STFCR/L**
Kr: 91°	Kr: 90°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A250	A249	A251	A252	A300	A319

System code A144
Grade selection A38
Technical info A445
Cutting data A324

Turning PKD inserts

○ Ideal machining conditions
⊕ Normal machining conditions
✱ Unfavourable machining conditions

TCGW	L	I.C	S	d
11 02	11	6.35	2.38	2.8
16 T3	16.5	9.525	3.97	4.4

TC** positive insert		DP
	**P**	
	K	
	N	○
	H	

	ISO	r	f	a_p	YCD421
	**TCGW110208****	0.8	0.05-0.25	0.08-0.50	○
	TCGW16T302**	0.2	0.05-0.15	0.08-0.50	○
	TCGW16T304**	0.4	0.05-0.20	0.08-0.50	○
	TCGW16T308**	0.8	0.05-0.25	0.08-0.50	○

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

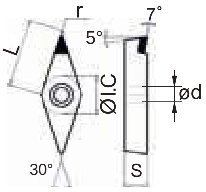
STFCR/L	**STACR/L**	**STGCR/L**	**STTCR/L**	**STFCR/L**	**STFCR/L**
Kr: 91°	Kr: 90°	Kr: 91°	Kr: 60°	Kr: 91°	Kr: 90°
					
A250	A249	A251	A252	A300	A319

System code A144 Grade selection A38 Technical info A445 Cutting data A324

Turning PKD inserts

○ Ideal machining conditions
◍ Normal machining conditions
✲ Unfavourable machining conditions

VBGT	L	I.C	S	d
16 04	16.6	9.525	4.76	4.4

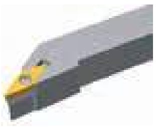
VB** positive insert		DP
	**P**	
	K	
	N	○
	H	

	ISO	r	f	a_p	YCD421
	**VBGT160402****	0.2	0.05-0.15	0.08-0.50	○
	VBGT160404**	0.4	0.05-0.20	0.08-0.50	○
	VBGT160408**	0.8	0.05-0.25	0.08-0.50	○

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

SVJBR/L	SVABR/L	SVVBN	SVQBR/L	SVUBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 93°
				
A240	A241	A242	A304	A305

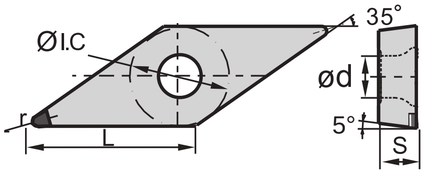
System code A144 Grade selection A38 Technical info A445 Cutting data A324

○ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

VBGW	L	I.C	S	d
16 04	16.6	9.525	4.76	4.4

Turning PKD inserts

VB** positive insert



	DP YCD421
P	
K	
N	○
H	

	ISO	r	f	a_p	YCD421
	**VBGW160404****	0.4	0.05-0.20	0.08-0.50	●
	VBGW160408**	0.8	0.05-0.25	0.08-0.50	●

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

SVJBR/L	SVABR/L	SVVBN	SVQBR/L	SVUBR/L
Kr: 93°	Kr: 90°	Kr: 72°30'	Kr: 107°30'	Kr: 93°
				
A240	A241	A242	A304	A305

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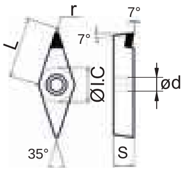
Turning PKD inserts

- ○ Ideal machining conditions
- ⊛ Normal machining conditions
- ✺ Unfavourable machining conditions

VCGT	L	I.C	S	d
16 04	16.6	9.525	4.76	4.4

VC** positive insert		DP
	**P**	
	K	
	N	○
	H	

	ISO	r	f	a_p	YCD421
	**VCGT160402****	0.2	0.05-0.15	0.08-0.50	○
	VCGT160404**	0.4	0.05-0.20	0.08-0.50	●
	VCGT160408**	0.8	0.05-0.25	0.08-0.50	●

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

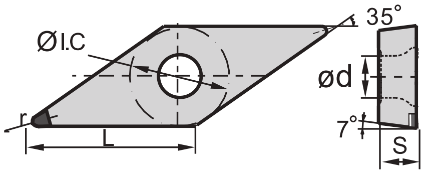
SVVCN	SVJCR/L	SVQCR/L	SVUCR/L
Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°
			
A243	A244	A302	A322

Turning PKD inserts

○ Ideal machining conditions
✲ Normal machining conditions
✱ Unfavourable machining conditions

VCGW	L	I.C	S	d
16 04	16.6	9.525	4.76	4.4

VC** positive insert



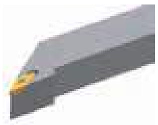
	DP YCD421
P	
K	
N	○
H	

	ISO	r	f	a_p	YCD421
	**VCGW160404****	0.4	0.05-0.20	0.08-0.50	●
	VCGW160408**	0.8	0.05-0.25	0.08-0.50	●

● Ex stock ○ On demand

DP Polycrystalline diamond

Tool holder

SVVCN	**SVJCR/L**	**SVQCR/L**	**SVUCR/L**
Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°
			
A243	A244	A302	A322

System code A144 Grade selection A38 Technical info A445 Cutting data A324

Trouble shooting – PCBN & PCD

Type of wear	Countermeasure	
	Geometry	Cutting condition
Flank wear	– Sharper cutting edge for reduced cutting force – Smaller negative chamfer – Use positive inserts	– Reduce cutting speed – Increase feed rate to reduce operation time
Notch wear	– Bigger radius	– Use "method of altering feed rate"
Crater wear/breakage due to crater wear	– Sharper cutting edge for reduced cutting force	– Reduce cutting speed – Increase feed rate to minimise operation time and to increase distance between cutting edge and crater
Chipping due to rough condition or vibration	– Bigger negative chamfer angle and/or honed chamfer	– Increase feed rate to reduce number of hits
Flaking	– Sharper cutting edge to reduce cutting force – Smaller negative chamfer – Use positive inserts	– Increase feed rate to reduce operation time
Thermal crack/breakage	– Sharper cutting edge for reduced cutting force – Smaller negative chamfer – Use positive inserts	– Reduce cutting speed, feed rate and depth of cut – Dry machining
Chipping	– Bigger negative chamfer	– Increase cutting speed to reduce cutting force

For investigation please send us the used inserts. If breakage is the problem please use inserts only 80–90 % of expected tool life because broken inserts almost have no information.

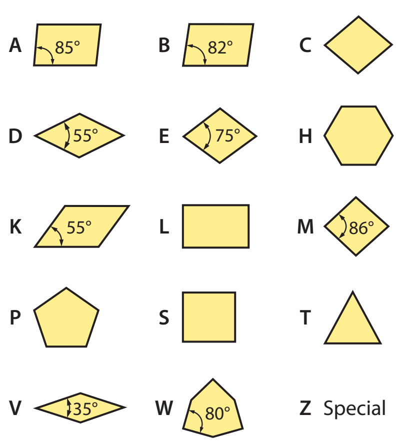
Notes

General turning

ISO code – ceramic inserts

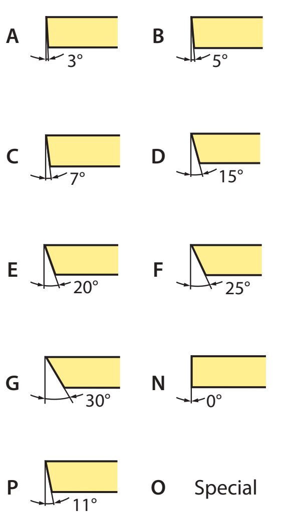
T	N	G	A	12	04	08	T	020	20
1	2	3	4	5	6	7	8	9	10

Insert shape



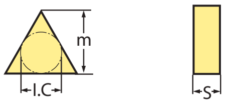
1

Clearance angle



2

Tolerance class

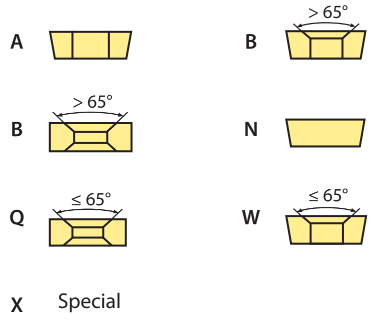


Code	I.C [mm]	m [mm]	S [mm]
A	±0.025	±0.005	±0.025
C	±0.025	±0.013	±0.025
E	±0.025	±0.025	±0.025
F	±0.013	±0.005	±0.025
G	±0.025	±0.025	±0.130
H	±0.013	±0.013	±0.025
J	±0.05–0.15	±0.005	±0.025
K	±0.05–0.15	±0.013	±0.025
L	±0.05–0.15	±0.025	±0.025
M	±0.05–0.15	±0.08–0.20	±0.130
N	±0.05–0.15	±0.08–0.20	±0.025
U	±0.08–0.25	±0.13–0.38	±0.130

3

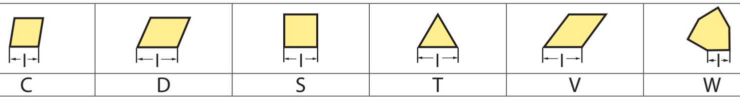
Fastening features (metric)

Insert shape



4

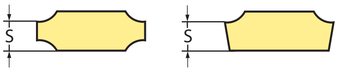
Cutting edge length l [mm]



I.C [mm]	Insert shape					
	C	D	S	T	V	W
3.97				06		
5.0						
5.56				09		
6.0						
6.35	06	07		11	11	
8.0						
9.525	09	11	09	16	16	06
10.0						
12.0						
12.7	12	15	12	22	22	08
15.875	16		15	27		
16.0		19				
19.05	19		19	33		
20.0						
25.0	25	25				
25.4			25			
31.75						
32						

5

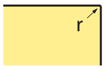
Insert thickness S [mm]



Code	S	Code	S
02	2.38	**06**	6.35
T2	2.58	**T6**	6.75
03	3.18	**07**	7.94
T3	3.97	**09**	9.52
04	4.76	**T9**	9.72
T4	4.96	**11**	11.11
05	5.56	**12**	12.70
T5	5.95		

6

Nose radius r [mm]



Code	r
00	–
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	Special
MO	Round inserts

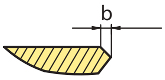
7

Cutting edge profile

Code	Cutting edge	Insert shape
E	Rounding	
F	Sharp edge	
T	Chamfer	
S	Chamfer + Rounding	

8

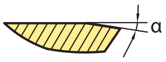
Chamfer width b [mm]



Code	b
010	0.10
015	0.15
020	0.20
025	0.25
030	0.30
035	0.35
040	0.40
045	0.45
050	0.50
100	1.00
200	2.00

9

Chamfer angle α



Code	α
05	5°
10	10°
15	15°
20	20°
25	25°
30	30°

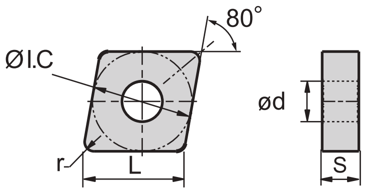
10

Turning ceramic inserts

- ○ Ideal machining conditions
- ◍ Normal machining conditions
- ❋ Unfavourable machining conditions

CNGA	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35

CN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	○		
K	○	○	❋
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
	**CNGA120404T02020**	0.4	0.15-0.40	0.5-2.0		○	
	CNGA120408T02020	0.8	0.2-0.6	0.5-5.0	○	○	
	CNGA120412T02020	1.2	0.2-0.6	1-4		○	
	CNGA120412T03020	1.2	0.15-0.40	0.5-2.0		○	
	CNGA160608T02020	0.8	0.2-0.5	1-4		○	
	CNGA160612T02020	1.2	0.15-0.40	2-5		○	
	CNGA160616T02020	1.6	0.15-0.40	2-5		○	

● Ex stock ○ On demand

CM	Mixed ceramic
CN	Si3N4 Ceramic

Tool holder

MCBNR/L	MCLNR/L
Kr: 75°	Kr: 95°
	
A218	A219

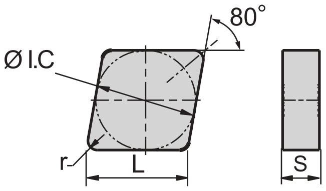
System code A174 Grade selection A38 Technical info A445 Cutting data A324

CNGN	L	I.C	S
12 04	12.9	12.7	4.76
12 07	12.9	12.7	7.94
16 04	16.1	15.875	4.76
16 06	16.1	15.875	6.35

◯ Ideal machining conditions
❂ Normal machining conditions
✻ Unfavourable machining conditions

Turning ceramic inserts

CN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	◯		
K	◯	◯	✻
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
	**CNGN120404T02020**	0.4	0.15-0.50	0.5-4.0	○	○	○
	CNGN120408T02020	0.8	0.2-0.6	1-5	○	○	○
	CNGN120412T02020	1.2	0.2-0.6	1-4	○	○	○
	CNGN120708T02020	0.8	0.2-0.5	0.5-2.0	○	○	○
	CNGN120712T02020	1.2	0.2-0.6	1-4	○	○	○
	CNGN120716T02020	1.6	0.2-0.6	0.5-2.0	○	○	○
	CNGN160408T02020	0.8	0.2-0.5	0.5-2.0	○		
	CNGN160412T02020	1.2	0.2-0.6	0.5-4.0	○	○	○
	CNGN160416T02020	1.6	0.2-0.6	2-5	○	○	○
	CNGN160612T02020	1.2	0.15-0.60	0.5-4.0	○	○	
	CNGN160616T02020	1.6	0.2-0.6	2-5	○	○	○

● Ex stock ○ On demand

CM Mixed ceramic
CN Si3N4 Ceramic

Tool holder
CCLNR/L
Kr: 95°

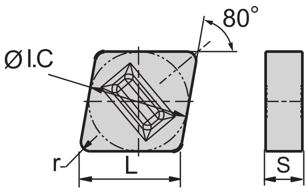
A258

Turning ceramic inserts

◍ Ideal machining conditions
✲ Normal machining conditions
✳ Unfavourable machining conditions

CNGX	L	I.C	S
12 07	12.9	12.7	7.94

CN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	◍		
K	◍	◍	✳
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
 Medium Cut	**CNGX120712T02020**	1.2	0.2-0.6	1-4		○	
	CNGX120716T02020	1.6	0.2-0.6	0.5-2.0		○	

● Ex stock ○ On demand

CM Mixed ceramic
CN Si3N4 Ceramic

Tool holder
JCLNR/L
Kr: 95°

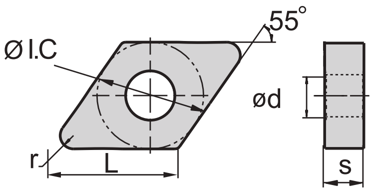
A266

System code A174 Grade selection A38 Technical info A445 Cutting data A324

Turning ceramic inserts

○ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

DNGA	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16



DN** negative insert	CM	CN	
	CA1000	CN1000	CN2000
P	○		
K	○	○	❋
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
	**DNGA150604T02020**	0.4	0.15-0.40	0.5-2.0		○	
	DNGA150608T02020	0.8	0.2-0.5	0.5-2.0		○	
	DNGA150612T02020	1.2	0.2-0.6	1-4		○	
	DNGA150616T02020	1.6	0.2-0.6	2-5		○	

● Ex stock ○ On demand

CM	Mixed ceramic
CN	Si3N4 Ceramic

Tool holder

MDJNR/L	MDPNN
Kr: 93°	Kr: 62°30'
	
A220	A221

A Turning
B Milling
C Drilling
D Technical Information
E Index

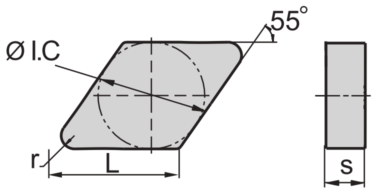
System code A174 Grade selection A38 Technical info A445 Cutting data A324

Turning ceramic inserts

● Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

DNGN	L	I.C	S
15 04	15.5	12.7	4.76
15 07	15.5	12.7	7.94

DN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	●		
K	●	●	✺
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
 Medium Cut	**DNGN150408T02020**	0.8	0.2-0.5	0.5-2.0	○		
	DNGN150412T02020	1.2	0.2-0.6	1-4	○		
	DNGN150704T02020	0.4	0.15-0.40	0.5-2.0	○	○	○
	DNGN150708T02020	0.8	0.2-0.5	0.5-2.0	○	○	○
	DNGN150712T02020	1.2	0.15-0.60	0.5-4.0	○	○	○
	DNGN150716T02020	1.6	0.2-0.6	2-5	○		

● Ex stock ○ On demand

CM	Mixed ceramic
CN	Si3N4 Ceramic

Tool holder

CDJNR/L

Kr: 93°

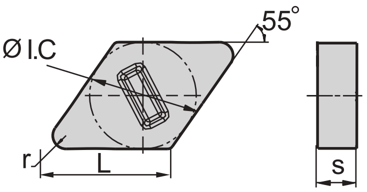
A260

Turning ceramic inserts

○ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavourable machining conditions

DNGX	L	I.C	S
15 07	15.5	12.7	7.94

DN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	○		
K	○	○	✺
N			
H			

	ISO	r	f	a_p	CM	CN	
					CA1000	CN1000	CN2000
 Medium Cut	**DNGX150712T02020**	1.2	0.2-0.6	1-4		○	
	DNGX150716T02020	1.6	0.2-0.6	2-5		○	

● Ex stock ○ On demand

CM Mixed ceramic
CN Si3N4 Ceramic

Tool holder
JDJNR/L
Kr: 93°

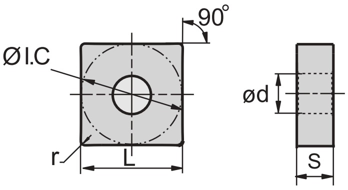
A267

Turning ceramic inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✻ Unfavourable machining conditions

SNGA	L	I.C	S	d
12 04	12.7	12.7	4.76	5.16

SN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	◯		
K	◯	◯	✻
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
	**SNGA120404T02020**	0.4	0.15-0.40	0.5-2.0		○	
	SNGA120408T02020	0.8	0.2-0.5	0.5-2.0		○	
	SNGA120412T02020	1.2	0.2-0.6	1-4		○	
	SNGA120412T03020	1.2	0.2-0.5	0.5-2.0		○	
	SNGA120416T02020	1.6	0.2-0.6	0.5-2.0		○	
	SNGA120416T03020	1.6	0.2-0.5	0.5-2.0		○	

● Ex stock ○ On demand

CM Mixed ceramic
CN Si3N4 Ceramic

Tool holder

MSBNR/L	**MSRNR/L**	**MSKNR/L**	**MSDNN**
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°
			
A222	A223	A224	A225

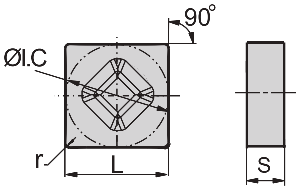
System code A174 Grade selection A38 Technical info A445 Cutting data A324

○ Ideal machining conditions
⊛ Normal machining conditions
❋ Unfavourable machining conditions

SNGX	L	I.C	S
12 07	12.7	12.7	7.94

Turning ceramic inserts

SN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	○		
K	○	○	❋
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
 Medium Cut	**SNGX120708T02020**	0.8	0.2-0.5	0.5-2.0		○	
	SNGX120712T02020	1.2	0.2-0.6	1-4		○	
	SNGX120716T02020	1.6	0.2-0.6	0.5-2.0		○	

● Ex stock ○ On demand

CM	Mixed ceramic
CN	Si3N4 Ceramic

Tool holder
JSDNN
Kr: 45°

A268

A Turning
B Milling
C Drilling
D Technical Information
E Index

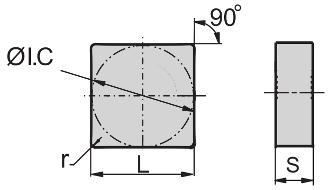
System code A174 Grade selection A38 Technical info A445 Cutting data A324

SNGN	L	I.C	S
09 03	9.525	9.525	3.18
12 04	12.7	12.7	4.76
12 07	12.7	12.7	7.94
15 07	15.875	15.875	7.94
19 07	19.05	19.05	7.94
19 10	19.05	19.05	10.05
25 10	25.4	25.4	10.05

Turning ceramic inserts

◯ Ideal machining conditions
✣ Normal machining conditions
✻ Unfavourable machining conditions

SN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	◯		
K	◯	◯	✻
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
	**SNGN090308T01020**	0.8	0.2-0.5	0.5-2.0	○		
	SNGN090312T01020	1.2	0.2-0.6	0.5-2.0	○		
	SNGN120404T02020	0.4	0.15-0.40	0.5-2.0	○		
	SNGN120408T02020	0.8	0.2-0.5	0.5-2.0	○	○	○
	SNGN120412T02020	1.2	0.2-0.6	1-4	○	○	○
	SNGN120412T03020	1.2	0.15-0.40	0.5-2.0		○	
	SNGN120416T02020	1.6	0.2-0.6	0.5-5.0	○	○	○
	SNGN120704T02020	0.4	0.15-0.40	0.5-2.0	○		
	SNGN120708T02020	0.8	0.2-0.6	0.5-4.0	○	○	○
	SNGN120712T02020	1.2	0.2-0.6	1-5	○	○	○
	SNGN120716T02020	1.6	0.2-0.6	1-5	○		○
	SNGN150708T02020	0.8	0.2-0.5	0.5-2.0	○		
	SNGN150712T02020	1.2	0.2-0.6	1-4	○	○	○
	SNGN150716T02020	1.6	0.2-0.6	0.5-2.0	○	○	○
	SNGN190708T03020	0.8	0.2-0.5	0.5-2.0	○		
	SNGN190712T03020	1.2	0.2-0.6	1-4	○		
	SNGN190716T03020	1.6	0.2-0.6	2-5	○		
	SNGN190724T03020	2.4	0.2-0.8	0.5-2.0	○		
	SNGN191024T04020	2.4	0.2-0.8	0.5-2.0	○		
	SNGN251024T10015	2.4	0.1-0.4	1-8	○		

● Ex stock ○ On demand

CM Mixed ceramic
CN Si3N4 Ceramic

Tool holder

CSKNR/L	**CSRNR/L**	**CSDNN**
Kr: 75°	Kr: 75°	Kr: 45°
		
A262	A263	A265

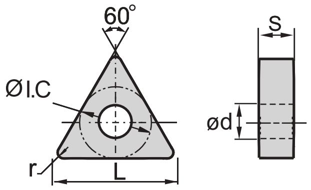
System code A174 Grade selection A38 Technical info A445 Cutting data A324

Turning ceramic inserts

● Ideal machining conditions
❂ Normal machining conditions
✽ Unfavourable machining conditions

TNGA	L	I.C	S	d
16 04	16.5	9.525	4.76	3.86
22 04	22	12.7	4.76	5.16

TN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	●		
K	●	●	✽
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
	**TNGA160404T01020**	0.4	0.15-0.40	2-5		○	
	TNGA160408T02020	0.8	0.2-0.5	2-5		○	
	TNGA160412T02020	1.2	0.2-0.6	1-4		○	
	TNGA220408T02020	0.8	0.2-0.5	2-5		○	
	TNGA220412T02020	1.2	0.2-0.6	2-5		○	
	TNGA220416T02020	1.6	0.2-0.6	2-5		○	
	TNGA220416T03020	1.6	0.2-0.6	2-5		○	

● Ex stock ○ On demand

CM Mixed ceramic
CN Si3N4 Ceramic

Tool holder

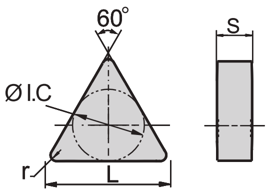
MTGNR/L	**MTJNR/L**	**MTJNR/L-Z**	**MTFNR/L**
Kr: 90°	Kr: 93°	Kr: 93°	Kr: 91°
			
A226	A227	A228	A229

TNGN	L	I.C	S
16 04	16.5	9.525	4.76
16 07	16.5	9.525	7.94
22 04	22	12.7	4.76
22 07	22	12.7	7.94

Turning ceramic inserts

○ Ideal machining conditions
⊛ Normal machining conditions
✺ Unfavourable machining conditions

TN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	○		
K	○	○	✺
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
 Medium Cut	**TNGN160404T02020**	0.4	0.15-0.50	0.5-4.0	○	○	○
	TNGN160408T02020	0.8	0.2-0.6	0.5-5.0	○	○	○
	TNGN160412T02020	1.2	0.2-0.6	1-5	○	○	○
	TNGN160708T02020	0.8	0.2-0.5	0.5-2.0	○	○	○
	TNGN160712T02020	1.2	0.2-0.6	1-4	○	○	○
	TNGN160716T02020	1.6	0.2-0.6	2-5	○		
	TNGN220408T02020	0.8	0.2-0.5	0.5-2.0	○	○	○
	TNGN220412T02020	1.2	0.2-0.6	1-4	○	○	○
	TNGN220416T02020	1.6	0.2-0.6	2-5	○	○	○
	TNGN220712T02020	1.2	0.2-0.6	1-4	○		
	TNGN220716T02020	1.6	0.2-0.6	2-5	○		

● Ex stock ○ On demand

CM	Mixed ceramic
CN	Si3N4 Ceramic

Tool holder

CTJNR/L	**CTUNR/L**
Kr: 93°	Kr: 93°
	
A259	A261

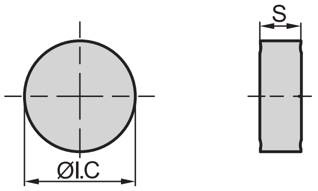
System code A174 Grade selection A38 Technical info A445 Cutting data A324

RNGN	I.C	S
09 04	9.53	4.76
12 04	12.7	4.76
12 07	12.7	7.94
15 07	15.875	7.94
19 07	19.05	7.94
25 10	25.4	10.05

Turning ceramic inserts

◯ Ideal machining conditions
✣ Normal machining conditions
✺ Unfavourable machining conditions

RN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	◯		
K	◯	◯	✺
N			
H			

ISO	f	a_p	CA1000	CN1000	CN2000
RNGN090400T02020	0.2-0.5	0.5-2.0	○		
RNGN120400T02020	0.2-0.5	0.5-2.0	○	○	○
RNGN120700T02020	0.2-0.5	0.5-2.0	○	○	○
RNGN150700T02020	0.2-0.5	0.5-2.0	○	○	○
RNGN190700T03020	0.2-0.5	0.5-2.0	○	○	○
RNGN251000T05020	0.2-0.5	0.5-2.0	○	○	

● Ex stock ○ On demand

CM	Mixed ceramic
CN	Si3N4 Ceramic

Tool holder
CRDNN

A264

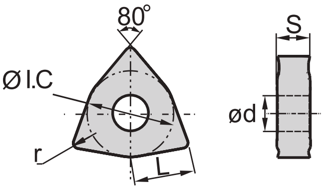
System code A174 Grade selection A38 Technical info A445 Cutting data A324

Turning ceramic inserts

● Ideal machining conditions
✲ Normal machining conditions
❋ Unfavourable machining conditions

WNGA	L	I.C	S	d
08 04	8.69	12.7	4.76	5.16

WN** negative insert



	CM	CN	
	CA1000	CN1000	CN2000
P	●		
K	●	●	❋
N			
H			

	ISO	r	f	a_p	CA1000	CN1000	CN2000
	**WNGA080408T02020**	0.8	0.2-0.5	0.5-2.0		○	
	WNGA080412T02020	1.2	0.2-0.6	2-5		○	
	WNGA080416T02020	1.6	0.2-0.6	2-5		○	

● Ex stock ○ On demand

CM Mixed ceramic
CN Si3N4 Ceramic

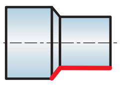
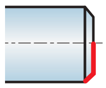
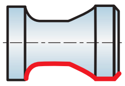
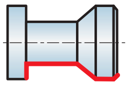
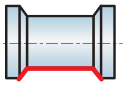
Tool holder
MWLNR/L
Kr: 95°

A232

System code A174 Grade selection A38 Technical info A445 Cutting data A324

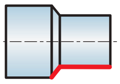
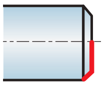
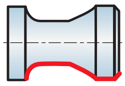
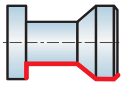
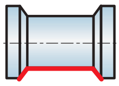
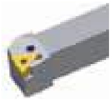
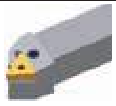
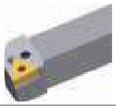
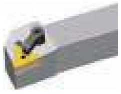
Notes

External turning tool holders

	Tool holder	Application					Workpiece		Page
		External machining	Facing	Profiling	Profiling	Profiling	Stable	Unstable	
									
D	**DCLNR/L** **95°** 	●	●				●		A197
	DDJNR/L **93°** 			●	●	●	●	●	A198
	DSBNR/L **75°** 	●					●		A199
	DTGNR/L **91°** 	●					●		A200
	DVVNN **72.5°** 					●	●		A201
	DVJNR/L **93°** 			●	●		●	●	A202
	DWLNR/L **95°** 	●	●				●		A203
P	**PCBNR/L** **75°** 	●					●		A204
	PCLNR/L **95°** 	●	●				●		A205
	PDJNR/L **93°** 			●	●	●	●	●	A206
	PDNNR/L **63°** 					●	●		A207
	PSBNR/L **75°** 	●					●		A208
	PSDNN **45°** 	●				●	●		A210
	PSKNR/L **75°** 		●				●		A211
	PSSNR/L **45°** 	●	●				●		A212

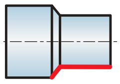
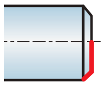
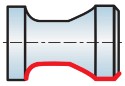
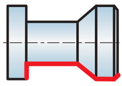
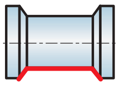
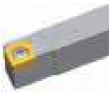
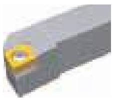
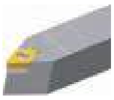
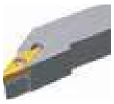
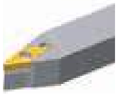
● Recommended

External turning tool holders

	Tool holder	Application					Workpiece		Page
		External machining	Facing	Profiling	Profiling	Profiling	Stable	Unstable	
									
P	**PTFNR/L** **91°** 		●				●		A213
	PTTNR/L **60°** 	●					●		A214
	PTGNR/L **90°** 	●					●		A215
	PWLNR/L **95°** 	●	●				●		A217
M	**MCBNR/L** **75°** 	●					●		A218
	MCLNR/L **95°** 	●	●				●		A219
	MDJNR/L **93°** 			●	●	●	●	●	A220
	MDPNN **62.5°** 					●	●		A221
	MSBNR/L **75°** 	●					●		A222
	MSRNR/L **75°** 	●					●		A223
	MSKNR/L **75°** 		●				●		A224
	MSDNN **45°** 					●	●		A225
	MTGNR/L **90°** 	●					●		A226
	MTJNR/L **93°** 	●					●		A227
	MTJNR/L-Z **93°** 		●		●		●		A228

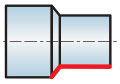
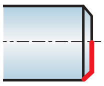
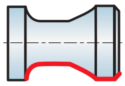
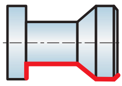
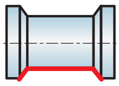
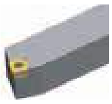
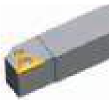
● Recommended

External turning tool holders

Tool holder			Application					Workpiece		Page
			External machining	Facing	Profiling	Profiling	Profiling	Stable	Unstable	
										
M	**MTFNR/L** **91°**			●				●		A229
	MVVNN **72,5°**						●	●		A230
	MVJNR/L **93°**				●	●		●	●	A231
	MWLNR/L **95°**		●	●				●		A232
	MRGNR/L **-**				●			●		A234
	MRDNN **-**						●	●		A233
S	**SCACR/L** **90°**		●					●	●	A235
	SCLCR/L **95°**		●	●				●	●	A236
	SDACR/L **90°**					●		●	●	A237
	SDJCR/L **93°**		●			●		●	●	A238
	SDNCN **63°**						●	●	●	A239
	SVJBR/L **93°**		●			●		●	●	A240
	SVABR/L **90°**		●			●		●	●	A241
	SVVBN **72,5°**						●	●	●	A242
	SVVCN **72,5°**						●	●	●	A243

● Recommended

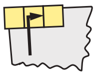
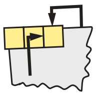
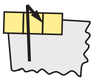
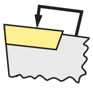
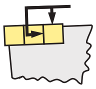
External turning tool holders

Tool holder			Application					Workpiece		Page
			External machining	Facing	Profiling	Profiling	Profiling	Stable	Unstable	
										
S	**SVJCR/L** **93°**		●			●		●	●	A244
	SSBCR/L **75°**		●					●		A245
	SSDCN **45°**						●	●		A246
	SSKCR/L **75°**			●				●		A247
	SSSCR/L **45°**		●					●		A248
	STACR/L **90°**		●					●	●	A249
	STFCR/L **91°**			●				●		A250
	STGCR/L **91°**		●					●	●	A251
	STTCR/L **60°**		●					●		A252
	SWACR/L **90°**		●					●	●	A253
	SRDCN **-**						●	●		A254
	SRGCR/L **-**				●			●		A255
C	**CKJNR/L** **93°**		●			●		●		A256
	CKNNR/L **63°**						●	●		A257

● Recommended

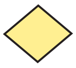
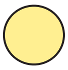
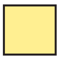
P	C	L	N	L	25	25	M	12
1	2	3	4	5	6	7	8	9

Clamping system

Code	Description	
P	Knee lever clamping	
M	Multi clamping	
S	Screw clamping	
C/J	Top clamping	
D	Double clamping	

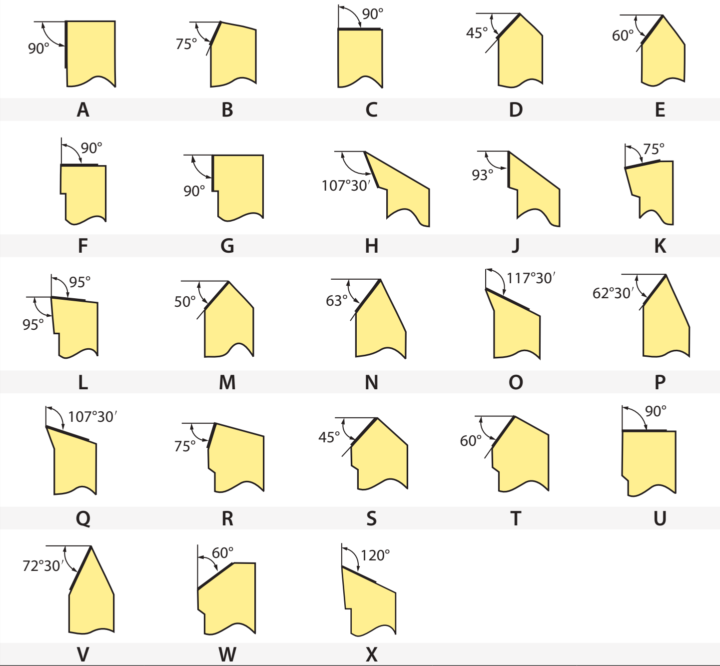
1

Insert shape

C	
D	
R	
S	
T	
V	
W	

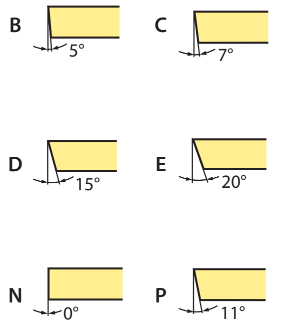
2

Tool holder type and entering angle



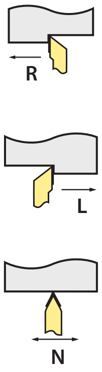
3

Clearance angle



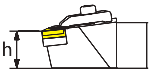
4

Cutting direction



5

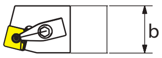
Shank height h [mm]



Code	h
12	12
16	16
20	20
25	25
32	32
40	40
50	50

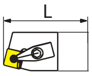
6

Shank width b [mm]

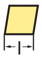
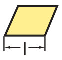
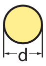
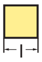
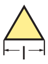
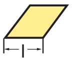
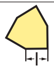


Code	b
12	12
16	16
20	20
25	25
32	32
40	40
50	50

7

Holder length L [mm]	
L 	
Code	L
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300

8

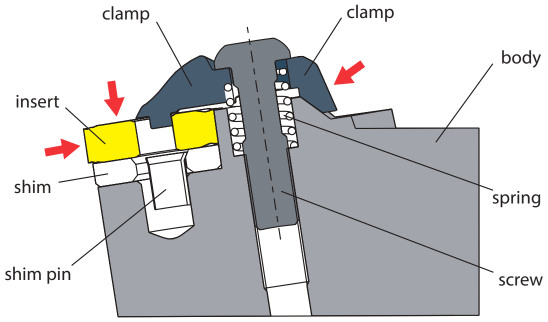
Cutting edge length l [mm]							
I.C [mm]	Insert shape						
							
	C	D	R	S	T	V	W
5.56					**09**		
6.35	**06**	**07**			**11**		
9.525	**09**	**11**	**09**	**09**	**16**	**16**	**06**
12.7	**12**	**15**	**12**	**12**	**22**	**22**	**08**
15.875	**16**	**19**	**15**	**15**	**27**		
19.05	**19**		**19**	**19**	**33**		
25.4	**25**		**25**	**25**	**44**		
32			**32**				

9

Double clamping tool holder

D-Type clamp tool holder

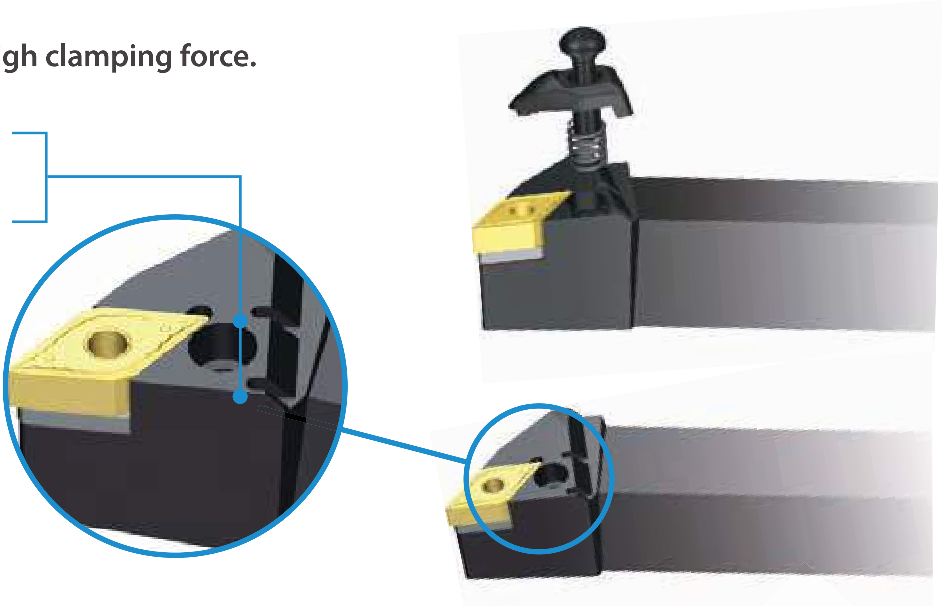
Double clamping system in one operation. The special designed clamping finger enables a stable holding of the inserts, with high accuracy and clamping force for better tool life and higher machining accuracy.



Best indexing accuracy, high clamping force.

Stable tool life by secure clamping.

Good anti-corrosive and wear-resistance.



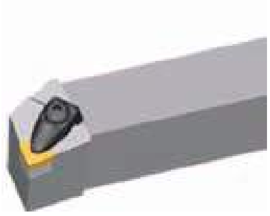
Special clamp nose design for more stability and high clamping accuracy.

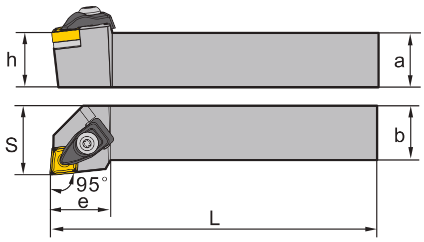
Special design

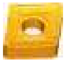
Double guiding surface

CN** holder (external) D-Clamping

DCLNR/L Kr: 95°





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
DCLNR/L1616H09		●	●	16	16	100	16	20	24	CN**0903**
DCLNR/L2020K09		●	●	20	20	125	20	25	24	CN**0903**
DCLNR/L2525M09		●	●	25	25	150	25	32	24	CN**0903**
DCLNR/L2020K12		●	●	20	20	125	20	25	28	CN**1204**
DCLNR/L2525M12		●	●	25	25	150	25	32	28	CN**1204**
DCLNR/L3225P12		●	●	32	25	170	32	32	28	CN**1204**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CN**0903****	**CN**1204****
	h	**16-25**	**20-32**
	Clamp	C1RA	C2RA
	Screw (Clamp)	CM5x22C	CM6x25C
	Screw (shim)	SM5×8.65XA1	SM6×10XA1
	Shim	C09BM	C12BM
	Spring	SPR6	SPR4
	Wrench (clamp)	WH30L	WH40L
	Wrench (shim)	WH30L	WH40L

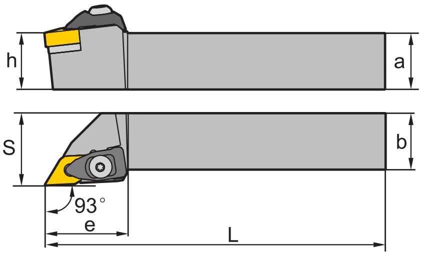
Insert

 **Finishing**	 **Wiper**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A43	A43	A44	A51	A51	A146

System code A194 Grade selection A38 Technical info A445 Cutting data A324

DN** holder (external) D-Clamping

DDJNR/L Kr: 93°



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
DDJNR/L1616H11		●	●	16	16	100	16	20	30	DN**1104**
DDJNR/L2020K11		●	●	20	20	125	20	25	30	DN**1104**
DDJNR/L2525M11		●	●	25	25	150	25	32	30	DN**1104**
DDJNR/L3225P11		○	○	32	25	170	32	32	30	DN**1104**
DDJNR/L2020K15		●	●	20	20	125	20	25	35	DN**1506**
DDJNR/L2525M15		●	●	25	25	150	25	32	35	DN**1506**
DDJNR/L3232P15		●	●	32	32	170	32	40	35	DN**1506**

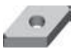
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DN**1104****	**DN**1506****
	h	**16-32**	**20-32**
	Clamp	C1RA	C2RA
	Screw (Clamp)	CM5x22C	CM6x25C
	Screw (shim)	SM5×8.65XA1	SM6×10XA1
	Shim	D11BM	D15BM
	Spring	SPR6	SPR4
	Wrench (clamp)	WH30L	WH40L
	Wrench (shim)	WH30L	WH40L

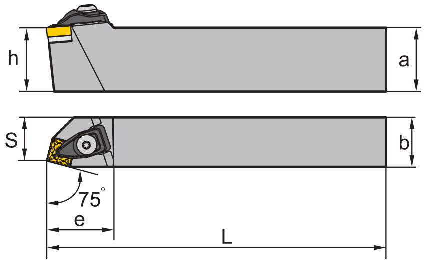
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A53	A54	A58	A59	A147

System code A194 Grade selection A38 Technical info A445 Cutting data A324

SN** holder (external) D-Clamping

DSBNR/L Kr: 75°



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
DSBNR/L1616H09		○	○	16	16	100	16	13	26	SN**0903**
DSBNR/L2020K12		●	●	20	20	125	20	17	34	SN**1204**
DSBNR/L2525M12		●	●	25	25	150	25	22	34	SN**1204**
DSBNR/L3225P12		●	●	32	25	170	32	22	34	SN**1204**
DSBNR/L3232P15		●	●	32	32	170	32	27	41	SN**1506**

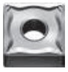
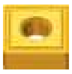
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SN**0903****	**SN**1204****	**SN**1506****
	h	**16**	**20-32**	**32**
	Clamp	C1RA	C2RA	C3RA
	Screw (Clamp)	CM5x22C	CM6x25C	CM6x25C
	Screw (shim)	SM5×8.65XA1	SM6×10XA1	SM6×10XA2
	Shim	S09BM	S12BM	S15BM
	Spring	SPR6	SPR4	SPR4
	Wrench (clamp)	WH30L	WH40L	WH40L
	Wrench (shim)	WH30L	WH40L	WH40L

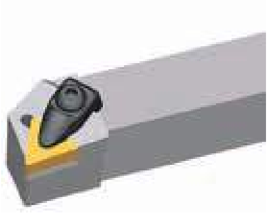
Insert

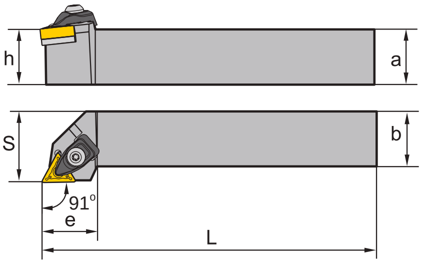
 **Finishing**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A62	A64	A67	A73	A148

System code A194 Grade selection A38 Technical info A445 Cutting data A324

TN** holder (external) D-Clamping

DTGNR/L Kr: 91°





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
DTGNR/L1616H16		●	●	16	16	100	16	20	25	TN**1604**
DTGNR/L2020K16		●	●	20	20	125	20	25	25	TN**1604**
DTGNR/L2525M16		●	●	25	25	150	25	32	25	TN**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TN**1604****
	h	**16-25**
	Clamp	C1RA
	Screw (Clamp)	CM5x22C
	Screw (shim)	SM5×8.65XA1
	Shim	T16BM
	Spring	SPR6
	Wrench (clamp)	WH30L
	Wrench (shim)	WH30L

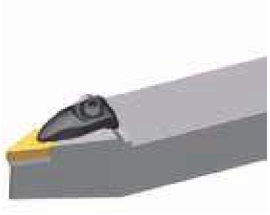
Insert

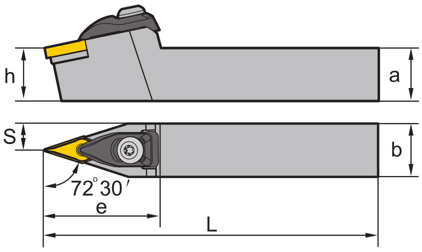
 **Finishing**	 **Wiper**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A78	A77	A80	A83	A86	A149

System code A194 Grade selection A38 Technical info A445 Cutting data A324

VN** holder (external) D-Clamping

DVVNN Kr: 72°30'





Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
DVVNN2020K16		●	20	20	125	20	10	44	VN**1604**
DVVNN2525M16		●	25	25	150	25	12.5	44	VN**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VN**1604****
	h	**20-25**
	Clamp	C6RA
	Screw (Clamp)	CM5×22C
	Screw (shim)	SM5×8.65XA1
	Shim	V16BM
	Spring	SPR6
	Wrench (clamp)	WH30L
	Wrench (shim)	WH30L

Insert

 **Finishing**	 **Medium Cut**	 **Cast Iron**	 **PCBN/PCD**
A89	A90	A90	A150

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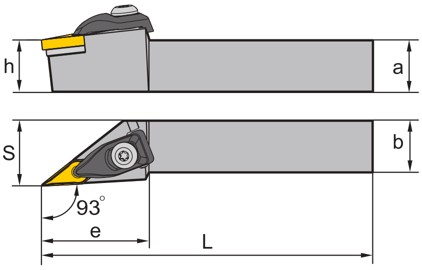
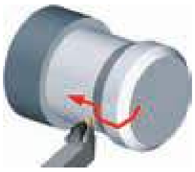
VN** holder (external) D-Clamping

DVJNR/L Kr: 93°





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
DVJNR/L2020K16		●	●	20	20	125	20	25	41	VN**1604**
DVJNR/L2525M16		●	●	25	25	150	25	32	41	VN**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VN**1604****
	h	**20-25**
	Clamp	C6RA
	Screw (Clamp)	CM5x22C
	Screw (shim)	SM5x8.65XA1
	Shim	V16BM
	Spring	SPR6
	Wrench (clamp)	WH30L
	Wrench (shim)	WH30L

Insert

			
Finishing	**Medium Cut**	**Cast Iron**	**PCBN/PCD**
A89	A90	A90	A150

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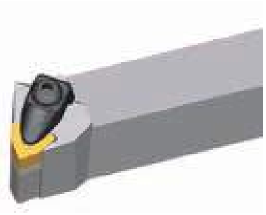
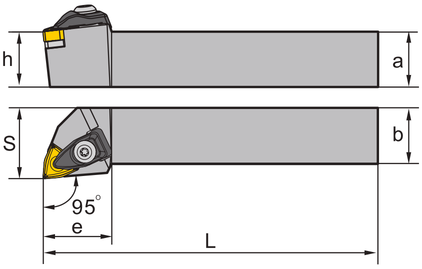
WN** holder (external) D-Clamping

DWLNR/L Kr: 95°





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
DWLNR/L1616H06		●	●	16	16	100	16	25	24	WN**0604**
DWLNR/L2020K06		●	●	20	20	125	20	25	24	WN**0604**
DWLNR/L2525M06		●	●	25	25	150	25	32	24	WN**0604**
DWLNR/L2020K08		●	●	20	20	125	20	25	31	WN**0804**
DWLNR/L2525M08		●	●	25	25	150	25	32	31	WN**0804**
DWLNR/L3225P08		●	●	32	25	170	32	32	31	WN**0804**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**WN**0604****	**WN**0804****
	h	**16-25**	**20-32**
	Clamp	C1RA	C2RA
	Screw (Clamp)	CM5×22C	CM6×25C
	Screw (shim)	SM5×8.65XA1	SM6×10XA1
	Shim	W06BM	W08BM
	Spring	SPR6	SPR4
	Wrench (clamp)	WH30L	WH40L
	Wrench (shim)	WH30L	WH40L

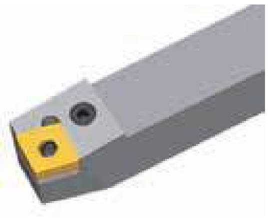
Insert

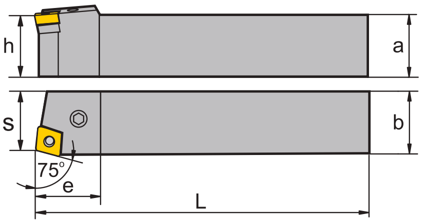
					
Finishing	**Wiper**	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A92	A93	A95	A96	A96	A151

System code A194 Grade selection A38 Technical info A445 Cutting data A324

CN** holder (external) **P-Clamping**

PCBNR/L Kr: 75°


Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PCBNR/L2020K12		●	●	20	20	125	20	17	27	CN**1204**
PCBNR/L2525M12		●	●	25	25	150	25	22	27	CN**1204**
PCBNR/L3232P12		●	●	32	32	170	32	27	27	CN**1204**
PCBNR/L2525M16		●	●	25	25	150	25	22	33	CN**1606**
PCBNR/L3232P16		●	●	32	32	170	32	27	33	CN**1606**
PCBNR/L3232P19		●	●	32	32	170	32	27	38	CN**1906**
PCBNR/L4040S19		●	●	40	40	250	40	35	38	CN**1906**
PCBNR/L4040S2507		●	●	40	40	250	40	35	50	CN**2507**
PCBNR/L4040S2509		●	●	40	40	250	40	35	50	CN**2509**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

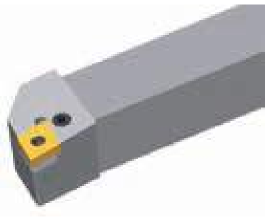
Insert	CN**1204**	CN**1606**	CN**1906**	CN**2507**	CN**2509**
h	**20-32**	**25-32**	**32-40**	**40**	**40**
Knee lever	L4	L5	L6	L8	L8
Screw				LEM12×36A	LEM12×36A
Screw	LEM8×21	LEM8×25	LEM10×27		
Shim	C12AP	C16AP	C19AP	C25AP-07	C25AP
Shim pin (shim)	SP4	SP5	SP6	SP8	SP8
Wrench	WH30L	WH30L	WH40L	WH50L	WH50L

Insert

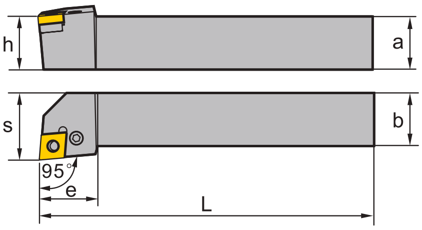
Finishing	**Wiper**	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A43	A43	A44	A49	A51	A146

CN** holder (external) P-Clamping

PCLNR/L Kr: 95°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PCLNR/L1616H09		●	●	16	16	100	16	20	20	CN**0903**
PCLNR/L2020K09		●	●	20	20	125	20	25	22	CN**0903**
PCLNR/L2525M09		○	●	25	25	150	25	32	22	CN**0903**
PCLNR/L2020K12		●	●	20	20	125	20	25	28	CN**1204**
PCLNR/L2525M12		●	●	25	25	150	25	32	28	CN**1204**
PCLNR/L3232P12		●	●	32	32	170	32	40	28	CN**1204**
PCLNR/L2525M16		●	●	25	25	150	25	32	33	CN**1606**
PCLNR/L3232P16		●	●	32	32	170	32	40	33	CN**1606**
PCLNR/L3232P19		●	●	32	32	170	32	40	38	CN**1906**
PCLNR/L4040S19		●	●	40	40	250	40	50	38	CN**1906**
PCLNR/L4040S2507		●	●	40	40	250	40	50	49	CN**2507**
PCLNR/L4040S2509		●	●	40	40	250	40	50	49	CN**2509**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CN**0903****	**CN**1204****	**CN**1606****	**CN**1906****	**CN**2507****	**CN**2509****
	h	**16-25**	**20-32**	**25-32**	**32-40**	**40**	**40**
	Knee lever	L3	L4	L5	L6	L8	L8
	Screw	LEM6×13.4A				LEM12×36A	LEM12×36A
	Screw		LEM8×21	LEM8×25	LEM10×27		
	Shim	C09AP	C12AP	C16AP	C19AP	C25AP-07	C25AP
	Shim pin (shim)	SP10	SP4	SP5	SP6	SP8	SP8
	Wrench	WH25L	WH30L	WH30L	WH40L	WH50L	WH50L

Insert

					
Finishing	**Wiper**	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A43	A43	A44	A49	A51	A146

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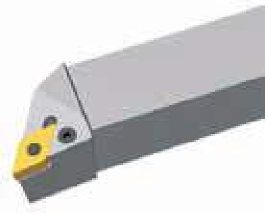
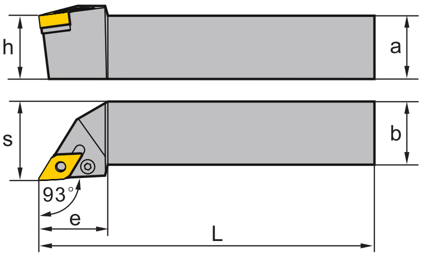
DN** holder (external) P-Clamping

PDJNR/L Kr: 93°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PDJNR/L1616H11		●	●	16	16	100	16	20	25	DN**1104**
PDJNR/L2020K11		●	●	20	20	125	20	25	25	DN**1104**
PDJNR/L2525M11		●	●	25	25	150	25	32	30	DN**1104**
PDJNR/L2020K15-3		●	○	20	20	125	20	25	35	DN**1504**
PDJNR/L2525M15-3		●	●	25	25	150	25	32	35	DN**1504**
PDJNR/L3232P15-3		●	●	32	32	170	32	40	35	DN**1504**
PDJNR/L2020K15		●	●	20	20	125	20	25	35	DN**1506**
PDJNR/L2525M15		●	●	25	25	150	25	32	35	DN**1506**
PDJNR/L3232P15		●	●	32	32	170	32	40	35	DN**1506**

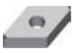
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DN**1104****	**DN**1504****	**DN**1506****
	h	**16-32**	**20-32**	**20-32**
	Knee lever	L3	L4	L4B
	Screw		LEM8×21	LEM8×21
	Screw	LEM6×13.4A		
	Shim	D11AP	D15AP	D15AP
	Shim pin (shim)	SP3	SP4	SP4
	Wrench	WH25L	WH30L	WH30L

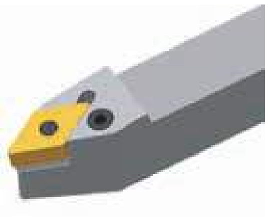
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A53	A54	A58	A59	A147

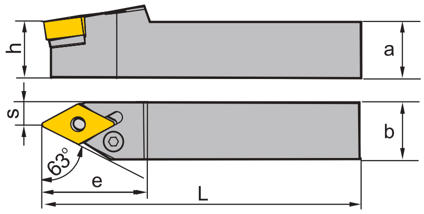
System code A194 Grade selection A38 Technical info A445 Cutting data A324

DN** holder (external) P-Clamping

PDNNR/L Kr: 63°



Left hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PDNNR/L2020K15-3		●	○	20	20	125	20	8	37	DN**1504**
PDNNR/L2525M15-3		●	○	25	25	150	25	12.5	37	DN**1504**
PDNNR/L3232P15-3		●	●	32	32	170	32	16	37	DN**1504**
PDNNR/L2020K15		●	●	20	20	125	20	8	37	DN**1506**
PDNNR/L2525M15		●	●	25	25	150	25	12.5	37	DN**1506**
PDNNR/L3232P15		●	●	32	32	170	32	16	37	DN**1506**

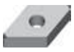
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DN**1504****	**DN**1506****
	h	**20-32**	**20-32**
	Knee lever	L4	L4B
	Screw	LEM8×21	LEM8×21
	Shim	D15AP	D15AP
	Shim pin (shim)	SP4	SP4
	Wrench	WH30L	WH30L

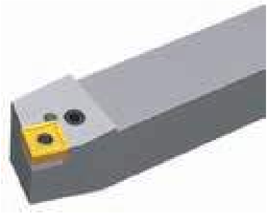
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A53	A54	A58	A59	A147

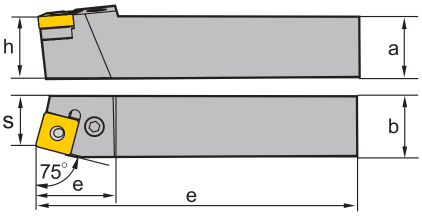
System code A194 Grade selection A38 Technical info A445 Cutting data A324

SN** holder (external) P-Clamping

PSBNR/L Kr: 75°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PSBNR/L1616H09		●	○	16	16	100	16	13	21	SN**0903**
PSBNR/L2020K09		●	○	20	20	125	20	17	23	SN**0903**
PSBNR/L2020K12		●	●	20	20	125	20	17	28	SN**1204**
PSBNR/L2525M12		●	●	25	25	125	25	22	28	SN**1204**
PSBNR/L3225P12		●	○	32	25	170	32	22	28	SN**1204**
PSBNR/L3232P12		●	○	32	32	170	32	27	28	SN**1204**
PSBNR/L2525M15		●	○	25	25	150	25	22	35	SN**1506**
PSBNR/L3232P15		●	●	32	32	170	32	27	35	SN**1506**
PSBNR/L3232P19		●	●	32	32	170	32	27	40	SN**1906**
PSBNR/L4040S19		●	●	40	40	250	40	35	40	SN**1906**
PSBNR/L4040S2507		●	○	40	40	250	40	35	48	SN**2507**
PSBNR/L4040S2509		●	○	40	40	250	40	35	48	SN**2509**

● Ex stock ○ On demand

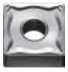
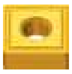
✻ With internal cooling

Spare parts

	Insert	**SN**0903****	**SN**1204****	**SN**1506****	**SN**1906****	**SN**2507****	**SN**2509****
	h	**16-20**	**20-32**	**25-32**	**32-40**	**40**	**40**
	Knee lever	L3	L4	L5	L6	L8	L8
	Screw	LEM6×13.4A				LEM12×36A	LEM12×36A
	Screw		LEM8×21	LEM8×25	LEM10×27		
	Shim	S09AP	S12AP	S15AP	S19AP	S25AP	
	Shim						S25AP-09
	Shim pin (shim)	SP10	SP4	SP5	SP6	SP8	SP8
	Wrench	WH25L	WH30L	WH30L	WH40L	WH50L	WH50L

System code A194 Grade selection A38 Technical info A445 Cutting data A324

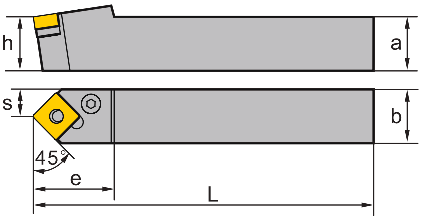
SN** holder (external)

Insert				
 **Finishing**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A62	A64	A67	A73	A148

System code A194
Grade selection A38
Technical info A445
Cutting data A324

SN** holder (external) P-Clamping

PSDNN Kr: 45°



Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
PSDNN1212F09		○	12	12	80	12	6	21	SN**0903**
PSDNN1616H09		●	16	16	100	16	8	23	SN**0903**
PSDNN2020K12		●	20	20	125	20	10	30	SN**1204**
PSDNN2525M12		●	20	20	150	20	12.5	30	SN**1204**
PSDNN3232P12		●	32	32	170	32	16	40	SN**1204**
PSDNN2525M15		●	25	25	150	25	12.5	40	SN**1506**
PSDNN3232P15		●	32	32	170	32	16	40	SN**1506**
PSDNN3232P19		●	32	32	170	32	16	40	SN**1906**
PSDNN4040S19		●	40	40	250	40	20	40	SN**1906**

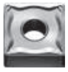
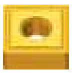
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SN**0903****	**SN**0903****	**SN**1204****	**SN**1506****	**SN**1906****
	h	**12**	**16**	**20-32**	**25-32**	**32-40**
	Knee lever	L3B	L3	L3	L5	L6
	Screw				LEM8×25	LEM10×27
	Screw	LEM5×12B				
	Screw		LEM6×13.4A	LEM6×13.4A		
	Shim		S09AP	S09AP	S15AP	S19AP
	Shim pin (shim)		SP10	SP10	SP5	SP6
	Wrench	WH20L	WH25L	WH25L	WH30L	WH40L

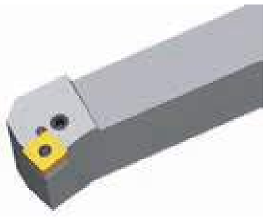
Insert

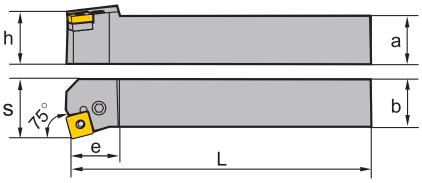
				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A62	A64	A67	A73	A148

System code › A194 Grade selection › A38 Technical info › A445 Cutting data › A324

SN** holder (external) P-Clamping

PSKNR/L Kr: 75°





Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PSKNR/L1616H09		○	○	16	16	100	16	20	17	SN**0903**
PSKNR/L2020K09		●	○	20	20	125	20	25	20	SN**0903**
PSKNR/L2020K12		●	●	20	20	125	20	25	26	SN**1204**
PSKNR/L2525M12		●	●	25	25	150	25	32	26	SN**1204**
PSKNR/L3232P12		●	●	32	32	170	32	40	26	SN**1204**
PSKNR/L2525M15		●	○	25	25	150	25	32	32	SN**1506**
PSKNR/L3232P15		●	●	32	32	170	32	40	32	SN**1506**
PSKNR/L3232P19		●	●	32	32	170	32	40	36	SN**1906**
PSKNR/L4040S19		○	○	40	40	250	40	50	40	SN**1906**

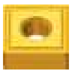
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SN**0903****	**SN**1204****	**SN**1506****	**SN**1906****
	h	**16-20**	**20-32**	**25-32**	**32-40**
	Knee lever	L3	L4	L5	L6
	Screw		LEM8×21	LEM8×25	LEM10×27
	Screw	LEM6×13.4A			
	Shim	S09AP	S12AP	S15AP	S19AP
	Shim pin (shim)	SP10	SP4	SP5	SP6
	Wrench	WH25L	WH30L	WH30L	WH40L

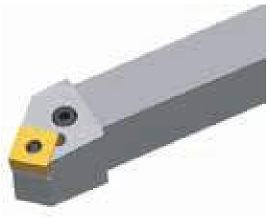
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A62	A64	A67	A73	A148

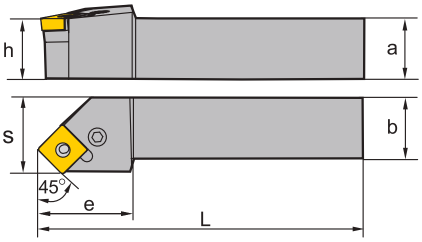
System code A194 Grade selection A38 Technical info A445 Cutting data A324

SN** holder (external) P-Clamping

PSSNR/L Kr: 45°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PSSNR/L1616H09		●	●	16	16	100	16	20	25	SN**0903**
PSSNR/L2020K12		●	●	20	20	125	20	25	30	SN**1204**
PSSNR/L2525M12		●	●	25	25	150	25	32	30	SN**1204**
PSSNR/L3232P12		●	●	32	32	170	32	40	40	SN**1204**
PSSNR/L2525M15		●	●	25	25	150	25	32	30	SN**1506**
PSSNR/L3232P15		●	●	32	32	170	32	40	40	SN**1506**
PSSNR/L3232P19		●	●	32	32	170	32	40	40	SN**1906**
PSSNR/L4040S19		●	●	40	40	250	40	50	50	SN**1906**
PSSNR/L4040S2507		●	●	40	40	250	40	50	50	SN**2507**
PSSNR/L4040S2509		●	●	40	40	250	40	50	50	SN**2509**

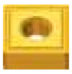
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SN**0903****	**SN**1204****	**SN**1506****	**SN**1906****	**SN**2507****	**SN**2509****
	h	**16**	**20-32**	**25-32**	**32-40**	**40**	**40**
	Knee lever	L3	L4	L5	L6	L8	L8
	Screw		LEM8×21	LEM8×25	LEM10×27		
	Screw	LEM6×13.4A				LEM12×36A	LEM12×36A
	Shim	S09AP	S12AP	S15AP	S19AP	S25AP	
	Shim						S25AP-09
	Shim pin (shim)	SP10	SP4	SP5	SP6	SP8	SP8
	Wrench	WH25L	WH30L	WH30L	WH40L	WH50L	WH50L

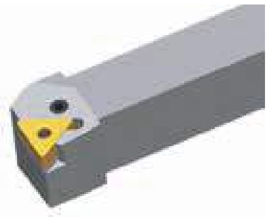
Insert

 **Finishing**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A62	A64	A67	A73	A148

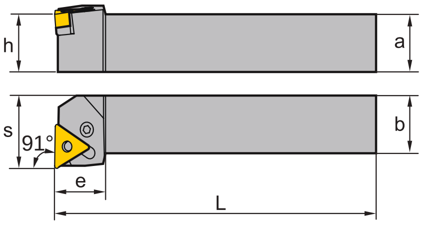
System code A194 Grade selection A38 Technical info A445 Cutting data A324

TN** holder (external) P-Clamping

PTFNR/L Kr: 91°



Right hand style



Article	✲	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PTFNR/L1616H16		●	●	16	16	100	16	20	20	TN**1604**
PTFNR/L2020K16		●	●	20	20	125	20	25	20	TN**1604**
PTFNR/L2525M16		●	●	25	25	150	25	32	20	TN**1604**
PTFNR/L2525M22		●	●	25	25	150	25	32	25	TN**2204**
PTFNR/L3232P22		●	●	32	32	170	32	40	25	TN**2204**
PTFNR/L3232P27		●	○	32	32	170	32	40	34	TN**2706**
PTFNR/L4040S27		○	○	40	40	250	40	50	34	TN**2706**

● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**TN**1604****	**TN**2204****	**TN**2706****
	h	**16-25**	**25-32**	**32-40**
	Knee lever	L3	L4	L5
	Screw		LEM8×21	LEM8×25
	Screw	LEM6×13.4A		
	Shim	T16AP	T22AP	T27AP
	Shim pin (shim)	SP3	SP4	SP5
	Wrench	WH25L	WH30L	WH30L

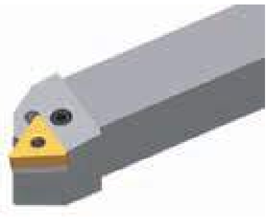
Insert

						
Medium Cut	**PCBN/PCD**	**Heavy Turning**	**Finishing**	**Wiper**	**Roughing**	**Cast Iron**
A90	A140	A93	A88	A88	A91	A93

System code A194 Grade selection A38 Technical info A445 Cutting data A324

TN** holder (external) P-Clamping

PTTNR/L Kr: 60°



Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PTTNR/L1616H16		●	●	16	16	100	16	13	25	TN**1604**
PTTNR/L2020K16		●	○	20	20	125	20	17	25	TN**1604**
PTTNR/L2525M22		●	●	25	25	150	20	22	32	TN**2204**

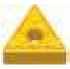
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TN**1604****	**TN**2204****
	h	**16-25**	**20**
	Knee lever	L3	L4
	Screw		LEM8×21
	Screw	LEM6×13.4A	
	Shim	T16AP	T22AP
	Shim pin (shim)	SP3	SP4
	Wrench	WH25L	WH30L

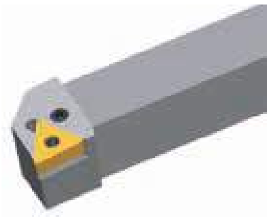
Insert

						
Finishing	**Wiper**	**Medium Cut**	**Roughing**	**PCBN/PCD**	**Heavy Turning**	**Cast Iron**
A78	A77	A80	A83	A149	A85	A86

System code A194 Grade selection A38 Technical info A445 Cutting data A324

TN** holder (external) P-Clamping

PTGNR/L Kr: 90°



Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PTGNR/L1010E11		●	○	10	10	70	10	14	16	TN**1103**
PTGNR/L1212F11		●	●	12	12	80	12	16	14	TN**1103**
PTGNR/L1616H11		●	●	16	16	100	16	20	18	TN**1103**
PTGNR/L2020K11		●	○	20	20	125	20	25	19	TN**1103**
PTGNR/L2525M11		○	○	25	25	150	25	32	20	TN**1103**
PTGNR/L1616H16		●	●	16	16	100	16	20	20	TN**1604**
PTGNR/L2020K16		●	●	20	20	125	20	25	20	TN**1604**
PTGNR/L2525M16		●	●	25	25	150	25	32	20	TN**1604**
PTGNR/L3232P16		●	○	32	32	170	32	40	20	TN**1604**
PTGNR/L2525M22		●	●	25	25	150	25	32	28	TN**2204**
PTGNR/L3232P22		●	●	32	32	170	32	40	28	TN**2204**
PTGNR/L3232P27		●	○	32	32	170	32	40	33	TN**2706**
PTGNR/L4040S27		○	○	40	40	250	40	50	33	TN**2706**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TN**1103****	**TN**1604****	**TN**2204****	**TN**2706****
	h	**10-25**	**16-32**	**25-32**	**32-40**
	Knee lever	L2	L3	L4	L5
	Screw		LEM6×13.4A		
	Screw			LEM8×21	LEM8×25
	Screw	LEM5×9B			
	Shim		T16AP	T22AP	T27AP
	Shim pin (shim)		SP3	SP4	SP5
	Wrench	WH20L	WH25L	WH30L	WH30L

System code A194
Grade selection A38
Technical info A445
Cutting data A324

A Turning
B Milling
C Drilling
D Technical Information
E Index

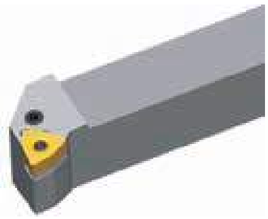
TN** holder (external)

Insert						
 **Finishing**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**	 **Heavy Turning**	 **Wiper**
A78	A80	A83	A86	A149	A85	A77

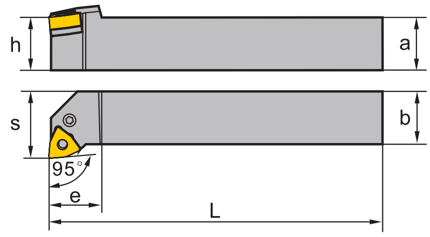
System code A194 Grade selection A38 Technical info A445 Cutting data A324

WN** holder (external) P-Clamping

PWLNR/L Kr: 95°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PWLNR/L1616H06		●	●	16	16	100	16	20	20	WN**0604**
PWLNR/L2020K06		●	●	20	20	125	20	25	20	WN**0604**
PWLNR/L2525M06		●	●	25	25	150	25	32	20	WN**0604**
PWLNR/L2020K08		●	●	20	20	125	20	25	26	WN**0804**
PWLNR/L2525M08		●	●	25	25	150	25	32	26	WN**0804**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**WN**0604****	**WN**0804****
	h	**16-25**	**20-25**
	Knee lever	L3	L4
	Screw	LEM6×13.4A	
	Screw		LEM8×21
	Shim	W06AP	W08AP
	Shim pin (shim)	SP3	SP4
	Wrench	WH25L	WH30L

Insert

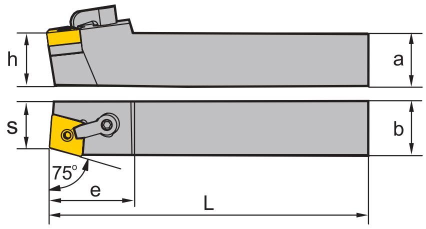
 **Finishing**	 **Wiper**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A92	A93	A95	A96	A96	A151

System code A194 Grade selection A38 Technical info A445 Cutting data A324

CN** holder (external) M-Clamping

MCBNR/L Kr: 75°

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MCBNR/L2020K12		●	○	20	20	125	20	17	32	CN**1204**
MCBNR/L2525M12		●	●	25	25	150	20	22	32	CN**1204**
MCBNR/L3225P12		●	●	32	25	170	32	22	32	CN**1204**
MCBNR/L2525M16		○	○	25	25	150	25	22	40	CN**1606**
MCBNR/L3232P16		●	●	32	32	170	32	27	40	CN**1606**
MCBNR/L3232P19		○	○	32	32	170	32	27	45	CN**1906**
MCBNR/L4040R19		●	●	40	40	200	40	35	45	CN**1906**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CN**1204****	**CN**1206****	**CN**1606****	**CN**1906****
	h	**20**	**25-32**	**25-32**	**32-40**
	Clamp	C1RD	C1RD	C2RD	C5RD
	Dowel pin	TM6×17	TM6×17	TM8×21	TM10×21
	Screw (clamp)	DM6×25	DM6×30	DM6×30	
	Screw (clamp)				DM8×30X
	Shim	C12BM	C12BM	C16BM	C19BM
	Wrench (clamp)	WH30L	WH30L	WH30L	WH40L
	Wrench (dowel pin)	WH30L	WH30L	WH30L	WH40L

Insert

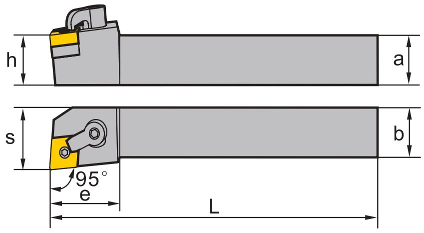
					
Finishing	**Wiper**	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A43	A43	A44	A51	A51	A146

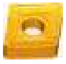
System code A194 Grade selection A38 Technical info A445 Cutting data A324

CN** holder (external) M-Clamping

MCLNR/L Kr: 95°

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MCLNR/L2020K12		●	●	20	20	125	20	25	32	CN**1204**
MCLNR/L2525M12		●	●	25	25	150	25	32	32	CN**1204**
MCLNR/L3225P12		●	●	32	25	170	32	32	32	CN**1204**
MCLNR/L2525M16		●	●	25	25	150	25	32	38	CN**1606**
MCLNR/L3232P16		●	●	32	32	170	32	40	38	CN**1606**
MCLNR/L3232P19		●	●	32	32	170	32	40	45	CN**1906**
MCLNR/L4040R19		●	○	40	40	200	40	50	45	CN**1906**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

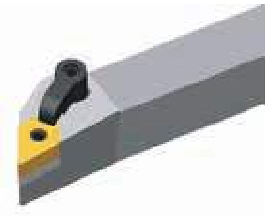
	Insert	**CN**1204****	**CN**1204****	**CN**1606****	**CN**1906****
	h	**20**	**25-32**	**25-32**	**32-40**
	Clamp	C1RD	C1RD	C2RD	C5RD
	Dowel pin	TM6×17	TM6×17	TM8×21	TM10×21
	Screw (clamp)				DM8×30X
	Screw (clamp)	DM6×25	DM6×30	DM6×30	
	Shim	C12BM	C12BM	C16BM	C19BM
	Wrench (clamp)	WH30L	WH30L	WH30L	WH40L
	Wrench (dowel pin)	WH30L	WH30L	WH30L	WH40L

Insert

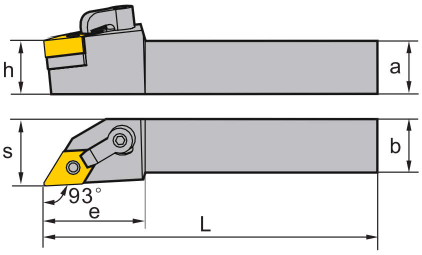
					
Finishing	**Wiper**	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A43	A43	A44	A51	A51	A146

DN** holder (external) M-Clamping

MDJNR/L Kr: 93°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MDJNR/L2020K11		●	●	20	20	125	20	25	32	DN**1104**
MDJNR/L2525M11		●	●	25	25	150	25	32	32	DN**1104**
MDJNR/L3225P11		●	○	32	25	170	32	32	32	DN**1104**
MDJNR/L2020K15		●	●	20	20	125	20	25	38	DN**1506**
MDJNR/L2525M15		●	●	25	25	150	25	32	38	DN**1506**
MDJNR/L3225P15		●	●	32	25	170	32	32	38	DN**1506**

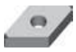
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DN**1104****	**DN**1104****	**DN**1506****	**DN**1506****
	h	**20**	**25-32**	**20**	**25-32**
	Clamp	C1RD	C1RD	C2RD	C2RD
	Dowel pin	TM5×13	TM5×13	TM6×19	TM6×19
	Screw (clamp)	DM6×25	DM6×30	DM6×25	DM6×30
	Shim	D11BM	D11BM	D15BM	D15BM
	Wrench (clamp)	WH30L	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L	WH30L	WH30L

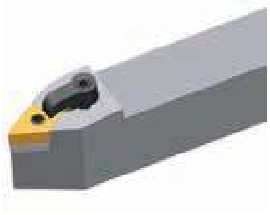
Insert

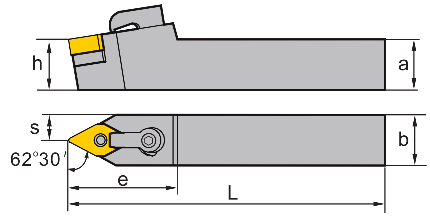
				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A53	A54	A58	A59	A147

System code A194 Grade selection A38 Technical info A445 Cutting data A324

DN** holder (external) M-Clamping

MDPNN Kr: 62°30'





Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
MDPNN2020K11		●	20	20	125	20	10	35	DN**1104**
MDPNN2525M11		●	25	25	150	25	12.5	35	DN**1104**
MDPNN3225P11		●	32	25	170	32	12.5	35	DN**1104**
MDPNN2020K15		●	20	20	125	20	10	40	DN**1506**
MDPNN2525M15		●	25	25	150	25	12.5	40	DN**1506**
MDPNN3225P15		●	32	25	170	32	12.5	40	DN**1506**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

Insert	**DN**1104****	**DN**1104****	**DN**1506****	**DN**1506****
h	**20**	**25-32**	**20**	**25-32**
Clamp	C1RD	C1RD	C2RD	C2RD
Dowel pin	TM5×13	TM5×13	TM6×19	TM6×19
Screw (clamp)	DM6×25	DM6×30	DM6×25	DM6×30
Shim	D11BM	D11BM	D15BM	D15BM
Wrench (clamp)	WH30L	WH30L	WH30L	WH30L
Wrench (dowel pin)	WH20L	WH20L	WH30L	WH30L

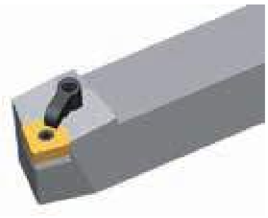
Insert

Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A53	A54	A58	A59	A147

System code A194 Grade selection A38 Technical info A445 Cutting data A324

SN** holder (external) M-Clamping

MSBNR/L Kr: 75°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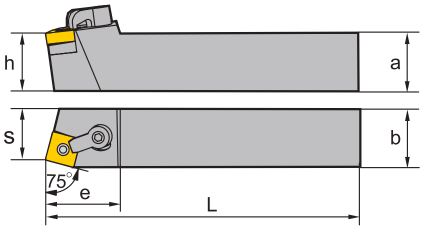


Article	✲	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MSBNR/L2020K12		●	●	20	20	125	20	17	32	SN**1204**
MSBNR/L2525M12		●	○	25	25	150	25	22	32	SN**1204**
MSBNR/L3225P12		●	●	32	25	170	32	22	32	SN**1204**
MSBNR/L2525M15		●	●	25	25	150	25	22	38	SN**1506**
MSBNR/L3232P15		●	●	32	32	170	32	29	38	SN**1506**
MSBNR/L4032R15		○	○	40	32	200	40	27	38	SN**1506**
MSBNR/L3232P19		●	●	32	32	170	32	27	45	SN**1906**
MSBNR/L4040R19		○	●	40	40	200	40	35	45	SN**1906**
MSBNR/L4040R25		●	○	40	40	200	40	35	50	SN**2507**
MSBNR/L4040S2509		○	○	40	40	250	40	35	50	SN**2509**

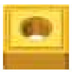
● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**SN**1204****	**SN**1204****	**SN**1506****	**SN**1906****	**SN**2507****	**SN**2509****
	h	**20**	**25-32**	**25-40**	**32-40**	**40**	**40**
	Clamp	C1RD	C1RD	C2RD	C5RD	C6RD	C6RD
	Dowel pin	TM6×17	TM6×17	TM8×21	TM10×21	TM12×29	TM12×29
	Screw (clamp)	DM6×25	DM6×30	DM6×30			
	Screw (clamp)				DM8×30X	DM10×35X	DM10×35X
	Shim	S12BM	S12BM	S15BM	S19BM	S25BM	S25BM
	Wrench (clamp)	WH30L	WH30L	WH30L	WH40L	WH40L	WH40L
	Wrench (dowel pin)	WH31L	WH31L	WH30L	WH40L	WH50L	WH50L

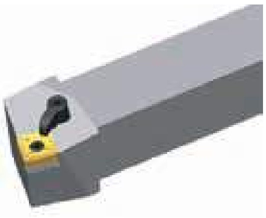
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A62	A64	A67	A73	A148

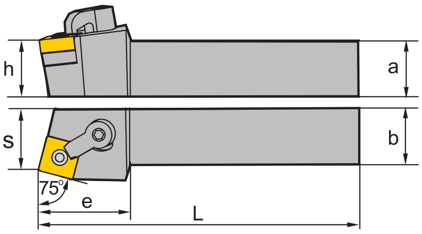
System code A194 Grade selection A38 Technical info A445 Cutting data A324

SN** holder (external) M-Clamping

MSRNR/L Kr: 75°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MSRNR/L2020K12		●	●	20	20	125	20	22	36	SN**1204**
MSRNR/L2525M12		●	●	25	25	150	25	27	36	SN**1204**
MSRNR/L3225P12		●	○	32	25	170	32	27	36	SN**1204**
MSRNR/L2525M15		●	○	25	25	150	25	27	40	SN**1506**
MSRNR/L3232P15		●	●	32	32	170	32	35	40	SN**1506**
MSRNR/L4032R15		○	○	40	32	200	40	35	40	SN**1506**
MSRNR/L3232P19		○	○	32	32	170	32	35	45	SN**1906**
MSRNR/L4040R19		○	○	40	40	200	40	43	45	SN**1906**
MSRNR/L4040R2509		○	○	40	40	200	40	43	50	SN**2509**
MSRNR/L4040S2509		○	○	40	40	250	40	43	50	SN**2509**

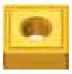
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SN**1204****	**SN**1204****	**SN**1506****	**SN**1906****	**SN**2509****
	h	**20**	**25-32**	**25-40**	**32-40**	**40**
	Clamp	C1RD	C1RD	C2RD	C5RD	C6RD
	Dowel pin	TM6×17	TM6×17	TM8×21	TM10×21	TM12×29
	Screw (clamp)				DM8×30X	DM10×35X
	Screw (clamp)	DM6×25	DM6×30	DM6×30		
	Shim	S12BM	S12BM	S15BM	S19BM	S25BM
	Wrench (clamp)	WH30L	WH30L	WH30L	WH40L	WH40L
	Wrench (dowel pin)	WH31L	WH31L	WH30L	WH40L	WH50L

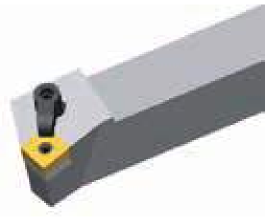
Insert

 **Finishing**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A62	A64	A67	A73	A148

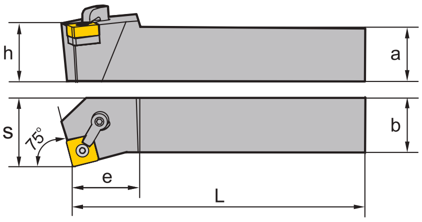
System code › A194 Grade selection › A38 Technical info › A445 Cutting data › A324

SN** holder (external) M-Clamping

MSKNR/L Kr: 75°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MSKNR/L2020K12		●	●	20	20	125	20	25	32	SN**1204**
MSKNR/L2525M12		●	●	25	25	150	25	32	32	SN**1204**
MSKNR/L3225P12		●	○	32	25	170	32	32	32	SN**1204**
MSKNR/L2525M15		●	○	25	25	150	25	32	28	SN**1506**
MSKNR/L3232P15		●	○	32	32	170	32	40	38	SN**1506**
MSKNR/L4032R15		○	○	40	32	200	40	40	38	SN**1506**
MSKNR/L3232P19		●	●	32	32	170	32	40	45	SN**1906**
MSKNR/L4040R19		○	○	40	40	200	40	50	45	SN**1906**
MSKNR/L4040S2509		○	●	40	40	250	40	50	50	SN**2509**

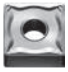
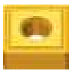
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SN**1204****	**SN**1204****	**SN**1506****	**SN**1906****	**SN**2509****
	h	**20**	**25-32**	**25-40**	**32-40**	**40**
	Clamp	C1RD	C1RD	C2RD	C5RD	C6RD
	Dowel pin	TM6×17	TM6×17	TM8×21	TM10×21	TM12×29
	Screw (clamp)	DM6×25	DM6×30	DM6×30		
	Screw (clamp)				DM8×30X	DM10×35X
	Shim	S12BM	S12BM	S15BM	S19BM	S25BM
	Wrench (clamp)	WH30L	WH30L	WH30L	WH40L	WH40L
	Wrench (dowel pin)	WH30L	WH30L	WH30L	WH40L	WH50L

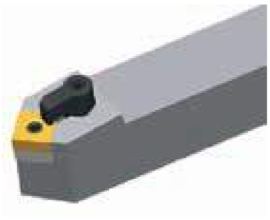
Insert

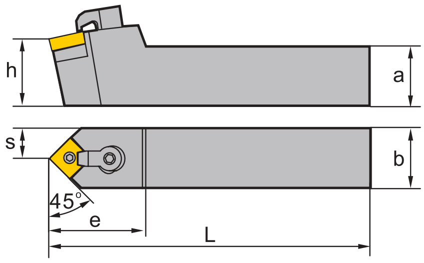
				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A62	A64	A67	A73	A148

System code A194 Grade selection A38 Technical info A445 Cutting data A324

SN** holder (external) M-Clamping

MSDNN Kr: 45°





Article	✲	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
MSDNN2020K12		●	20	20	125	20	10	35	SN**1204**
MSDNN2525M12		●	25	25	150	25	12.5	35	SN**1204**
MSDNN3225P12		●	32	25	170	32	12.5	35	SN**1204**
MSDNN2525M15		●	25	25	150	25	12.5	42	SN**1506**
MSDNN3232P15		●	32	32	170	32	16	42	SN**1506**
MSDNN4032R15		○	40	32	200	40	16	42	SN**1506**

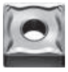
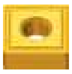
● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**SN**1204****	**SN**1204****	**SN**1506****
	h	**20**	**25-32**	**25-40**
	Clamp	C1RD	C1RD	C2RD
	Dowel pin	TM6×17	TM6×17	TM8×21
	Screw (clamp)	DM6×25	DM6×30	DM6×30
	Shim	S12BM	S12BM	S15BM
	Wrench (clamp)	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH30L	WH30L	WH30L

Insert

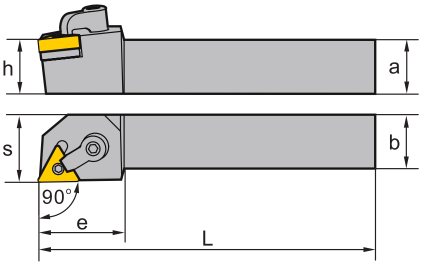
				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A62	A64	A67	A73	A148

System code › A194 Grade selection › A38 Technical info › A445 Cutting data › A324

TN** holder (external) **M-Clamping**

MTGNR/L Kr: 90°

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MTGNR/L2020K16		●	○	20	20	125	20	25	33	TN**1604**
MTGNR/L2525M16		●	●	25	25	150	25	32	33	TN**1604**
MTGNR/L3225P16		●	○	32	25	170	32	32	33	TN**1604**
MTGNR/L2525M22		●	○	25	25	150	25	32	35	TN**2204**
MTGNR/L3225P22		○	○	32	25	170	32	32	35	TN**2204**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TN**1604****	**TN**1604****	**TN**2204****
	h	**20**	**25-32**	**25-32**
	Clamp	C1RD	C1RD	C2RD
	Dowel pin	TM5×13	TM5×13	TM6×17
	Screw (clamp)	DM6×25	DM6×30	DM6×30
	Shim	T16BM	T16BM	T22BM
	Wrench (clamp)	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L	WH30L

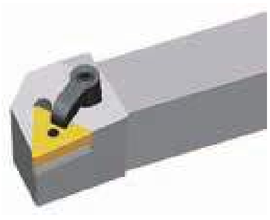
Insert

Finishing	**Wiper**	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**	**Heavy Turning**
A88	A88	A90	A91	A93	A140	A93

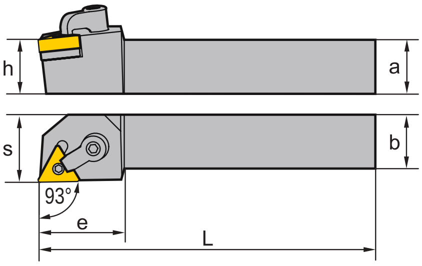
System code A194 Grade selection A38 Technical info A445 Cutting data A324

TN** holder (external) M-Clamping

MTJNR/L Kr: 93°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MTJNR/L2020K16		●	○	20	20	125	20	25	32	TN**1604**
MTJNR/L2525M16		●	○	25	25	150	25	32	32	TN**1604**
MTJNR/L3225P16		●	○	32	25	170	32	32	32	TN**1604**
MTJNR/L2525M22		●	○	25	25	150	25	32	36	TN**2204**
MTJNR/L3225P22		○	●	32	25	170	32	32	36	TN**2204**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TN**1604****	**TN**1604****	**TN**2204****
	h	**20**	**25-32**	**25-32**
	Clamp	C1RD	C1RD	C2RD
	Dowel pin	TM5×13	TM5×13	TM6×17
	Screw (clamp)	DM6×25	DM6×30	DM6×30
	Shim	T16BM	T16BM	T22BM
	Wrench (clamp)	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L	WH30L

Insert

 **Finishing**	 **Wiper**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**	 **Heavy Turning**
A78	A77	A80	A83	A86	A149	A85

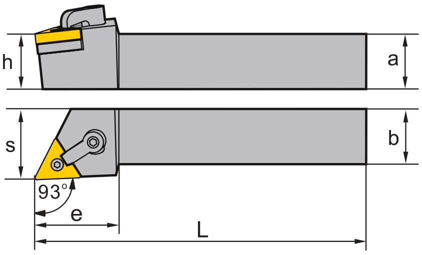
System code A194 Grade selection A38 Technical info A445 Cutting data A324

A Turning
B Milling
C Drilling
D Technical Information
E Index

TN** holder (external) M-Clamping

MTJNR/L-Z Kr: 93°

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MTJNR/L2020K16-Z		●	○	20	20	125	20	25	32	TN**1604**
MTJNR/L2525M16-Z		●	●	25	25	150	25	32	32	TN**1604**
MTJNR/L3225P16-Z		●	○	32	25	170	32	32	32	TN**1604**
MTJNR/L2525M22-Z		●	●	25	25	150	25	32	36	TN**2204**
MTJNR/L3225P22-Z		●	○	32	25	170	32	32	36	TN**2204**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TN**1604****	**TN**1604****	**TN**2204****
	h	**20**	**25-32**	**25-32**
	Clamp	C1RD	C1RD	C2RD
	Dowel pin	TM5×13	TM5×13	TM6×17
	Screw (clamp)	DM6×25	DM6×30	DM6×30
	Shim	T16BM	T16BM	T22BM
	Wrench (clamp)	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L	WH30L

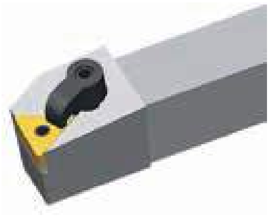
Insert

						
Finishing	**Wiper**	**Roughing**	**Cast Iron**	**PCBN/PCD**	**Heavy Turning**	**Medium Cut**
A78	A77	A83	A86	A149	A85	A80

System code A194 Grade selection A38 Technical info A445 Cutting data A324

TN** holder (external) M-Clamping

MTFNR/L Kr: 91°



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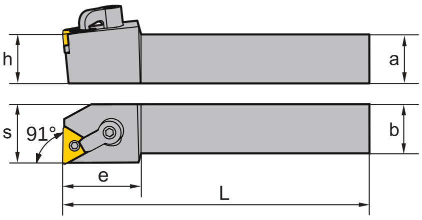


Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MTFNR/L2020K16		●	○	20	20	125	20	25	32	TN**1604**
MTFNR/L2525M16		●	●	25	25	150	25	32	32	TN**1604**
MTFNR/L3225P16		●	○	32	25	170	32	32	32	TN**1604**
MTFNR/L2525M22		●	○	25	25	150	25	32	36	TN**2204**
MTFNR/L3225P22		●	○	32	25	170	32	32	36	TN**2204**

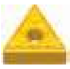
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TN**1604****	**TN**1604****	**TN**2204****
	h	**20**	**25-32**	**25-32**
	Clamp	C1RD	C1RD	C2RD
	Dowel pin	TM5×13	TM5×13	TM6×17
	Screw (clamp)	DM6×25	DM6×30	DM6×30
	Shim	T16BM	T16BM	T22BM
	Wrench (clamp)	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L	WH30L

Insert

						
Finishing	**Wiper**	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**	**Heavy Turning**
A88	A88	A90	A91	A93	A140	A93

System code A194 Grade selection A38 Technical info A445 Cutting data A324

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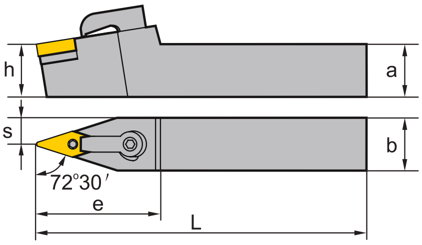
VN** holder (external) M-Clamping

MVVNN Kr: 72°30'



Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
MVVNN2020K16		●	20	20	125	20	10	45	VN**1604**
MVVNN2525M16		●	25	25	150	25	12.5	45	VN**1604**
MVVNN3225P16		○	32	25	170	32	12.5	45	VN**1604**
MVVNN3232P16		●	32	32	170	32	16	45	VN**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VN**1604****	**VN**1604****
	h	**20**	**25-32**
	Clamp	C3RD	C3RD
	Dowel pin	TM5×13	TM5×13
	Screw (clamp)	DM6×25	DM6×30
	Shim	V16BM	V16BM
	Wrench (clamp)	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L

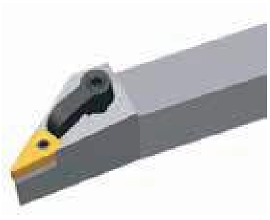
Insert

 **Finishing**	 **Medium Cut**	 **Cast Iron**	 **PCBN/PCD**
A89	A90	A90	A150

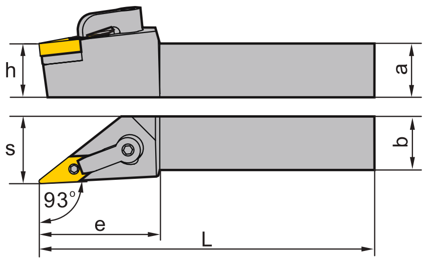
System code A194 Grade selection A38 Technical info A445 Cutting data A324

VN** holder (external) M-Clamping

MVJNR/L Kr: 93°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MVJNR/L2020K16		●	●	20	20	125	20	25	45	VN**1604**
MVJNR/L2525M16		●	●	25	25	150	25	32	45	VN**1604**
MVJNR/L3225P16		●	●	32	25	170	32	32	45	VN**1604**
MVJNR/L3232P16		●	●	32	32	170	32	40	45	VN**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VN**1604****	**VN**1604****
	h	**20**	**25-32**
	Clamp	C3RD	C3RD
	Dowel pin	TM5×13	TM5×13
	Screw (clamp)	DM6×25	DM6×30
	Shim	V16BM	V16BM
	Wrench (clamp)	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L

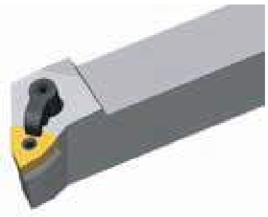
Insert

			
Finishing	**Medium Cut**	**Cast Iron**	**PCBN/PCD**
A89	A90	A90	A150

System code A194 Grade selection A38 Technical info A445 Cutting data A324

WN** holder (external) M-Clamping

MWLNR/L Kr: 95°



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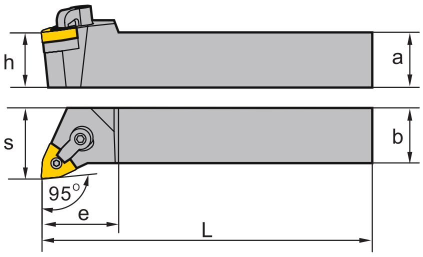


Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MWLNR/L2020K06		●	●	20	20	125	20	25	30	WN**0604**
MWLNR/L2525M06		●	●	25	25	150	25	32	30	WN**0604**
MWLNR/L2020K08		●	●	20	20	125	20	25	30	WN**0804**
MWLNR/L2525M08		●	●	25	25	150	25	32	35	WN**0804**
MWLNR/L3225P08		○	○	32	25	170	32	32	35	WN**0804**
MWLNR/L3232P08		●	●	32	32	170	32	40	35	WN**0804**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

Insert	**WN**0604****	**WN**0604****	**WN**0804****	**WN**0804****
h	**20**	**25**	**20**	**25-32**
Clamp	C1RD	C1RD	C1RD	C1RD
Dowel pin	TM5×13	TM5×13	TM6×17	TM6×17
Screw (clamp)	DM6×25	DM6×30	DM6×25	DM6×30
Shim	W06BM	W06BM	W08BM	W08BM
Wrench (clamp)	WH30L	WH30L	WH30L	WH30L
Wrench (dowel pin)	WH20L	WH20L	WH30L	WH30L

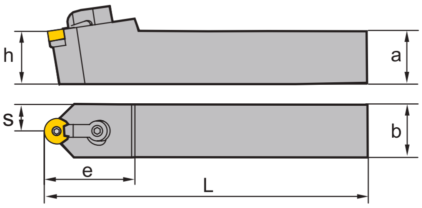
Insert

 **Finishing**	 **Wiper**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A92	A93	A95	A96	A96	A151

System code A194 Grade selection A38 Technical info A445 Cutting data A324

RN** holder (external) M-Clamping

MRDNN



Right hand style

Article	✲	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
MRDNN2020K12		○	20	20	125	20	10	35	RN**1204**
MRDNN2525M12		○	25	25	150	25	12.5	35	RN**1204**
MRDNN3225P12		○	32	25	170	32	12.5	35	RN**1204**
MRDNN3232P12		○	32	32	170	32	16	35	RN**1204**

● Ex stock ○ On demand

✲ With internal cooling

Spare parts

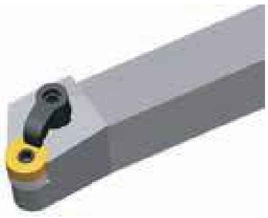
	Insert **h**	**RN**1204**** **20**	**RN**1204**** **25-32**
	Clamp	C1RD	C1RD
	Dowel pin	TM6×17	TM6×17
	Screw (clamp)	DM6×25	DM6×30
	Shim	R12BM	R12BM
	Wrench (clamp)	WH30L	WH30L
	Wrench (dowel pin)	WH30L	WH30L

Insert
 **Cast Iron**
A97

System code A194 Grade selection A38 Technical info A445 Cutting data A324

RN** holder (external) M-Clamping

MRGNR/L



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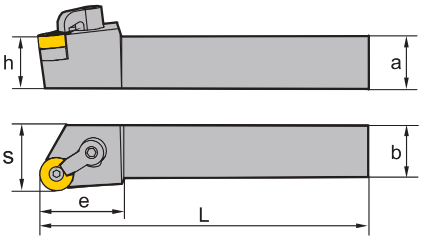


Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MRGNR/L2020K12		○	○	20	20	125	20	25	32	RN**1204**
MRGNR/L2525M12		○	●	25	25	150	25	32	32	RN**1204**
MRGNR/L3225P12		○	○	32	25	170	32	32	32	RN**1204**
MRGNR/L3232P12		○		32	32	170	32	40	32	RN**1204**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

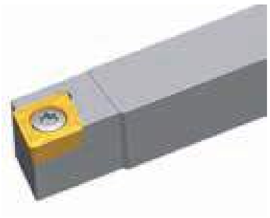
	Insert	**RN**1204****	**RN**1204****
	h	**20**	**25-32**
	Clamp	C1RD	C1RD
	Dowel pin	TM6×17	TM6×17
	Screw (clamp)	DM6×25	DM6×30
	Shim	R12BM	R12BM
	Wrench (clamp)	WH30L	WH30L
	Wrench (dowel pin)	WH30L	WH30L

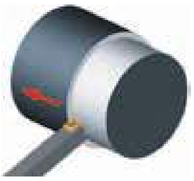
Insert
 **Cast Iron**
A97

System code A194 Grade selection A38 Technical info A445 Cutting data A324

CC** holder (external) S-Clamping

SCACR/L Kr: 90°





Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SCACR/L1010E06		●	●	10	10	70	10	10.5	10	CC**0602**
SCACR/L1212F09		●	●	12	12	80	12	12.7	16	CC**09T3**

● Ex stock ○ On demand
✻ With internal cooling

Spare parts

	Insert	**CC**0602****	**CC**09T3****
	h	**10**	**12**
	Screw	I60M2.5×6.5	I60M3.5×8
	Wrench (screw)	WT07IP	WT15IP

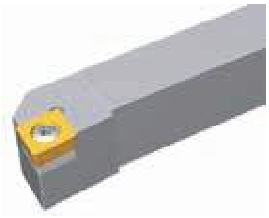
Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A102	A106	A107	A108	A107	A152

System code › A194 Grade selection › A38 Technical info › A445 Cutting data › A324

CC** holder (external) S-Clamping

SCLCR/L Kr: 95°



Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SCLCR/L0808D06		●	●	8	8	60	8	10	10	CC**0602**
SCLCR/L1010E06		●	●	10	10	70	10	12	10	CC**0602**
SCLCR/L1212F09		●	●	12	12	80	12	16	16	CC**09T3**
SCLCR/L1616H09		●	●	16	16	100	16	20	16	CC**09T3**
SCLCR/L2020K09		●	●	20	20	125	20	25	25	CC**09T3**
SCLCR/L1616H12		●	●	16	16	100	16	20	18	CC**1204**
SCLCR/L2020K12		●	●	20	20	125	20	25	25	CC**1204**
SCLCR/L2525M12		●	●	25	25	150	25	32	26	CC**1204**
SCLCR/L3225P12		○	○	32	25	170	32	32	26	CC**1204**
SCLCR/L3232P12		●	●	32	32	170	32	40	28	CC**1204**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CC**0602****	**CC**09T3****	**CC**1204****
	h	**8-10**	**12-20**	**16-32**
	Screw			I60M4×11X
	Screw		I60M3.5×8	
	Screw	I60M2.5×6.5		
	Screw (shim)			SM6×10XA
	Shim			C12BS
	Wrench (screw)	WT07IP	WT15IP	WT15IP
	Wrench (shim)			WH40L

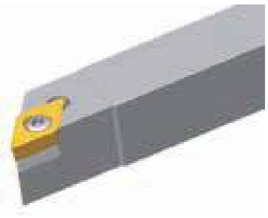
Insert

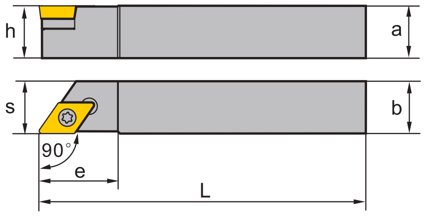
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A102	A106	A107	A108	A107	A152

System code A194 Grade selection A38 Technical info A445 Cutting data A324

DC** holder (external) S-Clamping

SDACR/L Kr: 90°





Right hand style

Article	✲	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SDACR/L1010E07		●	●	10	10	70	10	10.5	15	DC**0702**
SDACR/L1212F11		●	●	12	12	80	12	12.5	15	DC**11T3**
SDACR/L1616H11		●	●	16	16	100	16	16.7	24	DC**11T3**

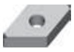
● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**11T3****	**DC**11T3****
	h	**10**	**12**	**16**
	Screw	I60M2.5×6.5	I60M3.5×8	I60M3.5×12
	Screw (shim)			SM5×8.65XA
	Shim			D11BS
	Wrench (screw)	WT07IP	WT15IP	WT15IP
	Wrench (shim)			WH35L

Insert

 **Finishing**	 **Medium Cut**	 **Roughing**	 **Aluminium**	 **Cast Iron**	 **PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A194 Grade selection A38 Technical info A445 Cutting data A324

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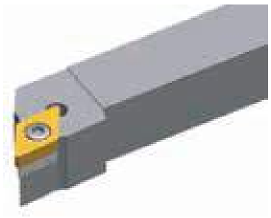
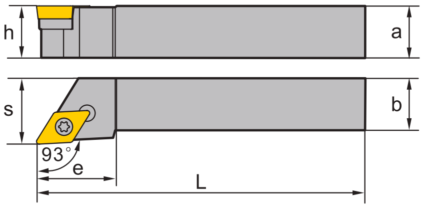
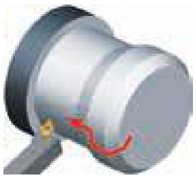
DC** holder (external) S-Clamping

SDJCR/L Kr: 93°



Right hand style





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SDJCR/L1010E07		●	●	10	10	70	10	12	15	DC**0702**
SDJCR/L1212F07		●	●	12	12	80	12	16	15	DC**0702**
SDJCR/L1616H07		●	●	16	16	100	16	20	18	DC**0702**
SDJCR/L1616H11		●	●	16	16	100	16	20	24	DC**11T3**
SDJCR/L2020K11		●	●	20	20	125	20	25	24	DC**11T3**
SDJCR/L2525M11		●	●	25	25	150	25	32	29	DC**11T3**
SDJCR/L3225P11		●	●	32	25	170	32	32	29	DC**11T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**11T3****
	h	**10-16**	**16-32**
	Screw	I60M2.5×6.5	I60M3.5×12
	Screw (shim)		SM5×8.65XA
	Shim		D11BS
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

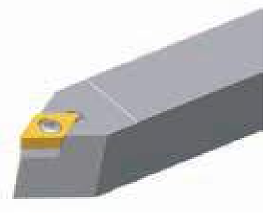
Insert

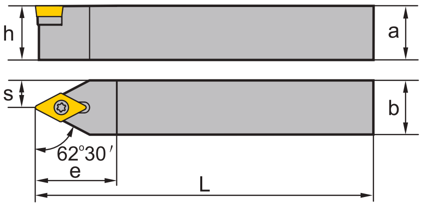
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

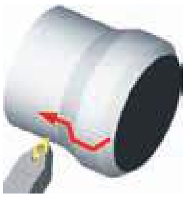
System code A194 Grade selection A38 Technical info A445 Cutting data A324

DC** holder (external) S-Clamping

SDNCN Kr: 62°30'







Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
SDNCN1010E07		●	10	10	70	10	5	20	DC**0702**
SDNCN1212F07		●	12	12	80	12	6	20	DC**0702**
SDNCN1212H11		●	12	12	100	12	6	30	DC**11T3**
SDNCN1616H11		●	16	16	100	16	8	30	DC**11T3**
SDNCN2020K11		●	20	20	125	20	10	30	DC**11T3**
SDNCN2525M11		●	25	25	150	25	12.5	30	DC**11T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**11T3****	**DC**11T3****
	h	**10-12**	**12**	**16-25**
	Screw	I60M2.5×6.5	I60M3.5×8	I60M3.5×12
	Screw (shim)			SM5×8.65XA
	Shim			D11BS
	Wrench (screw)	WT07IP	WT15IP	WT15IP
	Wrench (shim)			WH35L

Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A115	A114	A153

System code A194 Grade selection A38 Technical info A445 Cutting data A324

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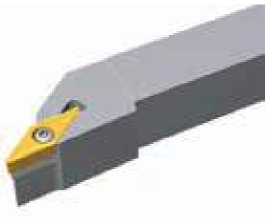
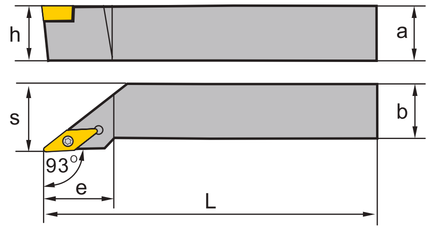
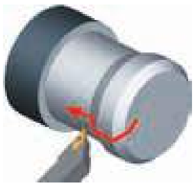
VB** holder (external) S-Clamping

SVJBR/L Kr: 93°



Right hand style





Article	✼	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SVJBR/L1212F11		●	●	12	12	80	12	16	27	VB**1102**
SVJBR/L1616H11		●	●	16	16	100	16	20	27	VB**1102**
SVJBR/L2020K11		●	●	20	20	125	20	25	27	VB**1102**
SVJBR/L2525M11		●	●	25	25	150	25	32	27	VB**1102**
SVJBR/L1616H16		●	●	16	16	100	16	20	36	VB**1604**
SVJBR/L2020K16		●	●	20	20	125	20	25	41	VB**1604**
SVJBR/L2525M16		●	●	25	25	150	25	32	41	VB**1604**
SVJBR/L3225P16		●	●	32	25	170	32	32	41	VB**1604**

● Ex stock ○ On demand

✼ With internal cooling

Spare parts

	Insert	**VB**1102****	**VB**1604****
	h	**12-25**	**16-32**
	Screw	I60M2.5×6.5	I60M3.5×12
	Screw (shim)		SM5×8.65XA
	Shim		V16BS
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

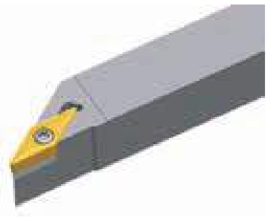
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A139	A140	A141	A141	A155

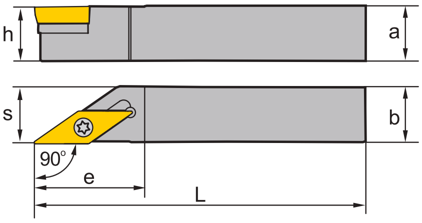
System code A194 Grade selection A38 Technical info A445 Cutting data A324

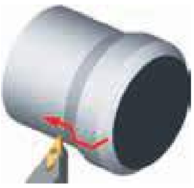
VB** holder (external) S-Clamping

SVABR/L Kr: 90°



Right hand style





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SVABR/L1010F11		●	●	10	10	80	10			VB**1102**
SVABR/L1616H16		●	●	16	16	100	16	16.5	28	VB**1604**
SVABR/L2020K16		●	●	20	20	125	20	20.5	28	VB**1604**
SVABR/L2525M16		●	●	25	25	150	25	25.5	28	VB**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VB**1102****	**VB**1604****
	h	**10**	**16-32**
	Screw	I60M2.5x6.5	I60M3.5×12
	Screw (shim)		SM5×8.65XA
	Shim		V16BS
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

Insert

 **Finishing**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A139	A140	A141	A141	A155

System code A194 Grade selection A38 Technical info A445 Cutting data A324

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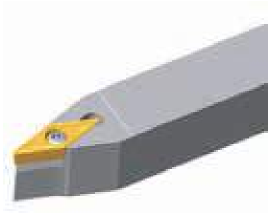
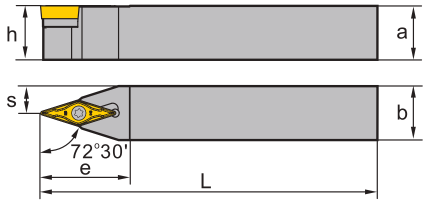
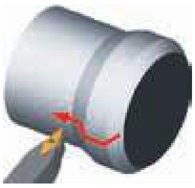
VB** holder (external) S-Clamping

SVVBN Kr: 72°30'







Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
SVVBN1212F11		●	12	12	80	12	6	27	VB**1102**
SVVBN1616H11		●	16	16	100	16	8	27	VB**1102**
SVVBN2020K11		●	20	20	125	20	10	30	VB**1102**
SVVBN1616H16		●	16	16	100	16	8	33	VB**1604**
SVVBN2020K16		●	20	20	125	20	10	33	VB**1604**
SVVBN2525M16		●	25	25	150	25	12.5	38	VB**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VB**1102****	**VB**1604****
	h	**12-25**	**16-32**
	Screw	I60M2.5×6.5	I60M3.5×12
	Screw (shim)		SM5×8.65XA
	Shim		V16BS
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

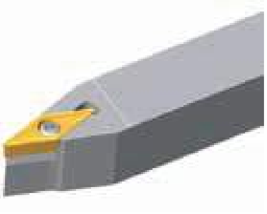
Insert

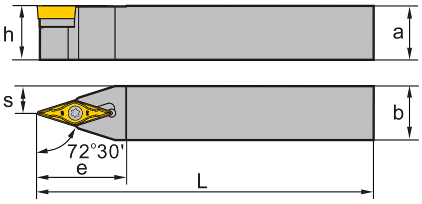
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A139	A140	A141	A141	A155

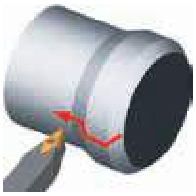
System code A194 Grade selection A38 Technical info A445 Cutting data A324

VC** holder (external) **S-Clamping**

SVVCN Kr: 72°30'







Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
SVVCN1212F11		●	12	12	80	12	6	27	VC**1103**
SVVCN1616H11		●	16	16	100	16	8	27	VC**1103**
SVVCN2020K11		●	20	20	125	20	10	30	VC**1103**
SVVCN1212M11		●	12	12	150	12	6	27	VC**1103**
SVVCN2525M11		●	25	25	150	25	12.5	38	VC**1103**
SVVCN1616H16		●	16	16	100	16	8	33	VC**1604**
SVVCN2020K16		●	20	20	125	20	10	33	VC**1604**
SVVCN2525M16		●	25	25	150	25	12.5	38	VC**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

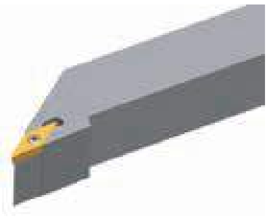
	Insert	**VC**1103****	**VC**1604****
	h	**12-25**	**16-32**
	Screw	I60M2.5×6.5	I60M3.5×12
	Screw (shim)		SM5×8.65XA
	Shim		V16BSC
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

Insert

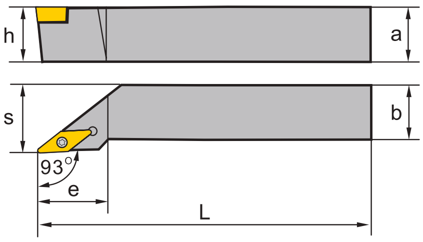
			
Finishing	**Medium Cut**	**Aluminium**	**PCBN/PCD**
A133	A136	A134	A156

VC** holder (external) S-Clamping

SVJCR/L Kr: 93°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SVJCR/L1010E11		●	○	10	10	70	10	12	22	VC**1103**
SVJCR/L1212F11		●	●	12	12	80	12	16	27	VC**1103**
SVJCR/L1616H11		●	●	16	16	100	16	20	27	VC**1103**
SVJCR/L2020K11		●	●	20	20	125	20	25	27	VC**1103**
SVJCR/L2525M11		●	●	25	25	150	25	32	27	VC**1103**
SVJCR/L1616H16		●	●	16	16	100	16	20	36	VC**1604**
SVJCR/L2020K16		●	●	20	20	125	20	25	41	VC**1604**
SVJCR/L2020M16		●	●	20	20	150	20	25	41	VC**1604**
SVJCR/L2525M16		●	●	25	25	150	20	32	41	VC**1604**
SVJCR/L3225P16		○	○	32	25	170	32	32	41	VC**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VC**1103****	**VC**1604****
	h	**10-25**	**16-32**
	Screw	I60M2.5×6.5	I60M3.5×12
	Screw (shim)		SM5×8.65XA
	Shim		V16BSC
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

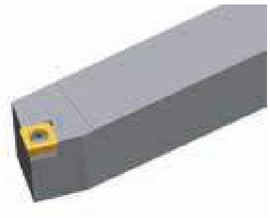
Insert

 **Finishing**	 **Medium Cut**	 **Aluminium**	 **PCBN/PCD**
A133	A136	A134	A156

System code A194 Grade selection A38 Technical info A445 Cutting data A324

SC** steel boring bar S-Clamping

SSBCR/L Kr: 75°



Right hand style

Article	✲	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SSBCR/L1212F09		●	●	12	12	80	12	11	16	SC**09T3**
SSBCR/L1616H09		●	●	16	16	100	16	13	16	SC**09T3**
SSBCR/L2020K12		●	●	20	20	125	20	17	25	SC**1204**

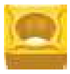
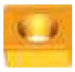
● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**SC**09T3****	**SC**09T3****	**SC**1204****
	h	**12**	**16**	**20**
	Screw			I60M4×11X
	Screw	I60M3.5×8	I60M3.5×8	
	Screw (shim)		SM5×8.65XA	SM6×10XA
	Shim		S09BS	S12BS
	Wrench (screw)	WT15IP	WT15IP	WT15IP
	Wrench (shim)		WH35L	WH40L

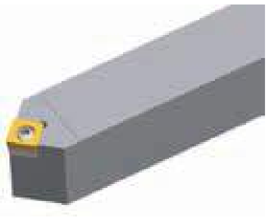
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**
A119	A120	A121	A121	A121

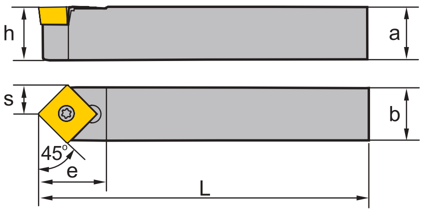
System code A194 Grade selection A38 Technical info A445 Cutting data A324

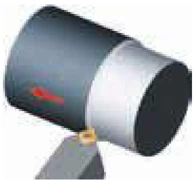
SC** steel boring bar **S-Clamping**

SSDCN Kr: 45°



Right hand style





Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
SSDCN1212F09		●	12	12	80	12	6	15.5	SC**09T3**
SSDCN1616H09		●	16	16	100	16	8	15.5	SC**09T3**

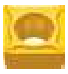
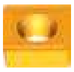
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SC**09T3****	**SC**09T3****
	h	**12**	**16**
	Screw	I60M3.5×8	I60M3.5×8
	Screw (shim)		SM5×8.65XA
	Shim		S09BS
	Wrench (screw)	WT15IP	WT15IP
	Wrench (shim)		WH35L

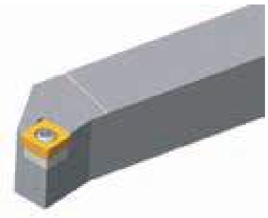
Insert

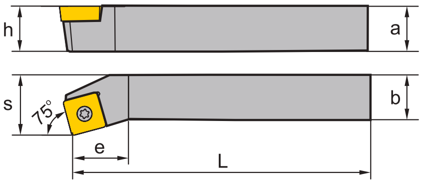
				
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**
A119	A120	A121	A121	A121

System code A194 Grade selection A38 Technical info A445 Cutting data A324

SC** steel boring bar S-Clamping

SSKCR/L Kr: 75°





Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SSKCR/L1616H09		●	●	16	16	100	16	20	13	SC**09T3**

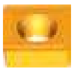
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SC**09T3****
	h	**16**
	Screw	I60M3.5×8
	Screw (shim)	SM5×8.65XA
	Shim	S09BS
	Wrench (screw)	WT15IP
	Wrench (shim)	WH35L

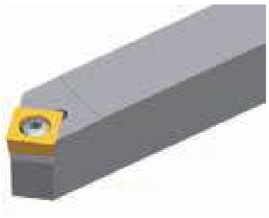
Insert

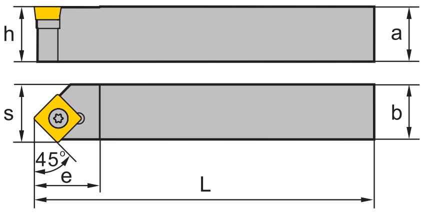
				
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**
A119	A120	A121	A121	A121

System code A194 Grade selection A38 Technical info A445 Cutting data A324

SC** steel boring bar S-Clamping

SSSCR/L Kr: 45°





Right hand style

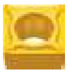
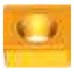
Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SSSCR/L1616H09		●	●	16	16	100	16	17	17	SC**09T3**
SSSCR/L2020K12		●	●	20	20	125	20	21	21	SC**1204**

● Ex stock ○ On demand
✻ With internal cooling

Spare parts

	Insert	**SC**09T3****	**SC**1204****
	h	**16**	**20**
	Screw		I60M4×11X
	Screw	I60M3.5×12	
	Screw (shim)		SM6×10XA
	Shim		S12BS
	Wrench (screw)	WT15IP	WT15IP
	Wrench (shim)		WH40L

Insert

 **Finishing**	 **Medium Cut**	 **Roughing**	 **Aluminium**	 **Cast Iron**
A119	A120	A121	A121	A121

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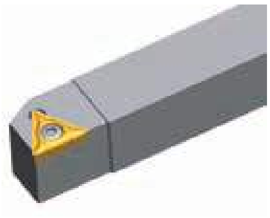
TC** holder (external) S-Clamping

STACR/L Kr: 90°



Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
STACR/L1212F11		●	●	12	12	80	12	12.5	14	TC**1102**

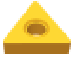
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TC**1102****
	h	**12**
	Screw	I60M2.5×6.5
	Wrench (screw)	WT07IP

Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A125	A127	A128	A130	A128	A154

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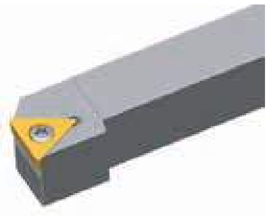
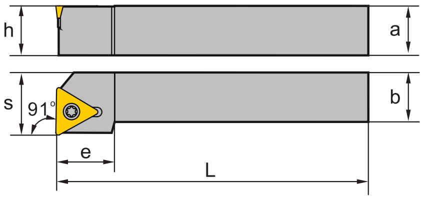
TC** holder (external) S-Clamping

STFCR/L Kr: 91°



Right hand style



Article	✲	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
STFCR/L1212F11		●	●	12	12	80	12	16	14	TC**1102**
STFCR/L1616H11		●	●	16	16	100	16	20	14	TC**1102**
STFCR/L1616H16		●	●	16	16	100	16	20	19	TC**16T3**
STFCR/L2020K16		●	●	20	20	125	20	25	19	TC**16T3**

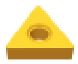
● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**TC**1102****	**TC**16T3****
	h	**12-16**	**16-20**
	Screw		I60M3.5×12
	Screw	I60M2.5×6.5	
	Screw (shim)		SM5×8.65XA
	Shim		T16BS
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A125	A127	A128	A130	A128	A154

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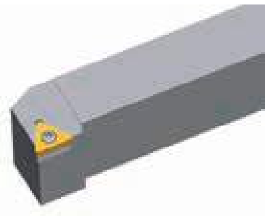
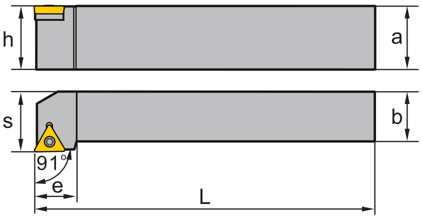
TC** holder (external) S-Clamping

STGCR/L Kr: 91°



Right hand style



Article	✼	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
STGCR/L0808D09		○	○	8	8	60	8	10	11	TC**0902**
STGCR/L1010E09		●	○	10	10	70	10	12	11	TC**0902**
STGCR/L1212F11		●	●	12	12	80	12	16	14	TC**1102**
STGCR/L1616H11		●	●	16	16	100	16	20	16	TC**1102**
STGCR/L2020K16		●	●	20	20	125	20	25	21	TC**16T3**
STGCR/L2525M16		●	●	25	25	150	25	25	21	TC**16T3**

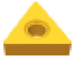
● Ex stock ○ On demand

✼ With internal cooling

Spare parts

	Insert	**TC**0902****	**TC**1102****	**TC**16T3****
	h	**8-10**	**12-16**	**20-25**
	Screw			I60M3.5×12
	Screw	I60M2.2×5.5	I60M2.5×6.5	
	Screw (shim)			SM5×8.65XA
	Shim			T16BS
	Wrench (screw)	WT06IP	WT07IP	WT15IP
	Wrench (shim)			WH35L

Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A125	A127	A128	A130	A128	A154

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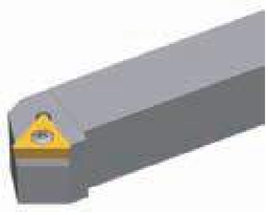
TC** holder (external) S-Clamping

STTCR/L Kr: 60°



Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
STTCR/L1616H11		●	○	16	16	100	16	13	14	TC**1102**
STTCR/L1616H16		●	●	16	16	100	16	13	19	TC**16T3**
STTCR/L2020K16		●	●	20	20	125	20	17	19	TC**16T3**

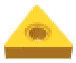
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TC**1102****	**TC**16T3****
	h	**16**	**16-20**
	Screw	I60M2.5×6.5	
	Screw		I60M3.5×12
	Screw (shim)		SM5×8.65XA
	Shim		T16BS
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A125	A127	A128	A130	A128	A154

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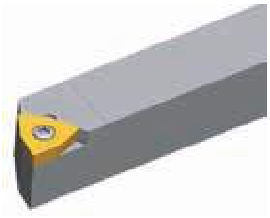
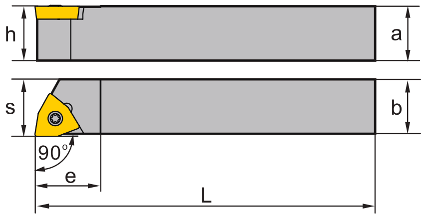
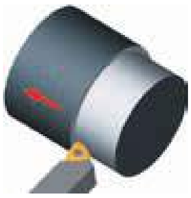
WC** holder (external) S-Clamping

SWACR/L Kr: 90°



Right hand style





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
SWACR/L1010E04		●	○	10	10	70	10	10.5	10	WC**0402**
SWACR/L1212F04		●	○	12	12	80	12	12	14	WC**0402**
SWACR/L1616H06		●	●	16	16	100	16	16.5	20	WC**06T3**
SWACR/L2020K08		●	●	20	20	125	20	20.5	24	WC**0804**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**WC**0402****	**WC**06T3****	**WC**0804****
	h	**10-12**	**16**	**20**
	Screw	I60M2.5×6.5	I60M3×7	I60M3.5×12
	Wrench (screw)	WT07IP	WT10IP	WT15IP

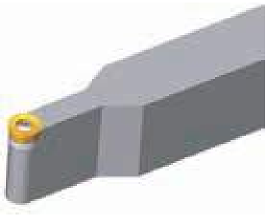
Insert

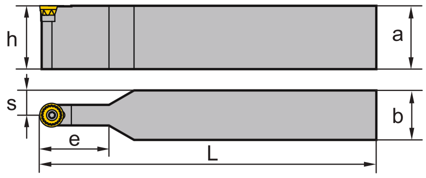
Medium Cut

A142

RC** holder (external) S-Clamping

SRDCN





Article	✻	Stock	Dimensions [mm]						Inserts	
			a	b	L	h	s	e		
SRDCN1616H08		○	16	16	100	16	8	16	RCGX0803MO	RCMT0803MO
SRDCN2020K08		●	20	20	125	20	10	16	RCGX0803MO	RCMT0803MO
SRDCN2020K12		●	20	20	125	20	10	35	RCGX1204MO	RCMT1204MO
SRDCN2525M12		●	25	25	150	25	12.5	35	RCGX1204MO	RCMT1204MO
SRDCN3225P12		●	32	25	170	32	12.5	35	RCGX1204MO	RCMT1204MO
SRDCN2020K10		●	20	20	125	20	10	25	RCMT10T3MO	
SRDCN2525M10		●	25	25	150	25	12.5	25	RCMT10T3MO	
SRDCN3225P16		●	32	25	170	32	12.5	35	RCMT1606MO	
SRDCN3232P16		●	32	32	170	32	16	40	RCMT1606MO	
SRDCN4040S16		●	40	40	250	40	20	50	RCMT1606MO	
SRDCN4040S20		●	40	40	250	40	20	50	RCMT2006MO	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**RCGX0803MO**	**RCGX1204MO**	**RCMT10T3MO**	**RCMT1606MO**	**RCMT2006MO**
	h	**16-20**	**20-32**	**20-25**	**32-40**	**40**
	Screw				I60M4×15X	
	Screw	I60M3×7	I60M3.5×12	I60M3.5×10		I43M6×16
	Screw (shim)		SM5×8.65XA		SM6×10XA	
	Shim		R12BS		R16BS	
	Wrench (screw)	WT10IP	WT15IP	WT15IP	WT15IP	
	Wrench (screw)					WT25IT
	Wrench (shim)		WH35L		WH40L	

Insert

	
Aluminium	**Cast Iron**
A117	A117

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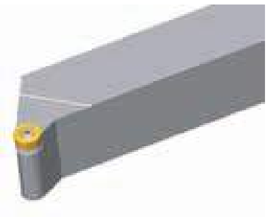
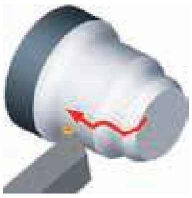
RC** holder (external) S-Clamping

SRGCR/L





Right hand style

Article	✻	Stock		Dimensions [mm]					Inserts	
		R	L	a	b	L	h	s		
SRGCR/L1616H08		●	●	16	16	100	16	20	RCGX0803MO-LH	RCMT0803MO
SRGCR/L2020K12		●	○	20	20	125	20	27	RCGX1204MO	RCMT1204MO
SRGCR/L2525M12		●	○	25	25	150	25	32	RCGX1204MO	RCMT1204MO
SRGCR/L1616H10		○	○	16	16	100	16	20	RCMT10T3MO	
SRGCR/L2525M10		●	○	25	25	100	25	32	RCMT10T3MO	
SRGCR/L2020K10		●	○	20	20	125	20	25	RCMT10T3MO	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

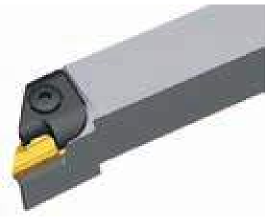
	Insert	**RCGX0803MO-LH**	**RCGX1204MO**	**RCMT10T3MO**
	h	**16**	**20-25**	**16-25**
	Screw	I60M3.5×10	I60M3.5×12	I60M3.5×10
	Screw (shim)		SM5×8.65XA	
	Shim		R12BS	
	Wrench (screw)	WT15IP	WT15IP	WT15IP
	Wrench (shim)		WH35L	

Insert

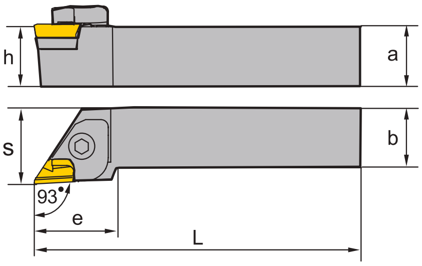
	
Aluminium	**Cast Iron**
A117	A117

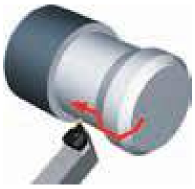
KNUX** holder C-Clamping

CKJNR/L Kr: 93°



Right hand style





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
CKJNL2525M16			●	25	25	150	25	32	32	KNUX1604**L
CKJNL3232P16			●	32	32	170	32	40	32	KNUX1604**L
CKJNL4040R16			●	40	40	200	40	50	32	KNUX1604**L
CKJNR2525M16		●		25	25	150	25	32	32	KNUX1604**R
CKJNR3232P16		●		32	32	170	32	40	32	KNUX1604**R
CKJNR4040R16		○		40	40	200	40	50	32	KNUX1604**R

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert **h**	**KNUX1604**L** **25-40**	**KNUX1604**R** **25-40**
	Clamp	C6L1T	C6R1T
	Dowel pin	P0515	P0515
	Screw (clamp)	CM6×25A	CM6×25A
	Screw (shim)	SM3×10B	SM3×10B
	Shim	K16CCL	
	Shim		K16CC
	Spring (clamp)	SPR1	SPR1
	Spring (dowel pin)	SPR2	SPR2
	Wrench (clamp)	WH40L	WH40L
	Wrench (shim)	WH20L	WH20L

Insert

Finishing

A98

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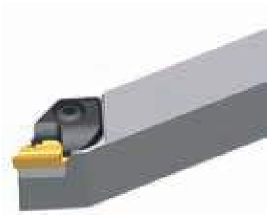
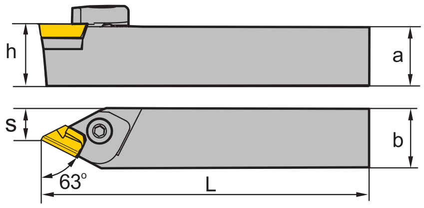
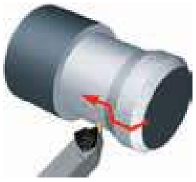
KNUX** holder C-Clamping

CKNNR/L Kr: 63°



Right hand style





Article	✻	Stock		Dimensions [mm]					Inserts
		R	L	a	b	L	h	s	
CKNNL2525M16			●	25	25	150	25	14.3	KNUX1604**L
CKNNL3232P16			○	32	32	170	32	16.8	KNUX1604**L
CKNNR2525M16		●		25	25	150	25	14.3	KNUX1604**R
CKNNR3232P16		○		32	32	170	32	16.8	KNUX1604**R

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**KNUX1604**L**	**KNUX1604**R**
	h	**25-32**	**25-32**
	Clamp	C6L1T	C6R1T
	Dowel pin	P0515	P0515
	Screw (clamp)	CM6×25A	CM6×25A
	Screw (shim)	SM3×10B	SM3×10B
	Shim		K16CC
	Shim	K16CCL	
	Spring (clamp)	SPR1 SPR2	SPR1 SPR2
	Wrench (clamp)	WH40L	WH40L
	Wrench (shim)	WH20L	WH20L

Insert
Finishing
A98

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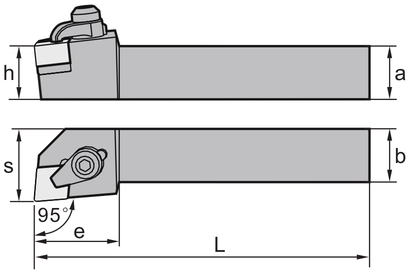
CN** holder (external) C-Clamping

CCLNR/L Kr: 95°

Right hand style



Article	✲	Stock		Dimensions [mm]						Inserts	
		R	L	a	b	L	h	s	e		
CCLNR/L2525M12		○	○	25	20	100	25	27	36	CNGN1204**	CNGN1207**
CCLNR/L2020K12		○	○	20	20	125	20	27	32	CNGN1204**	CNGN1207**
CCLNR/L2525M16		○	○	25	25	150	25	32	36	CNGN1604**	CNGN1606**
CCLNR/L3225P16		○	○	32	25	170	32	32	36	CNGN1604**	CNGN1606**

● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**CNGN1204****	**CNGN1207****	**CNGN1604****	**CNGN1606****
	h	**20-25**	**20-25**	**25-32**	**25-32**
	Clamp	C1RC	C1RC	C2RC	C2RC
	Screw (clamp)	CM6×30B	CM6×30B	CM8×30B	CM8×30B
	Screw (shim)	SM3×10B	SM3×10B	SM4×12B	SM4×12B
	Shim	C12CC-04	C12CC-07	C16CC-04	C16CC-06
	Spring	SPR1	SPR1	SPR3	SPR3
	Wrench (clamp)	WH40L	WH40L	WH50L	WH50L
	Wrench (shim)	WH20L	WH20L	WH30L	WH30L

Insert

PCBN/PCD
A157

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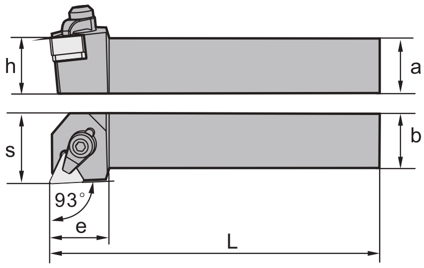
TN** holder (external) C-Clamping

CTJNR/L Kr: 93°

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts	
		R	L	a	b	L	h	s	e		
CTJNR/L2020K16		○	○	20	20	125	20	25	30	TNGN1604**	TNGN1607**
CTJNR/L2525M16		●	●	25	25	150	25	32	30	TNGN1604**	TNGN1607**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	TNGN1604**	TNGN1607**
	h	20-25	20-25
	Clamp	C1RC	C1RC
	Screw (clamp)	CM6×30B	CM6×30B
	Screw (shim)	SM3×10B	SM3×10B
	Shim	T16CC-04	T16CC-07
	Spring	SPR1	SPR1
	Wrench (clamp)	WH40L	WH40L
	Wrench (shim)	WH20L	WH20L

Insert

Medium Cut
A186

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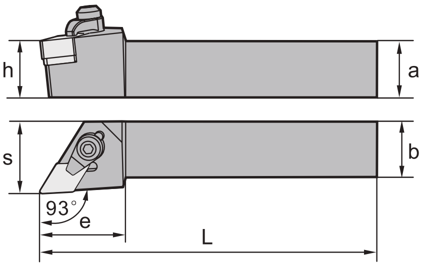
E Index

System code A194 Grade selection A38 Technical info A445 Cutting data A324

DN** holder (external) C-Clamping

CDJNR/L Kr: 93°

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts	
		R	L	a	b	L	h	s	e		
CDJNR/L2525M15		●	●	25	25	150	25	32	32	DNGN1504**	DNGN1507**
CDJNR/L3225P15		○	○	32	25	170	32	32	32	DNGN1504**	DNGN1507**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DNGN1504****	**DNGN1507****
	h	**25-32**	**25-32**
	Clamp	C1RC	C1RC
	Screw (clamp)	CM6×30B	CM6×30B
	Screw (shim)	SM3×10B	SM3×10B
	Shim	D15CC-04	D15CC-07
	Spring	SPR1	SPR1
	Wrench (clamp)	WH40L	WH40L
	Wrench (shim)	WH20L	WH20L

Insert

Medium Cut
A180

System code A194 Grade selection A38 Technical info A445 Cutting data A324

A
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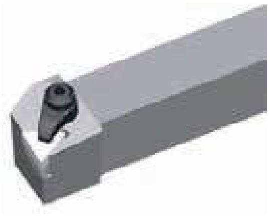
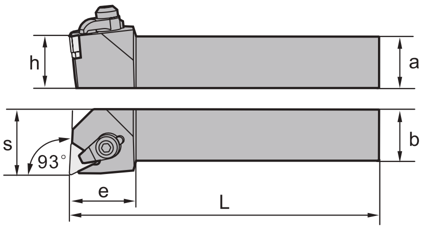
TN** holder (external) C-Clamping

CTUNR/L Kr: 93°



Right hand style



Article	✼	Stock		Dimensions [mm]						Inserts	
		R	L	a	b	L	h	s	e		
CTUNR/L2020K16		○	○	20	20	125	20	25	27	TNGN1604**	TNGN1607**
CTUNR/L2525M16		○	○	25	25	150	25	32	27	TNGN1604**	TNGN1607**

● Ex stock ○ On demand

✼ With internal cooling

Spare parts

	Insert	**TNGN1604****	**TNGN1607****
	h	**20-25**	**20-25**
	Clamp	C1RC	C1RC
	Screw (clamp)	CM6×30B	CM6×30B
	Screw (shim)	SM3×10B	SM3×10B
	Shim	T16CC-04	T16CC-07
	Spring	SPR1	SPR1
	Wrench (clamp)	WH40L	WH40L
	Wrench (shim)	WH20L	WH20L

Insert

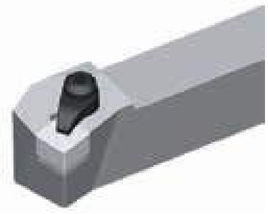
Medium Cut

A186

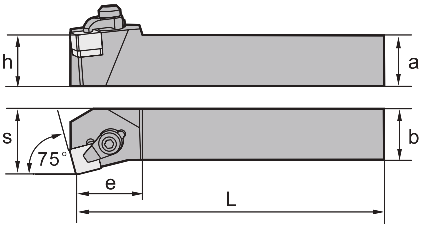
System code A194 Grade selection A38 Technical info A445 Cutting data A324

SN** holder (external) C-Clamping

CSKNR/L Kr: 75°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts	
		R	L	a	b	L	h	s	e	🟨	🟨
CSKNR/L2020K12		○	○	20	20	125	20	25	25	SNGN1204**	SNGN1207**
CSKNR/L2525M12		○	○	25	25	170	25	32	25	SNGN1204**	SNGN1207**
CSKNR/L3225P12		○	○	32	25	170	32	32	25	SNGN1204**	SNGN1207**
CSKNR/L3225P15		○	○	32	25	170	32	32	30	SNGN1507**	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

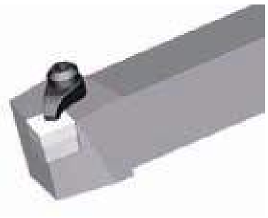
	Insert	**SNGN1204****	**SNGN1207****	**SNGN1507****
	h	**20-32**	**20-32**	**32**
	Clamp	C1RC	C1RC	C2RC
	Screw (clamp)	CM6×30B	CM6×30B	CM8×30B
	Screw (shim)	SM3×10B	SM3×10B	SM4×12B
	Shim	S12CC-04	S12CC-07	S15CC-07
	Spring	SPR1	SPR1	SPR3
	Wrench (clamp)	WH40L	WH40L	WH50L
	Wrench (shim)	WH20L	WH20L	WH30L

Insert

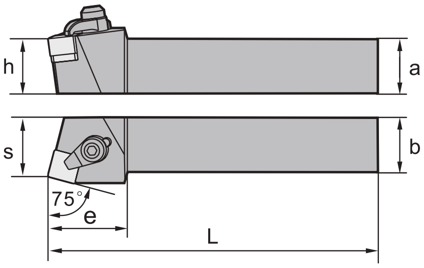
🟨	⬛
Cast Iron	**PCBN/PCD**
A76	A159

SN** holder (external) C-Clamping

CSRNR/L Kr: 75°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts	
		R	L	a	b	L	h	s	e	■	■
CSRNR/L2525M12		●	●	25	20	100	25	27	32	SNGN1204**	SNGN1207**
CSRNR/L2020K12		○	○	20	20	125	20	22	32	SNGN1204**	SNGN1207**
CSRNR/L3225P12		●	●	32	25	170	32	27	32	SNGN1204**	SNGN1207**
CSRNR/L3225P15		○	○	32	25	170	32	32	40	SNGN1507**	
CSRNR/L4040R15		○	○	40	40	200	40	43	40	SNGN1507**	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

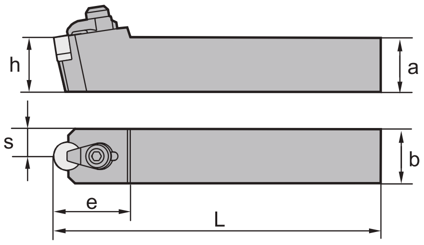
	Insert	**SNGN1204****	**SNGN1207****	**SNGN1507****
	h	**20-32**	**20-32**	**32-40**
	Clamp	C1RC	C1RC	C2RC
	Screw (clamp)	CM6×30B	CM6×30B	CM8×30B
	Screw (shim)	SM3×10B	SM3×10B	SM4×12B
	Shim	S12CC-04	S12CC-07	S15CC-07
	Spring	SPR1	SPR1	SPR3
	Wrench (clamp)	WH40L	WH40L	WH50L
	Wrench (shim)	WH20L	WH20L	WH30L

Insert

■	■
Cast Iron	**PCBN/PCD**
A76	A159

RN** holder (external) C-Clamping

CRDNN



Article	✻	Stock	Dimensions [mm]						Inserts	
			a	b	L	h	s	e		
CRDNN2020K12		○	20	20	125	20	10	32	RNGN1204**	RNGN1207**
CRDNN2525M12		●	25	25	150	25	12.5	32	RNGN1204**	RNGN1207**
CRDNN3225P12		●	32	25	170	32	12.5	32	RNGN1204**	RNGN1207**
CRDNN3232P15		○	32	32	170	32	17.5	40	RNGN1507**	
CRDNN4040R15		○	40	40	200	40	20	40	RNGN1507**	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

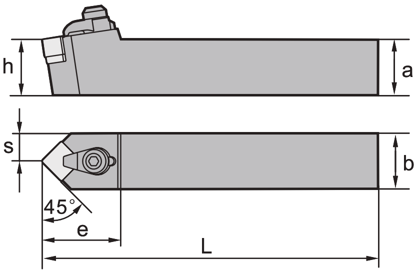
	Insert	RNGN1204**	RNGN1207**	RNGN1507**
	h	**20-32**	**20-32**	**32-40**
	Clamp	C1RC	C1RC	C2RC
	Screw (clamp)	CM6×30B	CM6×30B	CM8×30B
	Screw (shim)	SM3×10B	SM3×10B	SM4×12B
	Shim	R12CC-04	R12CC-07	R15CC-07
	Spring	SPR1	SPR1	SPR3
	Wrench (clamp)	WH40L	WH40L	WH50L
	Wrench (shim)	WH20L	WH20L	WH30L

Insert

PCBN/PCD
A161

SN** holder (external) C-Clamping

CSDNN Kr: 45°



Article	✻	Stock	Dimensions [mm]						Inserts	
			a	b	L	h	s	e	🟨	🟨
CSDNN2020K12		○	20	20	125	20	10	35	SNGN1204**	SNGN1207**
CSDNN2525M12		●	25	25	150	25	12.5	30	SNGN1204**	SNGN1207**
CSDNN3225P12		●	32	25	170	32	12.5	35	SNGN1204**	SNGN1207**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SNGN1204****	**SNGN1207****
	h	**20-32**	**20-32**
	Clamp	C1RC	C1RC
	Screw (clamp)	CM6×30B	CM6×30B
	Screw (shim)	SM3×10B	SM3×10B
	Shim	S12CC-04	S12CC-07
	Spring	SPR1	SPR1
	Wrench (clamp)	WH40L	WH40L
	Wrench (shim)	WH20L	WH20L

Insert

🟨	⬛
Cast Iron	**PCBN/PCD**
A76	A159

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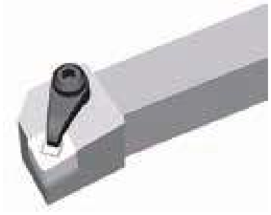
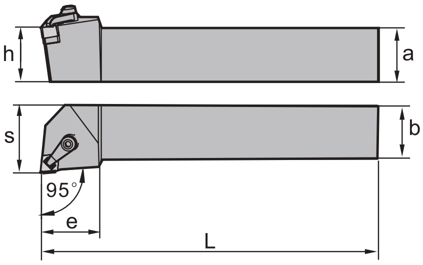
CN** holder (external) **J-Clamping**

JCLNR/L Kr: 95°



Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
JCLNR/L2020K12		○	○	20	20	125	20	29	32	CNGX1207**
JCLNR/L2525M12		○	○	25	25	150	25	32	32	CNGX1207**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts		
	Insert	**CNGX1207****
	h	**20-25**
	Clamp	C1RJ
	Screw (clamp)	CM6×30B
	Screw (shim)	SM3×10B
	Shim	C12CC-07
	Spring	SPR1
	Wrench (clamp)	WH40L
	Wrench (shim)	WH20L

Insert

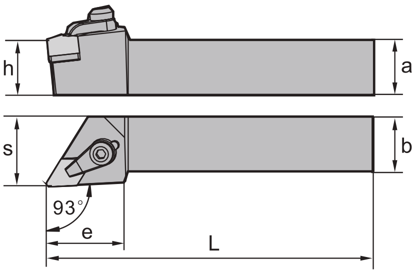
Medium Cut
A178

System code A194 Grade selection A38 Technical info A445 Cutting data A324

DN** holder (external) J-Clamping

JDJNR/L Kr: 93°

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
JDJNR/L2525M15		●	○	25	25	150	25	32	38	DNGX1507**
JDJNR/L3225P15		○	○	32	25	170	32	32	38	DNGX1507**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DNGX1507****
	h	**25-32**
	Clamp	C1RJ
	Screw (clamp)	CM6×30B
	Screw (shim)	SM3×10B
	Shim	D15CC-07
	Spring	SPR1
	Wrench (clamp)	WH40L
	Wrench (shim)	WH20L

Insert

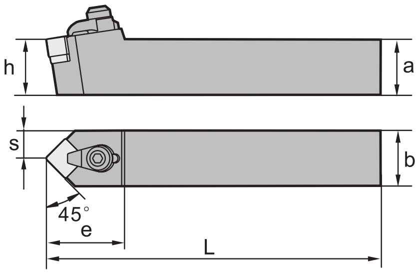
Medium Cut

A181

System code › A194 Grade selection › A38 Technical info › A445 Cutting data › A324

SN** holder (external) J-Clamping

JSDNN Kr: 45°



Article	✻	Stock	Dimensions [mm]						Inserts
			a	b	L	h	s	e	
JSDNN2020K12		○	20	20	125	20	10	40	SNGX1207**
JSDNN2525M12		○	25	25	150	25	12.5	40	SNGX1207**
JSDNN3225P12		○	32	25	170	32	12.5	40	SNGX1207**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SNGX1207****
	h	**20-32**
	Clamp	C1RJ
	Screw (clamp)	CM6×30B
	Screw (shim)	SM3×10B
	Shim	S12CC-07
	Spring	SPR1
	Wrench (clamp)	WH40L
	Wrench (shim)	WH20L

Insert

Medium Cut
A183

System code A194 Grade selection A38 Technical info A445 Cutting data A324

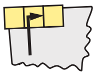
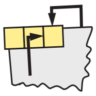
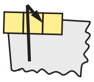
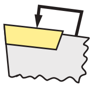
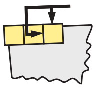
Notes

General turning

ISO code – external tool holders – Swiss turning

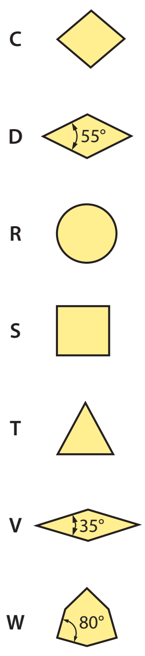
S	C	L	N	L	25	25	M	12	S	C
1	2	3	4	5	6	7	8	9	10	11

Clamping system

Code	Description	
P	Knee lever clamping	
M	Multi clamping	
S	Screw clamping	
C	Top clamping	
D	Double clamping	

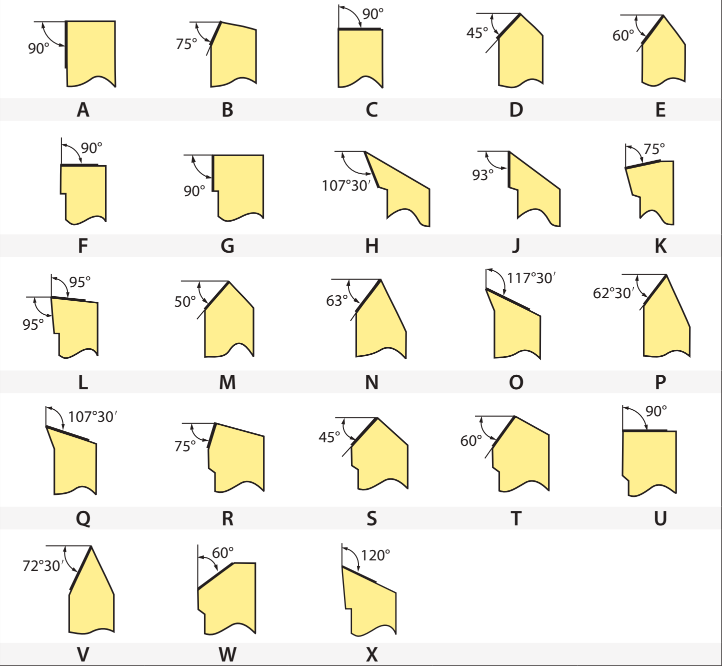
1

Insert shape



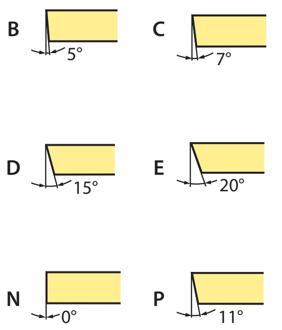
2

Tool holder type and entering angle



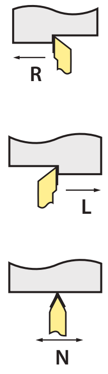
3

Clearance angle



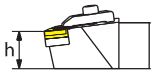
4

Cutting direction



5

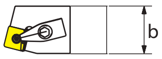
Shank height h [mm]



Code	h
12	12
16	16
20	20
25	25
32	32
40	40
50	50

6

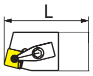
Shank width b [mm]



Code	b
12	12
16	16
20	20
25	25
32	32
40	40
50	50

7

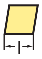
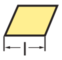
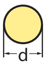
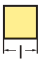
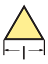
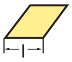
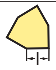
Holder length L [mm]



Code	L
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300

8

Cutting edge length l [mm]

I.C [mm]	Insert shape						
							
	C	D	R	S	T	V	W
5.56					**09**		
6.35	**06**	**07**			**11**		
9.525	**09**	**11**	**09**	**09**	**16**	**16**	**06**
12.7	**12**	**15**	**12**	**12**	**22**	**22**	**08**
15.875	**16**	**19**	**15**	**15**	**27**		
19.05	**19**		**19**	**19**	**33**		
25.4	**25**		**25**	**25**	**44**		
32			**32**				

9

Swissturning

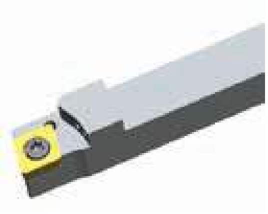
10

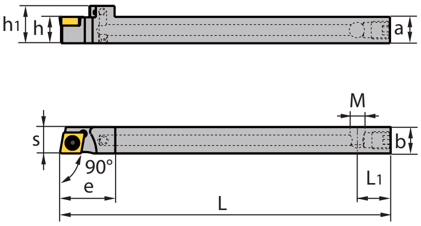
With inner cooling

11

CC** holder **S-Clamping**

SCACR/L-SC Kr: 90°





Article	✻	Stock		Dimensions [mm]									kg	Inserts
		R	L	a	b	L	h	h_1	s	L_1	e	M		
SCACR/L1212M09-SC	✻	●	●	12	12	150	12	17	12	15	25	M8X1	0.14	CC**09T3**
SCACR/L1616H09-SC	✻	●	●	16	16	100	16	21	16	15	28	M8X1	0.21	CC**09T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	CC**09T3**
	h	**12-16**
	Screw	I60M3.5×8
	Wrench	WT15IP

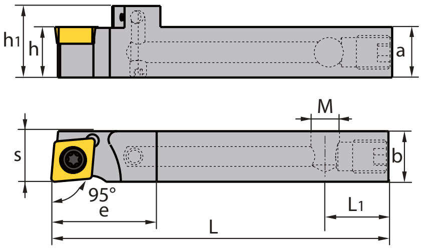
Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A102	A106	A107	A108	A107	A152

System code A270 Grade selection A38 Technical info A445 Cutting data A324

CC** holder S-Clamping

SCLCR/L-SC Kr: 95°



Article	✻	Stock		Dimensions [mm]									kg	Inserts
		R	L	a	b	L	h	h_1	s	L_1	e	M		
SCLCR/L1010F06-S		●	●	10	10	80	10		10		10		0.06	CC**0602**
SCLCR/L1212F09-SC	✻	●	●	12	12	80	12	17	12	15	25	M8X1	0.07	CC**09T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CC**0602****	**CC**09T3****
	h	**10**	**12**
	Screw	I60M2.5×6.5	I60M3.5×8
	Wrench	WT07IP	WT15IP

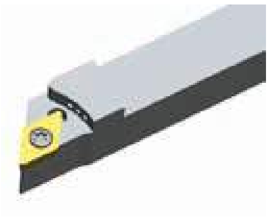
Insert

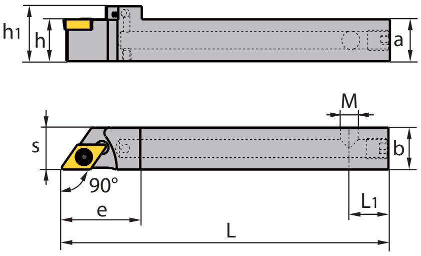
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A102	A106	A107	A108	A107	A152

System code A270 Grade selection A38 Technical info A445 Cutting data A324

DC** holder **S-Clamping**

SDACR/L-SC Kr: 90°





Article	✻	Stock		Dimensions [mm]									kg	Inserts
		R	L	a	b	L	h	h_1	s	L_1	e	M		
SDACR/L1212M07-SC	✻	●	●	12	12	150	12	17	12	15	25	M8X1	0.15	DC**0702**
SDACR/L1616K11-SC	✻	●	●	16	16	125	16	21	16	15	30	M8X1	0.21	DC**11T3**
SDACR/L1212M11-SC	✻	●	●	12	12	150	12	17	12	15	30	M8X1	0.14	DC**11T3**

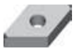
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**11T3****
	h	**12**	**12-16**
	Screw	I60M2.5×6.5	I60M3.5×8
	Wrench	WT07IP	WT15IP

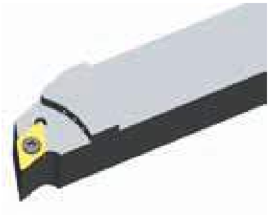
Insert

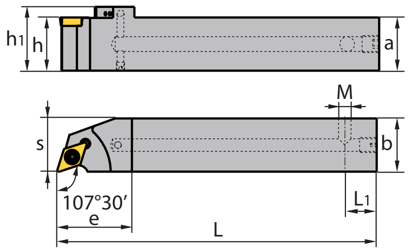
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A270 Grade selection A38 Technical info A445 Cutting data A324

DC** holder **S-Clamping**

SDHCR/L-SC Kr: 107°30'





Article	✻	Stock	Dimensions [mm]									kg	Inserts
			a	b	L	h	h_1	s	L_1	e	M		
SDHCR/L2020K11-SC	✻	●	20	20	125	20	25	20	15	30	M8X1	0.35	DC**11T3**
SDHCR/L2525M11-SC	✻	●	25	25	150	25	30	25	15	35	M8X1	0.66	DC**11T3**

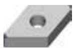
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**11T3****
	h	**20-25**
	Screw	I60M3.5×8
	Wrench	WT15IP

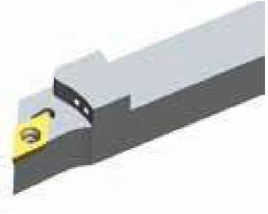
Insert

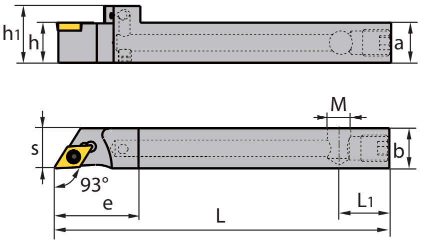
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A270 Grade selection A38 Technical info A445 Cutting data A324

DC** holder **S-Clamping**

SDJCR/L-SC Kr: 93°





Article	✼	Stock		Dimensions [mm]									kg	Inserts
		R	L	a	b	L	h	h_1	s	L_1	e	M		
SDJCR/L1212H07-SC	✼	●	●	12	12	100	12	17	12	15	25	M8X1	0.1	DC**0702**
SDJCR/L1212H11-SC	✼	●	●	12	12	100	12	17	12	15	30	M8X1	0.1	DC**11T3**
SDJCR/L1616K11-SC	✼	●	●	16	16	125	16	21	16	15	30	M8X1	0.21	DC**11T3**

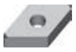
● Ex stock ○ On demand

✼ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**11T3****
	h	**12**	**12-16**
	Screw	I60M2.5×6.5	I60M3.5×8
	Wrench	WT07IP	WT15IP

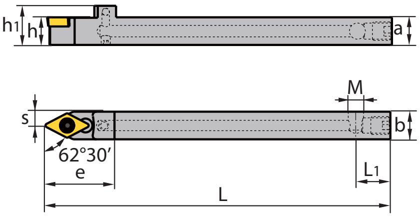
Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A270 Grade selection A38 Technical info A445 Cutting data A324

DC** holder **S-Clamping**

SDNCN-SC Kr: 62°30'



Article	✻	Stock	Dimensions [mm]									kg	Inserts
			a	b	L	h	h_1	s	L_1	e	M		
SDNCN1212M11-SC	✻	●	12	12	150	12	17	6	15	30	M8X1	0.14	DC**11T3**

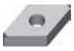
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**11T3****
	h	**12**
	Screw	I6OM3*10
	Wrench	WT15IP

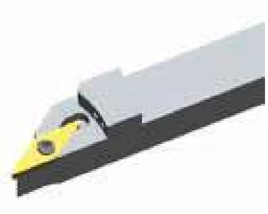
Insert

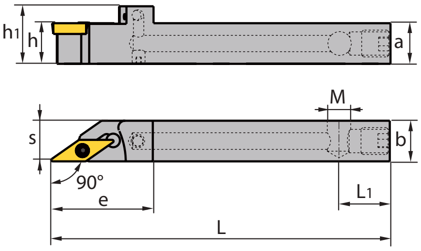
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A270 Grade selection A38 Technical info A445 Cutting data A324

VC** holder S-Clamping

SVACR/L-SC Kr: 90°





Article	✻	Stock		Dimensions [mm]									kg	Inserts
		R	L	a	b	L	h	h_1	s	L_1	e	M		
SVACR/L1212H11-SC	✻	●	●	12	12	100	12	17	12	15	30	M8X1	0.1	VC**1103**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	VC**1103**
	h	**12**
	Screw	I60M2.5×6.5
	Wrench	WT07IP

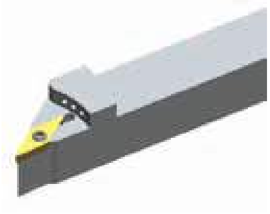
Insert

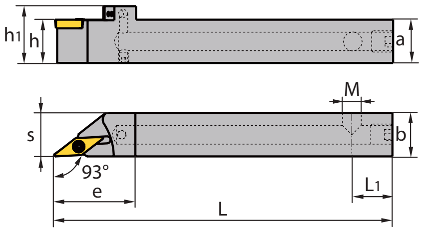
	
Finishing	**Aluminium**
A133	A134

System code A270 Grade selection A38 Technical info A445 Cutting data A324

VC** holder S-Clamping

SVJCR/L-SC Kr: 93°





Article	✻	Stock		Dimensions [mm]									kg	Inserts
		R	L	a	b	L	h	h_1	s	L_1	e	M		
SVJCR/L0808H11-S		●	●	8	8	100	8		8		22		0.044	VC**1103**
SVJCR/L1212H11-SC	✻	●	●	12	12	100	12	17	12	15	30	M8X1	0.095	VC**1103**
SVJCR/L1616K11-SC	✻	●	●	16	16	125	16	21	16	15	30	M8X1	0.2	VC**1103**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

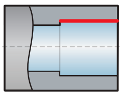
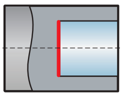
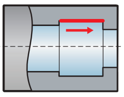
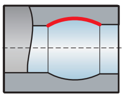
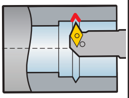
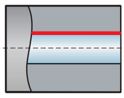
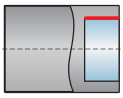
	Insert	**VC**1103****
	h	**8-16**
	Screw	I60M2.5×6.5
	Wrench	WT07IP

Insert

	
Finishing	**Aluminium**
A133	A134

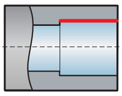
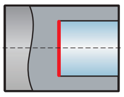
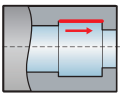
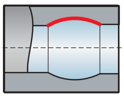
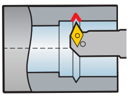
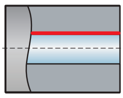
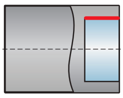
System code A270 Grade selection A38 Technical info A445 Cutting data A324

Boring bars

Boring bar			Application					Workpiece		Page
			Longitudinal turning	Facing	Undercut	Contouring	Profiling	Stable	Unstable	
										
P	**PDSNR/L** **62°30'**		●		●	●	●	●		A286
	PCLNR/L **95°**		●	●				●	●	A284
	PDUNR/L **93°**		●			●	●	●	●	A287
	PSKNR/L **75°**		●					●		A289
	PTFNR/L **91°**		●					●		A290
	PWLNR/L **95°**		●	●				●		A291
S	**SCFCR/L** **90°**		●					●	●	A310
	SCLCR/L **95°**		●	●				●		A293
	SCLPR/L **95°**		●	●				●	●	A306
	SDQCR/L **107°30'**		●			●	●	●	●	A295
	SDQPR/L **107°30'**		●			●	●	●	●	A307
	SDUCR/L **93°**		●			●	●	●	●	A296
	SDUPR/L **93°**		●			●		●	●	A308
	SDZCR/L **95°**				●			●		A297
	SSKCR/L **75°**		●					●		A298

● Recommended

Boring bars

Boring bar		Application					Workpiece		Page
		Longitudinal turning	Facing	Undercut	Contouring	Profiling	Stable	Unstable	
									
S	**STFCR/L** **91°** 	●					●		A300
	STUPR/L **93°** 	●					●		A309
	SVQBR/L **107°30'** 	●			●	●	●	●	A304
	SVQCR/L **107°30'** 	●					●	●	A302
	SVUBR/L **93°** 	●			●	●	●	●	A305
	SVUCR/L **93°** 	●			●	●	●	●	A303
Antivibration	**SCLPR/L** **95°** 	●	●				●	●	A313
	SDQPR/L **107°30'** 	●			●	●	●	●	A315
	SDUPR/L **93°** 	●					●	●	A316
	STUPR/L **93°** 	●					●	●	A318
	SVQCR/L **107°30'** 	●			●	●	●	●	A321
	SVUCR/L **93°** 	●			●	●	●	●	A322

● Recommended

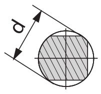
S	16	R	–	S	D	U	C	R	07
1	2	3		4	5	6	7	8	9

Shank type

Code	Description
A	Steel shank (IC)
C	Solid carbide shank
E	Solid carbide shank (IC)
S	Steel shank
X	Special application

1

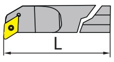
Shank diameter d [mm]



Code	d
16	16
20	20
25	25
32	32
40	40
50	50

2

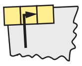
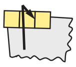
Length L [mm]



Code	L
H	100
K	125
M	150
N	160
Q	180
R	200
S	250
T	300
U	350
V	400

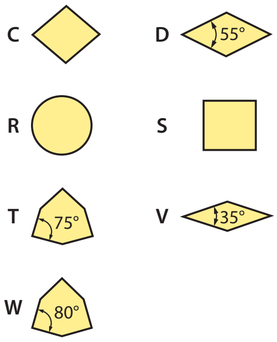
3

Clamping system

Code	Description	
P	Knee lever clamping	
S	Screw clamping	

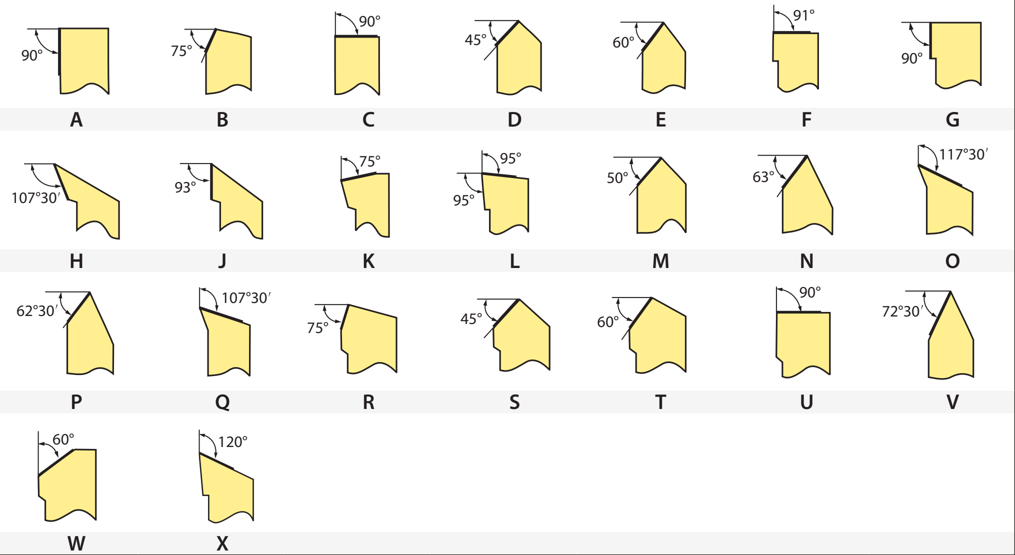
4

Insert shape



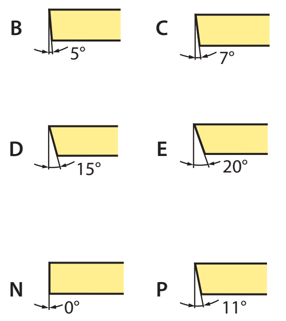
5

Tool holder type and entering angle



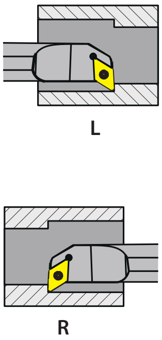
6

Clearance angle



7

Cutting direction



8

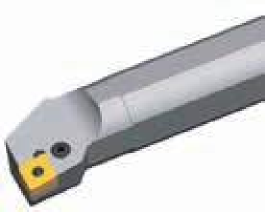
Cutting edge length l [mm]

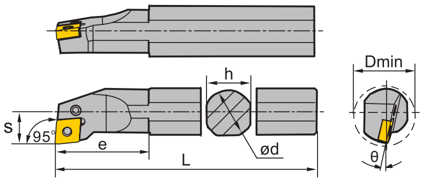
I.C [mm]	Insert shape C	Insert shape D	Insert shape R	Insert shape S	Insert shape T	Insert shape V	Insert shape W
5.56					09		
6.35	06	07			11		
9.525	09	11	09	09	16	16	06
12.7	12	15	12	12	22	22	08
15.875	16	19	15	15	27		
19.05	19		19	19	33		
25.4	25		25	25	44		
32			32				

9

CN** steel boring bar **P-Clamping**

PCLNR/L Kr: 95°





Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	S	e	D_{min}	θ	
S16M-PCLNR/L09		●	●	16	150	15	11	28	20	-12	CN**0903**
S16R-PCLNR/L09		●	●	16	200	15	11	28	20	-12	CN**0903**
S20Q-PCLNR/L09		●	●	20	180	18	13	31	25	-11	CN**0903**
S20S-PCLNR/L09		●	●	20	250	18	13	31	25	-11	CN**0903**
S25Q-PCLNR/L09		●	●	25	180	23	17	35	32	-10	CN**0903**
S25T-PCLNR/L09		●	○	25	300	23	17	35	32	-10	CN**0903**
S25Q-PCLNR/L12		●	●	25	180	23	17	40	32	-12	CN**1204**
S25T-PCLNR/L12		●	●	25	300	23	17	40	32	-12	CN**1204**
S32R-PCLNR/L12		●	●	32	200	30	22	50	44	-10	CN**1204**
S32U-PCLNR/L12		●	●	32	350	30	22	50	44	-10	CN**1204**
S40S-PCLNR/L12		●	●	40	250	37	27	55	54	-10	CN**1204**
S40V-PCLNR/L12		●	●	40	400	37	27	55	54	-10	CN**1204**
S50S-PCLNR/L12		●	●	50	250	47	35	56	63	-10	CN**1204**
S50W-PCLNR/L12		●	●	50	450	47	35	56	63	-10	CN**1204**
A25R-PCLNR/L12	✻	●	●	25	200	24	17	40	32	-12	CN**1204**
A32S-PCLNR/L12	✻	●	●	32	250	31	22	50	44	-10	CN**1204**
S50S-PCLNR/L19		●	○	50	250	47	35	63	63	-10	CN**1906**
S50W-PCLNR/L19		●	●	50	450	47	35	63	63	-10	CN**1906**

● Ex stock ○ On demand

✻ With internal cooling

System code A282 Grade selection A38 Technical info A445 Cutting data A324

CN** steel boring bar

Spare parts

	Insert **ød**	**CN**0903**** **16-25**	**CN**1204**** **25**	**CN**1204**** **32-50**	**CN**1906**** **50**
	Knee lever	L3C	L4A	L4A	L6
	Screw		LEM6×13.4A	LEM6×13.4A	
	Screw				LEM10×27
	Screw	LEM5×9B			
	Shim				C19AP
	Shim			C12APB	
	Shim pin (shim)			SP4	SP6
	Wrench	WH20L	WH25L	WH25L	WH40L

Insert

 **Finishing**	 **Wiper**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A43	A43	A44	A51	A51	A146

A Turning
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C Drilling
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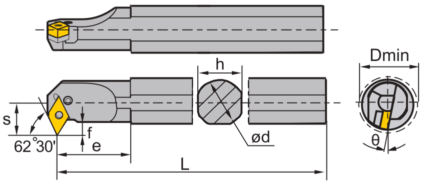
System code A282 Grade selection A38 Technical info A445 Cutting data A324

DN** steel boring bar **P-Clamping**

PDSNR/L Kr: 62°30'

Right hand style



Article	✻	Stock		Dimensions [mm]								Inserts
		R	L	ød	L	h	s	e	f	D_{min}	θ	
S32R-PDSNR/L15-3		○	○	32	200	30	22	45	8.5	40	-11	DN**1504**
S32U-PDSNR/L15-3		○	○	32	350	30	22	45	8.5	40	-11	DN**1504**
S40S-PDSNR/L15-3		○	○	40	250	37	27	43	9.4	50	-11	DN**1504**
S40V-PDSNR/L15-3		●		40	400	37	27	43	9.4	50	-11	DN**1504**
A32S-PDSNR/L15-3	✻	○	○	32	250	31	22	45	8.5	40	-11	DN**1504**
S32R-PDSNR/L15		●	●	32	200	30	22	45	8.5	40	-11	DN**1506**
S32U-PDSNR/L15		●	●	32	350	30	22	45	8.5	40	-11	DN**1506**
S40S-PDSNR/L15		○	○	40	250	37	27	43	9.4	50	-11	DN**1506**
S40V-PDSNR/L15		○	○	40	400	37	27	43	9.4	50	-11	DN**1506**
A32S-PDSNR/L15	✻	●	●	32	250	31	22	45	8.5	40	-11	DN**1506**

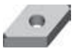
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	DN**1504**	DN**1506**
	ød	32-40	32-40
	Knee lever	L4	L4B
	Screw	LEM8×21	LEM8×21
	Shim	D15AP	D15AP
	Shim pin (shim)	SP4	SP4
	Wrench	WH30L	WH30L

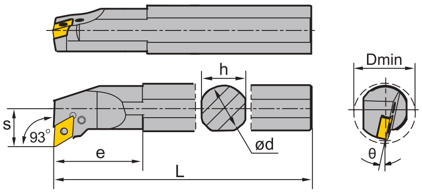
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A53	A54	A58	A59	A147

DN** steel boring bar **P-Clamping**

PDUNR/L Kr: 93°

Right hand style



Article	✼	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S20Q-PDUNR/L11		●	●	20	180	18	13	30	25	-16	DN**1104**
S20S-PDUNR/L11		●	●	20	250	18	13	30	25	-16	DN**1104**
S25Q-PDUNR/L11		●	●	25	180	23	17	35	32	-13	DN**1104**
S25T-PDUNR/L11		●	●	25	300	23	17	35	32	-13	DN**1104**
S32R-PDUNR/L11		●	●	32	200	30	22	40	40	-16	DN**1104**
S32U-PDUNR/L11		●	●	32	350	30	22	40	40	-16	DN**1104**
S32R-PDUNR/L15-3		●	●	32	200	30	22	50	40	-16	DN**1504**
S32U-PDUNR/L15-3		●	●	32	350	30	22	50	40	-16	DN**1504**
S40S-PDUNR/L15-3		○	○	40	250	37	27	50	50	-11	DN**1504**
S40V-PDUNR/L15-3		●	●	40	400	37	27	50	50	-11	DN**1504**
A32S-PDUNR/L15-3	✼	●	●	32	250	31	22	50	40	-16	DN**1504**
S32R-PDUNR/L15		●	●	32	200	30	22	50	40	-16	DN**1506**
S32U-PDUNR/L15		●	●	32	350	30	22	50	40	-16	DN**1506**
S40S-PDUNR/L15		○	○	40	250	37	27	50	50	-11	DN**1506**
S40V-PDUNR/L15		●	●	40	400	37	27	50	50	-11	DN**1506**
A32S-PDUNR/L15	✼	●	●	32	250	31	22	50	40	-16	DN**1506**

● Ex stock ○ On demand

✼ With internal cooling

Spare parts

	Insert	**DN**1104****	**DN**1104****	**DN**1504****	**DN**1506****
	ød	**20-25**	**32**	**32-40**	**32-40**
	Knee lever	L3D	L3	L4	L4B
	Screw	LEM5×12B	LEM6×17		
	Screw			LEM8×21	LEM8×21
	Shim		D11AP	D15AP	D15AP
	Shim pin (shim)		SP3	SP4	SP4
	Wrench	WH20L	WH25L	WH30L	WH30L

System code A282 Grade selection A38 Technical info A445 Cutting data A324

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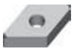
DN** steel boring bar

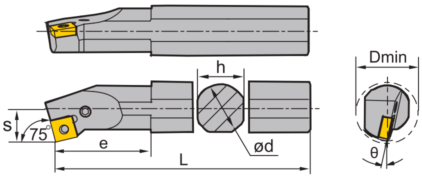
Insert				
				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A53	A54	A58	A59	A147

System code A282
Grade selection A38
Technical info A445
Cutting data A324

SN** steel boring bar **P-Clamping**

PSKNR/L Kr: 75°

Right hand style



Article	✲	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S25Q-PSKNR/L12		○	●	25	180	23	17	42	32	-12	SN**1204**
S25T-PSKNR/L12		●	●	25	300	23	17	42	32	-12	SN**1204**
S32R-PSKNR/L12		○	○	32	200	30	22	45	44	-10	SN**1204**
S32U-PSKNR/L12		●	●	32	350	30	22	45	44	-10	SN**1204**
S40S-PSKNR/L12		○	○	40	250	37	27	50	54	-10	SN**1204**
S40V-PSKNR/L12		●	●	40	400	37	27	50	54	-10	SN**1204**
A25R-PSKNR/L12	✲	●	●	25	200	24	17	42	32	-12	SN**1204**
A32S-PSKNR/L12	✲	●	●	32	250	31	22	50	44	-12	SN**1204**

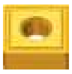
● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**SN**1204****	**SN**1204****
	ød	**25**	**32-40**
	Knee lever	L4A	L4
	Screw	LEM6×13.4A	
	Screw		LEM8×21
	Shim		S12APB
	Shim pin (shim)		SP4
	Wrench	WH25L	WH30L

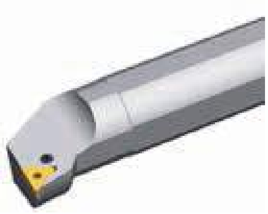
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A62	A64	A67	A73	A148

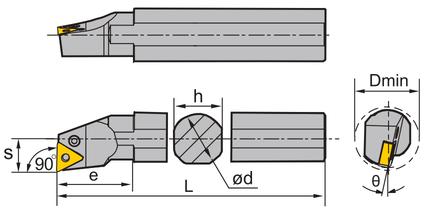
System code A282 Grade selection A38 Technical info A445 Cutting data A324

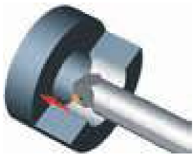
TN** steel boring bar **P-Clamping**

PTFNR/L Kr: 90°



Right hand style





Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S16M-PTFNR/L11		○	○	16	150	15	11	28	20	-14	TN**1103**
S16R-PTFNR/L11		●	●	16	200	15	11	28	20	-14	TN**1103**
S20Q-PTFNR/L11		●	○	20	180	18	13	31	25	-12	TN**1103**
S20S-PTFNR/L11		●	●	20	250	18	13	31	25	-12	TN**1103**
S25Q-PTFNR/L11		○	○	25	180	23	17	35	32	-10	TN**1103**
S25T-PTFNR/L11		●	●	25	300	23	17	35	32	-10	TN**1103**
S25Q-PTFNR/L16		○	○	25	180	23	17	42	32	-12	TN**1604**
S25T-PTFNR/L16		●	●	25	300	23	17	42	32	-12	TN**1604**
S32R-PTFNR/L16		●	○	32	200	30	22	50	44	-10	TN**1604**
S32U-PTFNR/L16		●	●	32	350	30	22	50	44	-10	TN**1604**
S40S-PTFNR/L16		○	○	40	250	37	27	55	54	-10	TN**1604**
S40V-PTFNR/L16		●	●	40	400	37	27	55	54	-10	TN**1604**
A25R-PTFNR/L16	✻	●	○	25	200	24	17	40	32	-12	TN**1604**
A32S-PTFNR/L16	✻	●	●	32	250	31	22	50	44	-10	TN**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TN**1103****	**TN**1604****	**TN**1604****
	ød	**16-25**	**25**	**32-40**
	Knee lever	L2	L3B	L3
	Screw	LEM5×9B	LEM5×12B	LEM6×17
	Shim			T16APB
	Shim pin (shim)			SP3
	Wrench	WH20L	WH20L	WH25L

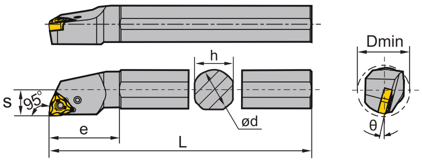
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A78	A80	A83	A86	A149

System code A282 Grade selection A38 Technical info A445 Cutting data A324

WN** steel boring bar **P-Clamping**

PWLNR/L Kr: 95°



Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S16M-PWLNR/L06		●	●	16	150	15	11	25	20	-13	WN**0604**
S16R-PWLNR/L06		●	○	16	200	15	11	25	20	-13	WN**0604**
S20Q-PWLNR/L06		●	●	20	180	18	13	35	25	-13	WN**0604**
S20S-PWLNR/L06		●	○	20	250	18	13	35	25	-13	WN**0604**
S25Q-PWLNR/L06		●	●	25	180	23	17	35	32	-13	WN**0604**
S25T-PWLNR/L06		●	○	25	300	23	17	35	32	-13	WN**0604**
S20Q-PWLNR/L08		●	●	20	180	18	13	32	25	-13	WN**0804**
S20S-PWLNR/L08		●	○	20	250	18	13	32	25	-13	WN**0804**
S25Q-PWLNR/L08		●	●	25	180	23	17	45	32	-13	WN**0804**
S25T-PWLNR/L08		●	●	25	300	23	17	45	32	-13	WN**0804**
S32R-PWLNR/L08		●	●	32	200	30	22	50	40	-15	WN**0804**
S32U-PWLNR/L08		●	●	32	350	30	22	50	40	-15	WN**0804**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**WN**0604****	**WN**0804****	**WN**0804****
	ød	**16-25**	**20-25**	**32**
	Knee lever	L3B	L4A	L4
	Screw		LEM6X13.4A	
	Screw	LEM5X12B		
	Screw			LEM8X21
	Shim			W08AP
	Shim pin (shim)			SP4
	Wrench	WH20L	WH25L	WH30L

System code A282 Grade selection A38 Technical info A445 Cutting data A324

WN** steel boring bar

Insert

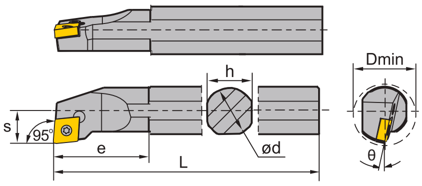
					
Finishing	**Wiper**	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A92	A93	A95	A96	A96	A151

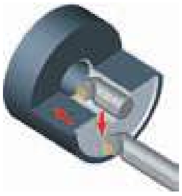
System code › A282
Grade selection › A38
Technical info › A445
Cutting data › A324

CC** steel boring bar S-Clamping

SCLCR/L Kr: 95°

Right hand style





Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S08K-SCLCR/L06		●	●	8	125	7	5	14	10	-15	CC**0602**
S10K-SCLCR/L06		●	●	10	125	7	5	14	10	-15	CC**0602**
S10M-SCLCR/L06		●	●	10	150	9	6	14	12	-13	CC**0602**
S12M-SCLCR/L06		●	●	12	150	11	9	25	16	-10	CC**0602**
A08F-SCLCR/L06	✻	●	●	8	80	7.5	5	14	10	-15	CC**0602**
A10H-SCLCR/L06	✻	●	●	10	100	9.5	6	14	12	-13	CC**0602**
A12K-SCLCR/L06	✻	●	●	12	125	11.5	9	25	16	-10	CC**0602**
S12M-SCLCR/L09		●	●	12	150	11	9	25	16	-10	CC**09T3**
S16M-SCLCR/L09		●	●	16	150	15	11	32.5	20	-12	CC**09T3**
S16R-SCLCR/L09		●	●	16	200	15	11	32.5	20	-12	CC**09T3**
S20Q-SCLCR/L09		●	●	20	180	18	13	38	25	-8	CC**09T3**
S20S-SCLCR/L09		●	●	20	250	18	13	38	25	-8	CC**09T3**
S25Q-SCLCR/L09		●	●	25	180	23	17	45	32	-6	CC**09T3**
S25T-SCLCR/L09		●	●	25	300	23	17	45	32	-6	CC**09T3**
A12K-SCLCR/L09	✻	●	●	12	125	11.5	9	25	16	-10	CC**09T3**
A16M-SCLCR/L09	✻	●	●	16	150	15.5	11	32.5	20	-12	CC**09T3**
A20Q-SCLCR/L09	✻	●	●	20	180	19	13	38	25	-8	CC**09T3**
A25R-SCLCR/L09	✻	●	●	25	200	24	17	45	32	-6	CC**09T3**
S25Q-SCLCR/L12		●	●	25	180	23	17	45	32	-6	CC**1204**
S25T-SCLCR/L12		●	●	25	300	23	17	45	32	-6	CC**1204**
S32R-SCLCR/L12		●	●	32	200	30	22	50	40	-10	CC**1204**
S32U-SCLCR/L12		●	●	32	350	30	22	50	40	-10	CC**1204**
S40S-SCLCR/L12		○	○	40	250	37	27	60	50	-8	CC**1204**
S40V-SCLCR/L12		●	●	40	400	37	27	60	50	-8	CC**1204**
A25R-SCLCR/L12	✻	●	●	25	200	24	17	45	32	-6	CC**1204**
A32S-SCLCR/L12	✻	●	●	32	250	31	22	50	40	-10	CC**1204**

● Ex stock ○ On demand

✻ With internal cooling

System code A282 Grade selection A38 Technical info A445 Cutting data A324

CC** steel boring bar

Spare parts

	Insert	CC**0602**	CC**09T3**	CC**09T3**	CC**1204**	CC**1204**
	ød	**8-12**	**12-20**	**25**	**25**	**32-40**
	Screw	I60M2.5×5.5	I60M3.5×8	I60M3.5×10		
	Screw				I60M4×11X	I60M4×11X
	Screw (shim)					SM6×10XA
	Shim					C12BS
	Wrench (screw)	WT07IP	WT15IP	WT15IP	WT15IP	WT15IP
	Wrench (shim)					WH40L

Insert

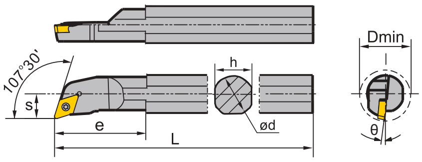
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A102	A106	A107	A108	A107	A152

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DC** steel boring bar **S-Clamping**

SDQCR/L Kr: 107°30'

Right hand style



Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S10M-SDQCR/L07		●	●	10	150	9	7	20	13	-8	DC**0702**
S12M-SDQCR/L07		●	●	12	150	11	9	22	16	-8	DC**0702**
S16M-SDQCR/L07		●	●	16	150	15	11	27	20	-6	DC**0702**
S16Q-SDQCR/L07		●	●	16	150	15	11	27	20	-6	DC**0702**
S16R-SDQCR/L07		●	●	16	200	15	11	27	20	-6	DC**0702**
A10H-SDQCR/L07	✻	●	●	10	100	9.5	7	20	13	-8	DC**0702**
A12K-SDQCR/L07	✻	●	●	12	125	11.5	9	22	16	-8	DC**0702**
S20Q-SDQCR/L11		●	●	20	180	18	13	32	25	-6	DC**11T3**
S20S-SDQCR/L11		●	●	20	250	18	13	32	25	-6	DC**11T3**
S25Q-SDQCR/L11		●	●	25	180	23	17	32	32	-6	DC**11T3**
S25T-SDQCR/L11		●	●	25	300	23	17	32	32	-6	DC**11T3**
A16M-SDQCR/L11	✻	●	●	16	150	15.5	11	27	20	-6	DC**11T3**
A20Q-SDQCR/L11	✻	●	●	20	180	19	13	32	25	-6	DC**11T3**
A25R-SDQCR/L11	✻	●	●	25	200	24	17	32	32	-6	DC**11T3**

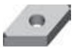
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**0702****	**DC**11T3****	**DC**11T3****	**DC**11T3****
	ød	**10**	**12-16**	**16-20**	**20**	**25**
	Screw	I60M2.5×5.5	I60M2.5×6.5	I60M3.5×8	I60M3.5×8	I60M3.5×10
	Wrench (screw)	WT07IP	WT07IP	WT15IP	WT15IP	WT15IP

Insert

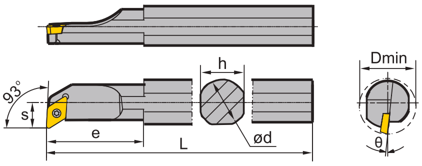
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DC** steel boring bar **S-Clamping**

SDUCR/L Kr: 93°

Right hand style



Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S10M-SDUCR/L07		●	●	10	150	9	7	0	13	-8	DC**0702**
S12M-SDUCR/L07		●	●	12	150	11	9	22	16	-8	DC**0702**
S16M-SDUCR/L07		●	●	16	150	15	11	27	20	-6	DC**0702**
S16R-SDUCR/L07		●	●	16	200	15	11	27	20	-6	DC**0702**
A10H-SDUCR/L07	✻	●	●	10	100	9.5	7	0	13	-8	DC**0702**
A12K-SDUCR/L07	✻	●	●	12	125	11.5	9	22	16	-8	DC**0702**
A16M-SDUCR/L07	✻	●	●	16	150	15.5	11	27	20	-6	DC**0702**
S20Q-SDUCR/L11		●	●	20	180	18	13	40	25	-6	DC**11T3**
S20S-SDUCR/L11		●	●	20	250	18	13	40	25	-6	DC**11T3**
S25Q-SDUCR/L11		●	●	25	180	23	17	46	32	-6	DC**11T3**
S25T-SDUCR/L11		●	●	25	300	23	17	46	32	-6	DC**11T3**
A20Q-SDUCR/L11	✻	●	●	20	180	19	13	40	25	-6	DC**11T3**
A25R-SDUCR/L11	✻	●	●	25	200	24	17	46	32	-6	DC**11T3**

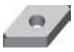
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**11T3****
	ød	**10-16**	**20-25**
	Screw	I60M2.5x5.5	I60M3.5x8
	Wrench	WT07IP	WT15IP

Insert

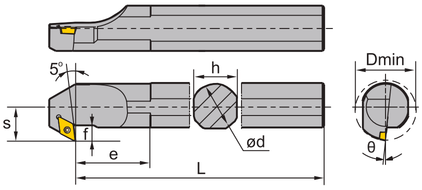
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DC** steel boring bar **S-Clamping**

SDZCR/L Kr: 85°

Right hand style



Article	✻	Stock		Dimensions [mm]								Inserts
		R	L	ød	L	h	s	e	f	D_{min}	θ	
S25Q-SDZCR/L11		●	●	25	180	23	17	30	6.9	32	-6	DC**11T3**
S25T-SDZCR/L11		●	●	25	300	23	17	30	6.9	32	-6	DC**11T3**
S32R-SDZCR/L11		●	○	32	200	30	22	39	8.4	40	-6	DC**11T3**
S32U-SDZCR/L11		●	●	32	350	30	22	39	8.4	40	-6	DC**11T3**
S40S-SDZCR/L11		○	●	40	250	37	27	47	9.4	50	-4	DC**11T3**
S40V-SDZCR/L11		●	●	40	400	37	27	47	9.4	50	-4	DC**11T3**
A25R-SDZCR/L11	✻	●	●	25	200	24	17	30	4.5	32	-6	DC**11T3**
A32S-SDZCR/L11	✻	●	●	32	250	31	22	39	6	40	-6	DC**11T3**

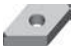
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**11T3****	**DC**11T3****
	ød	**25**	**32-40**
	Screw	I60M3.5×10	I60M3.5×12
	Screw (shim)		SM5×8.65XA
	Shim		D11BS
	Wrench (screw)	WT15IP	WT15IP
	Wrench (shim)		WH35L

Insert

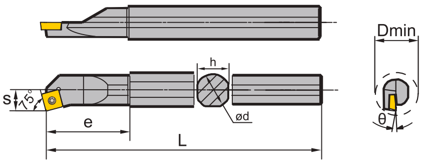
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A282 Grade selection A38 Technical info A445 Cutting data A324

SC** steel boring bar S-Clamping

SSKCR/L Kr: 75°

Right hand style



Article	✲	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S12M-SSKCR/L09		●	●	12	150	11	9	26	16	-10	SC**09T3**
S16M-SSKCR/L09		●	●	16	150	15	11	32.5	20	-11	SC**09T3**
S16R-SSKCR/L09		●	○	16	200	15	11	32.5	20	-11	SC**09T3**
S20Q-SSKCR/L09		○	○	20	180	18	13	34.5	25	-6	SC**09T3**
S20S-SSKCR/L09		●	○	20	250	18	13	34.5	25	-6	SC**09T3**
A12K-SSKCR/L09	✲	○	○	12	125	11	9	26	16	-10	SC**09T3**
A16M-SSKCR/L09	✲	○	○	16	150	15	11	32.5	20	-11	SC**09T3**
A20Q-SSKCR/L09	✲	●	○	20	180	19	13	34.5	25	-6	SC**09T3**
S25Q-SSKCR/L12		●	○	25	180	23	17	36.3	32	-8	SC**1204**
S25T-SSKCR/L12		●	●	25	300	23	17	36.3	32	-8	SC**1204**
S32R-SSKCR/L12		●	○	32	200	30	22	43.5	40	-10	SC**1204**
S32U-SSKCR/L12		●	○	32	350	30	22	43.5	40	-10	SC**1204**
A25R-SSKCR/L12	✲	●	○	25	200	24	17	41.3	32	-8	SC**1204**
A32S-SSKCR/L12	✲	●	○	32	250	31	22	42.8	40	-10	SC**1204**

● Ex stock ○ On demand

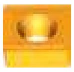
✲ With internal cooling

Spare parts

	Insert	**SC**09T3****	**SC**1204****	**SC**1204****
	ød	**12-20**	**25**	**32**
	Screw		I60M4×11X	I60M4×11X
	Screw	I60M3.5×8		
	Screw (shim)			SM6×10XA
	Shim			S12BS
	Wrench (screw)	WT15IP	WT15IP	WT15IP
	Wrench (shim)			WH40L

System code A282 Grade selection A38 Technical info A445 Cutting data A324

SC** steel boring bar

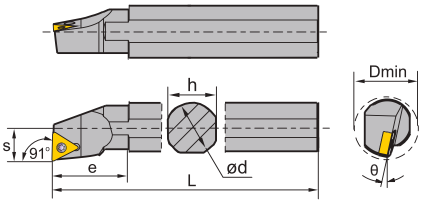
Insert				
 **Finishing**	 **Medium Cut**	 **Roughing**	 **Aluminium**	 **Cast Iron**
A119	A120	A121	A121	A121

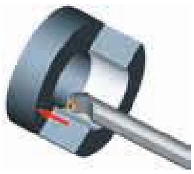
System code A282 Grade selection A38 Technical info A445 Cutting data A324

TC** steel boring bar S-Clamping

STFCR/L Kr: 91°

Right hand style





Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S12M-STFCR/L11		●	●	12	150	11	9	30	16	-10	TC**1102**
S16M-STFCR/L11		●	●	16	150	15	11	35	20	-6	TC**1102**
S16R-STFCR/L11		●	●	16	200	15	11	35	20	-6	TC**1102**
S20Q-STFCR/L11		●	●	20	180	18	13	36	25	-3	TC**1102**
S20S-STFCR/L11		●	●	20	250	18	13	36	25	-3	TC**1102**
A12K-STFCR/L11	✻	●	●	12	125	11.5	9	26	16	-10	TC**1102**
A16M-STFCR/L11	✻	●	●	16	150	15.5	11	30	20	-6	TC**1102**
A20Q-STFCR/L11	✻	●	●	20	180	19	13	36	25	-3	TC**1102**
S25Q-STFCR/L16		●	○	25	180	23	17	49	32	-6	TC**16T3**
S25T-STFCR/L16		●	●	25	300	23	17	49	32	-6	TC**16T3**
S32R-STFCR/L16		●	●	32	200	30	22	50	40	-10	TC**16T3**
S32U-STFCR/L16		●	●	32	350	30	22	50	40	-10	TC**16T3**
S40S-STFCR/L16		○	○	40	250	37	27	60	50	-8	TC**16T3**
S40V-STFCR/L16		●	●	40	400	37	27	60	50	-8	TC**16T3**
A25R-STFCR/L16	✻	●	●	25	200	24	17	45	32	-6	TC**16T3**
A32S-STFCR/L16	✻	●	●	32	250	31	22	49	40	-10	TC**16T3**

● Ex stock ○ On demand

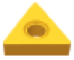
✻ With internal cooling

Spare parts

	Insert	**TC**1102****	**TC**16T3****	**TC**16T3****
	ød	**12-20**	**25**	**32-40**
	Screw	I60M2.5×6.5	I60M3.5×10	I60M3.5×12
	Screw (shim)			SM5×8.65XA
	Shim			T16BS
	Wrench (screw)	WT07IP	WT15IP	WT15IP
	Wrench (shim)			WH35L

System code A282 Grade selection A38 Technical info A445 Cutting data A324

TC** steel boring bar

Insert					
					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A125	A127	A128	A130	A128	A154

System code A282
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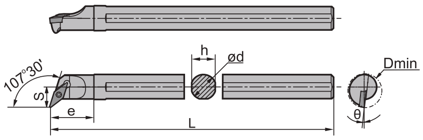
VC** steel boring bar S-Clamping

SVQCR/L Kr: 107°30'

Right hand style



Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S16Q-SVQCR/L11		●	●	16	180	15	13	28	22	-6	VC**1103**
S20R-SVQCR/L11		●	●	20	200	18	15	32	26	-4	VC**1103**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VC**1103****
	ød	**16-20**
	Screw	I60M2.5×6.5
	Wrench (screw)	WT07IP

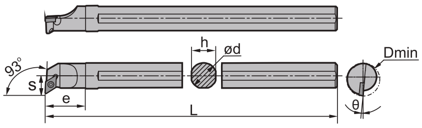
Insert

		
Finishing	**Aluminium**	**PCBN/PCD**
A133	A134	A156

System code A282 Grade selection A38 Technical info A445 Cutting data A324

VC** steel boring bar **S-Clamping**

SVUCR/L Kr: 93°



Right hand style

Article	✲	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S16Q-SVUCR/L11		●	●	16	180	15	15	25	24	-6	VC**1103**
S20R-SVUCR/L11		●	●	20	200	18	17	30	28	-4	VC**1103**

● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**VC**1103****
	ød	**16-20**
	Screw	I60M2.5×6.5
	Wrench (screw)	WT07IP

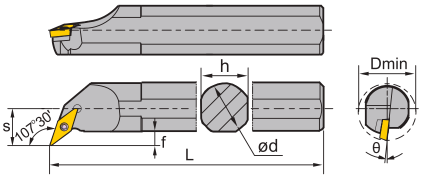
Insert

	
Finishing	**Aluminium**
A133	A134

System code A282 Grade selection A38 Technical info A445 Cutting data A324

VB** steel boring bar **S-Clamping**

SVQBR/L Kr: 107°30'



Right hand style

Article	✻	Stock		Dimensions [mm]								Inserts
		R	L	ød	L	h	s	e	f	D_{min}	θ	
S32R-SVQBR/L16		●	●	32	200	30	22	56	8.4	40	-8	VB**1604**
S32U-SVQBR/L16		●	●	32	350	30	22	56	8.4	40	-8	VB**1604**
S40S-SVQBR/L16		○	○	40	250	37	27	64	9.4	50	-8	VB**1604**
S40V-SVQBR/L16		●	●	40	400	37	27	64	9.4	50	-8	VB**1604**
A32S-SVQBR/L16	✻	○	○	32	250	31	22	56	8.4	40	-8	VB**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VB**1604****
	ød	**32-40**
	Screw	I60M3.5×12
	Screw (shim)	SM5×8.65XA
	Shim	V16BS
	Wrench (screw)	WT15IP
	Wrench (shim)	WH35L

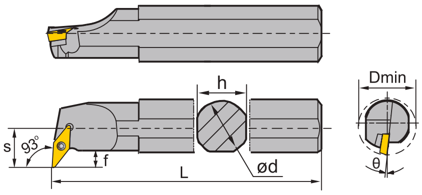
Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A138	A140	A141	A141	A155

System code A282 Grade selection A38 Technical info A445 Cutting data A324

VB** steel boring bar S-Clamping

SVUBR/L Kr: 93°



Right hand style

Article	✻	Stock		Dimensions [mm]								Inserts
		R	L	ød	L	h	s	e	f	D_{min}	θ	
S32R-SVUBR/L16		●	●	32	200	30	22	49	8.4	40	-8	VB**1604**
S32U-SVUBR/L16		●	●	32	350	30	22	49	8.4	40	-8	VB**1604**
S40S-SVUBR/L16		●	○	40	250	37	27	56.5	9.4	50	-8	VB**1604**
S40V-SVUBR/L16		●	●	40	400	37	27	56.5	9.4	50	-8	VB**1604**
A32S-SVUBR/L16	✻	●	●	32	250	31	22	49	8.4	40	-8	VB**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VB**1604****
	ød	**32-40**
	Screw	I60M3.5×12
	Screw (shim)	SM5×8.65XA
	Shim	V16BS
	Wrench (screw)	WT15IP
	Wrench (shim)	WH35L

Insert

				
Finishing	**Medium Cut**	**Roughing**	**Cast Iron**	**PCBN/PCD**
A138	A140	A141	A141	A155

System code A282 Grade selection A38 Technical info A445 Cutting data A324

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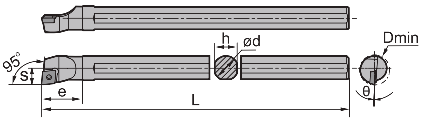
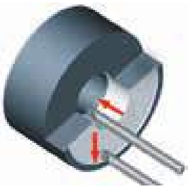
CP** steel boring bar S-Clamping

SCLPR/L Kr: 95°





Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S10K-SCLPR/L06		●	●	10	125	9	6	17	12	-7	CP**0602**
S12M-SCLPR/L06		●	●	12	150	11	8	20	16	-4	CP**0602**
S16Q-SCLPR/L09		●	●	16	180	15	10	29	20	-4	CP**09T3**
S20R-SCLPR/L09		●	●	20	200	18	13	35	25	-4	CP**09T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CP**0602****	**CP**09T3****
	ød	**10-12**	**20-25**
	Screw	I60M2.5×5.5	I60M3.5×8
	Wrench (screw)	WT07IP	WT15IP

Insert

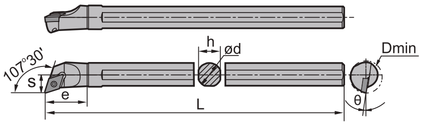
		
Finishing	**Medium Cut**	**Cast Iron**
A109	A109	A109

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DP** steel boring bar **S-Clamping**

SDQPR/L Kr: 107°30'

Right hand style



Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S10K-SDQPR/L07		●	●	10	125	9	7	20	13	-8	DP**0702**
S12M-SDQPR/L07		●	●	12	150	11	9	22	16	-8	DP**0702**
S16Q-SDQPR/L07		●	●	16	180	15	11	27	20	-6	DP**0702**
S16Q-SDQPR/L11		●	●	16	180	15	11	32	20	-6	DP**11T3**
S20R-SDQPR/L11		●	○	20	200	18	13	33	25	-6	DP**11T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DP**0702****	**DP**0702****	**DP**11T3****
	ød	**10-12**	**16**	**16-20**
	Screw	I60M2.5×5.5	I60M2.5×6.5	I60M3.5×8
	Wrench (screw)	WT07IP	WT07IP	WT15IP

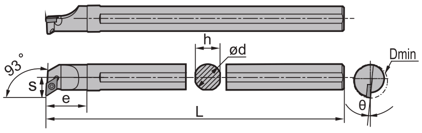
Insert

	
Finishing	**Cast Iron**
A116	A116

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DP** steel boring bar **S-Clamping**

SDUPR/L Kr: 93°



Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S10K-SDUPR/L07		●	●	10	125	9	9	18	15	-8	DP**0702**
S12M-SDUPR/L07		●	●	12	150	11	9	19	16	-8	DP**0702**
S16Q-SDUPR/L07		●	●	16	180	15	11	25	20	-6	DP**0702**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DP**0702****	**DP**0702****
	ød	**10-12**	**16**
	Screw	I60M2.5×5.5	I60M2.5×6.5
	Wrench (screw)	WT07IP	WT07IP

Insert

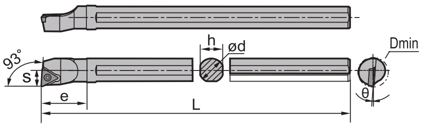
Finishing
A116

System code A282 Grade selection A38 Technical info A445 Cutting data A324

TP** steel boring bar **S-Clamping**

STUPR/L Kr: 93°

Right hand style



Article	✲	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D_{min}	θ	
S10K-STUPR/L09		●	●	10	125	9	6	20	12	-6	TP**0902**
S12M-STUPR/L09		●	●	12	150	11	8	22	16	-4	TP**0902**
S12M-STUPR/L11		●	●	12	150	11	8	25	16	-4	TP**1103**
S16Q-STUPR/L11		●	●	16	180	15	10	27	20	-3	TP**1103**

● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**TP**0902****	**TP**1103****
	ød	**10-12**	**12-16**
	Screw	I60M2.2x5.5	I60M2.5x6.5
	Wrench	WT07IP	WT07IP

Insert

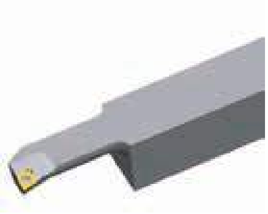
Finishing

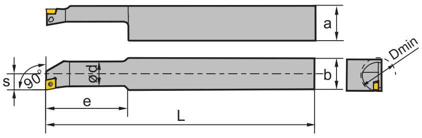
A131

System code A282 Grade selection A38 Technical info A445 Cutting data A324

CC** steel boring bar **S-Clamping**

SCFCR/L Kr: 90°





Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ød	a	b	L	s	e	D_{min}	
S10M-SCFCR/L06S25		●	○	10	27	25	150	7	30	13	CC**0602**
S12P-SCFCR/L06S25		●	○	12	27	25	170	9	35	16	CC**0602**
S16Q-SCFCR/L09S25		●	○	16	27	25	180	11	40	20	CC**09T3**
S20R-SCFCR/L09S25		●	○	20	27	25	200	13	45	25	CC**09T3**
S25R-SCFCR/L12S25		●	●	25	27	25	200	17	50	32	CC**1204**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CC**0602****	**CC**09T3****	**CC**1204****
	ød	**10-12**	**16-20**	**25**
	Screw	I60M2.5x5.5	I60M3.5x8	I60M5x13
	Wrench	WT07IP	WT15IP	WT20IP

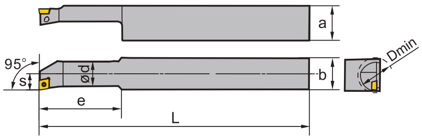
Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A102	A106	A107	A108	A107	A152

System code A282 Grade selection A38 Technical info A445 Cutting data A324

CC** steel boring bar S-Clamping

SCLCR/L Kr: 95°



Article	✻	Stock	Dimensions [mm]							Inserts
			ød	a	b	L	s	e	D_{min}	
S10M-SCLCR06S20		○	10	22	20	150	7	30	13	CC**0602**
S12P-SCLCR06S20		○	12	22	20	170	9	35	16	CC**0602**
S16Q-SCLCR09S20		●	16	22	20	180	11	40	20	CC**09T3**
S20R-SCLCR09S20		●	20	22	20	200	13	60	25	CC**09T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CC**0602****	**CC**09T3****
	ød	**10-12**	**16-20**
	Screw	I60M2.5x5.5	I60M3.5x8
	Wrench	WT07IP	WT15IP

Insert

 **Finishing**	 **Medium Cut**	 **Roughing**	 **Aluminium**	 **Cast Iron**	 **PCBN/PCD**
A102	A106	A107	A108	A107	A152

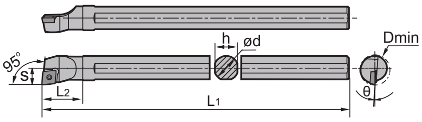
A Turning
B Milling
C Drilling
D Technical Information
E Index

System code A282 Grade selection A38 Technical info A445 Cutting data A324

CP** solid carbide boring bar **S-Clamping**

SCLPR/L Kr: 95°

Right hand style



Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ØD	ød	h	s	L_1	L_2	θ	
C10M-SCLPR/L06		●	●	12	10	9	6	150	17	7	CP**0602**
C12Q-SCLPR/L06		●	○	16	12	11	8	180	20	4	CP**0602**
C16R-SCLPR/L09		●	●	20	16	15	10	200	29	4	CP**09T3**
E16R-SCLPR/L09	✻	○	○	19	16	15.5	10	200		-2	CP**09T3**
C20S-SCLPR/L09		●	○	25	20	18	13	250	35	4	CP**09T3**
E20S-SCLPR/L09	✻	○	●	24	20	19.5	13	250		-2	CP**09T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CP**0602****	**CP**09T3****
	ød	**10-12**	**16-20**
	Screw	I60M2.5×5.5	I60M3.5×10
	Wrench (screw)	WT07IP	WT15IP

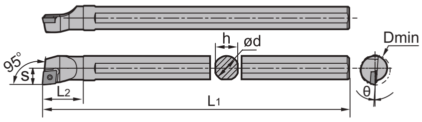
Insert

		
Finishing	**Medium Cut**	**Cast Iron**
A109	A109	A109

System code A282 Grade selection A38 Technical info A445 Cutting data A324

CC** solid carbide boring bar S-Clamping

SCLCR/L Kr: 95°



Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	ØD	ød	h	s	L_1	θ	
E08K-SCLCR/L06-09	✻	●	●	9	8	7.5	5	125	-12	CC**0602**
E08K-SCLCR/L06-10	✻	●	●	10	8	7.5	6	125	-12	CC**0602**
E10M-SCLCR/L06	✻	●	●	12	10	9.5	7	150	-10	CC**0602**
E12Q-SCLCR/L06	✻	●	●	15	12	11.5	9	180	-10	CC**0602**
E16R-SCLCR/L06	✻	●	●	18	16	15.5	10	200	-8	CC**0602**
E12Q-SCLCR/L09	✻	●	●	15	12	11.5	9	180	-9	CC**09T3**
E16R-SCLCR/L09	✻	●	●	18	16	15.5	10	200	-10	CC**09T3**
E20S-SCLCR/L09	✻	●	●	24	20	19.5	13	250	-8	CC**09T3**
E25T-SCLCR/L09	✻	●	●	31	25	24	17	300	-6	CC**09T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CC**0602****	**CC**09T3****	**CC**09T3****
	ød	**8-16**	**12**	**16-25**
	Screw	I60M2.5×5.5	I60M3.5×8	I60M3.5×10
	Wrench (screw)	WT07IP	WT15IP	WT15IP

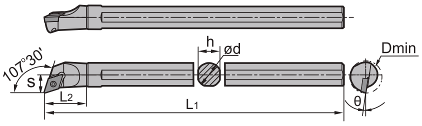
Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A102	A106	A107	A108	A107	A152

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DP** solid carbide boring bar **S-Clamping**

SDQPR/L Kr: 107°30'



Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ØD	ød	h	s	L_1	L_2	θ	
C10M-SDQPR/L07		●	●	13	10	9	7	150	20	8	DP**0702
C12Q-SDQPR/L07		○	●	16	12	11	9	180	22	8	DP**0702
C16R-SDQPR/L07		○	○	20	16	15	11	200	27	6	DP**0702
C16R-SDQPR/L11		○	○	20	16	15	11	200	32	6	DP**11T3**
C20S-SDQPR/L11		●	○	25	20	18	13	250	33	6	DP**11T3**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DP**0702**	**DP**0702**	**DP**11T3****
	ød	**10-12**	**16**	**16-20**
	Screw	I60M2.5×5.5	I60M2.5×6.5	I60M3.5×8
	Wrench (screw)	WT07IP	WT07IP	WT15IP

Insert

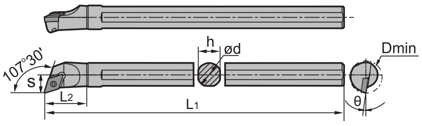
	
Finishing	**Cast Iron**
A116	A116

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DC** solid carbide boring bar S-Clamping

SDQCR/L Kr: 107°30'

Right hand style



Article	❇	Stock		Dimensions [mm]						Inserts
		R	L	ØD	ød	h	s	L_1	θ	
E08K-SDQCR/L07	❇	●	●	11	8	7.5	6.5	140	-12	DC**0702**
E10M-SDQCR/L07	❇	●	●	12	10	9.5	7	150	-10	DC**0702**
E12Q-SDQCR/L07	❇	●	●	15	12	11.5	9	180	-10	DC**0702**
E16R-SDQCR/L07	❇	●	○	18	16	15.5	10	200	-6	DC**0702**
E20S-SDQCR/L07	❇	●	●	24	20	19.5	13	250	-4	DC**0702**
E16R-SDQCR/L11	❇	●	●	18	16	15.5	10	200	-8	DC**11T3**
E20S-SDQCR/L11	❇	●	○	24	20	19.5	13	250	-8	DC**11T3**
E25T-SDQCR/L11	❇	●	○	31	25	24	17	300	-6	DC**11T3**

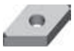
● Ex stock ○ On demand

❇ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**11T3****
	ød	**8-20**	**16-25**
	Screw	I60M2.5×5.5	I60M3.5×10
	Wrench (screw)	WT07IP	WT15IP

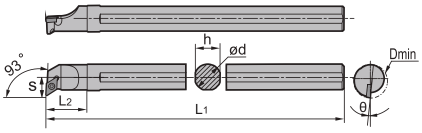
Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A111	A113	A114	A114	A114	A153

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DP** solid carbide boring bar **S-Clamping**

SDUPR/L Kr: 93°



Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ØD	ød	h	s	L_1	L_2	θ	
C10M-SDUPR/L07		●	●	15	10	9	9	150	18	8	DP**0702**
C12Q-SDUPR/L07		●	●	16	12	11	9	180	19	8	DP**0702**
C16R-SDUPR/L07		●	○	20	16	15	11	200	25	6	DP**0702**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DP**0702****
	ød	**15-20**
	Screw	I60M2.5x5.5
	Wrench	WT07IP

Insert

Finishing

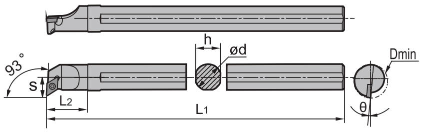
A116

System code A282 Grade selection A38 Technical info A445 Cutting data A324

DC** solid carbide boring bar S-Clamping

SDUCR/L Kr: 93°

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	ØD	ød	h	s	L_1	θ	
E10M-SDUCR/L07	✻	●	○	12	10	9.5	7	150	-10	DC**0702**
E12Q-SDUCR/L07	✻	●	●	15	12	11.5	9	180	-10	DC**0702**
E16R-SDUCR/L07	✻	●	○	18	16	15.5	10	200	-6	DC**0702**
E20S-SDUCR/L07	✻	○	○	24	20	19.5	13	250	-4	DC**0702**
E16R-SDUCR/L11	✻	●	○	18	16	15.5	10	200	-8	DC**11T3**
E20S-SDUCR/L11	✻	●	●	24	20	19.5	13	250	-8	DC**11T3**
E25T-SDUCR/L11	✻	○	○	31	25	24	17	300	-6	DC**11T3**

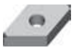
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**DC**0702****	**DC**11T3****
	ød	**10-20**	**16-25**
	Screw	I60M2.5×5.5	I60M3.5×10
	Wrench (screw)	WT07IP	WT15IP

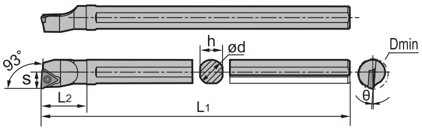
Insert

 **Finishing**	 **Medium Cut**	 **Roughing**	 **Cast Iron**	 **PCBN/PCD**
A111	A113	A114	A114	A153

System code A282 Grade selection A38 Technical info A445 Cutting data A324

TP** solid carbide boring bar **S-Clamping**

STUPR/L Kr: 93°



Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ØD	ød	h	s	L_1	L_2	θ	
C10M-STUPR/L09		●	○	12	10	9	6	150	20	6	TP**0902**
C12Q-STUPR/L09		●	●	16	12	11	8	180	22	4	TP**0902**
C12Q-STUPR/L11		●	○	16	12	11	8	180	25	4	TP**1103
C16R-STUPR/L11		○	○	20	16	15	10	200	27	3	TP**1103

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

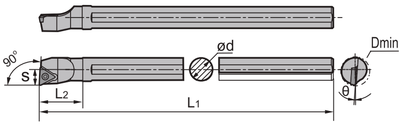
	Insert	**TP**0902****	**TP**1103**
	ød	**10-12**	**12-16**
	Screw	I60M2.2×5.5	I60M2.5×6.5
	Wrench (screw)	WT07IP	WT07IP

Insert
 **Finishing**
A131

System code A282 Grade selection A38 Technical info A445 Cutting data A324

TC** solid carbide boring bar S-Clamping

STFCR/L Kr: 90°



Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ØD	ød	h	s	L_1	L_2	θ	
E08K-STFCR/L09	✻	○	●	11	8	7.5	6	125		-12	TC**0902**
E10M-STFCR/L09	✻	○	○	12	10	9.5	7	150		-10	TC**0902**
E12Q-STFCR/L11	✻	●	○	15	12	11.5	9	180		-10	TC**1103**
E16R-STFCR/L11	✻	○	○	18	16	15.5	10	200		-8	TC**1103**
E20S-STFCR/L11	✻	○	○	24	20	19.5	13	250		-8	TC**1103**
E20S-STFCR/L16	✻	○	○	24	20	19.5	13	250		-8	TC**16T3**
E25T-STFCR/L16	✻	○	○	31	25	24	17	300		-6	TC**16T3**

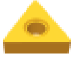
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**TC**0902****	**TC**1103****	**TC**16T3****
	ød	**8-10**	**12-20**	**20-25**
	Screw	I60M2.2×5.5	I60M2.5×5.5	I60M3.5×10
	Wrench (screw)	WT07IP	WT07IP	WT15IP

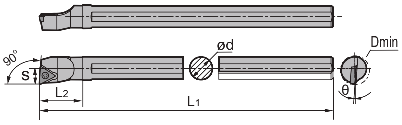
Insert

					
Finishing	**Medium Cut**	**Roughing**	**Aluminium**	**Cast Iron**	**PCBN/PCD**
A125	A127	A128	A130	A128	A154

System code > A282 Grade selection > A38 Technical info > A445 Cutting data > A324

TC** solid carbide boring bar **S-Clamping**

STFPR/L Kr: 90°



Right hand style

Article	✲	Stock		Dimensions [mm]							Inserts
		R	L	ØD	ød	h	s	L_1	L_2	θ	
E10M-STFPR/L11	✲	○	○	12	10	9.5	6	150		-5	TP**1103**
E12Q-STFPR/L11	✲	○	○	15	12	11.5	8	180		-4	TP**1103**
E16R-STFPR/L11	✲	○	○	19	16	15.5	10	200		-2	TP**1103**
E20S-STFPR/L11	✲	○	○	24	20	19	13	250		-2	TP**1103**

● Ex stock ○ On demand
✲ With internal cooling

Spare parts

	Insert	**TP**1103****
	ød	**10-20**
	Screw	I60M3.0×7.0
	Wrench (screw)	WT08IP

Insert

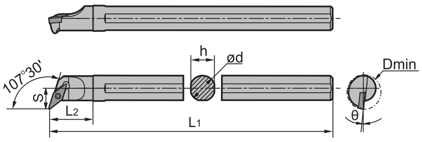
Finishing

A131

VC** solid carbide boring bar S-Clamping

SVQCR/L Kr: 107°30'

Right hand style



Article	✼	Stock		Dimensions [mm]							Inserts
		R	L	ØD	ød	h	s	L_1	L_2	θ	
C16R-SVQCR/L11		○	○	22	16	15	13	200	28	-6	VC**1103**
C20S-SVQCR/L11		○	○	26	20	18	15	250	32	-4	VC**1103**

● Ex stock ○ On demand

✼ With internal cooling

Spare parts

	Insert	**VC**1103****
	ød	**16-20**
	Screw	I60M2.5×6.5
	Wrench (screw)	WT07IP

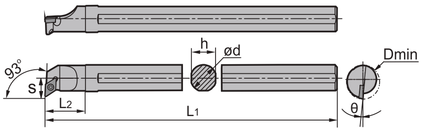
Insert

	
Finishing	**Aluminium**
A133	A134

System code A282 Grade selection A38 Technical info A445 Cutting data A324

VC** solid carbide boring bar **S-Clamping**

SVUCR/L Kr: 93°



Right hand style

Article	✻	Stock		Dimensions [mm]							Inserts
		R	L	ØD	ød	h	s	L_1	L_2	θ	
C16R-SVUCR/L11		●	○	24	16	15	15	200	25	6	VC**1103**
E16R-SVUCR/L11	✻	○	○	22	16	15	13	200		-6.5	VC**1103**
C20S-SVUCR/L11		●	●	28	20	18	17	250	30	4	VC**1103**
E20S-SVUCR/L11	✻	○	○	27	20	18	13	250		-6.5	VC**1103**
E25T-SVUCR/L16	✻	○	○	35	25	23	20.5	300		-6.5	VC**1604**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**VC**1103****	**VC**1604****
	ød	**16-20**	**25**
	Screw	I60M2.5×6.5	I60M3.5×10
	Wrench (screw)	WT07IP	WT15IP

Insert

			
Finishing	**Medium Cut**	**Aluminium**	**PCBN/PCD**
A133	A136	A134	A156

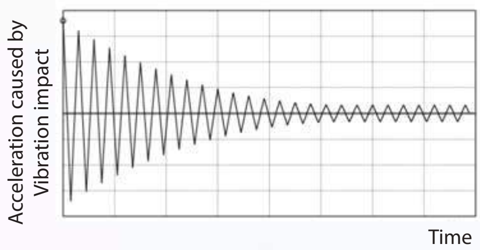
System code A282 Grade selection A38 Technical info A445 Cutting data A324

Anti Vibration Boring Bar

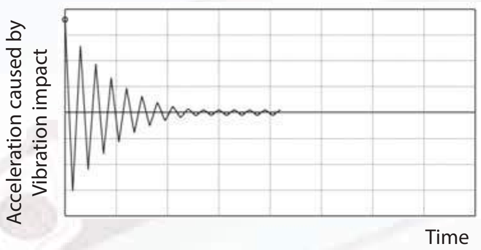
Technical features

By increasing the rigidity of the tool materials the vibration will be reduced. The carbide tool holder performs much better than steel tool holders (steel tool holder approx. L≤3xD, carbide tool holder is approx. L≤6xD). The cutting data can be increased and the shank overhang extended. Therefore you achieve better surface and higher workpiece precision.

Vibration amplitude (under same machining conditions)



Steel tool holder



Cemented carbide tool holder

Turning insert, negative

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]								
						HC (CVD)								
						YB6315			YBC152			YBC252		
						Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
						0,1	0,2	0,6	0,1	0,2	0,6	0,1	0,4	0,8
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	500	400	270	500	400	270	480	370	230
		ca. 0,45 % C	annealed	190	2	420	340	230	420	340	230	400	310	190
		ca. 0,45 % C	tempered	250	3	330	280	200	330	280	200	310	250	160
		ca. 0,75 % C	annealed	270	4	320	270	190	320	270	190	300	240	150
		ca. 0,75 % C	tempered	300	5	280	240	170	280	240	170	260	210	130
	Low-alloyed steel		annealed	180	6	400	300	180	400	300	180	380	290	170
			tempered	275	7	280	230	150	280	230	150	260	210	140
			tempered	300	8	260	220	150	260	220	150	240	200	140
			tempered	350	9	230	190	120	230	190	120	220	180	110
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	360	290	190	360	290	190	310	250	170
			hardened and tempered	325	11	190	160	130	190	160	130	150	130	100
M	Stainless steel	ferritic/martensitic	annealed	200	12									
		martensitic	tempered	240	13									
		austenitic	quench hardened	180	14									
		austenitic-ferritic		230	15									
K	Grey cast iron	perlitic/ferritic		180	16									
		perlitic (martensitic)		260	17									
	Cast iron with spheroidal graphite	ferritic		160	18									
		perlitic		250	19									
	Malleable cast iron	ferritic		130	20									
		perlitic		230	21									
N	Aluminium wrought alloys	cannot be hardened		60	22									
		hardenable	hardened	100	23									
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24									
		≤ 12 % Si, hardenable	hardened	90	25									
		> 12 % Si, cannot be hardened		130	26									
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27									
		CuZn, CuSnZn		90	28									
		CuSn, Pb-free copper, electrolytic copper		100	29									
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30									
			hardened	280	31									
		Ni or Co bass	annealed	250	32									
			hardened	350	33									
			cast	320	34									
	Titanium alloys	pure titanium		R_m 400	35									
		α and β alloys	hardened	R_m 1050	36									
H	Hardened steel		hardened and tempered	55 HRC	37									
			hardened and tempered	60 HRC	38									
	Hard cast iron		cast	400	39									
	Hardened cast iron		hardened and tempered	55 HRC	40									
X	Non-metallic materials	Thermoplasts			41									
		Thermosetting plastics			42									
		Plastic, glass-fibre reinforced GFRP			43									
		Plastic, carbon fibre reinforced CFRP			44									
		Graphite			45									
		Wood			46									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
For examples of material for cutting tool groups view page D22.

Starting values for cutting speed v_c [m/min]																							
HC (CVD)																							
YBC251			YBC352			YBM153			YBM253			YBD052			YBD102			YB7315			YBD152		
Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
0,1	0,4	0,8	0,2	0,5	1	0,2	0,4	0,6	0,2	0,4	0,6	0,1	0,3	0,4	0,1	0,3	0,4	0,1	0,3	0,5	0,1	0,3	0,5
430	320	180	430	330	220																		
350	260	140	350	270	180																		
260	190	110	260	210	150																		
250	180	100	250	200	140																		
210	160	80	210	170	120																		
330	230	120	320	240	150																		
210	170	110	200	170	120																		
190	150	100	180	160	120																		
170	140	90	150	130	90																		
260	190	120	220	180	130																		
100	75	50																					
						380	295	210	350	265	180												
						190	155	120	150	110	65												
						250	200	150	200	140	80												
						200	160	130	160	115	70												
												620	420	230	530	380	220	600	410	220	540	375	210
												300	220	150	240	200	150	330	240	150	280	210	140
												310	220	150	300	210	145	340	250	160	290	215	140
												230	160	110	220	150	105	260	190	120	210	155	100
												350	275	230	330	265	220	370	300	230	320	265	210
												250	160	105	230	155	100	280	200	120	230	165	100

HC	Coated carbide
HT	Uncoated carbide, main component (TiC) o. (TiN), cermet
HW	Uncoated carbide, main component (WC)
BL	Cubic crystalline boron nitride, low content
BH	Cubic crystalline boron nitride, high content
CN	Si_3N_4 ceramic
CM	Mixed ceramic
HC$_1$	Coated cermet

Turning insert, negative

	Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]								
						HC (CVD)			HC (PVD)					
						YBD152C			YBG101			YBG105		
						Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
						0,1	0,3	0,5	0,1	0,3	0,6	0,1	0,3	0,6
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1									
		ca. 0,45 % C	annealed	190	2									
		ca. 0,45 % C	tempered	250	3									
		ca. 0,75 % C	annealed	270	4									
		ca. 0,75 % C	tempered	300	5									
	Low-alloyed steel		annealed	180	6									
			tempered	275	7									
			tempered	300	8									
			tempered	350	9									
	High-alloyed steel and high-alloyed tool steel		annealed	200	10									
			hardened and tempered	325	11									
M	Stainless steel	ferritic/martensitic	annealed	200	12							360	290	200
		martensitic	tempered	240	13							180	150	110
		austenitic	quench hardened	180	14							240	190	140
		austenitic-ferritic		230	15							190	150	110
K	Grey cast iron	perlitic/ferritic		180	16	570	395	220						
		perlitic (martensitic)		260	17	310	230	150						
	Cast iron with spheroidal graphite	ferritic		160	18	310	230	150						
		perlitic		250	19	230	170	110						
	Malleable cast iron	ferritic		130	20	340	280	220						
		perlitic		230	21	250	180	110						
N	Aluminium wrought alloys	cannot be hardened		60	22				2000	1200				
		hardenable	hardened	100	23				610	420				
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24				550	300				
		≤ 12 % Si, hardenable	hardened	90	25				360	190				
		> 12 % Si, cannot be hardened		130	26				320	170				
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27				730	350				
		CuZn, CuSnZn		90	28				370	330				
		CuSn, Pb-free copper, electrolytic copper		100	29				270	200				
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30							65	45	
			hardened	280	31							60	40	
		Ni or Co bass	annealed	250	32							60	40	
			hardened	350	33							55	35	
			cast	320	34							55	35	
	Titanium alloys	pure titanium		R_m 400	35							100	60	
		α and β alloys	hardened	R_m 1050	36							80	40	
H	Hardened steel		hardened and tempered	55 HRC	37									
			hardened and tempered	60 HRC	38									
	Hard cast iron		cast	400	39									
	Hardened cast iron		hardened and tempered	55 HRC	40									
X	Non-metallic materials	Thermoplasts			41									
		Thermosetting plastics			42									
		Plastic, glass-fibre reinforced GFRP			43									
		Plastic, carbon fibre reinforced CFRP			44									
		Graphite			45									
		Wood			46									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
For examples of material for cutting tool groups view page D22.

Starting values for cutting speed v_c [m/min]																							
HC (PVD)						HC$_1$			HT						HW						BL		
YB9320			YBG205			YNG151C			YNG151			YNT251			YD101			YD201			YCB111		
Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
0,1	0,3	0,6	0,1	0,3	0,6	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,05	0,2	0,35	0,1	0,2	0,3	0,1	0,2	0,3
						510	350		510	350		510	350										
						430	270		430	270		430	270										
						330	220		330	220		330	220										
						320	200		320	200		320	200										
						280	170		280	170		280	170										
						400	240		400	240		400	240										
						290	180		290	180		290	180										
						240	170		240	170		240	170										
						220	150		220	150		220	150										
						340	220		340	220		340	220										
						180	110		180	110		180	110										
360	290	200	320	250	160																		
190	155	110	170	150	110																		
250	210	150	230	190	140																		
200	165	120	180	150	110																		
						430	365	280	430	365	280	430	365	280									
						390	340	270	390	340	270	390	340	270									
						360	300	220	360	300	220	360	300	220									
						340	295	230	340	295	230	340	295	230									
						310	260	190	310	260	190	310	260	190									
						250	210	150	250	210	150	250	210	150									
															1750	1200	800	1750	1200	800			
															510	380	250	510	380	250			
															460	320	175	460	320	175			
															300	205	110	300	205	110			
															270	185	100	270	185	100			
															610	410	205	610	410	205			
															310	250	195	310	250	195			
															225	170	115	225	170	115			
55	35		55			65	45		65	45		65	45										
50	30		50			60	40		60	40		60	40										
50	30		50			60	40		60	40		60	40										
45	25		45			55	35		55	35		55	35										
45	25		45			55	35		55	35		55	35										
80	60		70			90	60		90	60		90	60										
60	40		50			80	40		80	40		80	40										
																					240	180	140
																					220	180	140
																					250	150	100
																					200	150	100

HC	Coated carbide
HT	Uncoated carbide, main component (TiC) o. (TiN), cermet
HW	Uncoated carbide, main component (WC)
BL	Cubic crystalline boron nitride, low content
BH	Cubic crystalline boron nitride, high content
CN	Si_3N_4 ceramic
CM	Mixed ceramic
HC$_1$	Coated cermet

Turning insert, negative

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]								
						BL						BH		
						YCB121			YCB131			YCB211		
						Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
						0,1	0,2	0,3	0,1	0,3	0,5	0,1	0,3	0,5
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1									
		ca. 0,45 % C	annealed	190	2									
		ca. 0,45 % C	tempered	250	3									
		ca. 0,75 % C	annealed	270	4									
		ca. 0,75 % C	tempered	300	5									
	Low-alloyed steel		annealed	180	6									
			tempered	275	7									
			tempered	300	8									
			tempered	350	9									
	High-alloyed steel and high-alloyed tool steel		annealed	200	10									
			hardened and tempered	325	11									
M	Stainless steel	ferritic/martensitic	annealed	200	12									
		martensitic	tempered	240	13									
		austenitic	quench hardened	180	14									
		austenitic-ferritic		230	15									
K	Grey cast iron	perlitic/ferritic		180	16							1500	980	400
		perlitic (martensitic)		260	17							1250	800	320
	Cast iron with spheroidal graphite	ferritic		160	18									
		perlitic		250	19							300	200	100
	Malleable cast iron	ferritic		130	20									
		perlitic		230	21							300	200	100
N	Aluminium wrought alloys	cannot be hardened		60	22									
		hardenable	hardened	100	23									
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24									
		≤ 12 % Si, hardenable	hardened	90	25									
		> 12 % Si, cannot be hardened		130	26									
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27									
		CuZn, CuSnZn		90	28									
		CuSn, Pb-free copper, electrolytic copper		100	29									
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30									
			hardened	280	31									
		Ni or Co bass	annealed	250	32									
			hardened	350	33									
			cast	320	34									
	Titanium alloys	pure titanium		R_m 400	35									
		α and β alloys	hardened	R_m 1050	36									
H	Hardened steel		hardened and tempered	55 HRC	37	220	170	130	160	120	100			
			hardened and tempered	60 HRC	38	200	160	120	150	120	100			
	Hard cast iron		cast	400	39	200	150	100	180	120	100			
	Hardened cast iron		hardened and tempered	55 HRC	40	200	150	100	150	120	100			
X	Non-metallic materials	Thermoplasts			41									
		Thermosetting plastics			42									
		Plastic, glass-fibre reinforced GFRP			43									
		Plastic, carbon fibre reinforced CFRP			44									
		Graphite			45									
		Wood			46									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
For examples of material for cutting tool groups view page D22.

	Starting values for cutting speed v_c [m/min]																		
	BL			BH						CM			CN						
	YZB121			YZB221			YZB231			CA1000			CN1000			CN2000			
	Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			
	0,3	0,9	1,5	0,3	0,9	1,5	0,1	0,6	1,5	0,1	0,6	1,5	0,1	0,6	1,5	0,1	0,6	1,5	
				1500	950	400	1200	800	400	1200	800	200	800	700	600	700	600	500	
				1250	780	320	980	650	320	1000	650	200	750	625	500	800	700	600	
										800	550	200	600	530	450	600	530	450	
				500	300	100	400	250	100	700	500	200	500	420	350	500	420	350	
										1200	750	200	800	700	600	800	700	600	
				500	300	100	400	250	100	1000	650	200	700	600	500	700	600	500	
	200	160	120																
	200	160	120																
	200	155	100																
	200	155	100																

HC	Coated carbide
HT	Uncoated carbide, main component (TiC) o. (TiN), cermet
HW	Uncoated carbide, main component (WC)
BL	Cubic crystalline boron nitride, low content
BH	Cubic crystalline boron nitride, high content
CN	Si_3N_4 ceramic
CM	Mixed ceramic
HC_1	Coated cermet

Turning insert, positive

	Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]								
						HC (CVD)								
						YB6315			YBC152			YBC252		
						Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
						0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,3	0,6
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	450	390	270	450	390	270	430	350	230
		ca. 0,45 % C	annealed	190	2	380	330	230	380	330	230	360	295	190
		ca. 0,45 % C	tempered	250	3	300	265	200	300	265	200	280	235	160
		ca. 0,75 % C	annealed	270	4	290	255	190	290	255	190	270	225	150
		ca. 0,75 % C	tempered	300	5	250	225	170	250	225	170	235	195	130
	Low-alloyed steel		annealed	180	6	360	300	180	360	300	180	340	270	170
			tempered	275	7	250	210	150	250	210	150	235	195	140
			tempered	300	8	230	200	150	230	200	150	220	180	140
			tempered	350	9	200	170	120	200	170	120	190	155	110
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	320	275	190	320	275	190	280	230	170
			hardened and tempered	325	11	160	150	130	160	150	130	130	115	100
M	Stainless steel	ferritic/martensitic	annealed	200	12									
		martensitic	tempered	240	13									
		austenitic	quench hardened	180	14									
		austenitic-ferritic		230	15									
K	Grey cast iron	perlitic/ferritic		180	16									
		perlitic (martensitic)		260	17									
	Cast iron with spheroidal graphite	ferritic		160	18									
		perlitic		250	19									
	Malleable cast iron	ferritic		130	20									
		perlitic		230	21									
N	Aluminium wrought alloys	cannot be hardened		60	22									
		hardenable	hardened	100	23									
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24									
		≤ 12 % Si, hardenable	hardened	90	25									
		> 12 % Si, cannot be hardened		130	26									
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27									
		CuZn, CuSnZn		90	28									
		CuSn, Pb-free copper, electrolytic copper		100	29									
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30									
			hardened	280	31									
		Ni or Co bass	annealed	250	32									
			hardened	350	33									
			cast	320	34									
	Titanium alloys	pure titanium		R_m 400	35									
		α and β alloys	hardened	R_m 1050	36									
H	Hardened steel		hardened and tempered	55 HRC	37									
			hardened and tempered	60 HRC	38									
	Hard cast iron		cast	400	39									
	Hardened cast iron		hardened and tempered	55 HRC	40									
X	Non-metallic materials	Thermoplasts			41									
		Thermosetting plastics			42									
		Plastic, glass-fibre reinforced GFRP			43									
		Plastic, carbon fibre reinforced CFRP			44									
		Graphite			45									
		Wood			46									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
For examples of material for cutting tool groups view page D22.

Starting values for cutting speed v_c [m/min]																							
HC (CVD)																							
YBC251			YBC352			YBM153			YBM253			YBD052			YBD102			YB7315			YBD152		
Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
0,1	0,3	0,6	0,2	0,4	0,6	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4
390	310	180	390	310	230																		
315	245	140	315	250	190																		
235	185	110	230	195	160																		
225	175	100	220	185	150																		
190	150	80	185	155	120																		
300	230	120	290	225	150																		
190	160	110	170	150	130																		
170	140	100	150	140	130																		
145	120	90	130	110	90																		
230	185	120	180	160	140																		
90	75	50																					
						360	340	260	330	300	230												
						180	170	140	150	130	95												
						240	220	170	195	170	115												
						190	175	140	160	140	100												
												560	380	210	480	345	200	540	370	200	490	340	190
												270	200	140	220	180	135	300	220	135	250	190	130
												280	220	135	270	210	130	300	230	145	260	200	125
												210	160	100	200	150	95	230	180	110	190	140	90
												290	250	190	275	240	180	310	260	190	265	230	170
												210	160	90	190	145	85	230	170	100	190	140	90

HC	Coated carbide
HT	Uncoated carbide, main component (TiC) o. (TiN), cermet
HW	Uncoated carbide, main component (WC)
BL	Cubic crystalline boron nitride, low content
BH	Cubic crystalline boron nitride, high content
CN	Si_3N_4 ceramic
CM	Mixed ceramic
HC_1	Coated cermet

Turning insert, positive

	Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]								
						HC (CVD)			HC (PVD)					
						YBD152C			YBG101			YBG105		
						Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
						0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1									
		ca. 0,45 % C	annealed	190	2									
		ca. 0,45 % C	tempered	250	3									
		ca. 0,75 % C	annealed	270	4									
		ca. 0,75 % C	tempered	300	5									
	Low-alloyed steel		annealed	180	6									
			tempered	275	7									
			tempered	300	8									
			tempered	350	9									
	High-alloyed steel and high-alloyed tool steel		annealed	200	10									
			hardened and tempered	325	11									
M	Stainless steel	ferritic/martensitic	annealed	200	12							305	245	205
		martensitic	tempered	240	13							150	125	100
		austenitic	quench hardened	180	14							200	165	145
		austenitic-ferritic		230	15							160	130	115
K	Grey cast iron	perlitic/ferritic		180	16	520	360	200						
		perlitic (martensitic)		260	17	280	210	135						
	Cast iron with spheroidal graphite	ferritic		160	18	280	220	135						
		perlitic		250	19	210	160	100						
	Malleable cast iron	ferritic		130	20	280	245	180						
		perlitic		230	21	210	160	100						
N	Aluminium wrought alloys	cannot be hardened		60	22				1800	880				
		hardenable	hardened	100	23				540	380				
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24				500	270				
		≤ 12 % Si, hardenable	hardened	90	25				320	170				
		> 12 % Si, cannot be hardened		130	26				290	150				
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27				660	320				
		CuZn, CuSnZn		90	28				330	300				
		CuSn, Pb-free copper, electrolytic copper		100	29				220	175				
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30				50	35		60	45	
			hardened	280	31				45	30		55	40	
		Ni or Co bass	annealed	250	32				45	30		55	40	
			hardened	350	33				40			50	35	
			cast	320	34				40			50	35	
	Titanium alloys	pure titanium		R_m 400	35				85	60		95	60	
		α and β alloys	hardened	R_m 1050	36				65	40		75	40	
H	Hardened steel		hardened and tempered	55 HRC	37									
			hardened and tempered	60 HRC	38									
	Hard cast iron		cast	400	39									
	Hardened cast iron		hardened and tempered	55 HRC	40									
X	Non-metallic materials	Thermoplasts			41									
		Thermosetting plastics			42									
		Plastic, glass-fibre reinforced GFRP			43									
		Plastic, carbon fibre reinforced CFRP			44									
		Graphite			45									
		Wood			46									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
For examples of material for cutting tool groups view page D22.

Starting values for cutting speed v_c [m/min]																							
HC (PVD)						HC$_1$			HT						HW						BL		
YB9320			YBG205			YNG151C			YNG151			YNT251			YD101			YD201			YCB111		
Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,1	0,2	0,4	0,05	0,2	0,35	0,1	0,3	0,6	0,1	0,2	0,3
						470	320		470	320		470	320										
						400	250		400	250		400	250										
						300	200		300	200		300	200										
						290	180		290	180		290	180										
						245	150		245	150		245	150										
						370	220		370	220		370	220										
						255	160		255	160		255	160										
						200	140		200	140		200	140										
						185	130		185	130		185	130										
						285	180		285	180		285	180										
						150	90		150	90		150	90										
305	245	206	270	205	165																		
160	130	110	145	125	100																		
210	180	155	195	165	145																		
170	140	120	155	130	115																		
						390	330	255	390	330	255	390	330	255									
						355	310	245	355	310	245	355	310	245									
						330	270	200	330	270	200	330	270	200									
						310	270	210	310	270	210	310	270	210									
						260	220	160	260	220	160	260	220	160									
						210	170	120	210	170	120	210	170	120									
															1550	1050	700	1550	1050	700			
															450	320	200	450	320	200			
															400	270	150	400	270	150			
															250	170	95	250	170	95			
															230	150	85	230	150	85			
															550	370	170	550	370	170			
															260	210	160	260	210	160			
															190	145	95	190	145	95			
50	35		50			60	40		60	40		60	40		55	30		55	30				
45	30		45			55	35		55	35		55	35		55	25		55	25				
45	30		45			55	35		55	35		55	35		45	25		45	25				
40			40			50	30		50	30		50	30		35	20		35	20				
40			40			50	30		50	30		50	30		40	20		40	20				
75	60		70			85	55		85	55		85	55		60	40		60	40				
55	40		45			75	35		75	35		75	35		30			30					
																					240	180	140
																					220	180	140
																					250	150	100
																					200	150	100

HC	Coated carbide
HT	Uncoated carbide, main component (TiC) o. (TiN), cermet
HW	Uncoated carbide, main component (WC)
BL	Cubic crystalline boron nitride, low content
BH	Cubic crystalline boron nitride, high content
CN	Si_3N_4 ceramic
CM	Mixed ceramic
HC$_1$	Coated cermet

Turning insert, positive

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]								
						BL						BH		
						YCB121			YCB131			YCB211		
						Feed rate [mm]			Feed rate [mm]			Feed rate [mm]		
						0,1	0,2	0,3	0,1	0,2	0,3	0,1	0,2	0,4
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1									
		ca. 0,45 % C	annealed	190	2									
		ca. 0,45 % C	tempered	250	3									
		ca. 0,75 % C	annealed	270	4									
		ca. 0,75 % C	tempered	300	5									
	Low-alloyed steel		annealed	180	6									
			tempered	275	7									
			tempered	300	8									
			tempered	350	9									
	High-alloyed steel and high-alloyed tool steel		annealed	200	10									
			hardened and tempered	325	11									
M	Stainless steel	ferritic/martensitic	annealed	200	12									
		martensitic	tempered	240	13									
		austenitic	quench hardened	180	14									
		austenitic-ferritic		230	15									
K	Grey cast iron	perlitic/ferritic		180	16							1330	905	410
		perlitic (martensitic)		260	17							1100	740	330
	Cast iron with spheroidal graphite	ferritic		160	18									
		perlitic		250	19							240	180	100
	Malleable cast iron	ferritic		130	20									
		perlitic		230	21							240	180	100
N	Aluminium wrought alloys	cannot be hardened		60	22									
		hardenable	hardened	100	23									
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24									
		≤ 12 % Si, hardenable	hardened	90	25									
		> 12 % Si, cannot be hardened		130	26									
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27									
		CuZn, CuSnZn		90	28									
		CuSn, Pb-free copper, electrolytic copper		100	29									
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30									
			hardened	280	31									
		Ni or Co bass	annealed	250	32									
			hardened	350	33									
			cast	320	34									
	Titanium alloys	pure titanium		R_m 400	35									
		α and β alloys	hardened	R_m 1050	36									
H	Hardened steel		hardened and tempered	55 HRC	37	220	170	130	160	120	100			
			hardened and tempered	60 HRC	38	200	160	120	150	120	100			
	Hard cast iron		cast	400	39	200	150	100	180	120	100			
	Hardened cast iron		hardened and tempered	55 HRC	40	200	150	100	150	120	100			
X	Non-metallic materials	Thermoplasts			41									
		Thermosetting plastics			42									
		Plastic, glass-fibre reinforced GFRP			43									
		Plastic, carbon fibre reinforced CFRP			44									
		Graphite			45									
		Wood			46									

Note: The given cutting values are guide values, which were determined under ideal conditions.
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HC	Coated carbide
HT	Uncoated carbide, main component (TiC) o. (TiN), cermet
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CM	Mixed ceramic
HC_1	Coated cermet

Notes

Parting & grooving

Product overview A338-A339
System overview A340-A341
Chip breaker overview A342-A343
Grade overview A344-A345
Application fields of grades A346-A348

System code – inserts A350
Inserts A351-A365

System code – inserts – QC series A366
Inserts – QC series A367-A371

System code – tool holders A372-A374
Tool holders A375-A395

System code – tool holders – QC series A396
Tool holders – QC series A397-A399

Recommended cutting data A400-A402

Technical information A453

Parting & grooving

Product overview

Parting & grooving inserts

Double sided





ZT*D-MM	ZT*D-MG	ZT**-EG	ZP*D-MG	ZP*D-MG-R/L	
2-8	2.5-6	1-6.5	2.5-6	2.35-2.85	Width
A351	A355	A357	A352	A354	Page




ZR*D-MG	ZR*D-EG	ZR*D-LH	ZILD-LC	
2.5-6	3-6	6-8	8	Width
A360	A361	A364	A365	Page

Single sided




ZT*S-MG	ZP*S-MG	ZIMF-NM	ZIGQ-NM	
5-6	2.5-6	3-6	3-6	Width
A356	A353	A362	A363	Page

Three cutting edges


QC**R/L	QC**R/L***R	
0.75-4.8	1-4	Width
A367	A370	Page

External tool holders

					
GQC**R/L	QE**R/L	QE*S**N	QE*SR/L	QECDR/L	
A397	A376	A382	A381	A379	Page

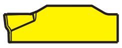
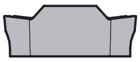
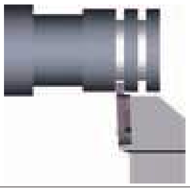
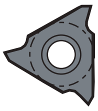
					
QF**R/L	QF**RR/LL	QF*DR/L	QX*DR/L	QZS*	
A384	A386	A390	A380	A383	Page

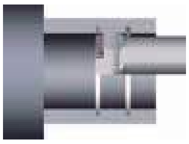
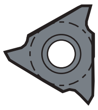
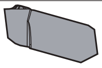
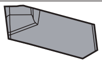
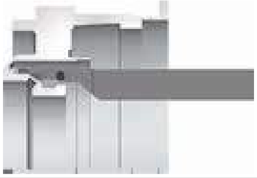
Boring bars

				
C***-Q*DR/L	C16M-QBDR/L	C40X-Q*DR/L	S*K-QC**R/L	
A395	A375	A394	A398	Page

Parting & grooving

System overview – parting & grooving

Machining			Tool holders	Inserts	Tool features and parameters	Page
External machining	Parting		 QZ**+QE**	 ZP*S**	– Variable overhang, also in greater grooving depths. – Max. parting diameter 120.0 mm	A382-A383
			 QE*DR/L	 ZP**D*	– Inserts with three different chip breakers for low cutting forces and good chip control. – Max. parting diameter 120.0 mm	A376-A378
			 QE*SR/L	 ZP*S*		
	Grooving & turning		 QE*DR/L	 ZT*D**	– With this universal tooling system, and by using the different inserts, applications like parting, grooving, profiling and turning are possible – Max. groove depth 30.0 mm	A376-A378
				 ZR*D*		
			 QE*SR/L	 ZT*S*		
	Precision grooving		 QECD	 ZT*D**-EG	– Ground inserts for precision grooving. – Cutting edge width can be any size between 1.0–6.5 mm according to customers requirements. – ZT*D*-EG insert: when the groove width is between 1.0–2.4 mm the max. groove depth is 2.5 mm (in combination with QECD).	A379
			 QE*DR/L	 ZT*D**-EG	– Ground inserts for precision grooving. – Cutting edge width can be any size between 1.0–6.5 mm according to customers requirements. – ZT*D*-EG insert: when the groove width is 1.6 mm<S≤2.4 mm the max. groove depth is 3.4 mm when the groove width is 2.4 mm<S≤3.8 mm the max. groove depth is 17.0 mm when the groove width is 3.8 mm<S≤6.5 mm the max. groove depth is 22.0 mm	A376
	Grooving		 QC series GQCR/L	 QC16/22****	– Precision ground with high tolerances. – Sharp cutting edge for precise machining. – High efficiency through three cutting edges. – Finishing with groove width between 0.5 mm–4.8 mm – Max. groove depth 5.0 mm	A397
Internal machining	Grooving & turning		 C*-Q*R/L*	 ZT*D**	– Tooling system for groove turning and profiling. – Max. groove depth 13.0 mm – Min. diameter 27.0 mm	A375 A395
				 ZR*D**		

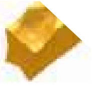
Machining			Tool holders	Inserts	Tool features and parameters	Page
Internal machining	Grooving		 QC series S***-QC**R/L*	 QC11/16/22****	– Fine ground insert for high precision. – Groove width 0.5–4.8 mm – Min. diameter 16.0 mm – Max. groove depth 4.0 mm	A398
Axial grooving			 QF*D*H	 ZT*D**	– Tooling system for groove turning and profiling. – Parting diameter 48.0–400.0 mm – Groove depth 10.0–30.0 mm	A384-A389
				 ZR*D**		
			 QF*D*L	 ZT*D**	– Tooling system for groove turning and profiling. – Parting diameter 48.0–400.0 mm – Groove depth 10.0–30.0 mm – 90° tool holder, top clamping	A390-A392
				 ZR*D**		
Undercutting	Undercutting & turning		 QX*DR/L	 ZT*D**	– Monoblock tool holder positioned at an angle (45°). – Tooling system for undercutting and turning. – Different turning operations like recesses, undercuts and copy turning.	A380
				 ZR*D**		
Aluminium profile turning	Facing & longitudinal profile turning		 C40X*	 ZR**-LH	– Special chip breakers for machining of aluminium. – Sharp and stable cutting edge for continuous to interrupted cut. – Profiling of aluminium rims.	A394
Tools for aerospace	External machining		 QE*S*N	 ZIGQ**	– Precision insert with optimised seat and safe clamping. – Insert for heat-resistant alloys and special materials.	A381
				 ZIMF**		
	Nonstandard tools		Nonstandard tools	Selection according to application	– Nonstandard solutions for machining of different workpieces.	

Grooving

MM P M K S

Ground chip breaker with straight cutting edge for general machining of steel, stainless steel and heat-resistant alloys. Suitable for grooving, turning and parting.

MG P M K S

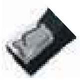


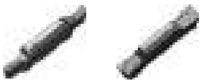
Universal chip breaker for general machining of steel, stainless steel and cast iron. Suitable for grooving, turning and parting.

MG P M K S

Universal chip breaker with round profile for general machining of steel, stainless steel and cast iron. Suitable for grooving and profiling.

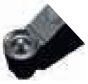
EG M P S

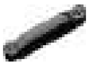




Ground precision chip breaker for grooving and turning applications. Suitable for machining of stainless steel. E-tolerance for high repeatability.

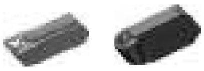
EG M P S





Ground precision chip breaker with round profile for grooving and turning applications. Suitable for machining of stainless steel. E-tolerance for high repeatability.

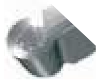
NM S



Special chip breaker for machining of heat-resistant materials.

Grooving

LC	**N**



Ground chip breaker for profile and turning applications of non-ferrous metals.

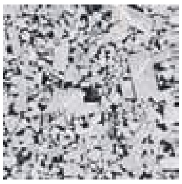
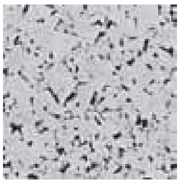
LH	**N**

Ground chip breaker for profile and turning applications of non-ferrous metals.

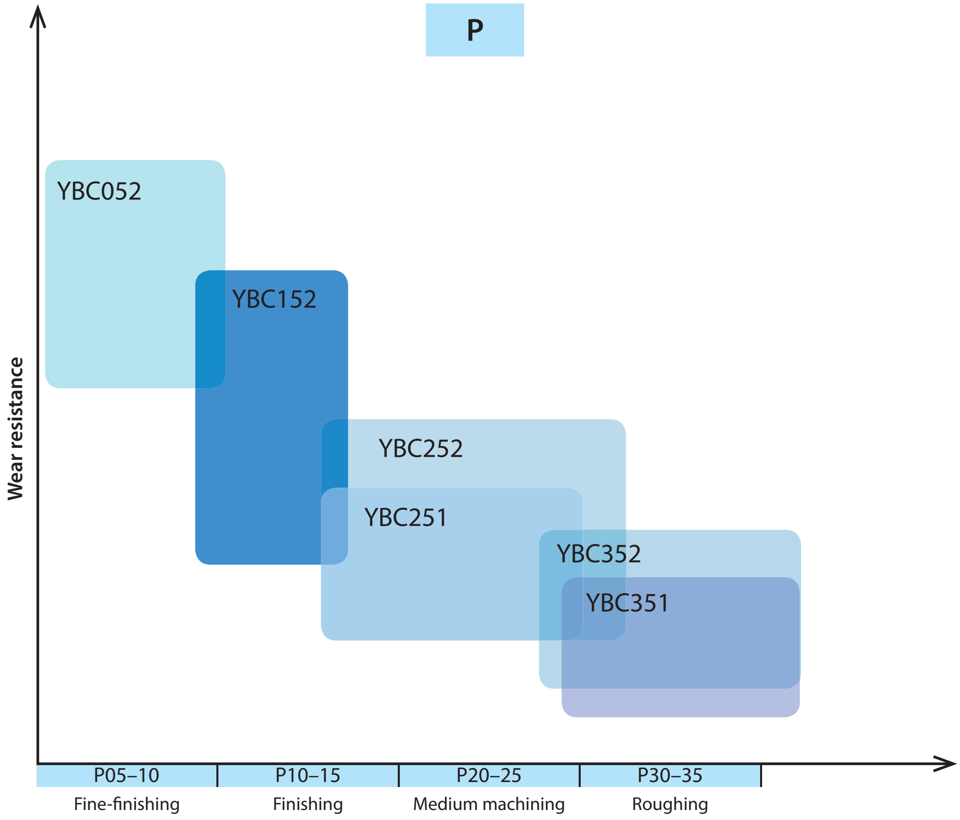
Parting & grooving

Grade	ISO	Micro structure	Grade description
YBC152	P10 – 20		CVD coated P10–P20 carbide grade for finishing to medium operation of steel and casting steel. Outstanding performance under higher cutting speed and temperature with excellent wear resistance.
YBC251	P20 – P35		CVD coated P20–P35 carbide grade for medium operation to roughing of steel and casting steel in lower cutting speed.
YBC252	P20 – P35		CVD coated P20–P35 carbide grade for medium operation to roughing of steel and casting steel. Optimal performance of wear resistance and toughness for a wide application field.
YBG102	S05 – S15		PVD coated S05–S15 carbide substrate for finishing to medium application of super alloy material, stainless steel and aluminum. Good wear resistance in a wide application field.
YBG105	S05 – S20		PVD multilayer coated S05–S20 carbide substrate for finishing to medium application of super alloy material but also stainless steel. Good wear resistance and thermal stability in a wide application field.
YB9320	P10 – P30 M10 – M25		PVD multilayer coated P10–P30/M10–M25 carbide substrate for finishing to medium application of stainless steel, super alloy and steel (grooving/milling). Optimized coating stability for higher wear resistance and thermal stability in a wide application field.
YBG202	P10 – P30 M10 – M25		PVD coated P10–P30/M10–M25 carbide substrate for finishing to medium application of stainless steel and steel (milling). Good wear resistance in a wide application field.

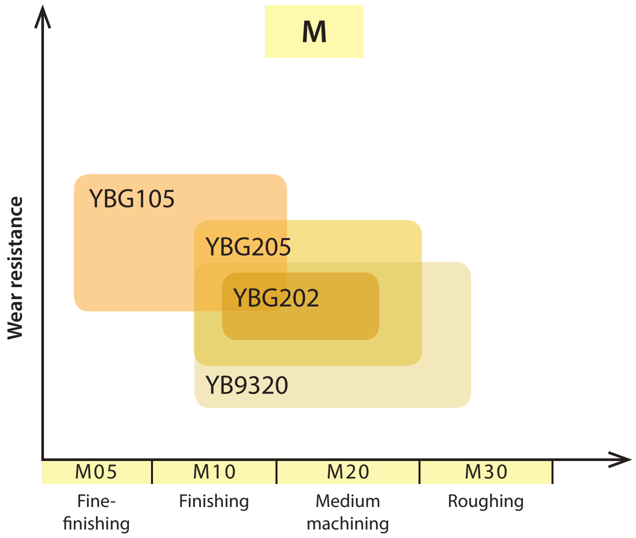
Parting & grooving

Grade	ISO	Micro structure	Grade description
YBG205	P10 – P30 M20 – M40 S15 – S25		PVD multilayer coated P10–P30/M20–M40/S15–S25 carbide substrate for finishing to medium application of stainless steel, super alloy and steel (milling). Good wear resistance and thermal stability in a wide application field.
YBG302	P15 – P30 M25 – M40		PVD coated P15–P30/M25–M40 carbide substrate for medium roughing application of stainless steel and steel (milling). Good wear resistance and toughness.
YD101	K05 – K20 N05 – N20		Uncoated K05–K20/N05–N20 carbide substrate for fine to medium application in aluminum and other material.
YD201	K10 – K30 N10 – N30		Uncoated K10–K30/N10–N30 carbide substrate for medium application in aluminum and other material.

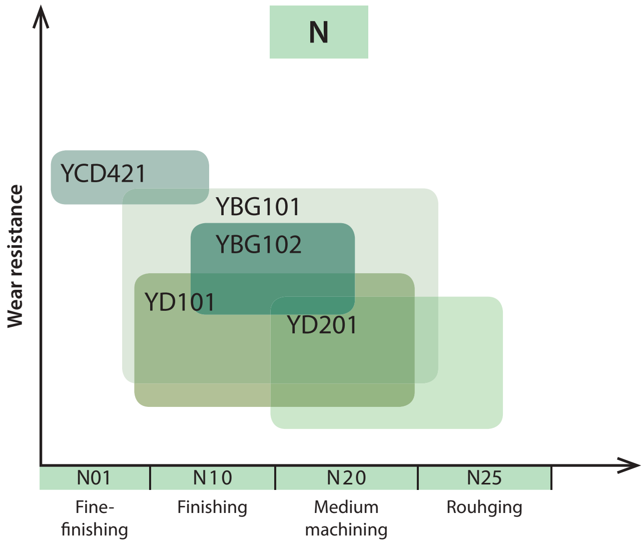
CVD grades for steel, stainless steel and cast iron



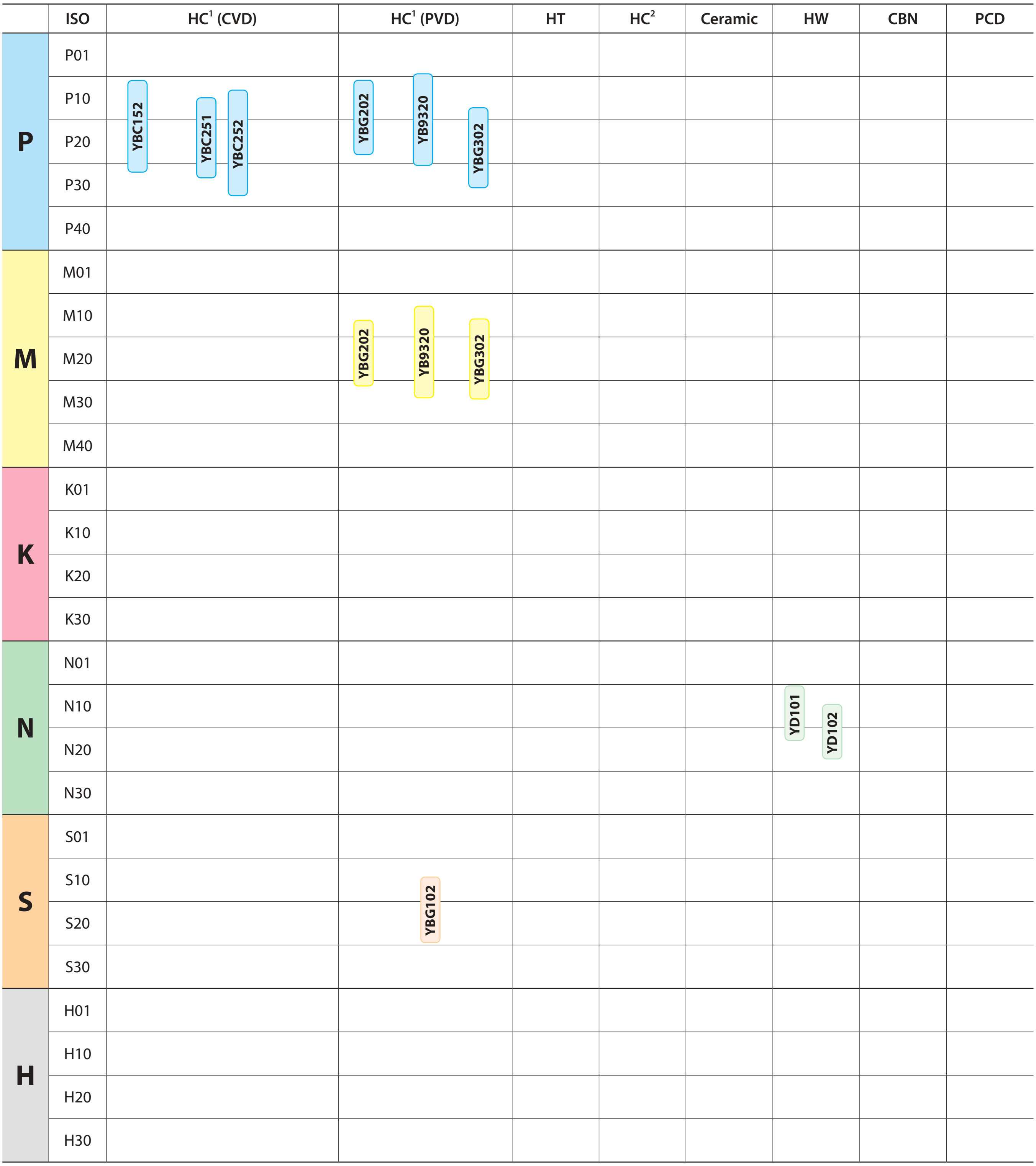
PVD grade for stainless steel and heat-resistant alloys



Turning grades for non-ferrous metals



Application fields of grades – Parting & grooving



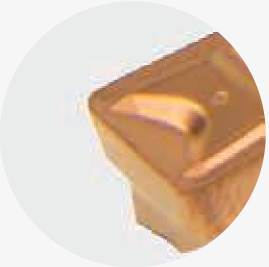
	ISO	HC^1 (CVD)	HC^1 (PVD)	HT	HC^2	Ceramic	HW	CBN	PCD
P	P01								
	P10	YBC152 YBC251 YBC252	YBG202 YB9320 YBG302						
	P20	YBC152 YBC251 YBC252	YBG202 YB9320 YBG302						
	P30	YBC152 YBC251 YBC252	YBG302						
	P40								
M	M01								
	M10		YBG202 YB9320 YBG302						
	M20		YBG202 YB9320 YBG302						
	M30		YB9320 YBG302						
	M40								
K	K01								
	K10								
	K20								
	K30								
N	N01								
	N10						YD101 YD102		
	N20						YD101 YD102		
	N30								
S	S01								
	S10		YBG102						
	S20		YBG102						
	S30								
H	H01								
	H10								
	H20								
	H30								

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metals
S	Heat-resistant alloys
H	Hardened materials

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

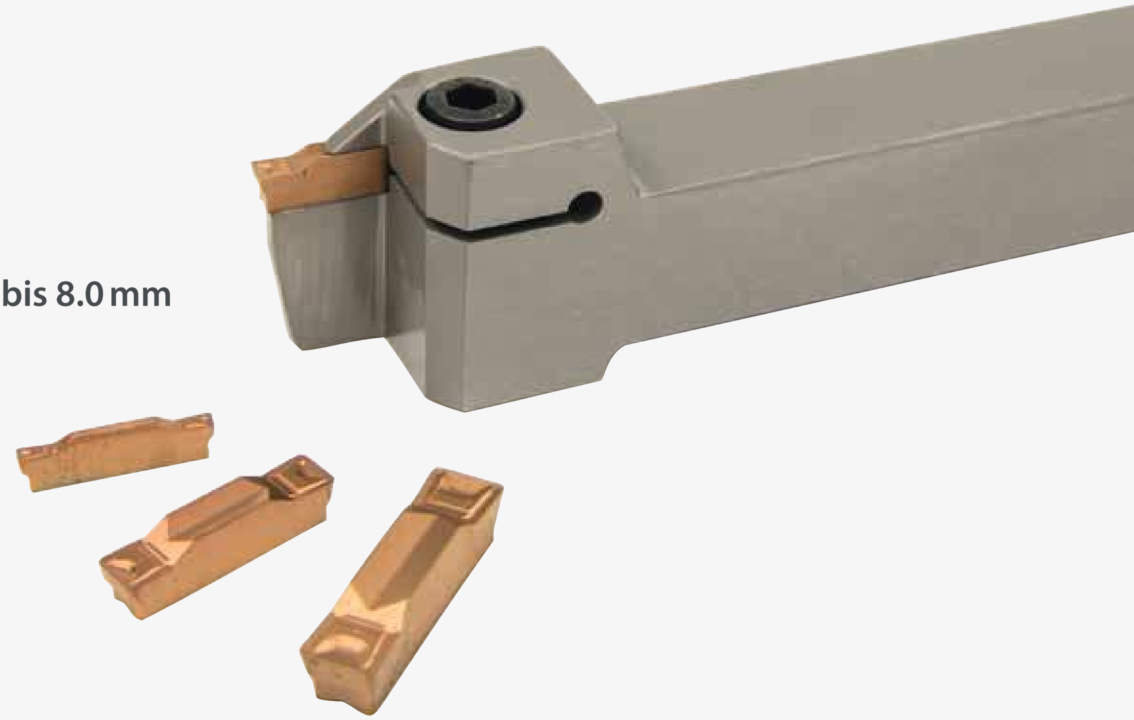
New

MM chip breaker



Ground chip breaker in combination with grade YB9320 for general machining of steel, stainless steel and heat-resistant alloys. Suitable for grooving, groove turning and parting.

Width 2.0 mm bis 8.0 mm



ZP	G	D	04	04	–	M	G
1	2	3	4	5		6	7

Application	
Code	Description
ZP	Parting
ZT	Grooving & turning
ZR	Form turning

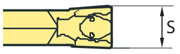
1

Insert seat size [mm]	
Groove width	
Code	Description
B	2.0
E	2.5
F	3.0
G	4.0
H	5.0
K	6.0
L	8.0

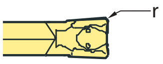
2

No. of cutting edges	
Code	Description
S	Single
D	Double

3

Insert thickness S [mm]	
	
Code	S
02	2.0
025	2.5
03	3.0
04	4.0
05	5.0
06	6.0
08	8.0

4

Nose radius r [mm]	
	
Code	r
02	0.2
03	0.3
04	0.4
08	0.8

5

Tolerance class [mm]	
Code	Description
M	±0.13
E	±0.025

6

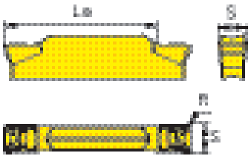
Chip breaker	
Code	Description
G	General chip breaker
F	Special chip breaker
M	Straight edge

7

○ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavorable machining conditions

Parting inserts

ZT parting & grooving insert (double sided)**



Double cutting edge

	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✲	✲			✲	✲	✲	❋		
M					✲	✲	✲	❋		
K										
N									○	✲
S			○	○	✲	✲	✲			
H										

ISO	S	R±0.1	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
ZTBD02002-MM	2.0	0.2	13	0.02-0.07					●	●	○	○		
ZTED02503-MM	2.5	0.3	17	0.03-0.1					●					
ZTFD0303-MM	3.0	0.3	17	0.04-0.13					●					
ZTGD0404-MM	4.0	0.4	22	0.06-0.18					●					
ZTHD0504-MM	5.0	0.4	22	0.08-0.23					●					
ZTKD0608-MM	6.0	0.8	22	0.12-0.27					●					
ZTLD0808-MM	8.0	0.8	28	0.13-0.29					●	○				

● Ex Stock ○ On demand

HC[1] Coated carbide
HW Uncoated carbide

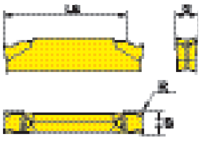
Tool holders

QE*D*R/L	QF*D*R/L-H	QF*D*RR-H	QF*D*LL-H	QF*D*R/L-L	*-QBDR/L	*-Q*DR/L
						
A376	A384	A386	A386	A390	A375	A394

Parting inserts

◯	Ideal machining conditions
⊛	Normal machining conditions
✺	Unfavorable machining conditions

Parting & grooving insert (double sided)



Double cutting edge

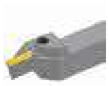
	HC^1 (CVD)		HC^1 (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	⊛	⊛			⊛	⊛	⊛	✺		
M					⊛	⊛	⊛	✺		
K										
N									◯	⊛
S			◯	◯	⊛	⊛	⊛			
H										

	ISO	S±0.10	R±0.1	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZPED02502-MG**	2.5	0.2	17	0.03-0.1		●			●		●	●		
	ZPFD0302-MG	3.0	0.2	17	0.04-0.13		●			●		●	●		
	ZPGD0402-MG	4.0	0.2	22	0.07-0.18		●			●		●	●		○
	ZPHD0503-MG	5.0	0.3	22	0.1-0.24					●		●	●		
	ZPKD0604-MG	6.0	0.4	22	0.12-0.29	○				●		●	●		

● Ex Stock ○ On demand

HC^1 Coated carbide
HW Uncoated carbide

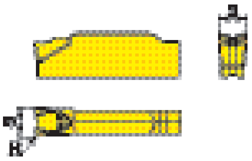
Tool holders

QE*D*R/L	QF*D*R/L-H	QF*D*RR-H	QF*D*LL-H	QF*D*R/L-L	*-Q*DR/L
					
A376	A384	A386	A386	A390	A375

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (single sided)



Single cutting edge

	HC^1 (CVD)		HC^1 (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✲	✲			✲	✲	✲	✺		
M					✲	✲	✲	✺		
K										
N									◯	✲
S			◯	◯	✲	✲	✲			
H										

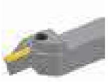
	ISO	S±0.10	R±0.1	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZPES02502-MG**	2.5	0.2	0.03-0.1							●	●		
	ZPFS0302-MG	3.0	0.2	0.04-0.13		●					●	●		
	ZPGS0402-MG	4.0	0.2	0.07-0.18		●					●	●		○
	ZPHS0503-MG	5.0	0.3	0.1-0.24							○	●		
	ZPKS0604-MG	6.0	0.4	0.12-0.29	○						●	●		

● Ex Stock ○ On demand

Single sided inserts only for parting blades

HC^1 Coated carbide
HW Uncoated carbide

Tool holders

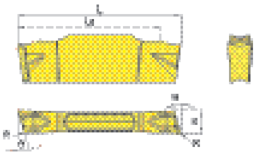
QZ**+QE**	QE*S*R/L	QF*S*R/L-H	QF*S*RR-H	QF*S*LL-H	QF*S*R/L-L
					
A382-A383	A381	A384	A389	A389	A390

System code
Grade selection
Technical info
Cutting data

○ Ideal machining conditions
❋ Normal machining conditions
✱ Unfavorable machining conditions

Parting inserts

ZT parting & grooving insert (double sided)**



	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	❋	❋			❋	❋	❋	✱		
M					❋	❋	❋	✱		
K										
N									○	❋
S			○	○	❋	❋	❋			
H										

	ISO	L	S	θ	R	La max	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZPED02502-MG-6L**	20.0	2.35	6°	0.2	17	0.03-0.08							○	●	○	
	ZPED02502-MG-6R	20.0	2.35	6°	0.2	17	0.03-0.08					●		○	●	○	
	ZPED02502-MG-15L	20.0	2.35	15°	0.2	17	0.03-0.05							○	●	○	
	ZPED02502-MG-15R	20.0	2.35	15°	0.2	17	0.03-0.05							●	●	○	
	ZPFD0302-MG-6L	20.0	2.85	6°	0.2	17	0.04-0.1					●		●	●	○	
	ZPFD0302-MG-6R	20.0	2.85	6°	0.2	17	0.04-0.1					●		●	●	○	
	ZPFD0302-MG-15L	20.0	2.85	15°	0.2	17	0.04-0.08							●	●	○	
	ZPFD0302-MG-15R	20.0	2.85	15°	0.3	17	0.04-0.08	○				●		●	●	○	

● Ex Stock ○ On demand

HC[1] Coated carbide
HW Uncoated carbide

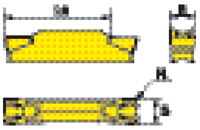
Tool holders
QE*D*R/L

A376

- ◯ Ideal machining conditions
- ✢ Normal machining conditions
- ✺ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (single sided)



Double cutting edge

	HC^1 (CVD)		HC^1 (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✢	✢			✢	✢	✢	✺		
M					✢	✢	✢	✺		
K										
N									◯	✢
S			◯	◯	✢	✢	✢			
H										

	ISO	S±0.10	R±0.1	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZTED02503-MG**	2.5	0.3	17	0.03-0.11						○	●	●		
	ZTFD0303-MG	3.0	0.3	17	0.04-0.14				○		●	●	●		
	ZTGD0404-MG	4.0	0.4	22	0.07-0.2		●				●	●	●		●
	ZTHD0504-MG	5.0	0.4	22	0.10-0.25						●	●	●		
	ZTKD0608-MG	6.0	0.8	22	0.13-0.30	○			○		○	●	●		

● Ex Stock ○ On demand

HC^1 Coated carbide
HW Uncoated carbide

Tool holders

QE*D*R/L	QF*D*R/L-H	QF*D*RR-H	QF*D*LL-H	QF*D*R/L-L	C*-Q*R/L*
					
A376	A384	A386	A386	A390	A394

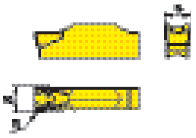
System code Grade selection Technical info Cutting data

A Turning B Milling C Drilling D Technical Information E Index

◯ Ideal machining conditions
⊕ Normal machining conditions
✳ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (single sided)



Single cutting edge

	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	⊕	⊕			⊕	⊕	⊕	✳		
M					⊕	⊕	⊕	✳		
K										
N									◯	⊕
S			◯	◯	⊕	⊕	⊕			
H										

	ISO	S±0.10	R±0.1	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZTHS0504-MG**	5.0	0.4	0.10-0.25						○	●	●		
	ZTKS0608-MG	6.0	0.8	0.13-0.30						○	○	●		

● Ex Stock ○ On demand

HC[1] Coated carbide
HW Uncoated carbide

Tool holders

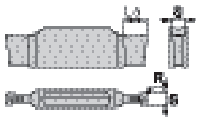
QZ**+QE**	QE*S*R/L	QF*S*R/L-L	QF*S*R/L-H	QF*S*RR-H	QF*S*LL-H
					
A382-A383	A381	A390	A384	A389	A389

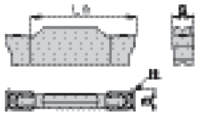
System code Grade selection Technical info Cutting data

🔵 Ideal machining conditions
✲ Normal machining conditions
❋ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (double sided)


1.0-2.4 mm


2.4-6.5 mm

	HC¹ (CVD)		HC¹ (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✲	✲			✲	✲	✲	❋		
M					✲	✲	✲	❋		
K										
N									🔵	✲
S			🔵	🔵	✲	✲	✲			
H										

ISO	S±0.025	R±0.05	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
ZTCD01002-EG	1.0	0,2	2.6	0.02-0.04								○		
ZTCD010500-EG	1.05	0	2.6	0.02-0.04								○		
ZTCD011502-EG	1.15	0,2	2.6	0.02-0.04								○		
ZTCD01202-EG	1.20	0,2	2.6	0.02-0.04								○		
ZTCD0127502-EG	1.275	0,2	2.6	0.02-0.04								○		
ZTCD01302-EG	1.3	0,2	2.6	0.02-0.04								○		
ZTCD013802-EG	1.38	0,2	2.6	0.02-0.04								○		
ZTCD01402-EG	1.4	0,2	2.6	0.02-0.04								○		
ZTCD01500-EG	1.5	0	2.6	0.02-0.04								○		
ZTCD01502-EG	1.5	0,2	2.6	0.02-0.04								○		
ZTCD01503-EG	1.5	0,3	2.6	0.02-0.04							○			
ZTCD015503-EG	1.55	0,3	2.6	0.02-0.04								○		
ZTCD01602-EG	1.6	0,2	2.6	0.02-0.04								○		
ZTCD01702-EG	1.7	0,2	3.4	0.02-0.08								○		
ZTCD017503-EG	1.75	0,3	3.4	0.02-0.08								○		
ZTCD017602-EG	1.76	0,2	3.4	0.02-0.08							○			
ZTCD01802-EG	1.8	0,2	3.4	0.02-0.08								○		
ZTCD018502-EG	1.85	0,2	3.4	0.02-0.08								○		
ZTCD02000-EG	2.0	0	3.4	0.02-0.08								○		
ZTCD02002-EG	2.0	0,2	3.4	0.02-0.08								○		
ZTCD02003-EG	2.0	0,3	3.4	0.02-0.08							○			
ZTCD020503-EG	2.05	0,3	3.4	0.02-0.08								○		
ZTCD021502-EG	2.15	0,2	3.4	0.02-0.08								○		
ZTCD022503-EG	2.25	0,3	3.4	0.02-0.08								○		
ZTCD02302-EG	2.3	0,2	3.4	0.03-0.11								○		
ZTCD02303-EG	2.3	0,3	3.4	0.03-0.11								○		
ZTCD02402-EG	2.4	0,2	3.4	0.03-0.11								○		
ZTED0247020-EG	2.47	0,2	17	0.03-0.11								○		
ZTED02502-EG	2.5	0,2	17	0.03-0.11								○		
ZTED026502-EG	2.6	0,2	17	0.03-0.11								○		
ZTED02702-EG	2.7	0,2	17	0.03-0.11								○		
ZTED02703-EG	2.7	0,3	17	0.03-0.11								○		
ZTED02802-EG	2.8	0,2	17	0.04-0.13								○		
ZTED02803-EG	2.8	0,3	17	0.04-0.13								○		
ZTED02804-EG	2.8	0,4	17	0.04-0.13								○		

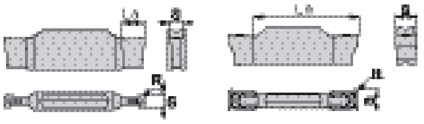
● Ex Stock ○ On demand

HC¹ Coated carbide
HW Uncoated carbide

Parting inserts

◉ Ideal machining conditions
✻ Normal machining conditions
✼ Unfavorable machining conditions

Parting & grooving insert (double sided)


1.0-2.4 mm 2.4-6.5 mm

	HC¹ (CVD)		HC¹ (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✻	✻			✻	✻	✻	✼		
M					✻	✻	✻	✼		
K										
N									◉	✻
S			◉	◉	✻	✻	✻			
H										

ISO	S±0.025	R±0.05	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
ZTED02903-EG	2.9	0,3	17	0.04-0.13								○		
ZTED03003-EG	3.0	0,3	17	0.04-0.13								○		
ZTFD03001-EG	3.0	0,1	17	0.04-0.13							○			
ZTFD03002-EG	3.0	0,2	17	0.04-0.13								○		
ZTFD030038-EG	3.0	0,38	17	0.04-0.13								○		
ZTFD03003-EG	3.0	0,3	17	0.04-0.13								○		
ZTFD03004-EG	3.0	0,4	17	0.04-0.13								○		
ZTFD03005-EG	3.0	0,5	17	0.04-0.13								○		
ZTFD03008-EG	3.0	0,8	17	0.04-0.13								○		
ZTFD031802-EG	3.18	0,2	17	0.04-0.13								○		
ZTFD03203-EG	3.2	0,3	17	0.04-0.13								○		
ZTFD0325024-EG	3.25	0,24	17	0.04-0.13								○		
ZTFD03302-EG	3.3	0,2	17	0.04-0.13							○	○		
ZTFD03303-EG	3.3	0,3	17	0.04-0.13								○		
ZTFD03403-EG	3.4	0,3	17	0.04-0.13								○		
ZTFD035-EG	3.5	0	17	0.04-0.13								○		
ZTFD03602-EG	3.6	0,2	17	0.04-0.13								○		
ZTGD038048-EG	3.8	0,48	22	0.07-0.18										
ZTGD039602-EG	3.96	0,2	22	0.07-0.18								○		
ZTGD04002-EG	4.0	0,2	22	0.07-0.18		○					○	○		
ZTGD04003-EG	4.0	0,3	22	0.07-0.18								○		
ZTGD04004-EG	4.0	0,4	22	0.07-0.18								○		
ZTGD04008-EG	4.0	0,8	22	0.07-0.18							○			
ZTGD04202-EG	4.2	0,2	22	0.07-0.18										
ZTGD0423010-EG	4.23	0,1	22	0.07-0.18								○		
ZTGD04503-EG	4.5	0,3	22	0.07-0.18								○		
ZTGD04505-EG	4.5	0,5	22	0.07-0.18								○		
ZTGD04803-EG	4.8	0,3	22	0.1-0.24								○		
ZTGD04805-EG	4.8	0,5	22	0.1-0.24								○		
ZTHD048058-EG	4.8	0,58	22	0.1-0.24										
ZTHD05003-EG	5.0	0,3	22	0.1-0.24								○		
ZTHD05004-EG	5.0	0,4	22	0.1-0.24						○				
ZTHD05008-EG	5.0	0,8	22	0.1-0.24							○			
ZTHD05012-EG	5.01	0,12	22	0.1-0.24							○			
ZTHD050508-EG	5.05	0,8	22	0.1-0.24										

● Ex Stock ○ On demand

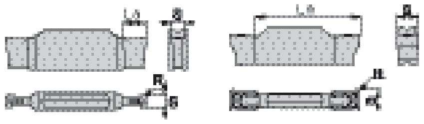
HC¹ Coated carbide
HW Uncoated carbide

System code Grade selection Technical info Cutting data

◯ Ideal machining conditions
✻ Normal machining conditions
❋ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (double sided)



1.0-2.4 mm 2.4-6.5 mm

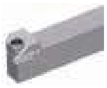
	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✻	✻			✻	✻	✻	❋		
M					✻	✻	✻	❋		
K										
N									◯	✻
S			◯	◯	✻	✻	✻			
H										

	ISO	S±0.025	R±0.05	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
 	**ZTHD05202-EG**	5.2	0,2	22	0.1-0.24								○		
	ZTHD052503-EG	5.25	0,3	22	0.1-0.24								○		
	ZTHD05403-EG	5.4	0,3	22	0.1-0.24								○		
	ZTHD05508-EG	5.5	0,8	22	0.1-0.24								○		
	ZTHD055603-EG	5.56	0,3	22	0.1-0.24								○		
	ZTKD06004-EG	6.0	0,4	22	0.12-0.29										
	ZTKD06008-EG	6.0	0,8	22	0.12-0.29										
	ZTKD063504-EG	6.35	0,4	22	0.12-0.29										
	ZTKD0635055-EG	6.35	0,55	22	0.12-0.29										
	ZTKD0635057-EG	6.35	0,57	22	0.12-0.29										
	ZTKD06504-EG	6.5	0,4	22	0.12-0.29								○		

● Ex Stock ○ On demand

HC[1] Coated carbide
HW Uncoated carbide

Tool holders

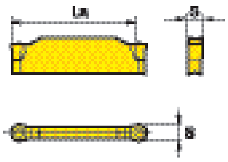
QE*D*R/L	QECD
	
A376	A379

System code Grade selection Technical info Cutting data

◯ Ideal machining conditions
⊛ Normal machining conditions
❋ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (double sided)



Double cutting edge

	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	⊛	⊛			⊛	⊛	⊛	❋		
M					⊛	⊛	⊛	❋		
K										
N									◯	⊛
S			◯	◯	⊛	⊛	⊛			
H										

	ISO	S±0.10	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZRED025-MG**	2.5	17.5	0.03-0.11							●	●		
	ZRFD03-MG	3.0	17	0.04-0.14					●		●	●		
	ZRGD04-MG	4.0	21	0.07-0.2		○					●	●		
	ZRHD05-MG	5.0	20	0.1-0.24							●	●		
	ZRKD06-MG	6.0	19	0.12-0.29							●	●		

● Ex Stock ○ On demand

HC[1] Coated carbide
HW Uncoated carbide

Tool holders

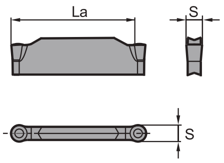
QE*D*R/L	QX*D*	QF*D*RR-H	QF*D*LL-H	QF*D*R/L-L	*-Q*DR/L
					
A376	A380	A386	A386	A390	A394

System code
Grade selection
Technical info
Cutting data

◯ Ideal machining conditions
❁ Normal machining conditions
✱ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (double sided)



Double cutting edge

	HC^1 (CVD)		HC^1 (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	❁	❁			❁	❁	❁	✱		
M					❁	❁	❁	✱		
K										
N									◯	❁
S			◯	◯	❁	❁	❁			
H										

	ISO	S±0.025	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZRFD03-EG**	3.0	17	0.04-0.14					●			○		
	ZRGD04-EG	4.0	21	0.07-0.2					●			○		
	ZRHD05-EG	5.0	20	0.1-0.24					●			○		
	ZRKD06-EG	6.0	19	0.12-0.29					●			○		

● Ex Stock ○ On demand

HC^1 Coated carbide
HW Uncoated carbide

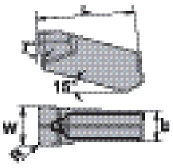
Tool holders

QE*D*R/L	QX*D*	QF*D*RR-H	QF*D*LL-H	QF*D*R/L-L	*-Q*DR/L
					
A376	A380	A386	A386	A390	A394

◯ Ideal machining conditions
✿ Normal machining conditions
❋ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (single sided)



	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✿	✿			✿	✿	✿	❋		
M					✿	✿	✿	❋		
K										
N									◯	✿
S			◯	◯	✿	✿	✿			
H										

	ISO	W±0.05	R±0.1	b	L	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZIMF304N-NM**	3	0.4	2.4	15.3	0.04-0.11			●	○						
	ZIMF406N-NM	4	0.6	3.2	15.3	0.07-0.16			●	○						
	ZIMF506N-NM	5	0.6	4	15.3	0.1-0.2			●	○						
	ZIMF608N-NM	6	0.8	4	15.3	0.12-0.23			●	○						

● Ex Stock ○ On demand

HC[1] Coated carbide
HW Uncoated carbide

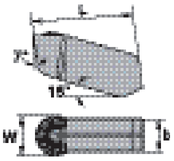
Tool holders
QE*S*R/L-N

A381

◯	Ideal machining conditions
✲	Normal machining conditions
❋	Unfavorable machining conditions

Parting inserts

Parting & grooving insert (single sided)



	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✲	✲			✲	✲	✲	❋		
M					✲	✲	✲	❋		
K										
N									◯	✲
S			◯	◯	✲	✲	✲			
H										

	ISO	W±0.05	b	L	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZIGQ3N-NM**	3.0	2.4	15.3	0.04-0.11			●	○						
	ZIGQ4N-NM	4.0	3.2	15.3	0.07-0.16			●	○						
	ZIGQ5N-NM	5.0	4.0	15.3	0.1-0.2			●	○						
	ZIGQ6N-NM	6.0	5.0	15.3	0.13-0.24			●	○						

● Ex Stock ○ On demand

HC[1] Coated carbide
HW Uncoated carbide

Tool holders
QE*S*R/L-N

A381

A
Turning
B
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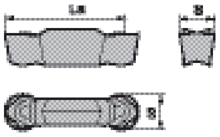
System code
Grade selection
Technical info
Cutting data

◯ Ideal machining conditions
❂ Normal machining conditions
✹ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (double sided)



	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	❂	❂			❂	❂	❂	✹		
M					❂	❂	❂	✹		
K										
N									◯	❂
S			◯	◯	❂	❂	❂			
H										

	ISO	S±0.025	La *max*	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**ZRKD06-LH**	6.0	19.0	0.12-0.23									○	
	ZRLD08-LH	8.0	22.0	0.14-0.26									●	

● Ex Stock ○ On demand

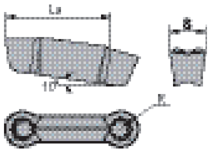
HC[1] Coated carbide
HW Uncoated carbide

Tool holders
C*X-Q*DR/L

A394

◯ Ideal machining conditions
✲ Normal machining conditions
❋ Unfavorable machining conditions

Parting inserts

Parting & grooving insert (single sided)		HC^1 (CVD)							HC^1 (PVD)								HW			
	**P**	✲	✲								✲	✲	✲	❋						
	M										✲	✲	✲	❋						
	K																			
	N																◯	✲		
	S								◯	◯	✲	✲	✲							
	H																			

ISO		S±0.025	La *max*	f	YBC252	YBC251						YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302			YD101	YD201		
	**ZILD08-LC**	8.0	22.0	0.14-0.26																○	○		

● Ex Stock ○ On demand

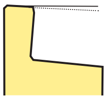
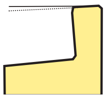
HC^1 Coated carbide
HW Uncoated carbide

Triangular inserts (straight edge)

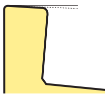
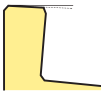
QC	22	R	300	–	R	03
1	2	3	4		5	6

Series
1

Cutting edge length [mm]	
Code	I.C
11	6.35
16	9.525
22	12.70
2	

Cutting direction	
Code	Description
R	 Right
L	 Left
3	

Groove width [mm]	
Code	Description
050	0.50
100	1.00
…	…
480	4.80
4	

Edge shape	
Code	Description
R	 Radius
C	 Chamfer
5	

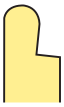
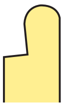
Radius/Chamfer [mm]	
Code	Description
005	0.05
02	0.2
03	0.3
04	0.4
6	

Triangular inserts (round edge)

QC	22	R	300	–	R
1	2	3	4		5

Series
1

Cutting edge length [mm]	
Code	I.C
11	6.35
16	9.525
22	12.70
2	

Cutting direction	
Code	Description
R	 Right
L	 Left
3	

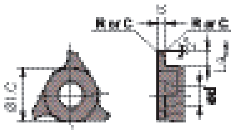
Groove width [mm]	
Code	Description
050	0.50
100	1.00
…	…
480	4.80
4	

Round
5

◯ Ideal machining conditions
✲ Normal machining conditions
✺ Unfavorable machining conditions

Parting inserts

QC turning/milling insert**



Right hand style

	HC[1] (CVD)		HC[1] (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	✲	✲			✲	✲	✲	✺		
M					✲	✲	✲	✺		
K										
N									◯	✲
S			◯	◯	✲	✲	✲			
H										

ISO	S±0.025	La *max*	ØI.C	S1	Ød	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
QC11R120-R02	1.2	1.5	6.35	3.18	2.8	0.02-0.03						●	○			
QC11L120-R02	1.2	1.5	6.35	3.18	2.8	0.02-0.03						●	○			
QC11R125-R02	1.25	1.5	6.35	3.18	2.8	0.02-0.03						●	○			
QC11L125-R02	1.25	1.5	6.35	3.18	2.8	0.02-0.03						●	○			
QC11R145-R02	1.45	1.5	6.35	3.18	2.8	0.02-0.05						●	○			
QC11L145-R02	1.45	1.5	6.35	3.18	2.8	0.02-0.05						●	○			
QC11R150-R02	1.5	1.5	6.35	3.18	2.8	0.02-0.05						●	○			
QC11L150-R02	1.5	1.5	6.35	3.18	2.8	0.02-0.05						●	○			
QC11R200-R02	2	2	6.35	3.18	2.8	0.02-0.06						●	○			
QC11L200-R02	2	2	6.35	3.18	2.8	0.02-0.06						●	○			
QC11R225-R02	2.25	2	6.35	3.18	2.8	0.02-0.06						●	○			
QC11L225-R02	2.25	2	6.35	3.18	2.8	0.02-0.06						●	○			
QC16R075-R01	0.75	2	9.525	3.18	4.4	0.02-0.03						○				
QC16L075-R01	0.75	2	9.525	3.18	4.4	0.02-0.03						○				
QC16R080-R01	0.8	2	9.525	3.18	4.4	0.02-0.03						○				
QC16R095-R01	0.95	2	9.525	3.18	4.4	0.02-0.03						○				
QC16L095-R01	0.95	2	9.525	3.18	4.4	0.02-0.03						○				
QC16L100-R01	1	2	9.525	3.18	4.4	0.02-0.03						○				
QC16R110-R01	1.1	2	9.525	3.18	4.4	0.02-0.03						●	●			
QC16L110-R01	1.1	2	9.525	3.18	4.4	0.02-0.03						●	●			
QC16R115-R04	1.15	2	9.525	3.18	4.4	0.02-0.03						○	○			
QC16R120-R01	1.2	2	9.525	3.18	4.4	0.02-0.03						○	○			
QC16L120-R01	1.2	2	9.525	3.18	4.4	0.02-0.03						○	○			
QC16R125-R02	1.25	2	9.525	3.18	4.4	0.02-0.03						●	○			
QC16L125-R02	1.25	2	9.525	3.18	4.4	0.02-0.03						●				
QC16R130-R02	1.3	2	9.525	3.18	4.4	0.02-0.06						●	○			
QC16L130-R02	1.3	2	9.525	3.18	4.4	0.02-0.06						●	○			
QC16R140-R02	1.4	2	9.525	3.18	4.4	0.02-0.06						○	○			
QC16R145-R02	1.45	2	9.525	3.18	4.4	0.02-0.06						●	○			
QC16L145-R02	1.45	2	9.525	3.18	4.4	0.02-0.06						●				
QC16R150-R02	1.5	2	9.525	3.18	4.4	0.02-0.06						●	○			
QC16L150-R02	1.5	2	9.525	3.18	4.4	0.02-0.06						○				
QC16R160-R02	1.6	2	9.525	3.18	4.4	0.02-0.06						●	○			
QC16L160-R02	1.6	2	9.525	3.18	4.4	0.02-0.06						●	○			
QC16R165-R02	1.65	2	9.525	3.18	4.4	0.02-0.06						○				

● Ex Stock ○ On demand

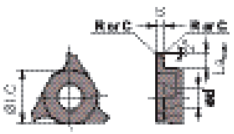
HC[1] Coated carbide
HW Uncoated carbide

System code › A366 Grade selection › A348 Technical info › A445 Cutting data › A400

Parting inserts

◯ Ideal machining conditions
❁ Normal machining conditions
✳ Unfavorable machining conditions

QC turning/milling insert**



Right hand style

	HC¹ (CVD)		HC¹ (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	❁	❁			❁	❁	❁	✳		
M					❁	❁	❁	✳		
K										
N									◯	❁
S			◯	◯	❁	❁	❁			
H										

	ISO	S±0.025	La *max*	ØI.C	S1	Ød	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**QC16L165-R02**	1.65	2	9.525	3.18	4.4	0.02-0.06						○				
	QC16R170-R02	1.7	2	9.525	3.18	4.4	0.02-0.06						○				
	QC16L170-R02	1.7	2	9.525	3.18	4.4	0.02-0.06						○				
	QC16R175-R02	1.75	2	9.525	3.18	4.4	0.02-0.07						●	○			
	QC16L175-R02	1.75	2	9.525	3.18	4.4	0.02-0.06						●				
	QC16R180-R02	1.8	2	9.525	3.18	4.4	0.02-0.07						○				
	QC16R185-R02	1.85	2.5	9.525	3.18	4.4	0.02-0.07						●	○			
	QC16L185-R02	1.85	2.5	9.525	3.18	4.4	0.02-0.07						●				
	QC16R200-R02	2	2.5	9.525	3.18	4.4	0.02-0.07						●	○			
	QC16L200-R02	2	2.5	9.525	3.18	4.4	0.02-0.07						●				
	QC16L210-R02	2.1	2.5	9.525	3.18	4.4	0.02-0.07						○				
	QC16L210-R05	2.1	2.5	9.525	3.18	4.4	0.02-0.07						○				
	QC16R220-R02	2.2	2.5	9.525	3.18	4.4	0.02-0.07						○				
	QC16L220-R02	2.2	2.5	9.525	3.18	4.4	0.02-0.07						○				
	QC16R225-R02	2.25	2.5	9.525	3.18	4.4	0.02-0.07						○				
	QC16R250-R02	2.5	2.5	9.525	3.18	4.4	0.02-0.08						●	○			
	QC16L250-R02	2.5	2.5	9.525	3.18	4.4	0.02-0.08						●				
	QC16R300-R02	3	3	9.525	3.18	4.4	0.03-0.11						●	○			
	QC16L300-R02	3	3	9.525	3.18	4.4	0.03-0.11						●				
	QC22L100-R02	1	2	12.7	4.76	5.5	0.02-0.03						○				
	QC22R125-R02	1.25	2	12.7	4.76	5.5	0.02-0.03						●	○			
	QC22L125-R02	1.25	2	12.7	4.76	5.5	0.02-0.03						○	○			
	QC22R145-R02	1.45	2	12.7	4.76	5.5	0.02-0.06						○	○			
	QC22L145-R02	1.45	2	12.7	4.76	5.5	0.02-0.06						●	○			
	QC22R150-R02	1.5	3.5	12.7	4.76	5.5	0.02-0.06						●	○			
	QC22L150-R02	1.5	3.5	12.7	4.76	5.5	0.02-0.06						●				
	QC22R163-R02	1.63	3.5	12.7	4.76	5.5	0.02-0.06						○				
	QC22R163-R03	1.63	3.5	12.7	4.76	5.5	0.02-0.06						○				
	QC22R175-R02	1.75	3.5	12.7	4.76	5.5	0.02-0.06						●	○			
	QC22L175-R02	1.75	3.5	12.7	4.76	5.5	0.02-0.06						●	○			
	QC22R185-R02	1.85	3.5	12.7	4.76	5.5	0.02-0.07						●	○			
	QC22L185-R02	1.85	3.5	12.7	4.76	5.5	0.02-0.07						●	○			
	QC22R195-R02	1.95	3.5	12.7	4.76	5.5	0.02-0.07						○				
	QC22R200-R02	2	3.5	12.7	4.76	5.5	0.02-0.07						●	○			
	QC22L200-R02	2	3.5	12.7	4.76	5.5	0.02-0.07						●				

● Ex Stock ○ On demand

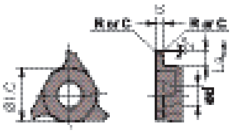
HC¹ Coated carbide
HW Uncoated carbide

System code A366 Grade selection A348 Technical info A445 Cutting data A400

◯ Ideal machining conditions
⊛ Normal machining conditions
✱ Unfavorable machining conditions

Parting inserts

QC turning/milling insert**



Right hand style

	HC^1 (CVD) YBC252	HC^1 (CVD) YBC251	HC^1 (PVD) YBG105	HC^1 (PVD) YBG102	HC^1 (PVD) YBG9320	HC^1 (PVD) YBG205	HC^1 (PVD) YBG202	HC^1 (PVD) YBG302	HW YD101	HW YD201
P	⊛	⊛			⊛	⊛	⊛	✱		
M					⊛	⊛	⊛	✱		
K										
N									◯	⊛
S			◯	◯	⊛	⊛	⊛			
H										

	ISO	S±0.025	La *max*	ØI.C	S1	Ød	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
	**QC22R225-R02**	2.25	3.5	12.7	4.76	5.5	0.02-0.07						○				
	QC22R230-R02	2.3	3.5	12.7	4.76	5.5	0.02-0.07						●	○			
	QC22L230-R02	2.3	3.5	12.7	4.76	5.5	0.02-0.07						●				
	QC22R250-R03	2.5	4	12.7	4.76	5.5	0.02-0.08						●	○			
	QC22L250-R03	2.5	4	12.7	4.76	5.5	0.02-0.08						●				
	QC22R265-R03	2.65	4	12.7	4.76	5.5	0.02-0.08						●	○			
	QC22L265-R03	2.65	4	12.7	4.76	5.5	0.02-0.08						●				
	QC22R280-R03	2.8	4	12.7	4.76	5.5	0.02-0.08						●	○			
	QC22L280-R03	2.8	4	12.7	4.76	5.5	0.02-0.08						●				
	QC22R300-R03	3	4	12.7	4.76	5.5	0.03-0.11						●	○			
	QC22L300-R03	3	4	12.7	4.76	5.5	0.03-0.11						●				
	QC22R320-R03	3.2	4	12.7	4.76	5.5	0.03-0.11						●	○			
	QC22L320-R03	3.2	4	12.7	4.76	5.5	0.03-0.11						●				
	QC22R330-R03	3.3	4	12.7	4.76	5.5	0.03-0.11						●	○			
	QC22L330-R03	3.3	4	12.7	4.76	5.5	0.03-0.11						●	○			
	QC22R350-R03	3.5	5	12.7	4.76	5.5	0.05-0.13						●	○			
	QC22L350-R03	3.5	5	12.7	4.76	5.5	0.05-0.13						●				
	QC22R400-R04	4	5	12.7	4.76	5.5	0.05-0.14						●	○			
	QC22L400-R04	4	5	12.7	4.76	5.5	0.05-0.14						●				
	QC22R430-R04	4.3	5	12.7	4.76	5.5	0.05-0.14						○	○			
	QC22L430-R04	4.3	5	12.7	4.76	5.5	0.05-0.14						●	●			
	QC22R450-R04	4.5	5	12.7	4.76	5.5	0.06-0.18						○	○			
	QC22L450-R04	4.5	5	12.7	4.76	5.5	0.06-0.18						○	○			○
	QC22R480-R04	4.8	5	12.7	5.06	5.5	0.06-0.18						●	○			
	QC22L480-R04	4.8	5	12.7	5.06	5.5	0.08-0.2						○	○			

● Ex Stock ○ On demand

HC^1 Coated carbide
HW Uncoated carbide

Tool holders

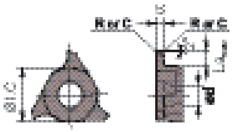
S***-QC**R/L	GQCR/L
	
A398	A397

System code A366 Grade selection A348 Technical info A445 Cutting data A400

Parting inserts

◯ Ideal machining conditions
❂ Normal machining conditions
✳ Unfavorable machining conditions

QC turning/milling insert**



Right hand style

	HC¹ (CVD)		HC¹ (PVD)						HW	
	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
P	❂	❂			❂	❂	❂	✳		
M					❂	❂	❂	✳		
K										
N									◯	❂
S			◯	◯	❂	❂	❂			
H										

ISO	S±0.025	La max	R/C	ØI.C	S1	Ød	f	YBC252	YBC251	YBG105	YBG102	YBG9320	YBG205	YBG202	YBG302	YD101	YD201
QC16R100R	1.0	2.0	0.5	12.7	3.18	4.4	0.05-0.14						○				
QC16R120R	1.2	2.0	0.6	12.7	3.18	4.4	0.06-0.18						○				
QC16R150R	1.5	2.0	0.75	12.7	3.18	4.4	0.08-0.2						○				
QC16L200R	2.0	2.5	1.0	12.7	3.18	4.4	0.02-0.03						○	○			
QC16R200R	2.0	2.5	1.0	12.7	3.18	4.4	0.02-0.06						●	○			
QC16L222R	2.22	2.5	1.11	12.7	3.18	4.4	0.02-0.06						○				
QC16R222R	2.22	2.5	1.11	12.7	3.18	4.4	0.02-0.06						○				
QC16R250R	2.5	2.5	1.25	12.7	3.18	4.4	0.02-0.06						○				
QC16L280R	2.8	2.5	1.4	12.7	3.18	4.4	0.02-0.06						○				
QC16R280R	2.8	2.5	1.4	12.7	3.18	4.4	0.02-0.07						○				
QC16L300R	3.0	2.5	1.5	12.7	3.18	4.4	0.02-0.07						●	○			
QC16R300R	3.0	2.5	1.5	12.7	3.18	4.4	0.02-0.07						●	○			
QC22R100R	1.0	2.0	0.5	12.7	4.76	5.5	0.02-0.07						●	○			
QC22L100R	1.0	2.0	0.5	12.7	4.76	5.5	0.02-0.07						○	●			
QC22R150R	1.5	3.5	0.75	12.7	4.76	5.5	0.02-0.08						●	○			
QC22L150R	1.5	3.5	0.75	12.7	4.76	5.5	0.02-0.08						●	●			
QC22R170R	1.7	3.5	0.85	12.7	4.76	5.5	0.02-0.08						○				
QC22R200R	2.0	3.5	1.0	12.7	4.76	5.5	0.03-0.11						●	○			
QC22L200R	2.0	3.5	1.0	12.7	4.76	5.5	0.03-0.11						●	○			
QC22R250R	2.5	4.0	1.25	12.7	4.76	5.5	0.03-0.11						●	○			
QC22L250R	2.5	4.0	1.25	12.7	4.76	5.5	0.05-0.13						●	○			
QC22R300R	3.0	4.0	1.5	12.7	4.76	5.5	0.05-0.14						●	○			
QC22L300R	3.0	4.0	1.5	12.7	4.76	5.5	0.05-0.14						●	○			
QC22R320R	3.2	4.0	1.6	12.7	4.76	5.5	0.06-0.18						○				
QC22R400R	4.0	5.0	2.0	12.7	4.76	5.5	0.06-0.18						●	○			
QC22L400R	4.0	5.0	2.0	12.7	4.76	5.5	0.05-0.3						●	○			

● Ex Stock ○ On demand

HC¹ Coated carbide
HW Uncoated carbide

Tool holders

GQCR/L	S***-QC**R/L
	
A397	A398

System code A366 Grade selection A348 Technical info A445 Cutting data A400

Notes

External tool holders

Q	F	G	D	2525	R	22	(S)	– (130)	(H)
1	2	3	4	5	6	7	8	9	10

Holder for parting & grooving

1

Application

Code	Description
E	External machining
F	Axial machining

2

Insert seat size [mm]

Holder/cutting width

Code	Description
B	2.0
E	2.5
F	3.0
G	4.0
H	5.0
K	6.0
L	8.0

3

No. of cutting edges

Code	Description
S	Single
D	Double

4

Cross section of holder [mm] x [mm]

5

Type

Code	Description
R	Right
L	Left
N	Right and left

6

Max. cutting depth [mm]

7

Extra

Code	Description
S	Strengthened holder for deep cuts

8

Cutting head

Code	Description
H	0°
L	90°

10

Min. diameter of work piece for first axial grooving [mm]

9

Boring bars

C	32	S	–	Q	G	D	R	11	–	44
1	2	3		4	5	6	7	8		9

Clamping system

1

Diameter [mm]

2

Length [mm]	
Code	Description
Q	180
R	200
S	250
X	320

3

Holder for grooving

4

Insert seat size [mm]	
Holder/Cutting width	
Code	Description
B	2.0
E	2.5
F	3.0
G	4.0
H	5.0
K	6.0
L	8.0

5

No. of cutting edges	
Code	Description
S	Single
D	Double

6

Type	
Code	Description
R	Right
L	Left
N	Right and left

7

Max. cutting depth [mm]

8

Min. internal diameter of work piece [mm]

9

A
Turning
B
Milling
C
Drilling
D
Technical Information
E
Index

Blade

Q	E	G	D	32	N
1	2	3	4	5	6

Blade for parting & grooving

1

Application	
Code	Description
E	External machining

2

Insert seat size [mm]	
Holder/ cutting width	
Code	Description
B	2.0
E	2.5
F	3.0
G	4.0
H	5.0
K	6.0
L	8.0

3

No. of cutting edges	
Code	Description
S	Single
D	Double

4

Blade height [mm]

5

Type	
Code	Description
R	Right
L	Left
N	Right and left

6

Clamping block

QZ	S	32	32
1	2	3	4

Parting & grooving tool

1

No. of cutting edges	
Code	Description
S	Single
D	Double

2

Clamping surface height [mm]

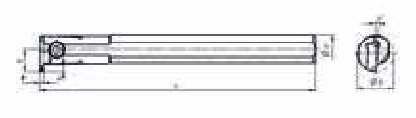
3

Blade height [mm]

4

Parting & grooving tool holder (internal)

C16M-QBDR/L



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	ØD	ød	L	S	W	ar_{max}	
C16M-QBDR/L04-20		●	●	20	16	150	12	2	4	ZTBD02002-MM

● Ex stock ○ On demand

✻ With internal cooling

Spare parts		
	Insert	**ZTBD02002-MM**
	H	**16**
	Screw	M5x10
	Wrench	WH30L

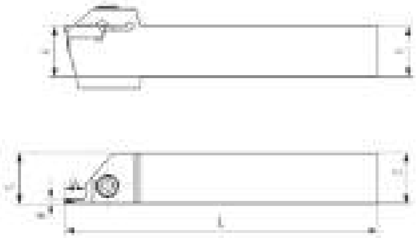
Insert

A351

System code A373 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (external)

QE**R/L



Article	✻	Stock		Dimensions [mm]					Inserts
		R	L	HxB	L	S	W	ar_{max}	
QEBD1616R/L04		●	●	16x16	150	16.17	2	4	Z*BD**
QEBD2020R/L07		●	●	20x20	150	20.17	2	7	Z*BD**
QEED1616R/L10		●	●	16x16	125	15	2.5	10	Z*ED**
QEED1616R/L17		●	●	16x16	125	15	2.5	17	Z*ED**
QEED2020R/L17		●	●	20x20	125	19	2.5	17	Z*ED**
QEED2020R/L10		●	●	20x20	150	10	2.5	10	Z*ED**
QEED2525R/L10		●	●	25x25	150	19	2.5	10	Z*ED**
QEED2525R/L17		●	●	25x25	150	19	2.5	17	Z*ED**
QEFD1616R/L10		●	●	16x16	125	14.8	3	10	Z*FD**
QEFD1616R/L17		●	●	16x16	125	14.8	3	17	Z*FD**
QEFD2020R/L10		●	●	20x20	125	18.8	3	10	Z*FD**
QEFD2020R/L17		●	●	20x20	125	18.8	3	17	Z*FD**
QEFD2525R/L10		●	●	25x25	150	23.8	3	10	Z*FD**
QEFD2525R/L17		●	●	25x25	150	23.8	3	17	Z*FD**
QEGD2020R/L13		●	●	20x20	140	18.5	4	13	Z*GD**
QEGD2020R/L22		●	●	20x20	140	18.5	4	22	Z*GD**
QEGD2525R/L13		●	●	25x25	150	23.5	4	13	Z*GD**
QEGD2525R/L22		●	●	25x25	150	23.5	4	22	Z*GD**
QEGD3232R/L13		●	●	32x32	170	30.5	4	13	Z*GD**
QEGD3232R/L22		●	●	32x32	170	30.5	4	22	Z*GD**
QEHD2525R/L13		●	●	25x25	150	23	5	13	Z*HD**
QEHD2525R/L22		●	●	25x25	150	23	5	22	Z*HD**
QEHD3232R/L13		●	●	32x32	170	30	5	13	Z*HD**
QEHD3232R/L22		●	●	32x32	170	30	5	22	Z*HD**
QEKD2525R/L13		●	●	25x25	150	22.6	6	13	Z*KD**
QEKD2525R/L22		●	●	25x25	150	22.6	6	22	Z*KD**
QEKD3232R/L13		●	●	32x32	170	29.6	6	13	Z*KD**
QEKD3232R/L22		●	●	32x32	170	29.6	6	22	Z*KD**

● Ex stock ○ On demand

✻ With internal cooling

System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (external)

Spare parts

	Insert	Z*BD**	Z*ED**	Z*ED**	Z*FD**	Z*FD**	Z*GD**	Z*HD**	Z*KD**
	H	16-20	16	20-32	16	20-32	20-32	20-32	20-32
	Screw	GB70-85-M5x16	GB70-85-M5x20	GB70-85-M6x20	GB70-85-M5x20	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20
	Wrench	WH40L	WH40L	WH50L	WH40L	WH50L	WH50L	WH50L	WH50L

Insert

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A Turning
B Milling
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D Technical Information
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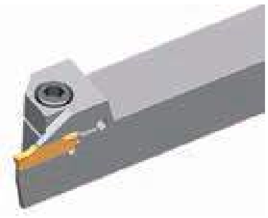
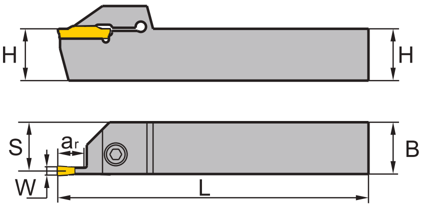
System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (external)

QE*SN30





Article	✻	Stock	Dimensions [mm]					Inserts
			HxB	L	S	W	ar_{max}	
QEHS2525N30		●	25x25	150	12.5	5	30	Z*HS**
QEHS3232N30		●	32x32	170	16	5	30	Z*HS**
QEKS2525N30		●	25x25	150	12.5	6	30	Z*KS**
QEKS3232N30		○	32x32	170	16	6	30	Z*KS**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**Z*HS****	**Z*KS****
	H	**25-32**	**25-32**
	Screw	GB70-85-M6x20	GB70-85-M6x20
	Wrench	WH50L	WH50L

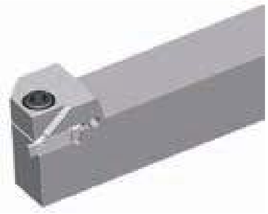
Insert

A353

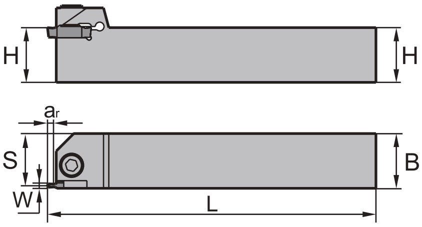
System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (external)

QECDR/L



Right hand style



Article	✻	Stock		Dimensions [mm]					Inserts
		R	L	HxB	L	S	W	ar_{max}	
QECD1616R/L025		●	●	16x16	125	14.75		2.5	Z*CD**
QECD2020R/L025		●	●	20x20	125	18.75		2.5	Z*CD**
QECD2525R/L025		●	●	25x25	150	23.75		2.5	Z*CD**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

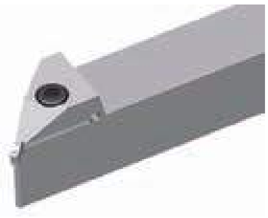
	Insert	**Z*CD****	**Z*CD****
	H	**16**	**20-32**
	Screw	GB70-85-M5x20	GB70-85-M6x20
	Wrench	WH40L	WH50L

Insert

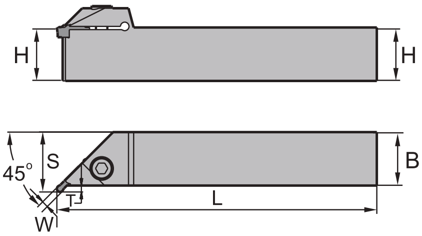
A357

Parting & grooving tool holder (external)

QX*DR/L



Right hand style



Article	✻	Stock		Dimensions [mm]					Inserts
		R	L	HxB	L	S	W	ar_{max}	
QXFD2020R/L03-45		○	○	20x20	125	23	3	3	Z*FD**
QXFD2525R/L03-45		●	●	25x25	150	28	3	3	Z*FD**
QXFD3232R/L03-45		○	○	32x32	170	35	3	3	Z*FD**
QXGD2020R/L03-45		○	○	20x20	125	23	4	3	Z*GD**
QXGD2525R/L03-45		○	○	25x25	150	28	4	3	Z*GD**
QXGD3232R/L03-45		○	○	32x32	170	35	4	3	Z*GD**
QXHD2020R/L04-45		○	○	20x20	125	24	5	4	Z*HD**
QXHD2525R/L04-45		○	○	25x25	150	29	5	4	Z*HD**
QXHD3232R/L04-45		○	○	32x32	170	36	5	4	Z*HD**
QXKD2020R/L04-45		○	○	20x20	125	24	6	4	Z*KD**
QXKD2525R/L04-45		○	○	25x25	150	29	6	4	Z*KD**
QXKD3232R/L04-45		○	○	32x32	170	36	6	4	Z*KD**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**Z*FD****	**Z*GD****	**Z*HD****	**Z*KD****
	H	**20-32**	**20-32**	**20-32**	**20-32**
	Screw	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20
	Wrench	WH50L	WH50L	WH50L	WH50L

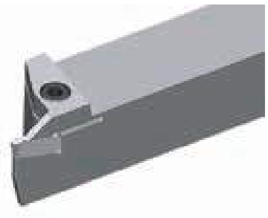
Insert

A352

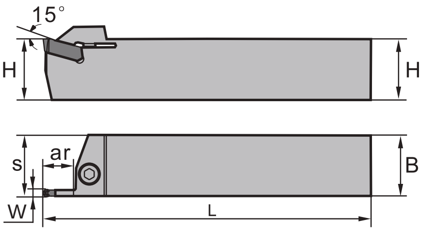
System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (external)

QE*SR/L



Right hand style



Article	✻	Stock		Dimensions [mm]					Inserts
		R	L	HxB	L	S	W	ar_{max}	
QEFS2525R/L12-3N		●	○	25x25	150	25.3	3	12	ZI**
QEGS2525R/L12-4N		○	○	25x25	150	25.3	4	12	ZI**
QEHS2525R/L12-5N		●	●	25x25	150	25.4	5	12	ZI**
QEKS2525R/L12-6N		●	○	25x25	150	25.4	6	12	ZI**
QEFS3232R/L22-3N		●	○	32x32	170	32.3	3	22	ZI**
QEGS3232R/L22-4N		●	○	32x32	170	32.3	4	22	ZI**
QEHS3232R/L22-5N		●	●	32x32	170	32.4	5	22	ZI**
QEKS3232R/L22-6N		○	○	32x32	170	32.4	6	22	ZI**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**ZI****
	H	**25-32**
	Screw	GB70-85-M6x20
	Wrench	WH50L

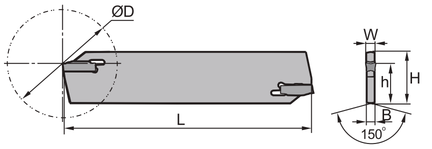
Insert

A362

System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting blade for external machining

QE*S**N



Article	✻	Stock	Dimensions [mm]						Inserts
			H	L	h	B	W	ØDmax	
QEES26N		●	26	110	19	2	2.5	60	ZPES**
QEES32N		●	32	150	24.6	2	2.5	100	ZPES**
QEFS26N		●	26	110	19	2.4	3	60	ZPFS**
QEFS32N		●	32	150	24.6	2.4	3	100	ZPFS**
QEGS26N		●	26	110	19	3.2	4	70	ZPGS**
QEGS32N		●	32	150	24.6	3.2	4	120	ZPGS**
QEHS26N		●	26	110	19	4	5	70	ZPHS**
QEHS32N		●	32	150	24.6	4	5	120	ZPHS**
QEKS26N		●	26	110	19	5	6	70	ZPKS**
QEKS32N		●	32	150	24.6	5	6	120	ZPKS**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**ZPES****	**ZPFS****	**ZPGS****	**ZPHS****	**ZPKS****
	H	**26-32**	**26-32**	**26-32**	**26-32**	**26-32**
	Wrench	W50RL	W50RL	W50RL	W50RL	W50RL

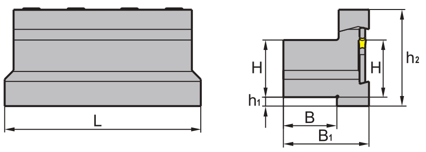
Insert

A353

System code A374 Grade selection A348 Technical info A445 Cutting data A400

Clamping block (external)

QZS*



Article	✲	Stock	Dimensions [mm]						Inserts
			H	L	h_1	h_2	B	B1	
QZS2026		●	20	86	10	46.6	19	38	QE**26
QZS2526		●	25	86	5	46.6	23	42	QE**26
QZS3226		○	32	86	3	51.6	30	48	QE**26
QZS2032		●	20	110	13	50	19	38	QE**32
QZS2532		●	25	110	8	50	23	42	QE**32
QZS3232		●	32	110	5	54	30	48	QE**32

● Ex stock ○ On demand

✲ With internal cooling

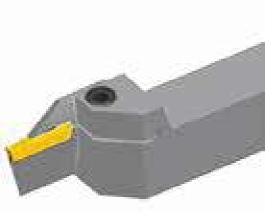
Spare parts

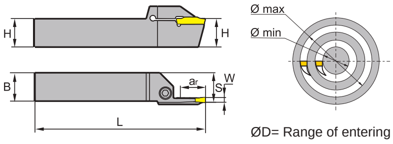
	Insert	**QE**26**	**QE**32**
	H	**20-32**	**20-32**
	Clamp	QZC26	QZC32
	Screw	GB70-85-M6x20	GB70-85-M6x20
	Wrench	W50RL	W50RL

System code A374 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (axial)

QF**R/L





Left hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFFD2020R/L7-48H		○	○	20x20	150	21	3	7	48-66	Z*FD**
QFFD2020R/L7-60H		○	○	20x20	150	21	3	7	60-80	Z*FD**
QFFD2020R/L7-74H		○	○	20x20	150	21	3	7	74-110	Z*FD**
QFFD2020R/L7-100H		○	○	20x20	150	21	3	7	100-150	Z*FD**
QFFD2020R/L10-48H		●	●	20x20	150	21	3	10	48-66	Z*FD**
QFFD2020R/L10-60H		○	○	20x20	150	21	3	10	60-80	Z*FD**
QFFD2020R/L10-74H		●	●	20x20	150	21	3	10	74-110	Z*FD**
QFFD2020R/L10-100H		○	○	20x20	150	21	3	10	100-150	Z*FD**
QFFD2525R/L10-48H		●	●	25x25	150	26	3	10	48-66	Z*FD**
QFFD2525R/L10-60H		●	●	25x25	150	26	3	10	60-80	Z*FD**
QFFD2525R/L10-74H		●	●	25x25	150	26	3	10	74-110	Z*FD**
QFFD2525R/L10-100H		●	●	25x25	150	26	3	10	100-150	Z*FD**
QFFD2525R/L17-48H		●	●	25x25	150	26	3	17	48-66	Z*FD**
QFFD2525R/L17-60H		●	●	25x25	150	26	3	17	60-80	Z*FD**
QFFD2525R/L17-74H		●	●	25x25	150	26	3	17	74-110	Z*FD**
QFFD2525R/L17-100H		●	●	25x25	150	26	3	17	100-150	Z*FD**
QFGD2020R/L10-52H		○	○	20x20	150	19	4	10	52-72	Z*GD**
QFGD2020R/L10-64H		○	○	20x20	150	19	4	10	64-100	Z*GD**
QFGD2020R/L10-90H		○	●	20x20	150	19	4	10	90-140	Z*GD**
QFGD2020R/L10-130H		○	○	20x20	150	19	4	10	130-230	Z*GD**
QFGD2020R/L15-52H		●	●	20x20	150	19	4	15	52-72	Z*GD**
QFGD2020R/L15-64H		○	○	20x20	150	19	4	15	64-100	Z*GD**
QFGD2020R/L15-90H		●	○	20x20	150	19	4	15	90-140	Z*GD**
QFGD2020R/L15-130H		●	○	20x20	150	19	4	15	130-230	Z*GD**
QFGD2525R/L13-52H		●	●	25x25	150	24	4	13	52-72	Z*GD**
QFGD2525R/L13-64H		●	●	25x25	150	24	4	13	64-100	Z*GD**
QFGD2525R/L13-90H		●	●	25x25	150	24	4	13	90-140	Z*GD**
QFGD2525R/L13-130H		●	●	25x25	150	24	4	13	130-230	Z*GD**
QFGD2525R/L22-52H		●	●	25x25	150	24	4	22	52-72	Z*GD**
QFGD2525R/L22-64H		●	●	25x25	150	24	4	22	64-100	Z*GD**
QFGD2525R/L22-90H		●	●	25x25	150	24	4	22	90-140	Z*GD**
QFGD2525R/L22-130H		●	●	25x25	150	24	4	22	130-230	Z*GD**
QFHD2525R/L13-58H		●	●	25x25	150	23.5	5	13	58-96	Z*HD**
QFHD2525R/L13-86H		●	●	25x25	150	23.5	5	13	86-140	Z*HD**
QFHD2525R/L13-130H		●	●	25x25	150	23.5	5	13	130-200	Z*HD**
QFHD2525R/L13-185H		●	●	25x25	150	23.5	5	13	185-400	Z*HD**

System code A372 Grade selection A348 Technical info A445 Cutting data A400

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFHD2525R/L22-58H		●	●	25x25	150	23.5	5	22	58-96	Z*HD**
QFHD2525R/L22-86H		●	●	25x25	150	23.5	5	22	86-140	Z*HD**
QFHD2525R/L22-130H		●	●	25x25	150	23.5	5	22	130-200	Z*HD**
QFHD2525R/L22-185H		●	●	25x25	150	23.5	5	22	185-400	Z*HD**
QFKD2525R/L13-60H		●	●	25x25	150	23	6	13	60-100	Z*KD**
QFKD2525R/L13-88H		○	●	25x25	150	23	6	13	88-180	Z*KD**
QFKD2525R/L13-160H		●	●	25x25	150	23	6	13	160-400	Z*KD**
QFKD2525R/L22-60H		●	●	25x25	150	23	6	22	60-100	Z*KD**
QFKD2525R/L22-88H		●	●	25x25	150	23	6	22	88-180	Z*KD**
QFKD2525R/L22-160H		●	●	25x25	150	23	6	22	160-400	Z*KD**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**Z*FD****	**Z*GD****	**Z*HD****	**Z*KD****
	H	**20-25**	**20-25**	**20-25**	**20-25**
	Screw	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20
	Wrench	W50RL	W50RL	W50RL	W50RL

Insert

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A Turning
B Milling
C Drilling
D Technical Information
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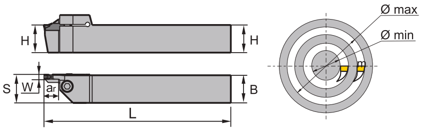
System code A374 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (axial)

QF**RR/LL

LL Version



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFFD2020LL7-48H			○	20x20	150	21	3	7	48-66	Z*FD**
QFFD2020RR7-48H		○		20x20	150	21	3	7	48-66	Z*FD**
QFFD2020LL7-60H			○	20x20	150	21	3	7	60-80	Z*FD**
QFFD2020RR7-60H		○		20x20	150	21	3	7	60-80	Z*FD**
QFFD2020LL7-74H			○	20x20	150	21	3	7	74-110	Z*FD**
QFFD2020RR7-74H		○		20x20	150	21	3	7	74-110	Z*FD**
QFFD2020LL7-100H			○	20x20	150	21	3	7	100-150	Z*FD**
QFFD2020RR7-100H		○		20x20	150	21	3	7	100-150	Z*FD**
QFFD2020LL10-48H			○	20x20	150	21	3	10	48-66	Z*FD**
QFFD2020RR10-48H		●		20x20	150	21	3	10	48-66	Z*FD**
QFFD2020LL10-60H			○	20x20	150	21	3	10	60-80	Z*FD**
QFFD2020RR10-60H		○		20x20	150	21	3	10	60-80	Z*FD**
QFFD2020LL10-74H			○	20x20	150	21	3	10	74-110	Z*FD**
QFFD2020RR10-74H		○		20x20	150	21	3	10	74-110	Z*FD**
QFFD2020LL10-100H			○	20x20	150	21	3	10	100-150	Z*FD**
QFFD2020RR10-100H		○		20x20	150	21	3	10	100-150	Z*FD**
QFFD2525LL10-48H			●	25x25	150	26	3	10	48-66	Z*FD**
QFFD2525RR10-48H		●		25x25	150	26	3	10	48-66	Z*FD**
QFFD2525LL10-60H			○	25x25	150	26	3	10	60-80	Z*FD**
QFFD2525RR10-60H		●		25x25	150	26	3	10	60-80	Z*FD**
QFFD2525LL10-74H			○	25x25	150	26	3	10	74-110	Z*FD**
QFFD2525RR10-74H		○		25x25	150	26	3	10	74-110	Z*FD**
QFFD2525LL10-100H			○	25x25	150	26	3	10	100-150	Z*FD**
QFFD2525RR10-100H		○		25x25	150	26	3	10	100-150	Z*FD**
QFFD2525LL17-48H			●	25x25	150	26	3	17	48-66	Z*FD**
QFFD2525RR17-48H		○		25x25	150	26	3	17	48-66	Z*FD**
QFFD2525LL17-60H			○	25x25	150	26	3	17	60-80	Z*FD**
QFFD2525RR17-60H		●		25x25	150	26	3	17	60-80	Z*FD**
QFFD2525LL17-74H			○	25x25	150	26	3	17	74-110	Z*FD**
QFFD2525RR17-74H		○		25x25	150	26	3	17	74-110	Z*FD**
QFFD2525LL17-100H			○	25x25	150	26	3	17	100-150	Z*FD**
QFFD2525RR17-100H		●		25x25	150	26	3	17	100-150	Z*FD**
QFGD2020LL10-52H			○	20x20	150	21	4	10	52-72	Z*GD**
QFGD2020RR10-52H		○		20x20	150	21	4	10	52-72	Z*GD**
QFGD2020LL10-64H			○	20x20	150	21	4	10	64-100	Z*GD**
QFGD2020RR10-64H		○		20x20	150	21	4	10	64-100	Z*GD**

System code A372
Grade selection A348
Technical info A445
Cutting data A400

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFGD2020LL10-90H			○	20x20	150	21	4	10	90-140	Z*GD**
QFGD2020RR10-90H		○		20x20	150	21	4	10	90-140	Z*GD**
QFGD2020LL10-130H			○	20x20	150	21	4	10	130-230	Z*GD**
QFGD2020RR10-130H		○		20x20	150	21	4	10	130-230	Z*GD**
QFGD2020LL15-52H			○	20x20	150	26	4	15	52-72	Z*GD**
QFGD2020RR15-52H		○		20x20	150	26	4	15	52-72	Z*GD**
QFGD2020LL15-64H			○	20x20	150	26	4	15	64-100	Z*GD**
QFGD2020RR15-64H		○		20x20	150	26	4	15	64-100	Z*GD**
QFGD2020LL15-90H			○	20x20	150	26	4	15	90-140	Z*GD**
QFGD2020RR15-90H		●		20x20	150	26	4	15	90-140	Z*GD**
QFGD2020LL15-130H			○	20x20	150	21	4	15	130-230	Z*GD**
QFGD2020RR15-130H		●		20x20	150	26	4	15	130-230	Z*GD**
QFGD2525LL13-52H			○	25x25	150	21	4	13	52-72	Z*GD**
QFGD2525RR13-52H		●		25x25	150	21	4	13	52-72	Z*GD**
QFGD2525LL13-64H			●	25x25	150	21	4	13	64-100	Z*GD**
QFGD2525RR13-64H		○		25x25	150	21	4	13	64-100	Z*GD**
QFGD2525LL13-90H			○	25x25	150	21	4	13	90-140	Z*GD**
QFGD2525RR13-90H		○		25x25	150	21	4	13	90-140	Z*GD**
QFGD2525LL13-130H			●	25x25	150	26	4	13	130-230	Z*GD**
QFGD2525RR13-130H		○		25x25	150	21	4	13	130-230	Z*GD**
QFGD2525LL22-52H			●	25x25	150	26	4	22	52-72	Z*GD**
QFGD2525RR22-52H		●		25x25	150	26	4	22	52-72	Z*GD**
QFGD2525LL22-64H			○	25x25	150	26	4	22	64-100	Z*GD**
QFGD2525RR22-64H		●		25x25	150	26	4	22	64-100	Z*GD**
QFGD2525LL22-90H			●	25x25	150	26	4	22	90-140	Z*GD**
QFGD2525RR22-90H		○		25x25	150	26	4	22	90-140	Z*GD**
QFGD2525LL22-130H			●	25x25	150	26	4	22	130-230	Z*GD**
QFGD2525RR22-130H		●		25x25	150	26	4	22	130-230	Z*GD**
QFHD2525LL13-58H			○	25x25	150	26	5	13	58-96	Z*HD**
QFHD2525RR13-58H		○		25x25	150	26	5	13	58-96	Z*HD**
QFHD2525LL13-86H			○	25x25	150	26	5	13	86-140	Z*HD**
QFHD2525RR13-86H		○		25x25	150	26	5	13	86-140	Z*HD**
QFHD2525LL13-130H			○	25x25	150	26	5	13	130-200	Z*HD**
QFHD2525RR13-130H		○		25x25	150	26	5	13	130-200	Z*HD**
QFHD2525LL13-185H			○	25x25	150	26	5	13	185-400	Z*HD**
QFHD2525RR13-185H		○		25x25	150	26	5	13	185-400	Z*HD**
QFHD2525LL22-58H			●	25x25	150	26	5	22	58-96	Z*HD**
QFHD2525RR22-58H		●		25x25	150	26	5	22	58-96	Z*HD**
QFHD2525LL22-86H			○	25x25	150	26	5	22	86-140	Z*HD**
QFHD2525RR22-86H		○		25x25	150	26	5	22	86-140	Z*HD**
QFHD2525LL22-130H			○	25x25	150	26	5	22	130-200	Z*HD**
QFHD2525RR22-130H		●		25x25	150	26	5	22	130-200	Z*HD**
QFHD2525LL22-185H			○	25x25	150	26	5	22	185-400	Z*HD**
QFHD2525RR22-185H		○		25x25	150	26	5	22	185-400	Z*HD**
QFKD2525LL13-60H			○	25x25	150	26	6	13	60-100	Z*KD**
QFKD2525RR13-60H		○		25x25	150	26	6	13	60-100	Z*KD**
QFKD2525LL13-88H			○	25x25	150	26	6	13	88-180	Z*KD**
QFKD2525RR13-88H		○		25x25	150	26	6	13	88-180	Z*KD**

System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving

Tool holders

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFKD2525LL13-160H			○	25x25	150	26	6	13	160-400	Z*KD**
QFKD2525RR13-160H		○		25x25	150	26	6	13	160-400	Z*KD**
QFKD2525LL22-60H			○	25x25	150	26	6	22	60-100	Z*KD**
QFKD2525RR22-60H		○		25x25	150	26	6	22	60-100	Z*KD**
QFKD2525LL22-88H			○	25x25	150	26	6	22	88-180	Z*KD**
QFKD2525RR22-88H		○		25x25	150	26	6	22	88-180	Z*KD**
QFKD2525LL22-160H			●	25x25	150	26	6	22	160-400	Z*KD**
QFKD2525RR22-160H		○		25x25	150	26	6	22	160-400	Z*KD**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**Z*FD****	**Z*GD****	**Z*HD****	**Z*KD****
	H	**20-25**	**20-25**	**20-25**	**20-25**
	Screw	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20
	Wrench	W50RL	W50RL	W50RL	W50RL

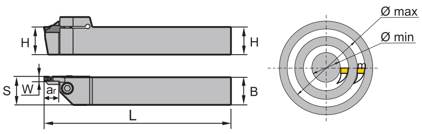
Insert

A351

System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (axial)

QF*SRR/LL



LL Version

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFHS2525LL30-185H			●	25x25	150	26	5	30	185-400	Z*HS**
QFHS2525RR30-185H		○		25x25	150	26	5	30	185-400	Z*HS**
QFKS2525RR30-160H		○		25x25	150	26	6	30	160-400	Z*KS**
QFKS2525LL30-160H			○	25x25	150	26	6	30	160-400	ZT*S**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**Z*HS****	**Z*KS****	**ZT*S****
	H	**25**	**25**	**25**
	Screw	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20
	Wrench	W50RL	W50RL	W50RL

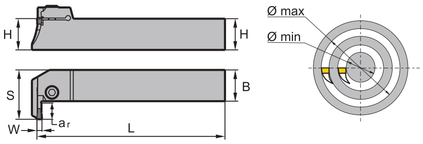
Insert

A356

System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (axial)

QF*DR/L



Left hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFFD2020R/L7-48L		○	○	20x20	150	28.5	3	7	48x66	Z*FD**
QFFD2020R/L7-60L		○	○	20x20	150	28.5	3	7	60x80	Z*FD**
QFFD2020R/L7-74L		●	○	20x20	150	28.5	3	7	74x110	Z*FD**
QFFD2020R/L7-100L		○	○	20x20	150	28.5	3	7	100x150	Z*FD**
QFFD2020R/L10-48L		●	●	20x20	150	31.5	3	10	48x66	Z*FD**
QFGD2020R/L10-52L		○	●	20x20	150	31.5	4	10	52x72	Z*GD**
QFFD2020R/L10-60L		●	●	20x20	150	31.5	3	10	60x80	Z*FD**
QFGD2020R/L10-64L		○	○	20x20	150	31.5	4	10	64x100	Z*GD**
QFFD2020R/L10-74L		●	●	20x20	150	31.5	3	10	74x110	Z*FD**
QFGD2020R/L10-90L		●	●	20x20	150	31.5	4	10	90x140	Z*GD**
QFFD2020R/L10-100L		○	●	20x20	150	31.5	3	10	100x150	Z*FD**
QFGD2020R/L10-130L		●	○	20x20	150	31.5	4	10	130x230	Z*GD**
QFGD2020R/L15-52L		○	●	20x20	150	36.5	4	15	52x72	Z*GD**
QFGD2020R/L15-64L		●	○	20x20	150	36.5	4	15	64x100	Z*GD**
QFGD2020R/L15-90L		○	○	20x20	150	36.5	4	15	90x140	Z*GD**
QFGD2020R/L15-130L		○	○	20x20	150	36.5	4	15	130x230	Z*GD**
QFFD2525R/L10-48L		●	●	25x25	150	36.5	3	10	48x66	Z*FD**
QFFD2525R/L10-60L		●	○	25x25	150	36.5	3	10	60x80	Z*FD**
QFFD2525R/L10-74L		○	○	25x25	150	36.5	3	10	74x110	Z*FD**
QFFD2525R/L10-100L		○	○	25x25	150	36.5	3	10	100x150	Z*FD**
QFGD2525R/L13-52L		○	●	25x25	150	39.5	4	13	52x72	Z*GD**
QFKD2525R/L13-60L		○	○	25x25	150	39.5	6	13	60x100	Z*KD**
QFGD2525R/L13-64L		●	●	25x25	150	39.5	4	13	64x100	Z*GD**
QFKD2525R/L13-88L		○	○	25x25	150	39.5	6	13	88x180	Z*KD**
QFGD2525R/L13-90L		●	○	25x25	150	39.5	4	13	90x140	Z*GD**
QFGD2525R/L13-130L		○	○	25x25	150	39.5	4	13	130x230	Z*GD**
QFFD2525R/L17-48L		●	●	25x25	150	43.5	3	17	48x66	Z*FD**
QFFD2525R/L17-60L		●	○	25x25	150	43.5	3	17	60x80	Z*FD**
QFFD2525R/L17-74L		●	○	25x25	150	43.5	3	17	74x110	Z*FD**
QFFD2525R/L17-100L		●	●	25x25	150	43.5	3	17	100x150	Z*FD**
QFGD2525R/L22-52L		●	○	25x25	150	48.5	4	22	52x72	Z*GD**
QFKD2525R/L22-60L		●	●	25x25	150	48.5	6	22	60x100	Z*KD**
QFGD2525R/L22-64L		●	●	25x25	150	48.5	4	22	64x100	Z*GD**
QFKD2525R/L22-88L		○	●	25x25	150	48.5	6	22	88x180	Z*KD**
QFGD2525R/L22-90L		●	●	25x25	150	48.5	4	22	90x140	Z*GD**
QFGD2525R/L22-130L		●	●	25x25	150	48.5	4	22	130x230	Z*GD**

System code › A372
Grade selection › A348
Technical info › A445
Cutting data › A400

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar_{max}	ØD (min-max)	
QFHD2525R/L13-58L		○	○	25x25	150	39.5	5	13	58x96	Z*HD**
QFHD2525R/L13-86L		●	○	25x25	150	39.5	5	13	86x140	Z*HD**
QFHD2525R/L13-130L		○	○	25x25	150	39.5	5	13	130x200	Z*HD**
QFHD2525R/L13-185L		○	○	25x25	150	39.5	5	13	185x400	Z*HD**
QFHD2525R/L22-58L		●	○	25x25	150	48.5	5	22	58x96	Z*HD**
QFHD2525R/L22-86L		●	○	25x25	150	48.5	5	22	86x140	Z*HD**
QFHD2525R/L22-130L		●	○	25x25	150	48.5	5	22	130x200	Z*HD**
QFHD2525R/L22-185L		●	○	25x25	150	48.5	5	22	185x400	Z*HD**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

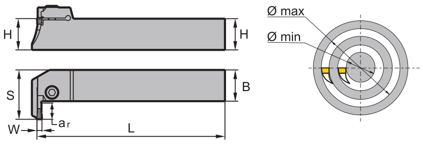
	Insert	**Z*FD****	**Z*GD****	**Z*HD****	**Z*KD****
	H	**20-25**	**20-25**	**20-25**	**20-25**
	Screw	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20
	Wrench	W50RL	W50RL	W50RL	W50RL

Insert

A351

Parting & grooving tool holder (axial)

QFHSDR/L



Right hand style

Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar$_{max}$	ØD (min-max)	
QFHS2525R/L30-185L		●	○	25x25	150	56.5	5	30	185x400	Z*HS**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

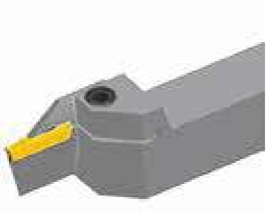
	Insert	**Z*HS****
	H	**25**
	Screw	GB70-85-M6x20
	Wrench	W50RL

Insert

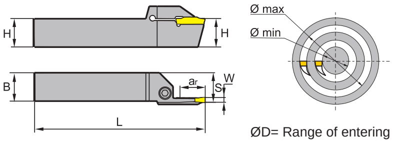
A356

Parting & grooving tool holder (axial)

QF**R/L



Left hand style



Article	✻	Stock		Dimensions [mm]					Inserts
		R	L	HxB	L	S	W	ØD (min-max)	
QFHS2525R/L30-185H		●	●	25x25	150	23.5	5	185-400	Z*HS**
QFKS2525R/L30-160H		●	●	25x25	150	23	6	160-400	Z*KS**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	Z*HS**	Z*KS**
	H	25	25
	Screw	GB70-85-M6x20	GB70-85-M6x20
	Wrench	W50RL	W50RL

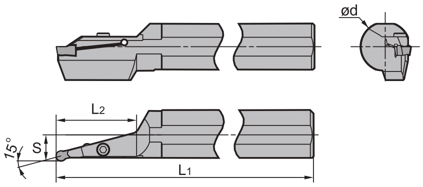
Insert

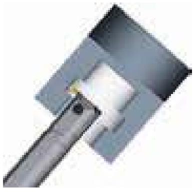
A356

System code A372 Grade selection A348 Technical info A445 Cutting data A400

Parting & grooving tool holder (external)

C40X-Q*DR/L





Right hand style

Article	✻	Stock		Dimensions [mm]					Inserts
		R	L	ØD	ød	S	L_1	L_2	
C40X-QKDR/L60-15A		●	○	160	40	20	320	60	Z*KD**
C40X-QKDR/L75-15A		●	○	160	40	20	320	75	Z*KD**
C40X-QLDR/L65-15A		○	○	160	40	21	320	65	Z*LD**
C40X-QLDR/L80-15A		○	○	160	40	21	320	80	Z*LD**

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

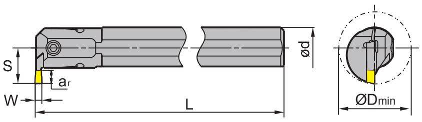
	Insert	**Z*KD****	**Z*LD****
	H	**32-40**	**32-40**
	Screw	GB70-85-M6x20	GB70-85-M6x20
	Wrench	WH50L	WH50L

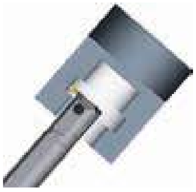
Insert

A364

Parting & grooving tool holder (internal)

C***-Q*DR/L





Right hand style

Article	✼	Stock		Dimensions [mm]						Inserts
		R	L	ØDmin	ød	L	S	W	ar_{max}	
C16M-QBDR/L04-20		●	●	20	16	150	12	2	4	Z*BD**
C20Q-QEDR/L05-27		●	●	27	20	180	15,2	2,5	5	Z*ED**
C25R-QEDR/L07-33		●	●	33	25	200	20,3	2,5	7	Z*ED**
C32S-QEDR/L09-42		●	●	42	32	250	25,3	2,5	9	Z*ED**
C20Q-QFDR/L05-27		●	●	27	20	0	15,2	3	5	Z*FD**
C25R-QFDR/L07-33		●	●	33	25	200	20,3	3	7	Z*FD**
C32S-QFDR/L09-42		●	●	42	32	250	25,3	3	9	Z*FD**
C25R-QGDR/L08-35		●	●	35	25	200	21,5	4	8	Z*GD**
C32S-QGDR/L11-44		●	●	44	32	250	27,5	4	11	Z*GD**
C40T-QGDR/L13-54		●	●	5	40	300	33,5	4	13	Z*GD**
C25R-QHDR/L08-35		●	●	35	25	200	21,5	5	8	Z*HD**
C32S-QHDR/L11-44		●	●	44	32	250	27,5	5	11	Z*HD**
C40T-QHDR/L13-54		●	●	54	40	300	33,5	5	13	Z*HD**
C25R-QKDR/L08-35		●	●	35	25	200	21,5	6	8	Z*KD**
C32S-QKDR/L11-44		●	●	44	32	250	27,5	6	11	Z*KD**
C40T-QKDR/L13-54		●	●	54	40	300	33,5	6	13	Z*KD**

● Ex stock ○ On demand

✼ With internal cooling

Spare parts

	Insert	**Z*ED****	**Z*ED****	**Z*ED****	**Z*FD****	**Z*FD****	**Z*FD****	**Z*GD****	**Z*GD****	**Z*HD****	**Z*HD****	**Z*KD****	**Z*KD****
	H	**20**	**25**	**32-40**	**20**	**25**	**32-40**	**25**	**32-40**	**25**	**32-40**	**25**	**32-40**
	Screw	GB70-85-M4x12	GB70-85-M5x16	GB70-85-M6x20	GB70-85-M4x12	GB70-85-M5x16	GB70-85-M6x20	GB70-85-M5x16	GB70-85-M6x20	GB70-85-M5x16	GB70-85-M6x20	GB70-85-M5x16	GB70-85-M6x20
	Wrench	WH30L	WH40L	WH50L	WH30L	WH40L	WH50L	WH40L	WH50L	WH40L	WH50L	WH40L	WH50L

Insert

A351

System code A373 Grade selection A348 Technical info A445 Cutting data A400

External tool holders – QC series

GQC	R	20	20	K	22	–	15
1	2	3	4	5	6		7

Series

1

Type	
Code	Description
R	Right
L	Left
2	

Height [mm]	
Code	Description
16	16
20	20
25	25
3	

Width [mm]	
Code	Description
16	16
20	20
25	25
4	

Length [mm]	
Code	Description
K	125
M	150
5	

Cutting edge length [mm]	
Code	I.C
11	6.35
16	9.252
22	12.70
6	

Cutting width range [mm]		
Code	Insert size	
15	0.5≤S<1.8(QC16***)	1.0≤S<2.3(QC22***)
25	1.8≤S<3.0(QC16***)	2.3≤S<3.3(QC22***)
35	–	3.3≤S≤4.8(QC22***)
7		

Boring bars – QC series

S	20	K	–	QC	16	15	R	25
1	2	3		4	5	6	7	8

Shank type	
Code	Material
S	Steel shank
C	Solid carbide shank
A	Solid carbide shank (IC)
1	

Diameter [mm]	
Code	Description
16	16
20	20
25	25
2	

Length [mm]	
Code	Description
H	100
K	125
M	150
3	

Series

4

Cutting edge length [mm]	
Code	I.C
11	6.35
16	9.252
22	12.70
5	

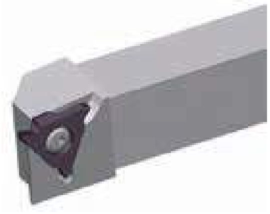
Cutting width range [mm]			
Code	Insert size		
15	0.5≤S<1.8(QC11***)	0.5≤S<1.8(QC16***)	1.0≤S<2.3(QC22***)
25	1.8≤S<3.0(QC11***)	1.8≤S<3.0(QC16***)	2.3≤S<3.3(QC22***)
35	–	–	3.3≤S≤4.8(QC22***)
6			

Cutting direction	
Code	Description
R	Right
L	Left
7	

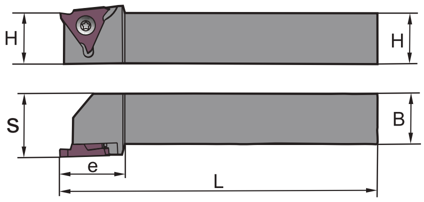
Starting diameter [mm]			
Code	Ø	Code	Ø
16	16	**25**	25
20	20	**35**	35
8			

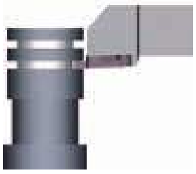
Grooving (external)

GQC**R/L



Right hand style





Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	H	L	S	e	B	Width	
GQCR/L1616K16-15		●	●	16	125	21	25.5	16	0.5-1.80	QC16R/L 050-180
GQCR/L1616K16-25		●	●	16	125	21	25.5	16	1.8-3.0	QC16R/L 050-300
GQCR/L2020K16-15		●	●	20	125	25	25.5	20	0.5-1.80	QC16R/L 050-180
GQCR/L2020K16-25		●	●	20	125	25	25.5	20	1.8-3.0	QC16R/L 050-300
GQCR/L2525M16-15		●	●	25	150	30	25.5	25	0.5-1.80	QC16R/L 050-180
GQCR/L2525M16-25		●	●	25	150	30	25.5	25	1.8-3.0	QC16R/L 050-300
GQCR/L2020K22-15		●	●	20	125	25	25.5	20	1.0-2.3	QC22R/L 100-230
GQCR/L2020K22-25		●	●	20	125	25	25.5	20	2.3-3.3	QC22R/L 100-330
GQCR/L2020K22-35		●	●	20	125	25	25.5	20	3.3-4.8	QC22R/L 100-480
GQCR/L2525M22-15		●	●	25	150	30	25.5	25	1.0-2.3	QC22R/L 100-230
GQCR/L2525M22-25		●	●	25	150	30	25.5	25	2.3-3.3	QC22R/L 100-330
GQCR/L2525M22-35		●	●	25	150	30	25.5	25	3.3-4.8	QC22R/L 100-480

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**QC16R/L 050-180**	**QC22R/L 100-230**
	H	**16-32**	**16-32**
	Screw	I60M3.5×10	I60M5×13
	Wrench (shim)	WT15IP	WT20IP

Insert

Medium Cut

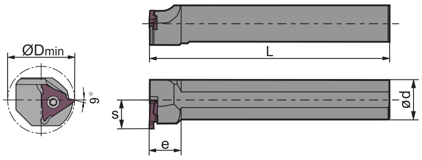
A367

System code A396 Grade selection A348 Technical info A445 Cutting data A400

S_QCR/L

S*K-QC**R/L

Right hand style



Article	✻	Stock		Dimensions [mm]						Inserts
		R	L	ØDmin	ød	L	S	e	Width	
S16H-QC1115R/L20		●	●	21	16	100	11.5	12	0.5-1.80	QC11R/L 050-180
S16H-QC1125R/L20		●	●	21	16	100	11.5	12	1.8-3.0	QC11R/L 050-180
S20K-QC1115R/L16		●	●	16	20	125	11.1	40	0.5-1.80	QC11R/L 050-180
S20K-QC1125R/L16		●	●	16	20	125	11.1	40	1.8-3.0	QC11R/L 050-180
S20M-QC1615R/L25		●	●	26	20	150	12.5	15	0.5-1.80	QC16R/L050-180
S20M-QC1625R/L25		●	●	26	20	150	12.5	15	1.8-3.0	QC16R/L050-180
S25M-QC2215R/L35		●	●	35	25	150	18.2	15	1.0-2.3	QC22R/L100-230
S25M-QC2225R/L35		●	●	35	25	150	18.2	20	2.3-3.3	QC22R/L100-230
S25M-QC2235R/L35		●	●	35	25	150	18.2	20	3.3-4.8	QC22R/L100-230

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**QC11R/L 050-180**	**QC16R/L050-180**	**QC16R/L050-180**	**QC22R/L100-230**
	ød	**16-20**	**20**	**25**	**25**
	Screw	I60M2.5×6.5	I60M3.5×10	I60M5×13	I60M5×13
	Wrench (shim)	WT07IP	WT15IP	WT20IP	WT20IP

Insert

Medium Cut

A367

System code A396 Grade selection A348 Technical info A445 Cutting data A400

Notes

Parting & grooving inserts

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]		
						HC (CVD)	HC (PVD)	
						YBC252	YBG105	YB9320
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	190	200	190
		ca. 0,45 % C	annealed	190	2	175	180	175
		ca. 0,45 % C	tempered	250	3	145	150	145
		ca. 0,75 % C	annealed	270	4	140	145	140
		ca. 0,75 % C	tempered	300	5	135	140	135
	Low-alloyed steel		annealed	180	6	170	180	170
			tempered	275	7	125	130	125
			tempered	300	8	115	120	115
			tempered	350	9	105	110	105
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	125	130	125
			hardened and tempered	325	11	95	100	95
M	Stainless steel	ferritic/martensitic	annealed	200	12	165	170	165
		martensitic	tempered	240	13	135	140	135
		austenitic	quench hardened	180	14	155	160	155
		austenitic-ferritic		230	15	135	140	135
K	Grey cast iron	perlitic/ferritic		180	16	240	250	240
		perlitic (martensitic)		260	17	185	190	185
	Cast iron with spheroidal graphite	ferritic		160	18	220	230	220
		perlitic		250	19	165	170	165
	Malleable cast iron	ferritic		130	20	175	180	175
		perlitic		230	21	165	170	165
N	Aluminium wrought alloys	cannot be hardened		60	22			
		hardenable	hardened	100	23			
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24			
		≤ 12 % Si, hardenable	hardened	90	25			
		> 12 % Si, cannot be hardened		130	26			
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27			
		CuZn, CuSnZn		90	28			
		CuSn, Pb-free copper, electrolytic copper		100	29			
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30		100	95
			hardened	280	31		50	50
		Ni or Co bass	annealed	250	32		80	80
			hardened	350	33		70	70
			cast	320	34		70	70
	Titanium alloys	pure titanium		R_m 400	35		150	145
		α and β alloys	hardened	R_m 1050	36		50	50
H	Hardened steel		hardened and tempered	55 HRC	37			
			hardened and tempered	60 HRC	38			
	Hard cast iron		cast	400	39			
	Hardened cast iron		hardened and tempered	55 HRC	40			
X	Non-metallic materials	Thermoplasts			41			
		Thermosetting plastics			42			
		Plastic, glass-fibre reinforced GFRP			43			
		Plastic, carbon fibre reinforced CFRP			44			
		Graphite			45			
		Wood			46			

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
For examples of material for cutting tool groups view page D22.

Starting values for cutting speed v_c [m/min]					
HC (PVD)			HW		
YBG202	YBG205	YBG302	YD101	YD201	
190	190	185			
175	175	170			
145	145	140			
140	140	135			
135	135	130			
170	170	165			
125	125	125			
115	115	115			
105	105	105			
125	125	125			
95	95	95			
165	165	160			
135	135	130			
155	155	150			
135	135	130			
240	240	235			
185	185	180			
220	220	215			
165	165	160			
175	175	170			
165	165	160			
			800	760	
			600	570	
			320	305	
			240	230	
			160	155	
			160	155	
			600	570	
			200	190	
95	95	95	70	65	
50	50	50	35	35	
80	80	75	60	60	
70	70	65	50	50	
70	70	65	50	50	
145	145	140	105	100	
50	50	50	35	35	

HC Coated carbide
HW Uncoated carbide, main component (WC)

Notes

Threading

System overview A404-A407
Grade overview A408
Application fields of grades A409

System code – inserts A410
Inserts A411-A435

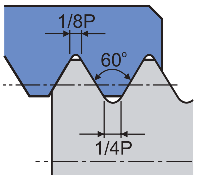
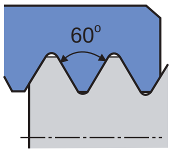
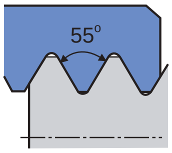
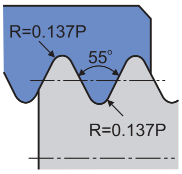
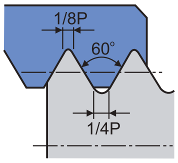
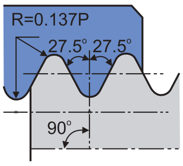
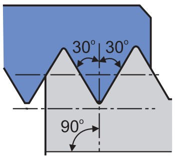
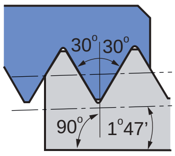
System code – threading tool holders A436
Threading tool holders A437-A443

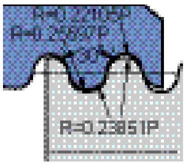
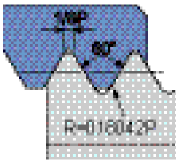
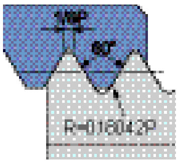
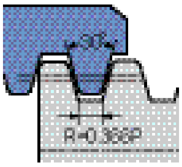
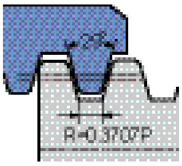
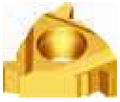
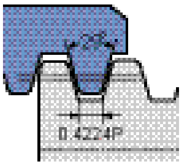
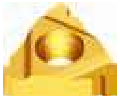
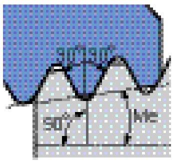
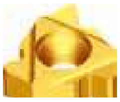
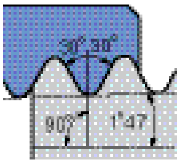
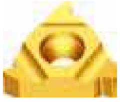
Recommended cutting data A444

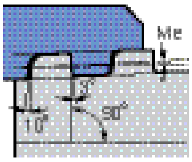
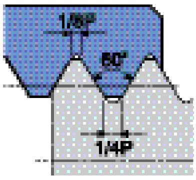
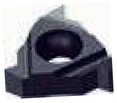
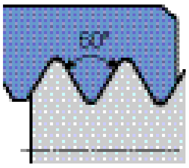
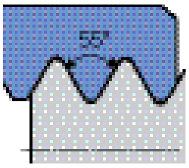
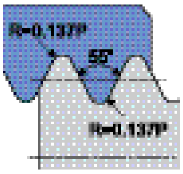
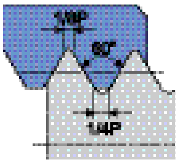
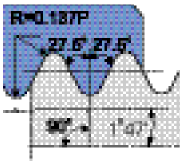
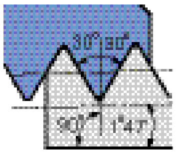
Trouble shooting A447
Technical information A454-A455

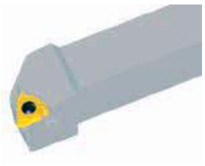
Threading

System overview

Thread types	Profile	Sectional drawing	Insert	Internal Thread pitch [mm]	External Thread pitch [mm]	Page
ISO metric coarse thread 60° full profile	**GM**			0.5-6.0	0.5-6.0	A335
ISO metric coarse thread 60° partial profile	**60°**			0.5-5.0 (5-48)	0.5-5.0 (5-48)	A337
ISO metric coarse thread 55° partial profile	**55°**			0.5-5.0 (5-48)	0.5-5.0 (5-48)	A337
Whitworth	**W**			8-16	8-16	A338
UN unified conventional thread 60° full profile	**UN**			8-20	8-20	A339
BSPT Whitworth taper pipe thread	**BSPT**			11-28	11-28	A340
NPTF dryseal American taper pipe thread 60°	**NPT**			8-27	8-27	A341
NPTF dryseal American taper pipe thread 60°	**NPTF**			8-27	8-27	A341

Thread types	Profile	Sectional drawing	Insert	Internal Thread pitch [mm]	External Thread pitch [mm]	Page
R knuckle thread 30°	R			6-10	6-10	A343
MJ thread for aerospace	MJ			---	1.5-2.0	A344
UNJ unified screw thread	UNJ			---	8-32	A344
TR metrical ISO trapezoidal thread 30°	Tr			1.5-3.0	1.5-3.0	A345
ACME American national thread 29°	AC			8-16	8-16	A346
STUB-ACME thread	STAC			8-16	8-16	A347
API 60° thread	AP			4-5	4-5	A348
API round thread	RD			8-10	8-10	A349

Thread types	Profile	Sectional drawing	Insert	Internal Thread pitch [mm]	External Thread pitch [mm]	Page
API American buttress thread	**BUT**			5	5	A350
ISO metric coarse thread 60° full profile (thin type)	**GM**			0.5-3.0	0.5-3.0	A335
ISO metric coarse thread 60° partial profile (thin type)	**60°**			0.5-3.0 (8-48)	0.5-3.0 (8-48)	A337
ISO metric coarse thread 55° partial profile (thin type)	**55°**			0.5-3.0 (8-48)	0.5-3.0 (8-48)	A337
Whitworth (thin type)	**W**			8-16	8-16	A338
UN unified conventional thread 60° full profile (thin type)	**UN**			8-24	8-20	A339
BSPT Whitworth taper pipe thread (thin type)	**BSPT**			11-28	11-28	A340
NPT American taper pipe thread (thin type)	**NPT**			8-27	8-27	A341

Type	Tool holder	Dimensions [mm]	Page
External thread holder		16×16×100 20×20×125 25×25×150 32×25×170 32×32×170 40×40×250	A358
Internal thread holder		16×125×12 16×150×16 16×150×20 20×150×25 20×180×25 25×150×32 32×200×40 32×250×40 40×300×50 50×350×63	B359
External thread holder (Thin Type)		16×16×100 32×25×170 20×20×125 32×32×170 25×25×150	A358
Internal thread holder (Thin Type)		16×150×20 32×200×40 20×180×25 32×250×40 25×150×32	B359

Threading

Grade	ISO	Micro structure	Grade description
YBG201	P10 – P30 M10 – M30		PVD coated P10–P30/M10–M30 carbide substrate for finishing to medium application of steel and stainless steel. Good wear resistance in a wide application field.
YBG202	P10 – P30 M10 – M25		PVD coated P10–P30/M10–M25 carbide substrate for finishing to medium application of stainless steel and steel (milling). Good wear resistance in a wide application field.
YBG205	P10 – P30 M20 – M40 S15 – S25		PVD multilayer coated P10–P30/M20–M40/S15–S25 carbide substrate for finishing to medium application of stainless steel, super alloy and steel (milling). Good wear resistance and thermal stability in a wide application field.

Application fields of grades – Threading

	ISO	HC^1 (CVD)	HC^1 (PVD)	HT	HC^2	Ceramic	HW	CBN	PCD
P	P01								
	P10		YBG205 YBG201 YBG202						
	P20								
	P30								
	P40								
M	M01								
	M10		YBG205 YBG201 YBG202						
	M20								
	M30								
	M40								
K	K01								
	K10								
	K20								
	K30								
N	N01								
	N10								
	N20								
	N30								
S	S01								
	S10		YBG205 YBG201 YBG202						
	S20								
	S30								
H	H01								
	H10								
	H20								
	H30								

P	Steel	**N**	Non-ferrous metals
M	Stainless steel	**S**	Heat-resistant alloys
K	Cast iron	**H**	Hardened materials

HC^1	Coated carbide
HT	Uncoated cermet
HC^2	Coated cermet
HW	Uncoated carbide

Threading System code – inserts

R	T	22.	01	W	–	3.50	GM	(P)	(B)
1	2	3	4	5		6	7	8	9

Type

Code	Description
R	Right
L	Left

1

Insert shape

T △	Z Special

2

Insert size [mm]

Code	I.C
11	6.35
16	9.252
22	12.70

3

Teeth per cutting edge

Code	Description
01	1
02	2

4

Application

Code	Description
W	External thread
N	Internal thread

5

Pitch

Code	Pitch range (part profile)	
A	0,5 – 1,5 mm	48 – 16 (TPI)
AG	0,5 – 3,0 mm	48 – 8 (TPI)
G	1,75 – 3,0 mm	14 – 8 (TPI)
N	3,5 – 5,0 mm	7 – 5 (TPI)

Pitch range [mm] (full profile)

0,50 0,75 1,00 1,25 1,50
1,75 2,00 2,50 3,00 3,50
4,00 4,50 5,00 5,50 6,00

Pitch range (TPI) (full profile)

4 5 6 8
10 11 11,5 12
14 16 18 19
20 24 27 28

6

Thread profile

Code	Description
GM	ISO metric coarse thread 60°
60	Partial profile 60°
55	Partial profile 55°
W	Whitworth
UN	Unified conventional thread
BSPT	Whitworth taper pipe thread
NPT	American taper pipe thread
NPTF	Dryseal American taper pipe thread
R	Knuckle thread 30°
MJ	Thread for aerospace
UNJ	Unified screw thread
TR	Metrical ISO trapezoidal thread
AC	American national thread
STAC	STUB-ACME thread
AP	API 60° thread
RD	API round thread
BUT	American buttress thread

7

Chip breaker

8

Insert thickness [mm]

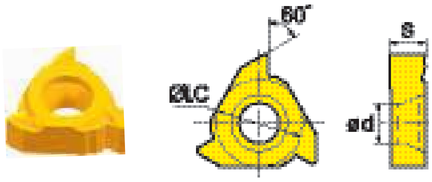
Code	Description
B	Thin type

9

R/LT**N/W	I.C	S	d
11	6.35	3.18	2.8
16	9.525	3.97	4.4
22	12.7	5.56	5.5

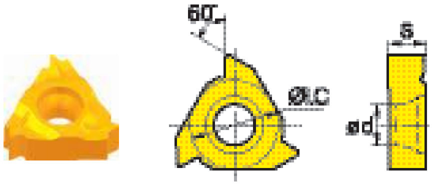
Threading Inserts

ISO metric coarse thread 60°



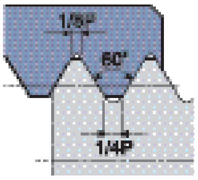
External Right hand

Internal Left hand



Internal Right hand

External Left hand



ISO 965-1980 DIN 13

GB·T 197-2003 Tolerance: 6g·6H

ISO	Pitch (T.P.i)	External	HC[1] (PVD)		Internal	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
11	0.50	-			**LT11.01N-0.50GM**	○	○
		-			**RT11.01N-0.50GM**	●	○
	0.75	-			**LT11.01N-0.75GM**	○	○
		-			**RT11.01N-0.75GM**	●	○
	1.00	-			**LT11.01N-1.00GM**	●	○
		-			**RT11.01N-1.00GM**	●	●
	1.25	-			**LT11.01N-1.25GM**	●	○
		-			**RT11.01N-1.25GM**	●	○
	1.50	-			**LT11.01N-1.50GM**	●	○
		-			**RT11.01N-1.50GM**	●	●
	1.75	-			**LT11.01N-1.75GM**	●	○
		-			**RT11.01N-1.75GM**	●	○
	2.00	-			**LT11.01N-2.00GM**	●	○
		-			**RT11.01N-2.00GM**	●	●
16	0.50	-			**LT16.01N-0.50GM**	○	○
		-			**RT16.01N-0.50GM**	○	○
	0.75	-			**LT16.01N-0.75GM**	○	○
		-			**RT16.01N-0.75GM**	○	○
	1.00	**RT16.01W-1.00GM**	○	●	**RT16.01N-1.00GM**	○	○
		LT16.01W-1.00GM	●	○	**LT16.01N-1.00GM**	●	○
	1.25	**RT16.01W-1.25GM**	○	●	**RT16.01N-1.25GM**	○	○
		LT16.01W-1.25GM	●	○	**LT16.01N-1.25GM**	●	○
	1.50	**RT16.01W-1.50GM**	○	●	**RT16.01N-1.50GM**	○	●
		LT16.01W-1.50GM	●	○	**LT16.01N-1.50GM**	●	○
	1.75	**RT16.01W-1.75GM**	○	●	**RT16.01N-1.75GM**	○	○
		LT16.01W-1.75GM	●	○	**LT16.01N-1.75GM**	●	○
	2.00	**RT16.01W-2.00GM**	○	●	**RT16.01N-2.00GM**	○	●
		LT16.01W-2.00GM	●	○	**LT16.01N-2.00GM**	●	○
	2.50	**RT16.01W-2.50GM**	○	●	**RT16.01N-2.50GM**	○	●

● Ex Stock ○ On demand

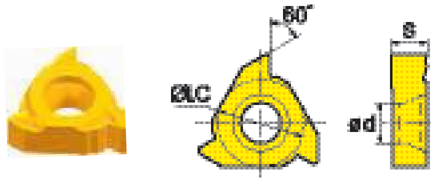
HC[1] Coated carbide

System code A410 Grade selection A409 Technical info A445 Cutting data A444

R/LT**N/W	I.C	S	d
11	6.35	3.18	2.8
16	9.525	3.97	4.4
22	12.7	5.56	5.5

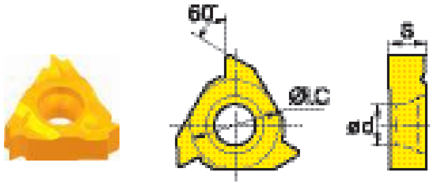
Threading Inserts

ISO metric coarse thread 60°



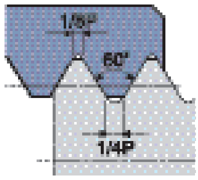
External Right hand

Internal Left hand



Internal Right hand

External Left hand



ISO 965-1980 DIN 13

GB·T 197-2003 Tolerance: 6g·6H

ISO	Pitch (T.P.i)	External	HC^1 (PVD)		Internal	HC^1 (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	2.5	LT16.01W-2.50GM	●	○	LT16.01N-2.50GM	●	○
	3.00	RT16.01W-3.00GM	○	●	RT16.01N-3.00GM	○	●
		LT16.01W-3.00GM	●	○	LT16.01N-3.00GM	●	○
22	3.50	RT22.01W-3.50GM	○	○	RT22.01N-3.50GM	○	●
		LT22.01W-3.50GM	●	○	LT22.01N-3.50GM	●	○
	4.00	RT22.01W-4.00GM	○	●	RT22.01N-4.00GM	○	●
		LT22.01W-4.00GM	●	○	LT22.01N-4.00GM	●	○
	4.50	RT22.01W-4.50GM	○	○	RT22.01N-4.50GM	○	●
		LT22.01W-4.50GM	○	○	LT22.01N-4.50GM	●	○
	5.00	RT22.01W-5.00GM	○	○	RT22.01N-5.00GM	○	○
		LT22.01W-5.00GM	●	○	LT22.01N-5.00GM	●	○
	5.50	RT22.01W-5.50GM	○	○	RT22.01N-5.50GM	○	○
		LT22.01W-5.50GM	○	○	LT22.01N-5.50GM	●	○
	6.00	RT22.01W-6.00GM	○	●	RT22.01N-6.00GM	○	●
		LT22.01W-6.00GM	●	○	LT22.01N-6.00GM	●	○

● Ex Stock ○ On demand

HC^1 Coated carbide

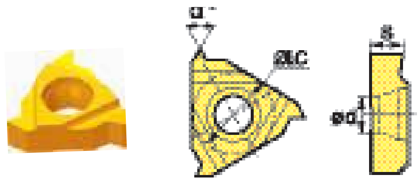
Tool Holders	
SWR/L	**SNR/L**
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

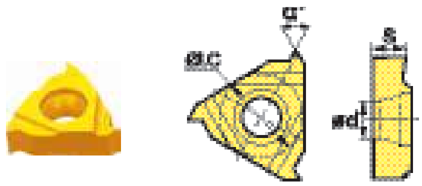
R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4
22	12,7	5,56	5,5

Threading Inserts

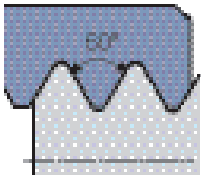
Partial profile 60°



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ISO	Pitch (T.P.i)	External	HC[1] (PVD)		Internal	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	0,50-1,50	**RT16.01W-A60**	○	●	**RT16.01N-A60**	○	○
		LT16.01W-A60	●	○	**LT16.01N-A60**	●	○
	0,50-3,00	**RT16.01W-AG60**	○	●	**RT16.01N-AG60**	○	○
		LT16.01W-AG60	●	○	**LT16.01N-AG60**	●	●
	1,75-3,00	**RT16.01W-G60**	○	○	**RT16.01N-G60**	○	○
		LT16.01W-G60	●	○	**LT16.01N-G60**	○	○
		RT16.01W-G60P*	○	○	**RT16.01N-G60P***	○	○
		LT16.01W-G60P*	○	○	**LT16.01N-G60P***	○	○
22	3,50-5,00	-			**RT22.01N-N60**	○	○
		-			**LT22.01N-N60**	○	○
		RT22.01W-N60P*	○	●	**RT22.01N-N60P***	○	●
		LT22.01W-N60P*	○	○	**LT22.01N-N60P***	○	○

● Ex Stock ○ On demand

HC[1] Coated carbide

P*: Inserts with chip-breakers

Tool Holders

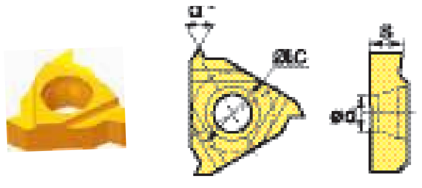
SWR/L	**SNR/L**
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

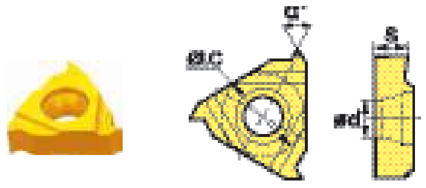
R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4
22	12,7	5,56	5,5

Threading Inserts

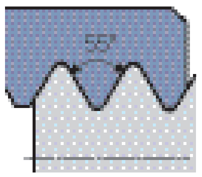
Partial profile 55°



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ISO	Pitch (T.P.i))	External	HC^1 (PVD)		Internal	HC^1 (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	0,50-1,50	**RT16.01W-A55**	○	○	**RT16.01N-A55**	○	○
		LT16.01W-A55	●	○	**LT16.01N-A55**	○	○
	0,50-3,00	**RT16.01W-AG55**	○	●	**RT16.01N-AG55**	○	●
		LT16.01W-AG55	○	○	**LT16.01N-AG55**	●	○
	1,75-3,00	**RT16.01W-G55**	○	○	**RT16.01N-G55**	○	○
		LT16.01W-G55	●	○	**LT16.01N-G55**	○	○
		RT16.01W-G55P*	○	○	**RT16.01N-G55P***	○	○
		LT16.01W-G55P*	●	○	**LT16.01N-G55P***	○	○
22	3,50-5,00	-			**RT22.01N-N55**	○	○
		-			**LT22.01N-N55**	○	○
		RT22.01W-N55P*	○		**RT22.01N-N55P***	○	

● Ex Stock ○ On demand

P*: Inserts with chip-breakers

HC^1 Coated carbide

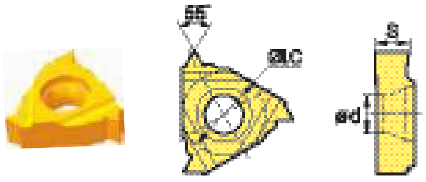
Tool Holders

SWR/L	**SNR/L**
	
A437	A438

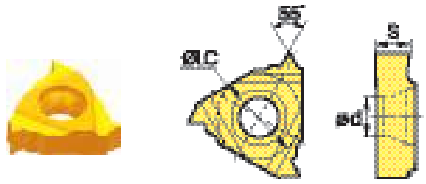
R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

Threading Inserts

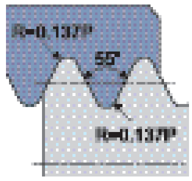
Whitworth



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ISO 228-1:1982 DIN 259. B.S.84: 1956
Tolerance: Medium class 1

ISO	Pitch (T.P.i)	External	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Internal	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	8.00	RT16.01W-8W	○	○	RT16.01N-8W	○	○
		LT16.01W-8W	●	○	LT16.01N-8W	●	○
	9.00	RT16.01W-9W	○	○	RT16.01N-9W	○	○
		LT16.01W-9W	○	○	LT16.01N-9W	○	○
	10.00	RT16.01W-10W	○	○	RT16.01N-10W	○	○
		LT16.01W-10W	○	○	LT16.01N-10W	○	○
	11.00	RT16.01W-11W	○	●	RT16.01N-11W	○	●
		LT16.01W-11W	●	○	LT16.01N-11W	○	○
	12.00	RT16.01W-12W	○	○	RT16.01N-12W	○	○
		LT16.01W-12W	○	○	LT16.01N-12W	○	○
	14.00	RT16.01W-14W	○	●	RT16.01N-14W	○	●
		LT16.01W-14W	●	○	LT16.01N-14W	○	○
	16.00	RT16.01W-16W	○	●	RT16.01N-16W	○	●
		LT16.01W-16W	○	○	LT16.01N-16W	○	○

● Ex Stock ○ On demand

HC[1] Coated carbide

Tool Holders

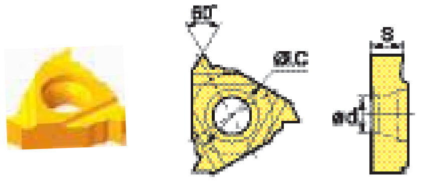
SWR/L	SNR/L
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

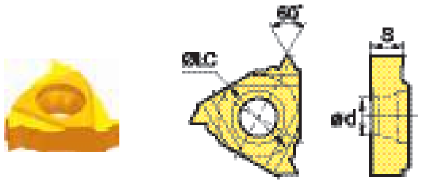
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

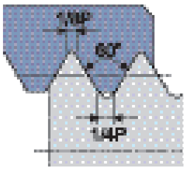
UN unified conventional thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



AS;E B1.1-1989
Tolerance: 2A·2B

ISO	Pitch (T.P.i)	External	HC[1] (PVD)		Internal	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	8.00	**RT16.01W-8UN**	○	○	**RT16.01N-8UN**	○	○
		LT16.01W-8UN	○	○	**LT16.01N-8UN**	○	○
	10.00	**RT16.01W-10UN**	○	○	**RT16.01N-10UN**	○	○
		LT16.01W-10UN	○	○	**LT16.01N-10UN**	○	○
	12.00	**RT16.01W-12UN**	○	○	**RT16.01N-12UN**	○	○
		LT16.01W-12UN	○	○	**LT16.01N-12UN**	○	○
	14.00	**RT16.01W-14UN**	○	○	**RT16.01N-14UN**	○	○
		LT16.01W-14UN	○	○	**LT16.01N-14UN**	○	○
	16.00	**RT16.01W-16UN**	○	○	**RT16.01N-16UN**	○	○
		LT16.01W-16UN	○	○	**LT16.01N-16UN**	○	○
	18.00	**RT16.01W-18UN**	○	○	**RT16.01N-18UN**	○	○
		LT16.01W-18UN	○	○	**LT16.01N-18UN**	○	○
	20.00	**RT16.01W-20UN**	○	○	**RT16.01N-20UN**	○	○
		LT16.01W-20UN	○	○	**LT16.01N-20UN**	○	○
	24.00	-			**LT16.01N-24UN**	○	○
		-			**RT16.01N-24UN**	○	○

● Ex Stock ○ On demand

HC[1] Coated carbide

Tool Holders

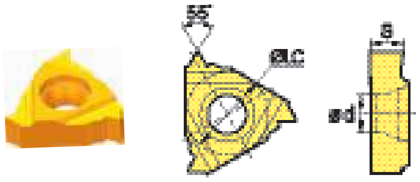
SWR/L	SNR/L
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

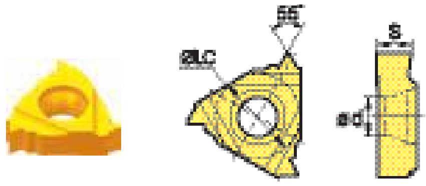
R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

Threading Inserts

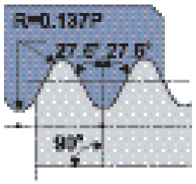
BSPT Whitworth taper pipe thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ISO 7-1:1984 B.S.21:1985
Standard BSPT

ISO	Pitch (T.P.i)	External	HC[1] (PVD)		Internal	HC[1] (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	11.00	RT16.01W-11BSPT	○	○	RT16.01N-11BSPT	○	○
		LT16.01W-11BSPT	●	○	LT16.01N-11BSPT	○	○
	14.00	RT16.01W-14BSPT	○	○	RT16.01N-14BSPT	○	○
		LT16.01W-14BSPT	○	○	LT16.01N-14BSPT	○	○
	19.00	RT16.01W-19BSPT	○	○	RT16.01N-19BSPT	○	○
		LT16.01W-19BSPT	○	○	LT16.01N-19BSPT	○	○
	28.00	RT16.01W-28BSPT	○	○	RT16.01N-28BSPT	○	○
		LT16.01W-28BSPT	○	○	LT16.01N-28BSPT	○	○

● Ex Stock ○ On demand

HC[1] Coated carbide

Tool Holders

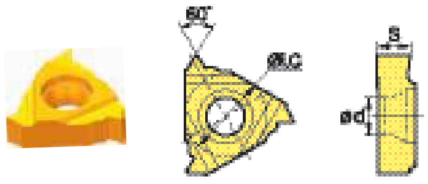
SWR/L	SNR/L
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

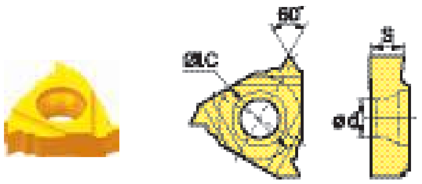
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

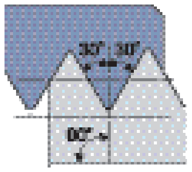
NPT American taper pipe thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ASME B1.20.1-1983
Standard NPT

ISO	Pitch (T.P.i)	External	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Internal	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	8.00	**RT16.01W-8NPT**	○	○	**RT16.01N-8NPT**	○	○
		LT16.01W-8NPT	○	○	**LT16.01N-8NPT**	○	○
	11.50	**RT16.01W-11.5NPT**	○	○	**RT16.01N-11.5NPT**	○	○
		LT16.01W-11.5NPT	○	○	**LT16.01N-11.5NPT**	○	○
	14.00	**RT16.01W-14NPT**	○	○	**RT16.01N-14NPT**	○	○
		LT16.01W-14NPT	○	○	**LT16.01N-14NPT**	○	○
	18.00	**RT16.01W-18NPT**	○	○	**RT16.01N-18NPT**	○	○
		LT16.01W-18NPT	○	○	**LT16.01N-18NPT**	○	○
	27.00	**RT16.01W-27NPT**	○	○	**RT16.01N-27NPT**	○	○
		LT16.01W-27NPT	○	○	**LT16.01N-27NPT**	○	○

● Ex Stock ○ On demand

HC[1] Coated carbide

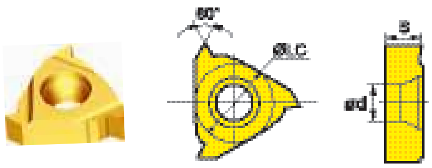
Tool Holders

SWR/L	SNR/L
	
A437	A438

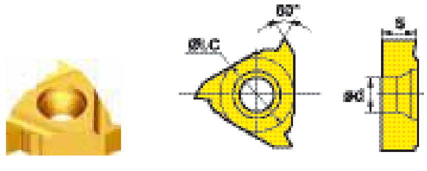
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

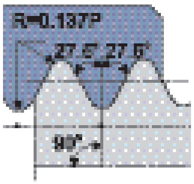
NPTF dryseal American taper pipe thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ANSI B1.20.1-1983
Tolerance: 2

ISO	Pitch (T.P.i)	External	HC¹ (PVD)		Internal	HC¹ (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	8.00	**RT16.01W-8NPTF**	○	○	**RT16.01N-8NPTF**	○	○
	11.50	**RT16.01W-11.5NPTF**	○	○	**RT16.01N-11.5NPTF**	○	○
	14.00	**RT16.01W-14NPTF**	○	○	**RT16.01N-14NPTF**	○	○
	18.00	**RT16.01W-18NPTF**	○	○	**RT16.01N-18NPTF**	○	○
	27.00	**RT16.01W-27NPTF**	○	○	**RT16.01N-27NPTF**	○	○

● Ex Stock ○ On demand

HC¹ Coated carbide

Tool Holders

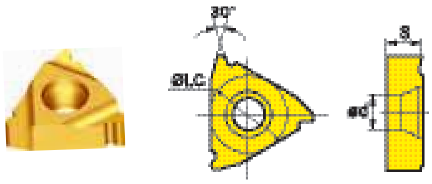
SWR/L	SNR/L
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

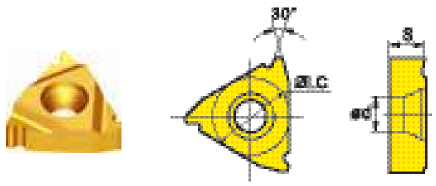
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

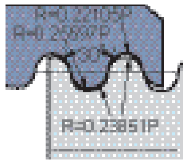
R knuckle thread 30°



External Right hand
Internal Left hand



Internal Right hand
External Left hand



DIN 405
Tolerance: 7

ISO	Pitch (T.P.i)	External	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Internal	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	6.00	**RT16.01W-6R**	○	○	**RT16.01N-6R**	○	●
	8.00	**RT16.01W-8R**	○	●	**RT16.01N-8R**	○	●
	10.00	**RT16.01W-10R**	○	○	**RT16.01N-10R**	○	●

● Ex Stock ○ On demand

HC[1] Coated carbide

Tool Holders

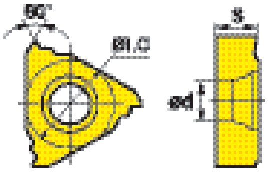
SWR/L	SNR/L
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

Threading Inserts

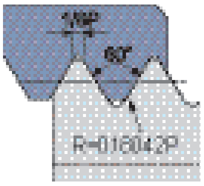
R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

MJ thread for aerospace



External Right hand

Internal Left hand



ISO 5855-1999

Tolerance: 4

ISO	Pitch (T.P.i)	External	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Internal	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	1.50	**RT16.01W-1.50MJ**	○	○	-		
	2.00	**RT16.01W-2.00MJ**	○	○	-		

● Ex Stock ○ On demand

HC[1] Coated carbide

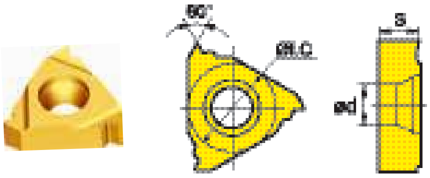
Tool Holders

SWR/L	**SNR/L**
	
A437	A438

Threading Inserts

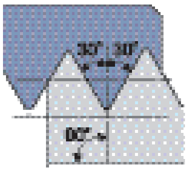
R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

UNJ unified screw thread



External Right hand

Internal Left hand



ISO 3161-1999

Tolerance: 3A

ISO	Pitch (T.P.i)	External	HC^1 (PVD)		Internal	HC^1 (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	8.00	**RT16.01W-8UNJ**	○	○	-		
	10.00	**RT16.01W-10UNJ**	○	○	-		
	12.00	**RT16.01W-12UNJ**	○	○	-		
	14.00	**RT16.01W-14UNJ**	○	○	-		
	16.00	**RT16.01W-16UNJ**	○	○	-		
	18.00	**RT16.01W-18UNJ**	○	○	-		
	20.00	**RT16.01W-20UNJ**	○	○	-		
	24.00	**RT16.01W-24UNJ**	○	○	-		
	28.00	**RT16.01W-28UNJ**	○	○	-		
	32.00	**RT16.01W-32UNJ**	○	○	-		

● Ex Stock ○ On demand

HC^1 Coated carbide

Tool Holders

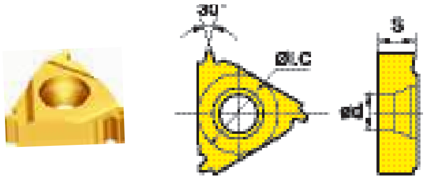
SWR/L	**SNR/L**
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

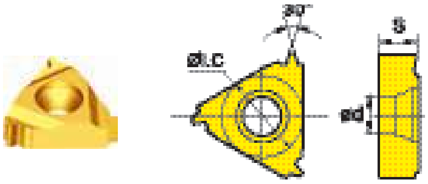
Threading Inserts

TR metrical ISO trapezoidal thread



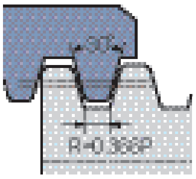
External Right hand

Internal Left hand



Internal Right hand

External Left hand



ISO 2901-2904

Tolerance: 7

ISO	Pitch (T.P.i)	External	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Internal	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	1.50	**RT16.01W-1.50TR**	○	●	**RT16.01N-1.50TR**	○	○
	2.00	**RT16.01W-2.00TR**	○	●	**RT16.01N-2.00TR**	○	○
	3.00	**RT16.01W-3.00TR**	○	○	**RT16.01N-3.00TR**	○	●

● Ex Stock ○ On demand

HC[1] Coated carbide

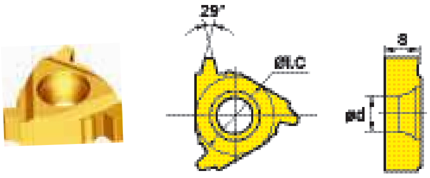
Tool Holders

SWR/L	SNR/L
	
A437	A438

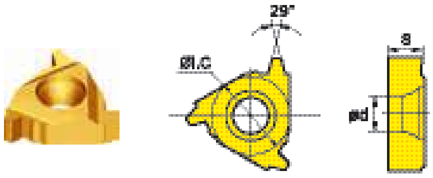
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

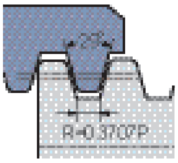
ACME American national thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ANSI B1.5-1988
Tolerance: 2G

ISO	Pitch (T.P.i)	External	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Internal	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	8.00	**RT16.01W-8AC**	○	○	**RT16.01N-8AC**	○	○
	10.00	**RT16.01W-10AC**	○	○	**RT16.01N-10AC**	○	○
	12.00	**RT16.01W-12AC**	○	○	**RT16.01N-12AC**	○	○
	14.00	**RT16.01W-14AC**	○	○	**RT16.01N-14AC**	○	○
	16.00	**RT16.01W-16AC**	○	○	**RT16.01N-16AC**	○	○

● Ex Stock ○ On demand

HC[1] Coated carbide

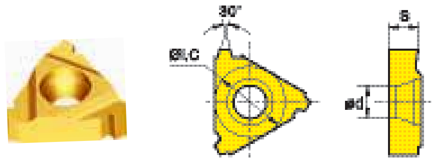
Tool Holders

SWR/L	SNR/L
	
A437	A438

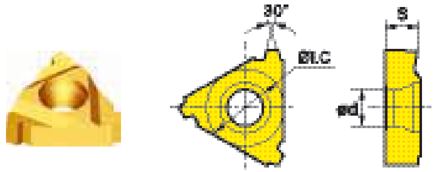
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

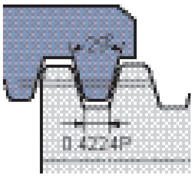
STUB-ACME thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ANSI B1.8-1988
Tolerance: 2G / API Standard

ISO	Pitch (T.P.i)	External	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205	Internal	HC[1] (PVD) YBG201	HC[1] (PVD) YBG205
16	8.00	**RT16.01W-8STAC**	○	○	**RT16.01N-8STAC**	○	○
	10.00	**RT16.01W-10STAC**	○	○	**RT16.01N-10STAC**	○	○
	12.00	**RT16.01W-12STAC**	○	○	**RT16.01N-12STAC**	○	○
	14.00	**RT16.01W-14STAC**	○	○	**RT16.01N-14STAC**	○	○
	16.00	**RT16.01W-16STAC**	○	○	**RT16.01N-16STAC**	○	○

● Ex Stock ○ On demand

HC[1] Coated carbide

Tool Holders

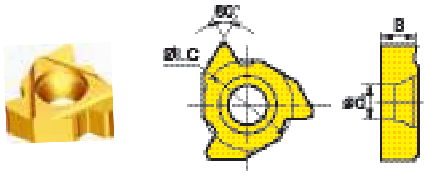
SWR/L	SNR/L
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

Threading Inserts

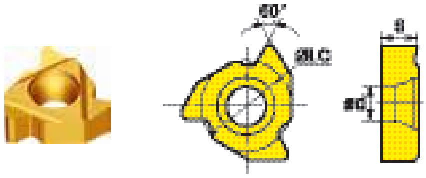
R/LT**N/W	I.C	S	d
22	12,7	5,56	5,5

API 60° thread



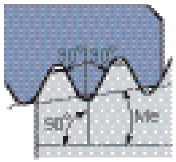
External Right hand

Internal Left hand



Internal Right hand

External Left hand



Me = taper, 2i.p.f--4°46', 3i.p.f--7°01'

API SPEC7:1990 Tolerance: API Standard

ISO	Pitch (T.P.i)	External	HC^1 (PVD)											Internal	HC^1 (PVD)										
			YBG201	YBG205											YBG201	YBG205									
22	4.00	**RT22.01W-4AP382**	○	○										**RT22.01N-4AP382**	○	○									
		RT22.01W-4AP383	○	○										**RT22.01N-4AP383**	○	○									
		RT22.01W-4AP502	○	○										**RT22.01N-4AP502**	○	○									
		RT22.01W-4AP503	○	○										**RT22.01N-4AP503**	○	○									
	5.00	**RT22.01W-5AP403**	○	○										**RT22.01N-5AP403**	○	○									

● Ex Stock ○ On demand

PB*: Inserts with chip-breakers

HC^1 Coated carbide

Tool Holders

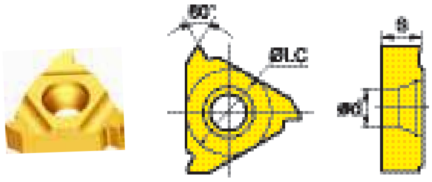
SWR/L	SNR/L
	
A437	A438

System code A410 Grade selection A409 Technical info A445 Cutting data A444

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4
22	12.7	5.56	5.5

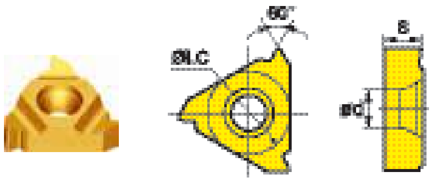
Threading Inserts

API round thread



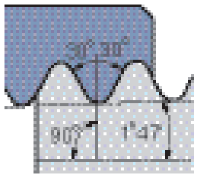
External Right hand

Internal Left hand



Internal Right hand

External Left hand



API spec. 5B

Tolerance: API RD

ISO	Pitch (T.P.i)	External	HC^1 (PVD)		Internal	HC^1 (PVD)	
			YBG201	YBG205		YBG201	YBG205
16	8.00	**RT16.01W-8RD**	○	○	**RT16.01N-8RD**	○	○
	10.00	**RT16.01W-10RD**	○	○	**RT16.01N-10RD**	○	○
22	8.00	**RT22.01W-8RD**	○	○	**RT22.01N-8RD**	○	○
	10.00	**RT22.01W-10RD**	○	○	**RT22.01N-10RD**	○	○

● Ex Stock ○ On demand

HC^1 Coated carbide

Tool Holders

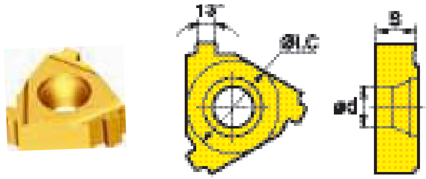
SWR/L	SNR/L
	
A437	A438

System code A410
Grade selection A409
Technical info A445
Cutting data A444

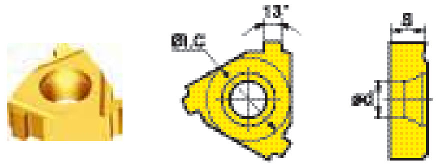
Threading Inserts

R/LT**N/W	I.C	S	d
22	12.7	5.56	5.5

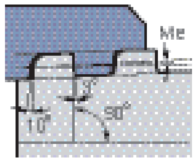
API American buttress thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



Me=taper 3/4i.p.f-1°47'-1°47' for Ø 4 1/2-13 3/8"
1 i.p.f--2°23' for Ø16" SEPC.5B.1979 Tol.: API Std.

ISO	Pitch (T.P.i)	External	HC^1 (PVD)		Internal	HC^1 (PVD)	
			YBG201	YBG205		YBG201	YBG205
22	5.00	**RT22.01W-5BUT1**	○	○	**RT22.01N-5BUT1**	○	○
		RT22.01W-5BUT	○	○	**RT22.01N-5BUT**	○	○

● Ex Stock ○ On demand

HC^1 Coated carbide

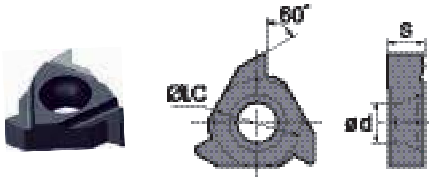
Tool Holders

SWR/L	SNR/L
	
A437	A438

Threading Inserts (Thin Type)

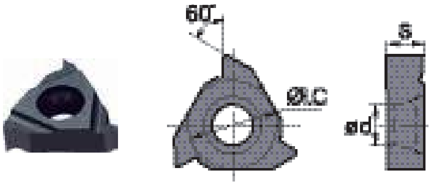
R/LT**N/W	I.C	S	d
16	9.525	3.52	4

ISO metric coarse thread 60°



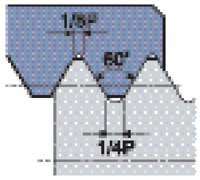
External Right hand

Internal Left hand



Internal Right hand

External Left hand



ISO 965-1980, DIN 13, GB/T 197-2003

Tolerance: 6g/6H

ISO	Pitch (T.P.i)	External	HC^1 (PVD)		Internal	HC^1 (PVD)	
			YBG202	YBG205		YBG202	YBG205
16	0,50	RT16.01W-0.50GMB	●	○	RT16.01N-0.50GMB	●	○
	0,75	RT16.01W-0.75GMB	●	○	RT16.01N-0.75GMB	●	○
	1,00	RT16.01W-1.00GMB	●	○	RT16.01N-1.00GMB	●	●
		-			RT16.01N-1.00GMPB*	●	●
	1,25	RT16.01W-1.25GMB	●	●	RT16.01N-1.25GMB	●	●
	1,50	RT16.01W-1.50GMB	●	○	RT16.01N-1.50GMB	●	○
		RT16.01W-1.50GMPB*	●	●	-		
	1,75	RT16.01W-1.75GMB	●	●	RT16.01N-1.75GMB	○	●
	2,00	RT16.01W-2.00GMB	●	○	RT16.01N-2.00GMB	●	○
		-			RT16.01N-2.00GMPB*	●	●
	2,50	RT16.01W-2.50GMB	●	○	RT16.01N-2.50GMB	●	○
	3,00	RT16.01W-3.00GMB	●	○	RT16.01N-3.00GMB	●	○
		-			RT16.01N-3.00GMPB*	●	●

● Ex Stock ○ On demand

PB*: Inserts with chip-breakers

HC^1 Coated carbide

Tool Holders

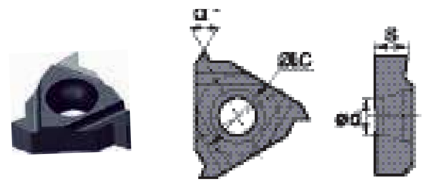
SWR	SNR
	
A441	A442

System code A410 Grade selection A409 Technical info A445 Cutting data A444

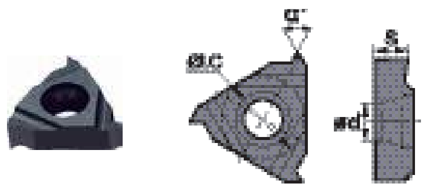
Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

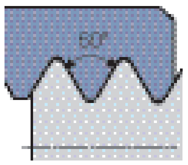
Partial profile 60°



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ISO	Pitch (T.P.i)	External	HC[1] (PVD)		Internal	HC[1] (PVD)	
			YBG202	YBG205		YBG202	YBG205
16	0,50 - 1,50	**RT16.01W-A60B**	●	○	**RT16.01N-A60B**	●	○
	0,50 - 3,00	**RT16.01W-AG60B**	●	○	**RT16.01N-AG60B**	●	○
		RT16.01W-AG60PB*	●	●	-		
	1,75 - 3,00	**RT16.01W-G60B**	●	○	**RT16.01N-G60B**	●	○

● Ex Stock ○ On demand

HC[1] Coated carbide

PB*: Inserts with chip-breakers

Tool Holders

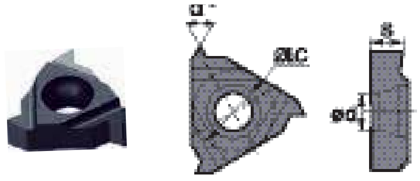
SWR	**SNR**
	
A441	A442

System code A410 Grade selection A409 Technical info A445 Cutting data A444

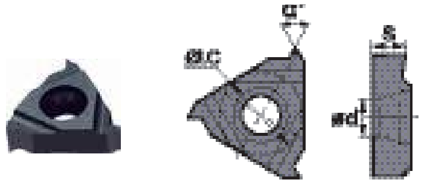
Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

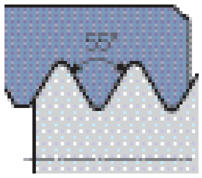
Partial profile 55°



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ISO	Pitch (T.P.i)	External	HC¹ (PVD) YBG202	HC¹ (PVD) YBG205	Internal	HC¹ (PVD) YBG202	HC¹ (PVD) YBG205
16	0,50 - 1,50	**RT16.01W-A55B**	●	○	**RT16.01N-A55B**	●	○
	0,50 - 3,00	**RT16.01W-AG55B**	●	○	**RT16.01N-AG55B**	●	○
		RT16.01W-AG55PB*	●	○			
	1,75 - 3,00	**RT16.01W-G55B**	●	○	**RT16.01N-G55B**	●	○

● Ex Stock ○ On demand

HC¹ Coated carbide

PB*: Inserts with chip-breakers

Tool Holders

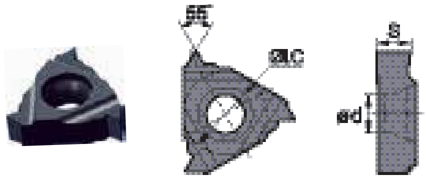
SWR	SNR
	
A441	A442

System code A410 Grade selection A409 Technical info A445 Cutting data A444

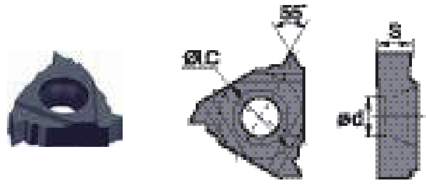
Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

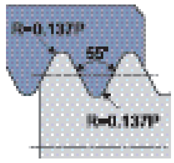
Whitworth



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ISO 965-1980, DIN 13, GB/T 197-2003
Tolerance: Medium class A

ISO	Pitch (T.P.i)	External	HC[1] (PVD)		Internal	HC[1] (PVD)	
			YBG202	YBG205		YBG202	YBG205
16	8,00	**RT16.01W-8WB**	●	○	**RT16.01N-8WB**	○	○
	9,00	**RT16.01W-9WB**	●	○	**RT16.01N-9WB**	○	○
	10,00	**RT16.01W-10WB**	●	○	**RT16.01N-10WB**	●	○
	11,00	**RT16.01W-11WB**	●	○	**RT16.01N-11WB**	●	○
		-			**RT16.01N-11WPB***	●	●
	12,00	**RT16.01W-12WB**	●	○	**RT16.01N-12WB**	●	○
	14,00	**RT16.01W-14WB**	●	○	**RT16.01N-14WB**	○	○
		-			**RT16.01N-14WPB***	●	●
	16,00	**RT16.01W-16WB**	●	○	**RT16.01N-16WB**	○	○

● Ex Stock ○ On demand

HC[1] Coated carbide

PB*: Inserts with chip-breakers

Tool Holders

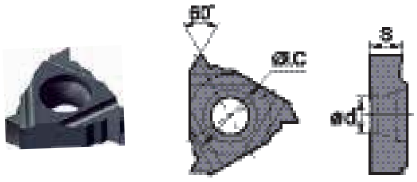
SWR	SNR
	
A441	A442

A
Turning
B
Milling
C
Drilling
D
Technical Information
E
Index

Threading Inserts (Thin Type)

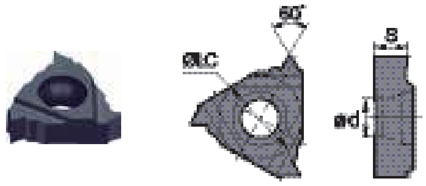
R/LT**N/W	I.C	S	d
16	9.525	3.52	4

UN unified conventional thread



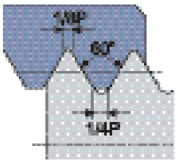
External Right hand

Internal Left hand



Internal Right hand

External Left hand



ASME B1.1-1989

Tolerance: 2A/2B

ISO	Pitch (T.P.i)	External	HC^1 (PVD)		Internal	HC^1 (PVD)	
			YBG202	YBG205		YBG202	YBG205
16	8.00	**RT16.01W-8UNB**	●	○	**RT16.01N-8UNB**	●	○
	10.00	**RT16.01W-10UNB**	●	○	**RT16.01N-10UNB**	●	○
	12.00	**RT16.01W-12UNB**	●	○	**RT16.01N-12UNB**	●	○
	14.00	**RT16.01W-14UNB**	●	○	**RT16.01N-14UNB**	●	○
	16.00	**RT16.01W-16UNB**	●	○	**RT16.01N-16UNB**	●	○
	18.00	**RT16.01W-18UNB**	○	○	**RT16.01N-18UNB**	●	○
	20,00	**RT16.01W-20UNB**	●	○	**RT16.01N-20UNB**	○	○
	24,00	-			**RT16.01N-24UNB**	○	○

● Ex Stock ○ On demand

HC^1 Coated carbide

Tool Holders

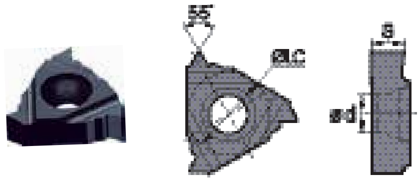
SWR	SNR
	
A441	A442

System code A410 Grade selection A409 Technical info A445 Cutting data A444

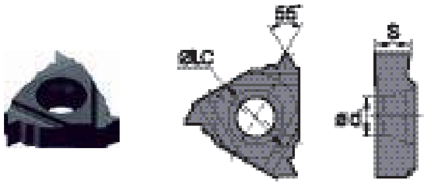
Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

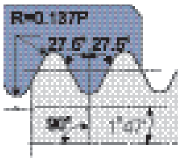
BSPT Whitworth taper pipe thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ASME B.1.1-1989
Standard BSPT

ISO	Pitch (T.P.i))	External	HC[1] (PVD) YBG202	HC[1] (PVD) YBG205	Internal	HC[1] (PVD) YBG202	HC[1] (PVD) YBG205
16	11,00	**RT16.01W-11BSPTB**	●	○	**RT16.01N-11BSPTB**	○	○
	14,00	**RT16.01W-14BSPTB**	●	○	**RT16.01N-14BSPTB**	○	○
		RT16.01W-14BSPTPB*	○	●	**RT16.01N-14BSPTPB***	○	●
	19,00	**RT16.01W-19BSPTB**	●	○	**RT16.01N-19BSPTB**	○	○
	28,00	**RT16.01W-28BSPTB**	○	○	**RT16.01N-28BSPTB**	○	○

● Ex Stock ○ On demand
PB*: Inserts with chip-breakers

HC[1] Coated carbide

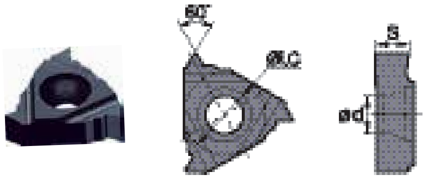
Tool Holders

SWR	SNR
	
A441	A442

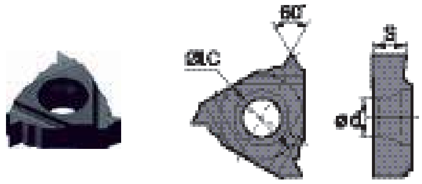
R/LT**N/W	I.C	S	d
16	9.525	3.52	4

Threading Inserts (Thin Type)

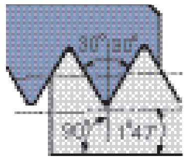
NPT American taper pipe thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ASME B1.20.1-1983
Standard NPT

ISO	Pitch (T.P.i)	External	HC¹ (PVD) YBG202	YBG205	Internal	HC¹ (PVD) YBG202	YBG205
16	8,00	RT16.01W-8NPTB	●	○	RT16.01N-8NPTB	●	○
	11,50	RT16.01W-11.5NPTB	●	○	RT16.01N-11.5NPTB	●	○
		-			RT16.01N-11.5NPTPB*	○	●
	14,00	RT16.01W-14NPTB	○	●	RT16.01N-14NPTB	●	○
		-			RT16.01N-14NPTPB*	○	●
	18,00	RT16.01W-18NPTB	●	○	RT16.01N-18NPTB	○	○
	27,00	RT16.01W-27NPTB	○	○	RT16.01N-27NPTB	○	○

● Ex Stock ○ On demand

HC¹ Coated carbide

PB*: Inserts with chip-breakers

Tool Holders

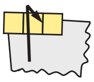
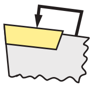
SWR	SNR
	
A441	A442

Threading

System code – tool holders

S	W	R	20	20	K	16	(B)
1	2	3	4	5	6	7	8

Clamping system

Code	Description	
S	Screw clamping	
C	Top clamping	

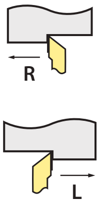
1

Application

Code	Description
W	External thread tool holder
N	Internal thread tool holder

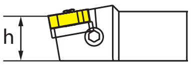
2

Cutting direction



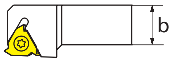
3

Shank height h [mm]



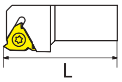
4

Shank width b [mm]



5

Shank length L [mm]



Code	L
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300

6

Insert size [mm]

Code	Height
11	6.35
16	9.525
22	12.7

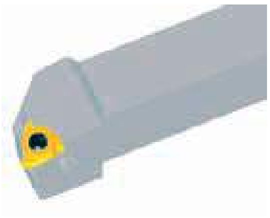
7

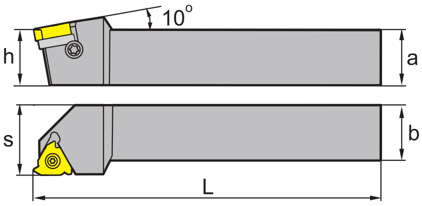
Holder for thin thread inserts (B type)

8

Threading tool holder (external)

SWR/L





Article	✻	Stock	Dimensions [mm]					Inserts
			a	b	L	h	s	
SWR1616H16		●	16	16	100	16	20	RT16.01W-****
SWR2020K16		●	20	20	125	20	25	RT16.01W-****
SWR2525M16		●	25	25	150	25	32	RT16.01W-****
SWR3225P16		●	32	25	170	32	32	RT16.01W-****
SWR3232P16		●	32	32	170	32	40	RT16.01W-****
SWR2525M22		●	25	25	150	25	32	RT22.01W-****
SWR3225P22		●	32	25	170	32	32	RT22.01W-****
SWR3232P22		●	32	32	170	32	40	RT22.01W-****
SWR4040S22		○	40	40	250	40	50	RT22.01W-****

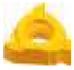
● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**RT16.01W-******	**RT22.01W-******
	h	**16-32**	**25-40**
	Screw	I60M3.5×12	I60M5x17
	Screw (shim)	SM4x8C	SM5x8.5C
	Shim	MT16-__M	MT22-__M
	Wrench (screw)	WT15IP	WT20IP

Insert



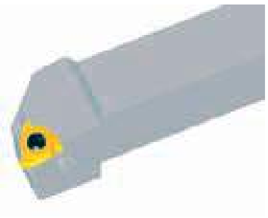
Medium Cut

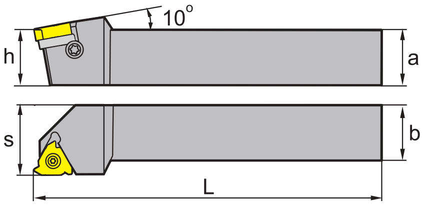
A411

System code › A436 Grade selection › A409 Technical info › A445 Cutting data › A444

Threading tool holder (external)

SWR/L





Article	✻	Stock	Dimensions [mm]					Inserts
			a	b	L	h	s	
SWL1616H16		●	16	16	100	16	20	LT16.01W-****
SWL2020K16		●	20	20	125	20	25	LT16.01W-****
SWL2525M16		●	25	25	150	25	32	LT16.01W-****
SWL3225P16		●	32	25	170	32	32	LT16.01W-****
SWL3232P16		○	32	32	170	32	40	LT16.01W-****
SWL2525M22		●	25	25	150	25	32	LT22.01W-****
SWL3225P22		○	32	25	170	32	32	LT22.01W-****
SWL3232P22		●	32	32	170	32	40	LT22.01W-****
SWL4040S22		○	40	40	250	40	50	LT22.01W-****

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**LT16.01W-******	**LT22.01W-******
	h	**16-32**	**25-40**
	Screw	I60M3.5×12	I60M5x17
	Screw (shim)	SM4x8C	SM5x8.5C
	Shim	MT16-__M	MT22-__M
	Wrench (screw)	WT15IP	WT20IP

Insert

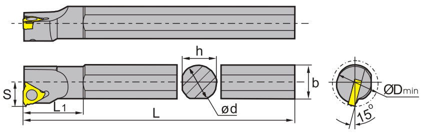
Medium Cut

A411

System code A436 Grade selection A409 Technical info A445 Cutting data A444

Threading tool holder (internal)

SNR/L



Article	✲	Stock	Dimensions [mm]							Inserts
			ød	b	L	h	s	L_1	D_{min}	
SNR0016K11		●	16	16	125	15	10	20.9	12	RT11.01N-****
SNR0016M11		●	16	15.5	150	15	10.5	25.9	16	RT11.01N-****
SNR0016M16		●	16	15.5	150	15	12	27	20	RT16.01N-****
SNR0020M16		●	20	19	150	18	14	28.7	25	RT16.01N-****
SNR0020Q16		●	20	19	180	18	14	34	25	RT16.01N-****
SNR0025M16		●	25	24	150	23	17	28.8	32	RT16.01N-****
SNR0032R16		●	32	31	200	30	22	30.9	40	RT16.01N-****
SNR0032S16		●	32	31	250	30	22	30.9	40	RT16.01N-****
SNR0040T16		●	40	38.5	300	37	27	31.5	50	RT16.01N-****
SNR0050U16		○	50	49.5	350	49	35	40.2	63	RT16.01N-****
SNR0020Q22		●	20	21.5	180	18	15	35	25	RT22.01N-****
SNR0025R22		●	25	24	200	23	19	39	32	RT22.01N-****
SNR0032S22		●	32	31	250	30	22	36.4	40	RT22.01N-****
SNR0040T22		●	40	38.5	300	37	27	37.2	50	RT22.01N-****
SNR0050U22		●	50	48.5	350	47	35	42.6	63	RT22.01N-****

● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	**RT11.01N-******	**RT16.01N-******	**RT16.01N-******	**RT22.01N-******	**RT22.01N-******
	ød	**16**	**16**	**20-50**	**20**	**25-50**
	Screw	I60M2.5×6.5	I60M3.5×8	I60M3.5×12	I60M5*10	I60M5x17
	Screw (shim)			SM4x8C		SM5x8.5C
	Shim			MT16-__M		MT22-__M
	Wrench (screw)	WT07IP	WT15IP	WT15IP	WT20IP	WT20IP

Insert

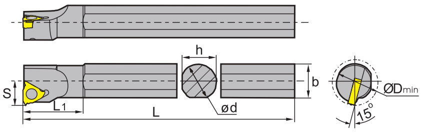
Medium Cut

A411

System code > A436
Grade selection > A409
Technical info > A445
Cutting data > A444

Threading tool holder (internal)

SNR/L



Article	✻	Stock	Dimensions [mm]							Inserts
			ød	b	L	h	s	L_1	D_{min}	
SNL0016K11		●	16	16	125	15	10	20.9	12	LT11.01N-****
SNL0016M11		●	16	15.5	150	15	10.5	25.9	16	LT11.01N-****
SNL0016M16		●	16	15.5	150	15	12	27	20	LT16.01N-****
SNL0020M16		●	20	19	150	18	14	28.7	25	LT16.01N-****
SNL0020Q16		●	20	19	180	18	14	34	25	LT16.01N-****
SNL0025M16		●	25	24	150	23	17	28.8	32	LT16.01N-****
SNL0032R16		●	32	31	200	30	22	30.9	40	LT16.01N-****
SNL0032S16		●	32	31	250	30	22	30.9	40	LT16.01N-****
SNL0040T16		●	40	38.5	300	37	27	31.5	50	LT16.01N-****
SNL0050U16		○	50	49.5	350	49	35	40.2	63	LT16.01N-****
SNL0020Q22		●	20	21.5	180	18	15	35	25	LT22.01N-****
SNL0025R22		●	25	24	200	23	19	39	32	LT22.01N-****
SNL0032S22		●	32	31	250	30	22	36.4	40	LT22.01N-****
SNL0040T22		●	40	38.5	300	37	27	37.2	50	LT22.01N-****
SNL0050U22		●	50	48.5	350	47	35	42.6	63	LT22.01N-****

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**LT11.01N-******	**LT16.01N-******	**LT16.01N-******	**LT22.01N-******	**LT22.01N-******
	ød	**16**	**16**	**20-50**	**20**	**25-50**
	Screw	I60M2.5×6.5	I60M3.5×8	I60M3.5×12	I60M5*10	I60M5x17
	Screw (shim)			SM4x8C		SM5x8.5C
	Shim			MT16-__M		MT16-__M
	Wrench (screw)	WT07IP	WT15IP	WT15IP	WT20IP	WT20IP

Insert

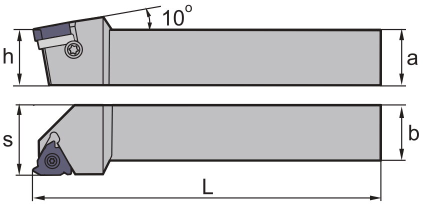
Medium Cut

A411

System code A436 Grade selection A409 Technical info A445 Cutting data A444

Threading tool holder (external)

SWR-B Thin Type



Article	✻	Stock	Dimensions [mm]					Inserts
			a	b	L	h	s	
SWR1616H16B		●	16	16	100	16	20	RT16.01W-****B
SWR2020K16B		●	20	20	125	20	25	RT16.01W-****B
SWR2525M16B		●	25	25	150	25	32	RT16.01W-****B
SWR3225P16B		●	32	25	170	32	32	RT16.01W-****B
SWR3232P16B		●	32	32	170	32	40	RT16.01W-****B

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

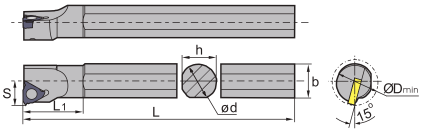
	Insert	**RT16.01W-****B**
	h	**16-32**
	Screw	I60M3.5x12TT
	Screw (shim)	SM4x8C
	Shim	MT16-__M
	Wrench (screw)	WT15IP

Insert
 **Medium Cut**
A430

System code A436 Grade selection A409 Technical info A445 Cutting data A444

Threading tool holder (internal)

SNR-B Thin Type



Article	✻	Stock	Dimensions [mm]							Inserts
			ød	b	L	h	s	L_1	D_{min}	
SNR0016M16B		●	16	15.5	150	15	12	27	20	RT16.01W-****B
SNR0020Q16B		●	20	19	180	18	14	34	25	RT16.01W-****B
SNR0025M16B		●	25	24	150	23	17	28.8	32	RT16.01W-****B
SNR0032R16B		●	32	31	200	30	22	30.9	40	RT16.01W-****B
SNR0032S16B		●	32	31	250	30	22	30.9	40	RT16.01W-****B

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**RT16.01W-****B**	**RT16.01W-****B**
	ød	**16**	**20-32**
	Screw	I60M3.5x08TT	I60M3.5x12TT
	Screw (shim)		SM4x8C
	Shim		MT16-__M
	Wrench (screw)	WT15IP	WT15IP

System code A436 Grade selection A409 Technical info A445 Cutting data A444

Notes

Threading inserts

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]			
						HC			
						YBG202	YBG205		
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	190	190		
		ca. 0,45 % C	annealed	190	2	175	175		
		ca. 0,45 % C	tempered	250	3	145	145		
		ca. 0,75 % C	annealed	270	4	140	140		
		ca. 0,75 % C	tempered	300	5	135	135		
	Low-alloyed steel		annealed	180	6	170	170		
			tempered	275	7	125	125		
			tempered	300	8	115	115		
			tempered	350	9	105	105		
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	125	125		
			hardened and tempered	325	11	95	95		
M	Stainless steel	ferritic/martensitic	annealed	200	12	165	165		
		martensitic	tempered	240	13	135	135		
		austenitic	quench hardened	180	14	155	155		
		austenitic-ferritic		230	15	135	135		
K	Grey cast iron	perlitic/ferritic		180	16	240	240		
		perlitic (martensitic)		260	17	185	185		
	Cast iron with spheroidal graphite	ferritic		160	18	220	220		
		perlitic		250	19	165	165		
	Malleable cast iron	ferritic		130	20	175	175		
		perlitic		230	21	165	165		
N	Aluminium wrought alloys	cannot be hardened		60	22	800	800		
		hardenable	hardened	100	23	600	600		
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24	320	320		
		≤ 12 % Si, hardenable	hardened	90	25	240	240		
		> 12 % Si, cannot be hardened		130	26	160	160		
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27	160	160		
		CuZn, CuSnZn		90	28	600	600		
		CuSn, Pb-free copper, electrolytic copper		100	29	200	200		
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30	95	95		
			hardened	280	31	50	50		
		Ni or Co bass	annealed	250	32	80	80		
			hardened	350	33	70	70		
			cast	320	34	70	70		
	Titanium alloys	pure titanium		R_m 400	35	145	145		
		α and β alloys	hardened	R_m 1050	36	50	50		
H	Hardened steel		hardened and tempered	55 HRC	37				
			hardened and tempered	60 HRC	38				
	Hard cast iron		cast	400	39				
	Hardened cast iron		hardened and tempered	55 HRC	40				
X	Non-metallic materials	Thermoplasts			41				
		Thermosetting plastics			42				
		Plastic, glass-fibre reinforced GFRP			43				
		Plastic, carbon fibre reinforced CFRP			44				
		Graphite			45				
		Wood			46				

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
For examples of material for cutting tool groups view page D22.

HC Coated carbide

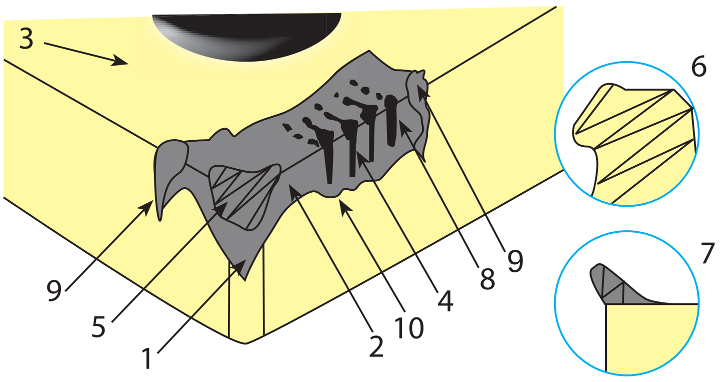
Technical information

Trouble shooting – turning **A446-A447**

Technical information – turning **A448-A455**

Trouble shooting – general turning

See figure	Type of wear	Effects	Reason	Countermeasure
1+2	Flank wear	– Bad surface quality and dimensional stability – Increase of cutting force	– Grade not wear-resistant enough – Cutting speed too high – Clearance angle too small – Feed rate too low	– Grade with higher wear-resistance – Reduce cutting speed – Increase clearance angle – Reduce feed rate
3	Crater wear	– Bad surface quality and chip control	– Grade not wear-resistant enough – Cutting speed too high – Feed rate too low	– Grade with higher wear-resistance – Reduce cutting speed – Reduce feed rate
4	Chipping	– Unstable tool life – Sudden breakage of cutting edge	– Grade too hard – Feed rate too high – Cutting edge not stable enough – Stability of the holder or tension insufficient	– Grade with higher toughness – Reduce feed rate – Change honing of cutting edge – Use a more stable tool holder
5	Breakage	– Increase of cutting force – Bad surface quality and dimensional stability	– Grade too hard – Feed rate too high – Cutting edge not stable enough – Stability of the holder or tension insufficient	– Grade with higher toughness – Reduce feed rate – Change honing of cutting edge – Use a more stable tool holder
6	Plastic deformation	– Bad dimensional stability – Damage to cutting edge	– Grade not wear-resistant enough – Cutting speed too high – Cutting depth and/or feed rate too high – Temperature on the cutting edge too high	– Grade with higher toughness – Reduce cutting speed – Reduce cutting depth and feed rate – Grade with higher heat-resistance
7	Welding	– Increase of cutting force – Bad surface quality	– Cutting speed too low – Cutting edge not sharp enough – Grade not suitable	– Increase cutting speed – Increase rake angle – Use a more suitable grade
8	Thermal cracks	– Breakage due to thermal interaction, often caused when cutting is interrupted (milling)	– Temperature fluctuation when machining – Grade too hard	– Dry machining – Grade with higher toughness
9	Notch wear	– Burr formation – Increase of cutting force	– Damage through chips (jagged edges) – Feed rate and cutting speed too high	– Grade with higher wear-resistance – Increase rake angle to get a sharper cutting edge – Reduce cutting speed
10	Flaking (coating)	– Often appears when machining hardened materials or caused by vibration	– Cutting edge adhesion and chipping – Bad chip removal	– Increase rake angle to get a sharper cutting edge – Chip breaker with bigger chip space

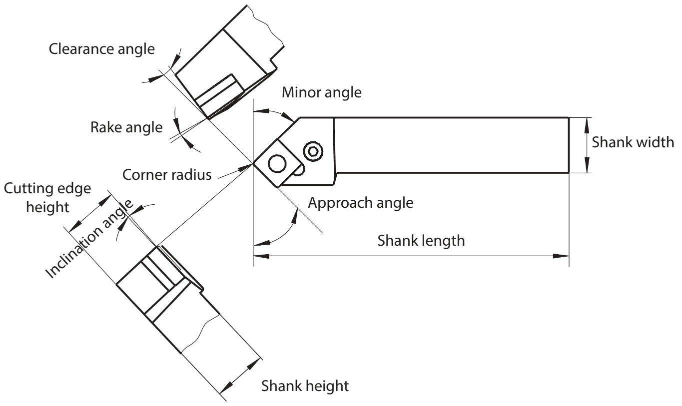


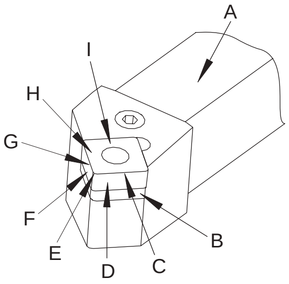
Trouble shooting – threading

Problem	Reason	Countermeasure
Big flank wear	– Cutting speed too high	– Reduce cutting speed
	– Width of cut too small	– Reduce number of width of cut
	– Insert over/under centre line	– Adjust insert height
Asymmetric wear on left and right cutting edge	– Width of cut not optimal	– Adjust width of cut
	– Inclination angle and lead angle are not optimally aligned	– Change the shim to get the correct angle
Breakage	– Cutting speed too low	– Increase cutting speed
	– Cutting force too high	– Increase number of width of cut – Reduce width of cut
	– Unstable conditions	– Improve clamping and overhang to avoid vibrations
	– Bad chip control	– Increase coolant pressure for better chip removal
Plastic deformation	– Cutting speed and temperature too high	– Reduce cutting speed – Increase number of width of cut – Reduce width of cut
	– Insufficient coolant supply	– Improve coolant supply
Poor thread surface quality	– Cutting speed too low	– Increase cutting speed
	– Insert over/under centre line	– Adjust insert height
	– Bad chip control	– Change feed rate and/or width of cut
Incorrect thread profile	– Wrong insert height	– Change insert height
	– Tool holder doesn't form a 90° angle	– Adjust tool holder
	– Pitch error in machine	– Adjust machine
Thread profile not deep enough	– Wrong insert height	– Change insert height
	– Breakage of cutting edge	– Change insert
	– Excessive wear	– Change insert
Welding	– Temperature on cutting edge is too low	– Increase cutting speed
	– Often occurs when machining of carbon steel and stainless steel	– Use grade with sufficient toughness (PVD coated)
Vibrations	– Wrong cutting data	– Increase or highly decrease cutting speed
	– Wrong insert height	– Change insert height
	– Insufficient clamping	– Improve clamping system and minimise overhang

Turning tools

Cutting tool geometry





A	Holder
B	Shim
C	Main cutting edge
D	Flank face
E	Nose radius
G	Minor cutting edge
H	Rake face
I	Insert

Rake angle

The rake angle is a cutting edge angle that has large effects on cutting resistance, chip disposal, cutting temperature and tool life. Increasing the rake angle in positive direction improves the sharpness of the cutting edge and the cutting force decreases but at the same time it lowers the strength. To increase the cutting resistance the rake angle must be increased in negative direction.

Rake angle	Applications
Small	Machining of fragile and hard materials, roughing and interrupted cut
Large	Machining of plastic materials and soft materials, precision machining

Clearance angle

The flank angle prevents friction between the flank face and work piece resulting in smooth feed. Increasing the flank angle decreases the cutting force and the surface roughness becomes better but on the other hand this lowers the cutting edge strength and decreases the flank wear occurrence.

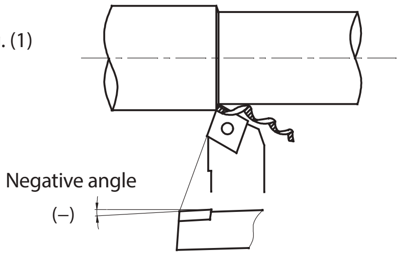
Clearance angle	Applications
Small	Machining of hard and demure materials, for roughing operation with stable cutting edge
Large	Precision machining with low cutting force, work pieces suffer from work hardening easily

Inclination angle

The positive and negative edge inclination angle determines the discharging direction of chips. In heavy cutting, the cutting edge receives extremely large shocks at the beginning of cutting. Cutting edge inclination keeps the cutting edge from receiving this shock and prevents fracturing. On the other hand the back force increases and occurs vibration. For a finishing operation a positive angle is more suitable.

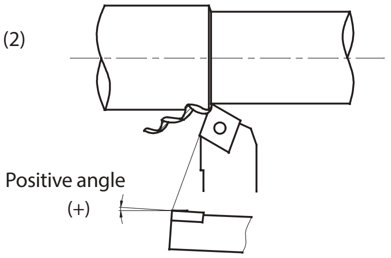
When the edge inclination angle is negative, i.e. the cutting edge is located at the lowest point relative to the bottom plane of the tool holder, the chips flow to the machined surface of workpiece.

Fig. (1)



As shown in Fig. (2), when the edge inclination angle is positive, i.e. the cutting edge is located at the highest point relative to the bottom plane of the tool holder, the chips flow to the un-machined surface of workpiece.

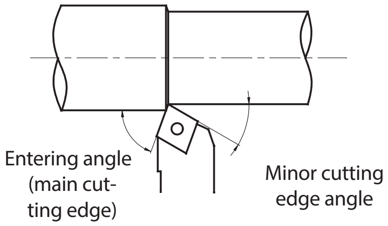
Fig. (2)



Entering angle (main cutting edge)

Reducing the lead angle increases the strength of the cutting edge. The heat dispersion is good and the roughness of the machining surface is small. Because the lead angle is small, the cutting width is long, the force on the unit cutting edge length is small. At the same time, reducing the lead angle can increase the tool life. Normally, when turning thin long shaft and ladder shaft, the lead angle adapts 90°. The lead angle is increased, radial force is reduced, cutting is stable, cutting thickness is increased and chip breaking performance is good.

Entering angle	Applications
Small	For material with high tensile strength, high hardness or hardened layer on surface
Large	For machining with low rigidity



Minor cutting edge

The minor cutting edge angle is the main angle on influence surface roughness; its size is also influence strength of cutter. When the minor cutting edge angle is too small, the cutting force increases and results in chattering and vibration.
The selection principle for the minor cutting edge angle is under the condition of rough machining, or un-influencing friction and producing vibration, the smaller angle should be chosen; the bigger angle can be used for precision machining.

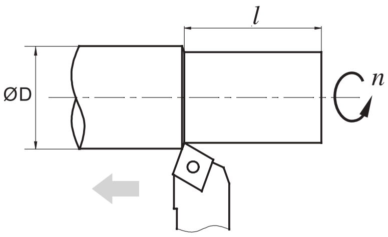
Nose radius

The nose radius effects the cutting edge strength and the finished surface. By increasing the nose radius the surface finish becomes better and the cutting edge strength improves. Flank and rake wear decreases. If the radius becomes too big, the cutting force increases and causes vibration which effects the chip control negative.

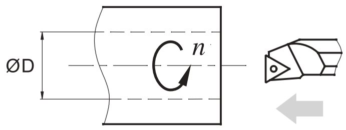
Radius	Applications
Small	Finishing with small cutting depth, machining thin long shaft, rigidity of machine is insufficient
Large	Rough machining, high cutting edge strength is required, rigidity of machine is good, machining hardened materials and interrupted cut

Cutting speed V_c

$$V_C = \frac{\pi \times D \times n}{1000}\ [\mathrm{m/min}]$$



External machining



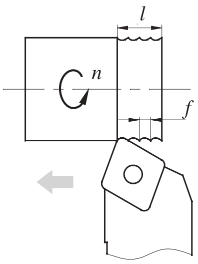
Internal machining

V_C: Cutting speed [m/min]
n: Revolution [1/min]
f: Feed rate [mm]

Example: n = 250 1/min, f = 0,2 mm,
l = 150 mm
Result: [insert values in formula V_C]

Feed rate F

$$f = \frac{l}{n}\ [\mathrm{mm/rev}]$$



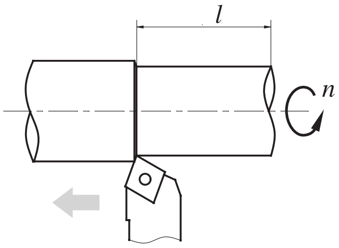
f: Feed rate [mm]
l: Cutting length [mm/min]
n: Revolution [1/min]

Example: n = 500 1/min, l = 100 mm/min
Result: [insert values in formula f]

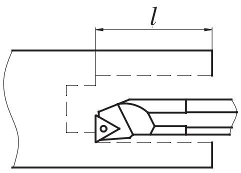
$$f = \frac{l}{n} = \frac{100}{500} = 0{,}2\ \mathrm{mm/rev}$$

Cutting time T_c

$$T_C = \frac{l}{f \times n}\ [\mathrm{min}]$$



External machining



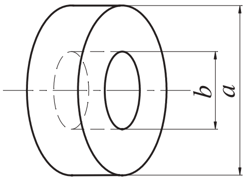
Internal machining

T_C: Cutting time [min]
l: Cutting length [mm/min]
f: Feed rate [mm]
n: Revolution [1/min]

Example: n = 250 1/min, f = 0,2 mm,
l = 150 mm
Result: [insert values in formula T_C]

Cutting time T_C for face milling

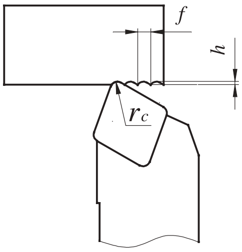
$$T_C = \frac{\pi \times (a^2 - b^2)}{4000 \times V_C \times f} \text{ [min]}$$



T_C: Cutting time [min]
V_C: Cutting speed [m/min]
f: Feed rate [mm]

Theoretical surface roughness R

$$R = \frac{f^2}{8r_c} \times 1000 \text{ [µm]}$$

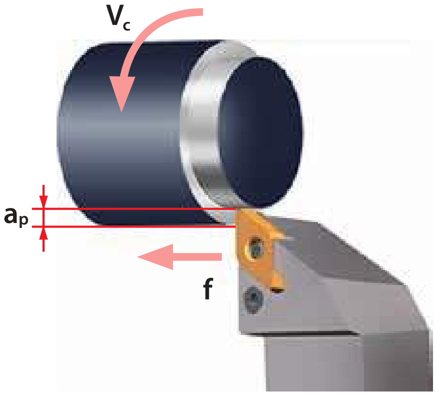


R: Surface roughness [µm]
f: Feed rate [mm]
r_C: Radius of insert [mm]

Example: f = 0,2 mm,
r_C = 0,4 mm

Three effects of cutting condition for turning

Today short machining time, long tool life and high machining accuracy is expected from modern tools. Based on the machine performance, material shape and hardness of the components the right choice of tool and cutting conditions are the premise for a successful machining process. Cutting speed, feed rate and depth of cut are what we call the "Three effects of cutting".



1. Cutting speed (V_c)

Cutting speed is defined as the rate (or speed) that the material moves past the cutting edge of the tool. The unit for V_c is meter per minute [m/min].

Cutting speed influence: Cutting speed is one of the three important effects of turning and has influence on tool life. Increasing the cutting speed also increases the cutting temperature and that decreases the tool life. Depending on the hardness and type of material the cutting speed varies. Therefore to choose a suitable grade for the cutting speed is necessary.
In general situation, when cutting speed is increased by 20 % the tool life will be reduced ½; when the cutting speed is increased by 50 % the tool life decreases ⅕. Lower cutting speed results in vibration which will shorten tool life.

2. Feed rate (f)

In turning application feed rate is the distance the tool holder moves per work piece revolution. That has influence to the surface quality. The unit for feed rate is millimetre per revolution [mm/rev]

Feed rate influence: Decreasing the feed rate will increase flank wear and tool life will be shortened. Increasing the feed rate increases the cutting temperature and also flank wear. On the other hand the efficiency will be improved.

3. Depth of cut (a_p)

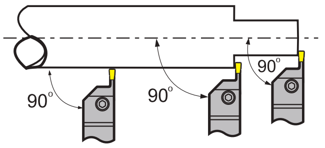
The depth of cut refers to the half different value between the diameter of the unmachined and machined work piece. The unit is millimetre [mm].

Depth of cut influence: Changing depth of cut has no big influence to the tool life. Machining hardened layer with small depth of cut results in friction and short tool life. Machining uncut surface or cast iron material, choose maximum depth of cut according to the machine power so that the cutting edge and corner radius is out of the hardened layer. That helps to prevent chipping and abnormal wear.

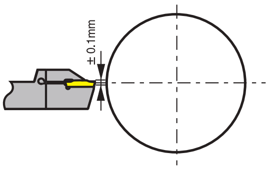
Parting & grooving

Adjusting the cutting edge height

- Mount the tool holder in a 90° angle to the central axis of the workpiece. This improves the surface quality and decreases the risk of vibrations.



- Height tolerance between the cutting edge of the insert and the centre of the work piece should be kept ± 0.1 mm, especially for parting of rods and grooving of materials with a small diameter. This extends the tool life and reduces the cutting forces as well as the formation of burrs.

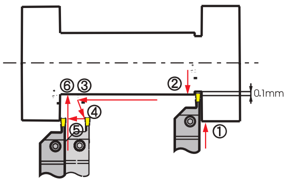


Parting off

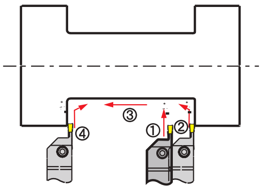
- When the cutting edge nears the central axis of the work piece, reducing the feed rate by 30 % can extend the tool life of the insert.
- Pick a tool holder with the smallest possible overhang to avoid vibrations and tool deflection.

Longitudinal turning and profile turning

- Machining sequence 0.5 mm:
  1. Bring radial feed rate to required cutting depth (ap max. 0.75 × cutting edge width)
  2. Radial relocating by 0.1 mm
  3. Longitudinal turning to opposite shoulder
  4. Diagonal relocating by 0.5 mm outward axial feed rate to the starting point
  5. Radial feed rate to required cutting depth, etc.

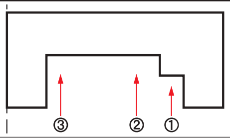


- When machining the chamfer or the base of the slot follow the steps as shown in figure. This reduces tool deflection and avoids cutting edge chipping.

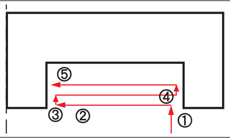


Surface grooving and turning

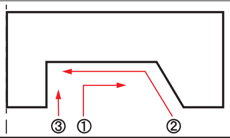
- Roughing:
  Processing from largest diameter to the axis. When returning it's recommended to bend the tool slightly.



- Flute turning:
  Depth of axial turning less than 0.75 × S (width of insert). When the pocket width is bigger than the depth follow the working steps as shown. When the pocket depth is bigger than the width, we recommend to go to the required diameter step by step.

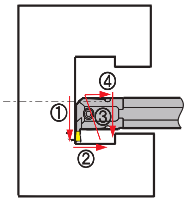


- Finishing:
  When finishing begin with the outer diameter and the bottom. Then go on with the inner diameter to the required size.



Internal machining

- Procedure according to figure. For better chip removal in blind holes machine from the inside out.



A Turning
B Milling
C Drilling
D Technical Information
E Index

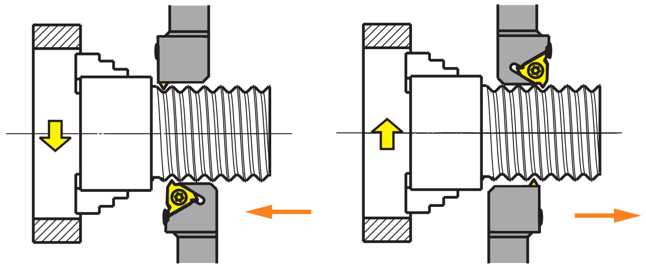
Threading

Steps for best results when thread-cutting

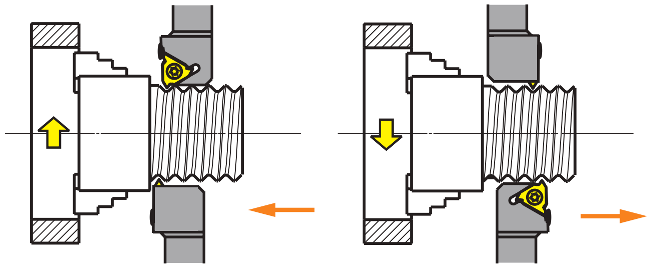
1. Choice of threading method
2. Choice of angle and shim
3. Choice of tool holder and inserts
4. Choice of cutting data
5. Choice of cutting direction

Thread turning method

External machining

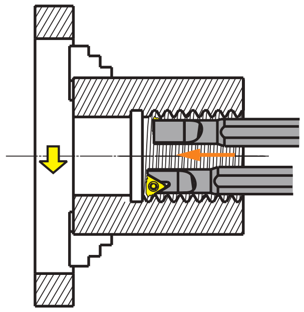


Right hand type

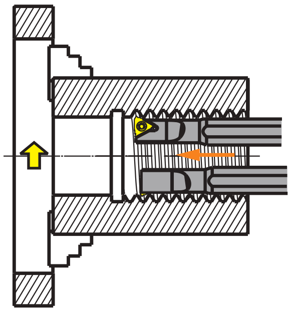


Left hand type

Internal machining



Right hand type



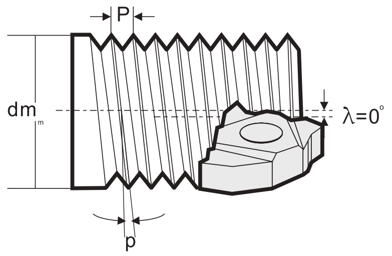
Left hand type

Choice of angle and shim

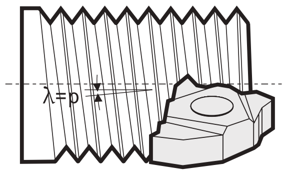
Choice of angle

The flank clearance angles of the thread profile depend on the helical angle of the thread. The helical angle of the thread must coincide with the insert's angle of inclination angle as far as possible to get the ideal profile, to avoid longer unfavourable wear on one of the flanks and thus to ensure tool life.

$$\lambda = \arctan \frac{p}{d_2 \times \pi}$$



Helix angle (p)

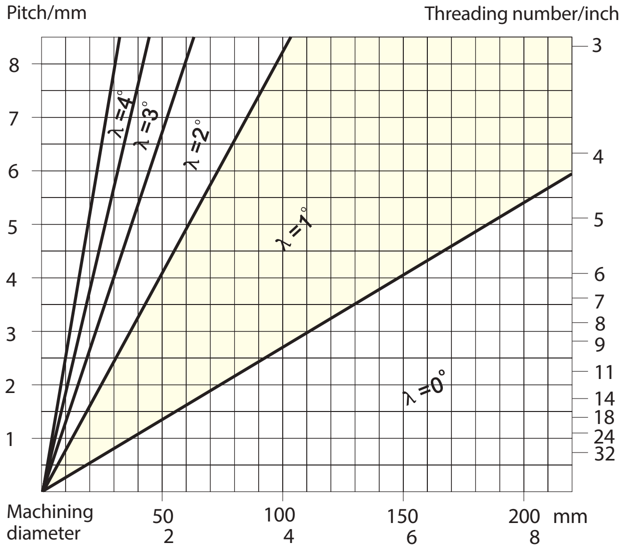


Pitch angle (λ)

p Pitch
d_2 Flank diameter
λ Pitch angle

Choice of shim

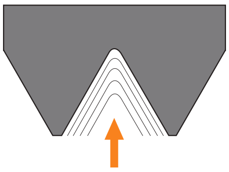
Pitch range	Dimension	Pitch angle	Shim
0.5–0.3	16	0	MT16-00M
		1	MT16-01M
		2	MT16-02M
		3	MT16-03M
3.5–6.0	22	0	MT22-00M
		1	MT22-01M
		2	MT22-02M
		3	MT22-03M



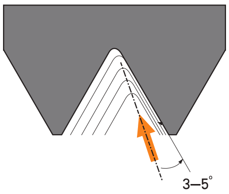
The shim λ = 1° is delivered with the tool holder.

Zustellarten beim Gewindedrehen

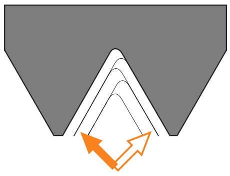
The number of passes and widths of cut are the key points of threading operation. Please choose the cutting parameters with the recommended form according to experience data. In case of breakages or too much wear please have a look at page A447 (trouble shooting).



Radial width of cut



Modified flank width of cut



Alternating width of cut

Radial width of cut requires low cutting depth, sharp cutting edge and tough grade. It is recommended when the pitch is smaller than 2 mm, not ideal for material with long chips.	Infeed at an angle of 3–5° to the flank of the teeth. It is easy for chips flow. Suitable for long chip material and internal threading.	Alternating width of cut is mainly used for large pitches and long chip materials. To get equal insert wear on both edges.

D

Technical information

Comparison table materials	**D2-D8**
Comparison table hardness and tensile strength	**D9-D10**
Conversion table chip breaker – turning	**D11-D12**
Conversion table chip breaker – milling/turning	**D13-D21**
Example of materials for machining groups	**D22**
Form test protocol	**D23**
Torque for screw	**D24**

Comparison table materials

ISO	Country and standard											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
	Alloy steel											
P	15	1015	1.0401	C15	080M15	-	1350	CC12	C15C16	F.111	-	
	20	1020	1.0402	C22	050A20	2C	1450	CC20	C20C21	F.112	-	20
	35	1035	1.0501	C35	060A35	-	1550	CC35	C35	F.113	-	35
	45	1045	1.0503	C45	080M40	-	1650	CC45	C45	F.114	-	45
	55	1055	1.0535	C55	070M55	-	1655	-	C55	-	-	55
	60	1060	1.0601	C60	080A62	43D	-	CC55	C60	-	-	60
	Y15	1213	1.7015	9SMn28	230M07	-	1912	S250	CF9SMn28	11SMn28	SUM22	15Ch
	-	12L13	1.0718	9SMnPb28	-	-	1914	S250Pb	CF9MnPb28	11SMnPb28	SUM22L	-
	-	-	1.0722	10SPb20	-	-	-	10PbF2	CF10Pb20	10SPb20	-	-
	-	1140	1.0726	35S20	212M36	8M	1957	35MF4	-	F210G	-	-
	Y13	1215	1.0736	9SMn36	240M07	1B	-	S300	CF9SMn36	12SMn35	-	-
	-	12L14	1.0737	9SMnPb36	-	-	1926	S300Pb	CF9SMnPb36	12SMnP35	-	-
	55Si2Mn	9255	1.0904	55Si9	250A53	45	2085	55S7	55Si8	56Si7	-	-
	-	9262	1.0961	60SiCr7	-	-	-	60SC7	60SiCr8	60SiCr8	-	-
	15	1015	1.1141	Ck15	080M15	32C	1370	XC12	C16	C15K	S15C	15
	40Mn	1039	1.1157	40Mn4	150M36	15	-	35M5	-	-	-	40G
	25	1025	1.1158	Ck25	-	-	-	-	-	-	S25C	25
	35Mn2	1335	1.1167	36Mn5	-	-	2120	40Mn5	-	36Mn5	SMn438(H)	35G2,35GL
	30Mn	1330	1.1170	28Mn6	150M28	14A	-	20M5	C28Mn	-	SCMn1	30G
	35Mn	1035	1.1183	Cf35	060A35	-	1572	XS38TS	C36	-	S35C	-
	Ck45	1045	1.1191	45	080M46	-	1672	XC42	C45	C45K	S45C	-
	55	1055	1.1203	Ck55	070M55	-	-	XC45	C50	C55K	S55C	55
	50	1050	1.1213	Cf53	060A52	-	1674	XC48TS	C53	-	S50C	-
	60Mn	1060	1.1221	Ck60	080A62	43D	1678	XC60	C60	-	S58C	60,60G
	-	1095	1.1274	Ck101	060A96	-	1870	-	-	-	SUP4	-
	-	-	1.3401	X120Mn12	Z120M12	-	-	X120M12	XG120Mn12	X120Mn12	SCMnH/1	110G13L
	Gr15;45Gr	52100	1.3505	100Cr6	534A99	31	2258	100C6	100Cr6	F.131	SUJ2	SchCh 15
	-	ASTM A204Gr.A	1.5415	15Mo3	1501-240	-	2912	15D3	16Mo3KW	16Mo3	-	-
	-	4520	1.5426	16Mo5	1503-245-420	-	-	-	16Mo5	16Mo5	-	-
	-	ASTM A350LF5	1.5622	14Ni6	-	-	-	16N6	14Ni6	15Ni6	-	-
	-	ASTM A353	1.5662	X8Ni9	1501-509;510	-	-	-	X10Ni9	XBNi09	-	-

Comparison table materials

ISO	Country and standard											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
	Alloy steel											
P	-	2515	1.5680	12Ni19	-	-	-	Z18N5	-	-	-	-
	-	3135	1.5710	36NiCr6	640A35	111A	-	35NC6	-	-	SNC236	-
	-	3415	1.5732	14NiCr10	-	-	-	14NC11	16NiCr11	15NiCr11	SNC415(H)	-
	-	3415 3310	1.5752	14NiCr14	655M13 655A12	36A	-	12NC15	-	-	SNC815(H)	-
	-	9840	1.6511	36CrNiMo4	816M40	110	-	40NCD3	38CrNiMo4(KB)	35CrNiMo4	-	40 ChN2MA
	-	8620	1.6523	21NiCrMo2	850M20	362	2503	20NCD2	20NiCrMo2	20NiCrMo2	SNCCM220(H)	-
	-	8740	1.6546	40NiCrMo2	311-Type7	-	-	-	40NiCrMo2(KB)	40NiCrMo2	SNC240	38ChGNM
	40CrNiMoA	4340	1.6582	34CrNiMo6	817M40	24	2541	35NCD6	35CrNiMo6(KB)	-	-	38Ch2N2MA
	-	-	1.6587	17CrNiMo6	820A16	-	-	18NCD6	-	14CrNiMo13	-	-
	15Cr	5015	1.7015	15Cr3	523M15	-	-	12C3	-	-	SCr415(H)	15Ch
	35Cr	5132	1.7033	34Cr4	530A32	18B	-	32C4	34Cr4(KB)	35Cr4	SCr430(H)	35Ch
	40Cr	5140	1.7035	41Cr4	530M40	18	-	42C4	41Cr4	42Cr4	SCr440(H)	40Ch
	40Cr	5140	1.7045	42Cr4	-	-	2245	-	-	42Cr4	SCr440	40Ch
	18CrMn	5115	1.7131	16MnCr15	(527M20)	-	2511	16MC5	16MnCr15	16MnCr15	-	18ChG
	20CrMn	5155	1.7176	55Cr3	527A60	48	-	55C3	-	-	SUP9(A)	50ChGA
	30CrMn	4130	1.7218	25CrMo4	1717CDS110	-	2225	25CD4	25CrMo4(KB)	55Cr3	SCM420; SCM430	30ChM
	35CrMo	4137;4135	1.7220	34CrMo4	708A37	19B	2234	35CD4	35CrMo4	34CrMo4	SCM432; SCRRM3	AS38ChGM
	40CrMoA	4140;4142	1.7223	41CrMo4	708M40	19A	2244	42CD4TS	41CrMo4	41CrMo4	SCM440	40 ChFA
	42CrMo 42CrMnMo	4140	1.7225	42CrMo4	708M40	19A	2244	42CD4	42CrMo4	42CrMo4	SCM440(H)	-
	-	-	1.7262	15CrMo5	-	-	2216	12CD4	-	12CrMo4	SCM415(H)	-
	-	ASTM A182 F11;F12	1.7335	13CrMo44	1501- 620Gr.27	-	-	15CD3.5; 15CD4.5	14CrMo44	14CrMo45	-	12ChM , 15ChM
	-	-	1.7361	32CrMo12	722M24	40B	2240	30CD12	32CrMo12	F.124.A	-	-
	-	ASTM A182 F.22	1.7380	10CrMo910	1501- 622Gr.31;45	-	2218	12CD9;10	12CrMo9,10	TU.H	-	-
	-	-	1.7715	14MoV63	1503-660-440	-	-	-	-	13MoCrV6	-	-
	50CrVA	6150	1.8159	50CrV4	735A50	47	2230	50CV4	50CrV4	51CrV4	SUP10	50ChGFA
	-	-	1.8509	41CrAlMo7	905M39	41B	2940	40CAD6,12	41CrAlMo7	41CrAlMo7	-	38ChMJuA
	-	-	1.8523	39CrMoV139	897M39	40C	-	-	36CrMoV12	-	-	-

Comparison table materials

ISO	Country and standard											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/ SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
	Alloy steel											
P	T10	W.110	1.1545	C105W1	-	-	1880	$Y_{1}105$	C98KU C100KU	F.515 F.516	-	U10A
	T12A	W.112	1.1663	C125W	-	-	-	$Y_{2}120$	C120KU	(C120)	SK2	U13
	CrV;9SiCr	L3	1.2067	100Cr6	BL3	-	-	Y100C6	-	100Cr6	-	-
	Cr12	D3	1.2080	X210Cr12	BD3	-	-	Z200Cr12	X210Cr13KU X250Cr12KU	X210Cr12	SKD1	Ch12
	4Cr5MoVSi	H13	1.2344	X40CrMoV5 1	BH13	-	2242	Z40CDV5	X35CrMoV05KU X40CrMoV51KU	X40CrMoV5	SKD61	4Ch5MF1S
	Cr6WV	A2	1.2363	X100CrMoV5 1	BA2	-	2260	Z100CDV5	X100CrMoV51KU	X100CrMoV5	SKD12	-
	CrWMo	-	1.2419	105WCr6	-	-	2140	105WC13	10WCr6 107WCr5KU	105WCr5	SKS31 SKS2 SKS3	ChWG
	Cr12W	-	1.2436	X210CrW12	-	-	2312	-	X215CrW12 1KU	X210CrW12	SKD2	-
	5CrNiMo	S1	1.2542	45WCrV7	BS1	-	2710	-	45WCrV8KU	45WCrSi8	-	-
	3Cr2W8V	H21	1.2581	X30WCrV9 3 X30WCrV93KU	BH21	-	-	Z30WCV9	X28W09KU X30WCrV9 3KU	X30WCrV9	SKD5	3Ch2W8F
	Cr12MoV	-	1.2601	X165CrMoV 12	-	-	2310	-	X165CrMoW12KU	X160CrMoV12	SKD11	-
	5CrNiMo	L6	1.2713	55NiCrMoV6	-	-	-	55NCDV7	-	F.250.S	SKT4	5ChNM
	V	W210	1.2833	100V1	BW2	-	-	$Y_{1}105V$	-	-	SKS43	-
	W6Mo5Cr4V2Co5	-	1.3243	S6-5-2-5	-	-	2723	Z85WDKCV	HS6-5-2-5	HS6-5-2-5	SKH55	R6M5K5
	W18Cr4VCo5	T4	1.3255	S18-1-2-5	BT4	-	-	Z80WKCV 10-05-04-01	X78WCo1805KU	HS18-1-1-5	SKH3	-
	W6Mo5Cr4V2	M2	1.3343	S6-5-2	BM2	-	2722	Z85WDCV 06-05-04-02	X82WMo0605KU	HS6-5-2	SKH9	R6M5
	-	M7	1.3348	S2-9-2	-	-Z-	2782	Z100WCWV 09-02-04-02	HS2-9-2	HS2-9-2	-	-
	W18Cr4V	T1	1.3355	S18-0-1	BT1	-	-	Z80WCV 18-04-01	X75W18KU	HS18-0-1	SKH2	-
	W6Mo5Cr4V3	M3	-	S6-5-3	-	-	-	-	-	-	SKH52	-
	-	M42	-	-	BM42	-	-	-	-	-	SKH59	-

Comparison table materials

ISO	Country and standard						Main application
	China	USA	Germany	Japan	Daido Steel Co., Ltd (Japan)	Russia	
	GB	AISI/SAE	DIN	JIS	DAIDO	GOST	
P	**Plastic die steel**						
	-	P20 mod.		-	PX5N		For mass production of large mirror dies. Automobile tail light, front fender of car, video camera, household electrical appliances etc
	-	-		-	NAK55		High precision mirror die. Video camera, music disc, Cosmetic Containers, transparent covers, transparent films etc
	-	-		-	NAK80		High precision mirror die. Video camera, music disc, Cosmetic Containers, transparent covers, transparent films etc
	3Cr13	420 mod.		SUS420J2 mod.	S-STAR		For ultra-mirror corrosion resistant precise dies. Accessories of camera, CD, lens, watch case.
	Cold-working die steel						
	-	02	-	SKS93	YK30		Stamping die, gauge calipers, paper cutter, auxiliary tools
	9CrWMn	01 mod.	-	SKS3 mod.	GOA		Blanking die, gauge calipers, drawing die, taps, Perforated punch.
	Cr12MoV	D2	X165CrMoV12	SKD11	DC11		Blanking die, cold forming die, cold drawing die, forming roller, punch
	-	D2 mod.	-	SKD11 mod.	DC53		Blanking die, cold forming die, cold drawing die, forming roll, punch
	Hot-working die steel						
	4Cr5MoSiV1	H13	X40CrMoV51	SKD61	DHA1		Aluminum-compression die, connecting parts of compression die, hot stamping die, hot extrusion die, thermal shear cutting blade
	-	-	-	-	DH21		Long life Aluminum compression die
	-	-	-	-	DH31-S		Compression die
	-	-	-	-	DH2F		Compression die, plastic die

Comparison table materials

ISO	Country and standard											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/ SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
M	**Stainless steel**											
	0Cr13; 1Cr12	403	1.4000	X6Cr13	403S17	-	2301	Z6C13	X6Cr13	F.3110	SUS403	08Ch13
	-	-	1.4001	X7Cr14	-	-	-	-	-	F.8401	-	-
	1Cr13	410	1.4006	X10Cr13	410S21	56A	2302	Z10C14	X12Cr13	F.3401	SUS410	12Ch13
	1Cr17	430	1.4016	X6Cr17	430S15	60	220	Z8C17	X8Cr17	F.3113	SUS430	12Ch17
	2Cr13	410	1.4021	X20Cr13	S62	56B; 56C	-	Z20C13	X20C13	F.3401	SUS410	20Ch13
	-	-	1.4027	G-X20Cr14	420C29	56B	-	Z20C13M	-	-	SCS2	20Ch13L
	4Cr13	-	1.4034	X46Cr13	420S45	56D	2304	Z40CM Z38C13M	X40Cr14	F.3405	SUS420J2	40Ch13
	1Cr17Ni2	431	1.4057	X20CrNi172	431S29	57	2321	Z15CNi6.02	X16CNi16	F.3427	SUS431	20Ch17N2
	Y1Cr17	430F	1.4104	X12CrMoS17	-	-	2383	Z10CF17	X10CrS17	F.3117	SUS430F	-
	1Cr17Mo	434	1.4113	X6CrMo171	434S17	-	2325	Z8CD17.01	X8CrMo17	-	SUS434	-
	-	-	1.4313	X5CrNi134	425C11	-	-	Z4CND13.4M	-	-	SCS5	-
	-	-	1.4408	G-X6CrNiMo1810	316C16	-	-	-	-	F.8414	SCS14	07Ch18N10G2S2M2L
	4Cr9Si2	HW3	1.4718	X45CrSi93	401S45	52	-	Z45CS9	X45CrSi8	F.322	SUH1	40Ch9S2
	0Cr13Al	405	1.4724	X10CrAl13	403S17	-	-	Z10C13	X10CrAl12	F.311	SUS405	10Ch13SJu
	Cr17	430	1.4742	X10CrAl18	430S15	60	-	Z10CAS18	X8Cr17	F.3113	SUS430	15Ch18SJu
	8Cr20Si2Ni	HNV6	1.4757	X80CrNiSi20	443S65	59	-	Z80CSN20.02	X80CrSiNi20	F.320V	SUH4	-
	2Cr25N	446	1.4762	X10CrAl24	-	-	2322	Z10CAS24	X16Cr26	-	SUH446	-
	Austenitic stainless steel											
	0Cr18Ni9	304	1.4301	X5CrNi1810	304S15	58E	2332	Z6CN18.09	X5CrNi1810	F.3551; F.3541; F.3504	SUS304	08Ch18N10
	1Cr18Ni9MoZr	303	1.4305	X10CrNiS189	303S21	58M	2346	Z10CNF18.09	X10CrNiS18.09	F.3508	SUS303	-
	0Cr19Ni10	304L	1.4306	X2CrNi1911	304S12	-	2352	Z2CN18.10	X2CrNi18.11	F.3503	SCS19	03Ch18N11
	-	-	1.4308	G-X6CrNi189	304C15	-	-	Z6CN18.10M	-	-	SCS13	07Ch18N9L
	Cr17Ni7	301	1.4310	X12CrNi177	-	-	2331	Z12CN17.07	X12CrNi1707	F.3517	SUS301	-
	-	304LN	1.4311	X2CrNiN1810	304S62	-	2371	Z2CN18.10	-	-	SUS304LN	-
	0Cr19Ni9	304	1.4350	X5CrNi189	304S31	58E	-	Z6CN18.09	X5CrNi1810	-	SUS304	-
	0Cr17Ni11Mo2	316	1.4401	X5CrNiMo1712	316S16	Z6CND17.11	2347	1.4401	X5CrNiMo1712	F.3543	SUS316	-
	00Cr17Ni13Mo2	316LN	1.4429	X2CrNiMoN17133	-	-	2375	Z2CND17.13	-	-	SUS316LN	-
	0Cr27Ni12Mo3	316L	1.4435	X2CrNiMo18143	316S12	-	2353	Z2CDN17.13	X2CrNiMo1713	-	SCS16,	03Ch17N14M2
	00Cr19Ni13Mo3	317L	1.4438	X2CrNiMo17133	317S12	-	2367	Z2CND19.15	X2CrNiMo18.16	-	SUS317L	-
	-	329L	1.4460	X8CrNiMo275	-	-	2324	-	-	-	SUS329L; SCH11; SCS11	-
	1Cr18Ni9Ti	321	1.4541	X6CrNiTi1810	2337	321S12	58B	Z6CNT18.10	X6CrNiTi1811	F.3553	SUS321	12Ch18N10T
	1Cr18Ni11Nb	347	1.4550	X6CrNiNb1810	347S17	58F	2338	Z6CNNb18.1	X6CrNiTi1811	F.3552	SUS347	08Ch18N12B
	Cr18Ni12Mo2Ti	316Ti	1.4571	X6CrNiMoTi17122	320S17	58J	2350	Z6NDT17.12	X6CrNiMoTi17	F.3535	-	10Ch17N13M2T

Comparison table materials

ISO	Country and standard											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/ SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
M	**Austenitic stainless steel**											
	-	-	1.4581	G-X5CrNiMoNb1810	318C7	-	-	Z4CNDNb1812M	XG8CrNiMo18	-	SCS22	-
	Cr17Ni12Mo3Nb	318	1.4583	X10CrNiMoNb1812	-	-	-	Z6CNDNb1713B	X6CrNiMoTiNb17	-	-	-
	1Cr23Ni13	309	1.4828	X15CrNiSi2012	309S24	-	-	Z15CNS20.1	-	-	SUH309	20Ch20N14S2
	0Cr25Ni20	310S	1.4845	X12CrNi2521	310S24	-	2361	Z12CN2520	X6CrNi2520	F.331	SUH310	20Ch23N18
	Cr15Ni36W3Ti	330	1.4864	X12NiCrSi3616	-	-	-	Z12CNS35.1	-	-	SUH330	-
	-	-	1.4865	G-X40NiCrSi3818	330C11	-	-	-	XG50NiCr3919	-	SCH15	-
	5Cr2Mn9Ni4N	EV8	1.4871	X53CrMnNiN219	349S54; 321S12	- 58B	-	Z52CMN21.0	X53CrMnNiN219	-	SUH35	55Ch20G9AN4
	1Cr18Ni9Ti	321	1.4878	X12CrNiTi189	321S320	58C	-	Z6CNT18.12	X6CrNiTi1811	F.3523	SU321	09Ch18N10T

ISO	Country and standard									
	China	USA	Germany	Great Britain	Sweden	France	Italy	Spain	Japan	Russia
K	**Nodular cast iron**									
	QT400-18	60-40-18	GGG40	400/17	0717-02	FGS370-17	GS370-17	FGE38-17	FCD400	VC 42-12
	QT450-10	65-45-12	--	420/12	--	FGS400-12	GS400-12	FGE42-12	FCD450	-
	QT500-7	70-50-05	GGG50	500/7	0727-02	FGS500-7	GS500-7	FGE50-7	FCD500	VC 50-2
	QT600-3	80-60-03	GGG60	600/7	0732-03	FGS600-2	GS600-2	FGE60-2	FCD600	VC 60-2
	QT700-2	100-70-03	GGG70	700/2	0737-01	FGS700-2	GS700-2	FGE70-2	FCD700	VC 70-2
	QT800-2	120-90-02	GGG80	800/2	0864-03	FGS800-2	GS800-2	FGE80-2	FCD800	VC 80-2
	QT900-2	--	--	900/2	--	--	--	--	--	-
	Grey cast iron									
	--	NO.60	GG40	--	0140	FGL400	--	--		Sc 40
	HT350	NO.50	GG35	350	0135	FGL350	G35	FG35	FC350	Sc 35
	HT300	NO.45	GG30	300	0130	FGL300	G30	FG30	FC300	Sc 30
	HT250	NO.35	GG25	250	0125	FGL250	G25	FG25	FC250	Sc 25
	HT200	NO.30	GG20	200	0120	FGL200	G20	FG20	FC200	Sc 20
	HT150	NO.20	GG15	150	0115	FGL150	G15	FG15	FC150	Sc 15
	HT100	--	--	100	0110	--	G10	--	FC100	-

ISO	Country and standard											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
H	**Hardened materials**											
	-	440A	1.4108	X100CrMo03	-	-	2258 08	-	-	-	C4BS	-
	-	610	1.4111	X100CrMoV15	-	-	2534 05	-	-		AC4A	-
	-	0-2	-	X65CrMo14	-	-	2541 06	-	-		AC4A	-

Comparison table materials

ISO	Country and standard											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
N	**Aluminium-based alloys**											
	-	SC64D	3.2373	G-AISI9MGWA			4251	A-S7G			C4BS	-
	-	DG-AISI12		G-ALMG5	LM5		4252	A-SU12			AC4A	
	-	356.1			LM25		4244				A5052	
	-	A413.0		GD-AISi12			4247				A6061	
	-	A380.1		GD-AISi8Cu3	LM24		4250				A7075	
	-	A413.1		G-AISi12(Cu)	LM20		4260				ADC12	
	-	A413.2		G-AISi12	LM6		4261					
	-	A360.2		G-AISi10Mg(Cu)	LM9		4253					

ISO	Country and standard											
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	Russia
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	GOST
S	**Nickel based alloys**											
	-	5391	LW2 4670	S-NiCr13A16MoNb	mar-46	-	-	NC12AD	-	-		
	-	AMS 5397	LW2 4674	NiCo15Cr10MoAlTi	-	-	-	-	-	-		
	-	5660	LW2.4662	NiFe35Cr14MoTi	-	-	-	ZSNCDT42	-	-		
	-	5383	LW2.4668	NiCr19Fe19NbMo	HR8	-	-	NC19eNB	-	-		
	-	-	2.4631	NiCr20TiAk	Hr401.601	-	-	NC20TA	-	-		-
	-	AMS 5399	2.4973	NiCr19Co11MoTi	-	-	-	NC19KDT	-	-		-
	-	AMS 5544	LW2.4668	NiCr19Fe19NbMo	-	-	-	NC20K14	-	-		-
	-	5390A	2.4603	-	-	-	-	NC22FeD	-	-		-
	-	5666	2.4856	NiCr22Mo9Nb	-	-	-	NC22FeDNB	-	-		-
	-	-	2.4630	NiCr20Ti	HR5.2034	-	-	NC20T	-	-		-
	-	4676	2.4375	NiCu30AL3Ti	3072-76	-	-	-	-	-		-
	Cobalt based alloys											
	-	5537C AMS		CoCr20W15Ni	-	-	-	KC20WN	-	-		
	-	5772	LW2.4964	CoCr20W14Ni				KC22WN				
	Titanium alloys											
	-	UNS R54520	3.7115.1	TiAl5Sn2.5	TA14/17	-	-	T-A5E	-	-		
	-							UNS R56400				
	-	-	3.7165.1	TiAl6V4	TA10-13/ TA28		-	UNS R56401	T-A6V	-	-	
	-			TiAl5V5Mo5Cr3								
	-	-	3.7185	TiAl4Mo4Sn4Si0.5	-	-	-	-	-	-		

Comparison table hardness and tensile strength

Hardness				Tensile strength N/mm^2
Rockwell Hardness		Vickers Hardness	Brinell Hardness	
HRC	HRA	HV	HB	
70.0	86.6	1037	—	—
69.5	86.3	1017	—	—
69.0	86.1	997	—	—
68.5	85.8	978	—	—
68.0	85.5	959	—	—
67.5	85.2	941	—	—
67.0	85.0	923	—	—
66.5	84.7	906	—	—
66.0	84.4	889	—	—
65.5	84.1	872	—	—
65.0	83.9	856	—	—
64.5	83.6	840	—	—
64.0	83.3	825	—	—
63.5	83.1	810	—	—
63.0	82.8	795	—	—
62.5	82.5	780	—	—
62.0	82.2	766	—	—
61.5	82.0	752	—	—
61.0	81.7	739	—	—
60.5	81.4	726	—	—
60.0	81.2	713	—	2555
59.5	80.9	700	—	2500
59.0	80.6	688	—	2450
58.5	80.3	676	—	2395
58.0	80.1	664	—	2345
57.5	79.8	653	—	2295
57.0	79.5	642	—	2250
56.5	79.3	631	—	2205
56.0	79.0	620	—	2160
55.5	78.7	609	—	2115
55.0	78.5	599	—	2075
54.5	78.2	589	—	2035
54.0	77.9	579	—	1995
53.5	77.7	570	—	1955
53.0	77.4	561	—	1920
52.5	77.1	551	—	1885
52.0	76.9	543	—	1850
51.5	76.6	534	—	1815
51.0	76.3	525	501	1780
50.5	76.1	517	494	1750
50.0	75.8	509	488	1720
49.5	75.5	501	481	1690
49.0	75.3	493	474	1660
48.5	75.0	485	468	1630
48.0	74.7	478	461	1605
47.5	74.5	470	455	1575
47.0	74.2	463	449	1550
46.5	73.9	456	442	1525
46.0	73.7	449	436	1500
45.5	73.4	443	430	1475
45.0	73.2	436	424	1450
44.5	72.9	429	418	1430
44.0	72.6	423	413	1405
43.5	72.4	417	407	1385
43.0	72.1	411	401	1360
42.5	71.8	405	396	1340
42.0	71.6	399	391	1320
41.5	71.3	393	385	1300
41.0	71.1	388	380	1280
40.0	70.8	382	375	1260
40.0	70.5	377	370	1245
39.5	70.3	372	365	1225
39.0	70.0	367	360	1210
38.5	—	362	355	1190
38.0	—	357	350	1175
37.5	—	352	345	1160
37.0	—	347	341	1140
36.5	—	342	336	1125
36.0	—	338	332	1110
35.5	—	333	327	1095
35.0	—	329	323	1080
34.5	—	324	318	1065
34.0	—	320	314	1050
33.5	—	316	310	1035
33.0	—	312	306	1020
32.5	—	308	302	1010

Comparison table hardness and tensile strength

Hardness				Tensile strength N/mm^2
Rockwell Hardness		Vickers Hardness	Brinell Hardness	
HRC	HRA	HV	HB	
32.0	—	304	298	995
31.5	—	300	294	980
31.0	—	296	291	970
30.5	—	292	287	960
30.0	—	289	283	950
29.5	—	285	280	935
29.0	—	281	276	920
28.5	—	278	273	910
28.0	—	274	269	900
27.5	—	271	266	890
27.0	—	268	263	880
26.5	—	264	260	870
26.0	—	261	257	860
25.5	—	258	254	850
25.0	—	255	251	835
24.5	—	252	248	830
24.0	—	249	245	820
23.5	—	246	242	810
23.0	—	243	240	800
22.5	—	240	237	790
22.0	—	237	234	785
21.5	—	234	232	775
21.0	—	231	229	765
20.5	—	229	227	760
20.0	—	226	225	750
19.5	—	223	222	745
19.0	—	221	220	735
18.5	—	218	218	730
18.0	—	216	216	725
17.5	—	214	214	715
17.0	—	211	211	710

Note: The conversion values for steel in the table are commonly applicable for the steels with carbon from low to high.

Conversion table chip breakers – turning

Comparison table for turning inserts chip breaker

ISO	Application	ZCC-CT		Sandvik		Seco		Kennametal		ISCAR		Walter		Mitsubishi		Sumitomo		Tungaloy		Kyocera		Korloy		Ingersoll Tague Tec	
		Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos
P Steel	Wiper-finishing	WG		WF WL	WF WK	W-MF2	W-F1	FW MW	FW MW	WF		NF	PF	SW	FW	NLU-W	NLU-W	ASW		WP		VW LW		WS	
	Finishing	DF EF	SF HF	PF QF	PF UF 23	FF1 MF1	FF1 F1	FF FN	11 UF LF	SF	PF SM	NF3 NS6	PF4 PF5	FH FS	FJ FV	NSE NSU NLU NFA NFL	NLU NFP NFK	TF TS 17	PF 01	DP GP VF	CF	VG VF VL	VF	FG FC VF	FA SA FG
	Semi-finishing	DM EM	HM	PM QM	PM UM	MF2	F2	FN	MF	NF TF SM	14 16 17 19	NS6	PS5	SH SA	SW SV MV	NSX	NSU NSC NSK	TS TM AS	PS	HQ CQ CJ	CK DP GP VF XP	VQ VC VB	HMP	WT ML	WT
	Medium machining to light roughing	DM PM	HR	PM QM	PR UR	M3 MF3	F2	MN	MF	GN PP NR	17 19	NM4 NM6	PM5	MV MZ MA	MV MW	NGE NGU NUX	NMU NSF	TM DM	PM	GS CS HS PS	HQ XQ GK G	VM	C25	PC MC MT MG MF	PC MT PMR
	Wiper-medium			WR WM	WM	W-M3 W-R4 W-R7	W-F2	MW RW	MW	WG		NM	PM	MW		NGU-W				WQ					
	Roughing	DR		PR QR 31		M5 MR5 MR7		RP UN RN		TNM GN	19	NM9		GH MAT MT		NMU NMX	NMU	TH TR TU		PT GT HT	G St-form	HR		RT	
	Single side roughing	HDR 31HPR DR LR		HR QR		R8 RR9 -56 -57 -UX		RH RM RP		NM		NR6 NR8		HA HZ HH HV HX		NMP NHG NHP NHU NHW				HX		GH VH VT		HT HD HY HZ RX RH	CMX
M Stainless steel	Wiper-finishing	WG		WF WL WMX	WF WK	W-MF2		FW MW	FW MW	WF			PF	SW	FW	NLU-W	NLU-W								
	Finishing	EF DF	EF HF	MF	MF UF	FF1 F2 MF1	F1	FF FP	11 UF LF	NF VL	PF SM	NF4	PF4 PF5	FS	FJ FV	NSU NLU	NSU NLU	SS	SS	GU			VF	EA SF	FG
	Semi-finishing	EF EM	EF EM HF HM	MF MM	MF MM UM	MF3	F2	FP	MF	PP TF	14 16 17 19	NM4	PS5	SH MS	SW SV MV	NEX NUP	NSU	SS SM	PS	MS	CK DP GP VF XP	VP2	HMP		
	Medium machining to light roughing	EM DM	EM HM	MM	MM UM	R6 56	F2	MP	HP	PP TF	17 19	NM4 NR4	PM5	MS ES MH	MV MW	NGU	NMU	SA S	PM	MS	HQ XQ GK G	HS VP3	C25	EM SU MT	MT PMR WT
	Wiper medium			WR WM	WM	W-M3		MW RW	MW	WG			PM	MW		NGU -W									
	Roughing	ER DR	HR	MR QR PR	MR	R7 R8		MP -P		HTW NR	19	NR4		GH HZ		NMU NMX NHG						VM		ET	CMX
	Single side roughing	ER DR HDR LR		HR QR		-56		RP		NM						NMP NHG NHP NHU NHW	NMP NHG NHP NHU NHW								

Conversion table chip breakers – turning

Comparison table for turning inserts chip breaker

ISO	Application	ZCC-CT		Sandvik		Seco		Kennametal		ISCAR		Walter		Mitsubishi		Sumitomo		Tungaloy		Kyocera		Korloy		Ingersoll Tague Tec	
		Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos
K **Cast iron**	Wiper-Finishing	WG		WF WM	WF	W-MF2	W-F1	FW MW	FW MW	WF						NLU-W	NLU-W								
	Finishing	DF	HF	KF	KF	F1	F1	FF FN	11 UF LF	NF SM	14 19		PS5			NSU	NLU			C		VM			
	Semi-finishing	PM	HM	KF KM	KF KM	M3	F2	FN	MF	GN	14 19	NM5	PS5	GH		NUX NGU	NSU	CM		C Stand. form		B25	HMP		
	Medium machining to light roughing	DR	HM HR	KM QM	KM	M3	F2	UN	HP	GN NR		NM6	PM5			NUZ NGU NMU	NMU	CM		GC ZS		VK GR	C25	MT MG	MT PMR WT
	Wiper medium					W-M3 W-R4 W-R7		MW	MW	WG		NM	PM			NGU-W									
	Roughing	DR *NMA	HR	KR QR	KR UR	M5				NR		NR6		GH		NMU				ZS		MA		RT	CMX
N **Non-ferrous metals**	Finishing		LC		AL				LF	NF			PM2												
	Semi-finishing		LC		AL		AL	GP		NF PP	AS						NAG			AH	AH	HA	AK		FL SA
	Medium machining to light roughing		LH		AL		AL	GG-FS MS	HP	NMS													AR		
S **Heat-resistant alloys**	Finishing	NF EF	NF	NGP	MF	MF1		FS	GT-HP	SF PF	PF SM		PF4	FJ		NSU	NSU					VP1			
	Semi-finishing	NF NM EM	NF	23	MM	MF1 M1		FS MS	GT-MF	SF PF	PF SM		PF5	MJ		NEX NUP	NSU NSK					VP2	AK		
	Medium machining to light roughing	NM EM		MF	MM UM	M1		MS	MT-LF	PP TF			PS5	MS		NMU	NSK					VP3	HMP	SU	
	Roughing	ER		SR		MR3 MR4		RP		TF HTW NR				GJ								VM			

Conversion table grades – turning

Coated cemented carbide CVD

ISO		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec	Widia
P **Steel**	P01-05	**YBC052**	GC4205 GC4305	KCP05 KC9105	AC805P	UE6005 UE6105	T9005 T9105	CA5505	WPP01 WPP05	IC8150 IC9150 IC428	TP0500 TP0501			
	P10-15	**YB6315** **YBC152** **YBC252**	GC4315 GC4215	KCP10 KC9110	AC810P AC700G	UC6110 MY5015	T9015 T9115	CA510 CA5515 CA510	WPP10 WPP10S	IC8150 IC8250 IC9150 IC9250 IC9015	TP1500 TP1501	NC3010	TT8115 TT8125	WP15CT
	P20-25	**YBC252** **YBC251**	GC4325 GC4225 GC4025	KCP25 KC9125	AC820P AC8020P AC900G AC2000	UE6020 MC6025	T9025 T9125	CA5525 CA525 CR9025	WPP20 WPP20S	IC8150 IC8250 IC9250 IC9025	TP2501 TP2500 TP200	NC3220 NC3120	TT8125 TT3500	WP25CT
	P30-35	**YBC352** **YBC351**	GC4335 GC4235 GC4035	KCP30 KC8050	AC830P AC3000	UE6035 UE6400	T903 T9135	CA530 CA5535 CA535	WPP30 WPP30S	IC8250 IC8350 IC9350	TP3500	NC3030 NC5330 NC500H	TT5100 TT8135	WP35CT
M **Stainless steel**	M10	**YBM151** **YBM153**	GC2015 GC1515	KCM15	AC610M	MC7015	T9115			IC8250 IC9250 IC6015			TT9215	WM15CT
	M20	**YBM253** **YBM251**	GC2015 GC2025	KCM25 KC9225	AC610M AC630M	US7020 MC7015 MC7025	T6020 T6120 T9125	CA6515	WAM20	IC8250 IC9350 IC9025 IC6025	TM 2000 TP200 TP2500	NC9025	TT5100 TT9225	WM25CT
	M30	**YBM351** **YBM253**	GC2025 GC2035	KCM25 KCM35 KC9225	AC630M AC6030M AC830P AC3000	US735 US7025	T6030 T6130	CA6525	WAM30	IC8350 IC9350 IC9025	TP3500 TM4000		TT5100 TT7100 TT9235	WM35CT
	M40	**YBM351**	GC2035	KCM35 KC9240 KC9245	AC630M AC6030M AC830P AC3000	US735	T6030 T6130	CA6525		IC6025 IC9350	TP40		TT5100 TT7100 TT9235	
K **Cast iron**	K01-05	**YBD052**	GC3005 GC3205	KCK05	AC405K AC410K	UC5005 UC5105	T5105	CA4505		IC5005 IC9007		NC6205	TT1300 TT7005	WK05CT
	K10-15	**YB7315** **YBD102** **YBD152** **YBD152C**	GC3215	KCK15 KC9315	AC410K AC415K AC420K AC700G	MC5015 UC5115 MY5015	T5105 T5115	CA4010 CA4515 CA4115	WAK10 WAK10S	IC9015 IC9007 IC8150 IC5010 IC428 IC4028 IC9150	TK1001 TK1000	NC6210	TT1300 TT7310 T7015	
	K20-25	**YB7315** **YBD152** **YBD152C**	GC3225	KCK20 KC9320	AC420K AC900G	MC5015 UC5115 UE6110 MY5015	T5125 T9125	CA4125	WAK20 WKK20S	IC5010 IC428 IC4028 C9150	TK2000 TK2001	NC5330		WK20CT

Conversion table grades – turning

Coated cemented carbide PVD

ISO		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec	Widia
P **Steel**	P01-05		GC1105					PR1005						
	P10-15	**YBG101 YBG102 YBG105**	GC1515 GC1115 GC1025	KC5010 KC5510 KC7215 KC7315	AC510U	VP10MF VP15TF	AH710	PR930 PR1005 PR930 PR115	WSM10 WXN10	IC520N IC507 IC570 IC807 IC907 IC908				
	P20-25	**YB9320 YBG205 YBG202**	GC1515 GC1125 GC1025	KC5025 KC5525 KU25T	AC520U	VP20RT VP20MF	AH725 AH120	PR930 PR1025 PR1225	WSM20 WMP20S WSM21	IC228 IC250 IC308 IC828 IC350 IC354 IC507 IC807 IC808 IC907 IC908 IC928 IC1008 IC1028 IC3028	CP200 CP250 TP2000 TS2500		TT8020 TT9020	
	P30-35	**YBG302**	GC1125 GC2035	KC7335	AC530U		SH730 J740 GH130 AH740	PR660	WSM30	IC228 IC250 IC328 IC330 IC354 IC528 IC1008 IC1028 IC3028	CP500	PC5300		
M **Stainless steel**	M10	**YBG101 YBG102 YBG105**	GC1105 GC1115 GC1025 GC1125 GC1515	KCU10 KC5010 KC5510 KC6005 KC6015	EH10Z AC510U AC530U	VP10MF	AH710	PR915 PR1005	WSM10	IC330 IC354 IC507 IC520 IC570 IC807 IC1028 IC3028	CP500 TS2000	PC8110	TT5080	WS10PT
	M20	**YB9320 YBG205 YBG202**	GC1025 GC1125	KC501 KCU25	AC520U AC530U	VP10RT VP15TF VP20RT VP20MF	AH120 AH725 SH730 AH710 AH630 GH330	PR1025 PR1125 PR1225	WSM10 WMP20S WSM20 WSM21	IC228 IC250 IC354 IC808 IC908 IC1008 IC1028 IC3028	TS2000 TS2500 CP200 CP250		TT8020 TT9020 TT9080	WS25PT
	M30	**YBG302**	GC2035	KC5025 KCU25		VP10RT VP15TF VP20RT VP20MF MP7035	AH12 AH725 SH730 AH710 AH630 GH330 J740	PR1025 PR1125	WSM20 WSM21 WSM30	IC228 IC250 IC328 IC330 IC1008 IC1028 IC3028	CP500 TS2500	PC5300 PC9030		
S **Heat-resistant alloys**	S05		S05F			MP9005	AH905			IC507 IC907				
	S10	**YBG102 YBG105 YBG202 YBG205**	GC1105 GC1115	KC5010 KCU10 KC5510 KCS10	AC510U EH510Z	MP9015 VP10RT	AH905 SH730 AH110 AH120		WSM10	IC507 IC807 IC808 IC806 IC907	CP200 CP250 TS2000 TS2500	PC8110	TT5080	WS10PT
	S20	**YB9320 YBG205 YBG202**	GC1025 GC1125 GC1515	KC5010 KCU10 KC5025 KCU25 KC5525	AC520U EH520Z	MP9015 MT9015 VP20RT	AH120 AH725	PR1125	WSM20 WSM21 WSM30	IC507 IC807 IC907	CP250 TS2500 CP500	PC5300	TT5080 TT8020 TT9080	WS25PT
	S30	**YBG302**			AC520U	VP15TF	AH725	PR1125	WSM30	IC3028 IC808 IC830		PC5400	TT8020	
N **Non-ferrous metals**	N10	**YBG101 YBG102 YBG105**	GC1515	KC5410					WXN10	IC520				

Conversion table grades – turning

Cermet

ISO		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec	Widia
P **Steel**	P01-05		CT5005		T110A T1000A	AP25N VP25N	NS520 AT520 GT520 GT720	TN30 TN6010 PV30 PV7010		IC20N IC520N		CN1000 CC105	CT3000 PV3010	
	P10-15	**YNG151** **YNG151C**	CT5015 CT530	KT315 KT125	T1200A T2000Z T1500A T1500Z	NX2525 AP25N VP25N	NS520 NS730 GT730 NS9530 GT9530	TN60 TN6010 PV60 PV6010		IC20N IC520N IC530N	CM TP1020 TP1030 CMP	CN1000 CT10 CN2000 CC115	CT3000 PV3010	TTI15
	P20-25	**YNT251**	GC1525	KT325 KT1120 KT5020	T1200A T2000Z T1500A T1500Z	NX2525 NX3035 AP25N VP25N MP3025	NS530 NS730 GT730 NS9530 GT9530	TN60 TN6020 PV60 PV7020 PV7025		IC20N IC30N IC75T IC520N IC530N	CM TP1020 TP1030 CMP	CN20 CN2000 CC115		TTI15
	P30-35				T3000Z	MP3025 VP45N		PV7025 PV90		IC75T				
M **Stainless steel**	M10	**YNG151** **YNG151C**	GC1525	KT125	T110A T1000A T1500Z T2000Z	NX2525 AP25N VP25N	NS520 AT530 GT530 GT720	TN60 TN6020 PV60 PV7020			CM TP1020 TP1030 CMP		CT3000 PV3010	TTI15
	M20	**YNT251**	CT5015 CT530	HT2	T110A T1000A T1500Z T2000Z	NX2525 AP25N VP25N	NS530 GT730 NS730	TN90 TN6020 PV90 PV7020 PV7025					CT3000 PV3010	TTI15
	M30				T3000Z									
	M40													
K **Cast iron**	K01-05				T110A T1000A T2000Z T1500Z	NX2525 AP25N	NS520 GT730 NS730	TN30 TN6010 PV30 PV7005 PV7010				CN1000	CT3000 PV3010	
	K10-15	**YNG151** **YNG151C**	CT5015	KT325 KT125	T1200A T1500A T2000Z T1500Z	NX2525 AP25N	NS520 GT730 NS730	TN60 TN6020 PV60 PV7020 PV7025				CN1000	CT3000 PV3010	
	K20-25	**YNT251**	CT5015		T3000Z	NX2525 AP25N								

Conversion table grades – turning

Uncoated carbide

ISO		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec	Widia
N **Non-ferrous metals**	N01	**YD101** **YD201**	H10 H13A	KF1	H1		KS05F				883 890			
	N10	**YD101** **YD201**	H10 H13A	K313 K68 KF1 THM-F	H1	HTi10	KS15F	KW10	WK01 WK10	IC20	890 KX HX	H01	K10	THM
	N20	**YD101** **YD201**	H10 H13A	K313 K68 KF1 THM-F			KS15F	KW15		IC20	KX HX			

Conversion table grades – milling

CVD milling grades

Material / Class		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec
P **Steel**	P05		K20W GC4220			F7010							
	P10		K20W GC3040 GC4220 GC4230		ACP100	F7010				IC4100 IC5100	MP1500	NC5330 NCM325	IN6505 IN6520
	P20	**YBC301** **YBC302** **YBC251** **YBC253**	GC3040 GC4230		CS3000	FH7020	T3130		WKP25 WKP25S	IC4050 IC4100 IC5100 IC5400	MP1500 MP2500 MS2500 T25M	NC5330 NCM325	IN6505 IN6520 IN7035
	P30	**YBC301** **YBC302** **YBM253** **YBM351**	GC2040 GC4240	KC930M KC935M	CS3000	F7030	T3130		WKP35 WKP35S WTP35	IC4050 IC5400	MK3000 T25M T350M	NCM325	IN7035 IN6530
	P40	**YBC401** **YBM351**	GC2040 GC4240								T350M		IN6530
M **Stainless steel**	M10		GC4230			F7010					MP1500	NCM325 NC5330	IN6520
	M20	**YBM251** **YBM253**	GC4230			F7020	T3130			IC4050	MP1500 MP2500 MS2500 T25M	NCM325 NCM335	IN7035 IN6520 IN6505
	M30	**YBM351**	GC2040 GC4240	KC930M KC935M		F7030	T3130		WTP35		MP2500 MS2500 T25M T350M	NCM335	IN6530 IN7035 IN6505
	M40		GC2040 GC4240								T350M		IN6530
K **Cast iron**	K05	**YBD152**		KCK15		F7010 MC5020				DT7150 IC4100			
	K10	**YBD152** **YBD252**	K20W	KCK15	ACK200	F7010 MC5020	T1115		WAK15	DT7150 IC4100 IC4010	MP1500 MK1500	NC5330	IN6520
	K20	**YBD252**	K20W		ACK200		T1115		WKP25 WKP25S	DT7150 IC4100	MP1500 MP2500 MS2500 T25M MK1500	NC5330	IN6530 IN6515 IN6520
	K30			KC930M KC935M					WKP35 WKP35S	IC4050	MK3000 MP2500 MS2500		IN6530 IN6515

Conversion table grades – milling

CVD milling grades

Material / Class		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec
S Heat-resistant alloys	S05										MK3000		
	S10												
	S20										MP2500 MS2500 T25M		IN7035 IN6520
	S30		GC2040						WTP35		MM4500 T350M		
N Non-ferrous metals	N05												
	N10												
	N20										MP2500 25M		
H Hardened materiels	H05												
	H10		K20W										
	H20		K20W GC3040										

Conversion table grades – milling

PVD milling grades

Material / Class		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec
P **Steel**	P05				ACZ120	VP05HT	GH130			IC903			
	P10	**YBG102**	GC1010 GC1025 GC1020	KC522M KC525M KC610M KC643M KC715M	ACZ10M ACZ20W	VP10H	AH120 GH130	PR730 PR1225 PR1525	WHX15 WHH15 WXM15	IC903 IC950 IC1008	F15M		IN2004 IN2006
	P20	**YBG202** **YBG252**	GC1020 GC1025 GC1010 GC2030	KC522M KC525M KC643M KC715M KC725M	ACP200 ACZ330 ACX70 ACW30 AC350 ACZ50M	VP15TF VP20M VP20RT	AH725 AH120 AH130 AH330 AH725 AH730 GH330	PR630 PR830 PR730 PR1225 PR1230 PR1525	WXM15	IC810 IC380 IC830 IC900 IC908 IC910 IC950 IC1008	F25M MP3000	PC3500 PC3600	IN2006 IN1030 IN2004 IN2005 IN2015 IN2030 IN2505 IN2540
	P30	**YBG302**	GC1030 GC2030	KC530M KC725M KC735M	ACP200 ACP300 ACZ50M ACZ330 ACZ350 ACX70 ACW30 AC350	VP30RT	AH740 AH130 AH140	PR630 PR660 PR830 PR1230	WXM35	IC300 IC328 IC830 IC900 IC928 IC350 IC808 IC908	F30M MP3000	PC3500 PC3600 PC5300 PC3545 PC9570T	IN1030 IN2005 IN2015 IN2030 IN2035 IN2040 IN2505 IN2530 IN4035
	P40		GC1030	KC735M	ACP300 ACZ350		AH140 AH750		WXP45 WSP45 WSP46	IC300 IC328 IC928	F40M	PC5300 PC3545	IN2035 IN2040
M **Stainless steel**	M10		GC1020	KC522M KC610M KC643M KC715M	ACZ20W ACZ350 EH20Z		AH330 GH110 GH130	PR730 PR1225 PR660 PR1525		PR730 PR660 PR1225 PR1525	F15M	PC8110	IN2505
	M20	**YBG202** **YBG205** **YBG252** **YB9320**	GC1020 GC1025 GC1030 GC203	KC522M KC525M KC610M KC715M KC725M	ACP200 ACZ50M ACZ20M ACZ350 EH20Z AC350	VP15TF VP20RT	AH725 AH730 GH110	PR730 PR1025 PR660 PR1225 PR1525	WXM15	PR730 PR660 PR1025 PR1225 PR1525	F25M MP3000	PC5300 PC8110 PC9530	IN2005 IN2015 IN2505
	M30	**YBG302**	GC1040 GC203	KC525M KC530M KC725M KC735M	ACP300 ACZ50M ACX80 AC350	VP30RT	AH740 AH120 AH130 GH330 GH340				F30M MP3000	PC9530 PC3545 PC9570T	IN1030 IN2015 IN2030 IN2035 IN2530 IN4035
	M40		GC1040	KC530M KC735M	ACP300 ACX80		AH140 AH750 GH330 GH340		WSM35 WSM36 WXM35		F40M	PC3545	IN1030 IN2030 IN2035 IN2530 IN4035
K **Cast iron**	K05		GC1010	KC510M	ACZ10M ACZ120 ACZ310		AH330	PR905 PR1210 PR1510			MH1000	PC8110	IN2510
	K10	**YBG102** **YBG152**	GC1010	KC510M KC520M KC620M KC643M	EH20Z ACZ310		AH120 AH330 AH725	PR905 PR1210 PR1510	WXH15 WHH15 WXM15	IC810 IC950 IC1008	F15M MK2000	PC6510	IN2004 IN2010 IN2510
	K20		GC1020	KC520M KC620M KC725M	ACK300 EH20Z ACX80 ACW30	VP15TF	GH130		WKK25	IC328 IC830 IC950 IC350 IC808 IC908 IC1008	F25M MK2000 MO3000	PC6510 PC5300	IN1030 IN2004 IN2010 IN2015 IN2030 IN2505
	K30		GC1020	KC620M KC725M	ACK300 ACZ50M					IC328 IC830 IC900 IC908 IC350 IC808 IC908	F30M F40M MP3000	PC5300 PC9570T	IN2005 IN2015 IN2030 IN2505

Conversion table grades – milling

PVD milling grades

Material / Class		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec
S Heat-resistant alloys	S05	**YBG102**									MH1000 F15M	PC8110	
	S10	**YBG102 YBG202 YBG205**		KC525M KC643M	ACZ20W	VP15TF		PR905 PR1210 PR1510		IC808	NH1000 F15M F25M	PC5300	
	S20	**YBG202 YBG205**	S30T GC1025 GC1030 GC2030	KC525M KC643M	ACZ20W			PR905 PR1210 PR1510		IC908 IC380 IC900 IC903 IC908 IC928 IC830 IC808	F25M F30M	PC5300 PC3545	IN2005 IN2505
	S30		GC2030	KC725M KC735M	ACZ50M				WSM35 WSM36 WSP45 WSP46 WXM35 WXP45	IC328 IC928 IC830	F40M	PC3545	IN1030 IN2030 IN2035 IN2530 IN4035
N Non-ferrous metals	N05			KC510M							MH1000 F15M		
	N10	**YBG202**	GC1025 GC1030	KC510M KC620M KC522M	EH20Z				WXN15		MH1000 F15M		
	N20		GC1025 GC1030	KC620M KC522M KC525M KC651M							F25M F30M F40M MP3000		
H Hadened materiels	H05					VP05HT				IC903	MH1000 F15M	PC210F	IN2004 IN2006
	H10	**YBG102**	GC1010	KC643M		VP10MF			WXH15 WHH15	IC900 IC808	MK2000 F30M MP3000	PC210F	IN2004 IN2005 IN2006
	H20	**YBG202**	GC1010 GC1025 GC1030			VP15TF				IC810 IC908	F30M F40M MK2000 MP3000		

Conversion table grades – milling

Uncoated milling grades

ISO		ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tungaloy	Walter	Kyocera	Iscar	SECO	Korloy	Ingersoll Tague Tec
N **Non-ferrous metals**	N01		H10	K115M K110M				WK10		IC20N		H01	IN04S
	N10	**YD101**		K313	EH520	HTi10		WKM	GW25	IC08	H15	G10	IN10K IN05S
	N20	**YD201**	H13A H10F	KMF	EH520	TF15		KMG40		IC28	H25		IN15K

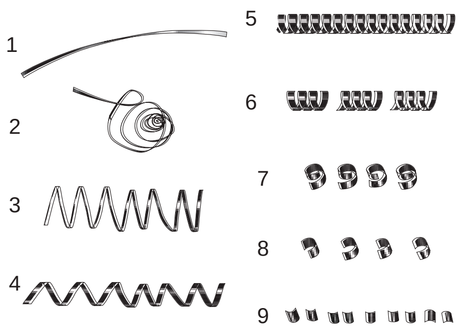
Examples of materials for machining groups

Material No.	Material	Machining group
1.0722	10SPb20	1
1.0715	9SMn28	1
1.0736	9SMn36	1
1.0718	9SMnPb28	1
1.0737	9SMnPb36	1
1.0401	C15	1
1.0402	C22	1
1.1141	Ck15	1
1.1170	28Mn6	2
1.0726	35S20	2 / 3
1.1167	36Mn5	2 / 3
1.1157	40Mn4	2 / 3
1.0501	C35	2 / 3
1.0503	C45	2 / 3
1.1191	Ck45	2 / 3
1.1183	Cf35	2 /3
1.1213	Cf53	2 /3
1.1545	C 105 W1	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C55	4 / 5
1.0601	C60	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr6	5 / 9
1.5120	38MnSi 4	5 / 9
1.1545	C 105 W2	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C65	4 / 5
1.0601	C70	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr7	5 / 9
1.5120	38MnSi 5	5 / 9
1.1545	C 105 W3	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C75	4 / 5
1.0601	C80	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr8	5 / 9
1.5120	38MnSi 6	5 / 9
1.1545	C 105 W4	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C85	4 / 5
1.0601	C90	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr9	5 / 9
1.5120	38MnSi 7	5 / 9
1.1545	C 105 W5	4 / 5
1.1663	C 125 W	4 / 5
1.0535	C95	4 / 5
1.0601	C100	4 / 5
1.1274	Ck101	4 / 5
1.1203	Ck55	4 / 5
1.1221	Ck60	4 / 5
1.5710	36NiCr10	5 / 9
1.5120	38MnSi 8	5 / 9
1.5680	12Ni19	10 / 11
1.3255	S 18-1-2-5	10 / 11
1.3348	S 2-9-2	10 / 11
1.3343	S 6-5-2	10 / 11
1.3243	S 6-5-2-5	10 / 11
1.2363	X 100 CrMoV 5-1	10 / 11
1.2601	X165CrMoV12	10 / 11
1.2080	X210 Cr 12	10 / 11
1.2581	X30WCrV 9-3	10 / 11
1.2344	X40CrMoV 5-1	10 / 11
1.4718	X45CrSi9-3	10 / 11
1.3355	S 18-0-1	10 /11
1.4027	G-X20Cr14	12 / 13
1.4006	X12 Cr 13	12 / 13
1.4104	X12CrMoS 17	12 / 13
1.4057	X19CrNi 17-2	12 / 13
1.4034	X46Cr 13	12 / 13
1.4871	X53 CrMnNiN 21-9	12 / 13
1.4113	X6CrMo 17	12 / 13
1.4000	X6CR 13	12 / 13
1.4001	X7Cr14	12 / 13
1.4016	X6Cr17	12 / 13
1.4581	G-X5CrNiMoNb 18	14
1.4308	G-X6CrNi 18-9	14
1.4408	G-X6CrNiMo 18-10	14
1.4583	X6CrNiMoNb 18-12	14
1.4571	X6CrNiMoTi 17-12-2	14
1.4550	X6CrNiNb 18-10	14
1.4541	X14CrNiTi 18-10	14
1.4845	X12CrNi 25-21	14
1.4310	X10CrNi 18-8	14
1.4305	X10CrNiS 18-10	14
1.4878	X12CrNiTi 18-9	14
1.4317	X2CrNi 18-8	14
1.4436	X3CrNiMo 17-13-3	14
1.4440	X2CrNiMo 18-16	14
1.4429	X2CrNiMoN 17-13-3	14
1.4311	X2CrNiN 18 10	14
1.4301	X5CrNi 18-10	14
1.4401	X5CrNiMo 17-12-2	14
0.6010	GG10	16
0.6015	GG15	16
0.6020	GG20	16
0.6025	GG25	16 / 17
0.6030	GG30	17
0.6035	GG35	17
0.6040	GG40	17
1.4829	X12NiCrSi 22-12	17
1.4828	X15CrNiSi20-12	17
0.7033	GGG35.3	18
0.7040	GGG40	18
0.7043	GGG40.3	18
0.8135	GTS-35	18
0.7050	GGG50	19
0.7060	GGG60	19
0.7070	GGG70	19
0.7660	GGGNiCr 20-2	19
0.7652	GGGNiMn 13-7	19
0.8155	GTS-55	21
0.8165	GTS-65	21
0.8170	GTS-70	21
0.8145	GTS-45	21
3.0205	Al99	22
3.3315	AlMg 1	22
3.1325	AlCuMg 1	23
3.2315	AlMgSi 1	23
3.2581	G-AlSi12	24
3.2163	G-AlSi9Cu3	24
3.2381	G-AlSi10Mg	25
2.0375	CuZn36Pb 3	27
2.1096	G-CuSn5ZnPb	27
2.0590	G-CuZn40Fe	27
2.0240	CuZn15	28
2.0060	E-Cu 57	29
1.4865	G-X40NiCrSi 38-18	30
1.4864	X12NiCrSi 36-16	30
2.4631	NiCr20TiAl	32
2.4856	NiCr22Mo9Nb	32
2.4375	NiCu30Al	33
2.4955	NiFe25Cr20NbTi	33
2.4764	CoCr20W15Ni	34
1.3401	G-X120Mn12	34
3.7165	TiAl6V4	36

Test protocol

Date: **ZCC Cutting Tools Europe GmbH**

General	End User		Distributor	
Company				
Contact person				
Machine				
Type				
Producer				
Power [kW]				
Tooling system				
Work piece				
Material				
Hardness/Tensile strength [N/mm^2]				
Heat treatment/Surface				
Interrupt cutting				
Cutting tools				
Producer (holder)				
Toolholder (name)				
Teeth Z				
Producer/Supplier				
Insert type/Tool number				
Grade				
Solid carbide tools number				
Cooling				
Cutting Data				
RPM n [U/min]				
Cutting speed Vc [m/min]				
Feed rate f [mm/rpm]				
Feed rate Vf [mm/min]				
Depth of cut a_p [mm]				
Width of cut a_e [mm]				
Machining length [mm]				
Cutting time T [min]				
Results				
Machined pieces/Edges				
Surface quality				
Flankwear VB				
Criteria				
Notch wear				
Crater wear				
Plastic deformation				
Built-up edge				
Insert breakage				
Cutting edge breakage				
Chip forms				



Conclusion:

Fax: +49-(0)211-989240-111
E-mail: technik@zccct-europe.com

Signature:

Torque for screw

Thread	M1,6	M1,8	M2	M2,2	M2,5	M3	M3,5	M4	M4,5	M5	M6	M7	M8	M10	M12
Torque [Nm]	0,2	0,3	0,4	0,7	0,8	1,5	2,3	3,4	5,0	6,7	11,4	19,2	27,0	55,8	85

Index

Inserts E2-E5

Tools E6-E8

Index Inserts

1

175.32-22	A99
175.32-24	A99
175.32-25	A99
175.32-28	A99
175.32-31	A99

A

ANGX*PNR-GM	B117 B119 B121 B123 B125
ANGX*PNR-LH	B117 B119 B121 B123 B125
APKT-ALH	B95 B98 B101 B104 B106 B195
APKT-APF	B95 B98 B101 B104 B106 B195
APKT-APM	B95 B98 B101 B104 B106 B195
APKT-KM	B169 B171 B173
APKT-LH	B95 B98 B101 B104 B106 B195
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ROLLOMATIC


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400 COMBI
400 COMBI


ZCC·CT


HELITRO
POWER

CQC

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Quality Management System

ISO9001:2015

CHINA QUALITY CERTIFICATION CENTRE

CQC

ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

Environmental Management System

CHINA QUALITY CERTIFICATION CENTRE

bsi.

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2008

This is to certify that:
ZCC Cutting Tools Europe
GmbH
Heltorfer Straße 12
Düsseldorf
40472
Germany

Holds Certificate No: **FS 651501**

and operates a Quality Management System which complies with the requirements of ISO 9001:2008 for the following scope:

Distribution and Logistics for Metal Cutting Tools

For and on behalf of BSI:

Peter U. E. Leveringhaus,
Managing Director BSI Group Deutschland GmbH

Original Registration Date: 17/06/2010
Latest Revision Date: 11/06/2016
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The Company

Zhuzhou Cemented Carbide Cutting Tools Co., Ltd. (ZCC-CT) is located in Zhuzhou, Hunan province, China and is the largest supplier of carbide tools into the Chinese market. The ZCC-CT cutting tool company is part of the "Zhuzhou cemented carbide Group" who manufacture carbide materials and powders. Both of these companies are part of the "Minmetals Corporation" who mine and produce raw tungsten carbide materials.

Since its foundation in 1953 ZCC-CT has developed rapidly by progressively using highly advanced modern production technology as well as having a highly qualified and committed workforce. With over 2,000 employees the company is now the largest producer of carbide cutting tools in China and one of the leading carbide manufacturers worldwide.

Using this advanced production technology, ZCC-CT products are manufactured to the highest quality standards to maintain a constant quality and high performance. The wide range of products contains indexable carbide inserts (coated and uncoated), inserts of Cermets, CBN, PCD and ceramics, solid carbide cutting tools as well as tool holders and milling bodies. The products are produced to various international standards such as ISO DIN, ANSI, JIS and BSI. Furthermore customised and special carbide product are also offered.

Research and development plays a major and significant role at ZCC-CT. The production facilities use the most sophisticated and advanced equipment available and this is supplied by the leading machine and equipment manufacturers in Germany and Switzerland. A highly qualified and skilled team of engineers in the R&D departments are constantly developing new and improved cutting tools. There is a constant desire to continually enhance the quality, to fulfill the ever increasing market requirements for new and initiative products and to achieve the best possible result for the customers.

The production and administration facilities in China are certified to ISO 9001:2000 and they maintain strict environmental management to ISO 14001:2004 standards.

Since 2003 ZCC Cutting Tools has operated a sales organisation in Europe. This sales and warehousing subsidiary of ZCC-CT is based in Düsseldorf (Germany) and has been progressively build up and expanded by Mr. Quanliang Zhao the European Managing Director.

Sales to all European countries, as well as Russia and Turkey, are controlled and managed from this European central warehouse in Düsseldorf, with the majority of the products being dispatched on the same day of ordering. The business operates under the quality management system for "Distribution and Logistics of Metal Cutting Tools" and is certified with DIN EN ISO 9001:2008.

ZCC Cutting Tools Europe has a constantly growing number of employees covering sales, marketing, warehouse and distribution, technical support, IT, HR and accounting. Our external sales team and our partners from around Europe are there to support you on-site in your production facilities or distribution operations. Our internal, highly qualified, technical application engineering staff are always available to give the customer technical advice and support via telephone, by email or in person. The internal sales team takes care of your enquiries and orders and together with dedicated warehouse staff they ensure that products are dispatched to you as quickly as possible.

The complete team at ZCC Cutting Tools Europe are there to support you and be your competent and efficient partner in the global Cutting Tool Industry.

Sales center in Europe

ZCC Cutting Tools Europe GmbH

www.zccct-europe.com
Wanheimer Straße 57   40472 Düsseldorf, Germany
Tel.: +49(0)211-989240-0
Fax: +49(0)211-989240-111
E-mail: info@zccct-europe.com

Sales center in France

ZCC Cutting Tools France S.A.S.

www.zccct-europe.com
14, Allée Charles Pathé, 18000 Bourges, France
Tel.: +33 (0)2-454101-40
Fax: +33 (0)2-486619-46
E-mail: ventes@zccct-europe.com

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