



Catalogue

Version 2018
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



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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

A
Turning

B
Milling









C
Drilling









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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

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Carbide and cermet inserts

Double sided, negative – Roughing

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

B







Milling



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

C

Drilling






Single sided, negative – Roughing


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

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

D

Technical Information








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

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

E




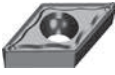
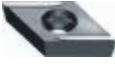
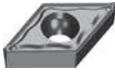










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Special form – Roughing







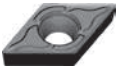












								
175.32-22 · 227	175.32-24	175.32-25	175.32-28 · 31	KNUX	TNMX	YNMX · YNUX		Edge length
A99	A99	A99	A99	16 A98	11 15 A100	18 25 A101		Page

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

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Carbide and cermet inserts

Positive – Finishing



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

B

Milling

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

C

Drilling



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

D

Technical Information



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

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Carbide and cermet inserts

Positive – Aluminium machining


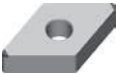








					
CCGX-LC	CCGX-LH	DCGX-LC	DCGX-LH	RCGX-LH	
06 09 12	06 09 12	07 11	07 11	08 12	Edge length
A108	A108	A114	A115	A117	Page
					
SCGX-LC	SCGX-LH	TCGX-LC	TCGX-LH	VCGX-LC	VCGX-LH
09 12	09 12	09 11 16	09 11 16	11 16 22	11 16 22
A121	A122	A130	A130	A134	A135
					Edge length
					Page

PCBN & PCD

Negative

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

A

Turning

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

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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

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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


Milling

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

C

Drilling

Holder with top clamping

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

Tool holder for ceramic inserts and solid CBN inserts

D

Technical Information

								
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°	
A266	A267	A268	
			Angle
			Page

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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°
A284	A286	A287	A289	A290	A291
					Angle
					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°
A310	A293	A306	A295	A307	A296	A308	A297
							Angle
							Page

						
SSKCR/L	STFCR/L	STUPR/L	SVQBR/L	SVQCR/L	SVUBR/L	SVUCR/L
75°	90°	93°	107.5°	107.5°	93°	93°
A298	A300	A309	A304	A302	A305	A303
						Angle
						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°
A313	A312	A315	A314	A317	A316	A319	A320
							Angle
							Page

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

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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.

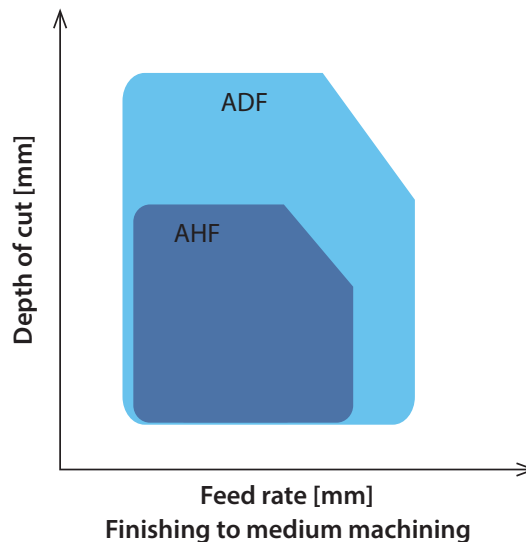


-AHF

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



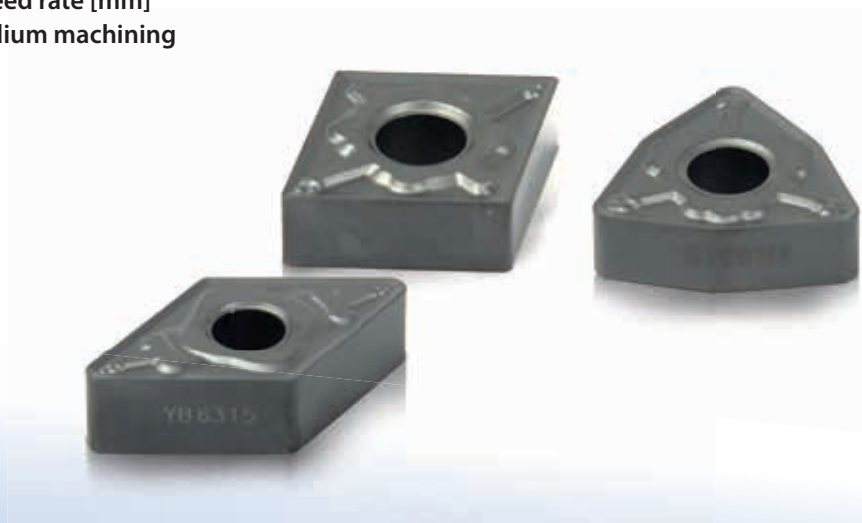
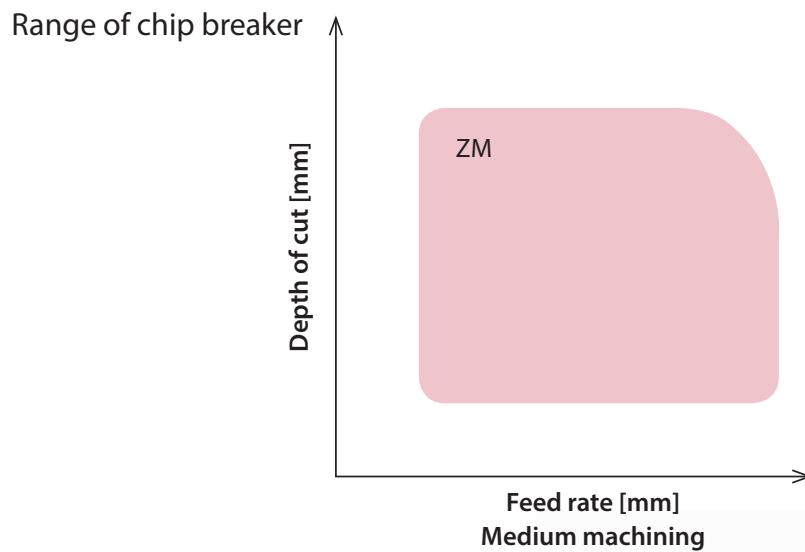
New

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.



New

NGF & SNR chip breaker

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



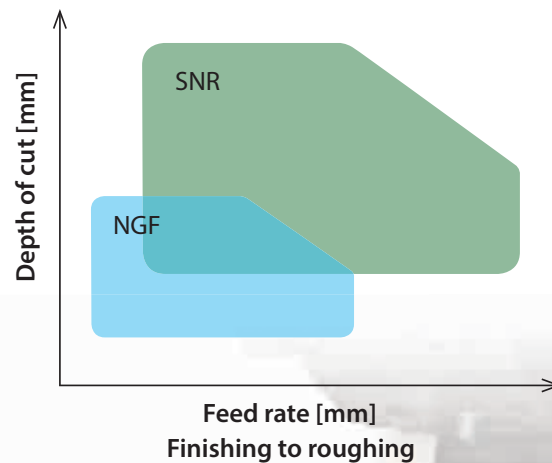
-NGF

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

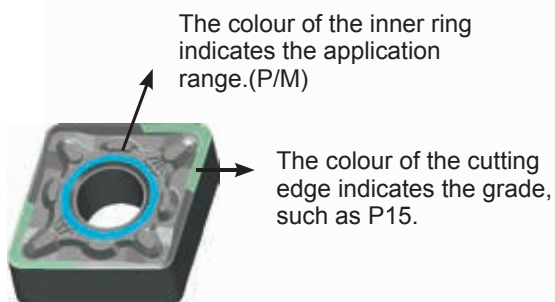
The revolution in wear identification



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



A

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.

B

DF

P

K



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

Milling

C

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.

Drilling

EF

M

S



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

D

NF

S

M



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

Technical Information

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

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Negative inserts

Wiper

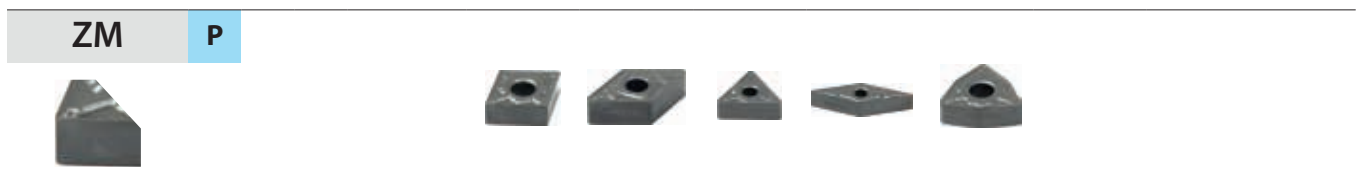


Double sided chip breaker with wiper geometry. Allows to double the feed rate and improves the surface quality.

Medium machining



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



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.



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



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

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Turning

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.

B

Milling

EM **M** **S**



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

C

Drilling

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.

D

Technical Information

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.

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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.

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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.

B

Milling

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

C

Drilling

Flat **N H**



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

D

Technical Information

Flat **H K**



Solid CBN insert for machining of steel and cast iron.

Ceramic inserts

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Flat **K H**



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

Positive inserts

Fine-finishing

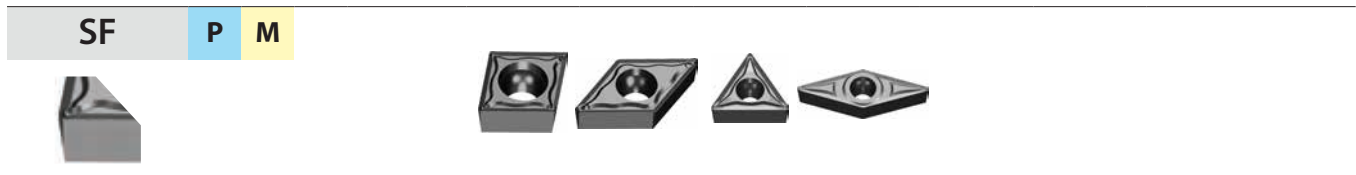


Single sided chip breaker for fine finishing. Sharp cutting edge with large hollow flute, excellently suitable for machining small work pieces. G-tolerance for high repeatability.

Finishing



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



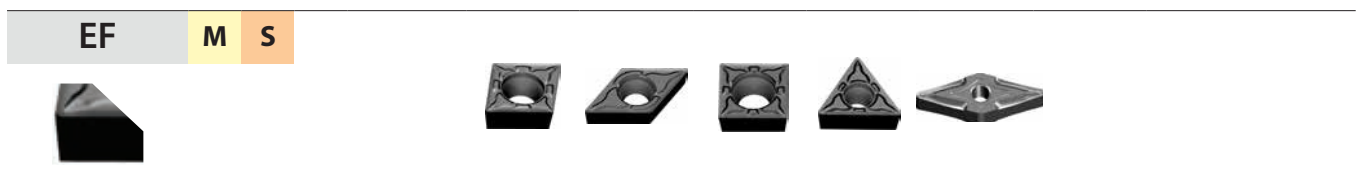
Single sided chip breaker in combination with cermet grades. Geometry with high sharpness for improved chip control and great surface quality. Ideal for machining with small cutting depths and feed rates.



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



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



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

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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.

B

NGF M S



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

Milling

Medium machining

TC K P



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

C

HM P K



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

D

EM M S



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

Technical Information

Basic P K



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

E

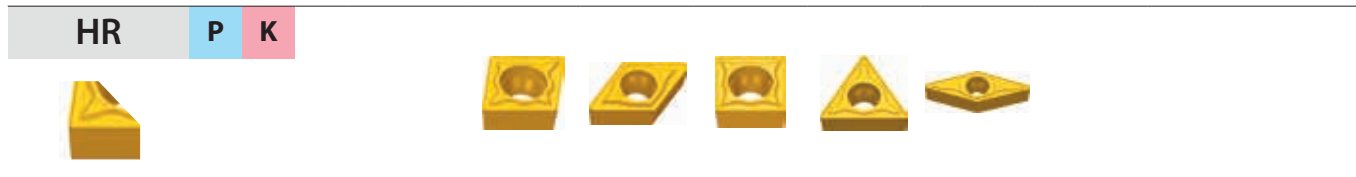
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Positive inserts

Roughing



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



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

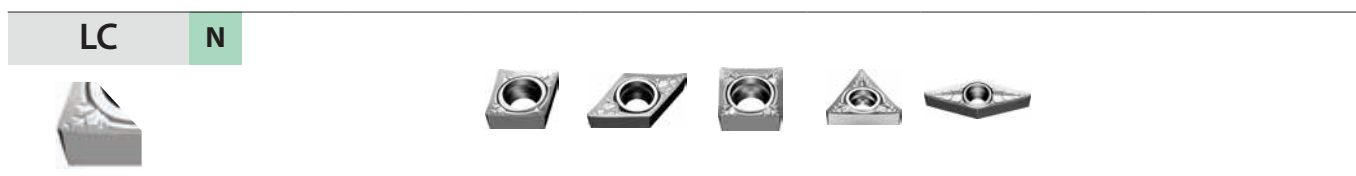


Single sided chip breaker for roughing. Wide range of application due to excellent balance of sharpness and cutting edge stability.



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

Aluminium machining



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

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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.

B

PCBN & PCD inserts

Flat**N****H**

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

C

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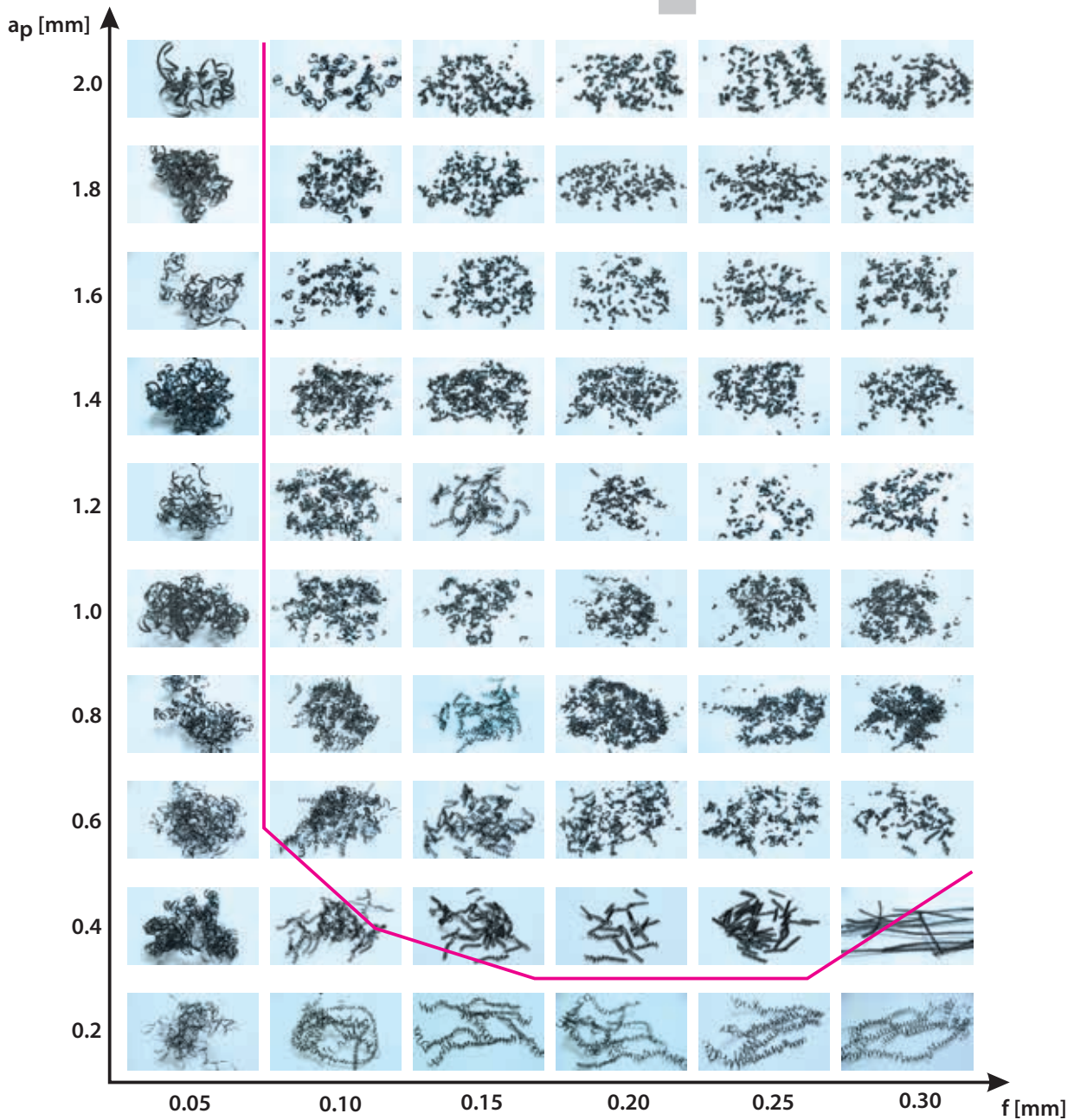
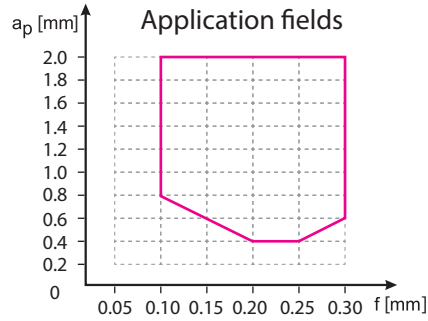
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General turning

Application fields of chip breakers determination

Example

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



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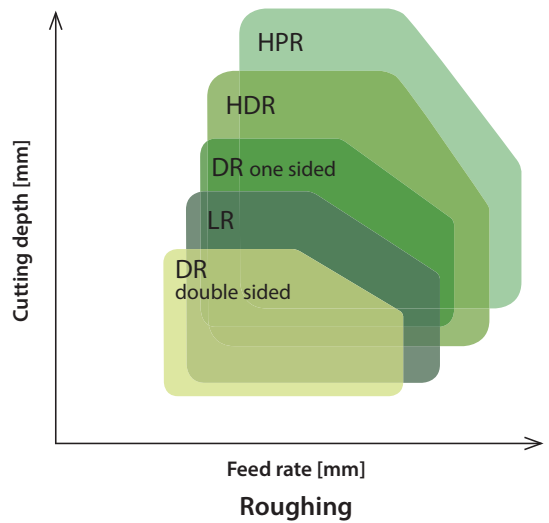
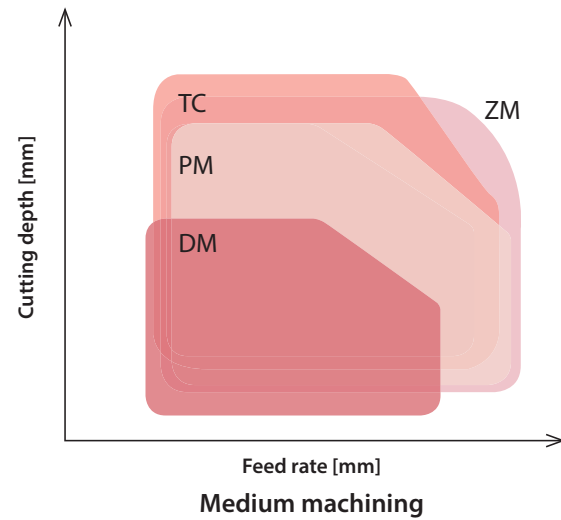
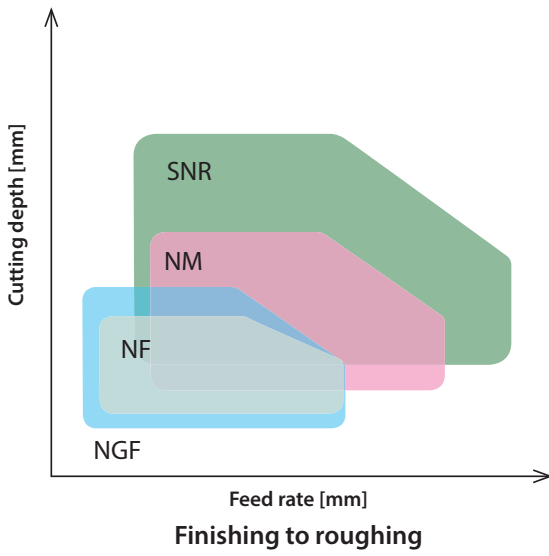
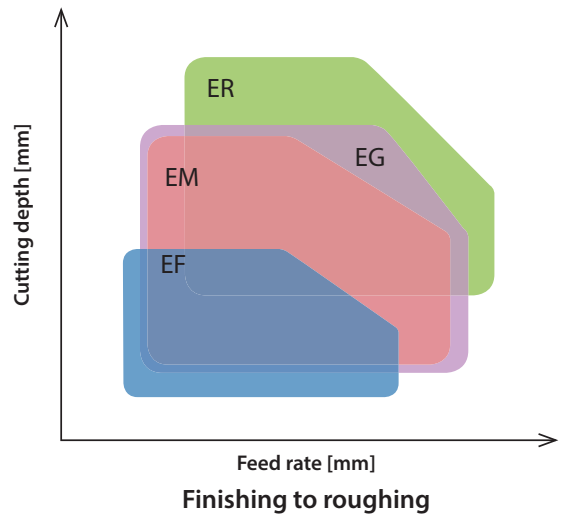
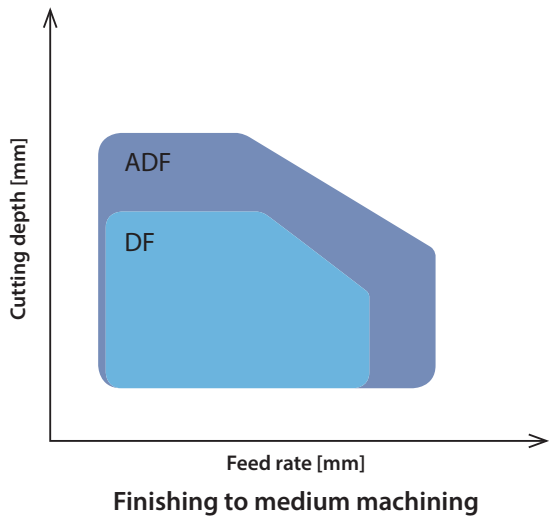
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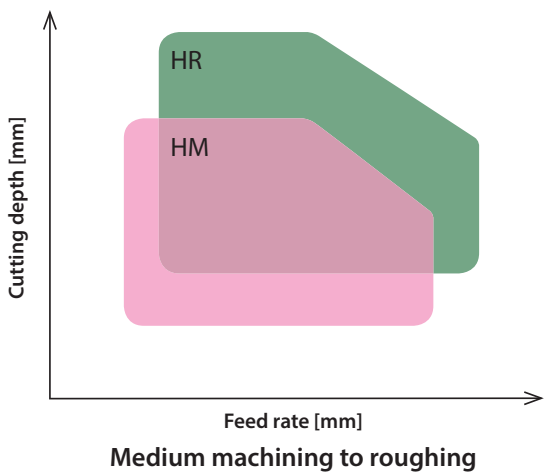
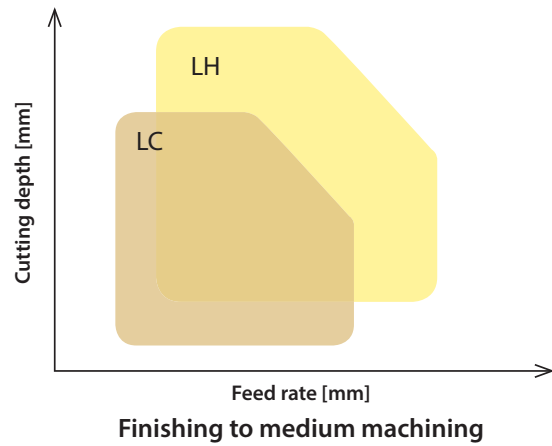
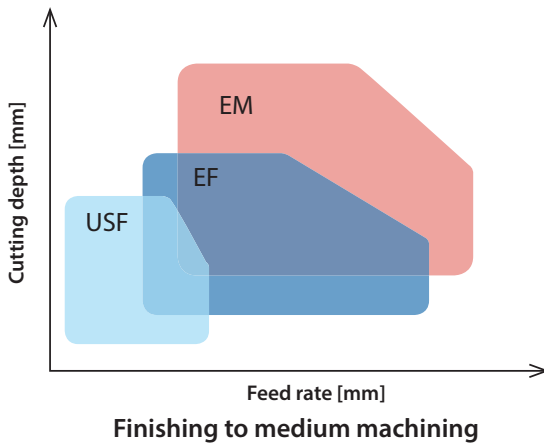
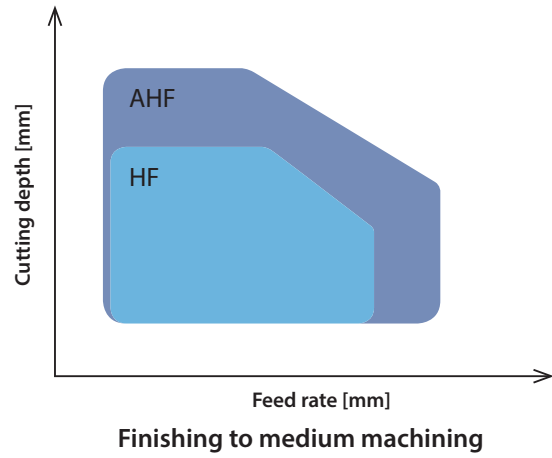
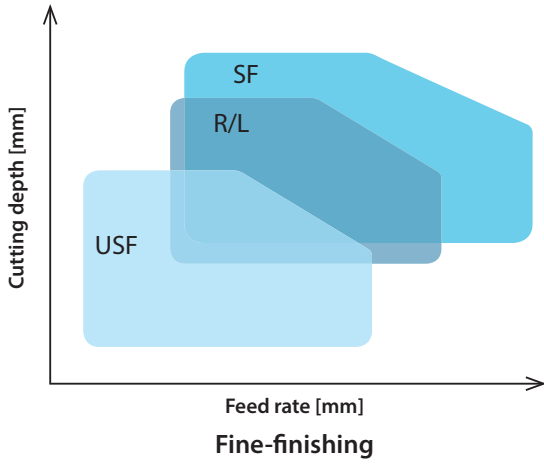
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Negative inserts



Positive inserts



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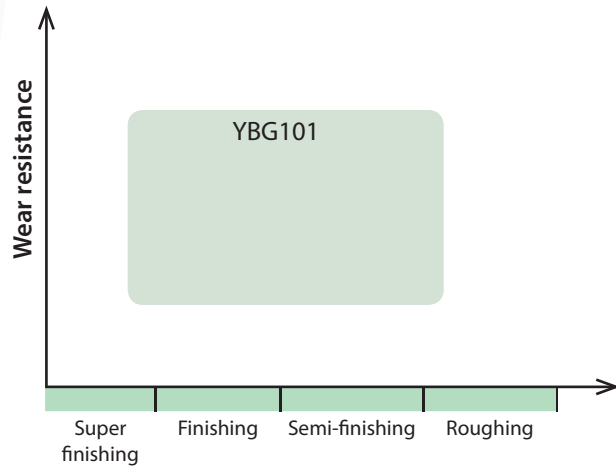
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New YBG101

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.

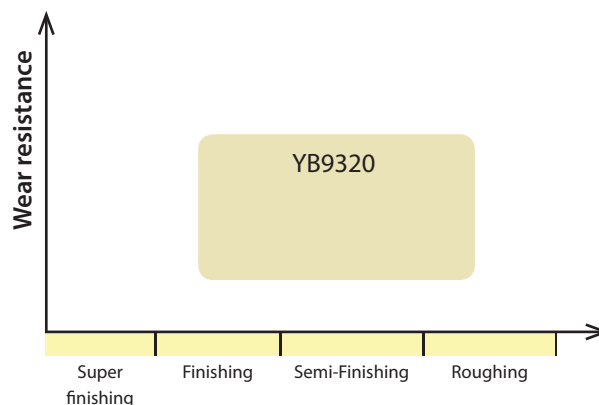


New YB9320

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.

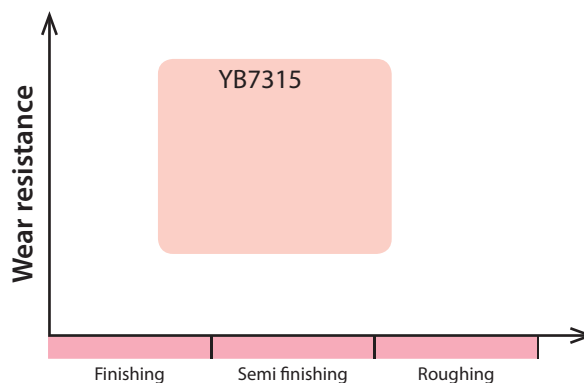


New YB7315

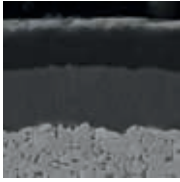
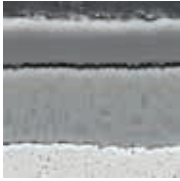
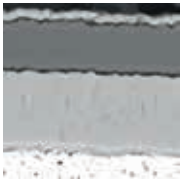


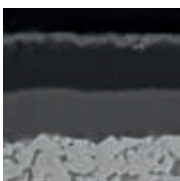

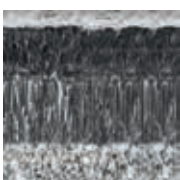
For high efficient machining of cast irons



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 plastic 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.

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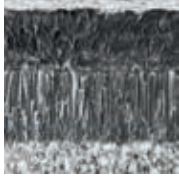
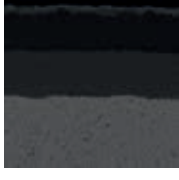
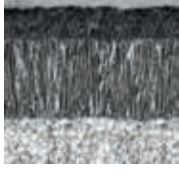

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Coated cemented carbide CVD

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 plastic 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 ₂ O 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.

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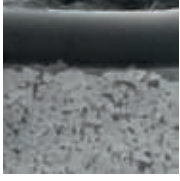


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Coated cemented carbide PVD

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.

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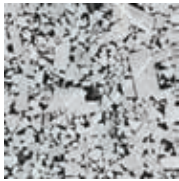
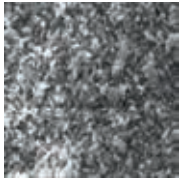
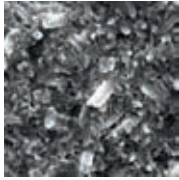
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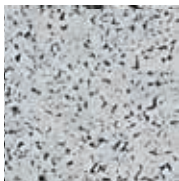
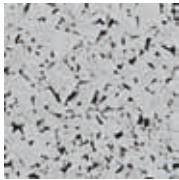
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Ceramic

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 ₃ N 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 ₃ N 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.

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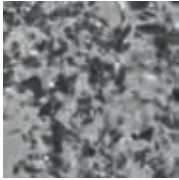
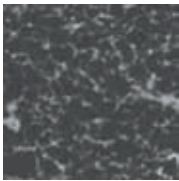
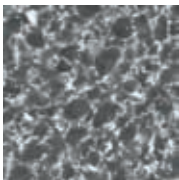
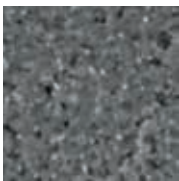
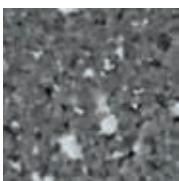
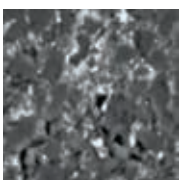
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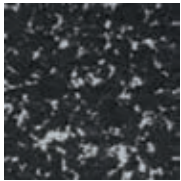
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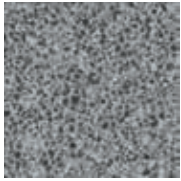
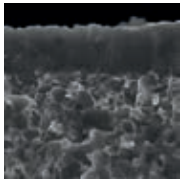
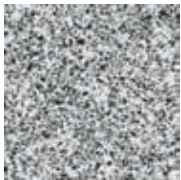
CBN

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.

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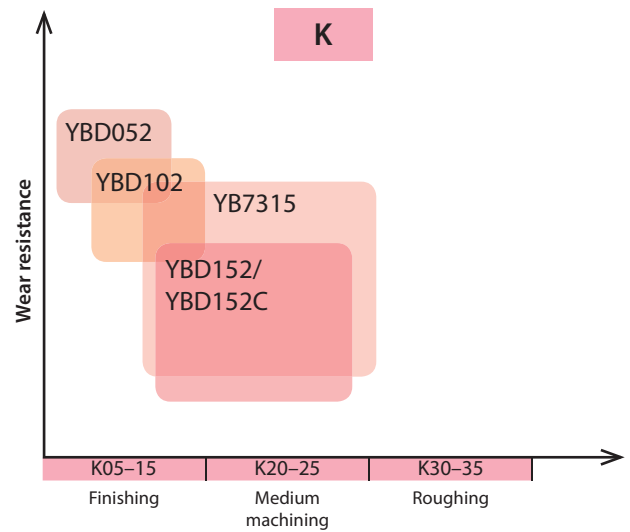
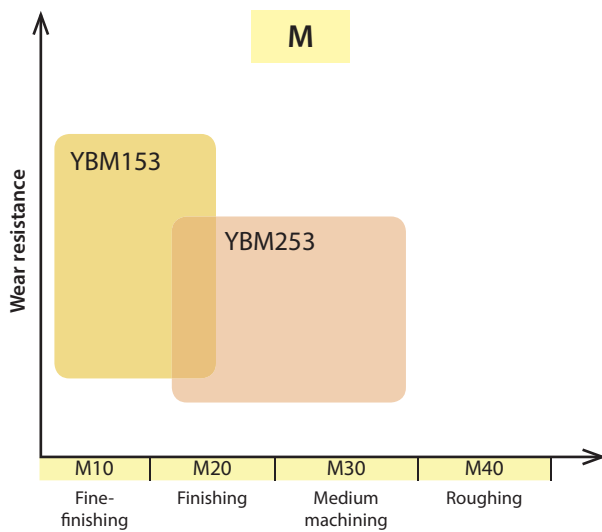
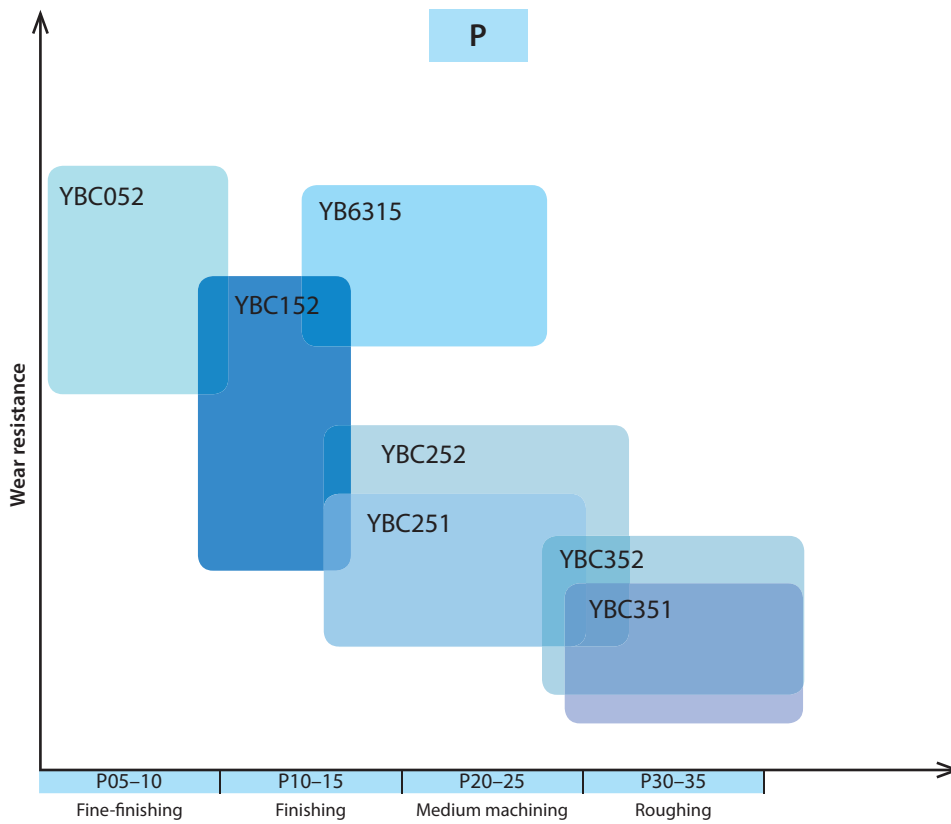
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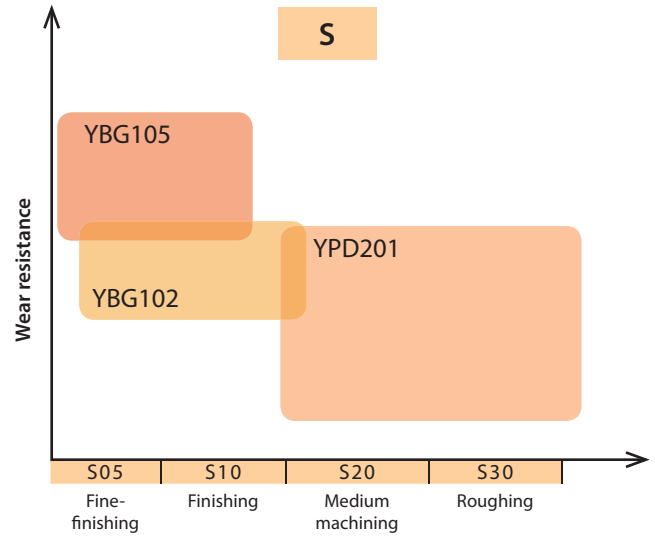
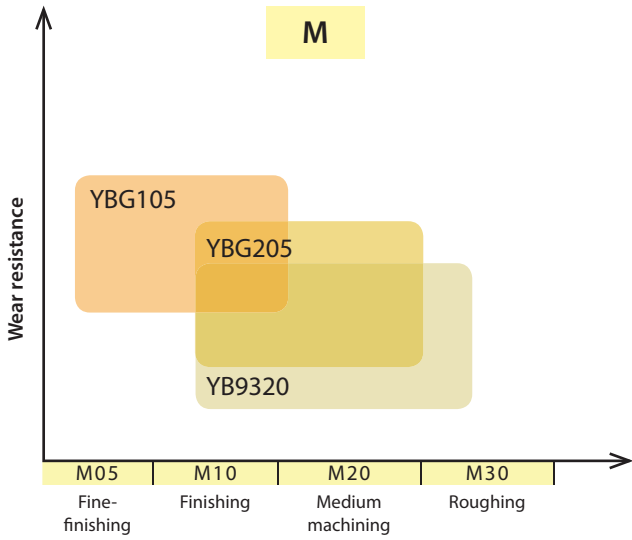
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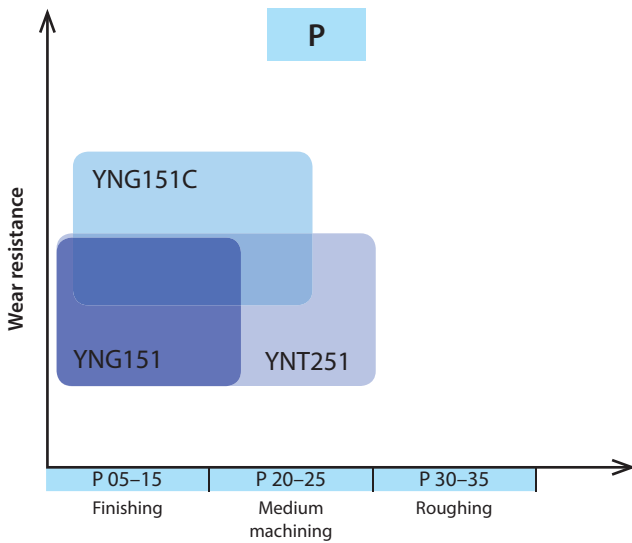
CVD grades for steel, stainless steel and cast iron



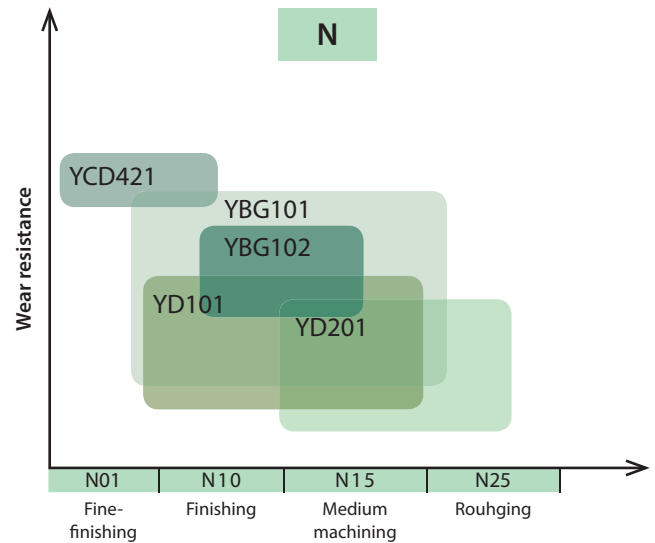
PVD grade for stainless steel and heat-resistant alloys



Cermet grades for steel



Turning grades for non-ferrous metals



A

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Application fields of grades

	ISO	HC ¹ (CVD)	HC ¹ (PVD)	HT	HC ²	Keramik	HW	CBN	PCD
P	P01								
	P10	YB6315 YBC152		YNG151 YNT251	YNG151C	CA1000			
	P20	YBC251 YBC252							
	P30	YBC351 YBC352							
	P40								
M	M01		YBG105	YNG151	YNG151C				
	M10	YBM153	YBG202	YBG205					
	M20	YBM253	YB9320						
	M30								
	M40								
K	K01	YBD052				CN1000		YCB211	
	K10	YBD102						YCB221	
	K20	YBD152				CN2000	YD201	YCB231	
	K30	YBD152C YB7315							
N	N01								
	N10		YBG102				YD101		YCD421
	N20						YD201		
	N30								
S	S01								
	S10		YB9320	YBG102	YBG105	YNT251	YNG151C		
	S20			YBG202	YBG205				
	S30								
H	H01							YCB111	
	H10							YCB121	YCB121
	H20							YCB131	
	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

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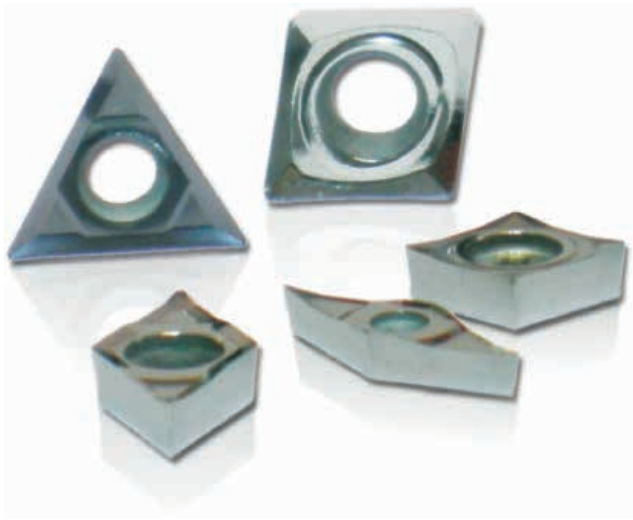
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


















Turning inserts










ISO standard

T N M G 22 04 08 (N) – DM




1 2 3 4 5 6 7 8 9

Insert shape		
A 	B 	C 
D 	E 	H 
K 	L 	M 
O 	P 	R 
S 	T 	T 
V 	W 	Z Special















1

Clearance angle	
A 	B 
C 	D 
E 	F 
G 	N 
P 	O Special









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	
A 	B 
C 	F 
G 	H 
J 	M 
N 	Q 
R 	T 
U 	W 
X Special	

4

Cutting edge length l [mm]								
I.C [mm]	Insert shape							
								
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							
19.05	19		19	19	33			
20.0	20							
25.0	25	25	25					
25.4	25							
31.75	31							
32	32							

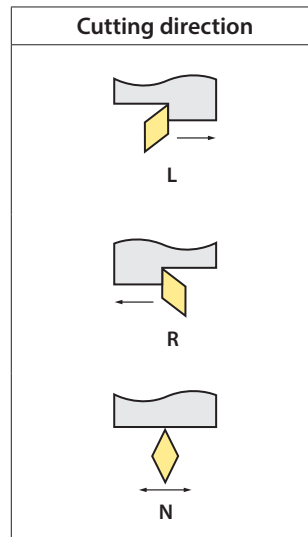
5

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



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

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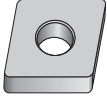
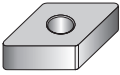
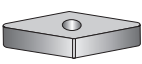

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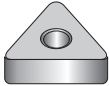


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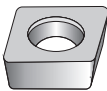

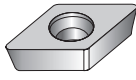

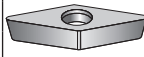
Conversion table for general turning inserts (metric/imperial system)

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
	190616	544
Insert shape V 	160404	331
	160408	332
	160412	333
Insert shape R 	0903MO	32
	1204MO	43

Positive angle/insert

	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
110308		222
160404		331
160408		332
160412		333
220404		431
220408		432
220412		433
220416		434
270608		542
Insert shape S 	270612	543
	270616	544
	090304	321
	090308	322
	090312	323
	120404	431
	120408	432
	120412	433
	120416	434
	150608	542
Insert shape V 	150612	543
	150616	544
	190412	633
	190424	636
	190612	643
	190616	644
	250724	856
	250732	858
	250924	866
	250932	868

	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
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
Insert shape D 	110304	221
	110308	222
	16T302	30
	16T304	31
	16T308	32
	16T312	33
	160400	330
	220408	432
	220412	433
	220416	434
Insert shape S 	270408	532
	270412	533
	330612	643
	330616	644
	060204	2(1.5)1
	09T302	3(2.5)0
	09T304	3(2.5)1
	09T308	3(2.5)2
	120404	431
	120408	432
Inserts shape V 	120412	433
	150404	531
	150408	532
	150412	533
	190408	632
	190412	633
	190416	634
	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	

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- 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

Turning inserts

CN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW	
ISO	r	a _p	f	P	M	K	N	S	H								
WG	CNMG120404-WG	0.4	0.25-3.00	0.05-0.25	○												
Wiper	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	CNMG120404-ADF	0.4	0.5-3.0	0.05-0.30	○	○											
Finishing	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	CNMG090304-DF	0.4	0.25-1.50	0.07-0.30	●	●											
Finishing	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	CNMG090304-EF	0.4	0.5-2.0	0.05-0.20					●						●	○	
Finishing	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	CNMG090304-SF	0.4	0.05-0.50	0.05-0.30											●		
Finishing	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

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



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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







- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

Turning inserts

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			
NF	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																○	○								○		
Finishing																															
PM	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



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

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

Turning inserts

CN** negative insert				HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW																	
ISO	r	a _p	f	P	M	K	N	S	H	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	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	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	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

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A

Turning

- 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

Turning inserts

CN** negative insert				HC ¹ (CVD)										HC ¹ (PVD)		HT	HC ²	HW												
	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	ISO	r	a _p	f																										
	ZM	CNMG120404-ZM	0.4	0.5-3.0	0.05-0.30																									
		CNMG120408-ZM	0.8	0.5-4.0	0.1-0.5																									
	Medium Cut																													

● Ex stock ○ On demand

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

B

Milling

C

Drilling

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

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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				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	
NM 	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 	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																									
DR 	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

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Turning

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

Turning inserts

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

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	
 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

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

C

Drilling

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

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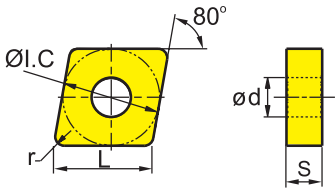



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CN**	L	I.C	S	d
12 04	12.9	12.7	4.76	5.16
16 06	16.1	15.875	6.35	6.35
19 06	19.3	19.05	6.35	7.94
25 07	25.79	25.4	7.94	9.12
25 09	25.79	25.4	9.525	9.12

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

Turning inserts

CN** negative insert				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	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		○					●										●							
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°
					
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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																
					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



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																
				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 	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																												
Medium Cut 	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																												
Roughing 	CNMM190624-HDR	2.4	2.0-12.5	0.8-1.4																												
	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

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

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- Ideal machining conditions
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- ⊗ 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

Turning inserts

CN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW																
	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201		
	ISO	r	a _p	f																												
		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												○	●		●													
	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

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

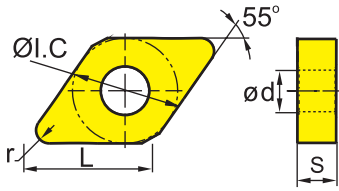
Tool holder					
DCLNR/L	PCBNR/L	PCLNR/L	MCBNR/L	MCLNR/L	S***-PCLNR/L
Kr: 95°	Kr: 75°	Kr: 95°	Kr: 75°	Kr: 95°	Kr: 95°
A197	A204	A205	A218	A219	A284



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									
ISO	r	a _p	f	P	M	K	N	S	H																			
				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 	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 	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	● ● ●																					
SF 	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

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°
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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

DN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)		HT		HC ²		HW							
ISO	r	a _p	f	P	M	K	N	S	H																
				DM	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	●	●	○														
Medium Cut	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	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		●	○																		
Medium Cut	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

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

Tool holder						
DDJNR/L	PDJNR/L	PDNRR/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°
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- ⊗ Normal machining conditions
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DNMG	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16

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	
ZM	DNMG150612-ZM	1.2	1.0-5.5	0.15-0.60	○	●																						
Medium Cut																												

● 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°
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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

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		
 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

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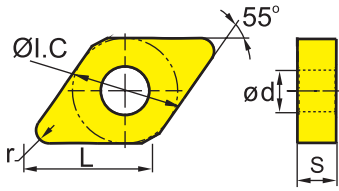
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DNMG	L	I.C	S	d
11 04	11.6	9.525	4.76	3.81
15 04	15.5	12.7	4.76	5.16
15 06	15.5	12.7	6.35	5.16

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

Turning inserts



DN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW												
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°
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DNMG	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16

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	
DR 	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	○	●	○	○						●	○														
Roughing																													
SNR 	DNMG150608-SNR	0.8	0.2-6.0	0.1-0.5															●										●
	DNMG150612-SNR	1.2	0.2-6.0	0.2-0.6																○									
Roughing																													

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

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

B

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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°
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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

Turning inserts

DN** negative insert					HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW											
ISO	r	a _p	f	Grade	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	DNMA150404	0.4	0.2-6.0	0.1-0.3	●	●	●	●	●	●									●	●	●	●	●
	DNMA150408	0.8	0.2-6.0	0.1-0.6										○					●	●	●	●	●	●				
Medium Cut	DNMA150604	0.4	0.2-6.0	0.1-0.3									●	●		○												
	DNMA150608	0.8	0.2-6.0	0.1-0.6									●	●		●												
ER	DNMA150612	1.2	0.2-6.0	0.15-0.70									●	●		●	○											
	DNMA150616	1.6	0.2-6.0	0.2-0.8									●	○		○												
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°
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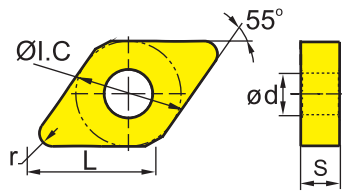
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DNMM	L	I.C	S	d
15 06	15.5	12.7	6.35	5.16

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	
DR 	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		●	●																					
Roughing																												
ER 	DNMM150608-ER	0.8	0.7-6.0	0.20-0.55						●																		
	DNMM150612-ER	1.2	1-6	0.25-0.70							●																	
Roughing																												
HDR 	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	○	○		○																				
Roughing																												
LR 	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	●	●					○																	
Roughing																												

● 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

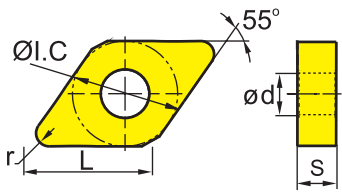


Turning inserts

- 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				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW	
ISO	r	a _p	f	P	M	K	N	S	H								
				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

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

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Grade selection > A38

Technical info > A445

Cutting data > A324



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- 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

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				
ADF 	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	○																		●											
Finishing																																		
DF 	SNMG120408-DF	0.8	0.3-1.5	0.1-0.4	●	●	○																											
	SNMG120412-DF	1.2	0.35-1.50	0.15-0.50	●	●	○																											
Finishing																																		
SF 	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																														
Finishing																																		

● 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



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

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

Turning inserts

SN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)			HT	HC ²	HW																					
ISO	r	a _p	f	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201					
								●	●	●	●	●	●							●	●								●	●	●	●	●	●				
	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

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				



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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								
ISO	r	a _p	f	P	M	K	N	S	H															
				YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251
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

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				

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

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				

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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

Turning inserts

SN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW																		
	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201				
	ISO	r	a _p	f																														
		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											●																			
	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

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				



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

- 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	
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 Kr: 75°	PSBNR/L Kr: 75°	PSDNN Kr: 45°	PSKNR/L Kr: 75°	PSSNR/L Kr: 45°	MSBNR/L Kr: 75°	MSRNR/L Kr: 75°
A199	A208	A210	A211	A212	A222	A223
MSKNR/L Kr: 75°	MSDNN Kr: 45°	S***-PSKNR/L Kr: 75°				
A224	A225	A289				



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- ⊗ 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

Turning inserts

SN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW																			
ISO	r	a _p	f	P	M	K	N	S	H	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	0.8	2.0-7.6	0.20-0.55	●	●	●	●	●	●																						
	1.2	2.0-7.6	0.3-0.6																																
	0.8	2.0-9.6	0.2-0.5																																
	1.2	2.0-9.6	0.3-0.6																																
Roughing	1.2	2.0-11.4	0.3-0.6																																
	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				



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				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW																			
ISO	r	a _p	f	P	M	K	N	S	H	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	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					

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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

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions





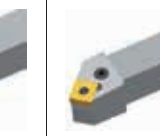
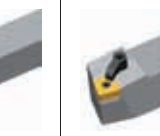
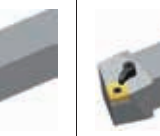



Turning inserts

SN** negative insert					HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW																	
ISO	r	a _p	f	P	M	K	N	S	H	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	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

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
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

- 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			
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: 45°	Kr: 75°				
A224	A225	A289				

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Turning

- 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

Turning inserts

SN** negative insert				HC ¹ (CVD)										HC ¹ (PVD)		HT		HC ²		HW												
	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201		
	ISO	r	a _p	f																												
	 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

B

Milling

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

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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				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 	SNMG090308	0.8	0.3-5.0	0.1-0.6			●																					
	SNMG120408	0.8	0.5-6.0	0.1-0.6	●	●	●																					
Medium Cut 	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						●																		
Basic 	SNMG250924	2.4	1-9	0.1-1.1					●																			
	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

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				



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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

- 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	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201		
	ISO	r	a _p	f																												
		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													○	●														
	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				



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										
				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

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



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

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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

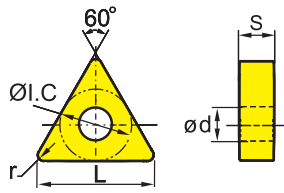
Technical info > A445

Cutting data > A324

- 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

Turning inserts



TN** negative 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	
WG	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	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	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

YBG152F, 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



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- 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










Turning inserts

TN** negative insert					HC ¹ (CVD)								HC ¹ (PVD)		HT		HC ²		HW																
ISO	r	a _p	f	P	M	K	N	S	H	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	TNMG110304-SF	0.4	0.05-0.50	0.05-0.30	●	●	●	●	●																
Finishing	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

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					



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				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW													
ISO	r	a _p	f	P	M	K	N	S	H																				
				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
YBG152F, 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					

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- 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


Turning inserts

TN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW														
ISO	r	a _p	f	P	M	K	N	S	H																					
				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						
DTG NR/L	PTF NR/L	PTT NR/L	PTG NR/L	MTG NR/L	MTJ NR/L	MTJ NR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
						
A200	A213	A214	A215	A226	A227	A228

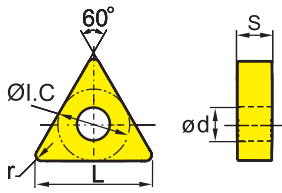
MTF NR/L	S***-PTF NR/L
Kr: 91°	Kr: 90°
	
A229	A290



- 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

Turning inserts



TN** negative 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	
ZM	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					

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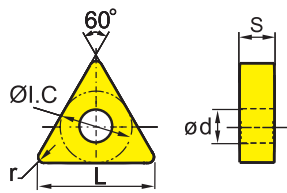
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Turning

- 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

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		
EG Medium Cut	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						●	●										●	●							
EM Medium Cut	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						●	●											●	○						
	TNMG220412-EM	1.2	0.5-6.6	0.1-0.6						○	●											●	○						
TC Medium Cut	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										●	●														
	TNMG220416-TC	1.6	1-6	0.2-0.5									●																

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

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

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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					



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				HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW																			
ISO	r	a _p	f	P	M	K	N	S	H	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	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					



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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

- 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	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	ISO	r	a _p	f																										
	 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

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					

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- 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

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	
HDR	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

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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°
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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	YBG320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	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		●	●	○																				
Basic	TNMG220404	0.4	0.2-6.0	0.05-0.20		○	○																					
	TNMG220408	0.8	0.2-6.0	0.1-0.3		○	●																					
Medium Cut	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

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



Tool holder						
DTG NR/L	PTF NR/L	PTT NR/L	PTG NR/L	MTG NR/L	MTJ NR/L	MTJ NR/L
Kr: 91°	Kr: 91°	Kr: 60°	Kr: 90°	Kr: 90°	Kr: 93°	Kr: 93°
A200	A213	A214	A215	A226	A227	A228
MTF NR/L	S***-PTF NR/L					
Kr: 91°	Kr: 90°					
A229	A290					



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

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions



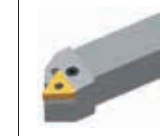
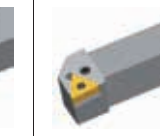
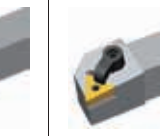
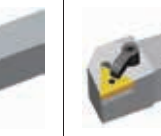
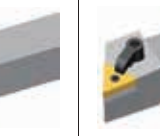


Turning inserts

TN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)			HT	HC ²	HW												
ISO	r	a _p	f	P	M	K	N	S	H																				
				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

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					



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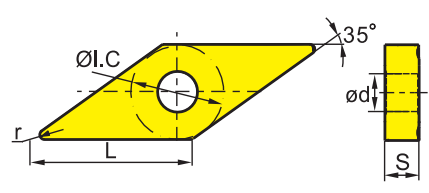
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- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

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

Turning inserts



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	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	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	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	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

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

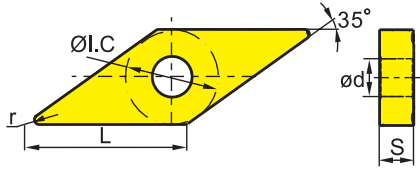
Tool holder			
DVVNN	DVJNR/L	MVVNN	MVJNR/L
Kr: 72°30'	Kr: 93°	Kr: 72°30'	Kr: 93°
A201	A202	A230	A231



- 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

Turning inserts



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

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



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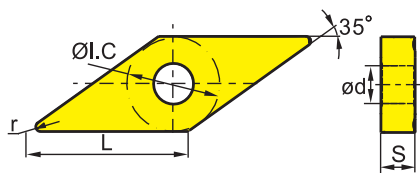
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VNMG	L	I.C	S	d
16 04	16.6	9.525	4.76	3.81

Turning inserts



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
Basic	VNMG160404	0.4	0.2-6.0	0.05-0.60	○																							
	VNMG160408	0.8	0.2-6.0	0.08-0.60	○																							
Medium Cut																												
DM	VNMG160408-DM	0.8	0.5-4.0	0.15-0.50	○	●	●	●		○																		
	VNMG160412-DM	1.2	0.8-4.0	0.18-0.60	●	●	●																					
Medium Cut																												
EM	VNMG160404-EM	0.4	0.2-3.0	0.05-0.30							●										●	○						
	VNMG160408-EM	0.8	0.5-4.0	0.10-0.45							●										●	○						
Medium Cut																												
NM	VNMG160412-NM	1.2	0.2-4.0	0.05-0.40																	●							
Medium Cut																												

● 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



- 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

Turning inserts

VN** negative insert				HC ¹ (CVD)							HC ¹ (PVD)			HT	HC ²	HW																							
ISO	r	a _p	f	P	M	K	N	S	H	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	●	●	●	●	●																										
Medium Cut	VNMG160408-TC	0.8	0.5-2.0	0.08-0.25															●	●																			
	VNMG160412-TC	1.2	0.5-3.0	0.08-0.30															●	●																			
ZM	VNMG160404-ZM	0.4	0.5-3.0	0.08-0.30	○																																		
Medium Cut	VNMG160408-ZM	0.8	0.5-3.0	0.1-0.4	○																																		

● Ex stock ○ On demand

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



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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

Turning inserts

WN** 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	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	●	●	●																						
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

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

Tool holder			
DWLNRL/L	PWLNRL/L	MWLNRL/L	S***-PWLNRL/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
A203	A217	A232	A291



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

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

Turning inserts

WN** negative insert				HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW																	
ISO	r	a _p	f	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201			
					WNMG080408-WG	0.8	0.5-5.0	0.15-0.70	●	●																										
	WNMG080412-WG	1.2	0.8-6.0	0.20-0.75	●	○																														
	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										○		●									○											
	WNEG080404-NF	0.4	0.2-3.0	0.05-0.30																					○	●										
	WNEG080408-NF	0.8	0.2-2.5	0.05-0.30																						○	●									
	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

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- ⊗ Normal machining conditions
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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

Turning inserts

WN** negative insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW																
	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201		
	ISO	r	a _p	f																												
	 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			
DWLNRL/L	PWLNRL/L	MWLNRL/L	S***-PWLNRL/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
A203	A217	A232	A291



- 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

Turning inserts

WN** negative insert				HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW								
ISO	r	a _p	f	P	M	K	N	S	H																		
				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			
DWLNLR/L	PWLNLR/L	MWLNLR/L	S***-PWLNLR/L
Kr: 95°	Kr: 95°	Kr: 95°	Kr: 95°
			
A203	A217	A232	A291

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Technical info > A445

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
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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

Turning inserts

WN** 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		
 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

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



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

Turning inserts

RN** negative insert			HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW									
ISO	a _p	f	P	M	K	N	S	H																			
			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	RNMG120400	0.5-7.0	0.1-1.8			●																					
Medium Cut																											

● Ex stock ○ On demand

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

Tool holder	
MRDNN	MRGNR/L
	
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KNUX	I.W	L	S
16 04	9.525	16.15	4.76

Turning inserts

KN** negative insert							HC ¹ (CVD)										HC ¹ (PVD)		HT		HC ²		HW								
 Example R type	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	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			●																						
Finishing	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

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

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

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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										
		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

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



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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

Turning inserts

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



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									
					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

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

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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

Turning inserts

CC** 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
SF 	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 	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 	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

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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



	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										
P	M	K	N	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

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

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

Turning inserts

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

● Ex stock ○ On demand

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



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														
ISO	r	a _p	f	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201	
				EF	0.2	0.06-1.70	0.03-0.11	●	●	⊗	⊗	⊗	⊗						○														
Finishing	0.4	0.1-1.7	0.05-0.17							●					●											●	○						
	0.2	0.08-2.00	0.04-0.15							●					●											●	○						
	0.4	0.11-2.00	0.06-0.23							●					●									●	○								
	0.8	0.15-2.00	0.08-0.30							●					●									○	●								
	0.4	0.14-2.40	0.07-0.27							●					●											●	○						
	0.8	0.2-3.0	0.1-0.3							●					●											●	○						
EM	0.4	0.2-2.4	0.06-0.17							●	●				●	●										●	○						
Medium Cut	0.8	0.4-2.4	0.08-0.23							●	●				●	●										●	○						
	0.4	0.25-3.00	0.08-0.23							●	●				●	●										●	○						
	0.8	0.5-3.0	0.1-0.3							●	●				●	●										●	○						
	0.4	0.3-3.6	0.09-0.27							●	●				●	●										●	○						
	0.8	0.6-3.6	0.12-0.36							●	●				●	●										●	○						
	1.2	0.72-3.60	0.14-0.43							○																●	○						

● 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

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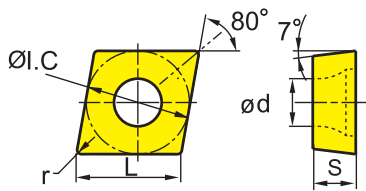

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- Ideal machining conditions
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CCMT	L	I.C	S	d
06 02	6.4	6.35	2.38	2.8
09 T3	9.7	9.525	3.97	4.4
12 04	12.9	12.7	4.76	5.56

Turning inserts

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

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



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

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

Turning inserts

CC** positive insert				HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW																	
ISO	r	a _p	f	P	M	K	N	S	H	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																																				
	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																																
Medium Cut	CCMW120408	0.8	0.5-5.0	0.08-0.50																																
TC																																				
	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																																
Medium Cut	CCMT120408-TC	0.8	1-4	0.1-0.4																																
HR																																				
	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																																
Roughing	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

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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

Turning inserts

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

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

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Turning inserts

- Ideal machining conditions
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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															
				P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201	
ISO	r	a _p	f																															
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

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

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

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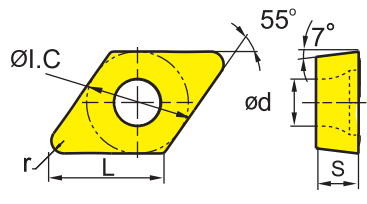
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Turning

- 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

Turning inserts



DC** 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	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	○																								
Finishing																																
SF	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																						●			
Finishing																																
	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

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

B

Milling

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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

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Technical Information

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

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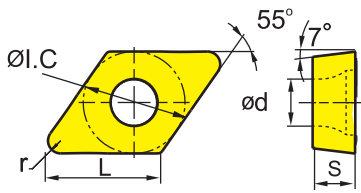


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DCGT	L	I.C	S	d
07 02	7.8	6.35	2.38	2.8
11 T3	11.6	9.525	3.97	4.4

DC** positive insert				HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW														
				P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
ISO	r	a _p	f																														
USF 	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																													
Finishing	DCGT11T302L-USF	0.2	0.2-2.0	0.05-0.18																													
	DCGT0702005R-USF	0.05	0.1-2.0	0.01-0.04																													
USF 	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																													
Finishing	DCGT11T302R-USF	0.2	0.2-2.0	0.05-0.18																													

● 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			

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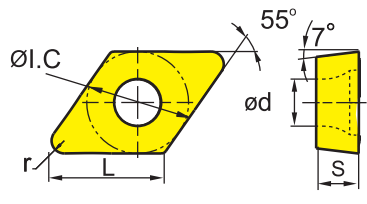
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Turning

- 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

Turning inserts



DC** positive insert					HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW															
					P	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗														
					M	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗														
					K	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗														
					N	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗														
					S	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗														
					H	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗														
					YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201				
ISO	r	a _p	f																													
EF 	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 	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		○	●	●	●	○			○	●									●	●	●		●					
EM 	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						●	●											●	○									
	Medium Cut																															

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

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

B

Milling

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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			



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				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	
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



General turning Positive inserts

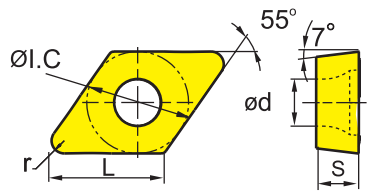
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Turning

- 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

Turning inserts



DC** 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 	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																									
Medium Cut																													
	HR 	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																										
Roughing	LC 	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																									
	Aluminium Machining	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

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

B

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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			



- 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

Turning inserts

DC** positive insert				HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW												
				P																											
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



General turning Positive inserts

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Technical Information

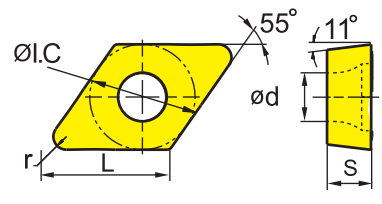
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- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

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

Turning inserts



DP** positive insert				HC ¹ (CVD)										HC ¹ (PVD)		HT	HC ²	HW																	
ISO	r	a _p	f	P	M	K	N	S	H	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	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																															
Finishing	DPGT11T308-SF	0.8	0.05-2.00	0.1-0.4																															
USF	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																															
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	DPMW11T304	0.4	0.5-4.0	0.1-0.3																															
	DPMW11T308	0.8	0.5-4.0	0.1-0.4																															
Medium Cut																																			

● Ex stock ○ On demand

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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



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

Turning inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

RC** positive insert				HC ¹ (CVD)											HC ¹ (PVD)				HT	HC ²		HW												
				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	RCGT1204MO	0.5-5.0	0.1-0.4			○																												
Medium Cut																																		
Basic	RCMT0803MO	0.5-3.0	0.1-0.4		●																													
Medium Cut	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		●	●	●	●		●	●	○	●																					
Medium Cut	RCMT2006MO	1.2-8.0	0.1-1.0		●	●	●																											
Medium Cut	RCMT2507MO	1.4-10.0	0.1-1.2		○	●	●																											
LH	RCGX0803MO-LH	1-4	0.2-0.5																							●								
Aluminium Machining	RCGX1204MO-LH	1.2-5.0	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	
SRDCN	SRGCR/L
A254	A255

System code > A40

Grade selection > A38

Technical info > A445

Cutting data > A324



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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

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

Turning inserts

RC** positive insert				HC ¹ (CVD)										HC ¹ (PVD)		HT	HC ²	HW										
				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	RCMX0803MO	0.5-4.0	0.1-0.5		●	●																						
	RCMX1003MO	0.5-5.0	0.1-0.6			●	●		●																			
Light Roughing	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		○	●			●																			○
Basic	RCMX3209MO	2-13	0.25-1.40		○	●	●		○																			
Light Roughing	RCMX2507MO-1	2-9	0.1-0.4		○	○																						
	RCMX3209MO-A	1-8	0.2-0.8		○	○	○																					
Light Roughing	RCMX3209MO-PV	3-12	0.1-0.4		○	●	●																					

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

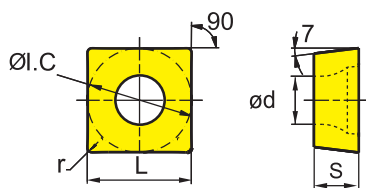
HC¹ Coated carbide
 HT Uncoated cermet
 HC² Coated cermet
 HW Uncoated carbide



- 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

Turning inserts



SC** 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	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

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



A

Turning

- 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

Turning inserts

SC** 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
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

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

B

Milling

C

Drilling

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

D

Technical Information




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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					HC ¹ (CVD)								HC ¹ (PVD)				HT	HC ²	HW
					P	M	K	N	S	H									
Basic 	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															
Medium Cut																			
HR 	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	●	●	●	●		○	●	●							
LC 	SCMT120412-HR	1.2	1.44-4.80	0.17-0.50	●	●	●			○	●	○							
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



General turning Positive inserts

A

Turning

- 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

Turning inserts

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

B

Milling

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						
 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

C

Drilling

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

D

Technical Information

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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

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

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- 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

Turning inserts

TB** positive insert				HC ¹ (CVD)										HC ¹ (PVD)		HT	HC ²	HW												
	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	ISO	r	a _p	f																										
	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



Turning inserts

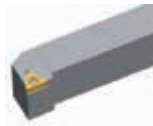
- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

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																	
ISO	r	a _p	f	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201			
				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																																	
TCGT110301L-USF	0.1	0.2-2.0	0.03-0.08																																	
TCGT110302L-USF	0.2	0.2-2.0	0.05-0.18																																	
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

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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

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- 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

Turning inserts

TC** positive insert					HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW																		
ISO	r	a _p	f	P	M	K	N	S	H	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	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	○																				●										
Finishing																																			
HF	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

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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



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																		
ISO	r	a _p	f	P	M	K	N	S	H	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	TCMT090202-EF	0.2	0.06-1.70	0.03-0.13	●	●	●	●	●																								
Finishing	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												●											●										
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

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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

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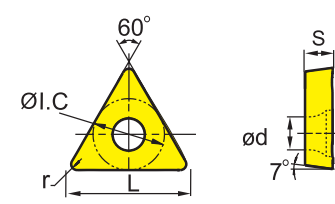
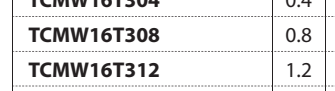
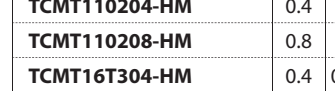
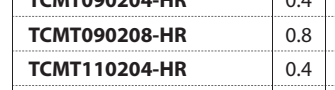
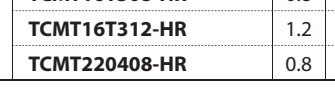

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TC**	L	I.C	S	d
09 02	9.63	5.56	2.38	2.5
11 02	11	6.35	2.38	2.8
16 T3	16.5	9.525	3.97	4.4
22 04	22	12.7	4.76	5.5

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

Turning inserts

TC** positive insert					HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW		
					P								M		K	N	S	H	
Flat		TCMW110204	0.4	0.1-3.5	0.05-0.40	●	●	●	●	●									
		TCMW16T304	0.4	0.5-5.0	0.05-0.60														
Medium Cut		TCMW16T308	0.8	0.5-5.0	0.05-0.60														
		TCMW16T312	1.2	0.5-4.0	0.05-0.40							○							
HM		TCMT090204-HM	0.4	0.19-2.25	0.06-0.17	●	●	●				●	●					○	
		TCMT090208-HM	0.8	0.38-2.25	0.08-0.23	○	●	●					○						
Medium Cut		TCMT110204-HM	0.4	0.2-2.7	0.07-0.20	●	●	●				●	●		●				
		TCMT110208-HM	0.8	0.5-2.7	0.1-0.3	●	●	●					●	●					
HR		TCMT16T304-HM	0.4	0.25-3.00	0.08-0.23	○	●	●	●			●	●		●				
		TCMT16T308-HM	0.8	0.5-3.0	0.1-0.3	○	●	●	●			●	●		●				
Roughing		TCMT16T312-HM	1.2	0.6-3.0	0.12-0.36	○	●	●	○										
		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

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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



- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

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

Turning inserts

TC** 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		
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

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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

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

Turning inserts

TC** positive insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW														
	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	ISO	r	a _p	f																										
	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

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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



- 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

Turning inserts

TP** 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		
 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

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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



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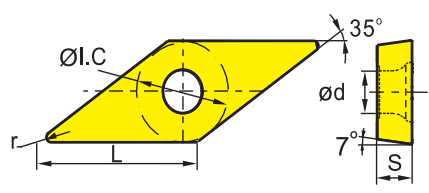
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VCGT	L	I.C	S	d
11 03	11	6.35	3.18	2.8
16 04	16.5	9.525	4.76	4.4

Turning inserts



VC** 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
HF	VCGT110304-HF	0.4	0.2-2.0	0.05-0.30			●															●						
Finishing																												
NF	VCGT160408-NF	0.8	0.2-2.0	0.1-0.4															○	●								
Finishing																												
SF	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																						●		
Finishing																												

● 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



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

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

Turning inserts

VC** 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	
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



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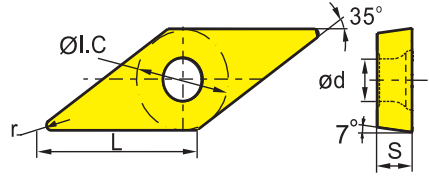
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VCGX	L	I.C	S	d
11 03	11	6.35	3.18	2.8
16 04	16.6	9.525	4.76	4.4
22 05	22	12.7	5.56	5.5

Turning/Milling inserts

VC** turning/milling insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW																							
ISO	r	a _p	f	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201						
				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

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



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
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- ⊗ Unfavourable machining conditions

Turning/Milling inserts

VC** turning/milling 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
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

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						



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VCMT	L	I.C	S	d
16 04	16	9.525	4.76	4.4

Turning inserts

VC** 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	VCMT160404-EF	0.4	0.5-2.5	0.05-0.20																	●							
Medium Cut																												
EM	VCMT160404-EM	0.4	0.5-2.5	0.05-0.35						●											●							
	VCMT160408-EM	0.8	0.5-2.5	0.10-0.45						●											●							
Medium Cut																												

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

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

Tool holder		
SVVCN	SVJCR/L	E***-SVUCR/L
Kr: 72°30'	Kr: 93°	Kr: 93°
		
A243	A244	A322



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		
				P	M	K	N	S	H											
				●	●	⊗	⊗	⊗	⊗											
					●						●	●	●	●	●	●				
																	●			
											●	●					●			
													●	●			●			
																	●			
																	●			
																	●			
																	○			
																	○			
																	○			
																	○			
																	●			
																	●			

● Ex stock ○ On demand

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

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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

Turning inserts

VB** 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 	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 	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 	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 	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

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

VBGT	L	I.C	S	d
11 03	11	6.35	3.18	2.8

Turning inserts

VB** positive insert				HC ¹ (CVD)										HC ¹ (PVD)			HT	HC ²	HW											
				P																										
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	VBGT110302-SF	0.2	0.05-2.00	0.05-0.15																										
	VBGT110304-SF	0.4	0.05-2.00	0.05-0.20																										
Finishing																														

● Ex stock ○ On demand

HC¹ Coated carbide
 HT Uncoated cermet
 HC² 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



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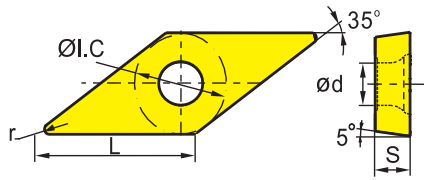
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VB**	L	I.C	S	d
11 03	11	6.35	3.18	2.8
16 04	16.5	9.525	4.76	4.4

Turning inserts



VB** 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	
NGF	VBET160408-NGF	0.8	0.2-3.0	0.08-0.30															○	●									
	VBET160412-NGF	1.2	0.2-3.0	0.1-0.4															○	●									
Finishing																													
EM	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	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	○	●	●	●		○																			
Medium Cut																													
HR	VBGT160408-HR	0.8	1-4	0.15-0.40																									
Medium Cut																													

● 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



- Ideal machining conditions
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VB**	L	I.C	S	d
16 04	16.5	9.525	4.76	4.4

Turning inserts

VB** 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		
HR Roughing	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	○	●	○	○				○																	
SNR Roughing	VBMT160408-SNR	0.8	0.5-4.0	0.1-0.3															●									○	
	VBMT160412-SNR	1.2	0.5-4.0	0.3-0.6																○									○
Flat 	VBMT160404	0.4	0.2-5.0	0.05-0.50																									
	VBMT160408	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°
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- ⊗ 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

Turning inserts

WC** drilling insert				HC ¹ (CVD)								HC ¹ (PVD)		HT	HC ²	HW														
	P	M	K	N	S	H	YB6315	YBC152	YBC252	YBC251	YBC352	YBC351	YBM153	YBM253	YBD052	YBD102	YB7315	YBD152	YBD152C	YBG101	YBG102	YBG105	YB9320	YBG205	YBG202	YNG151	YNT251	YNG151C	YD101	YD201
	ISO	r	a _p	f																										
	 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

A

Turning

B

Milling

C















Drilling

D










Technical Information

E


Index

Insert shape		
A 	B 	C 
D 	E 	H 
K 	L 	M 
P 	S 	T 
V 	W 	Z Special







1

Clearance angle	
A 	B 
C 	D 
E 	F 
G 	N 
P 	O Special







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	
A 	B 
B 	N 
Q 	W 
X Special	

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	

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.

A

Turning

- 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

Turning CBN inserts

CN** negative insert				BL (CBN)			BH (CBN)																			
				P																						
				K																						
				N																						
				H				○	⊗	⊗																

B

Milling

ISO	r	f	a _p	YCB111			YCB211	
				YCB121	YCB131	YCB131		
	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

C

Drilling

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

D

Technical Information

E

Index



- 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

Turning CBN inserts

DN** negative insert				BL (CBN)			BH (CBN)																			
				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



A

Turning

- 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

Turning CBN inserts

SN** negative insert					BL (CBN)			BH (CBN)																			
					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

B

Milling

C

Drilling

D

Technical Information

E

Index

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

- 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

Turning CBN inserts

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 Kr: 91°	PTFNR/L Kr: 91°	PTTNR/L Kr: 60°	PTGNR/L Kr: 90°	MTGNR/L Kr: 90°	MTJNR/L Kr: 93°	MTJNR/L-Z Kr: 93°
A200	A213	A214	A215	A226	A227	A228
MTFNR/L Kr: 91°	PTFNR/L Kr: 90°					
A229	A290					

System code > A144

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

B

Milling

C




Drilling

D

Technical Information

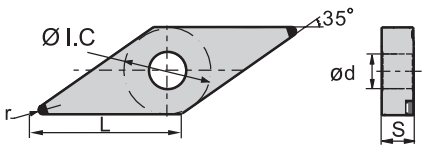

E

Index

-  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

Turning CBN inserts

VN** negative insert				BL (CBN)			BH (CBN)																			
				P																						
				K																						
				N																						
				H																						
ISO				r	f	a _p	YCB111	YCB121	YCB131	YCB211																
																										
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 Kr: 72°30'	DVJNR/L Kr: 93°	MVVNN Kr: 72°30'	MVJNR/L Kr: 93°
			
A201	A202	A230	A231

System code > A144

Grade selection > A38

Technical info > A445

Cutting data > A324



- 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

Turning CBN inserts

WN** negative insert				BL (CBN)			BH (CBN)																				
				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 Kr: 95°	PWLNR/L Kr: 95°	MWLNR/L Kr: 95°	PWLNR/L Kr: 95°
A203	A217	A232	A291

System code > A144

Grade selection > A38

Technical info > A445

Cutting data > A324



- 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

Turning CBN inserts

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			

System code > A144

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

- 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

Turning CBN inserts

TC** positive insert					BL (CBN)			BH (CBN)																
					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

B

Milling

C

Drilling

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

D

Technical Information

E

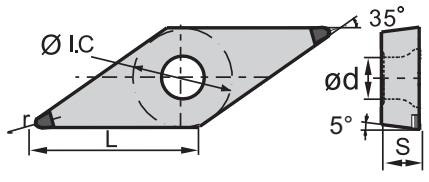

Index



- 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 CBN inserts

VB** positive insert				BL (CBN)			BH (CBN)																			
				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

A

Turning

- 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

Turning CBN inserts

VC** positive insert				BL (CBN)			BH (CBN)															
	P																					
	K																					
	N																					
	H	○	⊗	⊗																		

B

Milling

ISO	r	f	a _p	BL (CBN)			BH (CBN)															
				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

C

Drilling

Tool holder			
SVVCN	SVJCR/L	SVQCR/L	SVUCR/L
Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°
A243	A244	A302	A322

D

Technical Information

E

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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)													
				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

- A**
- Turning
- B**
- Milling
- C**
- Drilling
- D**
- Technical Information
- E**
- Index

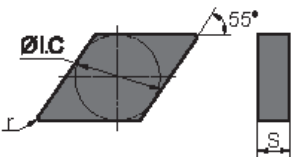



A

Turning

-  Ideal machining conditions
-  Normal machining conditions
-  Unfavourable machining conditions






DNGN	L	I.C	S
11 04	15.5	9.525	4.76

Turning CBN inserts

DN** negative insert				BL (CBN)		BH (CBN)																	
	P																						
	K																						
	N																						
	H																						

B

Milling

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

C

Drilling




D

Technical Information

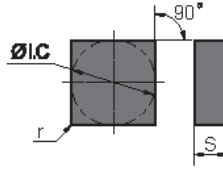
E

Index

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

-  Ideal machining conditions
-  Normal machining conditions
-  Unfavourable machining conditions

Turning CBN inserts




SN** negative insert				BL (CBN)		BH (CBN)															
				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

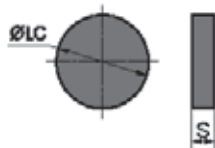

BL CBN with a low CBN content
BH CBN with a high CBN content

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

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)																		
	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

A Turning

B Milling

C Drilling

D Technical Information

E Index



A

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

- 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

Turning PKD inserts

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

C

Drilling

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

D

Technical Information

SCLCR/L
Kr: 95°
A313



Turning PKD 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	5.56

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



A

Turning

- 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

Turning PKD inserts

DC** positive insert		DP									
	P										
	K										
	N										
	H										

B

Milling

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

C

Drilling

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

D

Technical Information

E

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System code > A144

Grade selection > A38

Technical info > A445

Cutting data > A324

- 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

Turning PKD inserts

DC** positive insert				DP																		
	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

System code > A144

Grade selection > A38

Technical info > A445

Cutting data > A324



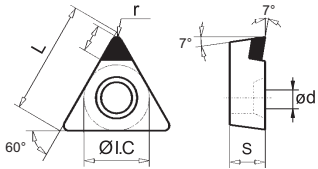
A

Turning

- 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

Turning PKD inserts

TC** positive insert		DP									
	P										
	K										
	N	○									
	H										

B

Milling

ISO	r	f	a _p	YCD421	DP											
	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

C

Drilling

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

D

Technical Information

E

Index



- 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

Turning PKD inserts

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



A

Turning

- 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

Turning PKD inserts

VB** positive insert		DP												
	P													
	K													
	N													
	H													

B

Milling

ISO	r	f	a _p	YCD421	DP												
	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

C

Drilling

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

D

Technical Information

E

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- 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																					
				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

System code > A144

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

- 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

Turning PKD inserts

VC** positive insert		DP												
	P													
	K													
	N													
	H													

B

Milling

ISO	r	f	a _p	YCD421	DP														
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

C

Drilling

Tool holder			
SVVCN	SVJCR/L	SVQCR/L	SVUCR/L
Kr: 72°30'	Kr: 93°	Kr: 107°30'	Kr: 93°
A243	A244	A302	A322

D

Technical Information

E

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Trouble shooting – PCBN & PCD

Type of wear	Countermeasure	
	Geometry	Cutting condition
Flank wear	<ul style="list-style-type: none"> – Sharper cutting edge for reduced cutting force – Smaller negative chamfer – Use positive inserts 	<ul style="list-style-type: none"> – Reduce cutting speed – Increase feed rate to reduce operation time
Notch wear	<ul style="list-style-type: none"> – Bigger radius 	<ul style="list-style-type: none"> – Use "method of altering feed rate"
Crater wear/breakage due to crater wear	<ul style="list-style-type: none"> – Sharper cutting edge for reduced cutting force 	<ul style="list-style-type: none"> – 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	<ul style="list-style-type: none"> – Bigger negative chamfer angle and/or honed chamfer 	<ul style="list-style-type: none"> – Increase feed rate to reduce number of hits
Flaking	<ul style="list-style-type: none"> – Sharper cutting edge to reduce cutting force – Smaller negative chamfer – Use positive inserts 	<ul style="list-style-type: none"> – Increase feed rate to reduce operation time
Thermal crack/breakage	<ul style="list-style-type: none"> – Sharper cutting edge for reduced cutting force – Smaller negative chamfer – Use positive inserts 	<ul style="list-style-type: none"> – Reduce cutting speed, feed rate and depth of cut – Dry machining
Chipping	<ul style="list-style-type: none"> – Bigger negative chamfer 	<ul style="list-style-type: none"> – 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.

A

Drehen

B

Fräsen

C

Bohren

D

Technische Information

E

Index

Notes

A series of horizontal dotted lines for taking notes.

A

Drehen

B

Fräsen

C

Bohren

D

Technische
Information

E















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A










T N G A 12 04 08 T 020 20

1 2 3 4 5 6 7 8 9 10

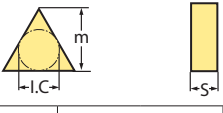
Turning

Insert shape		
A 	B 	C 
D 	E 	H 
K 	L 	M 
P 	S 	T 
V 	W 	Z Special

1

Clearance angle	
A 	B 
C 	D 
E 	F 
G 	N 
P 	O Special







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







C

Fastening features (metric)

Insert shape	
A 	B 
B 	N 
Q 	W 
X Special	

4

Cutting edge length l [mm]

I.C [mm]	Insert shape					
						
	C	D	S	T	V	W
3.97						
5.0						
5.56						
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

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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°

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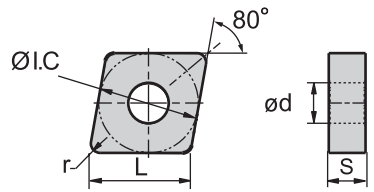

E

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- 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

Turning ceramic inserts

CN** negative insert				CM	CN															
	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

D

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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																				
				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



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General turning Ceramic inserts

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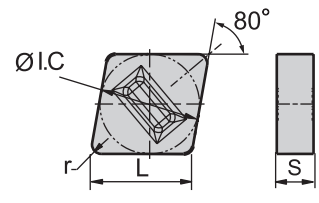
E

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- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

CNGX	L	I.C	S
12 07	12.9	12.7	7.94

Turning ceramic inserts

CN** negative insert				CM	CN																		
	P	●																					
	K	●	●	●																			
	N	●																					
	H	●																					

ISO	r	f	a _p	CA1000	CN1000 CN2000																		
CNGX120712T02020	1.2	0.2-0.6	1-4	○																			
CNGX120716T02020	1.6	0.2-0.6	0.5-2.0	○																			



Medium Cut

● Ex stock ○ On demand

CM Mixed ceramic
CN Si3N4 Ceramic

Tool holder

JCLNR/L

Kr: 95°



A266



- 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

Turning ceramic inserts

DN** negative insert				CM	CN														
				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
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General turning Ceramic inserts

A

Turning

- 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

Turning ceramic inserts

DN** negative insert				CM	CN																
	P	○																			
	K	●	⊛																		
	N																				
	H																				

B

Milling

 Medium Cut	ISO	r	f	a _p	CA1000	CN1000	CN2000															
	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

C

Drilling

Tool holder
CDJNR/L
Kr: 93°
A260

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System code > A174

Grade selection > A38

Technical info > A445

Cutting data > A324

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

DNGX	L	I.C	S
15 07	15.5	12.7	7.94

Turning ceramic inserts

DN** negative insert					CM	CN																					
					P	●																					
					K	●	●																				
					N																						
					H																						
ISO			r	f	a _p	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

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- 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

Turning ceramic inserts

SN** negative insert					CM	CN																			
					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

C

Drilling

Tool holder			
MSBNR/L	MSRNR/L	MSKNR/L	MSDNN
Kr: 75°	Kr: 75°	Kr: 75°	Kr: 45°
A222	A223	A224	A225

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- 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																
	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

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A

Turning

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

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

Turning ceramic inserts

SN** negative insert				CM		CN																	
				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

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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

- 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

Turning ceramic inserts

TN** negative insert				CM	CN															
	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 Kr: 90°	MTJNR/L Kr: 93°	MTJNR/L-Z Kr: 93°	MTFNR/L Kr: 91°
A226	A227	A228	A229



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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

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

Turning ceramic inserts

TN** negative insert					CM	CN																			
					P	●																			
					K	●	●	●																	
					N	●																			
					H	●																			
ISO	r	f	a _p	CA1000	CN1000	CN2000																			
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

- Ideal machining conditions
- ⊗ Normal machining conditions
- ⊗ Unfavourable machining conditions

Turning ceramic inserts

RN** negative insert			CM	CN																
	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

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- 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

Turning ceramic inserts

WN** negative insert					CM	CN																		
					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


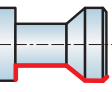
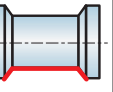






















Grade selection > A38


Technical info > A445

Cutting data > A324



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
DWLR/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

A

Turning

B

Milling

C

Drilling


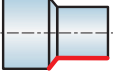

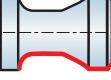
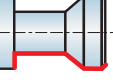













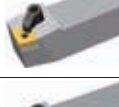



























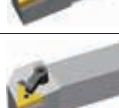
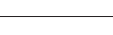








D

Technical Information

E


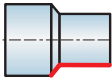
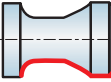
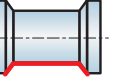

























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External turning tool holders

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
MWLNRL 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

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External turning tool holders

Tool holder	Application					Workpiece		Page	
	External machining	Facing	Profiling	Profiling	Profiling	Stable	Unstable		
      									
S	SVJCR/L 93° 	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A244
	SSBCR/L 75° 	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		A245
	SSDCN 45° 				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		A246
	SSKCR/L 75° 		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		A247
	SSSCR/L 45° 	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		A248
	STACR/L 90° 	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A249
	STFCL/L 91° 		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		A250
	STGCR/L 91° 	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A251
	STTCR/L 60° 	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		A252
	SWACR/L 90° 	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A253
	SRDCN - 					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		A254
	SRGCR/L - 			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		A255
C	CKJNR/L 93° 	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		A256
	CKNNR/L 63° 					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		A257

 Recommended

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P C L N L 25 25 M 12

1 2 3 4 5 6 7 8 9

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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				
A	B	C	D	E
F	G	H	J	K
L	M	N	O	P
Q	R	S	T	U
V	W	X		

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				

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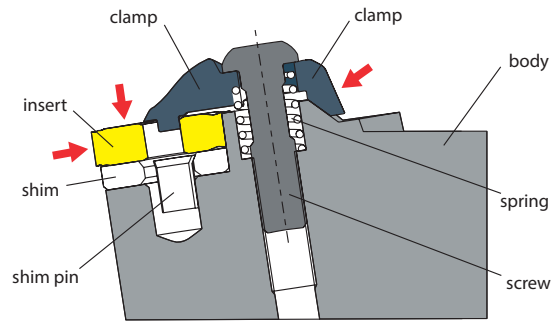
E

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Double clamping tool holder

D-Type clamp tool holder

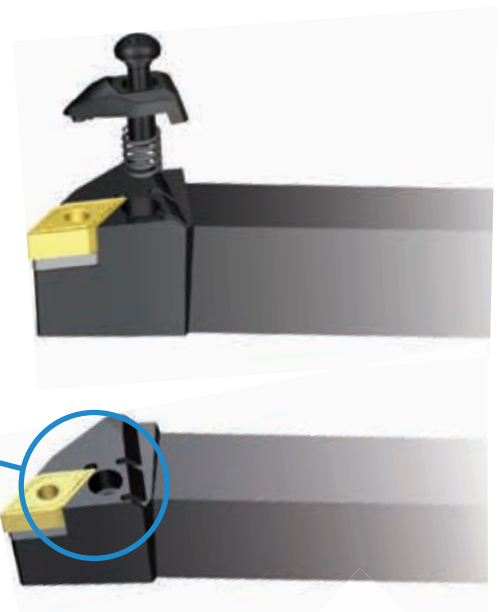
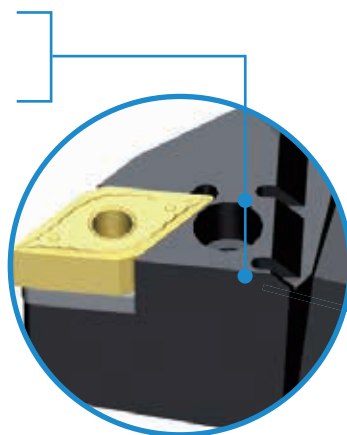
Double clamping system in one operation. The special designed clamping finger enables a stable holding of the inserts, with high accuracy and clamping force for better tool life and higher machining accuracy.



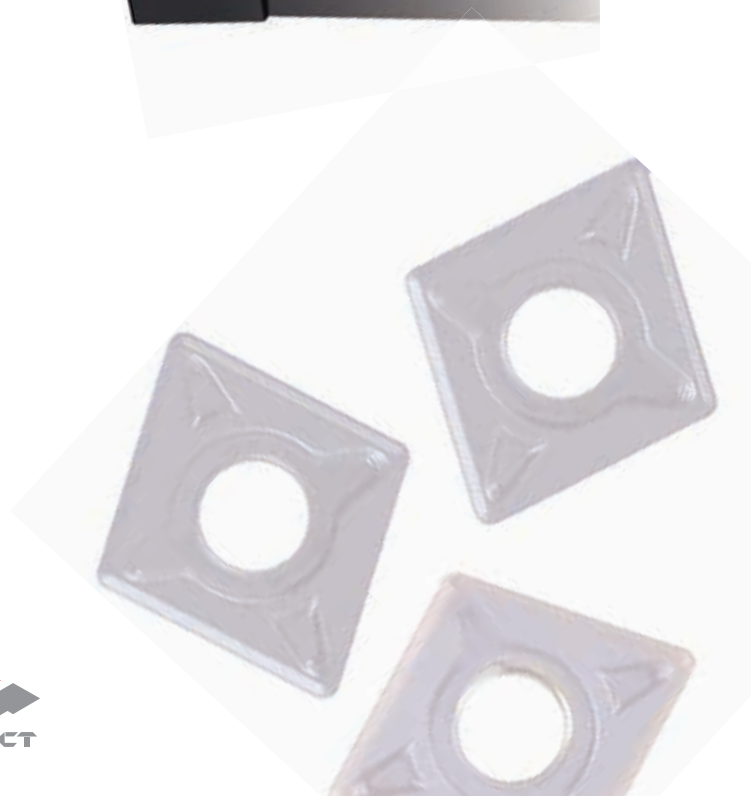
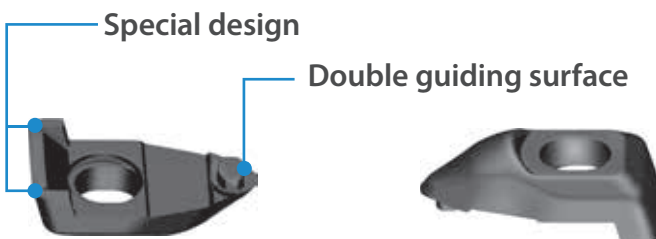
Best indexing accuracy, high clamping force.

Stable tool life by secure clamping.

Good anti-corrosive and wear-resistance.

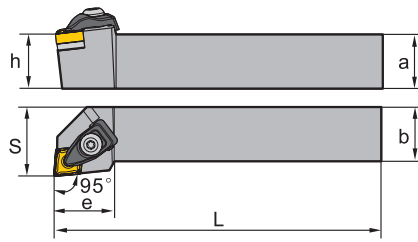


Special clamp nose design for more stability and high clamping accuracy.



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 h	CN**0903** 16-25	CN**1204** 20-32
	Clamp	C1RA	C2RA
	Screw (Clamp)	CM5x22C	CM6x25C
	Screw (shim)	SM5x8.65XA1	SM6x10XA1
	Shim	C09BM	C12BM
	Spring	SPR6	SPR4
	Wrench (clamp)	WH30L	WH40L
	Wrench (shim)	WH30L	WH40L

Insert					
Finishing A43	Wiper A43	Medium Cut A44	Roughing A51	Cast Iron A51	PCBN/PCD A146

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324



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Turning

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Milling

C

Drilling

D

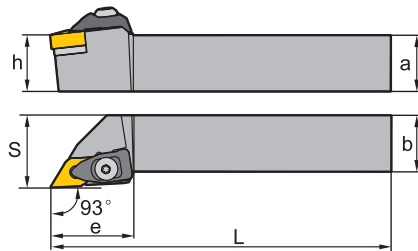
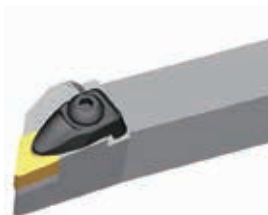
Technical Information

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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)	SM5x8.65XA1	SM6x10XA1
	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

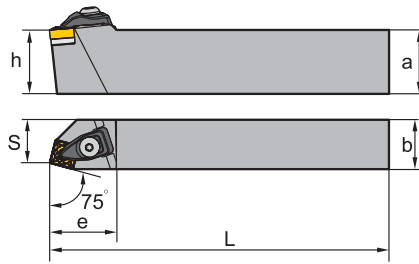
Grade selection > A38


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 h	SN**0903** 16	SN**1204** 20-32	SN**1506** 32
 Clamp		C1RA	C2RA	C3RA
 Screw (Clamp)		CM5x22C	CM6x25C	CM6x25C
 Screw (shim)		SM5x8.65XA1	SM6x10XA1	SM6x10XA2
 Shim		S09BM	S12BM	S15BM
 Spring		SPR6	SPR4	SPR4
 Wrench (clamp)		WH30L	WH40L	WH40L
 Wrench (shim)		WH30L	WH40L	WH40L

Insert

				
Finishing A62	Medium Cut A64	Roughing A67	Cast Iron A73	PCBN/PCD A148

System code > A194

Grade selection > A38

Technical info > A445

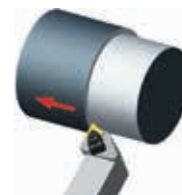
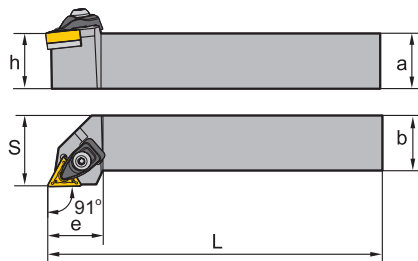
Cutting data > A324



A

TN** holder (external) **D-Clamping**

DTGNR/L Kr: 91°



Turning

B

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

Milling

C

Spare parts

	Insert	TN**1604**
	h	16-25
	Clamp	C1RA
	Screw (Clamp)	CM5x22C
	Screw (shim)	SM5x8.65XA1
	Shim	T16BM
	Spring	SPR6
	Wrench (clamp)	WH30L
	Wrench (shim)	WH30L

Drilling

D

Insert

Finishing	Wiper	Medium Cut	Roughing	Cast Iron	PCBN/PCD
A78	A77	A80	A83	A86	A149

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System code > A194

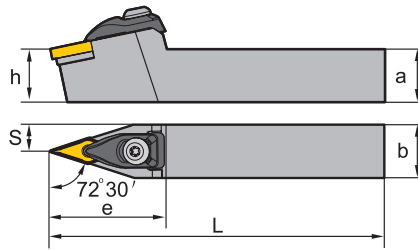
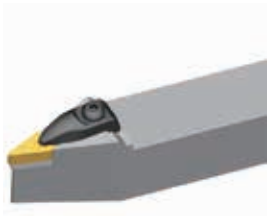
Grade selection > A38

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

System code > A194

Grade selection > A38

Technical info > A445

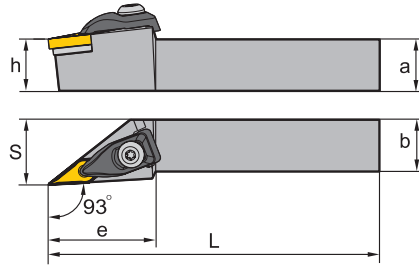
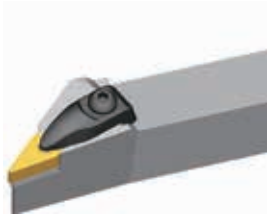
Cutting data > A324



A

VN** holder (external) D-Clamping

DVJNR/L Kr: 93°



Turning

B

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**

Milling

● Ex stock ○ On demand

* With internal cooling

C

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

Drilling

D

Insert			
Finishing	Medium Cut	Cast Iron	PCBN/PCD
A89	A90	A90	A150

Technical Information

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System code > A194

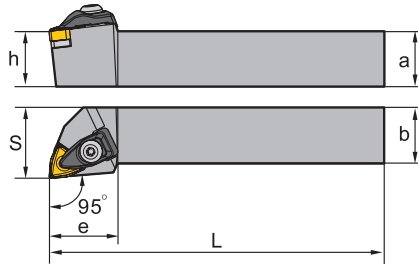
Grade selection > A38

Technical info > A445

Cutting data > A324

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 h	WN**0604**	WN**0804**
		16-25	20-32
	Clamp	C1RA	C2RA
	Screw (Clamp)	CM5x22C	CM6x25C
	Screw (shim)	SM5x8.65XA1	SM6x10XA1
	Shim	W06BM	W08BM
	Spring	SPR6	SPR4
	Wrench (clamp)	WH30L	WH40L
	Wrench (shim)	WH30L	WH40L

Insert					
Finishing A92	Wiper A93	Medium Cut A95	Roughing A96	Cast Iron A96	PCBN/PCD A151

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

B

Milling

C

Drilling

D

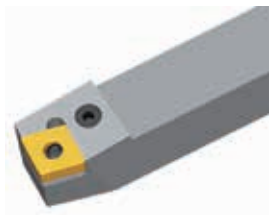
Technical Information

E

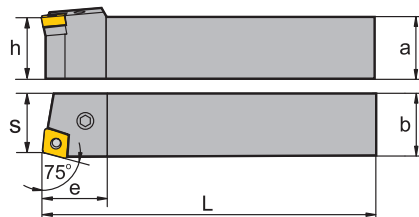
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CN** holder (external) P-Clamping

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				LEM12x36A	LEM12x36A
	Screw	LEM8x21	LEM8x25	LEM10x27		
	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

System code > A194

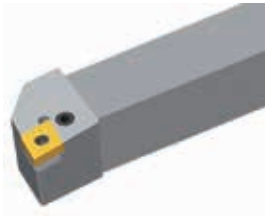
Grade selection > A38

Technical info > A445

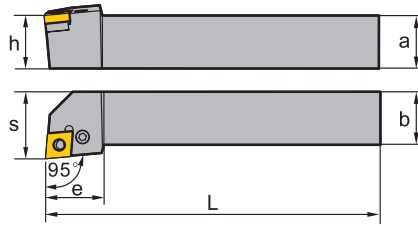
Cutting data > A324

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

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

B

Milling

C

Drilling

D

Technical Information

E

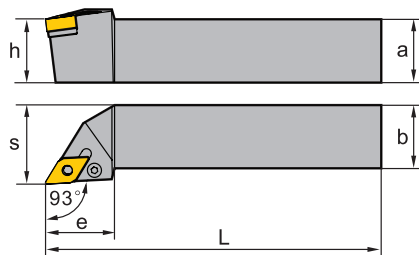
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DN** holder (external) P-Clamping

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		DN**1104**	DN**1504**	DN**1506**
Insert	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

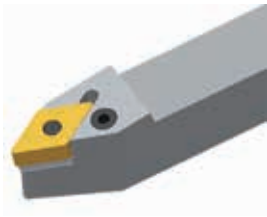
Grade selection > A38

Technical info > A445

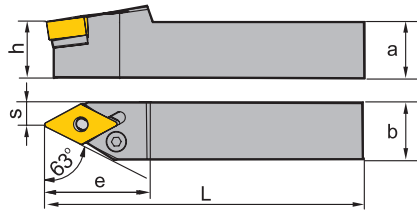
Cutting data > A324

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 h	DN**1504** 20-32	DN**1506** 20-32
	Knee lever	L4	L4B
	Screw	LEM8×21	LEM8×21
	Shim	D15AP	D15AP
	Shim pin (shim)	SP4	SP4
	Wrench	WH30L	WH30L

Insert				
Finishing A53	Medium Cut A54	Roughing A58	Cast Iron A59	PCBN/PCD A147



A

Turning

B

Milling

C

Drilling

D

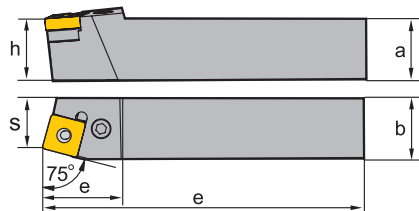
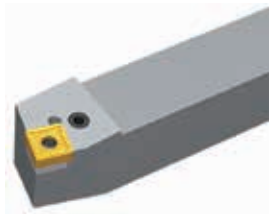
Technical Information

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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
	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

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

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System code > A194

Grade selection > A38

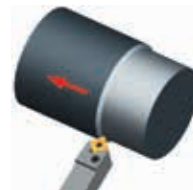
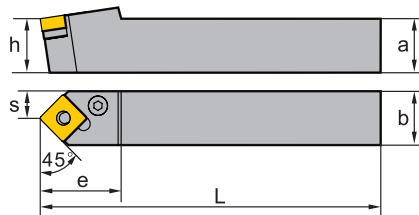
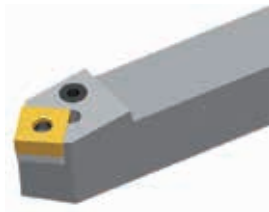
Technical info > A445

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

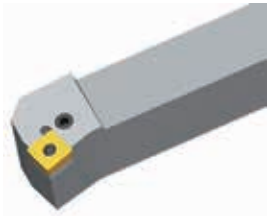
Grade selection > A38

Technical info > A445

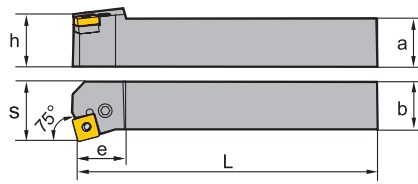
Cutting data > A324

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		SN**0903**	SN**1204**	SN**1506**	SN**1906**
		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



A

Turning

B

Milling

C

Drilling

D

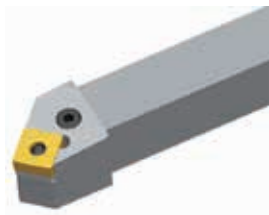
Technical Information

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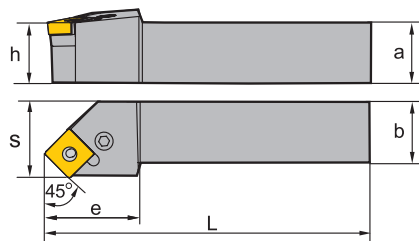
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SN** holder (external) P-Clamping

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		LEM8x21	LEM8x25	LEM10x27		
	Screw	LEM6x13.4A				LEM12x36A	LEM12x36A
	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

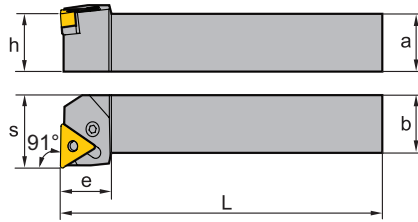
Cutting data > A324

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		TN**1604**	TN**2204**	TN**2706**
Insert		16-25	25-32	32-40
h				
	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



A

Turning

B

Milling

C

Drilling

D

Technical Information

E

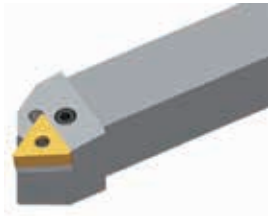
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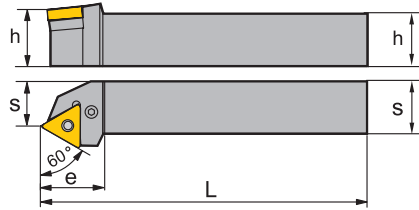
Turning

TN** holder (external) P-Clamping

PTTNR/L Kr: 60°



Right hand style



B

Milling

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

C

Drilling

Spare parts			
	Insert	TN**1604**	TN**2204**
	h	16-25	20
	Knee lever	L3	L4
	Screw		LEM8x21
	Screw	LEM6x13.4A	
	Shim	T16AP	T22AP
	Shim pin (shim)	SP3	SP4
	Wrench	WH25L	WH30L

D

Technical Information

Insert						
Finishing	Wiper	Medium Cut	Roughing	PCBN/PCD	Heavy Turning	Cast Iron
A78	A77	A80	A83	A149	A85	A86

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System code > A194

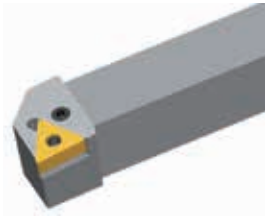
Grade selection > A38

Technical info > A445

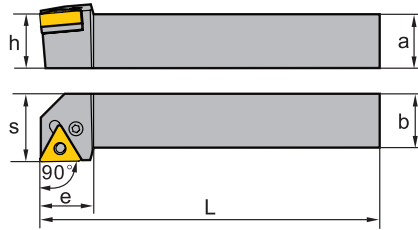
Cutting data > A324


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 h	TN**1103**	TN**1604**	TN**2204**	TN**2706**
		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

TN** holder (external)

Insert						
						
Finishing	Medium Cut	Roughing	Cast Iron	PCBN/PCD	Heavy Turning	Wiper
A78	A80	A83	A86	A149	A85	A77

B

Milling

C

Drilling

D

Technical Information

E

Index

System code > A194

Grade selection > A38

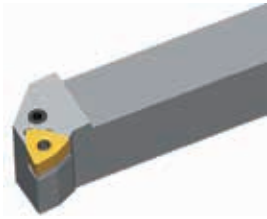
Technical info > A445

Cutting data > A324

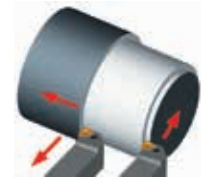
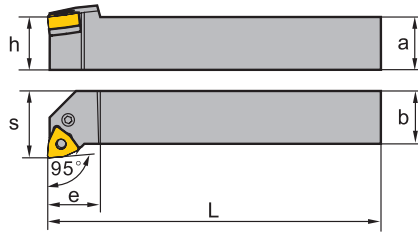



WN holder (external) P-Clamping**

PWLNLR/L Kr: 95°









Right hand style



Article	*	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
PWLNLR/L1616H06	●	●	16	16	100	16	20	20	20	WN**0604**
PWLNLR/L2020K06	●	●	20	20	125	20	25	20	20	WN**0604**
PWLNLR/L2525M06	●	●	25	25	150	25	32	20	20	WN**0604**
PWLNLR/L2020K08	●	●	20	20	125	20	25	26	26	WN**0804**
PWLNLR/L2525M08	●	●	25	25	150	25	32	26	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



A

Turning

B

Milling

C

Drilling

D

Technical Information

E

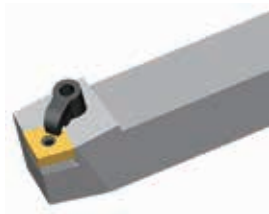
Index

A

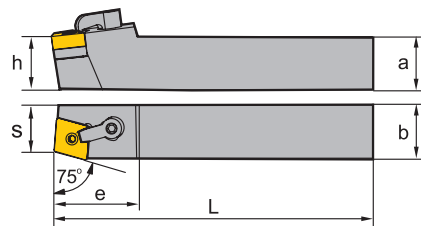
Turning

CN** holder (external) M-Clamping

MCBNR/L Kr: 75°



Right hand style



B

Milling

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

C

Drilling

Spare parts		CN**1204**	CN**1204**	CN**1606**	CN**1906**
Insert		20	25-32	25-32	32-40
h					
	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

D

Technical Information

E

Index

Insert					
Finishing	Wiper	Medium Cut	Roughing	Cast Iron	PCBN/PCD
A43	A43	A44	A51	A51	A146

System code > A194

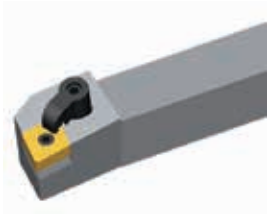
Grade selection > A38

Technical info > A445

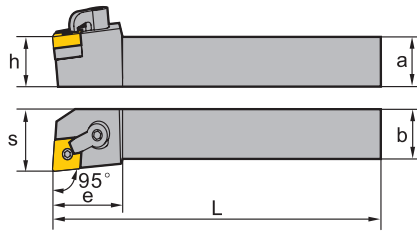
Cutting data > A324

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		CN**1204**	CN**1204**	CN**1606**	CN**1906**
Insert		20	25-32	25-32	32-40
h					
	Clamp	C1RD	C1RD	C2RD	C5RD
	Dowel pin	TM6x17	TM6x17	TM8x21	TM10x21
	Screw (clamp)				DM8x30X
	Screw (clamp)	DM6x25	DM6x30	DM6x30	
	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

A

Turning

B

Milling

C

Drilling

D

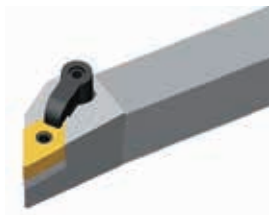
Technical Information

E

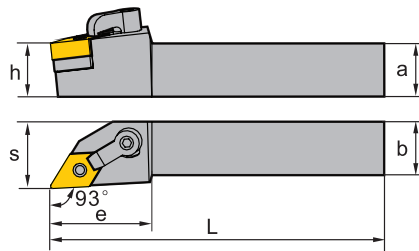
Index

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 h	DN**1104**	DN**1104**	DN**1506**	DN**1506**
		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 A53	Medium Cut A54	Roughing A58	Cast Iron A59	PCBN/PCD A147

System code > A194

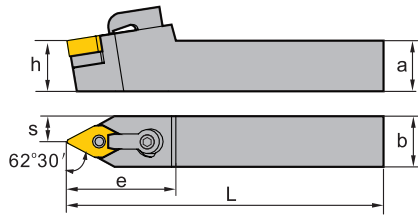
Grade selection > A38

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		DN**1104**	DN**1104**	DN**1506**	DN**1506**
Insert	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

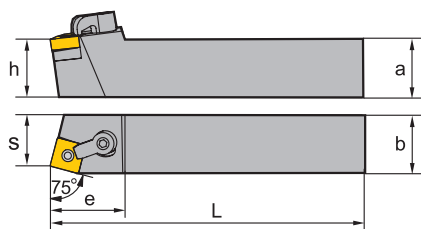
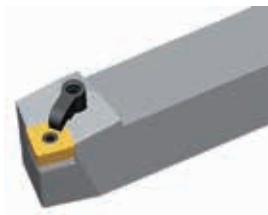
Technical info > A445

Cutting data > A324



SN** holder (external) M-Clamping

MSBNR/L Kr: 75°



Right hand style

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

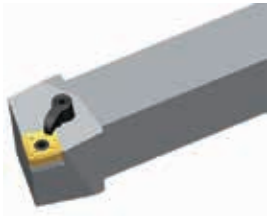
Grade selection > A38

Technical info > A445

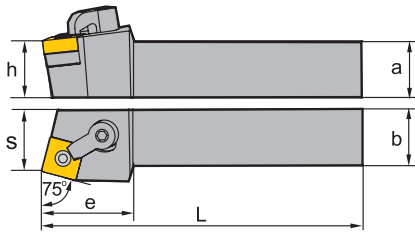
Cutting data > A324


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

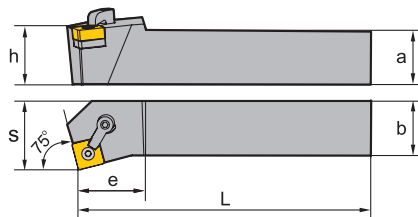
Technical info > A445

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

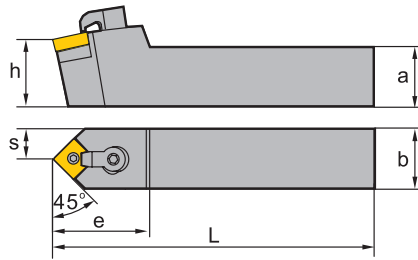
Grade selection > A38

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 h	SN**1204** 20	SN**1204** 25-32	SN**1506** 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 A62	Medium Cut A64	Roughing A67	Cast Iron A73	PCBN/PCD A148

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324

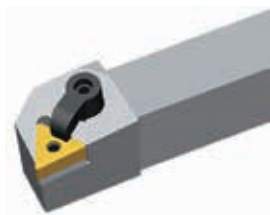


A

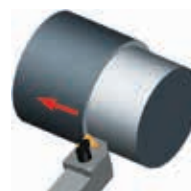
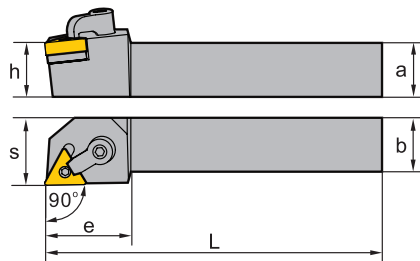
Turning

TN** holder (external) M-Clamping

MTGNR/L Kr: 90°



Right hand style



B

Milling

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

C

Drilling

Spare parts		TN**1604**	TN**1604**	TN**2204**
	Insert h	20	25-32	25-32
	Clamp	C1RD	C1RD	C2RD
	Dowel pin	TM5x13	TM5x13	TM6x17
	Screw (clamp)	DM6x25	DM6x30	DM6x30
	Shim	T16BM	T16BM	T22BM
	Wrench (clamp)	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L	WH30L

D

Technical Information

Insert						
Finishing A88	Wiper A88	Medium Cut A90	Roughing A91	Cast Iron A93	PCBN/PCD A140	Heavy Turning A93

E

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System code > A194

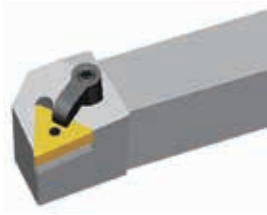
Grade selection > A38

Technical info > A445

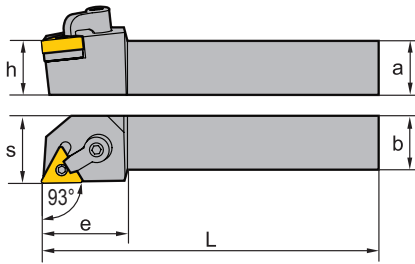
Cutting data > A324

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	TM5x13	TM5x13	TM6x17
	Screw (clamp)	DM6x25	DM6x30	DM6x30
	Shim	T16BM	T16BM	T22BM
	Wrench (clamp)	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L	WH30L

Insert

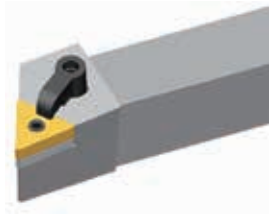
Finishing A78	Wiper A77	Medium Cut A80	Roughing A83	Cast Iron A86	PCBN/PCD A149	Heavy Turning A85

A

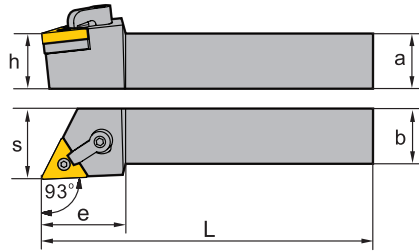
Turning

TN** holder (external) M-Clamping

MTJNR/L-Z Kr: 93°



Right hand style



B

Milling

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

C

Drilling

Spare parts		TN**1604**	TN**1604**	TN**2204**
	Insert h	20	25-32	25-32
	Clamp	C1RD	C1RD	C2RD
	Dowel pin	TM5x13	TM5x13	TM6x17
	Screw (clamp)	DM6x25	DM6x30	DM6x30
	Shim	T16BM	T16BM	T22BM
	Wrench (clamp)	WH30L	WH30L	WH30L
	Wrench (dowel pin)	WH20L	WH20L	WH30L

D

Technical Information

Insert						
Finishing A78	Wiper A77	Roughing A83	Cast Iron A86	PCBN/PCD A149	Heavy Turning A85	Medium Cut A80

E

Index

System code > A194

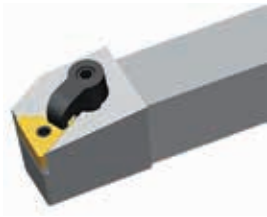
Grade selection > A38

Technical info > A445

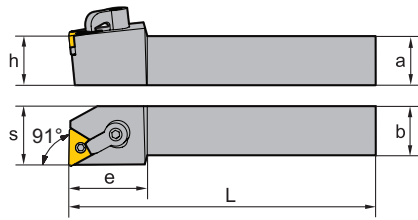
Cutting data > A324

TN holder (external) M-Clamping**

MTFNR/L Kr: 91°



Right hand style



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		TN**1604**	TN**1604**	TN**2204**
Insert 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 A88	Wiper A88	Medium Cut A90	Roughing A91	Cast Iron A93	PCBN/PCD A140	Heavy Turning A93



A

Turning

B

Milling

C

Drilling

D

Technical Information

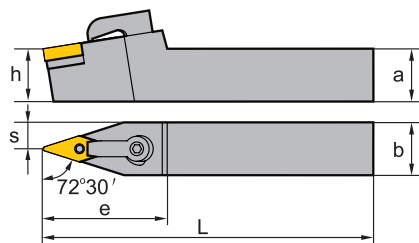
E

Index

A

VN** holder (external) M-Clamping

MVVNN Kr: 72°30'



Turning

B

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

Milling

C

Spare parts			
	Insert h	VN**1604** 20	VN**1604** 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

Drilling

D

Insert			
Finishing A89	Medium Cut A90	Cast Iron A90	PCBN/PCD A150

Technical Information

E

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System code > A194

Grade selection > A38

Technical info > A445

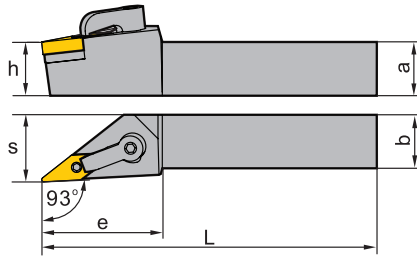
Cutting data > A324


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 h	VN**1604** 20	VN**1604** 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 A89	Medium Cut A90	Cast Iron A90	PCBN/PCD A150

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

B

Milling

C

Drilling

D

Technical Information

E

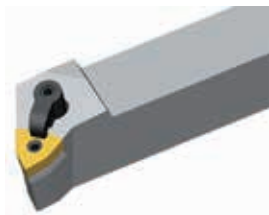
Index

A

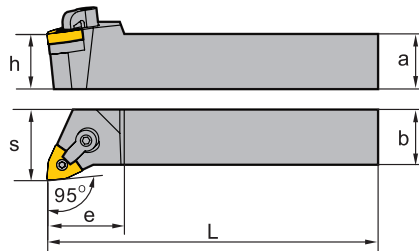
Turning

WN** holder (external) **M-Clamping**

MWLNLR/L Kr: 95°



Right hand style



B

Milling

Article	*	Stock		Dimensions [mm]						Inserts
		R	L	a	b	L	h	s	e	
MWLNLR/L2020K06	●	●		20	20	125	20	25	30	WN**0604**
MWLNLR/L2525M06	●	●		25	25	150	25	32	30	WN**0604**
MWLNLR/L2020K08	●	●		20	20	125	20	25	30	WN**0804**
MWLNLR/L2525M08	●	●		25	25	150	25	32	35	WN**0804**
MWLNLR/L3225P08	○	○		32	25	170	32	32	35	WN**0804**
MWLNLR/L3232P08	●	●		32	32	170	32	40	35	WN**0804**

● Ex stock ○ On demand

* With internal cooling

C

Drilling

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

D

Technical Information

Insert					
Finishing	Wiper	Medium Cut	Roughing	Cast Iron	PCBN/PCD
A92	A93	A95	A96	A96	A151

E

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System code > A194

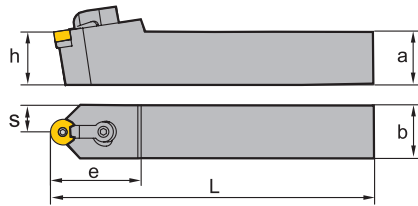
Grade selection > A38

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**	RN**1204**
		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

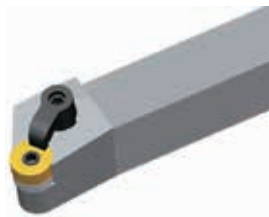
Technical info > A445

Cutting data > A324

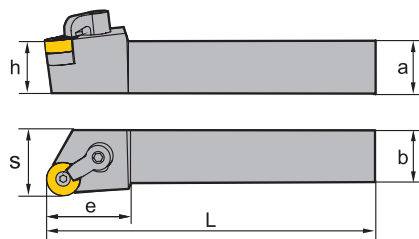


RN** holder (external) M-Clamping

MRGNR/L



Right hand style



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 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

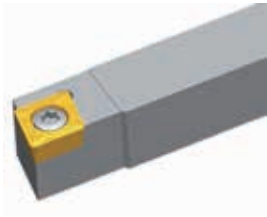
Grade selection > A38

Technical info > A445

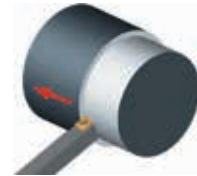
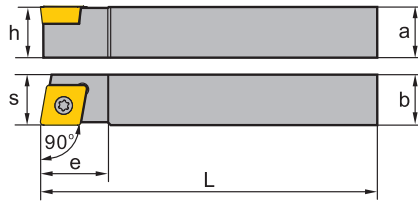
Cutting data > A324


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	I60M2.5x6.5	I60M3.5x8
	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

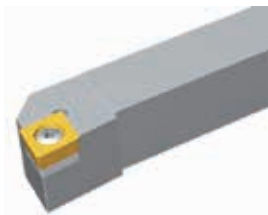
Technical info > A445

Cutting data > A324

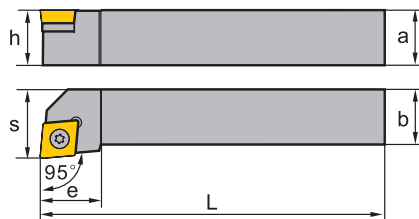


CC** holder (external) S-Clamping

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	h	CC**0602**	CC**09T3**	CC**1204**
		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

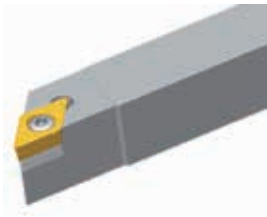
Grade selection > A38

Technical info > A445

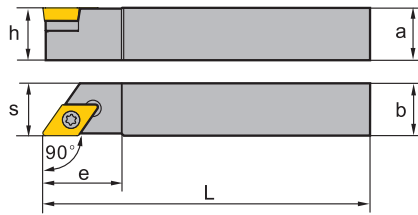
Cutting data > A324


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	I60M2.5x6.5	I60M3.5x8	I60M3.5x12
	Screw (shim)			SM5x8.65XA
	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

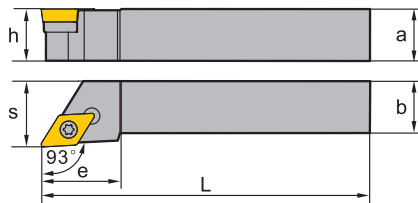
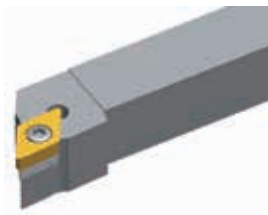
Technical info > A445

Cutting data > A324



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

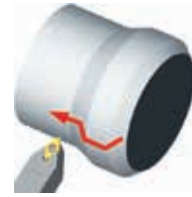
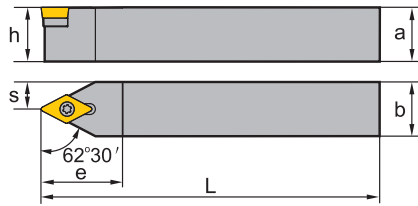
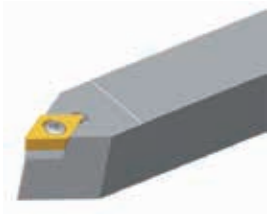
Grade selection > A38

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 h	DC**0702**	DC**11T3**	DC**11T3**
		10-12	12	16-25
	Screw	I60M2.5x6.5	I60M3.5x8	I60M3.5x12
	Screw (shim)			SM5x8.65XA
	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



A

Turning

B

Milling

C

Drilling

D

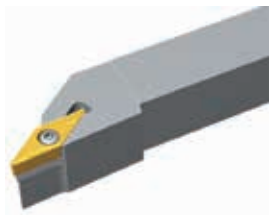
Technical Information

E

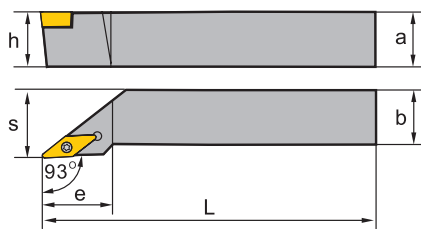
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VB** holder (external) S-Clamping

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

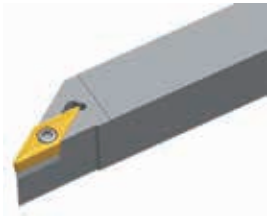
Grade selection > A38

Technical info > A445

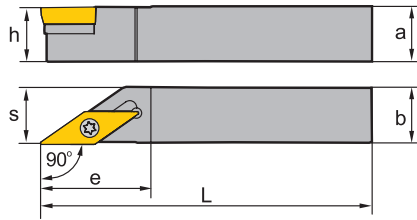
Cutting data > A324

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	I60M3.5x12
	Screw (shim)		SM5x8.65XA
	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

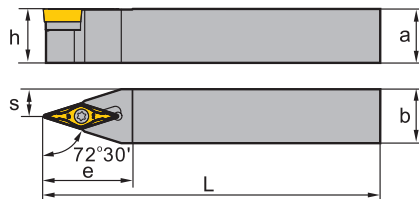
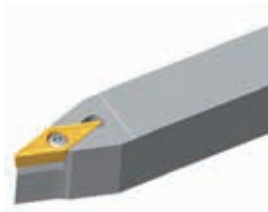
Technical info > A445

Cutting data > A324



VB** holder (external) S-Clamping

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

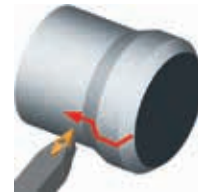
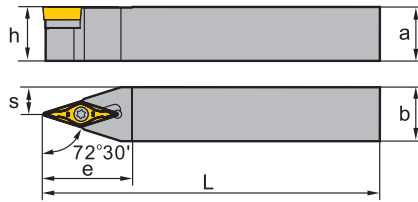
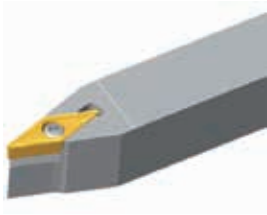
Grade selection > A38

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	I60M2.5x6.5	I60M3.5x12
	Screw (shim)		SM5x8.65XA
	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

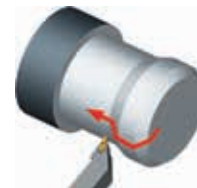
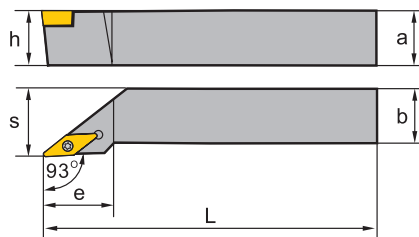


VC** holder (external) S-Clamping

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

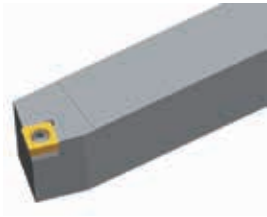
Grade selection > A38

Technical info > A445

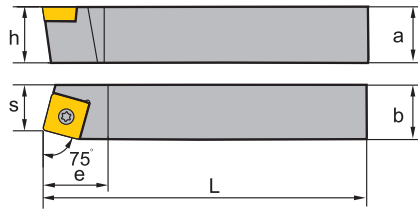
Cutting data > A324


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



A

Turning

B

Milling

C

Drilling

D

Technical Information

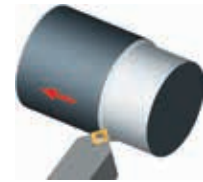
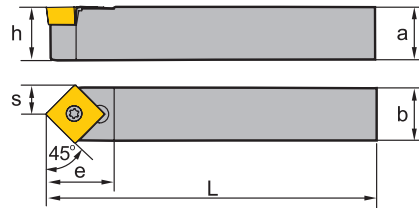
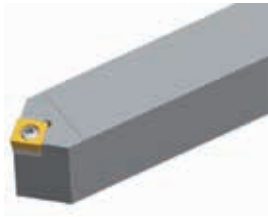
E

Index

A

SC** steel boring bar S-Clamping

SSDCN Kr: 45°



Right hand style

Turning

B

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**

Milling

● Ex stock ○ On demand

* With internal cooling

C

Spare parts

	Insert	SC**09T3**	SC**09T3**
	h	12	16
	Screw	I60M3.5x8	I60M3.5x8
	Screw (shim)		SM5x8.65XA
	Shim		S09BS
	Wrench (screw)	WT15IP	WT15IP
	Wrench (shim)		WH35L

Drilling

D

Insert

Finishing	Medium Cut	Roughing	Aluminium	Cast Iron
A119	A120	A121	A121	A121

Technical Information

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System code > A194

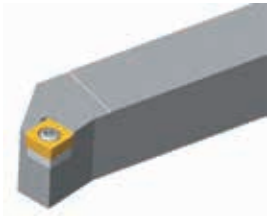
Grade selection > A38

Technical info > A445

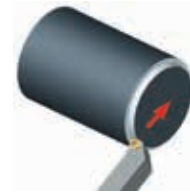
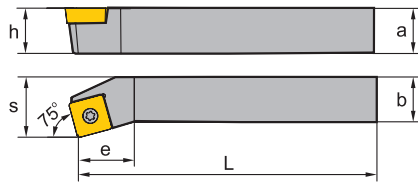
Cutting data > A324


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	I60M3.5x8
	Screw (shim)	SM5x8.65XA
	Shim	S09BS
	Wrench (screw)	WT15IP
	Wrench (shim)	WH35L

Insert

				
Finishing	Medium Cut	Roughing	Aluminium	Cast Iron
A119	A120	A121	A121	A121

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

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System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324

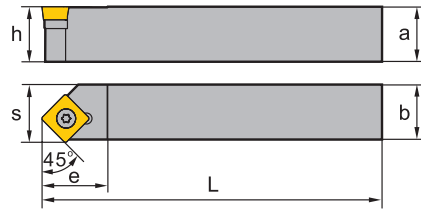
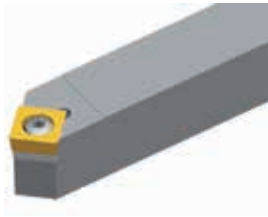


A

Turning

SC** steel boring bar S-Clamping

SSSCR/L Kr: 45°



Right hand style

B

Milling

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

C

Drilling

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

D

Technical Information

Insert				
Finishing	Medium Cut	Roughing	Aluminium	Cast Iron
A119	A120	A121	A121	A121

E

Index

System code > A194

Grade selection > A38

Technical info > A445

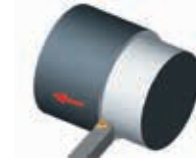
Cutting data > A324


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	I60M2.5x6.5
	Wrench (screw)	WT07IP

Insert

					
Finishing	Medium Cut	Roughing	Aluminium	Cast Iron	PCBN/PCD
A125	A127	A128	A130	A128	A154

System code > A194

Grade selection > A38

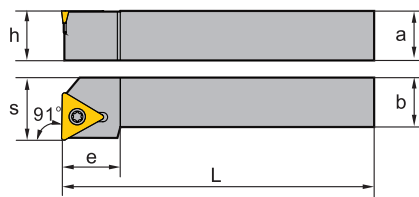
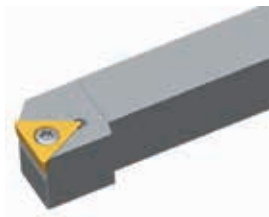
Technical info > A445

Cutting data > A324



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		I60M3.5x12
	Screw	I60M2.5x6.5	
	Screw (shim)		SM5x8.65XA
	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

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

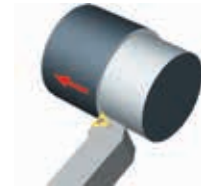
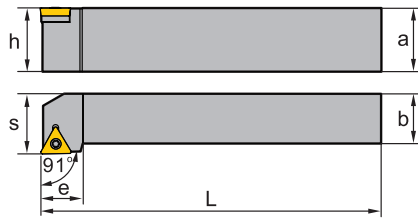
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TC holder (external) S-Clamping**

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		TC**0902**		TC**1102**		TC**16T3**	
Insert h		8-10		12-16		20-25	
	Screw					I60M3.5x12	
	Screw	I60M2.2x5.5		I60M2.5x6.5			
	Screw (shim)					SM5x8.65XA	
	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



A

Turning

B

Milling

C

Drilling

D

Technical Information

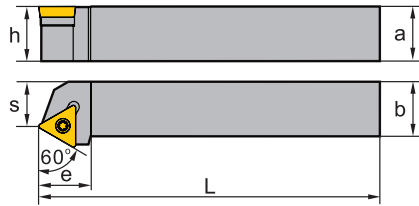
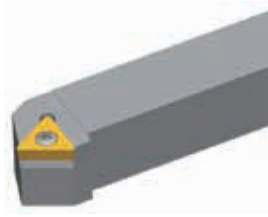
E

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A

TC** holder (external) **S-Clamping**

STTCR/L Kr: 60°



Right hand style

Turning

B

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**

Milling

● Ex stock ○ On demand

* With internal cooling

C

Spare parts			
	Insert	TC**1102**	TC**16T3**
	h	16	16-20
	Screw	I60M2.5x6.5	
	Screw		I60M3.5x12
	Screw (shim)		SM5x8.65XA
	Shim		T16BS
	Wrench (screw)	WT07IP	WT15IP
	Wrench (shim)		WH35L

Drilling

D

Insert					
Finishing	Medium Cut	Roughing	Aluminium	Cast Iron	PCBN/PCD
A125	A127	A128	A130	A128	A154

Technical Information

E

Index

System code > A194

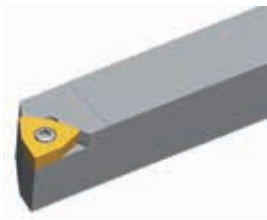
Grade selection > A38

Technical info > A445

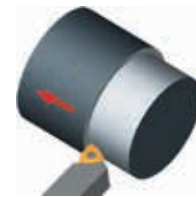
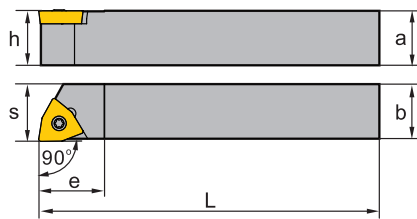
Cutting data > A324

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	I60M2.5x6.5	I60M3x7	I60M3.5x12
	Wrench (screw)	WT07IP	WT10IP	WT15IP

Insert

Medium Cut

A142

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

B

Milling

C

Drilling

D

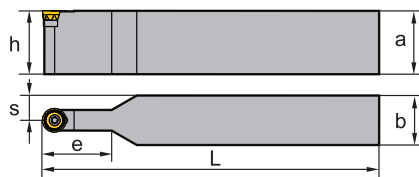
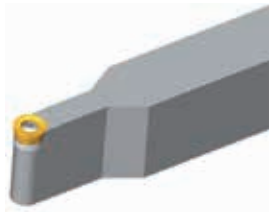
Technical Information



E

Index

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

System code > A194

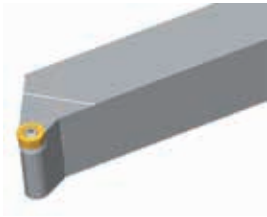
Grade selection > A38

Technical info > A445

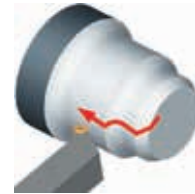
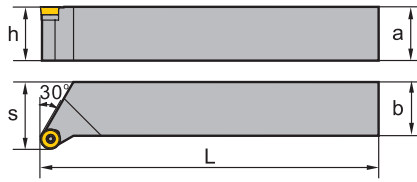
Cutting data > A324



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		RCGX0803MO-LH	RCGX1204MO	RCMT10T3MO
Insert 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 A117	Cast Iron A117

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

B

Milling

C

Drilling

D

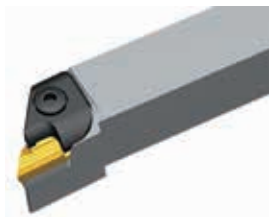
Technical Information

E

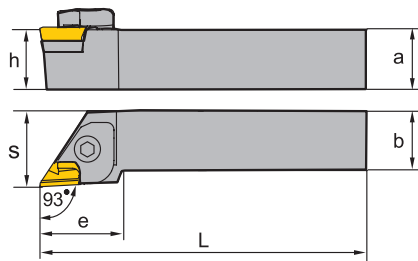
Index

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	KNUX1604**L	KNUX1604**R
	h	25-40	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

System code > A194

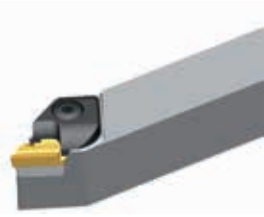
Grade selection > A38

Technical info > A445

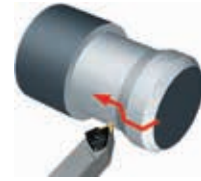
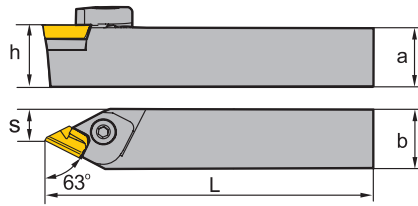
Cutting data > A324

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 h	KNUX1604**L	KNUX1604**R
		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

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324

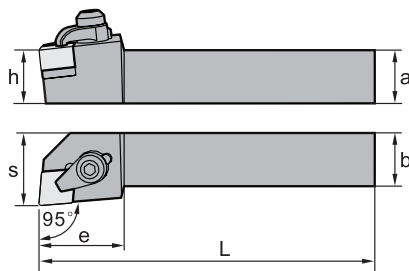




CN** holder (external) C-Clamping

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 h	CNGN1204**	CNGN1207**	CNGN1604**	CNGN1606**
		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

System code > A194

Grade selection > A38

Technical info > A445

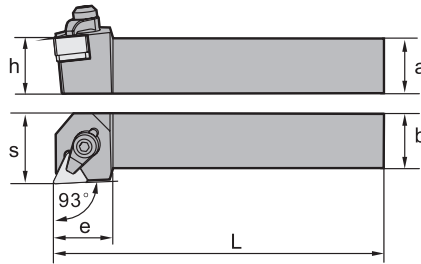
Cutting data > A324

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

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

B

Milling

C

Drilling

D

Technical Information

E

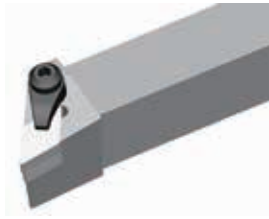
Index

A

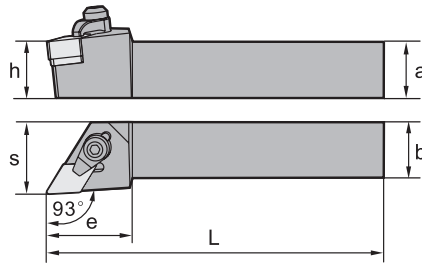
Turning

DN** holder (external) **C-Clamping**

CDJNR/L Kr: 93°



Right hand style



B

Milling

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

C

Drilling

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

D

Technical Information

Insert
Medium Cut
A180

E

Index

System code > A194

Grade selection > A38

Technical info > A445

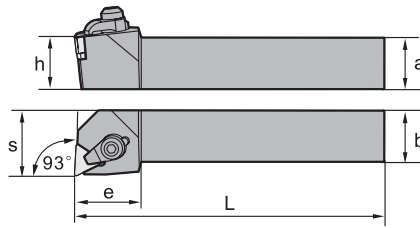
Cutting data > A324

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

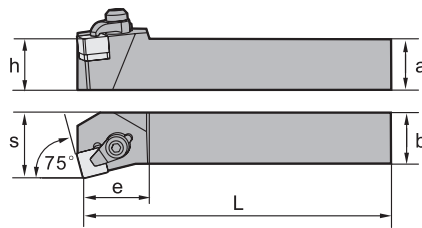
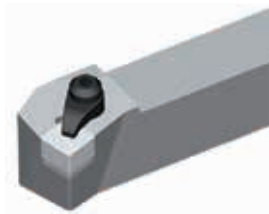


A

Turning

SN** holder (external) C-Clamping



CSKNR/L Kr: 75°



Right hand style

B

Milling




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



C

Drilling

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

D

Technical Information

Insert	
	
Cast Iron	PCBN/PCD
A76	A159

E

Index

System code > A194

Grade selection > A38

Technical info > A445

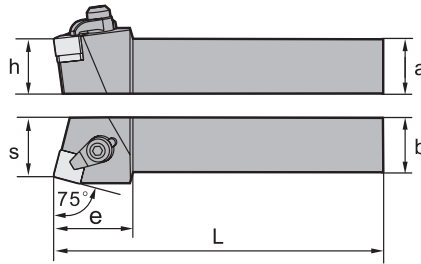
Cutting data > A324



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

System code > A194

Grade selection > A38

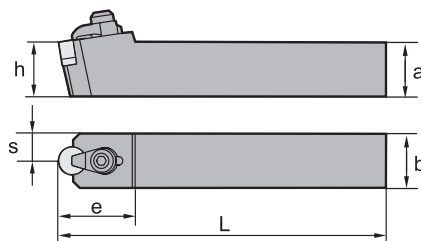
Technical info > A445



Cutting data > A324



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 h	RNGN1204** 20-32	RNGN1207** 20-32	RNGN1507** 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

System code > A194

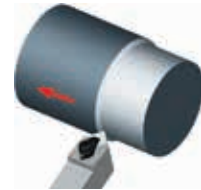
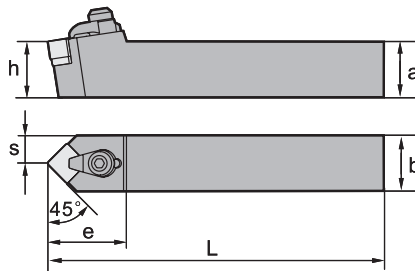
Grade selection > A38



Technical info > A445

Cutting data > A324

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

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324

A

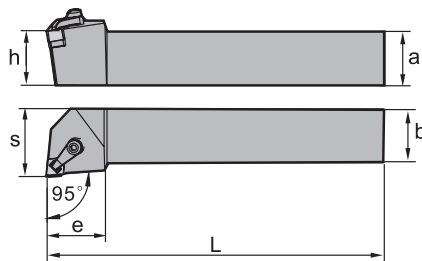
Turning

CN** holder (external) **J-Clamping**

JCLNR/L Kr: 95°



Right hand style



B

Milling

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

C

Drilling

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

D

Technical Information

Insert
Medium Cut
A178

E

Index

System code > A194

Grade selection > A38

Technical info > A445

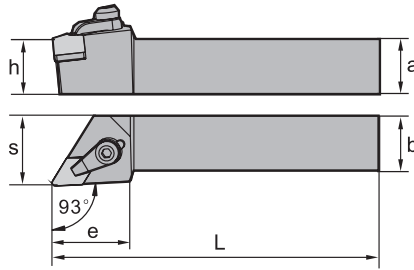
Cutting data > A324


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

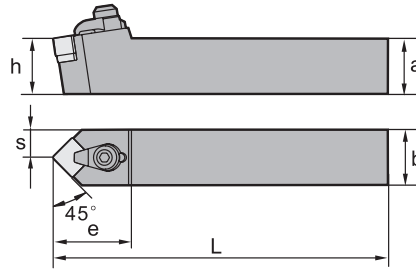
Cutting data > A324



A

SN** holder (external) J-Clamping

JSDNN Kr: 45°



Turning

B

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**

Milling

● Ex stock ○ On demand

* With internal cooling

C

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

Drilling

D

Insert
Medium Cut
A183

Technical Information

E

Index

System code > A194

Grade selection > A38

Technical info > A445

Cutting data > A324

A

S C L N L 25 25 M 12 S C

1 2 3 4 5 6 7 8 9 10 11

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

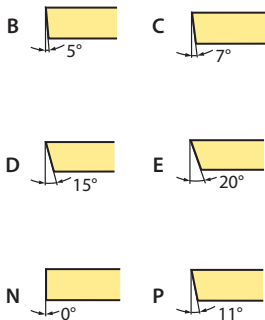
Clamping system			Insert shape		Tool holder type and entering angle					
Code	Description									
P	Knee lever clamping		C							
M	Multi clamping		D							
S	Screw clamping		R							
C	Top clamping		S							
D	Double clamping		T							
			V							
			W							

1

2

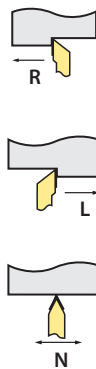
3

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

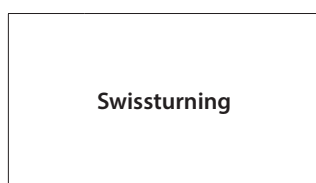
7

Holder length L [mm]	
	
Code	L
H	100
K	125
M	150
P	170
Q	180
R	200
S	250
T	300

8

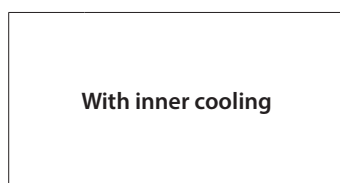
I.C [mm]	Cutting edge length l [mm]						
	Insert shape						
							
C	D	R	S	T	V	W	
5.56					09		
6.35	06	07			11		
9.525	09	11	09	09	16	16	06
12.7	12	15	12	12	22	22	08
15.875	16	19	15	15	27		
19.05	19		19	19	33		
25.4	25		25	25	44		
32	32				32		

9



Swissturning

10



With inner cooling

11

A

Turning

B

Milling

C

Drilling

D

Technical
Information

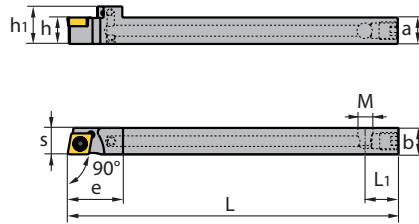
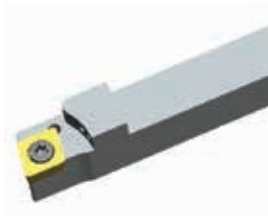
E

Index

A

CC** holder S-Clamping

SCACR/L-SC Kr: 90°



Turning

B

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**

Milling

● Ex stock ○ On demand

* With internal cooling

C

Spare parts		
	Insert	CC**09T3**
	h	12-16
	Screw	I60M3.5x8
	Wrench	WT15IP

Drilling

D

Insert					
Finishing	Medium Cut	Roughing	Aluminium	Cast Iron	PCBN/PCD
A102	A106	A107	A108	A107	A152

Technical Information

E

Index

System code > A270

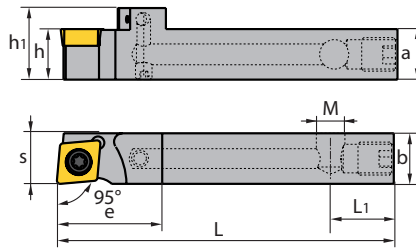
Grade selection > A38

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		
SCLCR/L1010F06-S	●	●	10	10	80	10	10	10	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

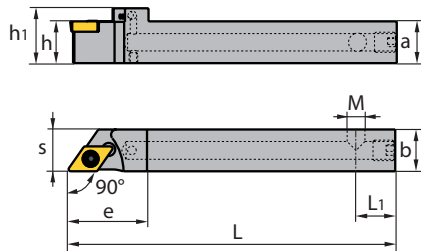
	Insert	CC**0602**	CC**09T3**
	h	10	12
	Screw	I60M2.5x6.5	I60M3.5x8
	Wrench	WT07IP	WT15IP

Insert

Finishing A102	Medium Cut A106	Roughing A107	Aluminium A108	Cast Iron A107	PCBN/PCD A152

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	I60M2.5x6.5	I60M3.5x8
	Wrench	WT07IP	WT15IP

Insert

Finishing	Medium Cut	Roughing	Aluminium	Cast Iron	PCBN/PCD	
A111	A113	A114	A114	A114	A153	

System code > A270

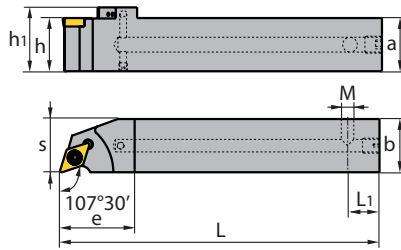
Grade selection > A38

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

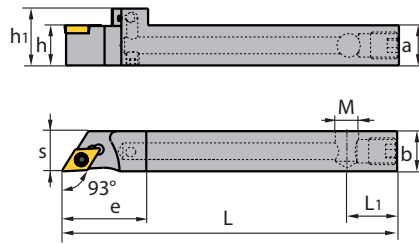
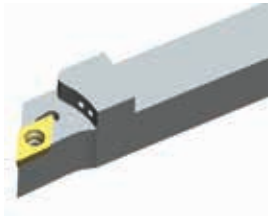
	Insert	DC**11T3**
	h	20-25
	Screw	I60M3.5x8
	Wrench	WT15IP

Insert

Finishing	Medium Cut	Roughing	Aluminium	Cast Iron	PCBN/PCD	
A111	A113	A114	A114	A114	A153	

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	I60M2.5x6.5	I60M3.5x8
	Wrench	WT07IP	WT15IP

Insert

Finishing	Medium Cut	Roughing	Aluminium	Cast Iron	PCBN/PCD	
A111	A113	A114	A114	A114	A153	

System code > A270

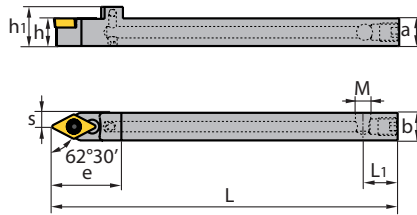
Grade selection > A38

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

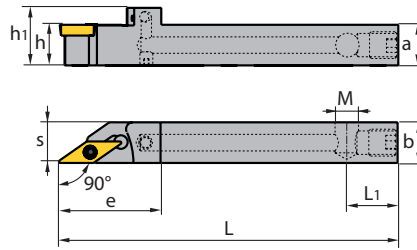
Cutting data > A324



A

VC** holder S-Clamping

SVACR/L-SC Kr: 90°



Turning

B

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**

Milling

● Ex stock ○ On demand

* With internal cooling

C

Spare parts		
	Insert	VC**1103**
	h	12
	Screw	I60M2.5×6.5
	Wrench	WT07IP

Drilling

Insert	
Finishing	Aluminium
A133	A134

D

Technical Information

E

Index

System code > A270

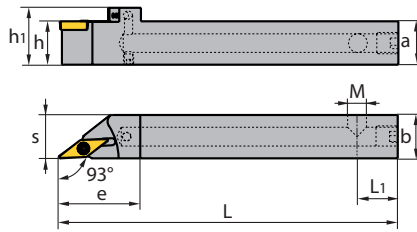
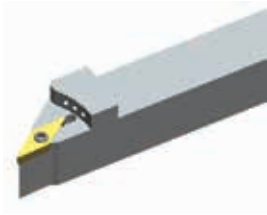
Grade selection > A38

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	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	I60M2.5x6.5
Wrench	WT07IP

Insert

Finishing	Aluminium
A133	A134

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

System code > A270

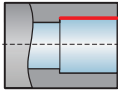
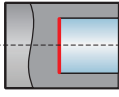
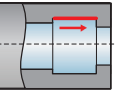
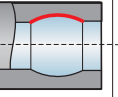
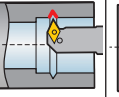
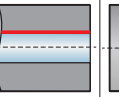
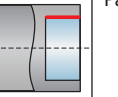






















































Grade selection > A38

Technical info > A445

Cutting data > A324

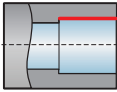
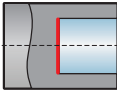
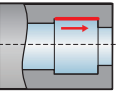
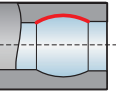
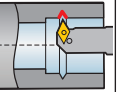
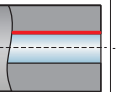
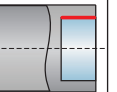














Boring bars

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
	PWLNLR/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

A

Turning

B

Milling

C

Drilling

D

Technical Information


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
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

Shank diameter d [mm]	
	
Code	d
16	16
20	20
25	25
32	32
40	40
50	50

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








Clamping system	
Code	Description
P	Knee lever clamping 
S	Screw clamping 
























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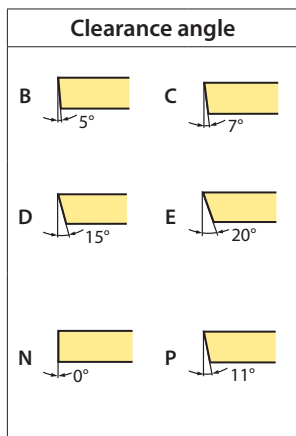
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Insert shape	
C 	D 
R 	S 
T 	V 
W 	

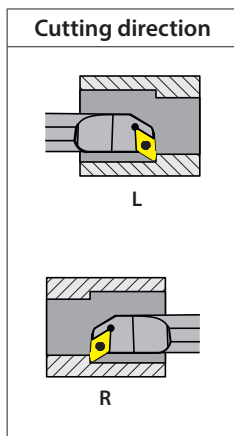
Tool holder type and entering angle						
						
A	B	C	D	E	F	G
						
H	J	K	L	M	N	O
						
P	Q	R	S	T	U	V
						
W	X					

5

6



7



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

A

Turning

B

Milling

C

Drilling

D

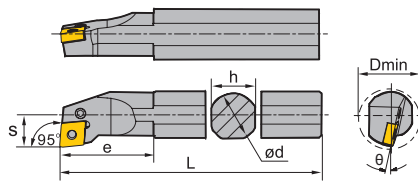
Technical Information

E

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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

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 A43	Wiper A43	Medium Cut A44	Roughing A51	Cast Iron A51	PCBN/PCD A146

System code > A282

Grade selection > A38

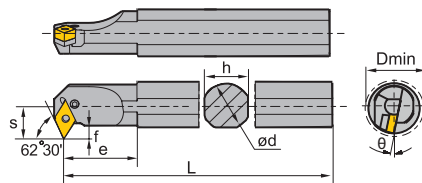
Technical info > A445

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	ød 32-40
	Knee lever	L4	L4B
	Screw	LEM8x21	LEM8x21
	Shim	D15AP	D15AP
	Shim pin (shim)	SP4	SP4
	Wrench	WH30L	WH30L

Insert

Finishing A53	Medium Cut A54	Roughing A58	Cast Iron A59	PCBN/PCD A147

System code > A282

Grade selection > A38

Technical info > A445

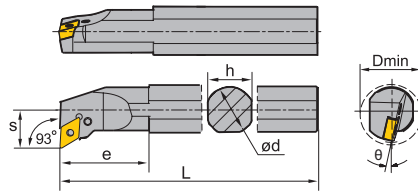
Cutting data > A324


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		DN**1104**	DN**1104**	DN**1504**	DN**1506**
		20-25	32	32-40	32-40
Insert	ød				
	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

A

Turning

DN** steel boring bar

Insert				
				
Finishing	Medium Cut	Roughing	Cast Iron	PCBN/PCD
A53	A54	A58	A59	A147

B

Milling

C

Drilling

D

Technical Information

E

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System code > A282

Grade selection > A38

Technical info > A445

Cutting data > A324

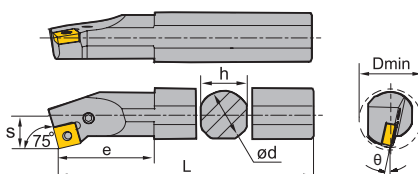


SN steel boring bar** P-Clamping

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**
		25	32-40
	Knee lever	L4A	L4
	Screw	LEM6x13.4A	
	Screw		LEM8x21
	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

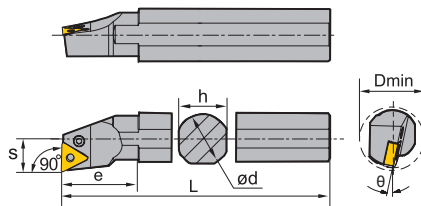


TN** steel boring bar P-Clamping

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
	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

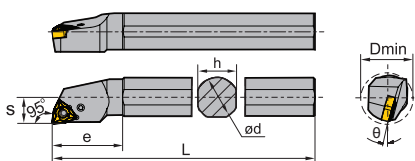
Grade selection > A38

Technical info > A445

Cutting data > A324

WN steel boring bar P-Clamping**

PWLNLR/L Kr: 95°



Right hand style

Article	*	Stock		Dimensions [mm]							Inserts
		R	L	ød	L	h	s	e	D _{min}	θ	
S16M-PWLNLR/L06	●	●	16	150	15	11	25	20	-13	WN**0604**	
S16R-PWLNLR/L06	●	○	16	200	15	11	25	20	-13	WN**0604**	
S20Q-PWLNLR/L06	●	●	20	180	18	13	35	25	-13	WN**0604**	
S20S-PWLNLR/L06	●	○	20	250	18	13	35	25	-13	WN**0604**	
S25Q-PWLNLR/L06	●	●	25	180	23	17	35	32	-13	WN**0604**	
S25T-PWLNLR/L06	●	○	25	300	23	17	35	32	-13	WN**0604**	
S20Q-PWLNLR/L08	●	●	20	180	18	13	32	25	-13	WN**0804**	
S20S-PWLNLR/L08	●	○	20	250	18	13	32	25	-13	WN**0804**	
S25Q-PWLNLR/L08	●	●	25	180	23	17	45	32	-13	WN**0804**	
S25T-PWLNLR/L08	●	●	25	300	23	17	45	32	-13	WN**0804**	
S32R-PWLNLR/L08	●	●	32	200	30	22	50	40	-15	WN**0804**	
S32U-PWLNLR/L08	●	●	32	350	30	22	50	40	-15	WN**0804**	

● Ex stock ○ On demand

* With internal cooling

Spare parts

	Insert ød	WN**0604**	WN**0804**	WN**0804**
		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



A

Turning

WN** steel boring bar

Insert					
					
Finishing	Wiper	Medium Cut	Roughing	Cast Iron	PCBN/PCD
A92	A93	A95	A96	A96	A151

B

Milling

C

Drilling

D

Technical Information

E

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System code > A282

Grade selection > A38

Technical info > A445

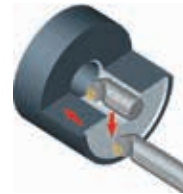
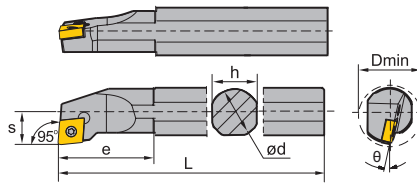
Cutting data > A324

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



A

Turning

B

Milling

C

Drilling

D

Technical Information

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A

Turning






CC** steel boring bar

Spare parts

	Insert ød	CC**0602** 8-12	CC**09T3** 12-20	CC**09T3** 25	CC**1204** 25	CC**1204** 32-40
	Screw	I60M2.5x5.5	I60M3.5x8	I60M3.5x10		
	Screw				I60M4x11X	I60M4x11X
	Screw (shim)					SM6x10XA
	Shim					C12BS
	Wrench (screw)	WT07IP	WT15IP	WT15IP	WT15IP	WT15IP
	Wrench (shim)					WH40L

B

Milling

Insert					
					
Finishing	Medium Cut	Roughing	Aluminium	Cast Iron	PCBN/PCD
A102	A106	A107	A108	A107	A152

C

Drilling

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System code > A282

Grade selection > A38

Technical info > A445

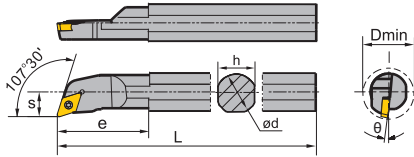
Cutting data > A324

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 ød	DC**0702** 10	DC**0702** 12-16	DC**11T3** 16-20	DC**11T3** 20	DC**11T3** 25
	Screw	I60M2.5x5.5	I60M2.5x6.5	I60M3.5x8	I60M3.5x8	I60M3.5x10
	Wrench (screw)	WT07IP	WT07IP	WT15IP	WT15IP	WT15IP

Insert

Finishing A111	Medium Cut A113	Roughing A114	Aluminium A114	Cast Iron A114	PCBN/PCD A153

System code > A282

Grade selection > A38

Technical info > A445

Cutting data > A324



A

Turning

B

Milling

C

Drilling

D

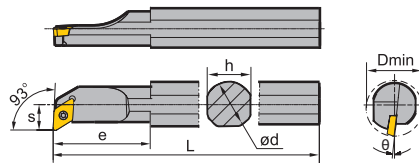
Technical Information

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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

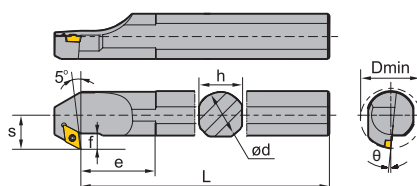
Cutting data > A324

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 ød	DC**11T3**	DC**11T3**
		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 A111	Medium Cut A113	Roughing A114	Aluminium A114	Cast Iron A114	PCBN/PCD A153

System code > A282

Grade selection > A38

Technical info > A445

Cutting data > A324

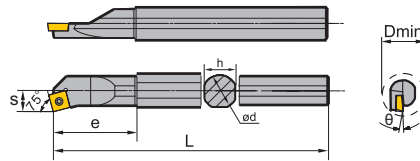


SC** steel boring bar S-Clamping

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

A

Turning

B

Milling

C

Drilling

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System code > A282

Grade selection > A38

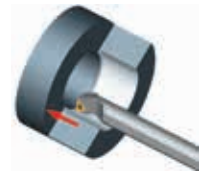
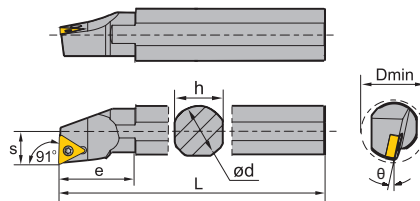
Technical info > A445

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 ød	TC**1102**	TC**16T3**	TC**16T3**
		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

A

Turning

B

Milling

C

Drilling

D

Technical Information

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System code > A282

Grade selection > A38

Technical info > A445

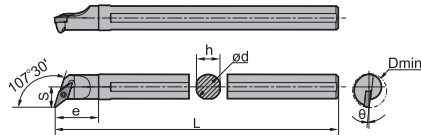
Cutting data > A324



A

VC** steel boring bar S-Clamping


SVQCR/L Kr: 107°30'



Right hand style

Turning

B

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**	



Milling

● Ex stock ○ On demand

* With internal cooling

C



Spare parts

	Insert	VC**1103**
	ød	16-20
	Screw	I60M2.5×6.5
	Wrench (screw)	WT07IP

Drilling

D

Insert

Finishing	Aluminium	PCBN/PCD
		
A133	A134	A156

Technical Information

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System code > A282

Grade selection > A38

Technical info > A445

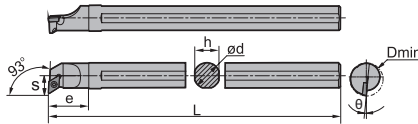
Cutting data > A324

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	I60M2.5x6.5
	Wrench (screw)	WT07IP

Insert

	
Finishing	Aluminium
A133	A134

System code > A282

Grade selection > A38

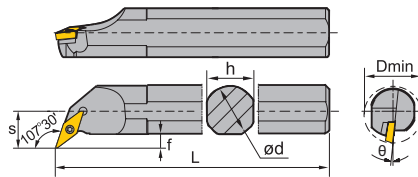
Technical info > A445

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 ød	VB**1604** 32-40
	Screw	I60M3.5×12
	Screw (shim)	SM5×8.65XA
	Shim	V16B5
	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

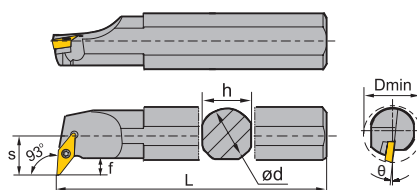
Cutting data > A324

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 ød	VB**1604** 32-40
	Screw	I60M3.5x12
	Screw (shim)	SM5x8.65XA
	Shim	V16BS
	Wrench (screw)	WT15IP
	Wrench (shim)	WH35L

Insert				
Finishing A138	Medium Cut A140	Roughing A141	Cast Iron A141	PCBN/PCD A155

System code > A282

Grade selection > A38

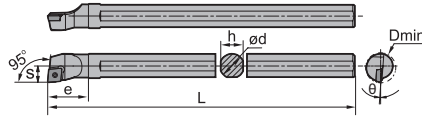
Technical info > A445

Cutting data > A324



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	I60M2.5x5.5	I60M3.5x8
	Wrench (screw)	WT07IP	WT15IP

Insert

Finishing	Medium Cut	Cast Iron
A109	A109	A109

System code > A282

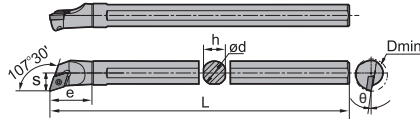
Grade selection > A38

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



A

Turning

B

Milling

C

Drilling

D

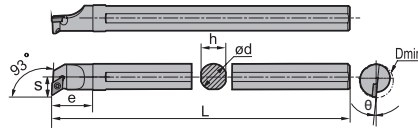
Technical Information

E

Index

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	I60M2.5x5.5	I60M2.5x6.5
	Wrench (screw)	WT07IP	WT07IP

Insert



Finishing

A116

System code > A282

Grade selection > A38

Technical info > A445

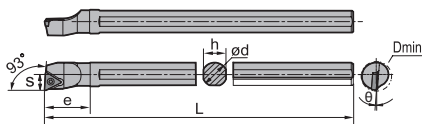
Cutting data > A324


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

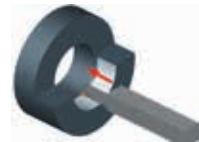
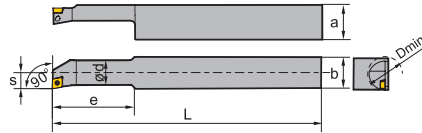
Cutting data > A324



A

CC** steel boring bar S-Clamping

SCFCR/L Kr: 90°



Turning

B

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

Milling

C

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

Drilling

D

Insert					
Finishing	Medium Cut	Roughing	Aluminium	Cast Iron	PCBN/PCD
A102	A106	A107	A108	A107	A152

Technical Information

E

Index

System code > A282

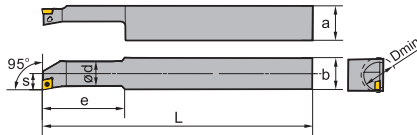
Grade selection > A38

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

System code > A282

Grade selection > A38

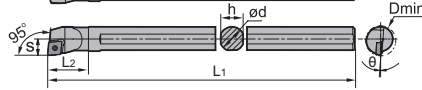
Technical info > A445

Cutting data > A324



CP** solid carbide boring bar S-Clamping

SCLPR/L Kr: 95°



Right hand style

Article	*	Stock		Dimensions [mm]							Inserts
		R	L	∅D	∅d	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**
	∅d	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

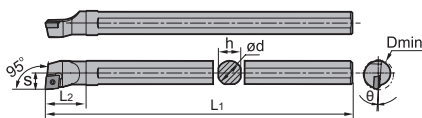
Cutting data > A324

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	I60M2.5x5.5	I60M3.5x8	I60M3.5x10
	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

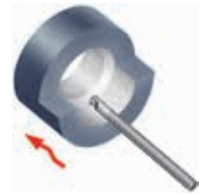
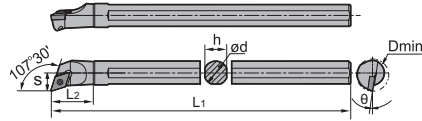
Technical info > A445

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

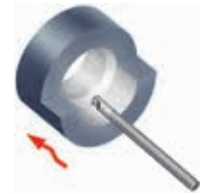
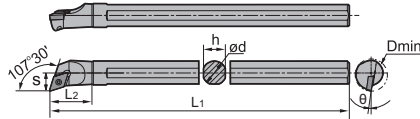
Cutting data > A324

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	I60M2.5x5.5	I60M3.5x10
	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

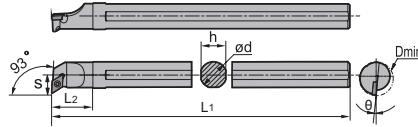
Cutting data > A324



A

DP** solid carbide boring bar S-Clamping


SDUPR/L Kr: 93°



Right hand style

Turning

B

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**	



Milling

● Ex stock ○ On demand

* With internal cooling

C

Spare parts

	Insert	DP**0702**
	ød	15-20
	Screw	I60M2.5x5.5
	Wrench	WT07IP

Drilling

Insert



Finishing

A116

D

Technical Information

E

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System code > A282

Grade selection > A38

Technical info > A445

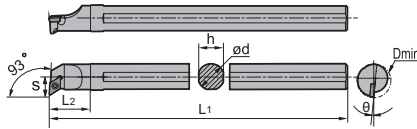
Cutting data > A324

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

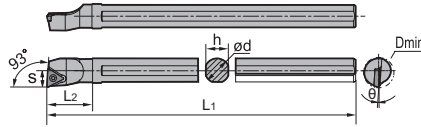
* With internal cooling

Spare parts			
	Insert	DC**0702**	DC**11T3**
	ød	10-20	16-25
	Screw	I60M2.5x5.5	I60M3.5x10
	Wrench (screw)	WT07IP	WT15IP


Insert				
Finishing	Medium Cut	Roughing	Cast Iron	PCBN/PCD
A111	A113	A114	A114	A153

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	I60M2.2x5.5	I60M2.5x6.5
	Wrench (screw)	WT07IP	WT07IP

Insert



Finishing

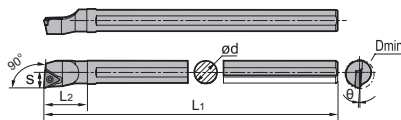
A131

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 ød	TC**0902**	TC**1103**	TC**16T3**
		8-10	12-20	20-25
	Screw	I60M2.2x5.5	I60M2.5x5.5	I60M3.5x10
	Wrench (screw)	WT07IP	WT07IP	WT15IP

Insert

Finishing A125	Medium Cut A127	Roughing A128	Aluminium A130	Cast Iron A128	PCBN/PCD A154

System code > A282

Grade selection > A38

Technical info > A445

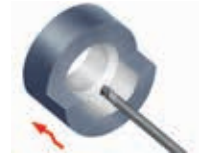
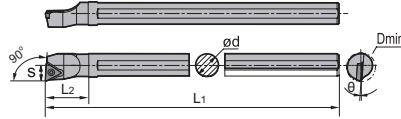
Cutting data > A324



A

TC** solid carbide boring bar **S-Clamping**

STFPR/L Kr: 90°



Right hand style

Turning

B

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**

Milling

● Ex stock ○ On demand

* With internal cooling

C

Spare parts		
	Insert	TP**1103**
	ød	10-20
	Screw	I60M3.0x7.0
	Wrench (screw)	WT08IP

Drilling

D

Insert
Finishing
A131

Technical Information

E

Index

System code > A282

Grade selection > A38

Technical info > A445

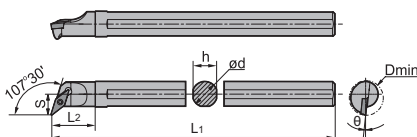
Cutting data > A324


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

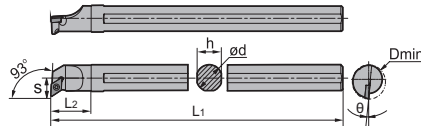
Technical info > A445

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

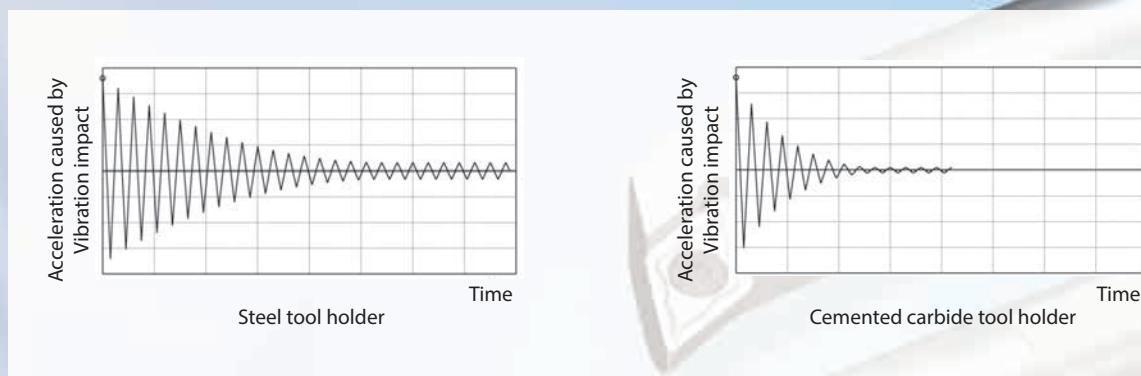


Anti Vibration Boring Bar

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. $L \leq 3 \times D$, carbide tool holder is approx. $L \leq 6 \times D$). 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)



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
			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	100	23										
	Cast aluminium alloys		≤ 12% Si, cannot be hardened	75	24										
			≤ 12% Si, hardenable	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 base	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.

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	$\leq 12\%$ Si, cannot be hardened		75	24				550	300				
		$\leq 12\%$ 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									
	Hard cast iron		hardened and tempered	60 HRC	38									
	Hardened 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.

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		
	ferritic		160	18											
	perlitic		250	19							300	200	100		
	Cast iron with spheroidal graphite	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	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.

A Turning
B Milling
C Drilling
D Technical Information
E Index

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
	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									
	Hard cast iron		hardened and tempered	60 HRC	38									
	Hardened 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 Si₃N₄ ceramic
- CM Mixed ceramic
- HC₁ 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 Si₃N₄ ceramic
- CM Mixed ceramic
- HC₁ Coated cermet

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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											
P Low-alloyed steel		annealed	180	6											
		tempered	275	7											
		tempered	300	8											
		tempered	350	9											
P 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		
K Cast iron with spheroidal graphite	ferritic		160	18											
	perlitic		250	19							240	180	100		
K 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										
N Copper and copper alloys (bronze/brass)	> 12% Si, cannot be hardened		130	26											
	machining steel, PB> 1%		110	27											
		CuZn, CuSnZn		90	28										
S Heat-resistant alloys	Fe-based alloys	annealed	200	30											
		hardened	280	31											
	Ni or Co bass	annealed	250	32											
		hardened	350	33											
S Titanium alloys	cast	320	34												
	pure titanium		R _m 400	35											
H Hardened steel	α and β alloys	hardened	R _m 1050	36											
	hardened and tempered		55 HRC	37	220	170	130	160	120	100					
H Hard cast iron	hardened and tempered		60 HRC	38	200	160	120	150	120	100					
	cast		400	39	200	150	100	180	120	100					
H 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											
X 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.

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Grade overview	A344-A345
Application fields of grades	A346-A348
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A

Turning

Parting & grooving inserts

Double sided



ZT*D-MM
2-8
A351



ZT*D-MG
2.5-6
A355



ZT-EG**
1-6.5
A357



ZP*D-MG
2.5-6
A352



ZP*D-MG-R/L
2.35-2.85
A354

Width
Page



ZR*D-MG
2.5-6
A360



ZR*D-EG
3-6
A361



ZR*D-LH
6-8
A364



ZILD-LC
8
A365

Width
Page

B

Milling

Single sided



ZT*S-MG
5-6
A356



ZP*S-MG
2.5-6
A353



ZIMF-NM
3-6
A362



ZIGQ-NM
3-6
A363

Width
Page

C

Drilling

Three cutting edges



QCR/L**
0.75-4.8
A367



QCR/L***R**
1-4
A370

Width
Page

D

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External tool holders



GQCR/L**
A397



QER/L**
A376



QE*SN**
A382



QE*SR/L
A381



QECDR/L
A379

Page



QFR/L**
A384



QFRR/LL**
A386



QF*DR/L
A390



QX*DR/L
A380



QZS*
A383

Page

Boring bars



C*-Q*DR/L**
A395



C16M-QBDR/L
A375



C40X-Q*DR/L
A394



S*K-QCR/L**
A398

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Drilling

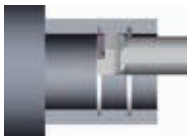

















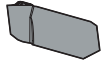

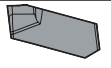

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	Machining	Tool holders	Inserts	Tool features and parameters	Page
A Turning	Parting	 QZ**+QE**	 ZP*S**	<ul style="list-style-type: none"> Variable overhang, also in greater grooving depths. Max. parting diameter 120.0 mm 	A382- A383
		 QE*DR/L	 ZP**D*	<ul style="list-style-type: none"> 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*				
B Milling	External machining Grooving & turning	 QE*DR/L	 ZT*D**	<ul style="list-style-type: none"> 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		
C Drilling	Precision grooving	 QECD	 ZT*D**-EG	<ul style="list-style-type: none"> 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		
D Technical Information	Grooving	 QC series GQCR/L	 QC16/22****	<ul style="list-style-type: none"> 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
		E Index	Internal machining Grooving & turning		
 ZR*D**					

		Machining	Tool holders	Inserts	Tool features and parameters	Page
Internal machining	Grooving		 QC series S***-QC**R/L*	 QC11/16/22****	<ul style="list-style-type: none"> - 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**	<ul style="list-style-type: none"> - 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**	<ul style="list-style-type: none"> - 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**	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Special chip breakers for machining of aluminium. - Sharp and stable cutting edge for continuous to interrupted cut. - Profiling of aluminium rims. 	A394
			 QE*S*N	 ZIGQ**	<ul style="list-style-type: none"> - Precision insert with optimised seat and safe clamping. - Insert for heat-resistant alloys and special materials. 	A381
Tools for aerospace	External machining		 ZIMF**			
				Nonstandard tools	Selection according to application	<ul style="list-style-type: none"> - Nonstandard solutions for machining of different workpieces.

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A

Grooving

MM **P** **M** **K** **S**



Turning

Ground chip breaker with straight cutting edge for general machining of steel, stainless steel and heat-resistant alloys. Suitable for grooving, turning and parting.

B

MG **P** **M** **K** **S**



Milling

Universal chip breaker for general machining of steel, stainless steel and cast iron. Suitable for grooving, turning and parting.

C

MG **P** **M** **K** **S**



Drilling

Universal chip breaker with round profile for general machining of steel, stainless steel and cast iron. Suitable for grooving and profiling.

D

EG **M** **P** **S**



Technical Information

Ground precision chip breaker for grooving and turning applications. Suitable for machining of stainless steel. E-tolerance for high repeatability.

E

EG **M** **P** **S**



Index

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.






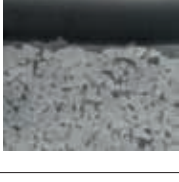

LH **N**



Ground chip breaker for profile and turning applications of non-ferrous metals.

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Parting & grooving

Grade	ISO	Micro structure	Grade description
YBC152	P10–P20		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.

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Turning

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Milling

C

Drilling


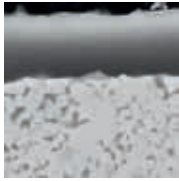
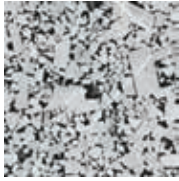
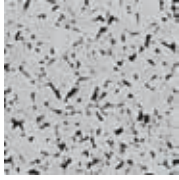
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Parting & grooving

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.

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Turning

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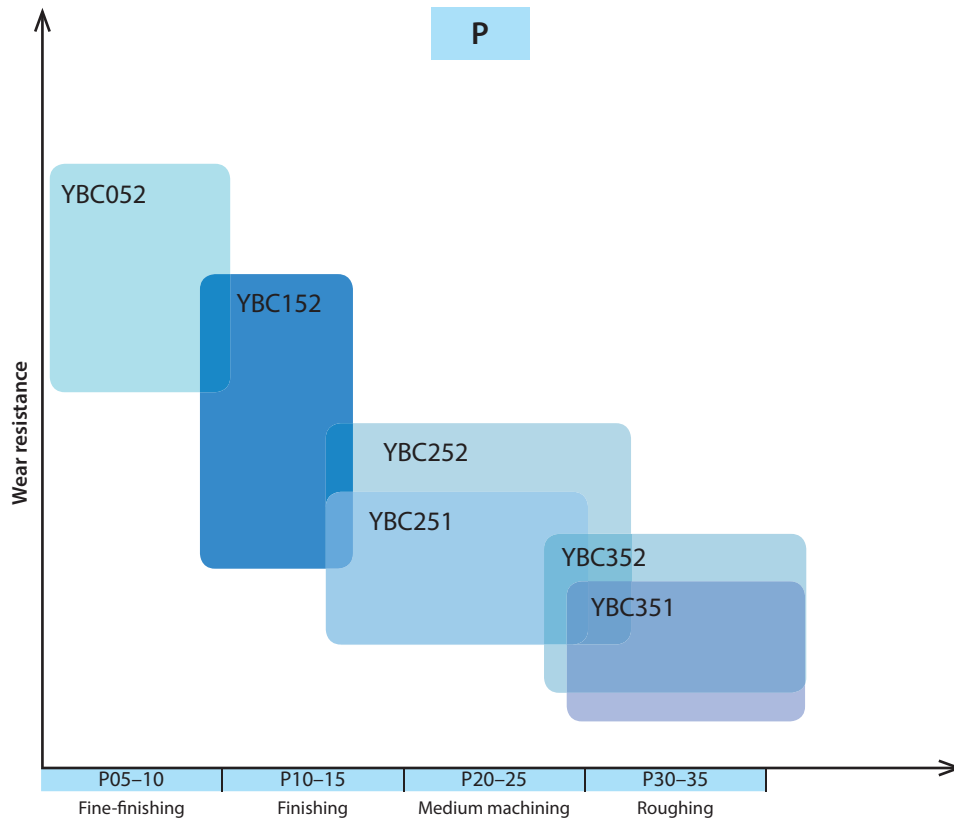
C

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CVD grades for steel, stainless steel and cast iron



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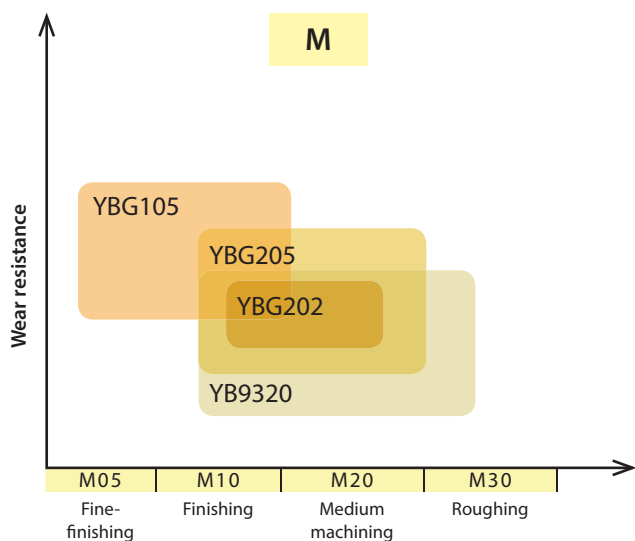
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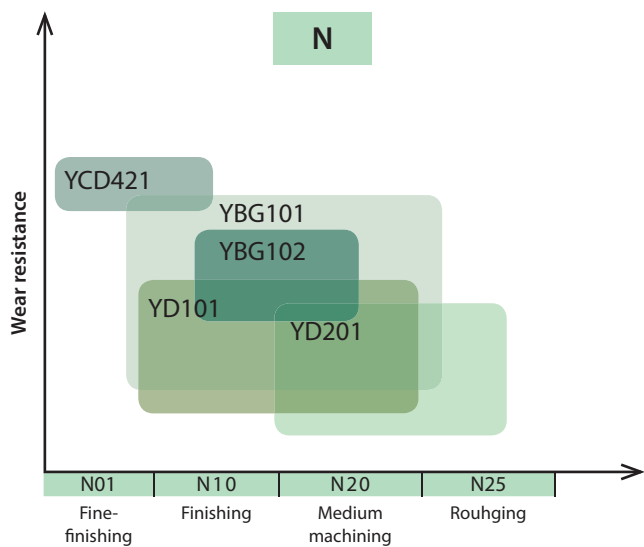
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PVD grade for stainless steel and heat-resistant alloys



Turning grades for non-ferrous metals



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Application fields of grades – Parting & grooving

	ISO	HC ¹ (CVD)	HC ¹ (PVD)	HT	HC ²	Ceramic	HW	CBN	PCD
A Turning	P01								
	P10	YBC152	YBG202						
	P20	YBC251 YBC252	YB9320						
	P30		YBG302						
	P40								
B Milling	M01								
	M10		YBG202						
	M20		YB9320						
	M30		YBG302						
	M40								
C Drilling	K01								
	K10								
	K20								
	K30								
D Technical Information	N01						YD101		
	N10						YD102		
	N20								
	N30								
E Index	S01								
	S10		YBG102						
	S20								
	S30								
F Index	H01								
	H10								
	H20								
	H30								

P	Steel
M	Stainless steel
K	Cast iron

N	Non-ferrous metals
S	Heat-resistant alloys
H	Hardened materials

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

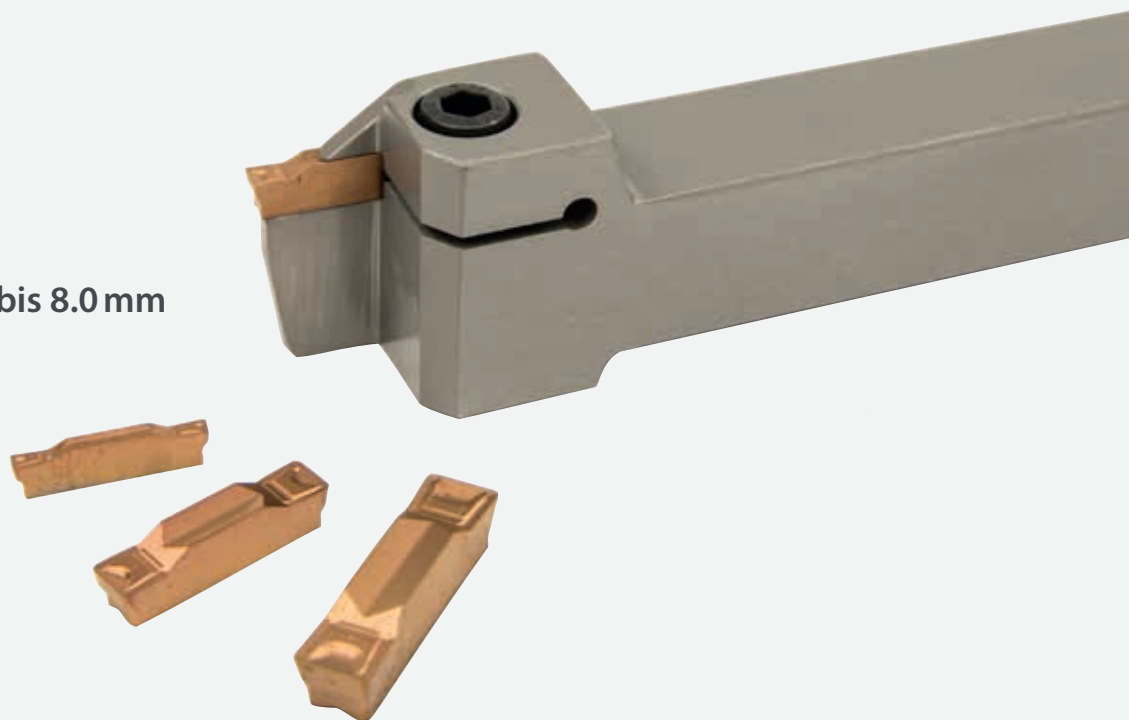
New

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



A

ZP G D 04 04 – M G


1 2 3 4 5 6 7

Turning

Application	
Code	Description
ZP	Parting
ZT	Grooving & turning
ZR	Form turning

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

No. of cutting edges	
Code	Description
S	Single
D	Double

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


B

Milling

1 2 3 4

C

Drilling

Nose radius r [mm]	
	
Code	r
02	0.2
03	0.3
04	0.4
08	0.8

Tolerance class [mm]	
Code	Description
M	±0.13
E	±0.025

Chip breaker	
Code	Description
G	General chip breaker
F	Special chip breaker
M	Straight edge




5 6 7

D

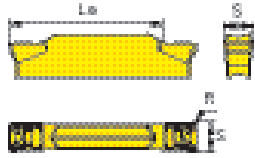

















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-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

ZT** parting & grooving insert (double sided)						HC ¹ (CVD)		HC ¹ (PVD)			HW							
 <p>Double cutting edge</p>						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

HC¹ 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

System code >

Grade selection >

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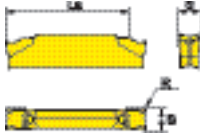

















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-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions



Parting inserts

Parting & grooving insert (double sided)						HC ¹ (CVD)		HC ¹ (PVD)			HW					
 <p>Double cutting edge</p>						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

HC¹ 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




System code >

Grade selection >

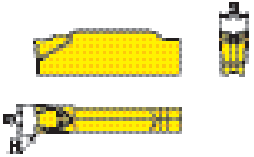


















Technical info >

Cutting data >



-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions







Parting inserts

Parting & grooving insert (single sided)					HC ¹ (CVD)		HC ¹ (PVD)			HW		
 <p>Single cutting edge</p>	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

HC¹ 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 >

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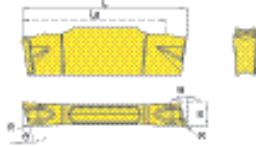
















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-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

ZT** parting & grooving insert (double sided)								HC ¹ (CVD)		HC ¹ (PVD)				HW							
								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

HC¹ Coated carbide
HW Uncoated carbide

Tool holders

QE*D*R/L



A376




System code >

Grade selection >

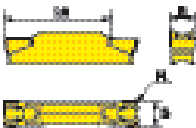

















Technical info >

Cutting data >









-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

Parting & grooving insert (single sided)						HC ¹ (CVD)		HC ¹ (PVD)			HW							
 <p>Double cutting edge</p>						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

HC¹ 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 >

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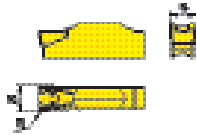



















A

Turning

-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

Parting & grooving insert (single sided)					HC ¹ (CVD)		HC ¹ (PVD)				HW						
 Single cutting edge					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

HC¹ Coated carbide
HW Uncoated carbide

B

Milling

C

Drilling







D

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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
					
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System code >

Grade selection >

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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						
<p>1.0-2.4 mm 2.4-6.5 mm</p>						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

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C
Drilling

D
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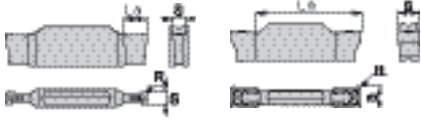
















Technical Information

E

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-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

Parting & grooving insert (double sided)						HC ¹ (CVD)		HC ¹ (PVD)				HW						
 1.0-2.4 mm 2.4-6.5 mm						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 >

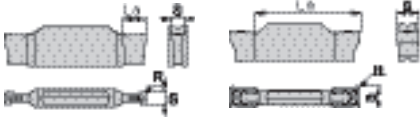


















Technical info >

Cutting data >





-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

Parting & grooving insert (double sided)						HC ¹ (CVD)		HC ¹ (PVD)			HW							
 <p>1.0-2.4 mm 2.4-6.5 mm</p>						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

HC¹ Coated carbide
HW Uncoated carbide

Tool holders	
QE*D*R/L	QECD
	
A376	A379

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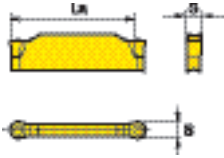

























Technical Information

E

Index

-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions






Parting inserts

Parting & grooving insert (double sided)					HC ¹ (CVD)		HC ¹ (PVD)			HW					
 <p>Double cutting edge</p>					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

HC¹ 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




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Grade selection >

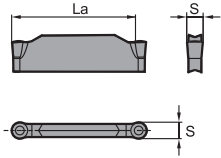


















Technical info >

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						
 <p>Double cutting edge</p>					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

HC¹ 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 >

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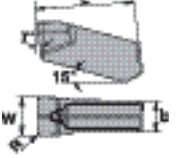


















A

Turning


Parting inserts

-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting & grooving insert (single sided)							HC ¹ (CVD)		HC ¹ (PVD)			HW			
	P														
	M														
	K														
	N														
	S														
	H														

B

Milling

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

HC¹ Coated carbide
HW Uncoated carbide

C

Drilling

Tool holders

QE*S*R/L-N



A381

D

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System code >

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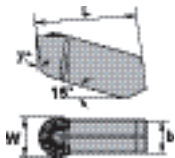


















Technical info >

Cutting data >



-  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	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

HC¹ Coated carbide
HW Uncoated carbide

Tool holders

QE*S*R/L-N



A381

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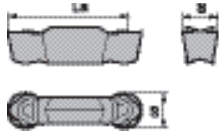


















A


-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

Turning

Parting & grooving insert (double sided)					HC ¹ (CVD)		HC ¹ (PVD)				HW		
	P												
	M												
	K												
	N												
	S												
	H												

B

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								●

Milling

● Ex Stock ○ On demand

HC¹ Coated carbide
HW Uncoated carbide

C

Tool holders

C*X-Q*DR/L



A394

Drilling

D

Technical Information

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System code >

Grade selection >

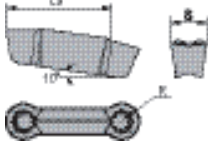

















Technical info >

Cutting data >



-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

Parting & grooving insert (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

HC¹ Coated carbide
HW Uncoated carbide

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

System code >

Grade selection >

Technical info >

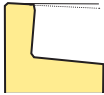
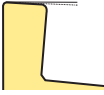
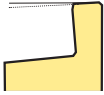
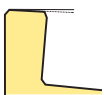
Cutting data >



Triangular inserts (straight edge)

QC 22 R 300 – R 03

1 2 3 4 5 6

Series	Cutting edge length [mm]		Cutting direction		Groove width [mm]		Edge shape	
	Code	I.C	Code	Description	Code	Description	Code	Description
	11	6.35	R	 Right	050	0.50	R	 Radius
	16	9.525	L	 Left	100	1.00	C	 Chamfer
22	12.70					
				480	4.80			



1 2 3 4 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	Cutting edge length [mm]		Cutting direction		Groove width [mm]		Round
	Code	I.C	Code	Description	Code	Description	
	11	6.35	R	 Right	050	0.50	
	16	9.525	L	 Left	100	1.00	
22	12.70				
				480	4.80		

1 2 3 4 5

A

Turning

B

Milling

C

Drilling




D

Technical Information

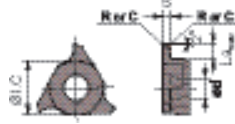
E

Index

Parting inserts

-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

QC** turning/milling insert



Right hand style

								HC ¹ (CVD)		HC ¹ (PVD)			HW			
								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

HC¹ Coated carbide
HW Uncoated carbide

System code > A366

Grade selection > A348

Technical info > A445

Cutting data > A400



A

Turning

B

Milling

C




Drilling

D

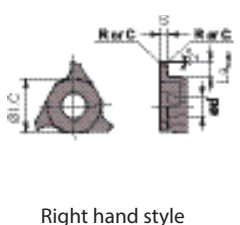















Technical Information

E

Index

-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

QC** turning/milling insert								HC ¹ (CVD)		HC ¹ (PVD)					HW							
 <p>Right hand style</p>								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

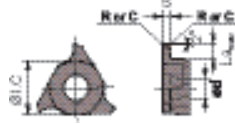
Cutting data > A400



Parting inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavorable machining conditions

QC** turning/milling insert



Right hand style

								HC ¹ (CVD)		HC ¹ (PVD)			HW			
								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

HC¹ 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

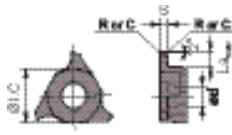


















A

-  Ideal machining conditions
-  Normal machining conditions
-  Unfavorable machining conditions

Parting inserts

Turning

QC** turning/milling insert								HC ¹ (CVD)		HC ¹ (PVD)			HW			
 <p>Right hand style</p>	P															
	M															
	K															
	N															
	S															
	H															

B

Milling

ISO	S±0.025	La max	R/C	Ø1.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								

C

Drilling



D

Technical Information

● Ex Stock ○ On demand

HC¹ Coated carbide
HW Uncoated carbide

E

Index

Tool holders	
QQCR/L	S***-QC**R/L
	
A397	A398

System code > A366

Grade selection > A348

Technical info > A445

Cutting data > A400



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

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

Boring bars

C 32 S – Q G D R 11 – 44

1 2 3 4 5 6 7 8 9

Clamping system	Diameter [mm]	Length [mm]		Holder for grooving	Insert seat size [mm]	
		Code	Description		Holder/Cutting width	
1	2	Q	180	4	Code	Description
		R	200		B	2.0
3	4	S	250	5	E	2.5
		X	320		F	3.0
6	7			8	G	4.0
					H	5.0
8	9			9	K	6.0
					L	8.0
No. of cutting edges		Type		Max. cutting depth [mm]	Min. internal diameter of work piece [mm]	
Code	Description	Code	Description			
S	Single	R	Right	8	9	
D	Double	L	Left			
6		7		9		

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

A

Blade

Q E G D 32 N

1 2 3 4 5 6

Turning

Blade for parting & grooving	Application		Insert seat size [mm]		No. of cutting edges	
	Code	Description	Holder/cutting width		Code	Description
	E	External machining			S	Single
			Code	Description	D	Double
			B	2.0		
			E	2.5		
		F	3.0			
		G	4.0			
		H	5.0			
		K	6.0			
		L	8.0			
1	2		3		4	

B

Milling

C

Blade height [mm]	Type	
	Code	Description
	R	Right
	L	Left
	N	Right and left
5	6	

Drilling

D

Clamping block

QZ S 32 32

1 2 3 4

Technical Information

Parting & grooving tool	No. of cutting edges		Clamping surface height [mm]	Blade height [mm]
	Code	Description		
	S	Single		
	D	Double		
1	2		3	4


E

Index

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

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

System code > A373

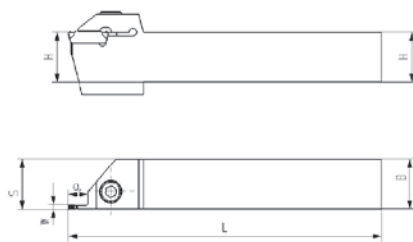
Grade selection > A348

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



A351

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

System code > A372

Grade selection > A348

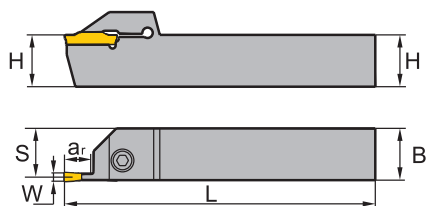
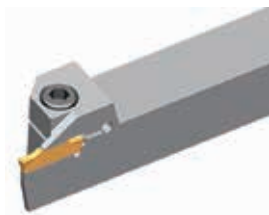
Technical info > A445

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

A

Turning

B

Milling

C

Drilling

D

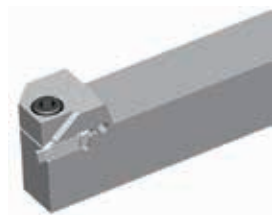
Technical Information

E

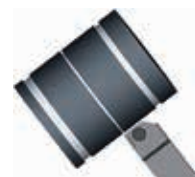
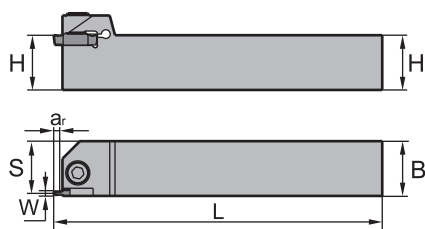
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Parting & grooving tool holder (external)

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

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

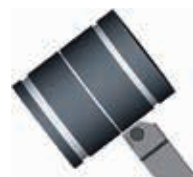
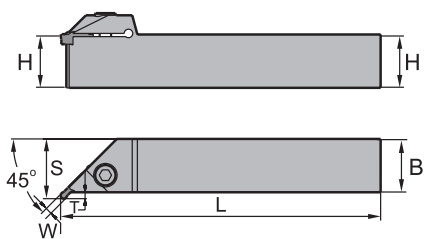
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Parting & grooving tool holder (external)

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

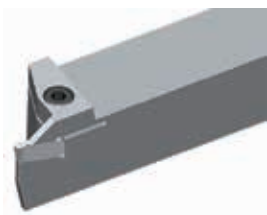
Grade selection > A348

Technical info > A445

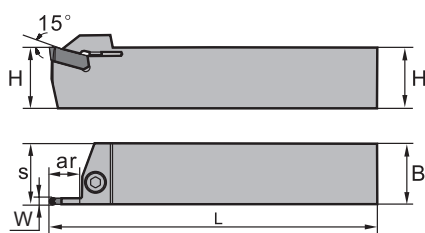
Cutting data > A400

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

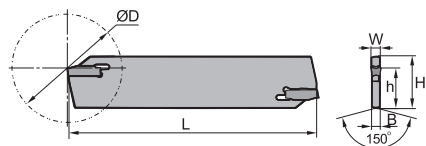
Technical info > A445

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

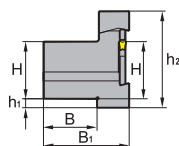
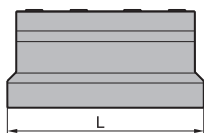
Grade selection > A348

Technical info > A445

Cutting data > A400

Clamping block (external)

QZS*



Article	*	Stock	Dimensions [mm]						Inserts
			H	L	h ₁	h ₂	B	B ₁	
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

A

Turning

B

Milling

C

Drilling

D

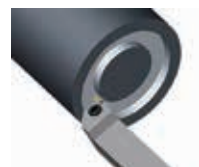
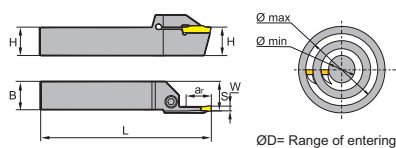
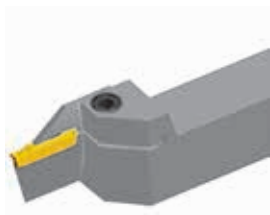
Technical Information

E

Index

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 H	Z*FD** 20-25	Z*GD** 20-25	Z*HD** 20-25	Z*KD** 20-25
	Screw	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20
	Wrench	W50RL	W50RL	W50RL	W50RL

Insert

A351

System code > A374

Grade selection > A348

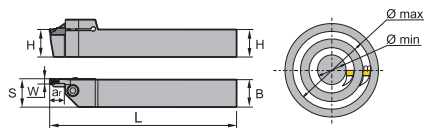
Technical info > A445

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



A

Turning

B

Milling

C

Drilling

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Technical Information

E

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A

Turning



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**

B

Milling

● Ex stock ○ On demand

* With internal cooling

Spare parts					
	Insert H	Z*FD** 20-25	Z*GD** 20-25	Z*HD** 20-25	Z*KD** 20-25
	Screw	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20	GB70-85-M6x20
	Wrench	W50RL	W50RL	W50RL	W50RL

C

Drilling

Insert

A351

D

Technical Information

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System code > A372

Grade selection > A348

Technical info > A445

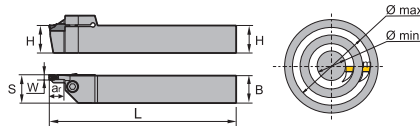
Cutting data > A400

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

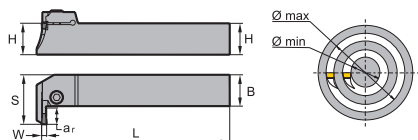
* With internal cooling

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

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 H	Z*FD** 20-25	Z*GD** 20-25	Z*HD** 20-25	Z*KD** 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

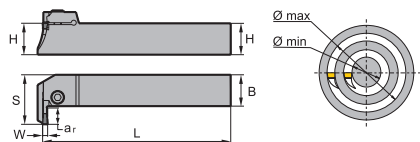
Cutting data > A400



A

Parting & grooving tool holder (axial)


QFHSDR/L



Right hand style

Turning

B



Article	*	Stock		Dimensions [mm]						Inserts
		R	L	HxB	L	S	W	ar _{max}	ØD (min-max)	
QFH52525R/L30-185L	● ○	●	○	25x25	150	56.5	5	30	185x400	Z*HS**

Milling


● Ex stock ○ On demand

* With internal cooling

C

Spare parts		
	Insert	Z*HS**
	H	25
	Screw	GB70-85-M6x20
	Wrench	W50RL

Drilling

Insert

A356

D

Technical Information

E

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System code > A372

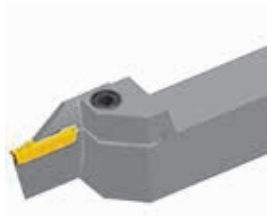
Grade selection > A348

Technical info > A445

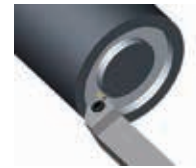
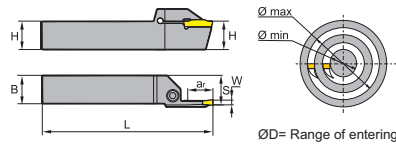
Cutting data > A400

Parting & grooving tool holder (axial)

QF**R/L



Left hand style



Article	*	Stock		Dimensions [mm]					Inserts
		R	L	HxB	L	S	W	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

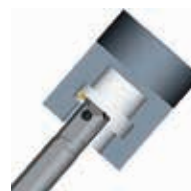
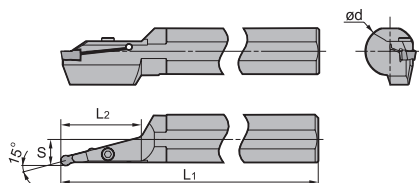
Technical info > A445

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

System code > A372

Grade selection > A348

Technical info > A445

Cutting data > A400

A

Turning

B

Milling

C

Drilling

D

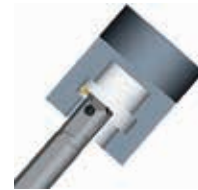
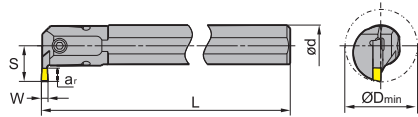
Technical Information

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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
	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



A

Turning

B

Milling

C

Drilling

D

Technical Information

E

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External tool holders – QC series

GQC R 20 20 K 22 – 15

1 2 3 4 5 6 7

Series	Type		Height [mm]		Width [mm]		Length [mm]	
	Code	Description	Code	Description	Code	Description	Code	Description
	R	Right	16	16	16	16	K	125
	L	Left	20	20	20	20	M	150
			25	25	25	25		

1

2

3

4

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	$0.5 \leq S < 1.8$ (QC16***)	$1.0 \leq S < 2.3$ (QC22***)
25	$1.8 \leq S < 3.0$ (QC16***)	$2.3 \leq S < 3.3$ (QC22***)
35	–	$3.3 \leq S \leq 4.8$ (QC22***)

7

Boring bars – QC series

S 20 K – QC 16 15 R 25

1 2 3 4 5 6 7 8

Shank type		Diameter [mm]		Length [mm]		Series
Code	Material	Code	Description	Code	Description	
S	Steel shank	16	16	H	100	
C	Solid carbide shank	20	20	K	125	Series
A	Solid carbide shank (IC)	25	25	M	150	

1

2

3

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	$0.5 \leq S < 1.8$ (QC11***)	$0.5 \leq S < 1.8$ (QC16***)	$1.0 \leq S < 2.3$ (QC22***)
25	$1.8 \leq S < 3.0$ (QC11***)	$1.8 \leq S < 3.0$ (QC16***)	$2.3 \leq S < 3.3$ (QC22***)
35	–	–	$3.3 \leq S \leq 4.8$ (QC22***)

6

Cutting direction	
Code	Description
R	Right
L	Left

7

Starting diameter [mm]			
Code	∅	Code	∅
16	16	25	25
20	20	35	35

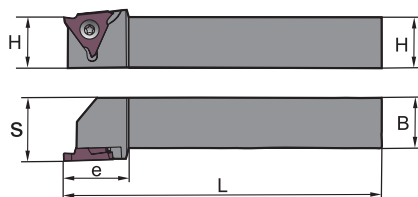
8

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	I60M3.5x10	I60M5x13
	Wrench (shim)	WT15IP	WT20IP

Insert



Medium Cut

A367

System code > A396

Grade selection > A348

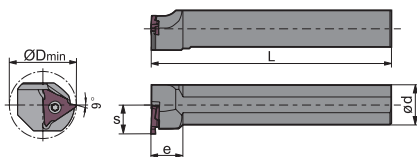
Technical info > A445

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	I60M2.5x6.5	I60M3.5x10	I60M5x13	I60M5x13
	Wrench (shim)	WT07IP	WT15IP	WT20IP	WT20IP

Insert



Medium Cut

A367

System code > A396

Grade selection > A348

Technical info > A445

Cutting data > A400

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		
A Turning	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		
	B Milling	P 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	
	C Drilling	M Stainless steel	ferritic/martensitic	annealed	200	12	165	170	165	
martensitic			tempered	240	13	135	140	135		
K Cast iron with spheroidal graphite		austenitic	quench hardened	180	14	155	160	155		
		austenitic-ferritic		230	15	135	140	135		
		N Aluminium wrought alloys	perlitic/ferritic		180	16	240	250	240	
			perlitic (martensitic)		260	17	185	190	185	
		D Technical Information	K Cast iron with spheroidal graphite	ferritic		160	18	220	230	220
				perlitic		250	19	165	170	165
N Cast aluminium alloys			ferritic		130	20	175	180	175	
			perlitic		230	21	165	170	165	
E Index	N Aluminium wrought alloys	cannot be hardened		60	22					
		hardenable	hardened	100	23					
	N Cast aluminium alloys	$\leq 12\%$ Si, cannot be hardened		75	24					
		$\leq 12\%$ Si, hardenable	hardened	90	25					
		$> 12\%$ Si, cannot be hardened		130	26					
	S Heat-resistant alloys	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	
annealed				250	32		80	80		
hardened				350	33		70	70		
Titanium alloys		Ni or Co bass	cast		320	34		70	70	
	pure titanium			R _m 400	35		150	145		
H Hardened steel	Titanium alloys	α and β alloys	hardened	R _m 1050	36		50	50		
		hardened and tempered		55 HRC	37					
	Hard cast iron	hardened and tempered		60 HRC	38					
		cast		400	39					
X Non-metallic materials	Hardened cast iron	hardened and tempered		55 HRC	40					
		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.

A

Notes

Turning

B

Milling

C

Drilling

D

Technical
Information

E

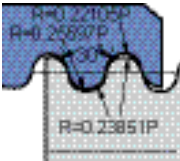

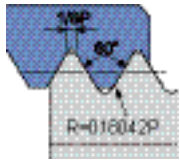

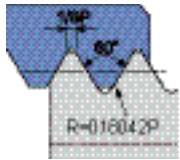
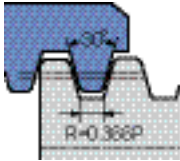

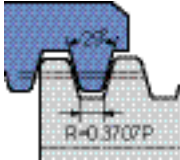

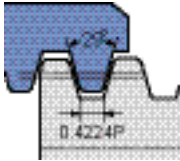

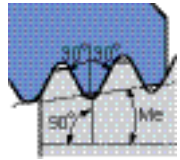

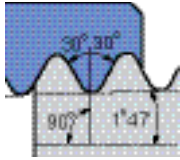

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Threading

System overview	A404-A407
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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

A	Thread types	Profile	Sectional drawing	Insert	Internal Thread pitch [mm]	External Thread pitch [mm]	Page
Turning	ISO metric coarse thread 60° full profile	GM			0.5-6.0	0.5-6.0	A335
B	ISO metric coarse thread 60° partial profile	60°			0.5-5.0 (5-48)	0.5-5.0 (5-48)	A337
Milling	ISO metric coarse thread 55° partial profile	55°			0.5-5.0 (5-48)	0.5-5.0 (5-48)	A337
C	Whitworth	W			8-16	8-16	A338
Drilling	UN unified conventional thread 60° full profile	UN			8-20	8-20	A339
Technical Information	BSPT Whitworth taper pipe thread	BSPT			11-28	11-28	A340
E	NPTF dryseal American taper pipe thread 60°	NPT			8-27	8-27	A341
Index	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

A

Turning

B

Milling

C

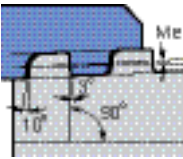

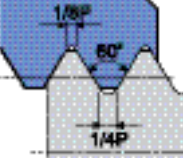
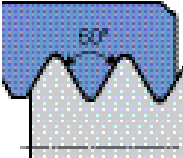
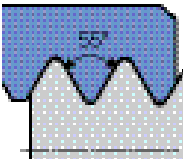


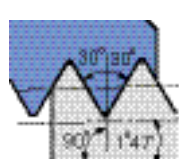
Drilling




D

Technical Information

E

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A	Thread types	Profile	Sectional drawing	Insert	Internal Thread pitch [mm]	External Thread pitch [mm]	Page
Turning	API American buttress thread	BUT			5	5	A350
Milling	ISO metric coarse thread 60° full profile (thin type)	GM			0.5-3.0	0.5-3.0	A335
Drilling	ISO metric coarse thread 60° partial profile (thin type)	60°			0.5-3.0 (8-48)	0.5-3.0 (8-48)	A337
Technical Information	ISO metric coarse thread 55° partial profile (thin type)	55°			0.5-3.0 (8-48)	0.5-3.0 (8-48)	A337
Index	Whitworth (thin type)	W			8-16	8-16	A338
Technical Information	UN unified conventional thread 60° full profile (thin type)	UN			8-24	8-20	A339
E	BSPT Whitworth taper pipe thread (thin type)	BSPT			11-28	11-28	A340
Index	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

A

Turning

B

Milling

C

Drilling

D




Technical
Information

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A

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.

Turning

B

Milling

C

Drilling

D

Technical Information

E

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Application fields of grades – Threading

	ISO	HC ¹ (CVD)	HC ¹ (PVD)	HT	HC ²	Ceramic	HW	CBN	PCD
P	P01								
	P10		YBG205						
	P20		YBG201						
	P30		YBG202						
	P40								
M	M01								
	M10		YBG205						
	M20		YBG201						
	M30		YBG202						
	M40								
K	K01								
	K10								
	K20								
	K30								
N	N01								
	N10								
	N20								
	N30								
S	S01								
	S10		YBG205						
	S20		YBG201						
	S30		YBG202						
H	H01								
	H10								
	H20								
	H30								

- P** Steel
- M** Stainless steel
- K** Cast iron

- N** Non-ferrous metals
- S** Heat-resistant alloys
- H** Hardened materials

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

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

Index

R T 22. 01 W – 3.50 GM (P) (B)

1

2

3

4

5

6

7

8


9

A

Turning

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

B

Milling

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

C

Drilling

D

Technical Information

Chip breaker

8

Insert thickness [mm]

Code	Description
B	Thin type

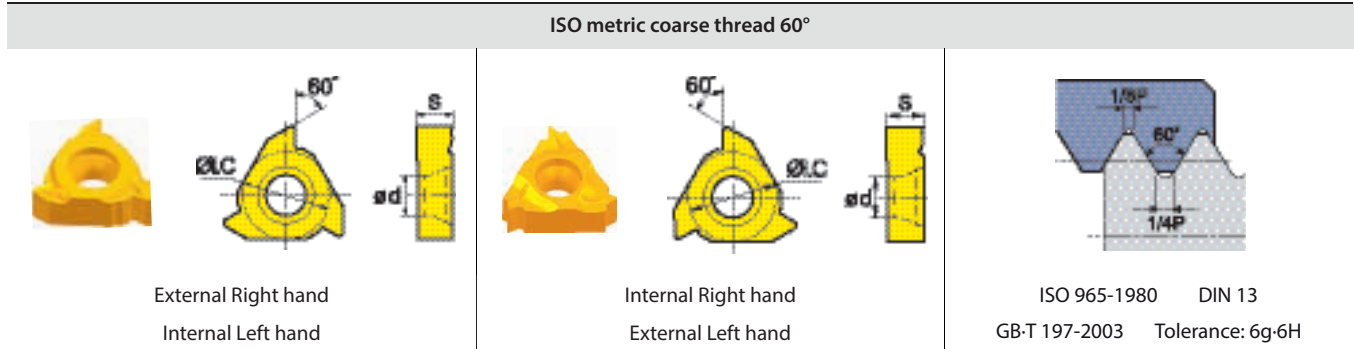
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E

Index

Threading Inserts

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



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

HC¹ Coated carbide



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Technical Information

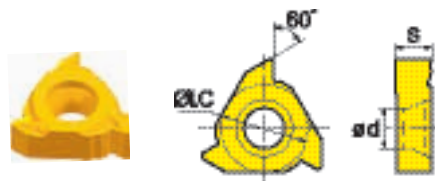
E

Index

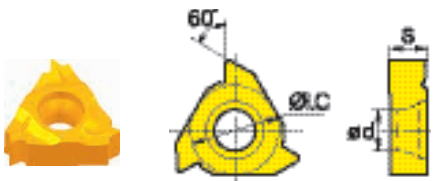
R/LT**N/W	I.C	S	d
11	6.35	3.18	2.8
16	9.525	3.97	4.4
22	12.7	5.56	5.5

Threading Inserts

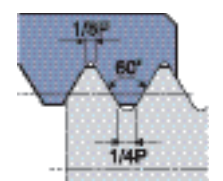
ISO metric coarse thread 60°



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.Pi)	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

HC¹ Coated carbide

Tool Holders	
SWR/L	SNR/L
	
A437	A438

System code > A410

Grade selection > A409

Technical info > A445

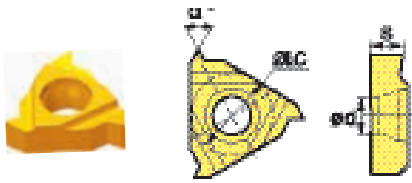
Cutting data > A444



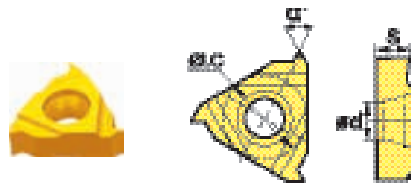
Threading Inserts

R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4
22	12,7	5,56	5,5

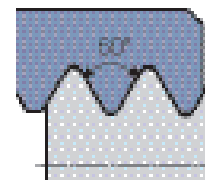
Partial profile 60°



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

P*: Inserts with chip-breakers

HC¹ Coated carbide

Tool Holders

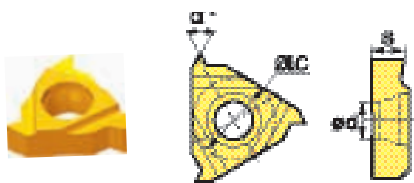
SWR/L	SNR/L
	
A437	A438



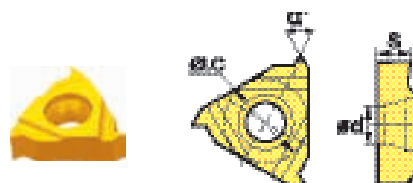
R/LT**N/W	I.C	S	d
16	9,525	3,97	4,4
22	12,7	5,56	5,5

Threading Inserts

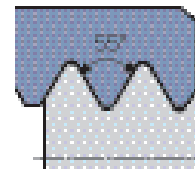
Partial profile 55°



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

HC¹ Coated carbide

P*: Inserts with chip-breakers

Tool Holders

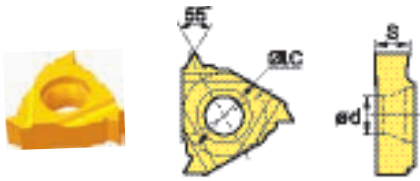
SWR/L	SNR/L
	
A437	A438



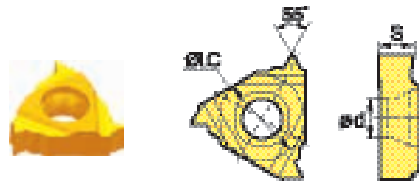
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

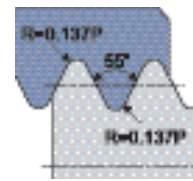
Whitworth



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.Pi)	External	HC ¹ (PVD)					Internal	HC ¹ (PVD)						
			YBG201	YBG205					YBG201	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

HC¹ Coated carbide

Tool Holders

SWR/L	SNR/L
	
A437	A438



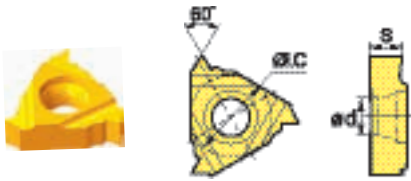
A

Threading Inserts

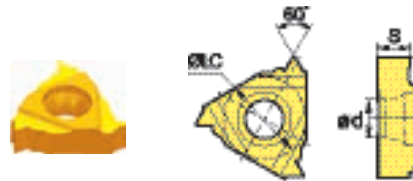
R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

Turning

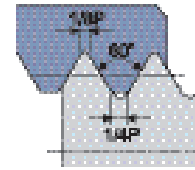
UN unified conventional thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



AS, E B1.1-1989
Tolerance: 2A-2B

B

Milling

ISO	Pitch (T.Pi)	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

HC¹ Coated carbide

C

Drilling

D

Technical Information

Tool Holders

SWR/L	SNR/L
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System code > A410

Grade selection > A409

Technical info > A445

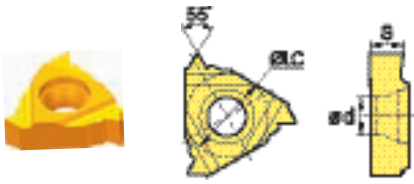
Cutting data > A444



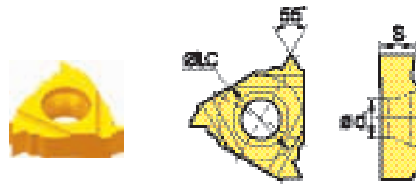
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

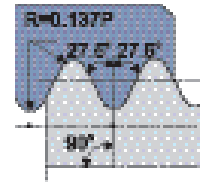
BSPT Whitworth taper pipe thread



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

HC¹ Coated carbide

Tool Holders

SWR/L	SNR/L
	
A437	A438

System code > A410

Grade selection > A409

Technical info > A445

Cutting data > A444

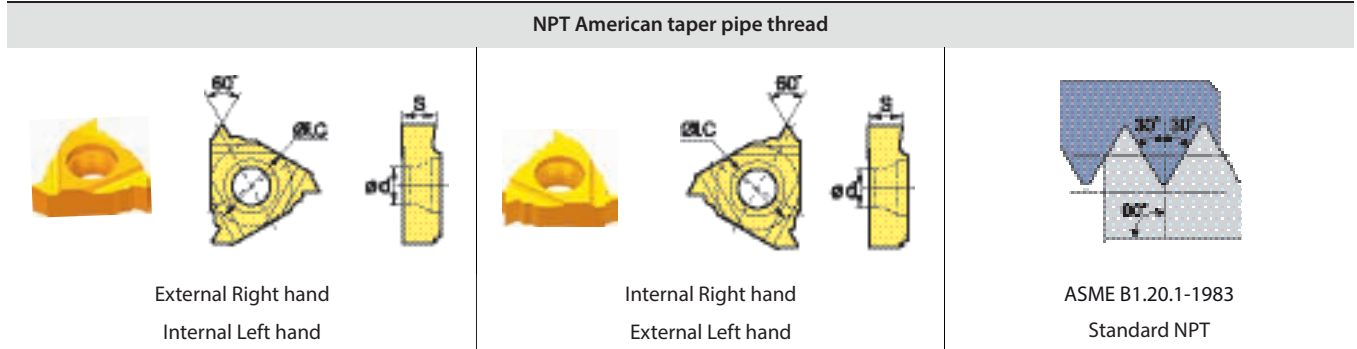


A

Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

Turning



B

Milling



ISO	Pitch (T.Pi)	External	HC ¹ (PVD)					Internal	HC ¹ (PVD)						
			YBG201	YBG205						YBG201	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

HC¹ Coated carbide

C

Drilling

Tool Holders	
SWR/L	SNR/L
	
A437	A438

D

Technical Information

E

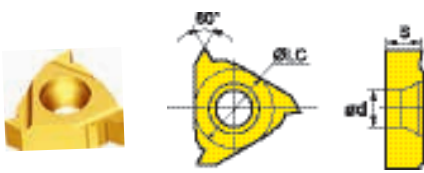
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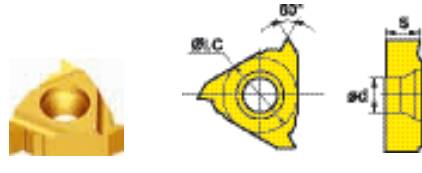
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

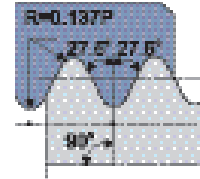
NPTF dryseal American taper pipe thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand





ANSI B1.20.1-1983
Tolerance: 2

ISO	Pitch (T.Pi)	External	HC ¹ (PVD)				Internal	HC ¹ (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



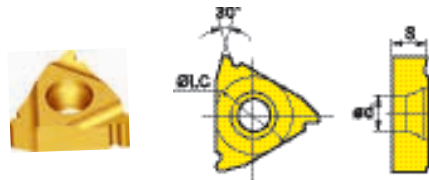
A

Threading Inserts

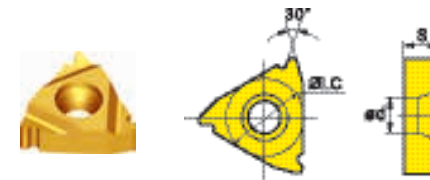
R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

Turning

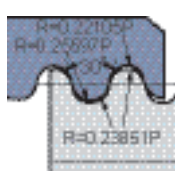
R knuckle thread 30°



External Right hand
Internal Left hand



Internal Right hand
External Left hand



DIN 405
Tolerance: 7

B

Milling



ISO	Pitch (T.P.i)	External	HC ¹ (PVD)					Internal	HC ¹ (PVD)					
			YBG201	YBG205							YBG201	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

HC¹ Coated carbide

C

Drilling

Tool Holders	
SWR/L	SNR/L
	
A437	A438

D

Technical Information

E

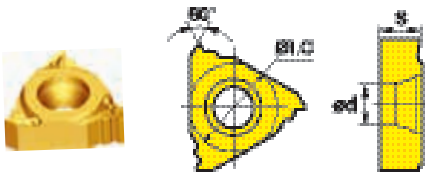
Index



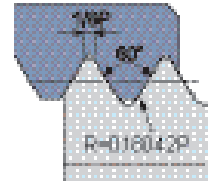
Threading Inserts

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.Pi)	External	HC ¹ (PVD)				Internal	HC ¹ (PVD)			
			YBG201	YBG205				YBG201	YBG205		
16	1.50	RT16.01W-1.50MJ	○	○			-				
	2.00	RT16.01W-2.00MJ	○	○			-				

● Ex Stock ○ On demand

HC¹ Coated carbide

Tool Holders

SWR/L	SNR/L
A437	A438

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

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System code > A410

Grade selection > A409

Technical info > A445

Cutting data > A444



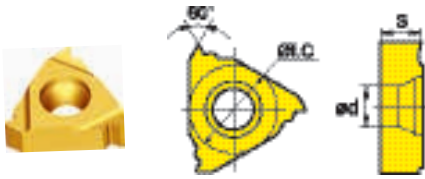
A

Threading Inserts

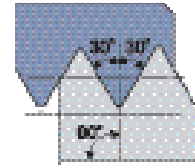
R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

Turning

UNJ unified screw thread



External Right hand
Internal Left hand



ISO 3161-1999
Tolerance: 3A

B

Milling

ISO	Pitch (T.Pi)	External	HC ¹ (PVD)					Internal	HC ¹ (PVD)					
			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

HC¹ Coated carbide

C

Drilling

Tool Holders

SWR/L	SNR/L
	
A437	A438

D

Technical Information

E

Index

System code > A410

Grade selection > A409

Technical info > A445

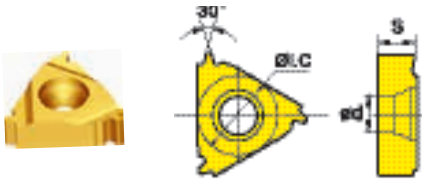
Cutting data > A444



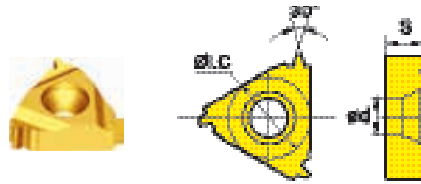
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

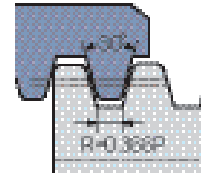
TR metrical ISO trapezoidal thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ISO 2901-2904
Tolerance: 7

ISO	Pitch (T.Pi)	External	HC ¹ (PVD)				Internal	HC ¹ (PVD)			
			YBG201	YBG205				YBG201	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

HC¹ Coated carbide

Tool Holders

SWR/L	SNR/L
	
A437	A438

System code > A410

Grade selection > A409

Technical info > A445

Cutting data > A444



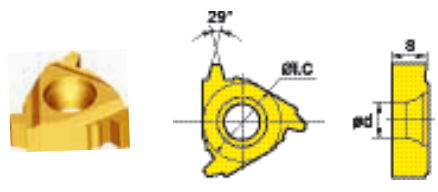
A

Threading Inserts

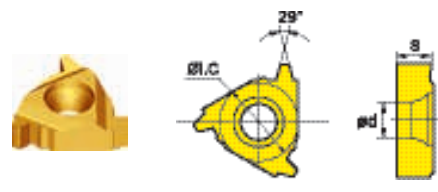
R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

Turning

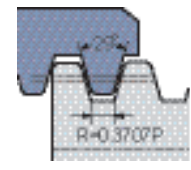
ACME American national thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ANSI B1.5-1988
Tolerance: 2G

B



ISO	Pitch (T.Pi)	External	HC ¹ (PVD)				Internal	HC ¹ (PVD)			
			YBG201	YBG205				YBG201	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

HC¹ Coated carbide

C

Tool Holders

SWR/L	SNR/L
	
A437	A438

Drilling

D

Technical Information

E

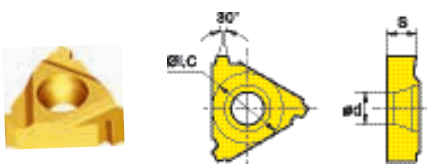
Index



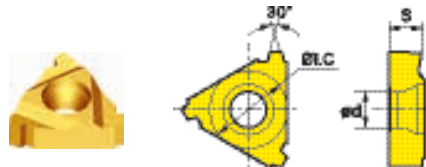
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4

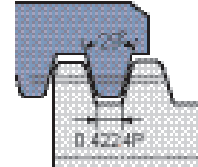
STUB-ACME thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand





ANSI B1.8-1988
Tolerance: 2G / API Standard

ISO	Pitch (T.Pi)	External	HC ¹ (PVD)				Internal	HC ¹ (PVD)			
			YBG201	YBG205				YBG201	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

HC¹ Coated carbide

Tool Holders

SWR/L	SNR/L
	
A437	A438

System code > A410

Grade selection > A409

Technical info > A445

Cutting data > A444



A

Threading Inserts

R/LT**N/W	I.C	S	d
22	12,7	5,56	5,5

Turning

B

Milling

C

Drilling

D

Technical Information

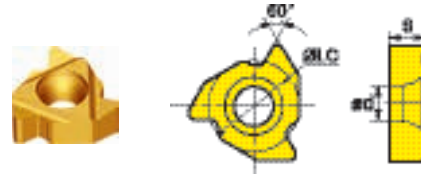
E

Index

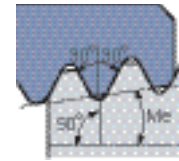
API 60° thread



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.Pi)	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

HC¹ Coated carbide

PB*: Inserts with chip-breakers

Tool Holders

SWR/L	SNR/L
	
A437	A438

System code > A410

Grade selection > A409

Technical info > A445

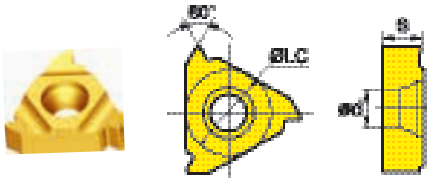
Cutting data > A444



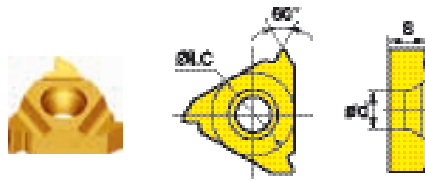
Threading Inserts

R/LT**N/W	I.C	S	d
16	9.525	3.97	4.4
22	12.7	5.56	5.5

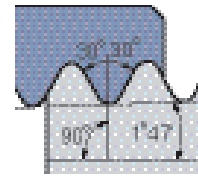
API round thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand





API spec. 5B
Tolerance: API RD

ISO	Pitch (T.Pi)	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

HC¹ Coated carbide

Tool Holders

SWR/L	SNR/L
	
A437	A438

A

Turning

B

Milling

C

Drilling

D

Technical Information

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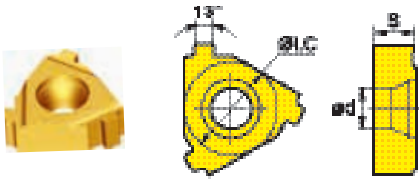
A

Threading Inserts

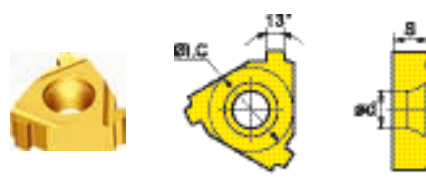
R/LT**N/W	I.C	S	d
22	12.7	5.56	5.5

Turning

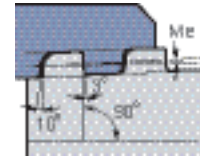
API American buttress thread



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.

B

Milling

ISO	Pitch (T.Pi)	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

HC¹ Coated carbide

C

Drilling

Tool Holders

SWR/L	SNR/L
A437	A438

D

Technical Information

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System code > A410

Grade selection > A409

Technical info > A445

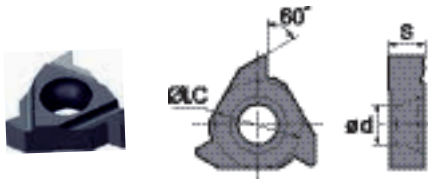
Cutting data > A444



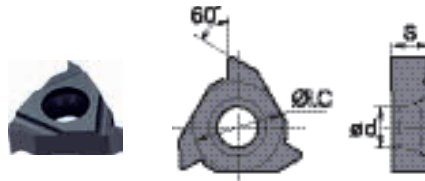
Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

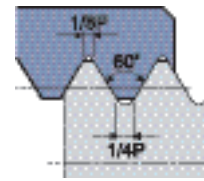
ISO metric coarse thread 60°



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.Pi)	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

HC¹ Coated carbide

Tool Holders

SWR	SNR
A441	A442

System code > A410

Grade selection > A409

Technical info > A445

Cutting data > A444



A

Turning

B

Milling

C

Drilling

D

Technical Information

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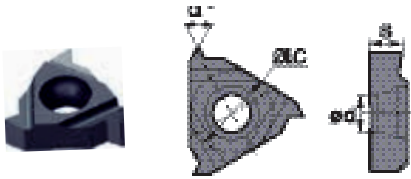
A

Threading Inserts (Thin Type)

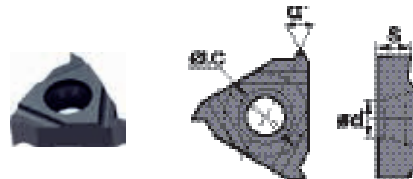
R/LT**N/W	I.C	S	d
16	9,525	3,52	4

Turning

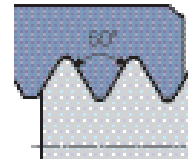
Partial profile 60°



External Right hand
Internal Left hand



Internal Right hand
External Left hand



B

Milling

ISO	Pitch (T.Pi)	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



HC¹ Coated carbide

PB*: Inserts with chip-breakers

C

Drilling

Tool Holders

SWR	SNR
	
A441	A442

D

Technical Information

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System code > A410

Grade selection > A409

Technical info > A445

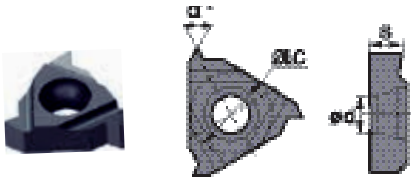
Cutting data > A444



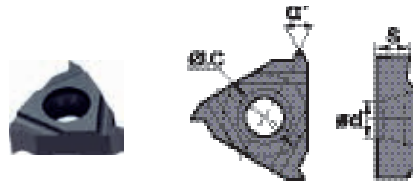
Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

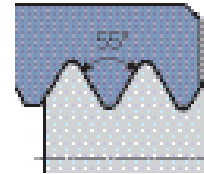
Partial profile 55°



External Right hand
Internal Left hand



Internal Right hand
External Left hand





ISO	Pitch (T.P.i)	External	HC ¹ (PVD)						Internal	HC ¹ (PVD)							
			YBG202	YBG205						YBG202	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

PB*: Inserts with chip-breakers

HC¹ Coated carbide

Tool Holders

SWR	SNR
	
A441	A442

A

Turning

B

Milling

C

Drilling

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System code > A410

Grade selection > A409

Technical info > A445

Cutting data > A444

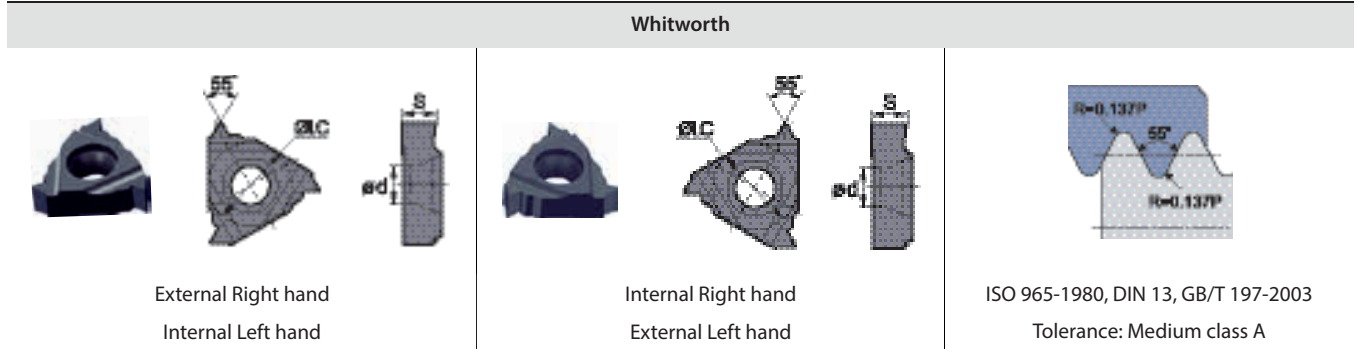


A

Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

Turning



B

Milling

ISO	Pitch (T.Pi)	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	○	○				

C

Drilling

● Ex Stock ○ On demand



PB*: Inserts with chip-breakers

HC¹ Coated carbide

D

Technical Information

Tool Holders

SWR	SNR
	
A441	A442

E

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System code > A410

Grade selection > A409

Technical info > A445

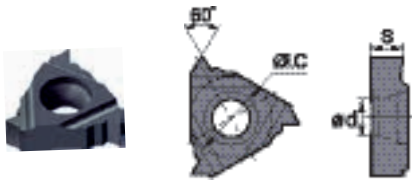
Cutting data > A444



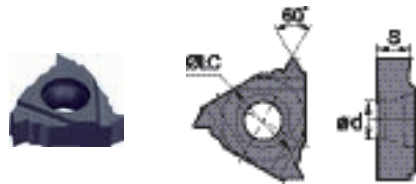
Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

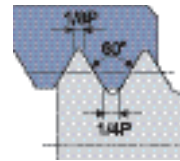
UN unified conventional thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand





ASME B1.1-1989
Tolerance: 2A/2B

ISO	Pitch (T.Pi)	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

HC¹ Coated carbide

Tool Holders

SWR	SNR
	
A441	A442

System code > A410

Grade selection > A409

Technical info > A445

Cutting data > A444



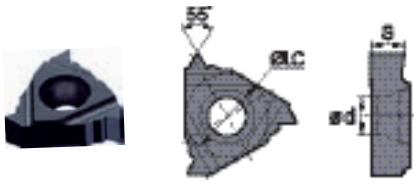
A

Threading Inserts (Thin Type)

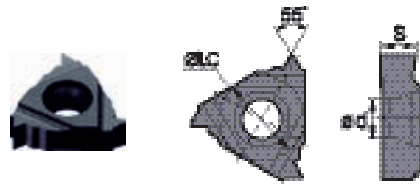
R/LT**N/W	I.C	S	d
16	9.525	3.52	4

Turning

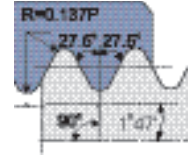
BSPT Whitworth taper pipe thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ASME B.1.1-1989
Standard BSPT

B

Milling

ISO	Pitch (T.P.i)	External	HC ¹ (PVD)					Internal	HC ¹ (PVD)					
			YBG202	YBG205					YBG202	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

HC¹ Coated carbide

C

Drilling

Tool Holders

SWR	SNR
	
A441	A442

D

Technical Information

E

Index

System code > A410

Grade selection > A409

Technical info > A445

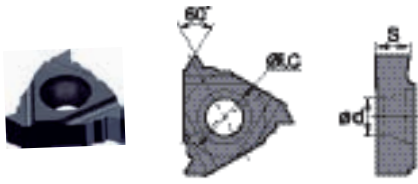
Cutting data > A444



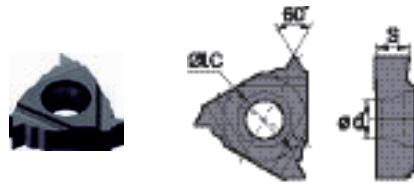
Threading Inserts (Thin Type)

R/LT**N/W	I.C	S	d
16	9.525	3.52	4

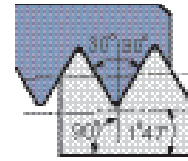
NPT American taper pipe thread



External Right hand
Internal Left hand



Internal Right hand
External Left hand



ASME B1.20.1-1983
Standard NPT

ISO	Pitch (T.Pi)	External	HC ¹ (PVD)					Internal	HC ¹ (PVD)					
			YBG202	YBG205						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

PB*: Inserts with chip-breakers

HC¹ Coated carbide

Tool Holders

SWR	SNR
	
A441	A442



S W R 20 20 K 16 (B)

1 2 3 4 5 6 7 8

A

Turning

B

Milling

C



Drilling

D

Technical Information

E

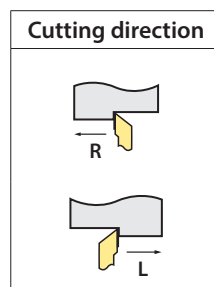
Index

Clamping system	
Code	Description
S	Screw clamping 
C	Top clamping 

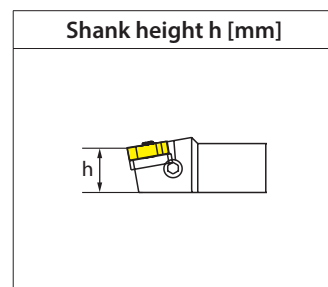
1

Application	
Code	Description
W	External thread tool holder
N	Internal thread tool holder

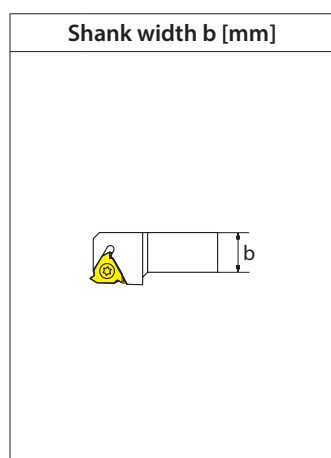
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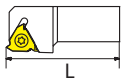
3



4



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

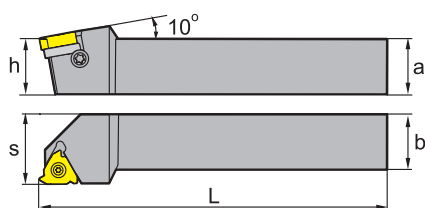
7

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	I60M3.5x12	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

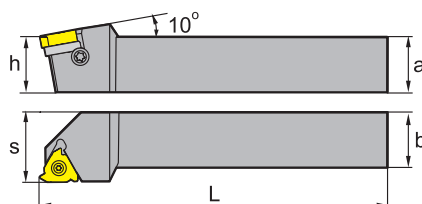
Technical info > A445

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	I60M3.5x12	I60M5x17
	Screw (shim)	SM4x8C	SM5x8.5C
	Shim	MT16-__M	MT22-__M
	Wrench (screw)	WT15IP	WT20IP

Insert
Medium Cut
A411

System code > A436

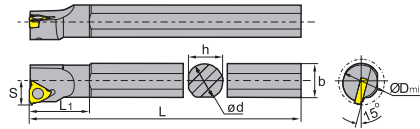
Grade selection > A409

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	I60M2.5x6.5	I60M3.5x8	I60M3.5x12	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



A

Turning

B

Milling

C

Drilling

D

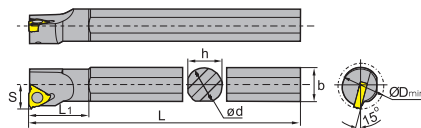
Technical Information

E

Index

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	I60M2.5x6.5	I60M3.5x8	I60M3.5x12	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

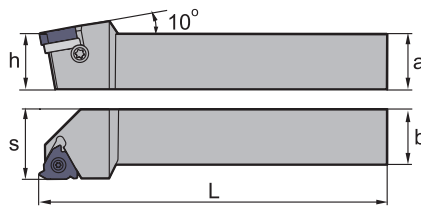
Grade selection > A409

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

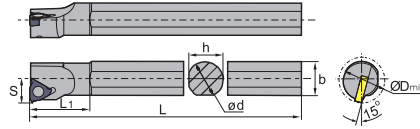
Technical info > A445


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

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	$\leq 12\%$ Si, cannot be hardened		75	24	320	320	
		$\leq 12\%$ 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 base	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		
	Hard cast iron			hardened and tempered	60 HRC	38		
	Hardened cast iron			cast	400	39		
X	Non-metallic materials			hardened and tempered	55 HRC	40		
		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

Technical information – turning

A446-A447

A448-A455

A

A

Turning

B

Milling

C

Drilling

D

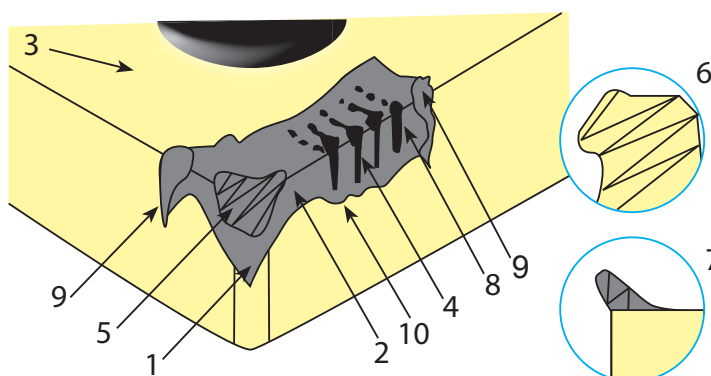
Technical
Information

E

Index

Trouble shooting – general turning

See figure	Type of wear	Effects	Reason	Countermeasure
1+2	Flank wear	<ul style="list-style-type: none"> – Bad surface quality and dimensional stability – Increase of cutting force 	<ul style="list-style-type: none"> – Grade not wear-resistant enough – Cutting speed too high – Clearance angle too small – Feed rate too low 	<ul style="list-style-type: none"> – Grade with higher wear-resistance – Reduce cutting speed – Increase clearance angle – Reduce feed rate
3	Crater wear	<ul style="list-style-type: none"> – Bad surface quality and chip control 	<ul style="list-style-type: none"> – Grade not wear-resistant enough – Cutting speed too high – Feed rate too low 	<ul style="list-style-type: none"> – Grade with higher wear-resistance – Reduce cutting speed – Reduce feed rate
4	Chipping	<ul style="list-style-type: none"> – Unstable tool life – Sudden breakage of cutting edge 	<ul style="list-style-type: none"> – Grade too hard – Feed rate too high – Cutting edge not stable enough – Stability of the holder or tension insufficient 	<ul style="list-style-type: none"> – Grade with higher toughness – Reduce feed rate – Change honing of cutting edge – Use a more stable tool holder
5	Breakage	<ul style="list-style-type: none"> – Increase of cutting force – Bad surface quality and dimensional stability 	<ul style="list-style-type: none"> – Grade too hard – Feed rate too high – Cutting edge not stable enough – Stability of the holder or tension insufficient 	<ul style="list-style-type: none"> – Grade with higher toughness – Reduce feed rate – Change honing of cutting edge – Use a more stable tool holder
6	Plastic deformation	<ul style="list-style-type: none"> – Bad dimensional stability – Damage to cutting edge 	<ul style="list-style-type: none"> – Grade not wear-resistant enough – Cutting speed too high – Cutting depth and/or feed rate too high – Temperature on the cutting edge too high 	<ul style="list-style-type: none"> – Grade with higher toughness – Reduce cutting speed – Reduce cutting depth and feed rate – Grade with higher heat-resistance
7	Welding	<ul style="list-style-type: none"> – Increase of cutting force – Bad surface quality 	<ul style="list-style-type: none"> – Cutting speed too low – Cutting edge not sharp enough – Grade not suitable 	<ul style="list-style-type: none"> – Increase cutting speed – Increase rake angle – Use a more suitable grade
8	Thermal cracks	<ul style="list-style-type: none"> – Breakage due to thermal interaction, often caused when cutting is interrupted (milling) 	<ul style="list-style-type: none"> – Temperature fluctuation when machining – Grade too hard 	<ul style="list-style-type: none"> – Dry machining – Grade with higher toughness
9	Notch wear	<ul style="list-style-type: none"> – Burr formation – Increase of cutting force 	<ul style="list-style-type: none"> – Damage through chips (jagged edges) – Feed rate and cutting speed too high 	<ul style="list-style-type: none"> – Grade with higher wear-resistance – Increase rake angle to get a sharper cutting edge – Reduce cutting speed
10	Flaking (coating)	<ul style="list-style-type: none"> – Often appears when machining hardened materials or caused by vibration 	<ul style="list-style-type: none"> – Cutting edge adhesion and chipping – Bad chip removal 	<ul style="list-style-type: none"> – 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

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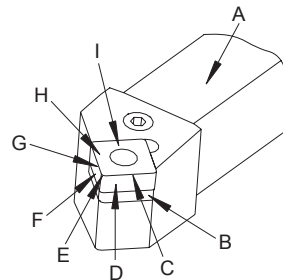
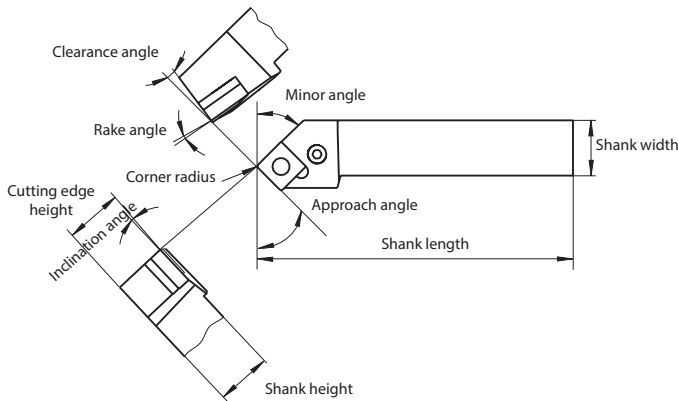
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Turning tools

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

B

Milling

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

C

Drilling

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

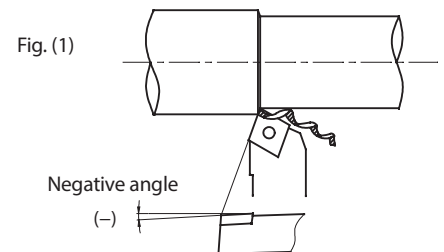
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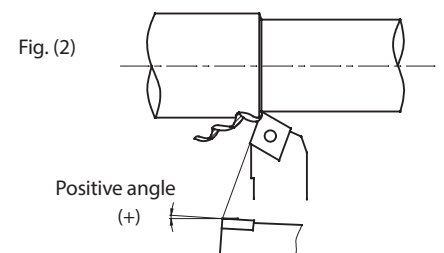
Inclination angle

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.



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.

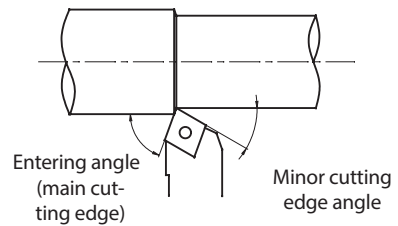


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Entering angle (main cutting edge)

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

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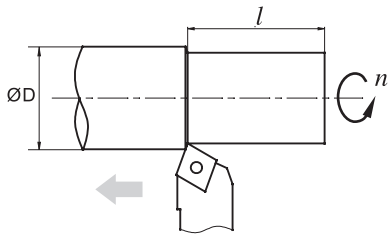
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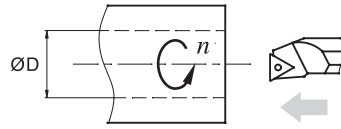
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Cutting speed V_c

$$V_c = \frac{\pi \times D \times n}{1000} \text{ [m/min]}$$



External machining



Internal machining

V_c : Cutting speed [m/min]

n : Revolution [1/min]

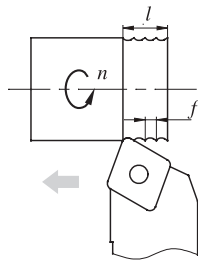
f : Feed rate [mm]

Example: $n = 250$ 1/min, $f = 0,2$ mm,
 $l = 150$ mm

Result: [insert values in formula V_c]

Feed rate f

$$f = \frac{l}{n} \text{ [mm/rev]}$$



f : Feed rate [mm]

l : Cutting length [mm/min]

n : Revolution [1/min]

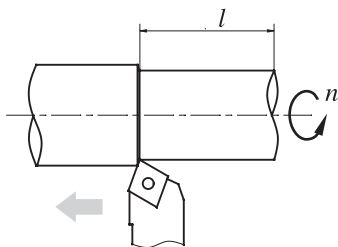
Example: $n = 500$ 1/min, $l = 100$ mm/min

Result: [insert values in formula f]

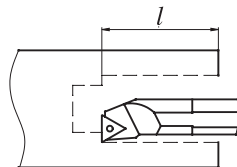
$$f = \frac{l}{n} = \frac{100}{500} = 0,2 \text{ mm/rev}$$

Cutting time T_c

$$T_c = \frac{l}{f \times n} \text{ [min]}$$



External machining



Internal machining

T_c : Cutting time [min]

l : Cutting length [mm/min]

f : Feed rate [mm]

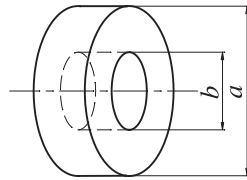
n : Revolution [1/min]

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

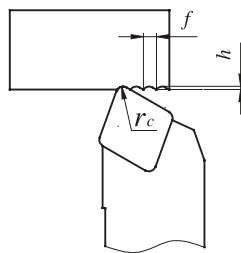
$$T_c = \frac{\pi \times (a^2 - b^2)}{4000 \times V_c \times f} \text{ [min]}$$



T_c : Cutting time [min]
 V_c : Cutting speed [m/min]
 f : Feed rate [mm]

Theoretical surface roughness R

$$R = \frac{f^2}{8r_c} \times 1000 \text{ [}\mu\text{m]}$$



R : Surface roughness [μm]
 f : Feed rate [mm]
 r_c : Radius of insert [mm]

Example: $f = 0,2 \text{ mm}$,
 $r_c = 0,4 \text{ mm}$

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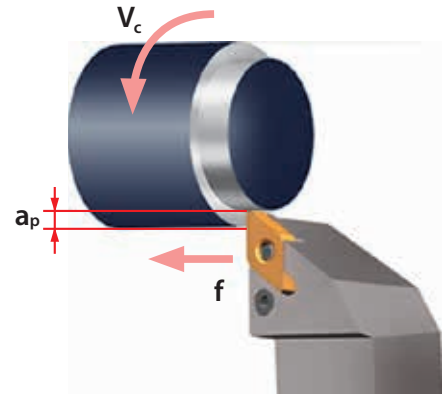
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A

Turning

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”.

**B**

Milling

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 $\frac{1}{2}$; when the cutting speed is increased by 50 % the tool life decreases $\frac{1}{3}$. Lower cutting speed results in vibration which will shorten tool life.

C

Drilling

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.

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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.

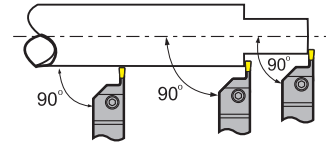
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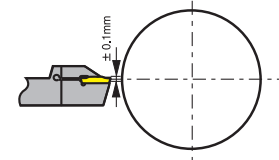
Parting & grooving

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.

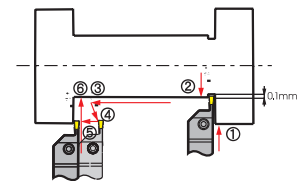


Parting off

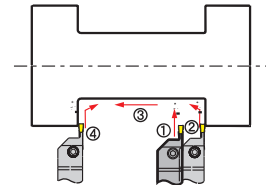
- When the cutting edge nears the central axis of the work piece, reducing the feed rate by 30% can extend the tool life of the insert.
- Pick a tool holder with the smallest possible overhang to avoid vibrations and tool deflection.

Longitudinal turning and profile turning

- Machining sequence 0.5 mm:
 1. Bring radial feed rate to required cutting depth (ap max. $0.75 \times$ 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.

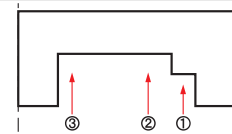


- When machining the chamfer or the base of the slot follow the steps as shown in figure. This reduces tool deflection and avoids cutting edge chipping.

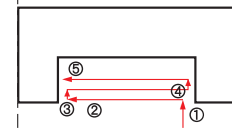


Surface grooving and turning

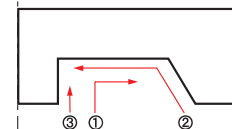
- Roughing: Processing from largest diameter to the axis. When returning it's recommended to bend the tool slightly.



- Flute turning: Depth of axial turning less than $0.75 \times S$ (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.

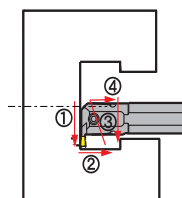


- Finishing: When finishing begin with the outer diameter and the bottom. Then go on with the inner diameter to the required size.



Internal machining

- Procedure according to figure. For better chip removal in blind holes machine from the inside out.



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A

Threading

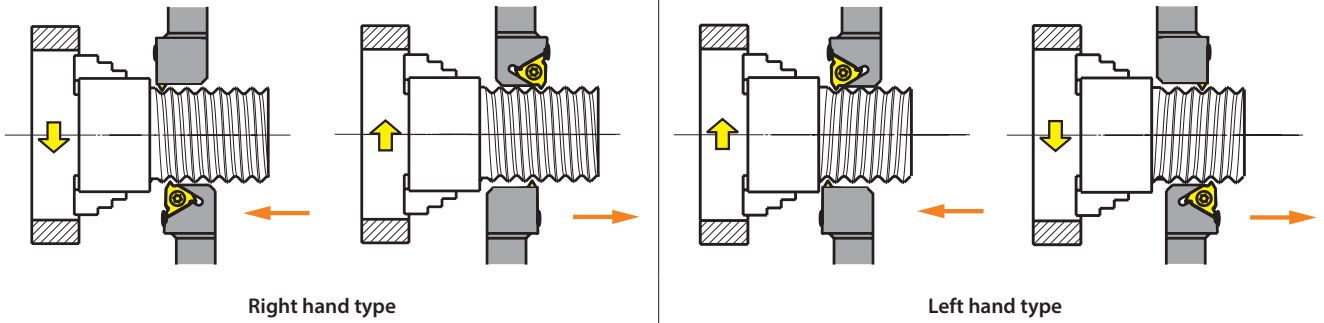
Steps for best results when thread-cutting

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

Turning

Thread turning method

External machining



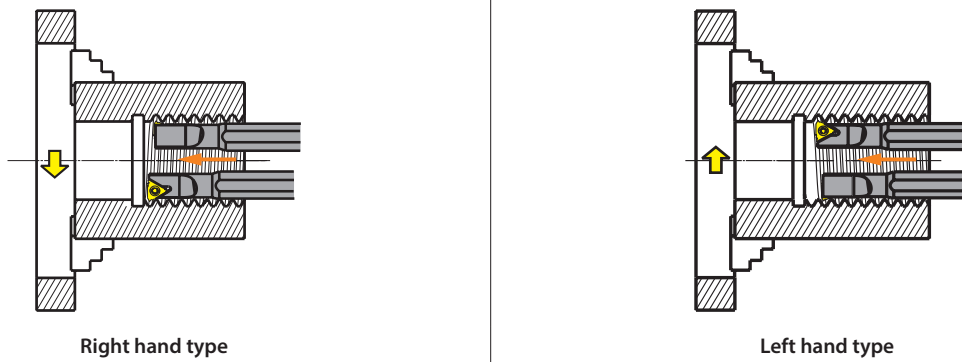
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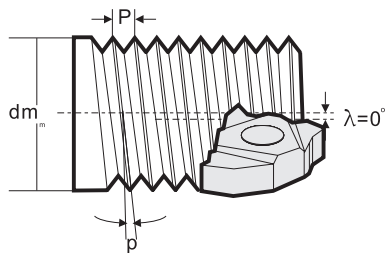
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Choice of angle and shim

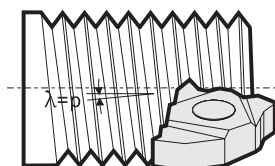
Choice of angle

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)

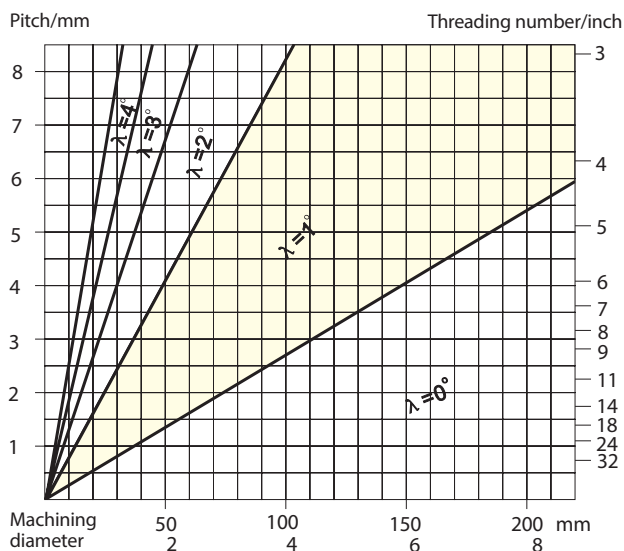


Pitch angle (λ)

p Pitch
d₂ Flank diameter
λ Pitch angle

Choice of shim

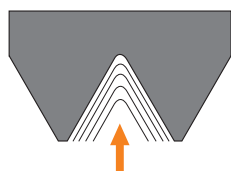
Pitch range	Dimension	Pitch angle	Shim
0.5–0.3	16	0	MT16-00M
		1	MT16-01M
		2	MT16-02M
		3	MT16-03M
3.5–6.0	22	0	MT22-00M
		1	MT22-01M
		2	MT22-02M
		3	MT22-03M



The shim $\lambda = 1^\circ$ is delivered with the tool holder.

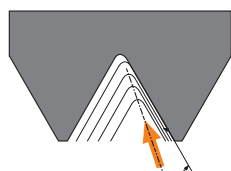
Zustellarten beim Gewindedrehen

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

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.



Modified flank width of cut

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

Alternating width of cut is mainly used for large pitches and long chip materials. To get equal insert wear on both edges.

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Comparison table materials	D2-D8
Comparison table hardness and tensile strength	D9-D10
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Conversion table chip breaker – milling/turning	D13-D21
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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
P	Alloy steel											
	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	-	-	

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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
P	Alloy steel											
	-	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; SCRMM3	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 F22	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	-	-	-	

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	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
P	Alloy steel											
	T10	W.110	1.1545	C105W1	-	-	1880	Y1105	C98KU C100KU	F.515 F.516	-	U10A
	T12A	W.112	1.1663	C125W	-	-	-	Y2120	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	4Ch5MF15
	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	45WCrS8	-	-
	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	-	-	Y1105V	-	-	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	-	-	Z80WKC 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	-	

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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

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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	562	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	X2CrNi1810	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	X2CrNiMo17133	-	-	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											Russia
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	
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
1Cr18Ni9Ti	321	1.4878	X12CrNiTi189	321S320	58C	-	Z6CNT18.12	X6CrNiTi1811	F.3523	SU321	09Ch18N10T	

ISO	Country and standard										Russia
	China	USA	Germany	Great Britain	Sweden	France	Italy	Spain	Japan		
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											Russia
	China	USA	Germany		Great Britain		Sweden	France	Italy	Spain	Japan	
	GB	AISI/SAE	W.-nr	DIN	BS	EN	SS	AFNOR	UNI	UNE	JIS	
H	Hardened materials											
	-	440A	1.4108	X100CrMo03	-	-	2258 08	-	-	-	C4B5	-
	-	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-57G			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	-	-	-	-	-	-			

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Comparison table hardness and tensile strength

Hardness				Tensile strength N/mm ²	Hardness				Tensile strength N/mm ²
Rockwell Hardness		Vickers Hardness	Brinell Hardness		Rockwell Hardness		Vickers Hardness	Brinell Hardness	
HRC	HRA	HV	HB		HRC	HRA	HV	HB	
70.0	86.6	1037	—	—	51.0	76.3	525	501	1780
69.5	86.3	1017	—	—	50.5	76.1	517	494	1750
69.0	86.1	997	—	—	50.0	75.8	509	488	1720
68.5	85.8	978	—	—	49.5	75.5	501	481	1690
68.0	85.5	959	—	—	49.0	75.3	493	474	1660
67.5	85.2	941	—	—	48.5	75.0	485	468	1630
67.0	85.0	923	—	—	48.0	74.7	478	461	1605
66.5	84.7	906	—	—	47.5	74.5	470	455	1575
66.0	84.4	889	—	—	47.0	74.2	463	449	1550
65.5	84.1	872	—	—	46.5	73.9	456	442	1525
65.0	83.9	856	—	—	46.0	73.7	449	436	1500
64.5	83.6	840	—	—	45.5	73.4	443	430	1475
64.0	83.3	825	—	—	45.0	73.2	436	424	1450
63.5	83.1	810	—	—	44.5	72.9	429	418	1430
63.0	82.8	795	—	—	44.0	72.6	423	413	1405
62.5	82.5	780	—	—	43.5	72.4	417	407	1385
62.0	82.2	766	—	—	43.0	72.1	411	401	1360
61.5	82.0	752	—	—	42.5	71.8	405	396	1340
61.0	81.7	739	—	—	42.0	71.6	399	391	1320
60.5	81.4	726	—	—	41.5	71.3	393	385	1300
60.0	81.2	713	—	2555	41.0	71.1	388	380	1280
59.5	80.9	700	—	2500	40.0	70.8	382	375	1260
59.0	80.6	688	—	2450	40.0	70.5	377	370	1245
58.5	80.3	676	—	2395	39.5	70.3	372	365	1225
58.0	80.1	664	—	2345	39.0	70.0	367	360	1210
57.5	79.8	653	—	2295	38.5	—	362	355	1190
57.0	79.5	642	—	2250	38.0	—	357	350	1175
56.5	79.3	631	—	2205	37.5	—	352	345	1160
56.0	79.0	620	—	2160	37.0	—	347	341	1140
55.5	78.7	609	—	2115	36.5	—	342	336	1125
55.0	78.5	599	—	2075	36.0	—	338	332	1110
54.5	78.2	589	—	2035	35.5	—	333	327	1095
54.0	77.9	579	—	1995	35.0	—	329	323	1080
53.5	77.7	570	—	1955	34.5	—	324	318	1065
53.0	77.4	561	—	1920	34.0	—	320	314	1050
52.5	77.1	551	—	1885	33.5	—	316	310	1035
52.0	76.9	543	—	1850	33.0	—	312	306	1020
51.5	76.6	534	—	1815	32.5	—	308	302	1010

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Comparison table hardness and tensile strength

Hardness					Tensile strength N/mm ²	Hardness					Tensile strength N/mm ²
Rockwell Hardness		Vickers Hardness	Brinell Hardness			Rockwell Hardness		Vickers Hardness	Brinell Hardness		
HRC	HRA	HV	HB			HRC	HRA	HV	HB		
32.0	—	304	298		995	24.0	—	249	245		820
31.5	—	300	294		980	23.5	—	246	242		810
31.0	—	296	291		970	23.0	—	243	240		800
30.5	—	292	287		960	22.5	—	240	237		790
30.0	—	289	283		950	22.0	—	237	234		785
29.5	—	285	280		935	21.5	—	234	232		775
29.0	—	281	276		920	21.0	—	231	229		765
28.5	—	278	273		910	20.5	—	229	227		760
28.0	—	274	269		900	20.0	—	226	225		750
27.5	—	271	266		890	19.5	—	223	222		745
27.0	—	268	263		880	19.0	—	221	220		735
26.5	—	264	260		870	18.5	—	218	218		730
26.0	—	261	257		860	18.0	—	216	216		725
25.5	—	258	254		850	17.5	—	214	214		715
25.0	—	255	251		835	17.0	—	211	211		710
24.5	—	252	248		830						

Note: The conversion values for steel in the table are commonly applicable for the steels with carbon from low to high.

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Conversion table chip breakers – turning

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	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		FF FS	FH FS	EJ FV	NSE NSU NLU NEA NEL	NLU NFP NFK	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	N56	P55	SH SA MV	NSX	NSU NSC NSK	TSTMA S	P5	HQ CQ CJ	VQ VC VB	WT ML	WT	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	NMU NSF	PM	GS GS HS PS	HQ XQ GK G	VM		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		TH TR TU		PT GT HT	HR		RT			
	Single side roughing	HDR 31HPR DR LR		HR QR		R8 RR9 -56 -57 -LUX		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	
	Wiper-finishing	WG		WF WL WMX	WF WK	W-MF2		FW MW	FW MW		WF		PF	SW	FW	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	F5	EJ FV	NSU NLU	SS	SS	GU		VP2	VE	EA SF	FG	
	Semi-finishing	EF EM	EF HM	MF MM	MF UM	MF3	F2	FP	MF		PP TF	14 16 17 19	NM4	P55	SH MS MV	NEX NUP	NSU	SS SM	MS	MS	CK DP GP VF XP	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	NMU	PM	SA S		HQ XQ GK G	H5 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											

Conversion table chip breakers – turning

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	Wiper-Finishing	WG		WF	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	NSU	C				VM				
	Semi-finishing	PM	HM	KF KM	KF KM	M3	F2	FN	MF	GN	14 19	NM5	PM5	GH		NUX NGU	NSU	C Stand. form	CM			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	GC ZS	CM			VK GR	C25	MT MG	MT PMR WT	
N	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	
	Finishing		LC		AL			LF	LF	NF			PM2													
	Semi-finishing		LC		AL		AL	GP		NF PP	AS												HA	AK	FL SA	
S	Medium machining to light roughing		LH		AL		AL	GG-FS MS	HP	NMS													AR			
	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		
Heat-resistant alloys	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	GC4205 GC4305	KCP05 KC9105	AC805P	UE6005 UE6105	T9005 T9105	CA5505	WPP01 WPP05	IC8150 IC9150 IC428	TP0500 TP0501					
		P10-15	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	GC4325 GC4225 GC4025	KCP25 KC9125	AC820P AC8020P AC900G AC2000	UE6020 MC6025	T9025 T9125	CA525 CA525 CR9025	WPP20 WPP20S	IC8150 IC8250 IC9250 IC9025	TP2501 TP2500 TP200	NC3220 NC3120	TT8125 TT3500	WP25CT		
		P30-35	GC4335 GC4235 GC4035	KCP30 KC8050	AC830P AC3000	UE6035 UE6400	T903 T9135	CA530 CA535 CA535	WPP30 WPP30S	IC8250 IC8350 IC9350	TP3500	NC3030 NC5330 NC500H	TT5100 TT8135	WP35CT		
		M	Stainless steel	M10	GC2015 GC1515	KCM15	AC610M	MC7015	T9115		IC8250 IC9250 IC6015			TT9215	WM15CT	
				M20	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	GC2025 GC2035	KCM25 KCM35 KC9225	AC630M AC630M AC830P AC3000	US735 US7025	T6030 T6130	CA6525	WAM30	IC8350 IC9350 IC9025	TP3500 TM 4000		TT5100 TT7100 TT9235	WM35CT
		K	Cast Iron	M40	GC2035	KCM35 KC9240 KC9245	AC630M AC630M AC830P AC3000	US735	CA6525		IC6025 IC9350	TP 40		TT5100 TT7100 TT9235	WK05CT	
				K01-05	GC3005 GC3205	KCK05	AC405K AC410K	UC5005 UC5105	T5105	CA4505		IC5005 IC9007		NC6205	TT1300 TT7005	WK05CT
				K10-15	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	WK20CT
K20-25	GC3225	KCK20 KC9320	AC420K AC900G	MC5015 UC5115 UE6110 MY5015	T5125 T9125	CA4125	WAK20 WKK20S	IC5010 IC428 IC4028 C9150	TK2000 TK2001	NC5330		WK20CT				

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Conversion table grades – turning

Coated cemented carbide PVD

ISO	ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tunggaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec	Widia	
P	P01-05	GC1105					PR1005							
	P10-15	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	GC1515 GC1125 GC1025	KC5025 KC5525 KU25T	AC520U	VP20RT VP20MF	AH725 AH120	PR930 PR1025 PR1225	WSM20 WMP205 WSM21	IC228 IC250 IC308 IC828 IC350 IC354 IC507 IC807 IC808 IC907 IC908 IC928 IC1008 IC1028 IC3028	CP200 CP250 TP2000 TS2500		TT8020 TT9020		
P30-35	GC1125 GC2035	KC7335	AC530U		SH730 J740 GH130 AH740	PR660	WSM30	IC228 IC250 IC328 IC330 IC354 IC528 IC1008 IC1028 IC3028	CP500	PC5300				
M	M10	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	GC1025 GC1125	KC501 KCU25	AC520U AC530U	VP10RT VP20RT VP20MF	AH120 AH725 SH730 AH710 AH630 GH330	PR1025 PR1125 PR1225	WSM10 WMP205 WSM20 WSM21	IC228 IC250 IC354 IC808 IC908 IC1008 IC1028 IC3028	TS2000 TS2500 CP200 CP250		TT8020 TT9020 TT9080	WS25PT	
	M30	GC2035	KC5025 KCU25		VP10RT VP20RT VP20MF MP7035	AH12 AH725 SH730 AH710 AH630 GH330 J740	PR1025 PR1125 PR1225	WSM20 WSM21 WSM30	IC228 IC250 IC328 IC330 IC1008 IC1028 IC3028	CP500 TS2500	PC5300 PC9030			
S	S05	S05F			MP9005	AH905		IC507 IC907						
S	S10	GC1105 GC1115	KC5010 KCU10 KC5510 KC510	AC510U EH510Z	MP9015 VP10RT	AH905 SH730 AH110 AH120		WSM10	IC507 IC807 IC808 IC907	CP200 CP250 TS2000 TS2500	PC8110	TT5080	WS10PT	
	S20	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			AC520U	VP15TF	AH725	PR1125	WSM30	IC3028 IC808 IC830		PC5400	TT8020		
N	N10	GC1515	KC5410				WXN10	IC520						

Conversion table grades – turning

Cermet

ISO	ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tunggaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec	Widia
P	P01-05	CT5005		T110A T1000A	AP25N VP25N	NS520 AT520 GT520 GT720	TN30 TN6010 PV30 PV7010		IC20N IC520N		CN1000 CC105	CT3000 PV3010	
	P10-15	CT5015 CT530	KT315 KT125	T1200A T2000Z T1500A T1500Z	NX2525 AP25N VP25N	NS520 NS730 GT730 PV60 NS9530 GT9530	TN60 TN6010 PV60 PV6010	CM TP1020 TP1030 CMP	IC20N IC520N IC530N		CN1000 CT10 CN2000 CC115	CT3000 PV3010	TT115
	P20-25	GC1525	KT325 KT1120 KT5020	T1200A T2000Z T1500A T1500Z	NX2525 NX3035 AP25N VP25N MP3025	NS530 NS730 GT730 NS9530 GT9530	TN60 IC30N PV60 PV7020 PV7025	CM TP1020 TP1030 CMP	IC20N IC30N IC75T IC520N IC530N		CN20 CN2000 CC115		TT115
	P30-35			T3000Z	MP3025 VP45N		PV7025 PV90		IC75T				
M	M10	GC1525	KT125	T110A T1000A T1500Z T2000Z	NX2525 AP25N VP25N	NS520 AT530 GT530 GT720	TN60 TN6020 PV60 PV7020			CM TP1020 TP1030 CMP		CT3000 PV3010	TT115
	M20	CT5015 CT530	HT2	T110A T1000A T1500Z T2000Z	NX2525 AP25N VP25N	NS530 GT730 NS730	TN90 TN6020 PV90 PV7020 PV7025					CT3000 PV3010	TT115
	M30			T3000Z									
	M40												
K	K01-05			T110A T1000A T2000Z T1500Z	NX2525 AP25N	NS520 GT730 NS730	TN30 TN6010 PV30 PV7005 PV7010				CN1000	CT3000 PV3010	
	K10-15	CT5015	KT325 KT125	T1200A T1500A T2000Z T1500Z	NX2525 AP25N	NS520 GT730 NS730	TN60 TN6020 PV60 PV7020 PV7025				CN1000	CT3000 PV3010	
	K20-25	CT5015		T3000Z	NX2525 AP25N								

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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	H10 H13A	KF1	H1		KS05F				883 890			
	N10	H10 H13A	K313 KF1 THM-F	H1	HT110	KS15F	KW10	WK01 WK10	IC20	890 KX HX	H01	K10	THM
	N20	H10 H13A	K313 KF1 THM-F			KS15F	KW15		IC20	KX HX			

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Conversion table grades – milling

CVD milling grades

Material / Class	ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tunggaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec
P	P05	K20W GC4220		F7010								
	P10	K20W GC3040 GC4220 GC4230		ACP100	F7010				IC4100 IC5100	MP1500	NC5330 NCM325	IN6505 IN6520
	P20	GC3040 GC4230		CS3000	FH7020	T3130		WKP25 WKP255	IC4050 IC4100 IC5100 IC5400	MP1500 MP2500 MS2500 T25M	NC5330 NCM325	IN6505 IN6520 IN7035
	P30	GC2040 GC4240	KC930M KC935M	CS3000	F7030	T3130		WKP35 WKP355 WTP35	IC4050 IC5400	MK3000 T25M T350M	NCM325	IN7035 IN6530
	P40	GC2040 GC4240								T350M		IN6530
	M10	GC4230		F7010						MP1500	NCM325 NC5330	IN6520
	M20	GC4230		F7020	F7020	T3130			IC4050	MP1500 MP2500 MS2500 T25M	NCM325 NCM335	IN7035 IN6520 IN6505
	M30	GC2040 GC4240	KC930M KC935M	F7030	F7030	T3130		WTP35		MP2500 MS2500 T25M T350M	NCM335	IN6530 IN7035 IN6505
	M40	GC2040 GC4240								T350M		IN6530
	K	K05		KCK15		F7010 MC5020				DT7150 IC4100		
K10		K20W	KCK15	ACK200	F7010 MC5020	T1115		WAK15	DT7150 IC4100 IC4010	MP1500 MK1500	NC5330	IN6520
K20		K20W		ACK200		T1115		WKP25 WKP255	DT7150 IC4100	MP1500 MP2500 MS2500 T25M MK1500	NC5330	IN6530 IN6515 IN6520
K30			KC930M KC935M					WKP35 WKP355	IC4050	MK3000 MP2500 MS2500		IN6530 IN6515

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Conversion table grades – milling

CVD milling grades

Material / Class	S05	S10	S20	S30	N05	N10	N20	H05	H10	H20
S Heat-resistant alloys										
N Non-ferrous metals										
H Hardened materials										
ZCC-CT										
Sandvik				GC2040					K20W	K20W GC3040
Kennametal										
Sumitomo										
Mitsubishi										
Toshiba Tungaloy										
Kyocera										
Walter				WTP35						
Iscar										
SECO	MK3000		MP2500 MS2500 T25M	MM4500 T350M			MP2500 25M			
Korloy										
Ingersoll Tague Tec			IN7035 IN6520							

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Conversion table grades – milling

PVD milling grades

Material / Class	ZCC-CT	Sandvik	Kennametal	Sumitomo	Mitsubishi	Toshiba Tunggaloy	Kyocera	Walter	Iscar	SECO	Korloy	Ingersoll Tague Tec
P Steel	P05			ACZ120	VP05HT	GH130			IC903			IN2004 IN2006
	P10	GC1010 GC1025 GC1020	KC522M KC525M KC610M KC643M KC715M	ACZ10M ACZ20W	VP10H	AH120 GH130	PR730 PR1225 PR1525	WXH15 WHH15 WXM15	IC903 IC950 IC1008	F15M		
	P20	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	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 PC3300 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
	M10	GC1020	KC522M KC610M KC643M KC715M	ACZ20W ACZ350 EH20Z	AH330 GH110 GH130	PR730 PR1225 PR660 PR1525			PR730 PR660 PR1025 PR1225 PR1525	F15M	PC8110	IN2505
	M20	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		F25M MP3000	PC5300 PC8110 PC9530	IN2005 IN2015 IN2505
	M30	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		W5M35 W5M36 WXM35		F40M	PC3545	IN1030 IN2030 IN2035 IN2530 IN4035
	K05	GC1010	KC510M	ACZ10M ACZ120 ACZ310		AH330	PR905 PR1210 PR1510			MH1000	PC8110	IN2510
K10	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 PRI210 PRI1510		IC808	NH1000 F15M F25M	PC5300	
	S20	YBG202 YBG205	KC525M KC643M	ACZ20W			PR905 PRI210 PRI1510		IC908 IC380 IC900 IC903 IC908 IC928 IC830 IC808	F25M F30M	PC5300 PC3545	IN2005 IN2505
	S30		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	KC510M KC620M KC522M	EH20Z				WXN15		MH1000 F15M		
	N20		KC620M KC522M KC525M KC651M							F25M F30M F40M MP3000		
H Hardened materials	H05				VP05HT				IC903	MH1000 F15M	PC210F	IN2004 IN2006
	H10	YBG102	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	N01	H10	K115M K110M				WK10		IC20N		H01	IN04S
	N10		K313	EH520	HT10		WKM	GW25	IC08	H15	G10	IN10K IN05S
	N20	H13A H10F	KMF	EH520	TF15		KMG40		IC28	H25		IN15K
Non-ferrous metals												

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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

Material No.	Material	Machining group
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

Material No.	Material	Machining group
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

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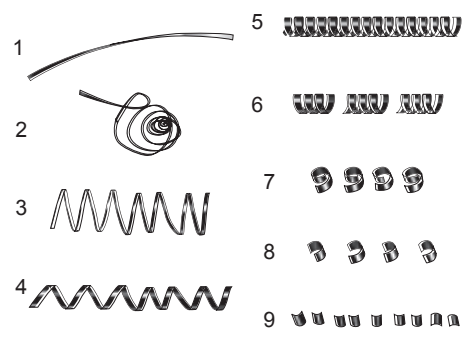
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Test protocol

ZCC Cutting Tools Europe GmbH

Date:			
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			



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Conclusion:

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E-mail: technik@zccct-europe.com

Signature:

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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

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TNMG-EM	A82
TNMG-ER	A84
TNMG-FM	A79
TNMG-PM	A80
TNMG-SF	A78
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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.



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