

2011

CUTTING TOOLS

●Turning Tools ●Milling Tools ●Boring Tools

CUTTING TOOLS

2011



EJ Carbide Co.,Ltd

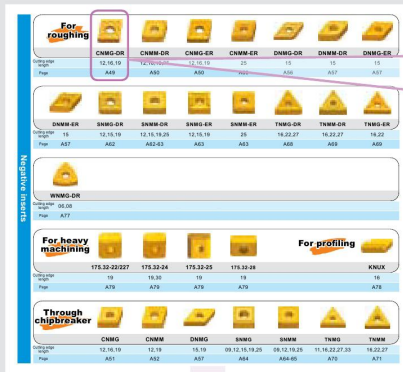


Guide to selecting general turning tools

General turning

Guide to selecting turning tools

Selection A



Step 1 : I want to order inserts
•Shape, •Size, •Chipbreaker

Dimensions(mm)		Material		Applicable tool holders	
L	IC	S	d	r	
12.9	12.7	4.76	5.16	0.4	

Dimensions(mm)				
L	IC	S	d	r
12.9	12.7	4.76	5.16	0.4

Step 2 : Details of inserts
•Shape, •Size, •Chipbreaker, •Grade,
•Stock
Applicable tool holders
•Approach angle, Page



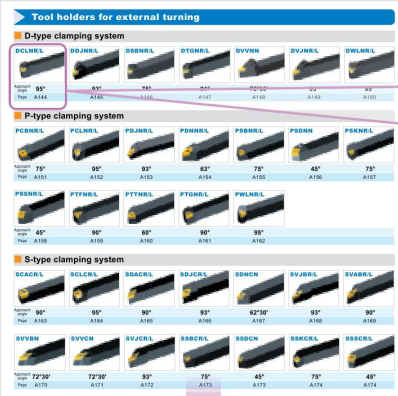
Type	Stock	Basic dimensions(mm)	Screw	Shim	Wrench	Lever	Stop pin
PCBNR/L	A	20 20 125 20 17 27	LE88-1.21	C12AP	WH33L	L4	SP4



Step 4 : Return to locate inserts

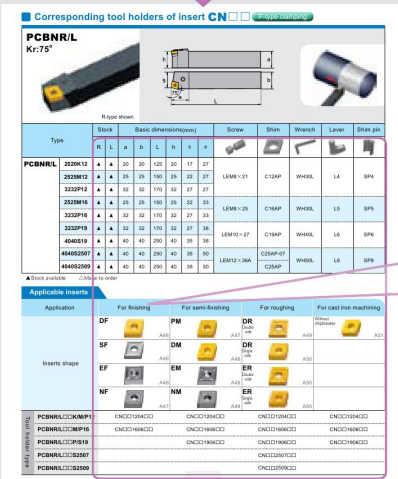
Guide to selecting general turning tools

Selection B



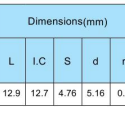
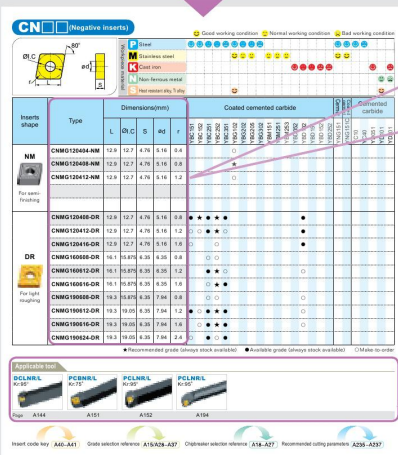
Step 1 : I want to order tool holders

- Approach angle, • Clamping system



Step 2 : Details of tool holder

- Tool holder type, Size, • Operation genre
- Applicable inserts



Step 3 : Details of insert

- Shape, • Size, • Chipbreaker, • Grade, • Stock
- Applicable tool holders
- Approach angle, • Page



Step 4 : Return to locate tool holder

Guide to selecting turning tools

Guide to selecting parting and grooving tools

A

General turning

Guide to selecting turning tools

Tools for parting



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■ External parting, grooving and turning tools

Ball sizes shown		Basic dimensions (mm)		Application marks		Notes	
Type	Ball	ID	OD	B	R	Shaft	
QEED	10BAA16	A	16.16	12.5	1.5	1.5	20B000C10
	10BAA17	A	16.16	15	2.5	1.7	20B000C12
	10BAA18	A	16.16	15	2.5	1.7	20B000C13
	10BAA19	A	16.16	15	2.5	1.7	20B000C14
	10BAA20	A	16.16	15	2.5	1.7	20B000C15
QEFQ	10BAA16	A	16.16	12.5	1.5	1.5	20B000C10
	10BAA17	A	16.16	15	2.5	1.7	20B000C12
	10BAA18	A	16.16	15	2.5	1.7	20B000C13
	10BAA19	A	16.16	15	2.5	1.7	20B000C14
	10BAA20	A	16.16	15	2.5	1.7	20B000C15
QEOD	10BAA16	A	16.16	12.5	1.5	1.5	20B000C10
	10BAA17	A	16.16	15	2.5	1.7	20B000C12
	10BAA18	A	16.16	15	2.5	1.7	20B000C13
	10BAA19	A	16.16	15	2.5	1.7	20B000C14
	10BAA20	A	16.16	15	2.5	1.7	20B000C15
QENH	10BAA16	A	16.16	12.5	1.5	1.5	20B000C10
	10BAA17	A	16.16	15	2.5	1.7	20B000C12
	10BAA18	A	16.16	15	2.5	1.7	20B000C13
	10BAA19	A	16.16	15	2.5	1.7	20B000C14
	10BAA20	A	16.16	15	2.5	1.7	20B000C15
QERK	10BAA16	A	16.16	12.5	1.5	1.5	20B000C10
	10BAA17	A	16.16	15	2.5	1.7	20B000C12
	10BAA18	A	16.16	15	2.5	1.7	20B000C13
	10BAA19	A	16.16	15	2.5	1.7	20B000C14
	10BAA20	A	16.16	15	2.5	1.7	20B000C15

- Parting inserts

		Double edge		Single edge			
							
Type	Basic (Elastic/Plastic)	Grade					
		VB3002	VB5002	VB6101	VB5002	VB5002	VB5002
2PDC0400-02	2.5	0.2	1.7	●	●	●	●
2PDC0400-03	3.0	0.2	1.7	○	○	○	○
2PDC0400-04	4.0	0.2	2.0	○	○	○	○
2PDC0400-05	5.0	0.2	2.0	○	○	○	○
2PDC0400-06	6.0	0.4	2.0	○	○	○	○
2PDC0500-02	2.5	0.2	0.5	○	●	●	●
2PDC0500-03	3.0	0.2	0.5	○	○	○	○
2PDC0500-04	4.0	0.2	0.5	○	○	○	○
2PDC0500-05	5.0	0.2	0.5	○	○	○	○
2PDC0500-06	6.0	0.4	0.5	○	○	○	○

The single edge start is only relevant in working tools.

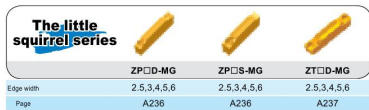
● Single edge start (without start material) ● Single edge start (without start material) ○ Single edge start (without start material)

1 Selection of tool holder type

2 Tool holder type, Size and applicable inserts

3 Insert type, Chip-breaker, Size and grade

Parting and grooving inserts



- Parting inserts

		Double edges		Single edge		Double edges		Double edges	
Type	Base dimension (mm)	Y100	Y100L	Y100S	Y100SL	Y100H	Y100SH	Y100V	Y100VH
Double edges	ZP000000-WG	2.1	5.2	17	19	19	19	19	19
	ZP000000-MG	3.0	5.0	17	19	19	19	19	19
	ZP000000-MG	4.0	5.0	17	19	19	19	19	19
	ZP000000-MG	5.0	5.0	17	19	19	19	19	19
Single edge	ZP000000-WG	2.1	5.2	17	19	19	19	19	19
	ZP000000-MG	3.0	5.0	17	19	19	19	19	19
	ZP000000-MG	4.0	5.0	17	19	19	19	19	19
	ZP000000-MG	5.0	5.0	17	19	19	19	19	19

1 Selecting insert type

2 Insert type, Chip-breaker, Size and grade

General turning

[illegible]

Cemented carbide and cermet inserts

For finishing



CNMG-DF

CNMG-SF

CNMG-EF

CNEG-NF

DNMG-DF

DNMG-SF

DNMG-EF

09,12

09,12

09,12

12

11,15

11,15

11,15

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DNEG-NF

SNMG-DF

SNMG-EF

SNMG-SF

TNMG-DF

TNMG-SF

TNMG-EF

VNMG-DF

Cutting edge length

15

09,12

09,12,15

09,12,15

16,22

11,16,22

11,16,22

16

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VNMG-EF

VNEG-NF

VNMG-SF

WNMG-DF

WNMG-SF

WNMG-EF

WNEG-NF

Cutting edge length

16

16

16

06,08

06,08

06,08

08

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Wiper



CNMG-WG

DNMX-WG

TNMX-WG

WNMG-WG

Cutting edge length

12,16

11,15

16

06,08

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For semi-finishing



CNMG-PM

CNMG-DM

CNMG-EM

CNMG-NM

DNMG-PM

DNMG-DM

DNMG-EM

Cutting edge length

09,12,16,19

09,12,16,19

12,16

12

11,15

11,15

11,15

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DNMG-NM

SNMG-PM

SNMG-DM

SNMG-EM

SNMG-NM

TNMG-PM

TNMG-DM

TNMG-EM

Cutting edge length

15

09,12,15,19

09,12,15,19

12,15

12

11,16,22

11,16,22

16,22

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VNMG-PM

VNMG-DM

VNMG-EM

VNMG-NM

WNMG-PM

WNMG-DM

WNMG-EM

WNMG-NM

Cutting edge length

16

16

16

16

06,08

06,08

06,08

08

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Negative inserts

A
General
turning

Turning inserts overview

For roughing

						
CNMG-DR	CNMM-DR	CNMG-ER	CNMM-ER	DNMG-DR	DNMM-DR	DNMG-ER
Cutting edge length 12,16,19	12,16,19,25	12,16,19	25	15	15	15
Page A49	A50	A50	A50	A56	A57	A57

							
DNMM-ER	SNMG-DR	SNMM-DR	SNMG-ER	SNMM-ER	TNMG-DR	TNMM-DR	TNMG-ER
Cutting edge length 15	12,15,19	12,15,19,25	12,15,19	25	16,22,27	16,22,27	16,22
Page A57	A62	A62-63	A63	A63	A68	A69	A69


WNMG-DR
Cutting edge length 06,08
Page A77

For heavy machining

				
175.32-22/227	175.32-24	175.32-25	175.32-28	KNUX
Cutting edge length 19	19,30	19	19	16
Page A79	A79	A79	A79	A78

For profiling

						
CNMG	CNMM	DNMG	SNMG	SNMM	TNMG	TNMM
Cutting edge length 12,16,19	12,19	15,19	09,12,15,19,25	09,12,19,25	11,16,22,27,33	16,22,27
Page A51	A52	A57	A64	A64-65	A70	A71


VNMG
Cutting edge length 16
Page A73

Without chipbreaker

				
CNMA	DNMA	SNMA	TNMA	WNMA
Cutting edge length 12,16,19	11,15	09,12,15,19	16,22,27	06,08
Page A51	A58	A65	A71	A77

For extra finishing

							
	CCGT-SF	DCGT-SF	TCGT-SF	VCGT-SF	VBGT-SF	CPGT-SF	DPGT-SF
Cutting edge length	06,09	07,11	06,09,11	11	11	06,09	07,11
Page	A80	A84	A91	A95	A98	A100	A101

			
	TBGH-L	TPGT-SF	TPGH-L
Cutting edge length	06	09,11	09,11
Page	A103	A104	A104

For finishing

							
	CCMT-HF	CCMT-EF	DCMT-HF	DCMT-EF	SCMT-HF	SCMT-EF	TCMT-HF
Cutting edge length	06,09,12	06,09,12	07,11	07,11	09	09	06,09,11,16
Page	A80	A81	A84	A85	A89	A89	A91

						
	TCMT-EF	VCGT-HF	VCGT-NF	VBMT-HF	VBMT-EF	VBET-NF
Cutting edge length	09,11,16	11	16	11	11,16	16
Page	A92	A95	A95	A98	A98	A98

For semi-finishing

							
	CCMT-HM	CCMT-EM	DCMT-HM	DCMT-EM	SCMT-HM	SCMT-EM	TCMT-HM
Cutting edge length	06,09,12	06,09,12	07,11	07,11	09,12	09,12	09,11,16
Page	A81	A81	A85	A85	A89	A89	A93

			
	TCMT-EM	VBMT-HM	VBMT-EM
Cutting edge length	09,11,16	16	11
Page	A92	A99	A99

For roughing

					
	CCMT-HR	DCMT-HR	SCMT-HR	TCMT-HR	VBMT-HR
Cutting edge length	06,09,12	11	09,12	09,11,16,22	16
Page	A82	A86	A90	A93	A99

Ceramic inserts

								
	CNGA	CNGN	CNGX	DNGA	DNGN	DNGX	SNGA	SNGX
Cutting edge length	12,16	12,16	12	15	15	15	12	12
Page	A122	A123	A124	A124	A125	A125	A126	A126

					
	SNGN	TNGA	TNGN	WNGA	RNGN
Cutting edge length	09,12,15,19,25	16,22	16,22	08	09,12,15,19,25
Page	A127	A128	A129	A130	A130

Parting and grooving inserts

Little squirrel series							
		ZP□D-MG	ZP□S-MG	ZT□D-MG	ZT□S-MG	ZT□D-EG	ZT□D-EG
Cutting edge width		2.5,3,4,5,6	2.5,3,4,5,6	2.5,3,4,5,6	5,6	1-2.4(tailor-made)	2.4-6.5(tailor-made)
Page		A236	A236	A237	A237	A237	A237

						
	ZIMF-NM	ZR□D-MG	ZR□D-EG	ZIGQ-NM	ZR□D-LH	ZILD-LC
Cutting edge width	3,4,5,6	2.5,3,4,5,6	3,4,5,6	3,4,5,6	6,8	8
Page	A238	A238	A239	A239	A240	A240

Supplemental series		
		ZQMX-1E
Cutting edge width		3.125,4.125,5.125,6.4,7.05
Page		A241

Threading inserts

Right hand type shown ISO metric thread



External thread

Internal thread

Pitch/ Number of pitch	1~6	1~6
Page	A268	A269

General pitch thread



External thread

Internal thread

Pitch/ Number of pitch	0.5~5	0.5~5
Page	A270	A270

Whitworth thread



External thread

Internal thread

Pitch/ Number of pitch	8~16	8~16
Page	A271	A271

Right hand type shown Unified thread



External thread

Internal thread

Pitch/ Number of pitch	8~20	8~20
Page	A272	A272

British Standard pipe thread



External thread

Internal thread

Pitch/ Number of pitch	11~28	11~28
Page	A273	A273

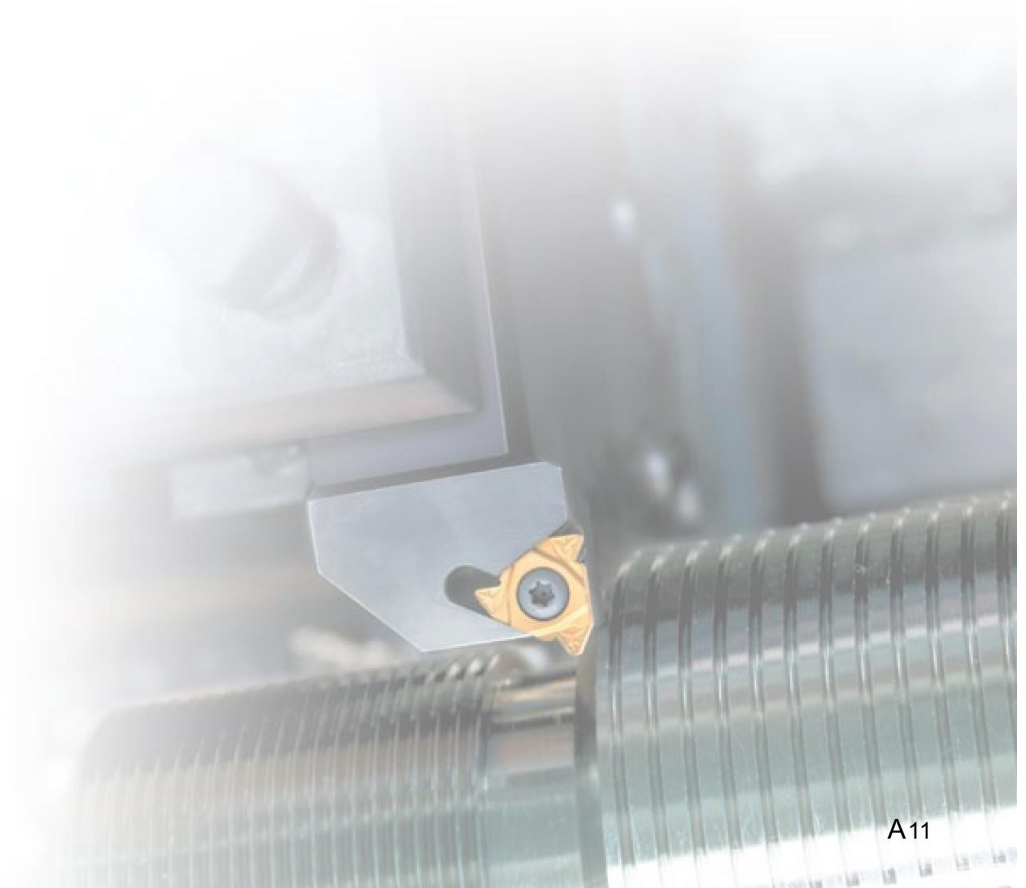
American standard pipe thread



External thread

Internal thread

Pitch/ Number of pitch	8~27	8~27
Page	A274	A274



Tool holders for external turning

D-type clamping system

DCLNR/L	DDJNR/L	DSBNR/L	DTGNR/L	DVVNN	DVJNR/L	DWLNR/L
						
Approach angle 95°	93°	75°	91°	72°30'	93°	95°
Page A144	A145	A146	A147	A148	A149	A150

P-type clamping system

PCBNR/L	PCLNR/L	PDJNR/L	PDNNR/L	PSBNR/L	PSDNN	PSKNR/L
						
Approach angle 75°	95°	93°	63°	75°	45°	75°
Page A151	A152	A153	A154	A155	A156	A157

PSSNR/L	PTFNR/L	PTTNR/L	PTGNR/L	PWLNR/L
				
Approach angle 45°	90°	60°	90°	95°
Page A158	A159	A160	A161	A162

S-type clamping system

SCACR/L	SCLCR/L	SDACR/L	SDJCR/L	SDNCN	SVJBR/L	SVABR/L
						
Approach angle 90°	95°	90°	93°	62°30'	93°	90°
Page A163	A164	A165	A166	A167	A168	A169

SVVBN	SVVCN	SVJCR/L	SSBCR/L	SSDCN	SSKCR/L	SSSCR/L
						
Approach angle 72°30'	72°30'	93°	75°	45°	75°	45°
Page A170	A171	A172	A173	A173	A174	A174

STACR/L	STFCR/L	STGCR/L	STTCR/L	SWACR/L	SRDCN	SRGCR/L
						
Approach angle 90°	91°	91°	60°	90°		
Page A175	A175	A176	A177	A178	A179	A180

C-type clamping system

Approach angle	93°	63°
Page	A181	A181

Turning tool holders for ceramic inserts

Approach angle	95°	93°	93°	93°	75°	75°	45°
Page	A182	A182	A183	A183	A184	A184	A185



Approach angle		95°	93°	45°
Page	A185	A186	A186	A187

Turning tool holders for internal machining**P-type clamping system**

Approach angle	95°	62°30'	93°	75°	90°	95°
Page	A194	A196	A197	A198	A199	A200

S-type clamping system

Approach angle	95°	107°30'	93°	95°	75°	91°	107°30'
Page	A201	A202	A203	A204	A205	A206	A207

SVUCR/L	SVQBR/L	SVUBR/L	SCLPR/L	SDQPR/L	SDUPR/L	STUPR/L
						
Approach angle 93°	107°30'	93°	95°	107°30'	93°	93°
Page A208	A209	A210	A211	A212	A213	A214

SCFCR	SCLCR
	
Approach angle 90°	95°
Page A215	A216

Damping tool holders

SCLPR/L	SDQPR/L	SDUPR/L	STUPR/L	SVQCR/L	SVUCR/L
					
Approach angle 95°	107°30'	93°	93°	107°30'	93°
Page A218	A219	A220	A221	A222	A222

Parting and grooving tools

QE□□R/L	QECDR/L	QX□DR/L	QE□SR/L	QE□S□□N	QZS□	QF□□R/L
						
Page A244	A245	A245	A246	A247	A247	A248-249
QF□□RR/LL	QF□DR/L	C□□□-Q□DR/L	C40X-Q□DR/L	QZQ□□R/L		
						
Page A250-253	A254-255	A256	A257	A259		

Threading tools

SWR/L	SNR/L
	
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Recommended Grade Overview for Turning Inserts

TURNING

ISO	Code	General turning								Threading	Parting and grooving		
		Coating		Cermet	Coated cermet	Ceramic	Cemented carbide	PCBN	PCD	Coating	Coating		Cemented carbide
		CVD	PVD							PVD	CVD	PVD	
P Steel	01												
	10	YBC151											
	20	YBC251											
	30	YBC152											
	40	YBC252											
M Stainless steel	01												
	10	YBM151											
	20	YBM251											
	30	YBM253											
	40												
K Cast iron	01												
	10	YBD052											
	20	YBD102											
	30	YBD152											
	40	YBD151											
N Non ferrous metal	01												
	10												
	20												
	30												
	40												
S Heat resistant alloy & Ti alloy	01												
	10												
	20												
	30												
	40												
H Super hard material	01												
	10												
	20												
	30												
	40												

A
General turning inserts
Recommended grade overview for