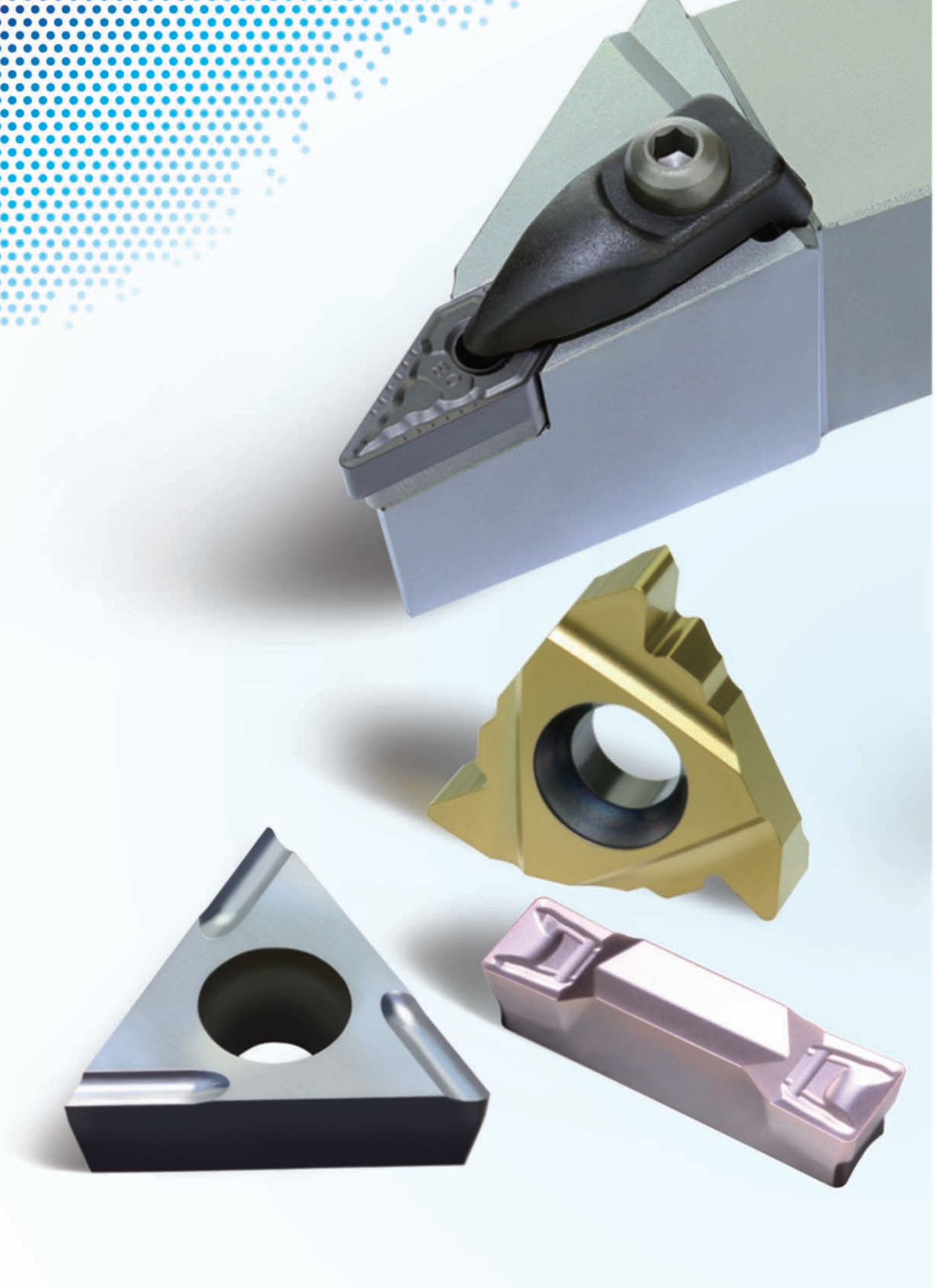
Contents



Turning Tools

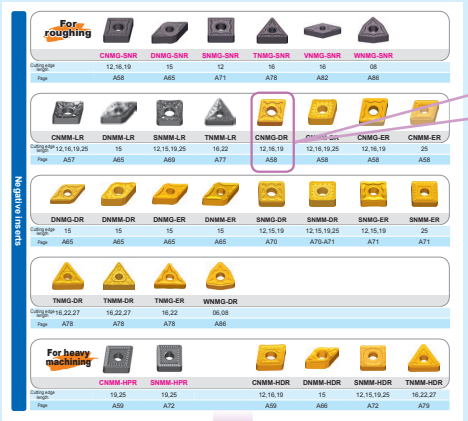
General turning tools
Parting and grooving tools
Threading tools

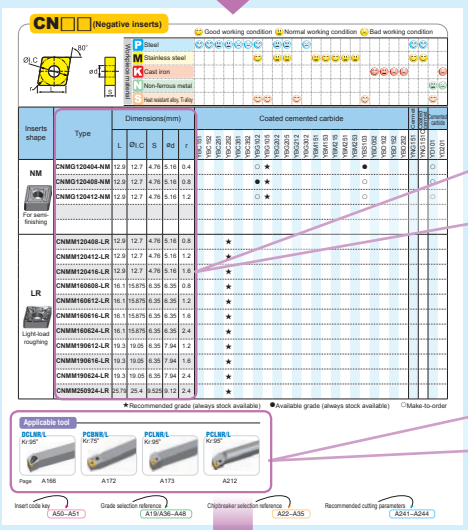
Turning

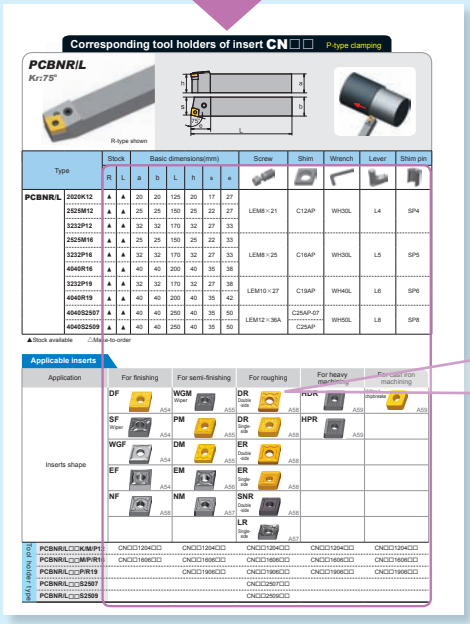
A

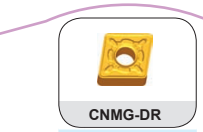
Guide to selecting general turning tools

Selection A



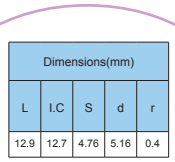






Step **1** : **I want to order inserts**

•Shape, •Size, •Chipbreaker



Step **2** : **Details of inserts**

•Shape, •Size, •Chipbreaker, •Grade, •Stock

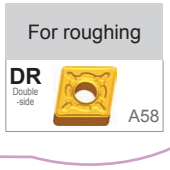
Applicable tool holders

•Approach angle, Page

Step **3** : **Selecting tool holder**

•Tool holder type, Size, •Stock

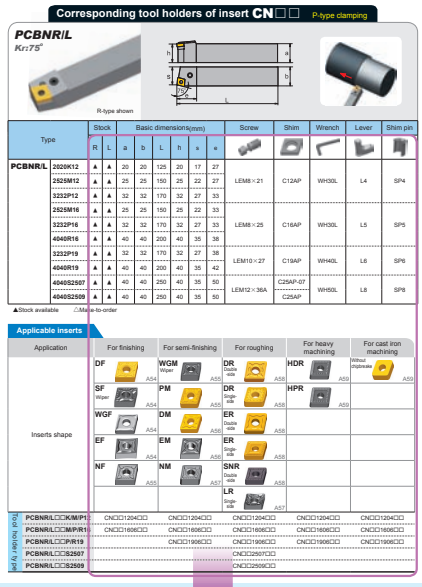
•Operation gener, •Applicable inserts

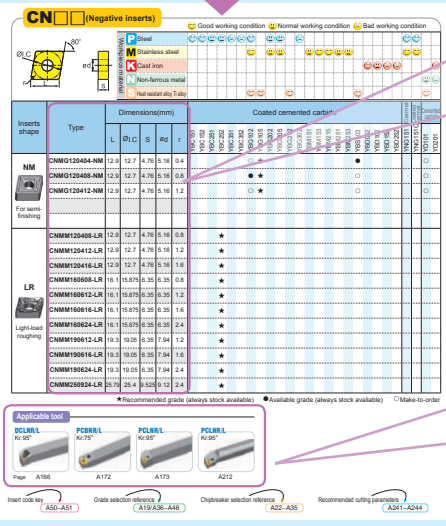


Step **4** : **Return to locate inserts**

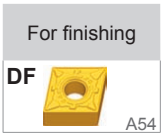
Guide to selecting general turning tools

Selection B

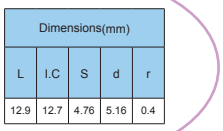




Step **1** : **I want to order tool holders**
•Approach angle, •Clamping system



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 parting and grooving tools

Parting and grooving tools

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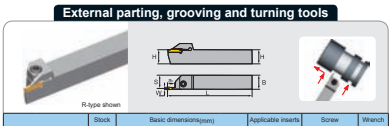
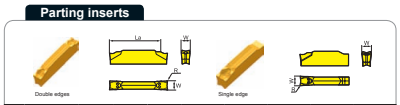
External parting, grooving and turning tools



Type		Stock R	Stock L	Basic dimensions H×B	L	S	W	gr max	Applicable inserts	Screw	Wrench
QEAD	1212R/L07	▲	▲	12×12	125	11.4	1.5	7	ZCAD0015□□	G870-65-M4×12	WH30L
	1212R/L12	▲	▲	12×12	125	11.4	1.5	12	ZCAD0015□□		
	1616R/L07	▲	▲	16×16	125	15.4	1.5	7	ZcAD0015□□	G870-65-M5×16	WH40L
	1616R/L12	▲	▲	16×16	125	15.4	1.5	12	ZCAD0015□□		
	2020R/L07	▲	▲	20×20	125	19.4	1.5	7	ZCAD0015□□		
	2020R/L12	▲	▲	20×20	125	19.4	1.5	12	ZCAD0015□□		
QEBD	1212R/L07	▲	▲	12×12	125	11.2	2	7	ZCBD02□□	G870-65-M4×12	WH30L
	1212R/L10	▲	▲	12×12	125	11.2	2	10	ZCBD02□□		
	1212R/L14	▲	▲	12×12	125	11.2	2	14	ZCBD02□□		
	1616R/L07	▲	▲	16×16	125	15.2	2	7	ZCBD02□□	G870-65-M5×16	WH40L
	1616R/L10	▲	▲	16×16	125	15.2	2	10	ZCBD02□□		
	1616R/L14	▲	▲	16×16	125	15.2	2	14	ZCBD02□□		
	2020R/L07	▲	▲	20×20	125	19.2	2	7	ZCBD02□□		
	2020R/L10	▲	▲	20×20	125	19.2	2	10	ZCBD02□□		
	2020R/L14	▲	▲	20×20	125	19.2	2	14	ZCBD02□□		
	2525R/L07	▲	▲	25×25	150	24.2	2	7	ZCBD02□□	G870-65-M6×20	WH50L
	2525R/L10	▲	▲	25×25	150	24.2	2	10	ZCBD02□□		
	2525R/L14	▲	▲	25×25	150	24.2	2	14	ZCBD02□□		
QEED	1616R/L10	▲	▲	16×16	125	15	2.5	10	ZcEED025□□	G870-65-M5×20	WH40L
	1616R/L17	▲	▲	16×16	125	15	2.5	17	ZCEED025□□		
	2020R/L10	▲	▲	20×20	125	19	2.5	10	ZCEED025□□	G870-65-M6×20	WH50L
	2020R/L17	▲	▲	20×20	125	19	2.5	17	ZCEED025□□		
	2525R/L10	▲	▲	25×25	150	24	2.5	10	ZCEED025□□		
	2525R/L17	▲	▲	25×25	150	24	2.5	17	ZCEED025□□		
QEFD	1616R/L10	▲	▲	16×16	125	14.8	3	10	ZCFD03□□	G870-65-M5×20	WH40L
	1616R/L17	▲	▲	16×16	125	14.8	3	17	ZCFD03□□		
	2020R/L10	▲	▲	20×20	125	18.8	3	10	ZCFD03□□	G870-65-M6×20	WH50L
	2020R/L17	▲	▲	20×20	125	18.8	3	17	ZcFD03□□		
	2525R/L10	▲	▲	25×25	150	23.8	3	10	ZCFD03□□		
	2525R/L17	▲	▲	25×25	150	23.8	3	17	ZCFD03□□		
QEGD	2020R/L13	▲	▲	20×20	140	18.5	4	13	ZCGD04□□	G870-65-M6×20	WH50L
	2020R/L22	▲	▲	20×20	140	18.5	4	22	ZCGD04□□		
	2525R/L13	▲	▲	25×25	150	23.5	4	13	ZCGD04□□		

▲Stock available ○Make-to-order

Parting inserts



Type		Basic dimensions(mm) $W^{+0.1}_{0}$	Basic dimensions(mm) R ±0.1	Basic dimensions(mm) Cutting depth L_{6max}	Grade CVD Coating YBC151	Grade CVD Coating YBC251	Grade PVD Coating YBG205	Grade PVD Coating YBG302	Cemented carbide YD101
Double edges	ZPAD01502-MG	1.5	0.2	12		○	★	○	
	ZPBD0202-MG	2.0	0.2	14		○	★	○	
	ZPED02502-MG	2.5	0.2	17		○	★	★	
	ZPFD0302-MG	3.0	0.2	17		○	★	○	
	ZPGD0402-MG	4.0	0.2	22		○	★	○	
	ZPHD0503-MG	5.0	0.3	22		○	★	○	
	ZPKD0604-MG	6.0	0.4	22		○	★	○	
Single edge	ZPES02502-MG	2.5	0.2			○	★	★	
	ZPFS0302-MG	3.0	0.2			○	★	○	
	ZPGS0402-MG	4.0	0.2			○	★	○	
	ZPHS0503-MG	5.0	0.3			○	★	○	
	ZPKS0604-MG	6.0	0.4			○	★	○	

The single-edge insert is only mounted on parting blades.

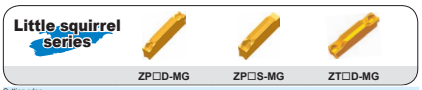
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

1 Selection of tool holder type

2 Tool holder type, Size and applicable inserts

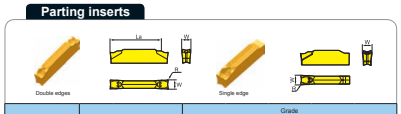
3 Insert type, Chip-breaker, Size and grade

Parting and grooving inserts



	ZP□D-MG	ZP□S-MG	ZT□D-MG
Cutting edge width	1.5,2,2.5,3,4,5,6	2.5,3,4,5,6	2.5,3,4,5,6
Page	A259	A259	A260

Parting inserts



Type		Basic dimensions(mm) $W^{+0.1}_{0}$	Basic dimensions(mm) R ±0.1	Basic dimensions(mm) Cutting depth L_{6max}	Grade CVD Coating YBC151	Grade CVD Coating YBC251	Grade PVD Coating YBG205	Grade PVD Coating YBG302	Cemented carbide YD101
Double edges	ZPAD01502-MG	1.5	0.2	12		○	★	○	
	ZPBD0202-MG	2.0	0.2	14		○	★	○	
	ZPED02502-MG	2.5	0.2	17		○	★	★	
	ZPFD0302-MG	3.0	0.2	17		○	★	○	
	ZPGD0402-MG	4.0	0.2	22		○	★	○	
	ZPHD0503-MG	5.0	0.3	22		○	★	○	
	ZPKD0604-MG	6.0	0.4	22		○	★	○	
Single edge	ZPES02502-MG	2.5	0.2			○	★	★	
	ZPFS0302-MG	3.0	0.2			○	★	○	
	ZPGS0402-MG	4.0	0.2			○	★	○	
	ZPHS0503-MG	5.0	0.3			○	★	○	
	ZPKS0604-MG	6.0	0.4			○	★	○	

The single-edge insert is only mounted on parting blades.

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

1 Selecting insert type

2 Insert type, Chip-breaker, Size and grade

Guide of selecting threading tools

Threading tools

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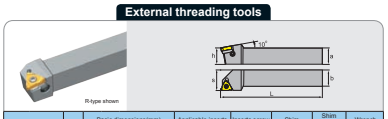
1 Selection of tool holder type

External threading tools



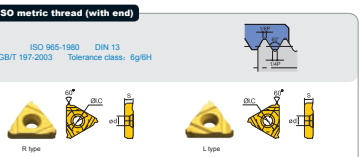
Type	Stock	Basic dimensions(mm) a	h	b	L	s	Applicable inserts	Inserts screw	Shim	Shim screw	Wrench
ZSER 1616H16	▲	16	16	16	100	20	Z16ERCCCCC	860.M3.5X12TT	MT16-CCMN	SMX4BC	WT15IP
ZSER 2020K16	▲	20	20	20	125	25					
ZSER 2525M16	▲	25	25	25	150	32					
ZSER 3225P16	▲	32	32	25	170	32					
ZSER 3232P16	▲	32	32	32	170	40					
ZSER 2525M22	▲	25	25	25	150	32	Z22ERCCCCC	860 M5X17	MT22-CCMN	SM5X8.5	WT20IP
ZSER 3225P22	▲	32	32	25	170	32					
ZSER 3232P22	▲	32	32	32	170	40					
ZSER 4040S22	○	40	40	40	250	50					
ZSEL 1616H16	▲	16	16	16	100	20	Z16ELCCCCC	860.M3.5X12TT	MT16-CCMN	SMX4BC	WT15IP
ZSEL 2020K16	▲	20	20	20	125	25					
ZSEL 2525M16	▲	25	25	25	150	32					
ZSEL 3225P16	▲	32	32	25	170	32					
ZSEL 3232P16	▲	32	32	32	170	40					
ZSEL 2525M22	▲	25	25	25	150	32	Z22ELCCCCC	860 M5X17	MT22-CCMN	SM5X8.5	WT20IP
ZSEL 3225P22	▲	32	32	25	170	32					
ZSEL 3232P22	▲	32	32	32	170	40					
ZSEL 4040S22	○	40	40	40	250	50					

▲Stock available ○Make-to-order

2 Tool holder type, Size and applicable inserts

ISO metric thread (with end)

ISO 965-1980 DIN 13
GB/T 197-2003 Tolerance class: 6g/6H



Type: The right hand tools	The left hand tools	Basic dimensions(mm): Pitch	S	Ø1.C	ød	Recommended coating grade: YBG203	YBG205
External thread	Z16ER0.5ISO	Z16EL0.5ISO	0.50	3.52	9.525	4.0	★	○
	Z16ER0.75ISO	Z16EL0.75ISO	0.75	3.52	9.525	4.0	★	○
	Z16ER1.0ISO	Z16EL1.0ISO	1.00	3.52	9.525	4.0	★	○
	Z16ER1.25ISO	Z16EL1.25ISO	1.25	3.52	9.525	4.0	★	○
	Z16ER1.5ISO	Z16EL1.5ISO	1.50	3.52	9.525	4.0	★	○
	Z16ER1.75ISO	Z16EL1.75ISO	1.75	3.52	9.525	4.0	★	○
	Z16ER2.0ISO	Z16EL2.0ISO	2.00	3.52	9.525	4.0	★	○
	Z16ER2.5ISO	Z16EL2.5ISO	2.50	3.52	9.525	4.0	★	○
	Z16ER3.0ISO	Z16EL3.0ISO	3.00	3.52	9.525	4.0	★	○
	Z22ER3.5ISO	Z22EL3.5ISO	3.50	4.65	12.7	5.0	★	○
	Z22ER4.0ISO	Z22EL4.0ISO	4.00	4.65	12.7	5.0	★	○
	Z22ER4.5ISO	Z22EL4.5ISO	4.50	4.65	12.7	5.0	★	○
	Z22ER5.0ISO	Z22EL5.0ISO	5.00	4.65	12.7	5.0	★	○
	Z22ER5.5ISO	Z22EL5.5ISO	5.50	4.65	12.7	5.0	★	○
	Z22ER6.0ISO	Z22EL6.0ISO	6.00	4.65	12.7	5.0	★	○

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

3 Insert type, Chip-breaker, Size and grade

Threading inserts

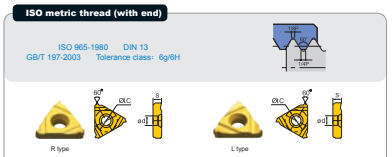
Right hand type shown

	External thread	Internal thread	External thread	Internal thread
Pitch/ Number of pitch	0.5~6	0.5~6	0.5~5	0.5~5
Page	A298	A299	A300	A300

1 Selecting insert category

ISO metric thread (with end)

ISO 965-1980 DIN 13
GB/T 197-2003 Tolerance class: 6g/6H



Type: The right hand tools	The left hand tools	Basic dimensions(mm): Pitch	S	Ø1.C	ød	Recommended coating grade: YBG203	YBG205
External thread	Z16ER0.5ISO	Z16EL0.5ISO	0.50	3.52	9.525	4.0	★	○
	Z16ER0.75ISO	Z16EL0.75ISO	0.75	3.52	9.525	4.0	★	○
	Z16ER1.0ISO	Z16EL1.0ISO	1.00	3.52	9.525	4.0	★	○
	Z16ER1.25ISO	Z16EL1.25ISO	1.25	3.52	9.525	4.0	★	○
	Z16ER1.5ISO	Z16EL1.5ISO	1.50	3.52	9.525	4.0	★	○
	Z16ER1.75ISO	Z16EL1.75ISO	1.75	3.52	9.525	4.0	★	○
	Z16ER2.0ISO	Z16EL2.0ISO	2.00	3.52	9.525	4.0	★	○
	Z16ER2.5ISO	Z16EL2.5ISO	2.50	3.52	9.525	4.0	★	○
	Z16ER3.0ISO	Z16EL3.0ISO	3.00	3.52	9.525	4.0	★	○
	Z22ER3.5ISO	Z22EL3.5ISO	3.50	4.65	12.7	5.0	★	○
	Z22ER4.0ISO	Z22EL4.0ISO	4.00	4.65	12.7	5.0	★	○
	Z22ER4.5ISO	Z22EL4.5ISO	4.50	4.65	12.7	5.0	★	○
	Z22ER5.0ISO	Z22EL5.0ISO	5.00	4.65	12.7	5.0	★	○
	Z22ER5.5ISO	Z22EL5.5ISO	5.50	4.65	12.7	5.0	★	○
	Z22ER6.0ISO	Z22EL6.0ISO	6.00	4.65	12.7	5.0	★	○

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

2 Insert type, Chip-breaker, Size and grade

Cemented carbide and cermet inserts

Negative inserts

For finishing

	DNEG-NGF	VNEG-NGF	CNMG-DF	CNMG-SF	CNMG-EF	CNEG-NF	DNMG-DF
Cutting edge length	15	16	09,12	09,12	09,12	12	11,15
Page	A62	A81	A54	A54	A54	A55	A61

	DNMG-SF	DNMG-EF	DNEG-NF	SNMG-DF	SNMG-EF	SNMG-SF	TNMG-DF	TNMG-SF
Cutting edge length	11,15	11,15	15	09,12	09,12,15	09,12,15	16,22	11,16,22
Page	A62	A62	A62	A67	A67	A67	A75	A75

	TNMG-EF	VNMG-DF	VNMG-EF	VNEG-NF	VNMG-SF	WNMG-DF	WNMG-SF	WNMG-EF
Cutting edge length	11,16,22	16	16	16	16	06,08	06,08	06,08
Page	A76	A81	A81	A81	A81	A83	A83	A84

Wiper

For finishing

	WNEG-NF	CNMG-WGF	DNMX-WGF	TNMX-WGF	WNMG-WGF
Cutting edge length	08	12	11,15	16	06,08
Page	A84	A54	A61	A75	A83

For semi-finishing

For semi-finishing

	CNMG-WGM	DNMX-WGM	TNMX-WGM	WNMG-WGM	CNMG-PM
Cutting edge length	12	15	16	06,08	09,12,16,19
Page	A55	A63	A76	A84	A55

	CNMG-DM	CNMG-EM	CNMG-NM	DNMG-PM	DNMG-DM	DNMG-EM	DNMG-NM	SNMG-PM
Cutting edge length	09,12,16,19	12,16	12	11,15	11,15	11,15	15	09,12,15,19
Page	A56	A56	A57	A63	A64	A64	A64	A68

	SNMG-DM	SNMG-EM	SNMG-NM	TNMG-PM	TNMG-DM	TNMG-EM	VNMG-PM	VNMG-DM
Cutting edge length	09,12,15,19	12,15	12	11,16,22	11,16,22	16,22	16	16
Page	A68	A69	A69	A76	A77	A77	A82	A82

Negative inserts

	VNMG-EM	VNMG-NM	WNMG-PM	WNMG-DM	WNMG-EM	WNMG-NM
Cutting edge length	16	16	06,08	06,08	06,08	08
Page	A82	A82	A85	A85	A85	A86

For roughing

	CNMG-SNR	DNMG-SNR	SNMG-SNR	TNMG-SNR	VNMG-SNR	WNMG-SNR
Cutting edge length	12,16,19	15	12	16	16	08
Page	A58	A65	A71	A78	A82	A86

	CNMM-LR	DNMM-LR	SNMM-LR	TNMM-LR	CNMG-DR	CNMM-DR	CNMG-ER	CNMM-ER
Cutting edge length	12,16,19,25	15	12,15,19,25	16,22	12,16,19	12,16,19,25	12,16,19	25
Page	A57	A65	A69	A77	A58	A58	A58	A58

	DNMG-DR	DNMM-DR	DNMG-ER	DNMM-ER	SNMG-DR	SNMM-DR	SNMG-ER	SNMM-ER
Cutting edge length	15	15	15	15	12,15,19	12,15,19,25	12,15,19	25
Page	A65	A65	A65	A65	A70	A70-A71	A71	A71

	TNMG-DR	TNMM-DR	TNMG-ER	WNMG-DR
Cutting edge length	16,22,27	16,22,27	16,22	06,08
Page	A78	A78	A78	A86

For heavy machining

	CNMM-HPR	SNMM-HPR	CNMM-HDR	DNMM-HDR	SNMM-HDR	TNMM-HDR
Cutting edge length	19,25	19,25	12,16,19	15	12,15,19,25	16,22,27
Page	A59	A72	A59	A66	A72	A79

For profiling

All round

	175.32-22/227	175.32-24	175.32-25	175.32-28	KNUX	CNMG
Cutting edge length	19	19,30	19	19	16	12,16,19
Page	A88	A88	A88	A88	A87	A60

	CNMM	DNMG	SNMG	SNMM	TNMG	TNMM	VNMG
Cutting edge length	12,19	15,19	09,12,15,19,25	09,12,19,25	11,16,22,27,33	16,22,27	16
Page	A60	A66	A73	A73-74	A79	A80	A82

Negative inserts

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	A59	A66	A74	A80	A86

Positive inserts

For extra finishing

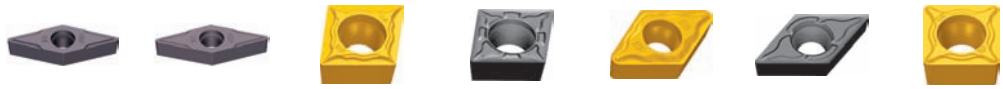
-USF

	CCGT-USF	DCGT-USF	TCGT-USF	VCGT-USF	DPGT-USF	VPGT-USF
Cutting edge length	09	07,11	11	08,11	07,11	08,11
Page	A89	A93	A100	A105	A111	A114

	CCGT-SF	DCGT-SF	TCGT-SF	VCGT-SF	VBGT-SF	CPGT-SF	DPGT-SF	TBGH-L
Cutting edge length	06,09	07,11	06,09,11	11	11	06,09	07,11	06
Page	A89	A93	A100	A105	A108	A110	A111	A112

	TPGT-SF	TPGH-L
Cutting edge length	09,11	09,11
Page	A113	A113

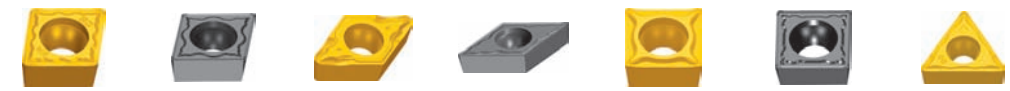
For finishing



	VCGT-NGF	VBET-NGF	CCMT-HF	CCMT-EF	DCMT-HF	DCMT-EF	SCMT-HF
Cutting edge length	16	16	06,09,12	06,09,12	07,11	07,11	09
Page	A105	A108	A89	A90	A93	A94	A98

	SCMT-EF	TCMT-HF	TCMT-EF	VCGT-HF	VCGT-NF	VBMT-EF	VBMT-HF	VBET-NF
Cutting edge length	09	06,09,11,16	09,11,16	11	16	11,16	11	16
Page	A98	A101	A102	A105	A105	A108	A108	A108

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	A90	A90	A94	A94	A98	A98	A103

Positive inserts



	TCMT-EM	VBMT-EM	VBMT-HM
Cutting edge length	09,11,16	11	16
Page	A102	A109	A109

For roughing






	VBMT-SNR	CCMT-HR	DCMT-HR	SCMT-HR	TCMT-HR	VBMT-HR
Cutting edge length	16	06,09,12	11	09,12	09,11,16,22	16
Page	A109	A91	A95	A99	A103	A109

For Al machining







	CCGX-LC	DCGX-LC	SCGX-LC	TCGX-LC	VCGX-LC	CCGX-LH	DCGX-LH
Cutting edge length	06,09,12	07,11	09,12	09,11,16	11,16,22	06,09,12	07,11
Page	A91	A95	A99	A103	A106	A91-92	A95

All round







	RCGX-LH	SCGX-LH	TCGX-LH	VCGX-LH	RCM(G)T	RCMX	SCMT
Cutting edge length	08	09,12	09,11,16	11,16,22	08,10,12,16	08,10,12,16,20,25,32	09,12
Page	A96	A99	A104	A106	A96	A97	A99

Without chipbreaker





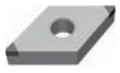


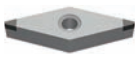
	TCMT	WCMX-53	CCMW	DCMW	SCMW	TCMW	SPMW
Cutting edge length	22	04,06,08	06,09,12	07,11	06,09,12	11,16,22	09,12
Page	A104	A107	A92	A95	A99	A104	A112

Negative inserts

New **PCBN&PCD inserts**

PCBN inserts


	CNGA	DNGA	SNGA	TNGA	VNGA	WNGA
Cutting edge length	12	15	12	16	16	08
Page	A118	A121	A126	A130	A133	A136

PCBN inserts turning case




	CNGN	DNGN	SNGN	TNGN	VNGN	WNGN
Cutting edge length	12	15	12	16	16	08
Page	A120	A125	A129	A132	A135	A138

Positive inserts

PCBN inserts

	CCGW	DCGW	TCGW	VBGW	VCGW
Cutting edge width	06,09,12	07,11	09,11	16	16
Page	A139	A140	A141	A142	A143

PCD 0° Front Angle Blade

	CCGW□□AF	DCGW□□AF	TCGW□□AF	VBGW□□AF	VCGW□□AF
Cutting edge length	06,09,12	07,11	09,11	16	16
Page	A144	A145	A146	A147	A148

PCD 7° Front Angle Blade

	CCMX□□AF	DCMX□□AF	TCMX□□AF	VBMX□□AF	VCMX□□AF
Cutting edge width	06,09,12	07,11	09,11	16	16
Page	A144	A145	A146	A147	A148

Ceramic inserts

	RCGN	RPGN
Cutting edge width	09,12	09,12
Page	A152	A152

Parting and grooving inserts

Little squirrel series — QC series shallow grooving inserts

	QC□□R/L	QC□□R/L□□□R	ZP□D-MG	ZP□S-MG
Cutting edge width	1.1~4.8	1.0~4.0	1.5,2.0,2.5,3,4,5,6	2.5,3,4,5,6
Page	A267-268	A268	A259	A259

	ZT□D-MG	ZT□D-MM	ZT□S-MG	ZT□D-EG	ZT□D-EG	ZIMF-NM	ZIMF-SM
Cutting edge width	2.5,3,4,5,6	1.5,2,3,4,5,6,8	5,6	1-2.4(tailor-made)	2.4-6.5(tailor-made)	3,4,5,6	3,4,5,6
Page	A260	A260	A260	A261	A261	A262	A262

	ZR□D-MG	ZR□D-NM	ZR□D-EG	ZIGQ-NM	ZIGQ-NF	ZR□D-LH	ZILD-LC
Cutting edge width	2.5,3,4,5,6	3,4,5,6	3,4,5,6	3,4,5,6	3,4,5,6	6,8	8
Page	A263	A263	A263	A264	A264	A265	A265

Supplemental series

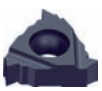
	ZQMX-1E
Cutting edge width	3.125,4.125,5.125,6.4,7.05
Page	A269

Threading inserts

Right hand type shown	ISO metric thread		General pitch thread		Whitworth thread	
						
	External thread	Internal thread	External thread	Internal thread	External thread	Internal thread
Pitch/ Number of pitch	0.5~6	0.5~6	0.5~5	0.5~5	8~19	8~19
Page	A298	A299	A300	A300	A301	A301

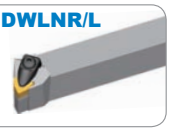
Right hand type shown	Unified thread		British Standard pipe thread		American standard pipe thread	
						
	External thread	Internal thread	External thread	Internal thread	External thread	Internal thread
Pitch/ Number of pitch	8~24	8~24	11~28	11~28	8~27	8~27
Page	A302	A302	A303	A303	A304	A304

Right hand type shown	ISO metric thread(Thin type)		General pitch thread(Thin type)		Whitworth thread(Thin type)	
Thin threading inserts series						
	External thread	Internal thread	External thread	Internal thread	External thread	Internal thread
Pitch/ Number of pitch	0.5~3.0	0.5~3.0	0.5~5.0(5~48)	0.5~5.0(5~48)	8~16	8~16
Page	A306	A306	A307	A307	A308	A308

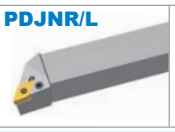
Right hand type shown	Unified thread(Thin type)		British Standard pipe thread(Thin type)		American standard pipe thread (Thin type)	
						
	External thread	Internal thread	External thread	Internal thread	External thread	Internal thread
Pitch/ Number of pitch	8~20	8~20	11~28	11~28	8~27	8~27
Page	A309	A309	A310	A310	A311	A311

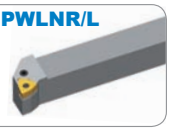
Tool holders for external turning

D-type clamping system

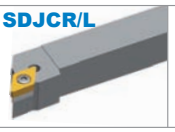
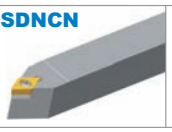
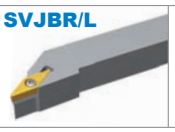
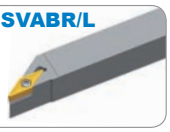
DCLNR/L	DDJNR/L	DSBNR/L	DTGNR/L	DVVNN	DVJNR/L	DWLNR/L
						
Approach angle 95°	93°	75°	91°	72°30'	93°	95°
Page A166	A167	A168	A169	A170	A170	A171

P-type clamping system

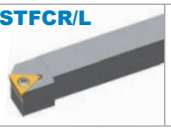
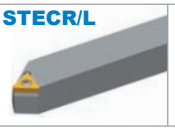
PCBNR/L	PCLNR/L	PDJNR/L	PDPNN	PSBNR/L	PSDNN	PSKNR/L
						
Approach angle 75°	95°	93°	62°30'	75°	45°	75°
Page A172	A173	A174	A175	A176	A177	A178

PSSNR/L	PTFNR/L	PTTNR/L	PTGNR/L	PWLNR/L
				
Approach angle 45°	90°	60°	90°	95°
Page A179	A180	A181	A182	A183

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 A184	A185	A186	A187	A188	A189	A190

SVVBN	SVVCN	SVJCR/L	SSBCR/L	SSDCN	SSKCR/L	SSSCR/L
						
Approach angle 72°30'	72°30'	93°	75°	45°	75°	45°
Page A191	A192	A193	A194	A195	A196	A197

STACR/L	STFCR/L	STGCR/L	STECR/L	SWACR/L	SRDCN	SRGCR/L
						
Approach angle 90°	90°	91°	60°	90°		
Page A198	A198	A199	A200	A201	A202	A203

C-type clamping system

CKJNR/L	CKNNR/L
	

Approach angle	93°	63°
Page	A204	A204

Turning tool holders for ceramic inserts

CRDCR/L	CRDPR/L
	

Approach angle		
Page	A205	A205

Turning tool holders for internal machining

P-type clamping system

PCLNR/L	PDPNR/L	PDUNR/L	PSKNR/L	PTFNR/L	PWLNR/L
					

Approach angle	95°	62°30'	93°	75°	90°	95°
Page	A212	A213	A214	A215	A216	A217

S-type clamping system

SCLCR/L	SDQCR/L	SDUCR/L	SDZCR/L	SSKCR/L	STFCR/L	SVQCR/L
						

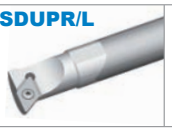
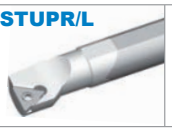
Approach angle	95°	107°30'	93°	95°	75°	90°	107°30'
Page	A218	A219	A220	A221	A222	A223	A224

SVUCR/L	SVQBR/L	SVUBR/L	SCLPR/L	SDQPR/L	SDUPR/L	STUPR/L
						

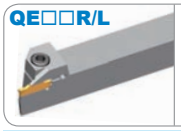
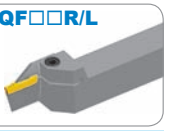
Approach angle	93°	107°30'	93°	95°	107°30'	93°	93°
Page	A225	A226	A227	A228	A229	A230	A231

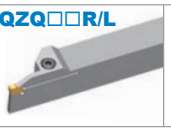
SCFCR	SCLCR
	
Approach angle 90°	95°
Page A232	A233

Damping tool holders

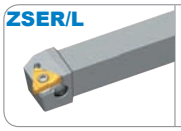
SCLPR/L	SDQPR/L	SDUPR/L	STUPR/L	SVQCR/L	SVUCR/L
					
Approach angle 95°	107°30'	93°	93°	107°30'	93°
Page A235	A236	A237	A238	A239	A240

Parting and grooving tools

QE□□R/L	QECDR/L	QX□DR/L	QE□SR/L	QE□S□□N	QZS□	QF□□R/L
						
Page A272-A273	A273	A274	A274	A275	A275	A276-A277

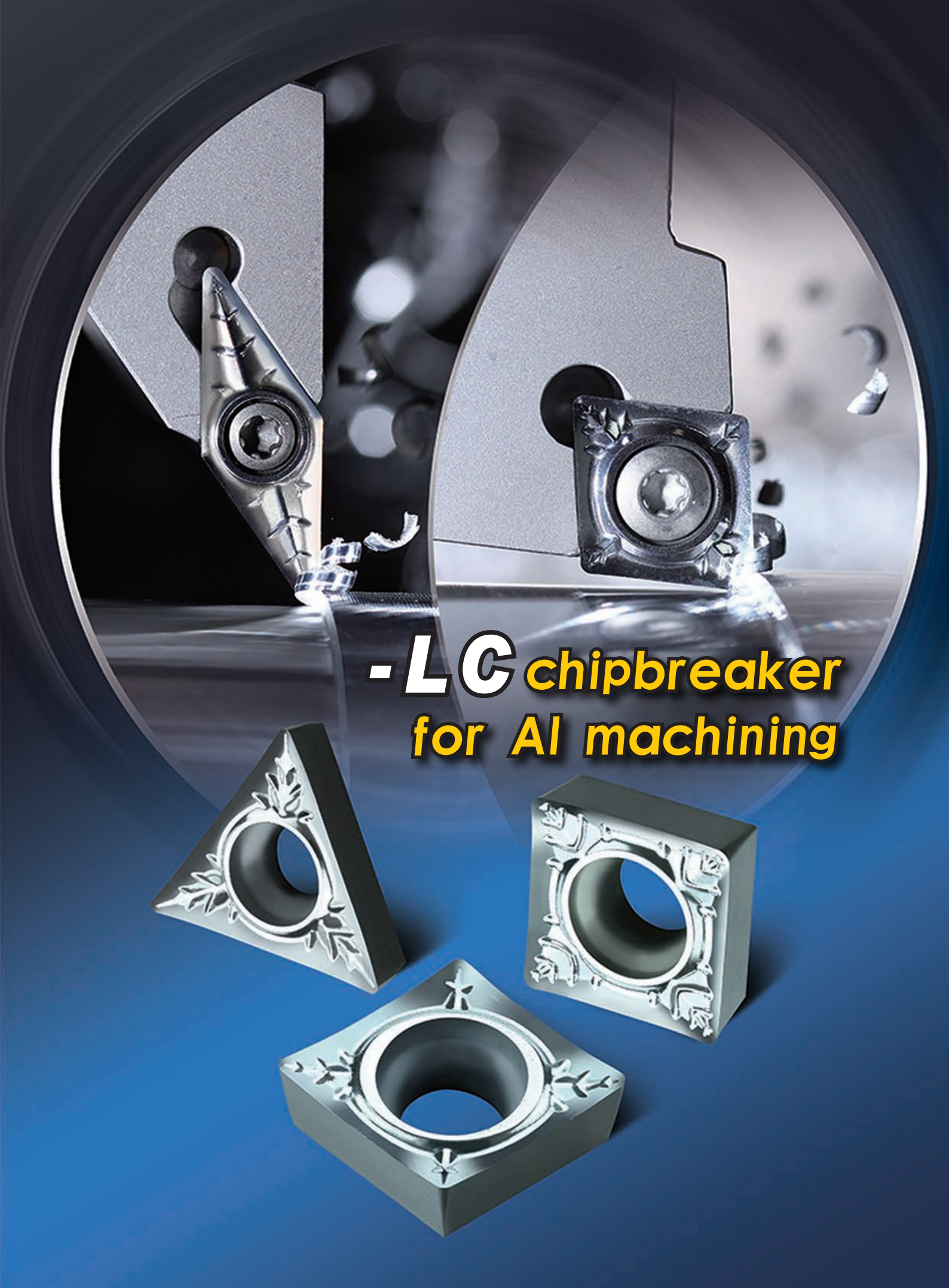
QF□□RR/LL	QF□DR/L	C□□□-Q□DR/L	C40X-Q□DR/L	QZQ□□R/L	GQCR/L	S□□□-QC□□□□R/L
						
Page A278-A281	A282-A283	A284	A284	A288	A286	A286

Threading tools

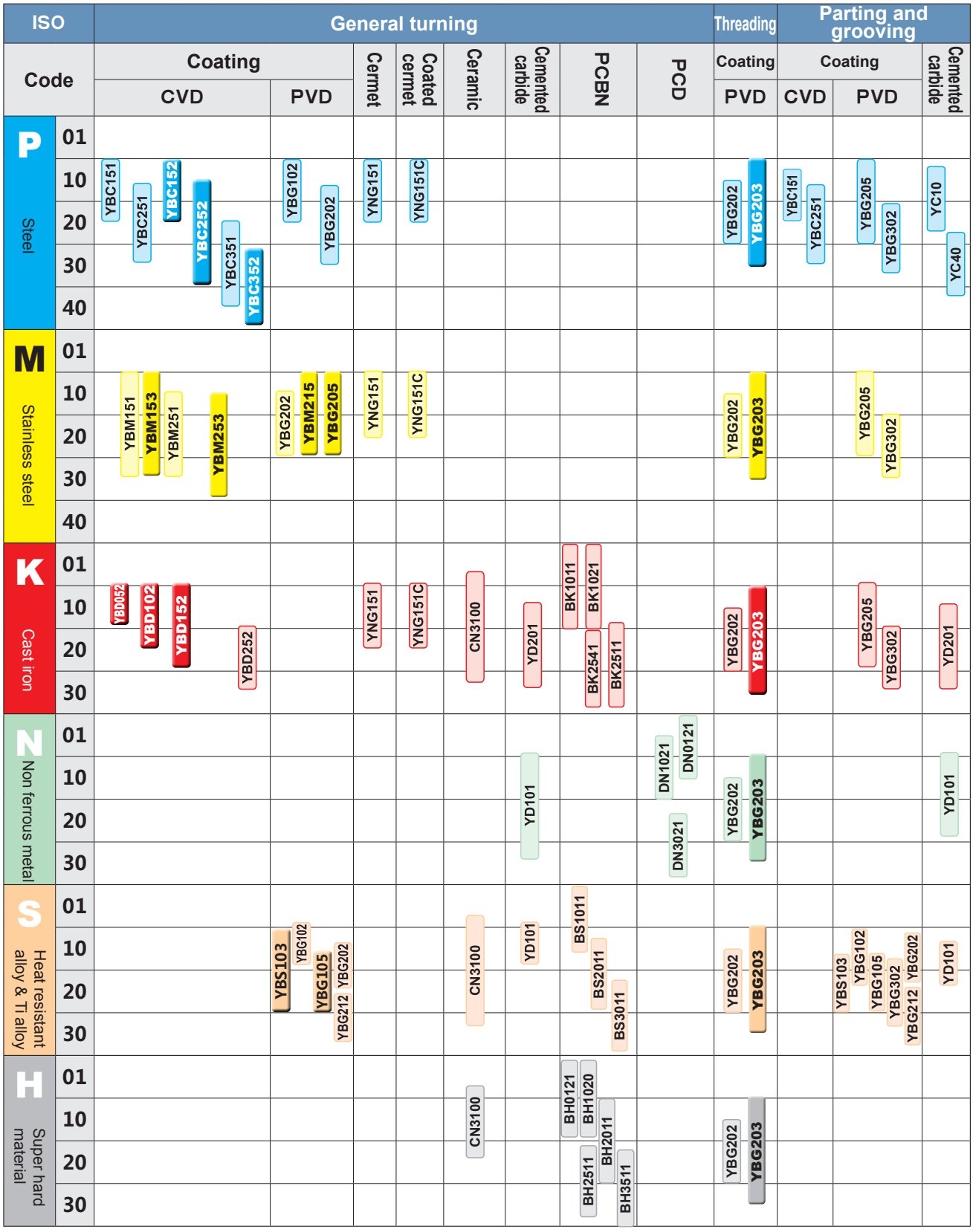
ZSER/L	ZSIR/L
	
Page A313	A314


-WGM
Wiper
-WGF


-HPR
New Generation of
Roughing Chipbreaker
-LR


-LC chipbreaker
for Al machining

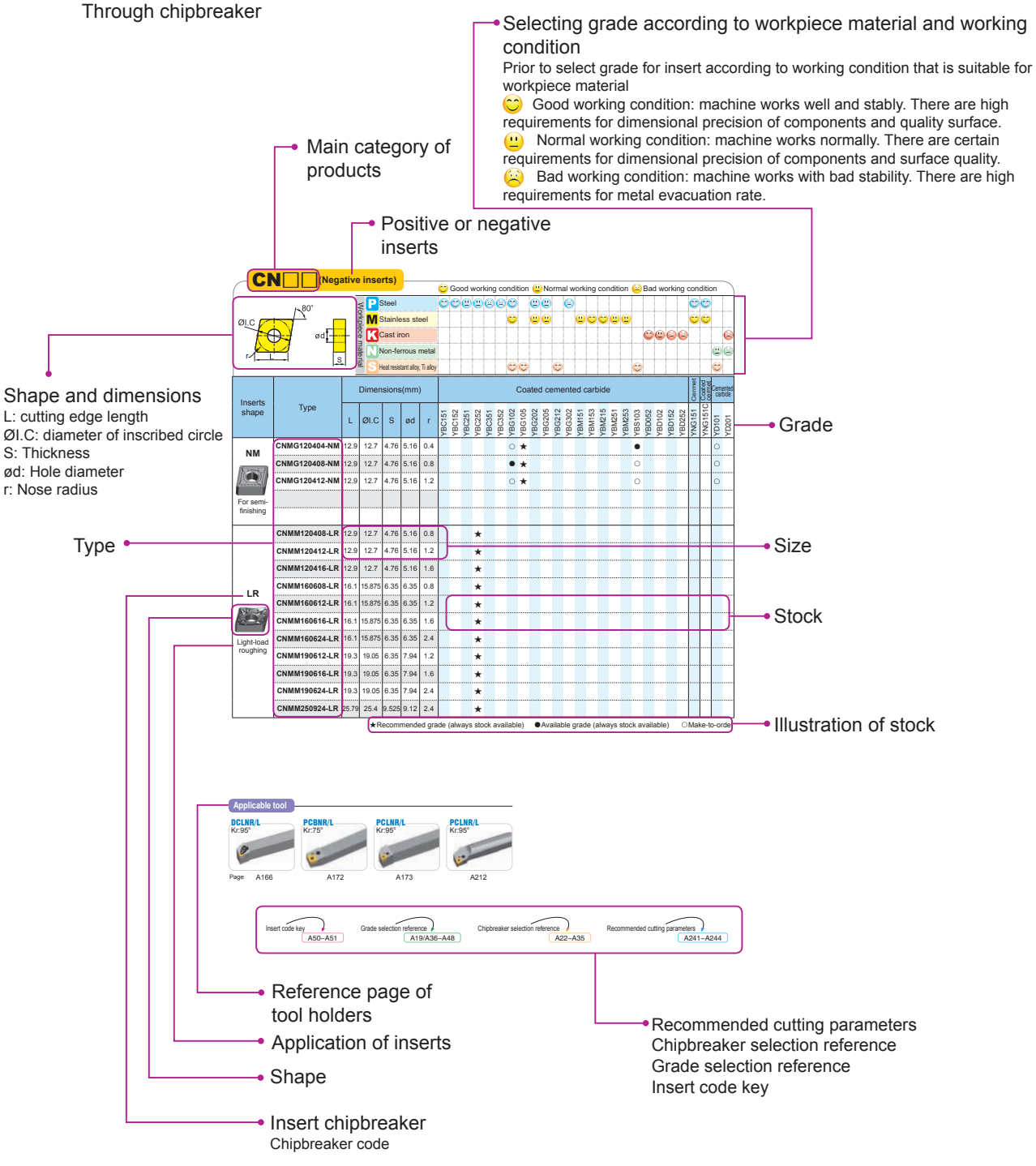

YBM215
Outstanding wear nesrrtance,extends the tool life
achieves high effrcrent processing
Grade for stainless
steel machrning
YBM153
Best choice for cutting stainless steel
with high speed unceer good working condition


ISO
Code
General turning
Coating
CVD
PVD
Cermet
Coated cermet
Ceramic
Cemented carbide
PCBN
PCD
Threading
Coating
PVD
Parting and grooving
Coating
CVD
PVD
Cemented carbide
P Steel
M Stainless steel
K Cast iron
N Non ferrous metal
S Heat resistant alloy & Ti alloy
H Super hard material
01
10
20
30
40
YBC151
YBC251
YBC152
YBC252
YBC351
YBC352
YBG102
YBG202
YNG151
YNG151C
YBG202
YBG203
YBC151
YBC251
YBG205
YBG302
YC10
YC40
YBM151
YBM153
YBM251
YBM253
YBG202
YBM215
YBG205
YNG151
YNG151C
YBG202
YBG203
YBG205
YBG302
YBD052
YBD102
YBD152
YBD252
YNG151
YNG151C
CN3100
YD201
BK1011
BK1021
BK2541
BK2511
YBG202
YBG203
YBG205
YBG302
YD201
DN1021
DN0121
DN3021
YD101
YBG202
YBG203
YD101
YBS103
YBG102
YBG105
YBG212
YBG202
CN3100
YD101
BS1011
BS2011
BS3011
YBG202
YBG203
YBS103
YBG102
YBG105
YBG302
YBG212
YBG202
YD101
CN3100
BH0121
BH1020
BH2011
BH2511
BH3511
YBG202
YBG203

How to select general turning inserts

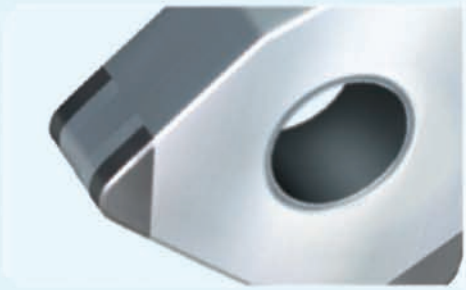
Turning inserts list

- Turning inserts listed according to shape
- Sequence of listed inserts
  - ▸Negative inserts (with hole – without hole)
  - ▸Positive inserts (with hole – without hole)
- Sequence of listed chipbreaker
  For finishing – For semi-finishing – For roughing – For heavy cutting – Without chipbreaker–
  Through chipbreaker



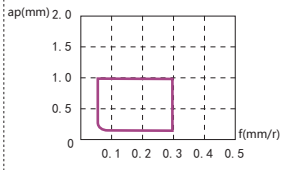
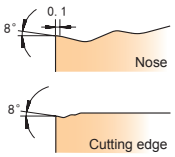
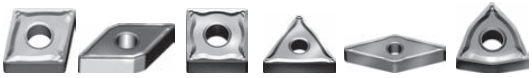
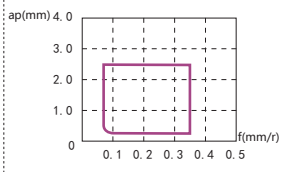
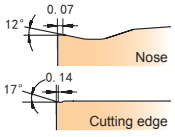
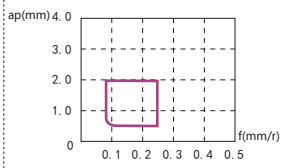
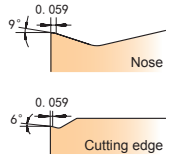
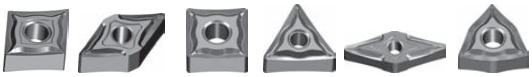
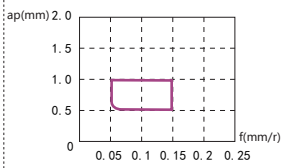
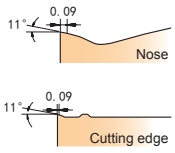
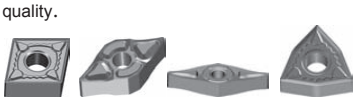
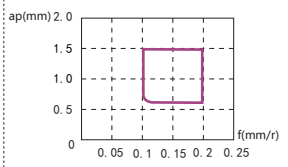
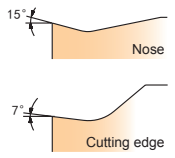
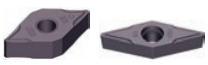
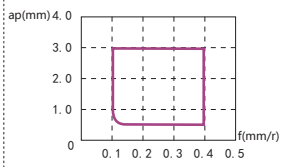
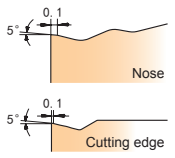
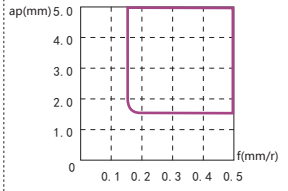
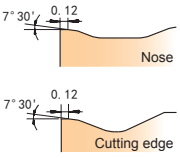
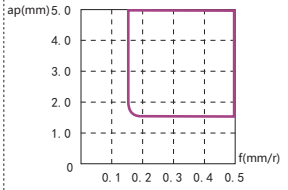
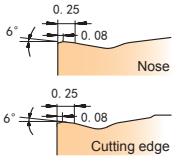
TURNING A

General turning inserts

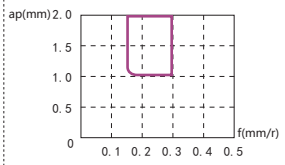
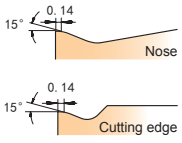
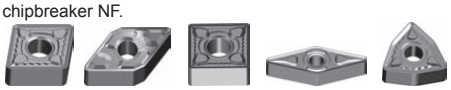
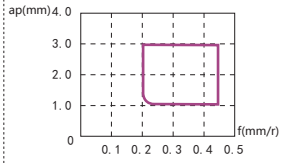
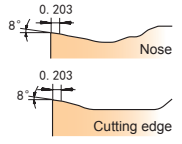
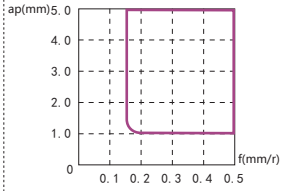
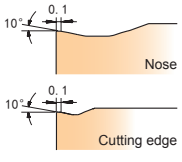
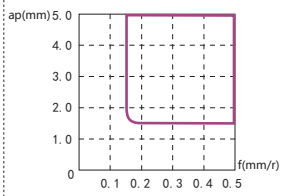
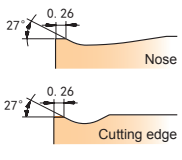
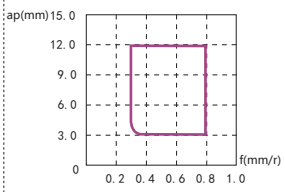
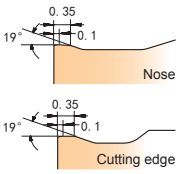
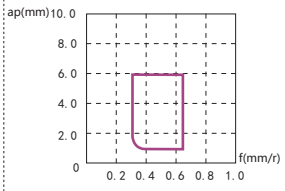
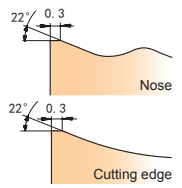
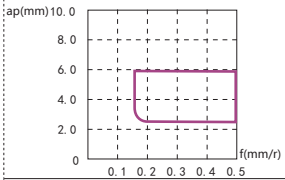
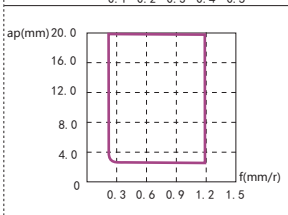
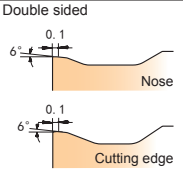
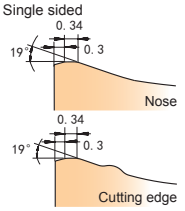


General turning inserts overview

Negative inserts with hole

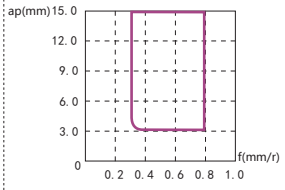
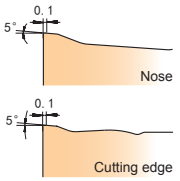
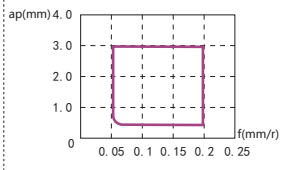
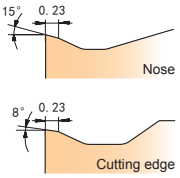
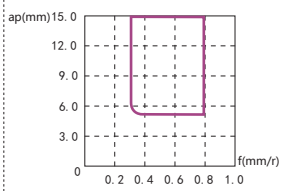
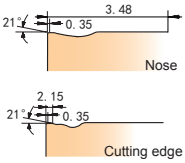
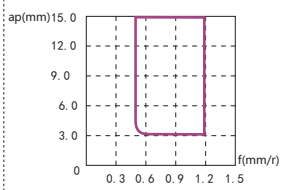
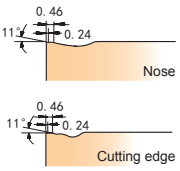
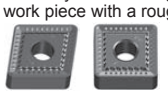
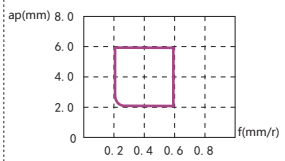
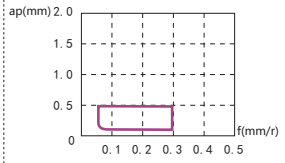
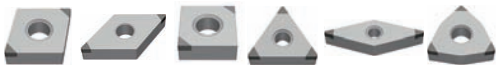
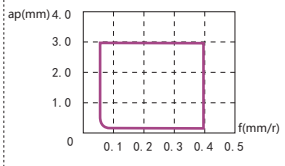
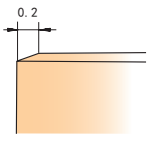
Appli-cation	Chipbreaker	Preci-sion	Recommended cutting parameters	Chipbreaker profile	Feature/Shape of insert
For finishing	SF 	M			**Recommended chipbreaker for finishing of P-type materials** Double-sided chipbreaker with M-level tolerance has outstanding performance in finishing, achieving good surface quality. 
	DF 	M			**Recommended chipbreaker for finishing of P- type materials** Double-sided chipbreaker with M-level tolerance has sharp edges, which can effectively cut off stainless steel and avoid adhering and surface hardening, achieving high surface quality. 
	EF 	M			**Recommended chipbreaker for finishing of M-type materials** Double-sided chipbreaker with M-level tolerance can prevent wear and hardening to achieve high machining precision and good surface quality. 
	NF 	E			**Recommended chipbreaker for finishing of S-type materials** Double-sided chipbreaker with E-level tolerance can prevent wear and hardening to achieve high machining precision and good surface quality. 
	NGF 	E			**Recommended chipbreaker for finishing of S- materials** E-class double side chip breaker with excellent sharp edge.High positioning accuracy, light cutting force.-NGF is recommended chip breaker for S series material general finishing. 
	WGF 	M			**Recommended chipbreaker for finishing of S- materials** E-class double side chip breaker with excellent sharp edge.High positioning accuracy, light cutting force.-NGF is recommended chip breaker for S series material general finishing. 
For semi-finishing	DM 	M			**Recommended chipbreaker for semi-finishing of P-type materials** Double-sided chipbreaker with M-level tolerance produces small cutting forces and has large chip breaking range, which ensures good performance for machining highly adhesive alloy steel. 
	PM 	M			**Recommended chipbreaer for semi-finishing of P-type materials** Double-sided chipbreaker with M-level tolerance has higher strength of cutting edge than chipbreaker DM. It is suitable for semi-finishing under unstable working conditions as well as machining cast iron with small cutting forces. 

Negative inserts with hole

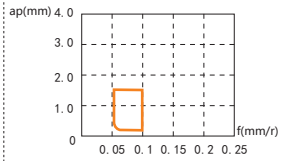
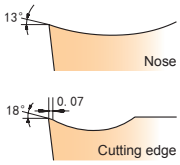
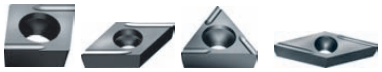
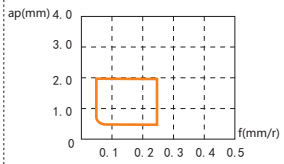
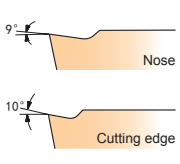
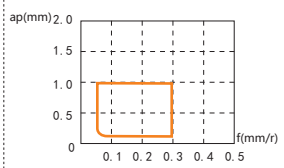
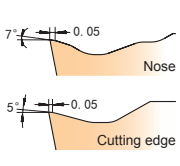
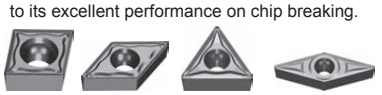
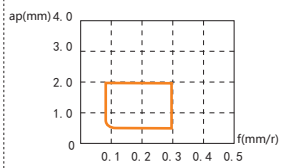
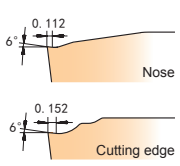
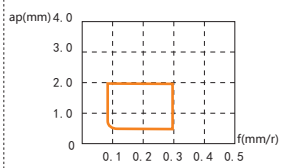
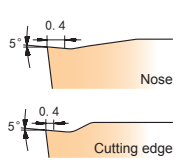
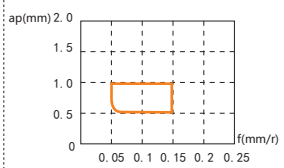
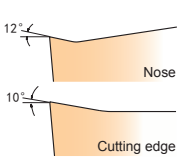
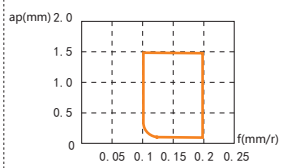
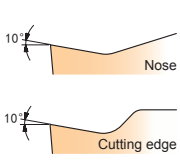
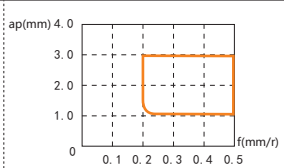
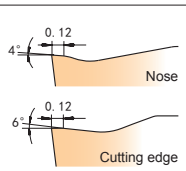
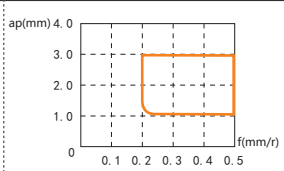
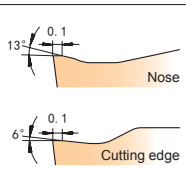
Appli-cation	Chipbreaker	Preci-sion	Recommended cutting parameters	Chipbreaker profile	Feature/Shape of insert
For semi-finishing	NM 	M			**Recommended chipbreaker for semi-finishing of S-type materials** Double-sided chipbreaker with M-class tolerance keeps high precision after inserts are turned, with good capability to prevent wear and hardening to achieve higher machining efficiency than chipbreaker NF. 
	EM 	M			**Recommended chipbreaker for semi-finishing of M-type materials** Double-sided chipbreaker with M-level tolerance can solve the processing problems such as chip breaking and adhering of stainless steel, achieving higher machining efficiency than chipbreaker EF. 
	WGM 	M			**Wiper chipbreaker for semi-finishing** Double-sided chipbreaker with M-level tolerance, semi-finishing chipbreaker with wiper designed, perfect combination of good wiper result and sturdy cutting edge structure, which perfectly meet the requirement of high efficiently and good surface quality. 
	All round 	M			**From semi-finishing to roughing of P-type, M-type, K-type materials** Double-sided chipbreaker with M-level tolerance has good cutting edge strength and wide application. 
Light-load roughing	DR Double-side 	M			**Recommended chipbreaker for light roughing of P-type and K-type materials** Double-sided chipbreaker with M-level tolerance is the first choice for light roughing, can achieve high evacuation rate and efficiency of cutting edge. 
	LR Single-side 	M			**Recommended chipbreaker for light-load roughing of P-type materials** Single-sided general chipbreaker with M-level tolerance, has wide chip breaking range and sharp cutting edge is designed with inclined angle, which enables it to cut lightly and easily and control the chipping flow direction. Chip-leaded-stages can reduces the contact area with chips, so that heat can easily be dissipated. 
For roughing	ER Single/Double side 	M	 Double sided  Single sided	 	**Recommended chipbreaker for roughing of M-type materials** Single / double-sided chipbreaker with M-level tolerance has good capacity of impact-resistance. It is designed to achieve balance between security and sharpness of the cutting edge, and it can achieve high efficiency by preventing the problems of adhering and high cutting heat when roughing stainless steel. 

General turning inserts overview

Negative inserts with hole

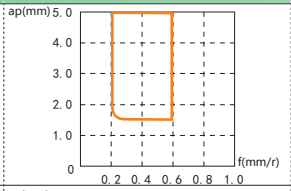
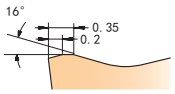
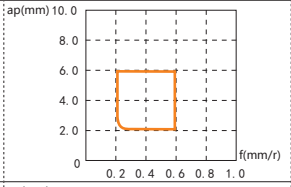
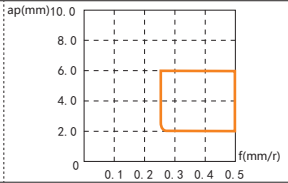
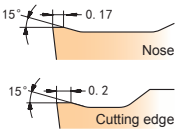
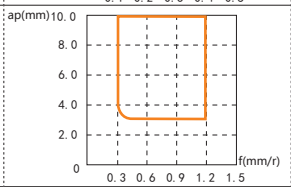
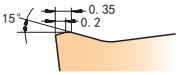
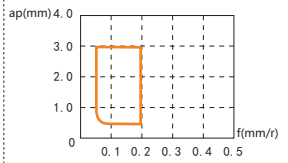
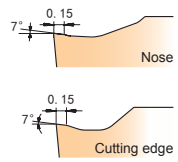
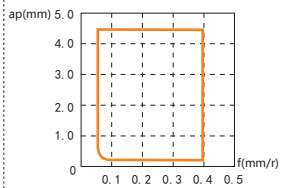
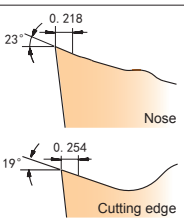
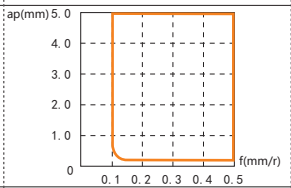
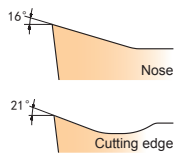
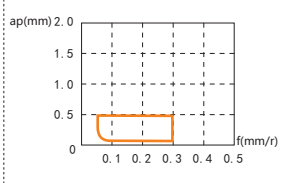
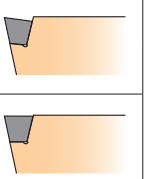
Appli-cation	Chipbreaker	Preci-sion	Recommended cutting parameters	Chipbreaker profile	Feature/Shape of insert
For roughing	DR Single-side	M			**Recommended chipbreaker for roughing of P-type materials** Single-sided chipbreaker with M-level tolerance has high security of cutting edge, which can achieve high feed rate and low cutting forces at great cutting depth and high feed rate. 
	SNR	M			**Recommended chipbreaker for S-material high efficiency roughing** M-level double-sided chipbreaker perfectly combines sharpness and strength of the cutting edge, with small cutting resistance and high edge strength can effectively reduce groove wear. SNR is recommended chipbreaker for high depth roughing of S- materials. 
Heavy-load machining	HDR Single-side	M			**Recommended chipbreaker for heavy lad machining of P materials** M level single-sided chip breaker with strengthen cutting edges, high safety and excellent plastic deformation resistance under high metal removal rate. 
	HPR Single-side	M			**Recommended chipbreaker for heavy-load machining of P-type materials** Single-sided chipbreaker with M-level tolerance, strong cutting edge. Multi-stages chipbreaker ensures the flowing of chip and heat dissipation of insert. It is suitable for machining under unstable and relatively bad working condition, especially for external roughing of work piece with a rough oxidized surfaces. 
Cast iron machining	Without chipbreaker	M			**For cast iron machining** Double-sided chipbreaker with M-level tolerance has high cutting edge strength. It can overcome inferior factors such as intettruption and vibration, etc. when machining cast iron. 
Super hard inserts	Without chipbreaker	G			**For machining of non-ferrous metal and high-hardness metal** G-level tolerance is the best choice for machining non-ferrous metals and high-hardness material by welding PCBN and PCD material to cemented carbide substrate. 
Ceramic inserts	Without chipbreaker	G			**For roughing of K-, H- high-temperature alloy roughing** Sialon Ceramics, V-positioning, solution for high-speed machining of cast iron, hardened steel and superalloy. 

Positive inserts with hole

Appli-cation	Chipbreaker	Preci-sion	Recommended cutting parameters	Chipbreaker profile	Feature/Shape of insert
For extra finishing	**USF** 	G			**Precision turning chipbreaker** With G-level tolerance, large rake angle, sharp cutting edge, for soft cutting action, this is the first choice for precision turning of small shaft parts. 
	R/L 	G			**Recommended chipbreaker for precise boring inserts** With G-level tolerance, sharp cutting edge and small nose radius, it can effectively reduce the vibration in machining and is suitable for boring and external turning. 
	SF 	G			**First choice for finishing with high requirements on chipbreaker** With G-level tolerance, it is the first choice for precise finishing due to its excellent performance on chip breaking. 
For finishing	**HF** 	M			**Chipbreaker for finishing with wide application** With M-level tolerance, it is suitable for internal and external finishing of various materials such as steel and cast iron. 
	EF 	M			**Recommended chipbreaker for finishing of M-type materials** With M-level tolerance, it has sharp cutting edges and is suitable for cutting adhesive materials such as stainless steel, soft steel, etc. 
	NF 	E G			**Recommended chipbreaker for finishing S-type materials** With E and G-level tolerance and sharp cutting edges, it is suitable for internal and external finishing of high-temperature alloy materials. 
	NGF 	E G			**Recommended chipobreaker for S-material general finishing** E, G grade accuracy, for inner hole finishing of S materials. 
For semi-finishing	**HM** 	M			**Chipbreaker for semi-finishing with wide application** With M-level tolerance, it is suitable for internal and external semi-finishing of materials like steel, cast iron, etc. 
	EM 	M			**Recommended chipbreaker for semi-finishing of M-Type materials** With M-level tolerance, it has higher hardness of cutting edge than EF and can achieve higher efficiency. 

General turning inserts overview

Positive inserts with hole

Application	Chipbreaker	Precision	Recommended cutting parameters	Chipbreaker profile	Feature/Shape of insert
For semi-finishing	All round	M			**Recommended chipbreaker for semi-finishing of M-type materials** With M-level tolerance, it is suitable for profile machining materials like steel, cast iron, etc. 
Cast iron machining	Without chipbreaker	M G			**Chipbreaker for machining of cast iron** With M- and G- level tolerance, it has high cutting edge strength and is suitable for internal and external machining of cast iron. 
For roughing	HR	M			**General chipbreaker for roughing** With M-level tolerance, it is suitable for both internal and external roughing of materials such as steel, stainless steel, cast iron, etc. 
	Special chipbreaker	M			**Recommended chipbreaker for heavy machining of P-type materials** Single-sided with M-level tolerance, it has good cutting edge strength with high security. It is the first choice for profile roughing. 
	SNR	M			**Recommended chipobreaker for S-material high-efficiency roughing** M-level accuracy, for inner hole roughing of S materials. 
For Al machining	LC	G			**Chipbreaker for machining of Al alloy** With G-level tolerance, large rake angle and clearance angle make the cutting edge sharper, ensuring easy and fast cutting while remaining effective chip breaking. 
	LH	G			**Special chipbreaker for machining of Al alloy** With G-level tolerance, large rake angle and polishing treatment on surface, it can effectively prevent built-up edge and achieve high workpiece surface quality while maintaining long life. 
Super hard inserts	Without chipbreaker	G			**Special chipbreaker for non-ferrous metals and materials with high hardness** With G-level tolerance, it is the best choice for machining of non-ferrous metals and materials with high-hardness by welding PCBN and PCD material to cemented carbide substrate.