

Tooling Systems Cartridges G1 to G17

G



G

Tooling

General Features of Tooling Systems.....	G2
ICTM HSK Tooling	G3
Polygonal Shank.....	G8
Supported by 2 Faces Modular Taper Shank.....	G11
Supported by 2 Faces HSK Tooling	G11
Igetalloy ABS System	G12
SEC-Micro Units	G14
SEC-Cartridges	G15
Boring Quill / Carbide Line Boring Bar.....	G17

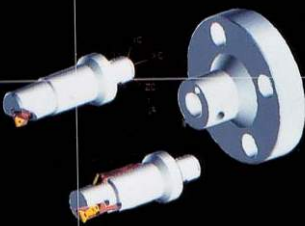
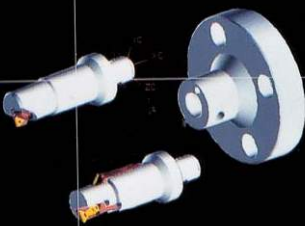
Stock Indications and Symbols

- mark: Standard stocked item
- mark: To be replaced by a new item featured on the same page
- ▲ mark: To be replaced by new item
(Please confirm stock availability)

- * mark: Semi-standard stock (Please confirm stock availability)
- mark: Stock or planned stock (Please confirm stock availability)
- No mark: Made-to-order item
- mark: We cannot produce

General Features of Tooling Systems

■ Tooling Systems

Applications	System Name		Characteristics	Ref. Page
For Turning	ICTM STANDARD		These shanks are for turning applications in compound endmilling machines and follow the ICTM (Interface Committee for Turning Mill) Standard. The shanks are compatible with the HSK-A type allows sharing of tools in a compound endmilling machine and machining centre. Follows ISO standard 12164-3:2008	From G3
	HSK Tooling		The polygonal keyless coupling system achieves an index accuracy of $\pm 2\mu\text{m}$. Supports both turning and rotating tools. Follows ISO standard 26623-1:2008	From G8
For Milling	Polygonal Shank		In this clamping system, the tool is supported by two faces, on the taper and flange, which increases tool rigidity at high speeds and enables high precision machining. Follows ISO standard 26622-1:2008	G11
	Modular Taper Shank		DIN standard for supporting milling shanks by 2 faces.	G11
	HSK Tooling		This quick change system for round tools uses an independently developed mechanism characterised by its strong holding force. The system offers high rigidity and precision, and exhibits good index accuracy during tool changes.	From G12
	Igetalloy ABS Systems			



General Features

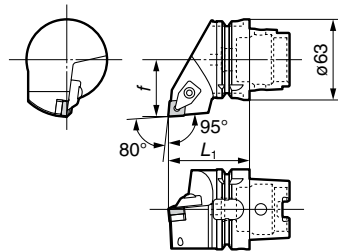
The HSK tooling system has been adopted by Japan's 17 major machine tool manufacturers as the interface for turning tools in compound endmilling machines. It is based on the ICTM (Interface Committee for Turning Mill) standard.

Based on the ISO standard HSK shank, this standard attempts to improve precision in turning applications, and maintains compatibility with the HSK-A type in widespread use on machining centres.

* Catalogue numbers have been changed due to ISO standardisation (ISO 12164-3:2008).

For support with non-standard specifications, contact us directly.

General Turning and Copying



Holders

Above figures show right hand tools.

Cat. No.	Conventional Cat. No.	Stock		Dimensions (mm)		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
		R	L	L ₁	f						
HSK63TH-DCLN R/L-DX12	H63A-WH-DCLN R/L-DX12			65	45	SCP-2	5.0	CNS1204	BFTX0409N	TRX15 (*)	LH040

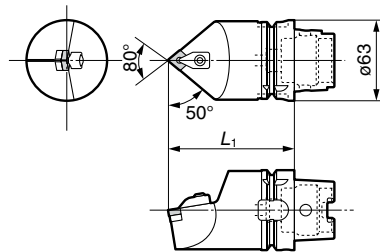
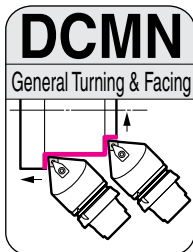
Inserts

Applicable Insert	Ref. Page	(Representative example)
CN□□1204○○	From B21	 CNMG120408N-GE

Spare Parts

* Item is sold separately.

					
SCP-2	5.0	CNS1204	BFTX0409N	TRX15 (*)	LH040



Holders

Cat. No.	Conventional Cat. No.	Stock	Dimensions (mm)		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
			L ₁	f						
HSK63TH-DCMN N-H12	H63A-WH-DCMN N-H12		100		SCP-2	5.0	CNS1204	BFTX0409N	TRX15 (*)	LH040
HSK63TH-DCMN N-L12	H63A-WH-DCMN N-L12		140							

Inserts

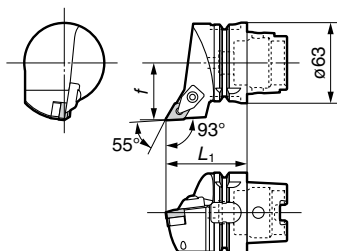
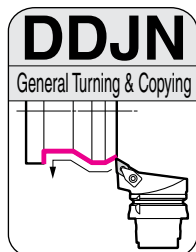
Applicable Insert	Ref. Page	(Representative example)
CN□□1204○○	From B21	 CNMG120408N-GE

Spare Parts

* Item is sold separately.

					
SCP-2	5.0	CNS1204	BFTX0409N	TRX15 (*)	LH040

General Turning and Copying



■ Holders

Above figures show right hand tools.

Cat. No.	Conventional Cat. No.	Stock		Dimensions (mm)		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
		R	L	L ₁	f						
HSK63TH-DDJN R/L-DX15	H63A-WH-DDJN R/L-DX15			65	45	SCP-2	5.0	DNS1504	BFTX0409N	TRX15 (+)	LH040

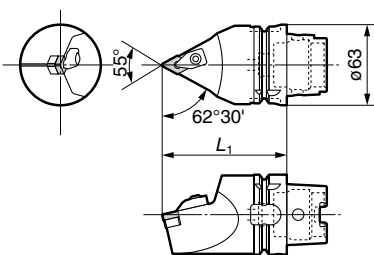
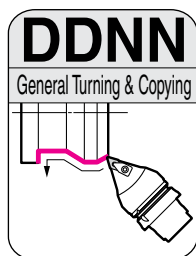
■ Inserts

Applicable Insert	Ref. Page	(Representative example)
DN□□1504○○	From B31	DNMG150408N-GE

■ Spare Parts

* Item is sold separately.

SCP-2	5.0	DNS1504	BFTX0409N	TRX15 (+)	LH040



■ Holders

Cat. No.	Conventional Cat. No.	Stock	Dimensions (mm)		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
			L ₁	f						
HSK63TH-DDNN N-H15	H63A-WH-DDNN N-H15		100		SCP-2	5.0	DNS1504	BFTX0409N	TRX15 (+)	LH040
HSK63TH-DDNN N-L15	H63A-WH-DDNN N-L15		140							

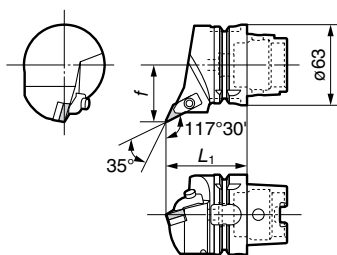
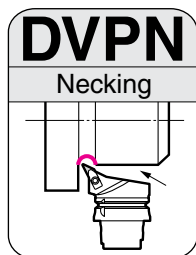
■ Inserts

Applicable Insert	Ref. Page	(Representative example)
DN□□1504○○	From B31	DNMG150408N-GE

■ Spare Parts

* Item is sold separately.

SCP-2	5.0	DNS1504	BFTX0409N	TRX15 (+)	LH040



■ Holders

Above figures show right hand tools.

Cat. No.	Conventional Cat. No.	Stock		Dimensions (mm)		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
		R	L	L ₁	f						
HSK63TH-DVPN R/L-DX16	H63A-WH-DVPN R/L-DX16			65	45	SCP-4	5.0	VNS1604	BFTX0307N	TRX10 (+)	LH040

■ Inserts

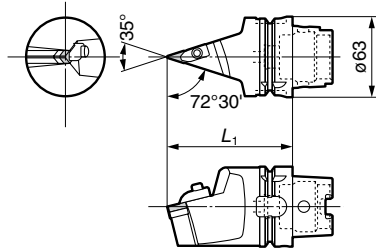
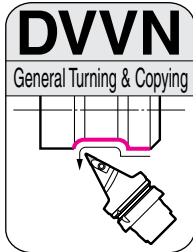
Applicable Insert	Ref. Page	(Representative example)
VN□□1604○○	From B64	VNMG 160408N-GE

■ Spare Parts

* Item is sold separately.

SCP-4	5.0	VNS1604	BFTX0307N	TRX10 (+)	LH040

General Turning and Copying



■ Holders

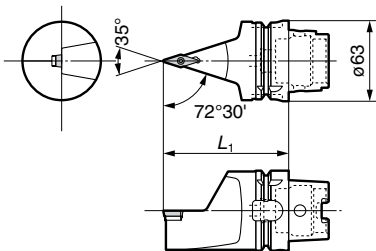
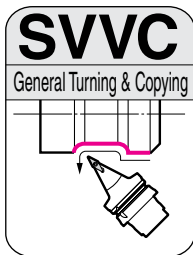
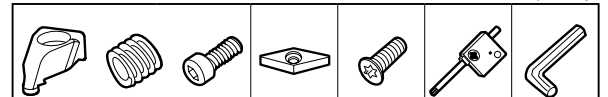
Cat. No.	Conventional Cat. No.	Stock	Dimensions (mm)		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
			L ₁							
HSK63TH-DVVN N-H16	H63A-WH-DVVN N-H16		100		SCP-4	5.0	VNS1604	BFTX0307N	TRX10 (*)	LH040

■ Inserts

Applicable Insert	Ref. Page	(Representative example)
VN□□1604○○	From B64	 VNMG 160408N-GE

■ Spare Parts

* Item is sold separately.



■ Holders

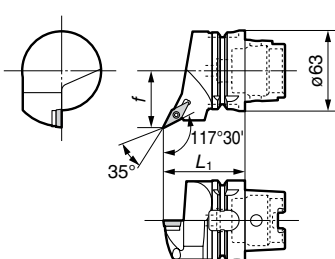
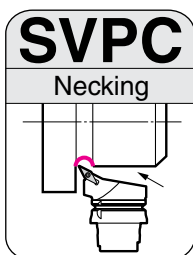
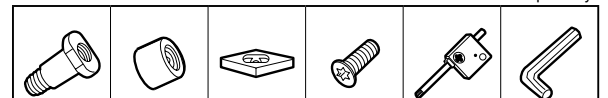
Cat. No.	Conventional Cat. No.	Stock	Dimensions (mm)		Pin	Nut	Shim	Screw	Shim Spanner	Spanner
			L ₁							
HSK63TH-SVVC N-H16	H63A-WH-SVVC N-H16		100		VP25	CPV33N	SVP32	BFTX03508	TRX10 (*)	LH025
HSK63TH-SVVC N-L16	H63A-WH-SVVC N-L16		140							

■ Inserts

Applicable Insert	Ref. Page	(Representative example)
VC□□1604○○	From B120	 VCMT160404N-SU

■ Spare Parts

* Item is sold separately.



■ Holders

Above figures show right hand tools.

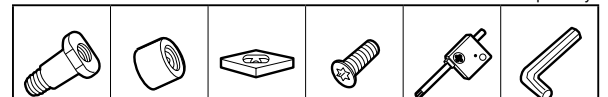
Cat. No.	Conventional Cat. No.	Stock		Dimensions (mm)		Pin	Nut	Shim	Screw	Shim Spanner	Spanner
		R	L	L ₁	f						
HSK63TH-SVPC R/L-DX16	H63A-WH-SVPC R/L-DX16			65	45	VP20	CPV33N	SVP32	BFTX03508	TRX10 (*)	LH025

■ Inserts

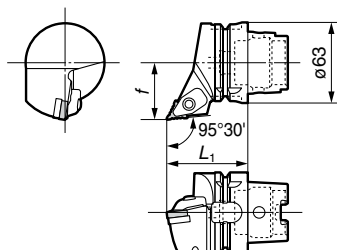
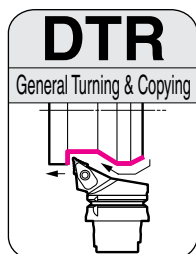
Applicable Insert	Ref. Page	(Representative example)
VC□□1604○○	From B120	 VCMT160404N-SU

■ Spare Parts

* Item is sold separately.



General Turning and Copying



■ Holders

Cat. No.	Conventional Cat. No.	Stock	Dimensions (mm)		Clamp	Spring	Cap Screw	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Spanner	Spanner
			L ₁	f								
HSK63TH-DTR55C R-DX17	H63A-WH-DTR55C R-DX17		65	45	TRCP3	S-SP4-20	BX0520	3.5 to 4.5	TRW5505	BFTX0307N	TSW040	TRX10 (*)

* Refer to page C12 for applicable TRM type inserts.

SumiTurn T-REX

■ Inserts

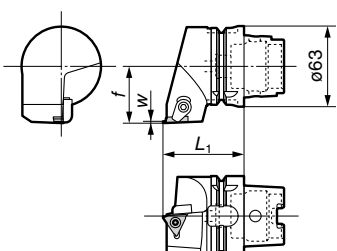
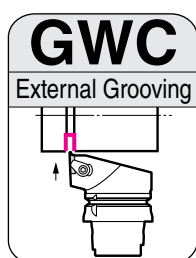
Applicable Insert	Ref. Page	(Representative example)
TRM5517○○	C12	 TRM551708-LU

■ Spare Parts

* Item is sold separately.

Clamp	Spring	Cap Screw	Shim	Shim Screw	Spanner	Spanner

Ext. Grooving



■ Holders

Cat. No.	Conventional Cat. No.	Stock	Dimensions (mm)		Grooving Width (mm)	* Group Number	Screw	Clamp	Double Screw	Spanner	Spanner
			L ₁	f							
HSK63TH-GWC R-DX412	H63A-WH-GWC R-DX412		65	45	1.25 to 1.45	2					
HSK63TH-GWC R-DX415	H63A-WH-GWC R-DX415		65	45	1.50 to 2.30	3	BFTX0511N	CCM8UL	WB8-22T	TRX20	LT27
HSK63TH-GWC R-DX425	H63A-WH-GWC R-DX425		65	45	2.50 to 4.80	4					

* Refer to pages F6, F7, F8 for applicable TGA type inserts. Select applicable inserts for the holders by using matching group numbers.

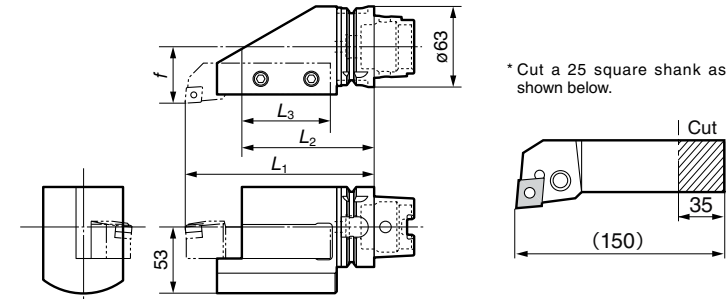
■ Inserts

Applicable Insert	Ref. Page	(Representative example)
TGAR4150	F6 to F8	 TGA4150

■ Spare Parts

Screw	Clamp	Double Screw	Spanner	Spanner

Square Shank Holder



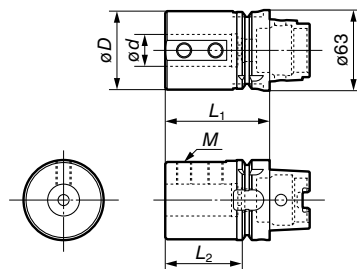
■ Holders

Cat. No.	Conventional Cat. No.	Stock	Dimensions (mm)				Set Screw	Spanner
			L ₁	L ₂	L ₃	f		
HSK63TH-S2525 R-105	H63A-WH-S2525 R-105		150	105	70	45	BTD0809	LH040

■ Spare Parts

	
BTD0809	LH040

Holder for Boring Bar



■ Holders

Cat. No.	Conventional Cat. No.	Stock	Dimensions (mm)					Set Screw	Spanner
			ød	øD	L ₁	L ₂	M		
HSK63TH-C08-65	H63A-WH-C08-65		8	28	65	40	M8	BTD0809	LH040
HSK63TH-C10-70	H63A-WH-C10-70		10	35	70	45	M8	BTD0812	LH040
HSK63TH-C12-70	H63A-WH-C12-70		12	42	70	45	M8	BTD0812	LH040
HSK63TH-C16-75	H63A-WH-C16-75		16	48	75	50	M10	BTD1015	LH050
HSK63TH-C20-75	H63A-WH-C20-75		20	52	75	50	M10	BTD1015	LH050
HSK63TH-C25-83	H63A-WH-C25-83		25	62	83	58	M12	BTD1218	LH060
HSK63TH-C32-87	H63A-WH-C32-87		32	62	87	62	M12	BTD1215	LH060
HSK63TH-C40-97	H63A-WH-C40-97		40	65	97	72	M16	BTD1610	LH080

* Cut the boring bar to fit.

Polygonal Shank



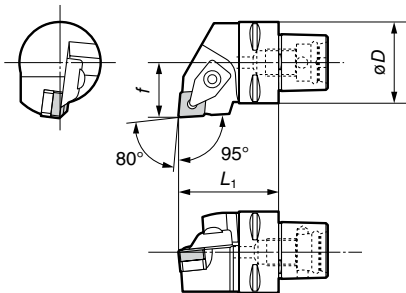
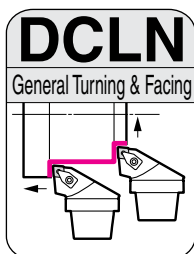
General Features

Polygonal shanks feature keyless couplings with a characteristic polygonal shape, which bear cutting torque evenly on three surfaces to provide high rigidity and high index accuracy. Supports both turning and rotating tools.

For support with non-standard specifications, contact us directly.

* Catalogue numbers have been changed due to ISO standardisation (ISO 26623-1:2008).

General Turning and Copying



Holders

Above figures show right hand tools.

Cat. No.	Stock		Dimensions (mm)			Applicable Insert		Ref. Page	Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
	R	L	L ₁	f	øD	Cat. No.								
PSC40 DCLN R/L 27050-12			50	27	40	CN□□1204○○	From B21		SCP-2	5.0	CNS1204	BFTX0409N	TRX15 (*)	LH040
PSC50 DCLN R/L 35060-12			60	35	50									
PSC63 DCLN R/L 45065-12			65	45	63									

Inserts

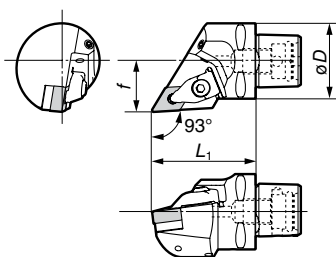
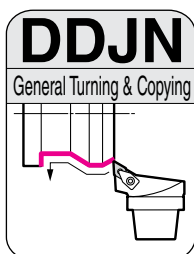


CNMG120408N-GE
(Representative example)

Spare Parts

* Item is sold separately.

SCP-2	5.0	CNS1204	BFTX0409N	TRX15 (*)	LH040



Holders

Above figures show right hand tools.

Cat. No.	Stock		Dimensions (mm)			Applicable Insert		Ref. Page	Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
	R	L	L ₁	f	øD	Cat. No.								
PSC40 DDJN R/L 27055-1504			55	27	40	DN□□1504○○	From B31		SCP-2	5.0	DNS1504	BFTX0409N	TRX15 (*)	LH040
PSC50 DDJN R/L 35060-1504			60	35	50									
PSC63 DDJN R/L 45065-1504			65	45	63									

Inserts



DNMG150408N-GE
(Representative example)

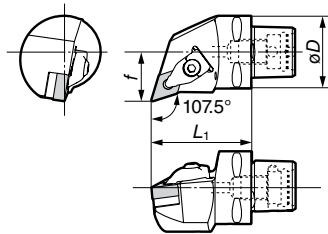
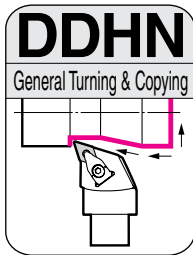
Spare Parts

* Item is sold separately.

SCP-2	5.0	DNS1504	BFTX0409N	TRX15 (*)	LH040

Polygonal Shank

General Turning and Copying



Holders

Above figures show right hand tools.

Cat. No.	Stock		Dimensions (mm)			Applicable Insert		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
	R	L	L ₁	f	øD	Cat. No.	Ref. Page						
PSC40 DDHN R/L 27055-1504			55	27	40	DN□□1504○○	From B31	SCP-2	5.0	DNS1504	BFTX0409N	TRX15 (*)	LH040
PSC50 DDHN R/L 35060-1504			60	35	50								

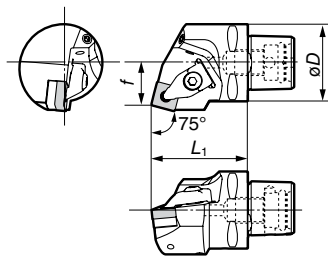
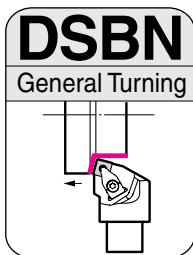
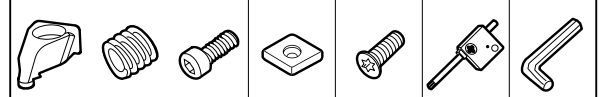
Inserts



DNMG150408N-GE
(Representative example)

Spare Parts

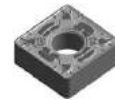
* Item is sold separately.



Holders

Cat. No.	Stock		Dimensions (mm)			Applicable Insert		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
	R	L	L ₁	f	øD	Cat. No.	Ref. Page						
PSC40 DSBN R/L 22050-12			50	22	40	SN□□1204○○	From B41	SCP-2	5.0	SNS1204	BFTX0409N	TRX15 (*)	LH040
PSC50 DSBN R/L 27060-12			60	27	50								

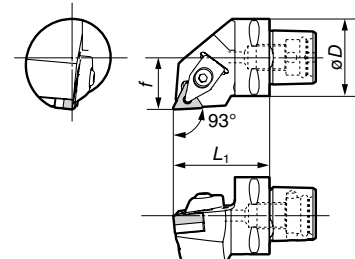
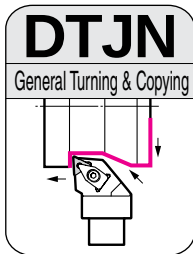
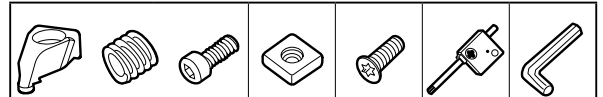
Inserts



SNMG120408N-GE
(Representative example)

Spare Parts

* Item is sold separately.



Holders

Above figures show right hand tools.

Cat. No.	Stock		Dimensions (mm)			Applicable Insert		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
	R	L	L ₁	f	øD	Cat. No.	Ref. Page						
PSC40 DTJN R/L 27050-16			50	27	40	TN□□1604○○	From B54	SCP-1	5.0	TNS1604	BFTX0307N	TRX15 (*)	LH040
PSC50 DTJN R/L 35060-16			60	35	50								

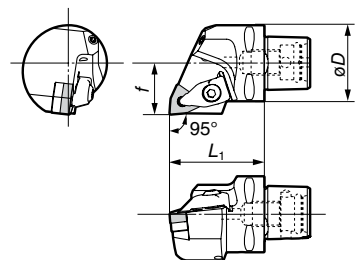
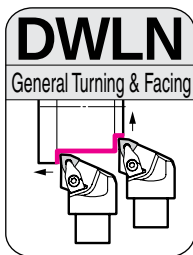
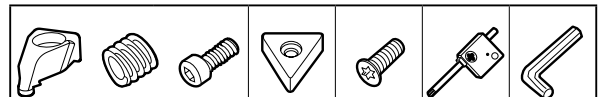
Inserts



TNMG160408N-GE
(Representative example)

Spare Parts

* Item is sold separately.



Holders

Cat. No.	Stock		Dimensions (mm)			Applicable Insert		Clamp Set	Recommended Tightening Torque (N·m)	Shim	Shim Screw	Shim Spanner	Spanner
	R	L	L ₁	f	øD	Cat. No.	Ref. Page						
PSC40 DWLN R/L 27050-06			50	27	40	WN□□0604○○	From B67	SCP-1	5.0	WNS0604	BFTX0307N	TRX15 (*)	LH040
PSC50 DWLN R/L 35060-06			60	35	50								
PSC40 DWLN R/L 27050-08			50	27	40	WN□□0804○○	From B68	SCP-2	5.0	WNS0804	BFTX0409N	TRX15 (*)	LH040
PSC50 DWLN R/L 35060-08			60	35	50								

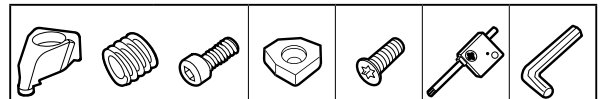
Inserts



WNMG080408N-SE
(Representative example)

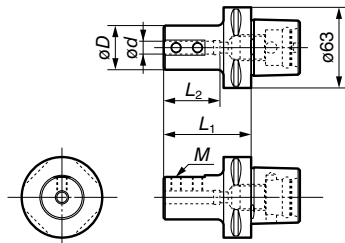
Spare Parts

* Item is sold separately.



Polygonal Shank

Holder for Boring Bar



Spare Parts

Cat. No.	Stock	Dimensions (mm)					Set Screw	Spanner
		ϕd	ϕD	L_1	L_2	M		
PSC63-C08-65		8	28	65	40	M8	BTD0809	LH040
PSC63-C10-70		10	35	70	45	M8	BTD0812	LH040
PSC63-C12-70		12	42	70	45	M8	BTD0812	LH040
PSC63-C16-75		16	48	75	50	M10	BTD1015	LH050
PSC63-C20-75		20	52	75	50	M10	BTD1015	LH050
PSC63-C25-83		25	62	83	58	M12	BTD1218	LH060
PSC63-C32-87		32	62	87	62	M12	BTD1215	LH060
PSC63-C40-97		40	65	97	72	M16	BTD1610	LH080

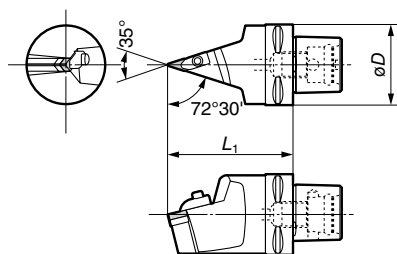
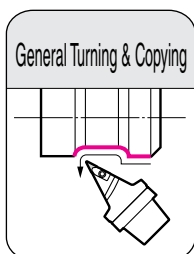
* Cut the boring bar to fit.

Holders

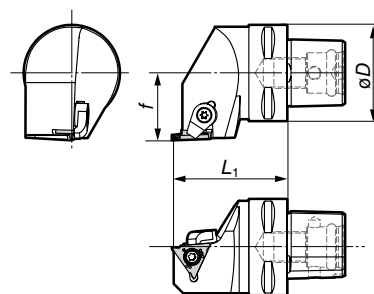
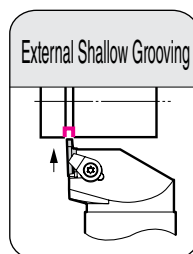
Custom Examples

For support with non-standard specifications, contact us directly.

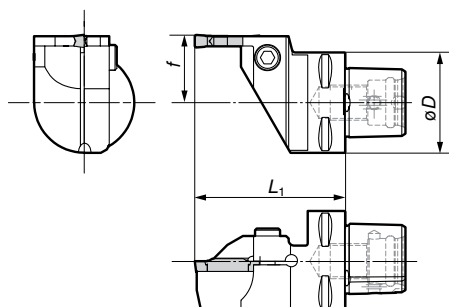
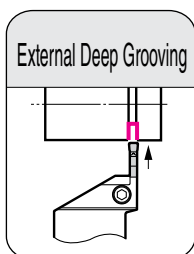
* Catalogue numbers have been changed due to ISO standardisation (ISO 26623-1:2008).



Uses a VNMG16 type insert (see page B64).



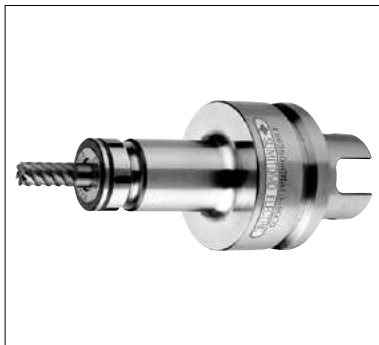
Uses a TGA BF type grooving insert (see page F6 to F8).



Uses a GND type grooving insert (see page F10).

Modular Taper Shank

* Catalogue numbers have been changed due to ISO standardisation (ISO 26622-1:2008).



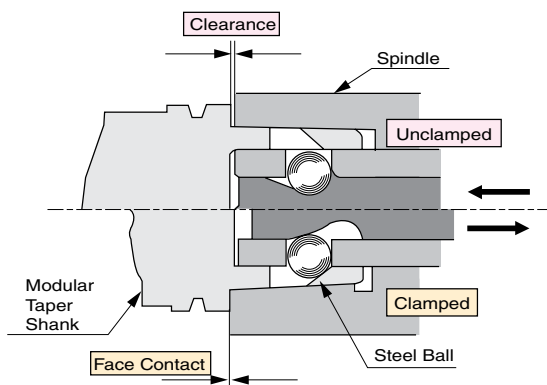
Modular Taper Shank

It is in widespread use throughout Europe and the United States.

■ Characteristics

- Tool shape suitable for high speed spindles.
- This clamping system supports the tool by two faces, on the taper and the flange, enabling high rigidity at high speeds and high precision machining.
- The hollow short tapered design reduces weight and shortens ATC times.

■ Mechanism



■ Sizes

	Cat. No.	øD	ød
	TS32	32	24
	TS40	40	30
	TS50	50	40
	TS63	63	50
	TS80	80	64

HSK Tooling



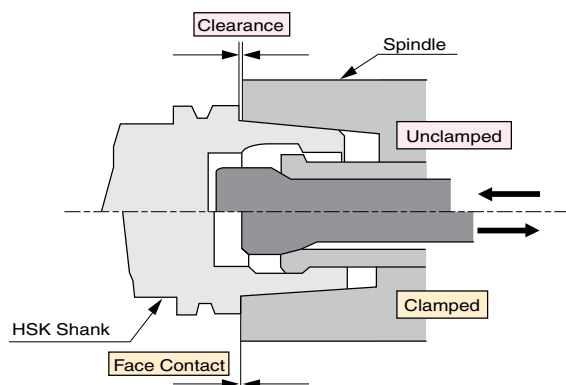
HSK Tooling

This hollow shank was developed by RWTH Aachen University and the German Industry Association, and has been adopted as an ISO standard.

■ Characteristics

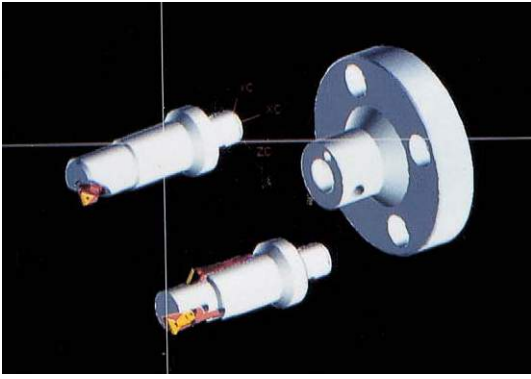
- The DIN standard for supporting tools by 2 faces.
- Support by 2 faces, on the taper and flange, for high precision and high rigidity machining.
- The hollow short tapered design reduces weight and allows for high speed ATC.

■ Mechanism



■ Sizes

	Cat. No.	øD	ød
	HSK A32	32	24
	HSK A40	40	30
	HSK A50	50	38
	HSK A63	63	48
	HSK A80	80	60
	HSK A100	100	75



General Features

The Igetalloy ABS system receives high marks worldwide for its strong clamping force, high rigidity, and high precision. The ABS system is a quick change system for round tools that gives customers the ability to increase productivity, and simplify and standardise on special tooling.

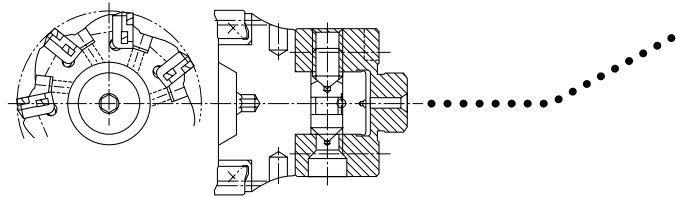
The SBA system is also available. For details of the SBA system, please contact us.

Characteristics and Applications

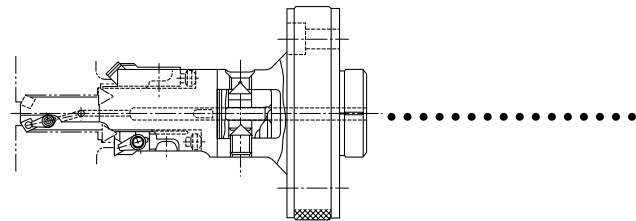
- The clamp screw, taper screw, slide pin act as a wedge for strong holding force.
- High rigidity, high precision. High index accuracy during tool changes.
- A wide array of sizes are available to meet a variety of tools.
- Easy handling allows short tool change times.
- Allows coolant supply from inside the spindle.
- Strong clamping force even with small diameters.

ABS Design Examples

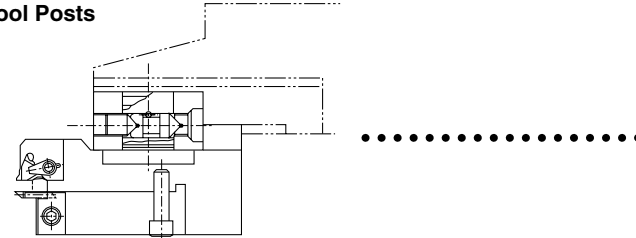
Indexable Cutters



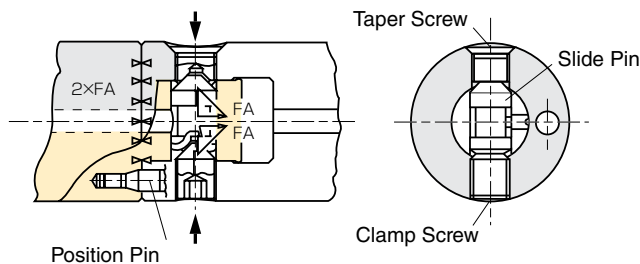
Boring Quills



Tool Posts



Clamp Mechanism



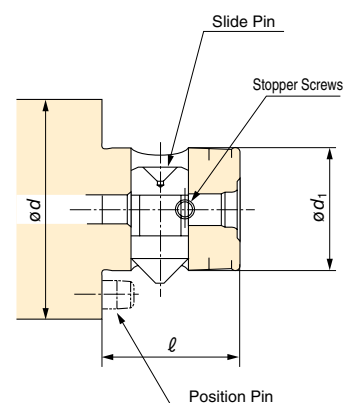
ABS Standard (Head)

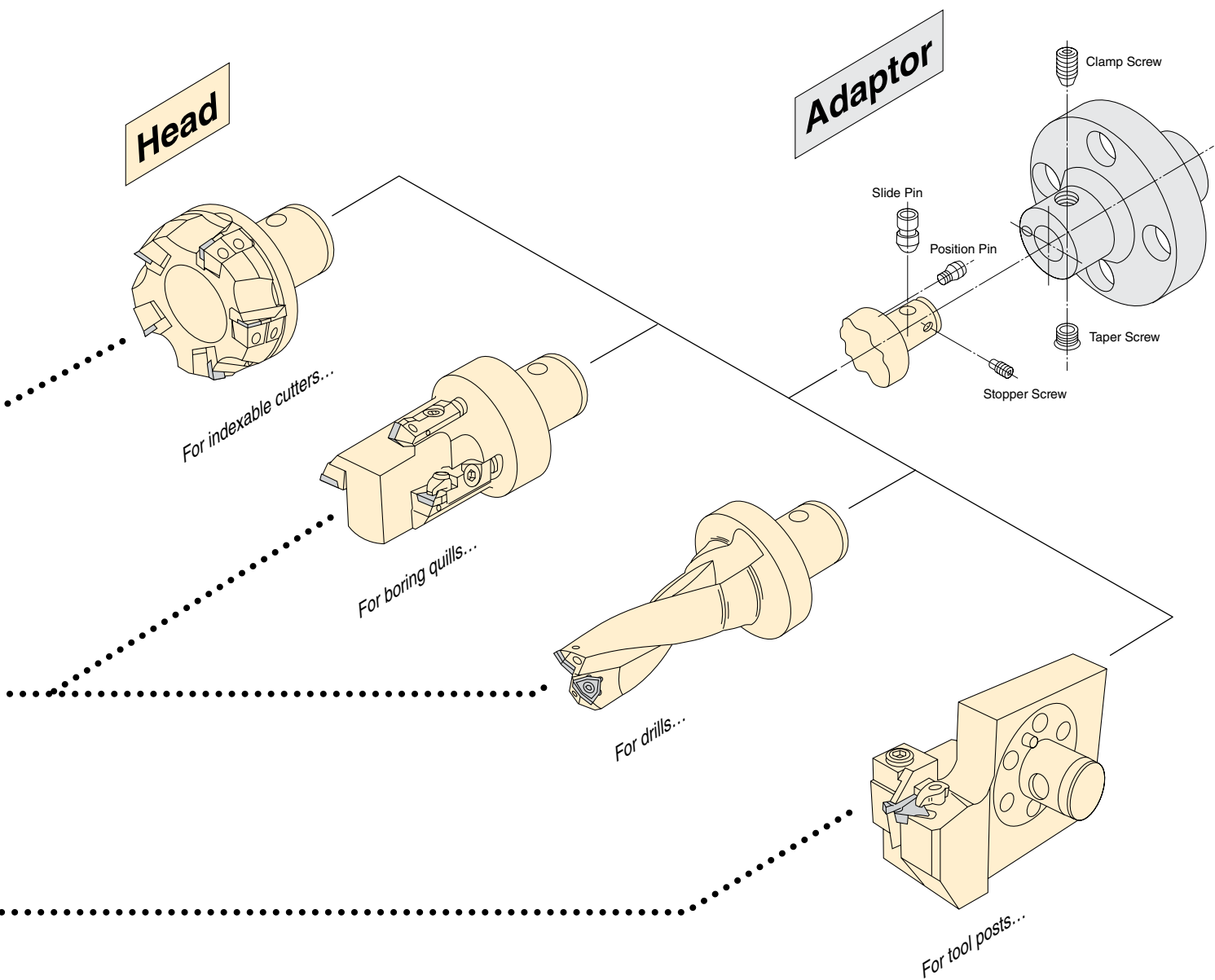
Head Dimensions

Cat. No.	Dimensions (mm)		
	ϕd	ϕd_1	ℓ
ABS 25M	25	13	20
ABS 32M	32	16	23
ABS 40M	40	20	26
ABS 50M	50	28	31
ABS 63M	63	34	38
ABS 80M	80	46	43
ABS100M	100	56	55
ABS125M	125	70	70
ABS160M	160	90	90
ABS200M	200	112	110

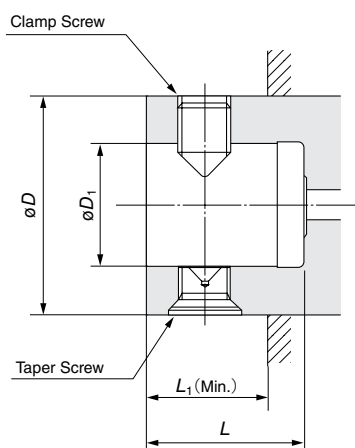
Spare Parts

Set Cat. No.	Slide Pin	Position Pin	Stopper Screws
ABS 25-ES-M	ABS 25-E3	ABS 25-E4	ABS 25-E5
ABS 32-ES-M	ABS 32-E3	ABS 32-E4	ABS 32-E5
ABS 40-ES-M	ABS 40-E3	ABS 40-E4	ABS 40-E5
ABS 50-ES-M	ABS 50-E3	ABS 50-E4	ABS 50-E5
ABS 63-ES-M	ABS 63-E3	ABS 63-E4	ABS 63-E5
ABS 80-ES-M	ABS 80-E3	ABS 80-E4	ABS 80-E5
ABS100-ES-M	ABS100-E3	ABS100-E4	ABS100-E5
ABS125-ES-M	ABS125-E3	ABS125-E4	ABS125-E5
ABS160-ES-M	ABS160-E3	ABS160-E4	ABS160-E5
ABS200-ES-M	ABS200-E3	ABS200-E4	ABS200-E5





■ ABS Standard (Adaptor)



• Adaptor Dimensions

Cat. No.	Dimensions (mm)			
	D	D_1	L	L_1
ABS 25W	25	13	22	13.0
ABS 32W	32	16	25	16.0
ABS 40W	40	20	30	18.5
ABS 50W	50	28	34	22.0
ABS 63W	63	34	41	28.0
ABS 80W	80	46	48	34.0
ABS100W	100	56	58	40.5
ABS125W	125	70	76	51.0
ABS160W	160	90	96	53.0
ABS200W	200	112	116	82.0

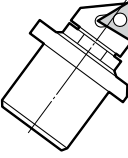
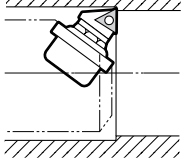
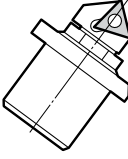
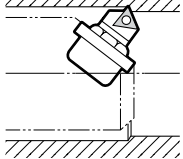
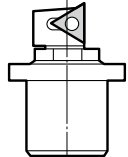
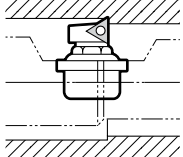
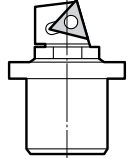
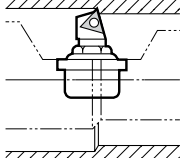
• Spare Parts

Set Cat. No.	Clamp Screw	Taper Screw
ABS 25-FS-W	ABS 25-F1	ABS 25-F2
ABS 32-FS-W	ABS 32-F1	ABS 32-F2
ABS 40-FS-W	ABS 40-F1	ABS 40-F2
ABS 50-FS-W	ABS 50-F1	ABS 50-F2
ABS 63-FS-W	ABS 63-F1	ABS 63-F2
ABS 80-FS-W	ABS 80-F1	ABS 80-F2
ABS100-FS-W	ABS100-F1	ABS100-F2
ABS125-FS-W	ABS125-F1	ABS125-F2
ABS160-FS-W	ABS160-F1	ABS160-F2
ABS200-FS-W	ABS200-F1	ABS200-F2

SEC- Micro Units

Note: Please recommend using MUP type micro units when designing new tooling. MUN and NC types should only be used as replacement parts for existing tooling which are already using these micro units.

Typical Toolings

		MUP Type			MUN Type			NC Type		
										
Illustrations	Applications	Cat. No.	Min. Bore Dia. (mm)	Stock R LH	Cat. No.	Min. Bore Dia. (mm)	Stock R LH	Cat. No.	Min. Bore Dia. (mm)	Stock R LH
		MUP1-A0	25	● ●	MUN2 -A0	36		FBU2-A0	34	
		MUP2-A0	36	● ●	MUN3 -A0	47		FBU3-A0	51.5	
		MUP3-A0	47	● ●	MUN3L-A0	54		FBU4-A0	72.5	
		MUP4-A0	73	●	MUN4 -A0	73				
					MUN4L-A0	78				
		MUP1-A15	25	●	MUN2 -A15	36		FBU2-A15	36	
		MUP2-A15	36	●	MUN3 -A15	47		FBU3-A15	53	
		MUP3-A15	47		MUN3L-A15	54		FBU4-A15	76	
		MUP4-A15	73		MUN4 -A15	73				
					MUN4L-A15	78				
		MUP1-V0	25	● ●	MUN2 -V0	36		FBU2-V0	36	
		MUP2-V0	36	● ●	MUN3 -V0	47		FBU3-V0	54	
		MUP3-V0	47	● ●	MUN3L-V0	54		FBU4-V0	78.5	
		MUP4-V0	73	●	MUN4 -V0	73				
					MUN4L-V0	78				
		MUP1-V15	25	●	MUN2 -V15	36		FBU2-V15	36	
		MUP2-V15	36	●	MUN3 -V15	47		FBU3-V15	54	
		MUP3-V15	47	●	MUN3L-V15	54		FBU4-V15	78.5	
		MUP4-V15	73	●	MUN4 -V15	73				
					MUN4L-V15	78				

* If a left-hand unit is required, include "LH" after the catalogue number (ex. MUP1-A0-LH, MUP1-V0-LH)

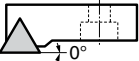
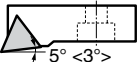
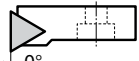
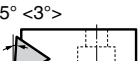
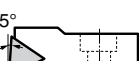
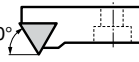
* Inserts are not included.

Features

Classification	Standard Type	MINIT Type		ISO Type			
	BU Type	MINIT P24 Type	MINIT N38 Type	SP Type	CP Type	CE Type	PN Type
Type	The most common type of cartridge units	Mini type with good edge sharpness and chip control	Compact type for multi-tooling configurations	Screw-locked positive edge type with good edge sharpness and chip control	Positive edge type for low rigidity work	High rake type for Non-ferrous metal machining	Economical type using common negative inserts
Shape							
Functions							
Clamp Mechanism	Eccentric Pin	Screw On	Pin Lock	Screw On	Clamp On	Clamp On	Pin Lock
Adjustability	Yes	Axial: No Radial: Yes	No (By using shims)	Yes	Yes	Yes	Yes
Rake Angle	Neg.	Pos.	Neg.	Pos.	Pos.	Pos.	Neg.
Relief Angle	0°	11°	0°	11°	11°	20°	0°
Cutting Edge Position	Above Centre	Above Centre	Above Centre	On Centre	On Centre	On Centre	On Centre
Min. Effective Diameter (mm)	ø24	ø24	ø38	ø30	ø30	ø30	ø38

Typical Toolings (For Triangular Inserts)

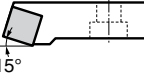
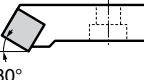
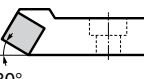
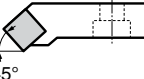
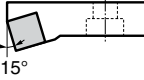
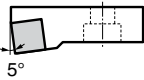
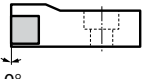
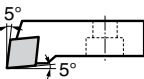
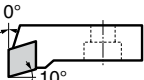
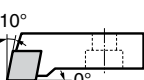
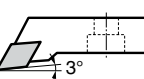
Inserts are not included. () Indicate Smallest Applicable Diameter.

Configuration	BU Type	Stock R L	MINIT P24 Type	Stock R L	MINIT N38 Type	Stock R L	SP Type	Stock R L	CP Type	Stock R L	CE Type	Stock R L	PN Type	Stock R L
					MTGN3 R/L(38)	●●	STGP R/L-10CA(38)	●●	CTGP R/L10CA(38)	●●	CTGE R/L10CA(38)	●●	PTGN R/L10CA(38)	●●
							STGP R/L-12CA(50)	●●	CTGP R/L12CA(50)	●●	CTGE R/L12CA(50)	●●	PTGN R/L12CA(50)	●●
							STGP R/L-16CA(60)	●●	CTGP R/L16CA(60)	●●			PTGN R/L16CA(60)	●●
													PTGN R/L20CA(70)	▲●
	BU224 R/L(48)	●●	MTJP22 R/L(24)	●●	MTJN3 R/L(38)	●●	STJP R/L-10CA(38)	●●	CTJP R/L10CA(38)	●●	CTJE R/L10CA(38)	●●		
	BU225 R/L(60)	●●					STJP R/L-12CA(50)	●●	CTJP R/L12CA(50)	●●	CTJE R/L12CA(50)	●●		
							STJP R/L-16CA(55)	●●	CTJP R/L16CA(55)	●●				
	BU252 R/L(24)	●●	MTFP22 R/L(24)	●●	MTFN3 R/L(38)	●●	STFP R/L- 8CA(30)	●●	CTFP R/L 8CA(30)	●●	CTFE R/L 8CA(30)	●●	PTFN R/L10CA(38)	●●
	BU253 R/L(30)	●●					STFP R/L-10CA(38)	●●	CTFP R/L10CA(38)	●●	CTFE R/L10CA(38)	●●	PTFN R/L12CA(50)	●●
	BU254 R/L(38)	●●					STFP R/L-12CA(50)	●●	CTFP R/L12CA(50)	●●	CTFE R/L12CA(50)	●●	PTFN R/L16CA(55)	●●
	BU255 R/L(48)	●●					STFP R/L-16CA(55)	●●	CTFP R/L16CA(55)	●●	CTFE R/L16CA(55)	●●	▲ PTFN R/L20CA(70)	●●
	BU256 R/L(55)	●●							CTFP R/L20CA(70)	●●	CTFE R/L20CA(70)	●●		
	BU293 R/L(30)	●●	MTUP22 R/L(24)	●●	MTUN3 R/L(38)	●●	STUP R/L-10CA(38)	●●	CTUP R/L10CA(38)	●●	CTUE R/L10CA(38)	●●		
	BU294 R/L(38)	●●					STUP R/L-12CA(50)	●●	CTUP R/L12CA(50)	●●	CTUE R/L12CA(50)	▲		
	BU295 R/L(48)	●●					STUP R/L-16CA(55)	●●	CTUP R/L16CA(55)	●●				
	BU295ER/L(48)	●●												
							STTP R/L- 8CA(30)	●●	CTTP R/L 8CA(30)	●●	CTTE R/L 8CA(30)	●●	PTTN R/L10CA(38)	●▲
							STTP R/L-10CA(38)	●●	CTTP R/L10CA(38)	●●	CTTE R/L10CA(38)	●●	PTTN R/L12CA(50)	●●
							STTP R/L-12CA(50)	●●	CTTP R/L12CA(50)	●●	CTTE R/L12CA(50)	●●	PTTN R/L16CA(60)	●▲
							STTP R/L-16CA(60)	●●	CTTP R/L16CA(60)	●▲	CTTE R/L16CA(60)	▲		
							STSP R/L-10CA(38)	●●	CTSP R/L10CA(38)	●●	CTSE R/L 8CA(30)	●●		
							STSP R/L-12CA(50)	●●	CTSP R/L12CA(50)	●●	CTSE R/L10CA(38)	●●		
							STSP R/L-16CA(55)	●●	CTSP R/L16CA(55)	●●	CTSE R/L12CA(50)	●●		
											CTSE R/L16CA(55)	▲		
			MTWP22 R/L(24)	●●	MTWN3 R/L(38)	●●	STWP R/L- 8CA(30)	●●	CTWP R/L 8CA(30)	●●	CTWE R/L 8CA(30)	●●		
							STWP R/L-10CA(38)	●●	CTWP R/L10CA(38)	●●	CTWE R/L10CA(38)	●●		
							STWP R/L-12CA(50)	●●	CTWP R/L12CA(50)	●●	CTWE R/L12CA(50)	●●		
							STWP R/L-16CA(55)	●●	CTWP R/L16CA(55)	▲	CTWE R/L16CA(55)			

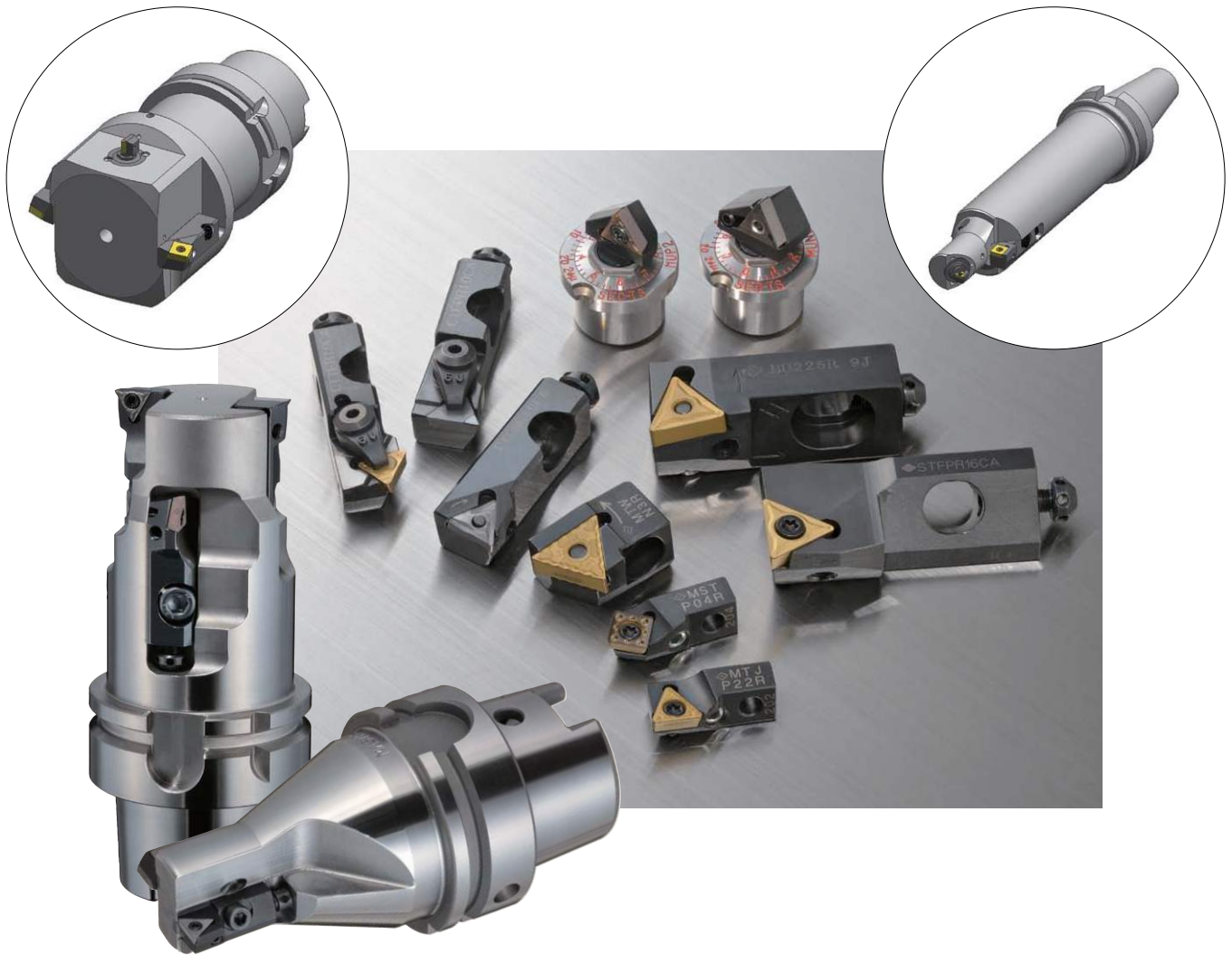
Cartridge Units

Typical Toolings (For Square Inserts, 55°/ 80°Diamond Inserts)

Inserts are not included. () Indicate Smallest Applicable Diameter.

Illustrations	BU Type	Stock R L	MINIT P24 Type	Stock R L	MINIT N38 Type	Stock R L	SP Type	Stock R L	CP Type	Stock R L	CE Type	Stock R L	PN Type	Stock R L
	BU113 R/L(30)	●			MSRN4 R/L(38)	● ●	SSRP R/L-10CA(38)	● ●	CSRP R/L10CA(38)	●	CSRE R/L10CA(38)	●		
	BU114 R/L(38)	●							CSRP R/L12CA(50)	●	CSRE R/L12CA(50)	●		
	BU115 R/L(48)	●							CSRP R/L16CA(55)	●				
	BU133 R/L(30)	●	MSTP04 R/L(24)	● ●	MSTN4 R/L(38)	● ●								
	BU134 R/L(38)	● ●												
	BU135 R/L(48)	● ●												
	BU134E R/L(30)	●												
	BU135E R/L(38)	●												
	BU142 R/L(24)	● ●	MSSP04 R/L(24)	● ●	MSSN4 R/L(38)	● ●	SSSP R/L- 8CA(30)	● ●	CSSP R/L 8CA(30)	● ▲	CSSE R/L 8CA(30)	●	PSSN R/L10CA(38)	● ●
	BU143 R/L(30)	●					SSSP R/L-10CA(38)	● ●	CSSP R/L10CA(38)	● ●	CSSE R/L10CA(38)	● ●	PSSN R/L12CA(50)	● ●
	BU144 R/L(38)	● ●							CSSP R/L12CA(50)	● ●	CSSE R/L12CA(50)	●	PSSN R/L16CA(55)	● ●
	BU145 R/L(48)	● ●							CSSP R/L16CA(55)	● ▲	CSSE R/L16CA(55)	▲ ▲		
	BU152 R/L(24)	● ●			MSKN4 R/L(38)	● ●	SSKP R/L- 8CA(30)	● ●	CSKP R/L 8CA(30)	● ▲	CSKE R/L 8CA(30)	● ●	PSKN R/L10CA(38)	● ▲
	BU153 R/L(30)	● ●					SSKP R/L-10CA(38)	● ●	CSKP R/L10CA(38)	● ●	CSKE R/L10CA(38)	● ●	PSKN R/L12CA(50)	● ●
	BU154 R/L(38)	● ●							CSKP R/L12CA(50)	●	CSKE R/L12CA(50)	●	PSKN R/L16CA(55)	● ▲
	BU155 R/L(48)	● ●							CSKP R/L16CA(55)	●	CSKE R/L16CA(55)	●	PSKN R/L20CA(70)	● ▲
	BU183 R/L(30)	●	MSYP04 R/L(24)	● ●	MSYN4 R/L(38)	● ●	SSYP R/L- 8CA(30)	● ●	CSYP R/L 8CA(30)	●	CSYE R/L 8CA(30)	●	PSYN R/L10CA(38)	● ▲
	BU184 R/L(38)	●					SSYP R/L-10CA(38)	● ●	CSYP R/L10CA(38)	● ▲	CSYE R/L10CA(38)	● ▲	PSYN R/L12CA(50)	● ●
	BU185 R/L(48)	●							CSYP R/L12CA(50)	●	CSYE R/L12CA(50)	● ▲	PSYN R/L16CA(55)	● ●
									CSYP R/L16CA(55)	▲	CSYE R/L16CA(55)		PSYN R/L20CA(70)	● ▲
	BU194 R/L(30)	●												
	BU195 R/L(38)	●												
					MCLN4 R/L(38)	● ●							PCLN R/L12CA(50)	● ●
													PCLN R/L16CA(55)	● ●
													PCLN R/L20CA(70)	● ●
					MCFN4 R/L(38)	● ●								
					MCGN4 R/L(38)	● ●								
					MDJN4 R/L(38)	● ●								

Indexable Cartridges and Boring Quills



Carbide Line Boring Bar

Carbide Line Bar Equipped with Cartridge

