

HSK-T TOOLS

A NEW LEVEL OF VERSATILITY



HSK-T TOOLS

TOOLING SYSTEM FOR TURNING ON MULTI-TASK MACHINES

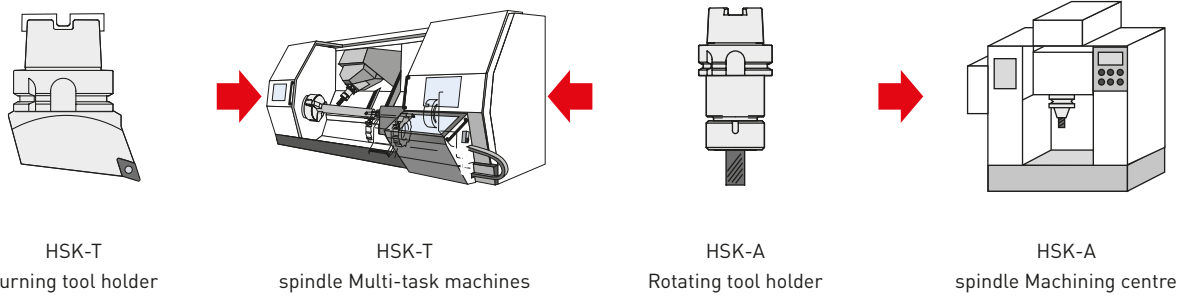
HSK-T SYSTEM

HSK-T system designed for turning on multi-task machines that are compatible with HSK-A type (ISO standard: ISO12164-1:2001). The HSK system was developed by a consortium of 17 Japanese manufacturers and registered in ISO standard (ISO12164-3:2008) under the name HSK-T type in 2008 and JIS standard (JIS B6064-3) in 2013.

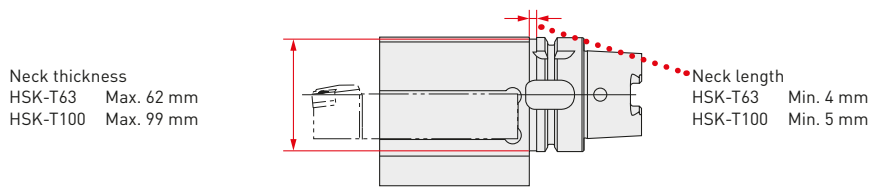
HIGH ACCURACY CUTTING EDGE POSITIONING

The HSK-T type has a closer tolerance between the spindle key and tool holder keyway than the HSK-A type. This results in higher cutting edge positional accuracy. For milling, the conventional HSK-A type tools can be still used.

COMPATIBLE WITH BOTH MULTI-TASK MACHINES AND MACHINING CENTRES

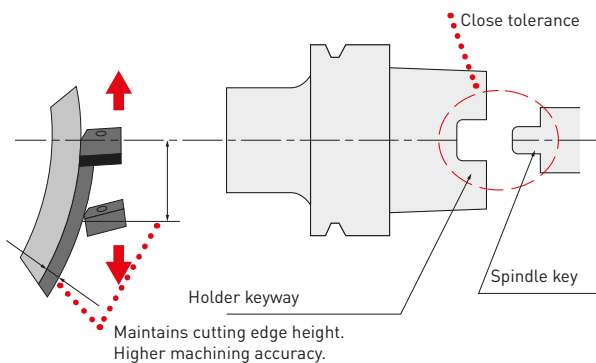


*** Note:**
 Short neck length from the flange with thick body of the HSK-T turning tool as shown in the figure at the left. Because there are machines which cannot be mounted depending on the ATC specifications of the multi-task machine (HSK-A type), please check beforehand. Also be careful of interference in the magazine with adjacent tools.

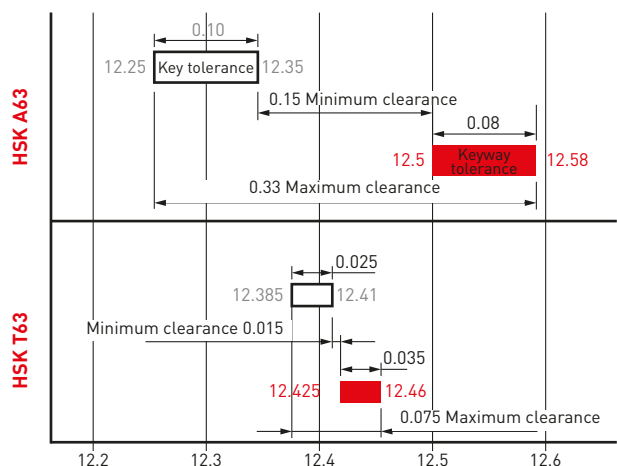


HSK-T turning tool standard (Example)

IMPROVED KEYWAY TOLERANCE



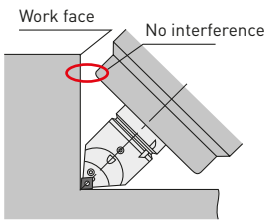
Tolerance comparison (Example)



HSK-T TOOLS

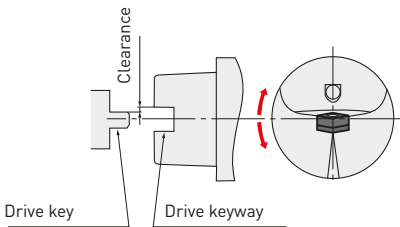
HIGH ACCURACY AND RIGIDITY HSK-T TYPE TOOLING SYSTEM DEVELOPED FOR USE ON MULTI-TASK MACHINES

STRAIGHT TYPE TOOLS SUITABLE FOR USE ON MULTI-TASK MACHINES



Avoid workpiece interference with improved tool accessibility.

By tilting the machines B spindle (main axis of the tool) at 45 deg, interference between the spindle, holder, workpiece and chuck can be avoided.



Improve centreline height by positioning the cutting edge at the centre of the spindle.

Increased stability and accuracy can be achieved because the cutting edge centreline height is not affected by the gap between the spindle and the key.

NEW ONE-ACTION TYPE DOUBLE CLAMP SERIES

The double clamp mechanism offers high rigidity, accuracy and reliability for secure insert clamping. Making it suitable for difficult to machine materials such as stainless and heat resistant alloys.



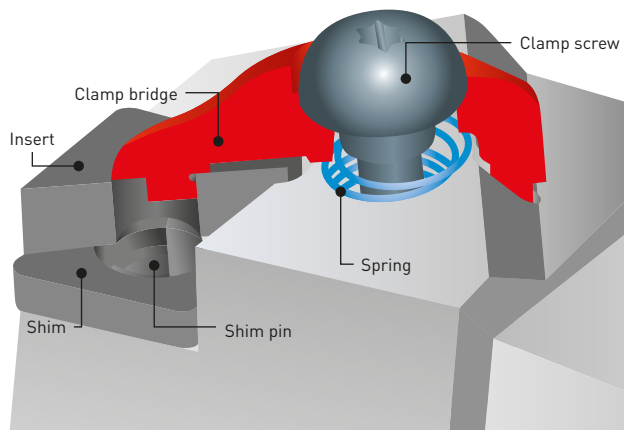
Handed type for turning and facing



Straight type for turning and facing



For turning, facing and boring



HSK-T TOOLS

3 ON 1 TOOL FOR PROCESS AND TOOL CONSOLIDATION

3 TURNING INSERTS OF THE SAME GEOMETRY CAN BE INSTALLED ON A SINGLE TOOL

- The same type of inserts can be installed for quick tool changes.
- Different types of inserts can be installed for different applications (roughing, semi finishing and finishing).
- Different grade inserts can be installed to cover various types of workpieces.



HSK-T100 SIZE FOR LARGE WORKPIECES

LARGER TOOL HOLDER SIZES FOR HIGH EFFICIENCY MACHINING



Square shank holder type



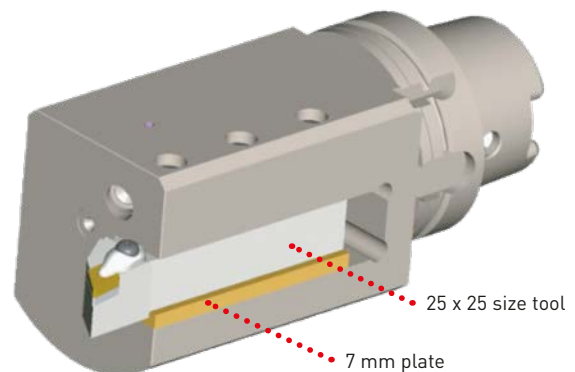
Boring bar/Drill type



Sleeve

A SINGLE TOOL CAN BE USED WITH DIFFERENT SIZED TOOL HOLDERS

- Available for use with JIS B4126 (ISO 5610) 32 x 32 and 32 x 25 tools.
- Possible to fit a 25 x 25 tool by using a 7 mm plate.



1. Plate not supplied.

HSK-T TOOLS



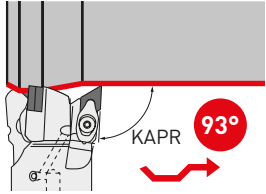

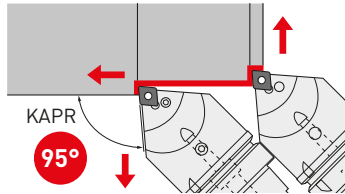

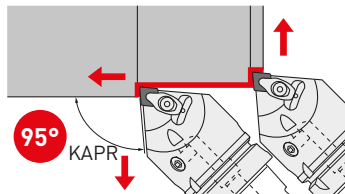

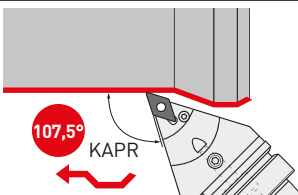

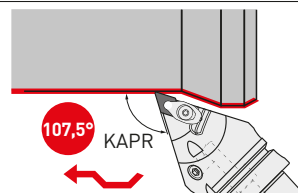

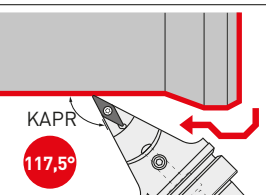

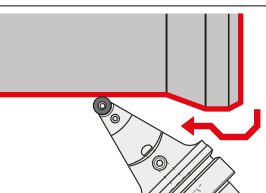
CLASSIFICATION OF HSK-T TOOLS

EXTERNAL TURNING - FACING - COPYING

Order number	Geometry	
H63TH-PCLNR/L-DX12		10
H63TH-DCLNR/L-DX12		11
H63TH-PDJNR/L-DX15		16
H63TH-DDJNR/L-DX15		17
H63TH-SVPBR/L-DX16		24
H63TH-PRGCR/L-DX12		21
H63TH-DCLNL-L12-3		14

HSK-T TOOLS – CLASSIFICATION OF HSK-T TOOLS







EXTERNAL TURNING – FACING – COPYING

Order number		Geometry	
H63TH-DDJNL-L15-3			20
H63TH-PCMNN-H/L12			12
H63TH-DCMNN-H/L12			13
H63TH-PDNNN-H/L15			18
H63TH-DDNNN-H/L15			19
H63TH-SVBN-H/L16			25
H63TH-PRDCN-H/L12			22

HSK-T TOOLS – CLASSIFICATION OF HSK-T TOOLS

Order number	Geometry	
EXTERNAL TURNING – FACING – BORING		
H63TH-A25KDCLNR/L12/ H63TH-A32LDCLNR/L12		15
GROOVING		
H63TH-MGHR/L-DX43		27
THREADING		
H63TH-MMTER-DX16		30
H63TH-MMTENR-H/L16		31
H63TH-MTHR/L-DX43		33

HSK-T TOOLS – CLASSIFICATION OF HSK-T TOOLS

Order number	Holder	
EXTERNAL TURNING TOOL HOLDERS		
H63TH-EV2525R/L-112		37
H100TH-EV3232R/L-180		38
H63TH-EN2525R/L-115*1		39
H100TH-EN3232R/L-130*1		40
H63TH-EV2020R/L-105-3		41

HSK-T TOOLS – CLASSIFICATION OF HSK-T TOOLS

Order number

Holder



BORING BAR HOLDERS

H63TH-B○○-○○



42

H100TH-B○○-○○○



43

SL32○○-90*2



44

3/3

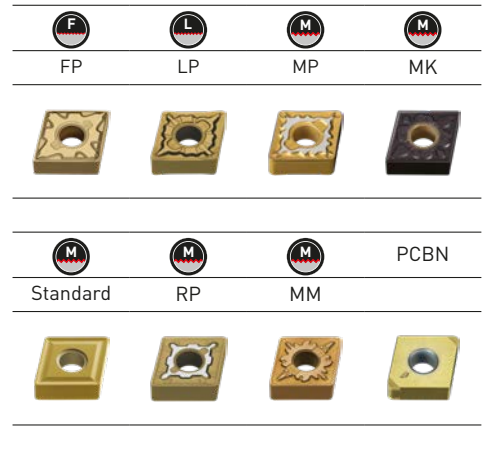
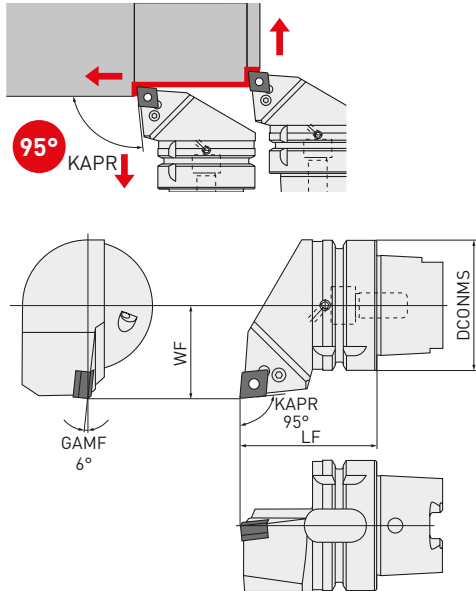
1. The HSK63A shank type has a built-in coolant pipe for installation.

*2 Mitsubishi Materials is licensed for production and distribution of these tools from MORI SEIKI CO., LTD under Patent No. 3720202.

*3 The SL32○○-90 sleeve is only for use with H100TH-B32-135.

PCLN

EXTERNAL TURNING – FACING



Right hand tool holder shown.

Order number	Stock	Hand	DCONMS	LF	WF	WT*2	Insert number
H63TH-PCLNR-DX12*	●	R	63	65	45	1.3	CN○A/CN○G/CN○M 1204○○
H63TH-PCLNL-DX12*	●	L	63	65	45	1.3	

1/1

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

Insert number				 *	
	Shim	Shim pin	Clamp lever	Clamp screw	Wrench
CN○A/CN○G/CN○M	LLSCN42	LLP14	LLCL14	LLCS108	HKY30R

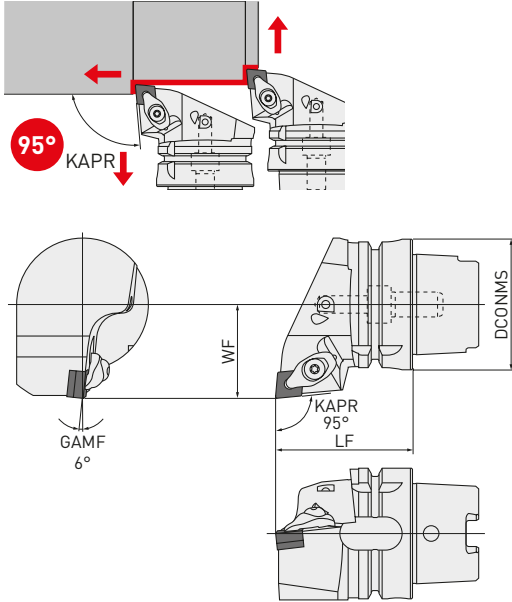
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 Clamp Torque (N • m): LLCS108 = 3.3

*2 WT: Tool Weight

DCLN

EXTERNAL TURNING – FACING DOUBLE CLAMP TYPE



Right hand tool holder shown.







Order number	Stock	Hand	DCONMS	LF	WF	WT*2	Insert number
H63TH-DCLNR-DX12*	●	R	63	65	45	1.3	CN○A/CN○G/CN○M 1204○○
H63TH-DCLNL-DX12*	●	L	63	65	45	1.3	

1/1

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

Insert number	 Shim	 Shim pin	 Clamp bridge	 Spring	 Clamp screw *1	 Wrench
CN○A/CN○G/CN○M	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

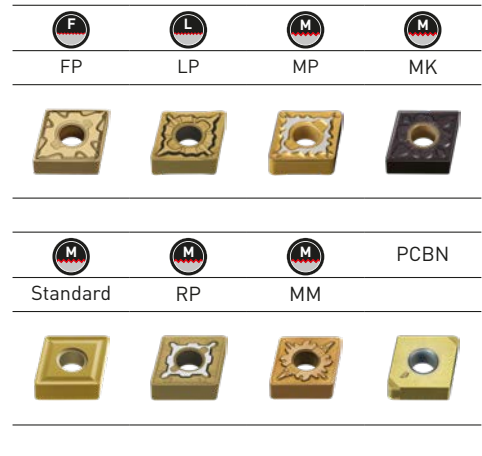
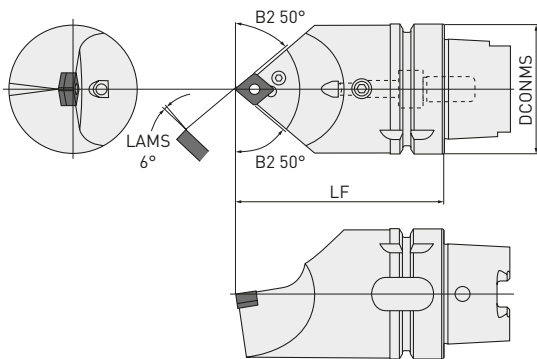
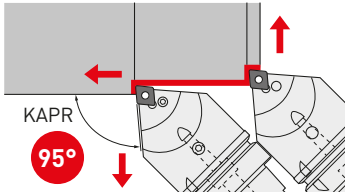
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 Clamp Torque (N • m): DC0621T = 5.0

*2 WT: Tool Weight

PCMN

EXTERNAL TURNING – FACING









Order number	Stock	DCONMS	LF	WT*2	Insert number
H63TH-PCMNN-H12	●	63	100	1.7	CN \odot A/CN \odot G/CN \odot M 1204 $\odot\odot$
H63TH-PCMNN-L12	●	63	140	2.7	

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

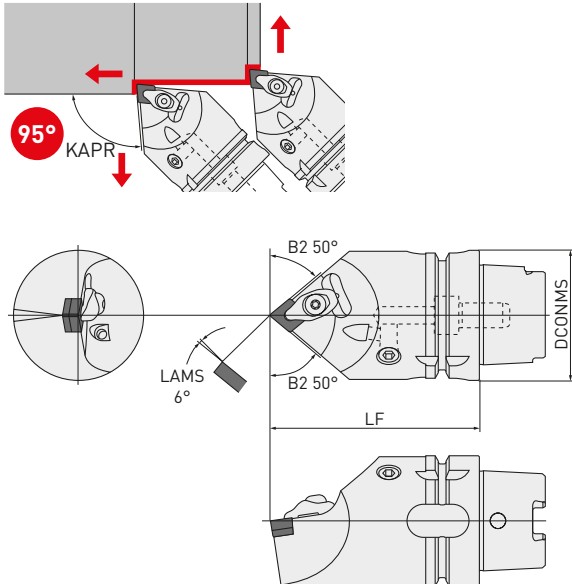
Insert number	 Shim	 Shim pin	 Clamp lever	 Clamp screw *1	 Plug	 Wrench
CN \odot A/CN \odot G/CN \odot M	LLSCN42	LLP14	LLCL14	LLCS108	HGM-PT1/8	HKY30R

*1 Clamp Torque [N • m]: LLCS108 = 3.3

*2 WT: Tool Weight

DCMNN

EXTERNAL TURNING – FACING DOUBLE CLAMP TYPE









Order number	Stock	DCONMS	LF	WT*2	Insert number
H63TH-DCMNN-H12	●	63	100	1.7	CN0A/CN0G/CN0M 120400
H63TH-DCMNN-L12	●	63	140	2.7	

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

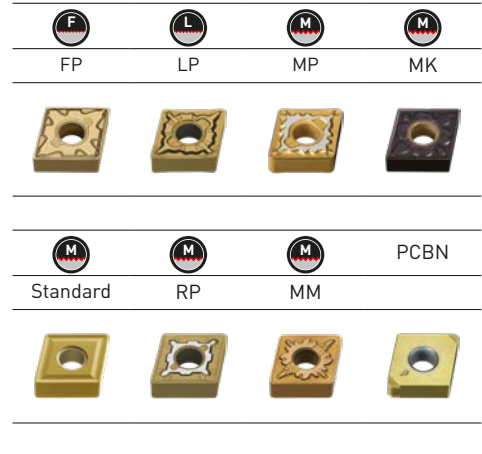
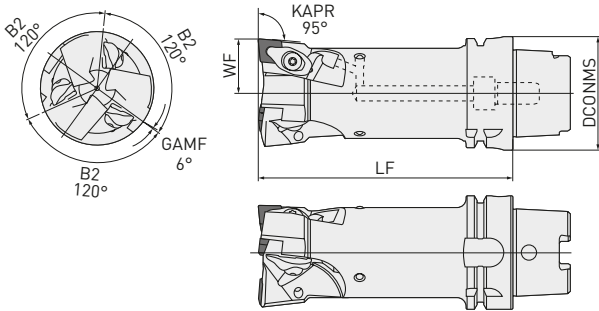
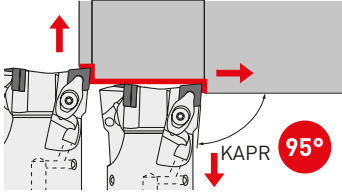
Insert number	 Shim	 Shim pin	 Clamp bridge	 Spring	 Clamp screw *1	 Wrench
CN0A/CN0G/CN0M	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

*1 Clamp Torque (N • m): DC0621T = 5.0

*2 WT: Tool Weight

DCLN

EXTERNAL TURNING – FACING DOUBLE CLAMP TYPE









Left hand tool holder only.

Order number	Stock	DCONMS	LF	WF	WT*2	Insert number
H63TH-DCLNL-L12-3	●	63	140	30	2.2	CN◊A/CN◊G/CN◊M 1204◊◊
1/1						

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

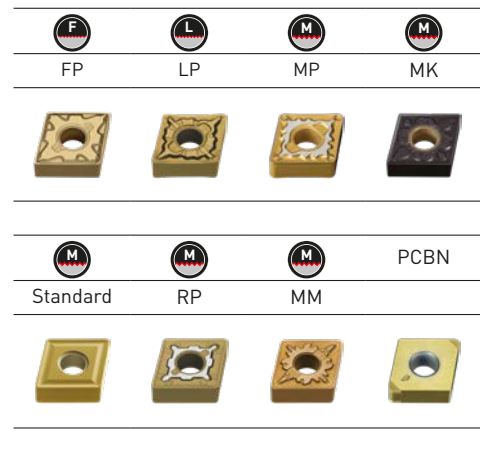
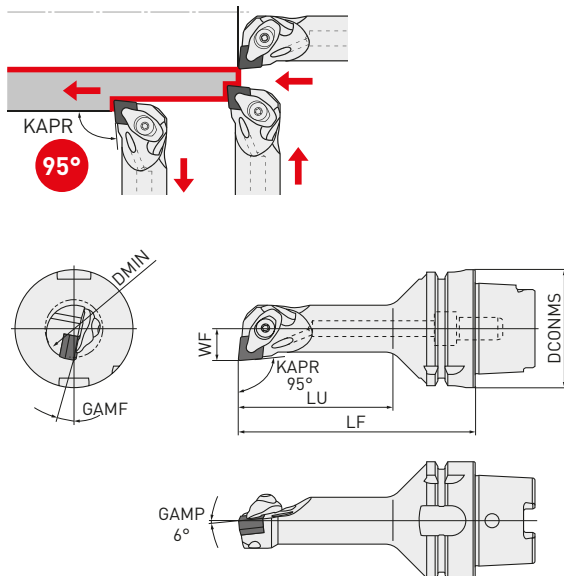
Insert number	 Shim	 Shim pin	 Clamp bridge	 Spring	 Clamp screw *1	 Wrench
CN◊A/CN◊G/CN◊M	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

*1 Clamp Torque [N • m]: DC0621T = 5.0

*2 WT: Tool Weight

DCLN

EXTERNAL TURNING – BORING DOUBLE CLAMP TYPE



Right hand tool holder shown.







Order number	Stock Hand	DCONMS	LF	LU	WF	GAMF	DMIN	WT*2	Insert number
H63TH-A25KDCLNR12	● R	63	125	82	17	11°	32	1.1	CNA/CNG/CNM 120400
H63TH-A25KDCLNL12	● L	63	125	82	17	11°	32	1.1	
H63TH-A32LDCLNR12	● R	63	125	100	22	13°	40	1.4	
H63TH-A32LDCLNL12	● L	63	125	100	22	13°	40	1.4	

1/1

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

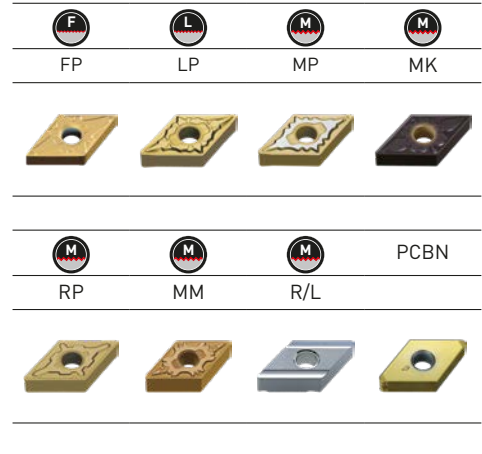
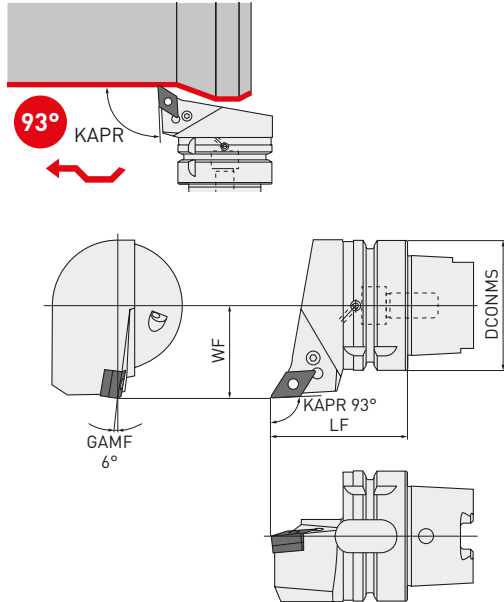
Insert number						
	Shim	Shim pin	Clamp bridge	Spring	Clamp screw	Wrench
CNA/CNG/CNM	LLSCN42	LLP14	DCK2613	DCS1	DC0621T	TKY20F

*1 Clamp Torque (N • m): DC0621T = 5.0

*2 WT: Tool Weight

PDJN

EXTERNAL TURNING – COPYING



Right hand tool holder shown.

Order number	Stock	DCONMS	LF	WF	WT* ³	Insert number
H63TH-PDJNR-DX15*	●	63	65	45	1.2	DN [○] A/DN [○] G/DN [○] M/DNMX 1504 [○]
H63TH-PDJNL-DX15*	●	63	65	45	1.2	

1/1

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

Insert number	* ²			* ¹	
	Shim	Shim pin	Clamp lever	Clamp screw	Wrench
DN [○] A/DN [○] G/DN [○] M/DNMX	LLSDN43 (LLSDN42)	LLP14	LLCL24	LLCS108	HKY30R

* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

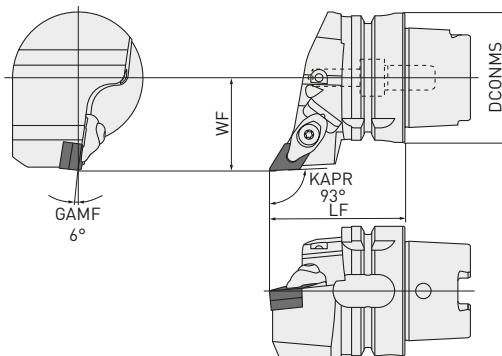
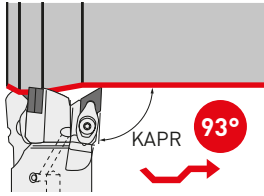
*¹ Clamp Torque (N • m): LLCS108 = 3.3

*² Please use shim no. LLSDN42 with 6.35 mm thick inserts. When using 6.35 mm thick inserts, the shim should be ordered separately.

*³ WT: Tool Weight

DDJN

EXTERNAL TURNING – COPYING DOUBLE CLAMP TYPE



Right hand tool holder shown.

Order number	Stock	DCONMS	LF	WF	WT* ³	Insert number
H63TH-DDJNR-DX15*	●	63	65	45	1.2	DN [○] A/DN [○] G/DN [○] M/DNMX 1504 [○] ○
H63TH-DDJNL-DX15*	●	63	65	45	1.2	

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

Insert number	* ² Shim	 Shim pin	 Clamp bridge	 Spring	* ¹ Clamp screw	 Wrench
DN [○] A/DN [○] G/DN [○] M	LLSDN43 (LLSDN42)	LLP24	DCK2613	DCS1	DC0621T	TKY20F

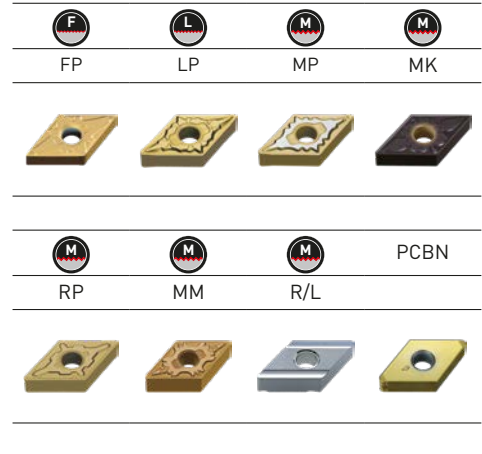
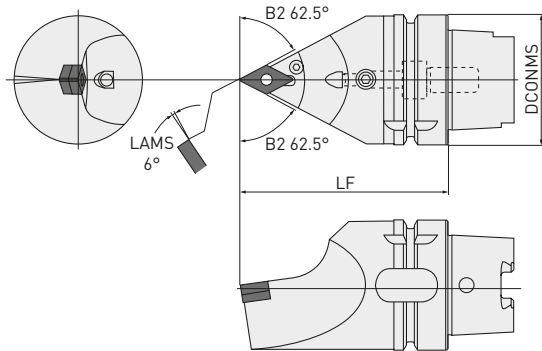
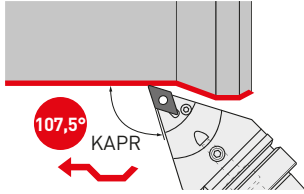
*¹ Clamp Torque (N • m): DC0621T = 5.0

*² Please use shim no. LLSDN42 with 6.35 mm thick inserts. When using 6.35 mm thick inserts, the shim should be ordered separately.

*³ WT: Tool Weight

PDNN

EXTERNAL TURNING – COPYING



Order number	Stock	DCONMS	LF	WT*3	Insert number
H63TH-PDNNN-H15	●	63	100	1.6	DN \odot A/DN \odot G/DN \odot M 1504 $\odot\odot$
H63TH-PDNNN-L15	●	63	140	2.5	

1/1

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

Insert number	*2			*1		
	Shim	Shim pin	Clamp lever	Clamp screw	Plug	Wrench
DN \odot A/DN \odot G/DN \odot M	LLSDN43 (LLSDN42)	LLP14	LLCL24	LLCS108	HGM-PT1/8	HKY30R

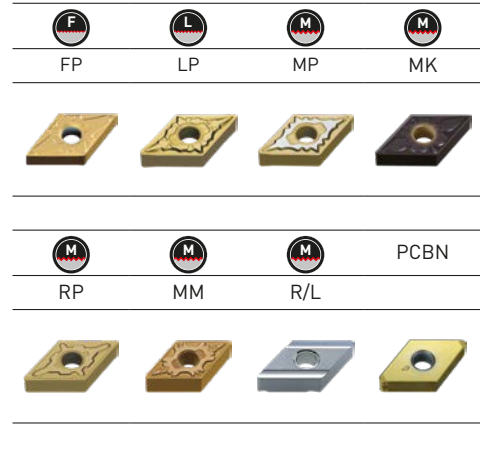
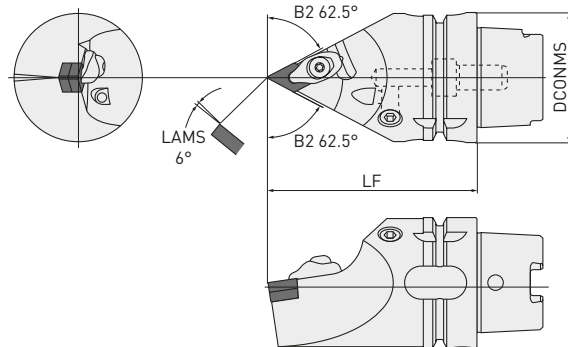
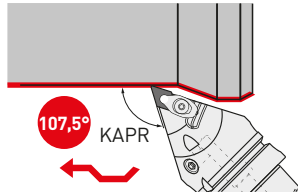
*1 Clamp Torque (N • m): LLCS108 = 3.3

*2 Please use shim no. LLSDN42 with 6.35 mm thick inserts. When using 6.35 mm thick inserts, the shim should be ordered separately.

*3 WT: Tool Weight

DDNN

EXTERNAL TURNING – COPYING DOUBLE CLAMP TYPE



Order number	Stock	DCONMS	LF	WT* ³	Insert number
H63TH-DDNNN-H15	●	63	100	1.6	DN \odot A/DN \odot G/DN \odot M 1504 $\odot\odot$
H63TH-DDNNN-L15	●	63	140	2.5	

1/1

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

Insert number	* ² Shim	 Shim pin	 Clamp bridge	 Spring	* ¹ Clamp screw	 Wrench
DN \odot A/DN \odot G/DN \odot M	LLSDN43 (LLSDN42)	LLP24	DCK2613	DCS1	DC0621T	TKY20F

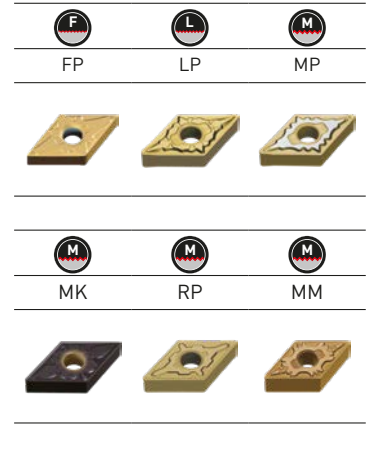
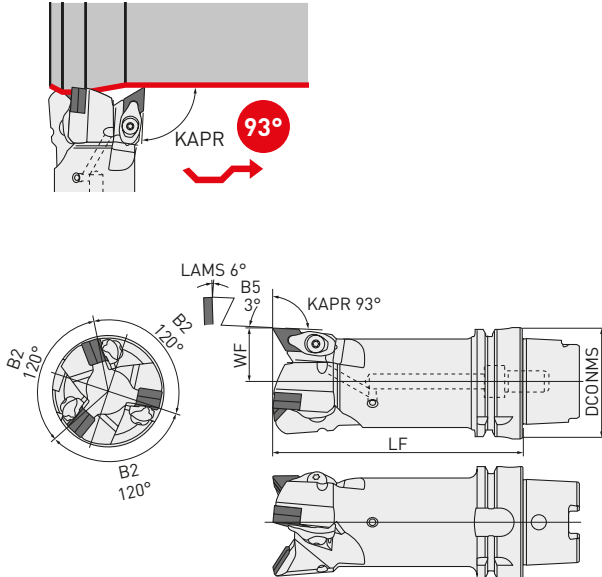
*¹ Clamp Torque (N • m): DC0621T = 5.0

*² Please use shim no. LLSDN42 with 6.35 mm thick inserts. When using 6.35 mm thick inserts, the shim should be ordered separately.

*³ WT: Tool Weight

DDJN

EXTERNAL TURNING – FACING DOUBLE CLAMP TYPE









Left hand tool holder only.

Order number	Stock	DCONMS	LF	WF	WT*2	Insert number
H63TH-DDJNL-L15-3	●	63	140	30	2.2	DN _{CA} /DN _{CG} /DN _{CM} /DN _{MX} 1504 ₀₀
1/1						

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

Insert number	 *2				 *1	
	Shim	Shim pin	Clamp bridge	Spring	Clamp screw	Wrench
DN _{CA} /DN _{CG} /DN _{CM} /DN _{MX}	LLSDN43 (LLSDN42)	LLP24	DCK2613	DCS1	DC0621T	TKY20F

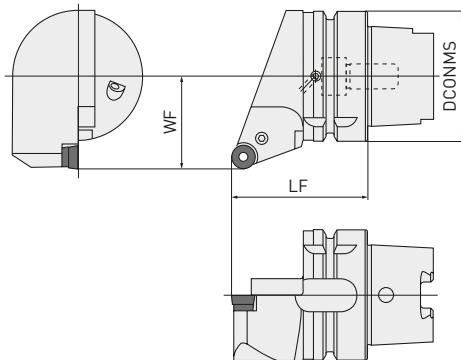
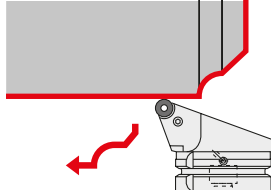
*1 Clamp Torque (N • m): DC0621T = 5.0

*2 Please use shim no. LLSN42 with 6.35 mm thick inserts. When using 6.35 mm thick inserts, the shim should be ordered separately.

*3 WT: Tool Weight

PRGC

EXTERNAL TURNING – FACING – COPYING



Order number	Stock	DCONMS	LF	WF	WT*2	Insert number
H63TH-PRGCR-DX12*	●	63	65	45	1.2	RCMX 1204M0
H63TH-PRGCL-DX12*	●	63	65	45	1.2	

1/1



SPARE PARTS

Insert number				 *1	
	Shim	Shim pin	Clamp lever	Clamp screw	Wrench
RCMX	LLSRN123	LLP13	LLCL112	LLCS106	HKY25R

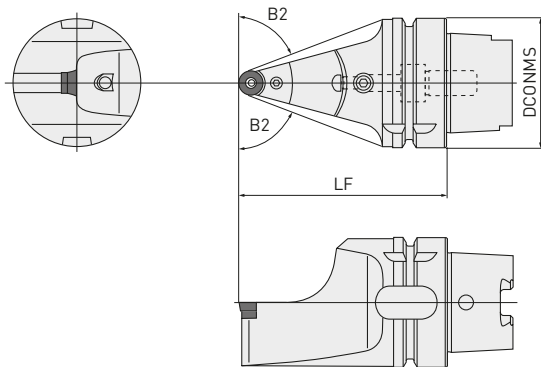
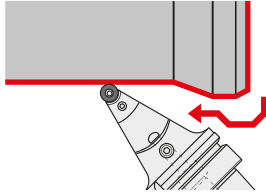
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 Clamp Torque (N • m): LLCS106 = 2.2

*2 WT: Tool Weight

PRDC

EXTERNAL TURNING – FACING – COPYING









Order number	Stock	DCONMS	LF	B2	WT* ²	Insert number
H63TH-PRDCN-H12	●	63	100	69°	1.4	RCMX 1204M0
H63TH-PRDCN-L12	●	63	140	75°	2.3	

1/1



SPARE PARTS

Insert number						
	Shim	Shim pin	Clamp lever	Clamp screw	Plug	Wrench
RCMX	LLSRN123	LLP13	LLCL112	LLCS106	HGM-PT1/8	HKY25R



* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*¹ Clamp Torque (N • m): LLCS106 = 2.2

*² WT: Tool Weight

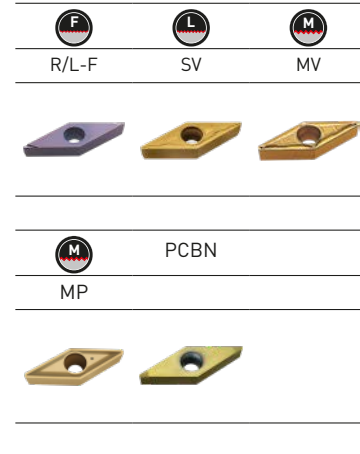
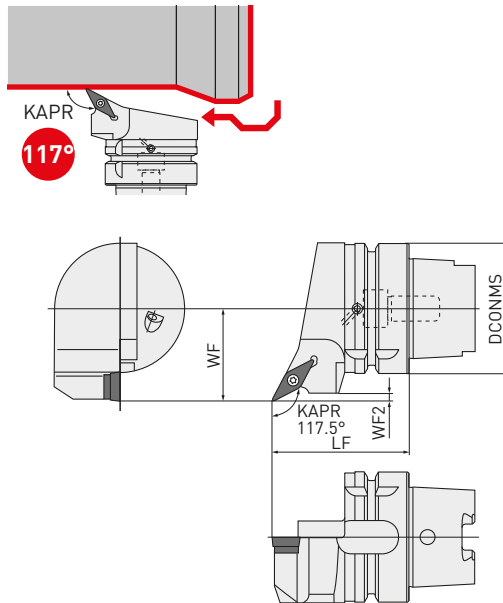
RECOMMENDED CUTTING CONDITIONS

PRGC / PRDC

	Material	Hardness		Grade		Vc
P	Mild steel	≤180HB	M	MC6115	Standard	245 – 440
	Carbon steel, Alloy steel	180 – 350HB	M	MC6115	Standard	200 – 300
M	Stainless steel	≤200HB	M	US735	Standard	70 – 130

SVPB

FACING – COPYING



Right hand tool holder shown.


Order number	Stock	Hand	DCONMS	LF	WF	WF2	WT*2	Insert number
H63TH-SVPBR-DX16*	●	R	63	65	45	3.8	1.1	VBOT/VBOW 1604○○
H63TH-SVPBL-DX16*	●	L	63	65	45	3.8	1.1	VBOT/VBOW 1604○○

1/1

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS

Insert number				
	Shim	Shim pin	Clamp screw	Wrench
VBOT/VBOW	SPSVN32	BCP141	TS35D	TKY15F

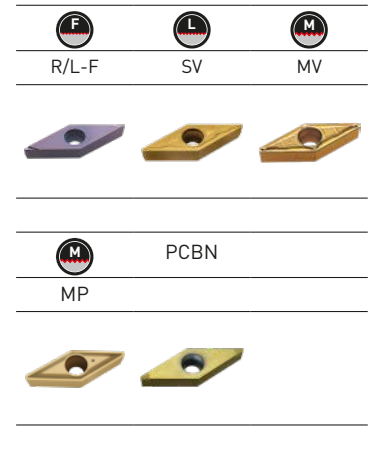
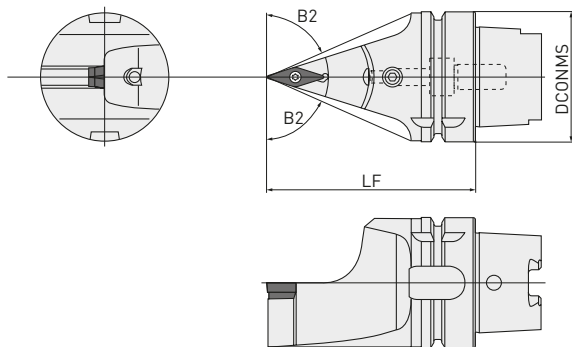
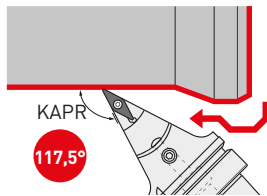
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 Clamp Torque (N • m): TS35D = 3.5

*2 WT: Tool Weight

SVVB

FACING – COPYING



Order number	Stock	DCONMS	LF	B2	WT*2	Insert number
H63TH-SVBN-H16	●	63	100	66.5°	1.3	VB [○] T/VB [○] W 1604 ^{○○}
H63TH-SVBN-L16	●	63	140	72.5°	2.2	

1/1

1. Dimensions shown for insert corner RE 0.8.



SPARE PARTS



Insert number					
	Shim	Shim pin	Clamp screw	Plug	Wrench
VB [○] T/VB [○] W	SPSVN32	BCP141	TS35D	HGM-PT1/8	TKY15F

*1 Clamp Torque (N • m): TS35D = 3.5

*2 WT: Tool Weight

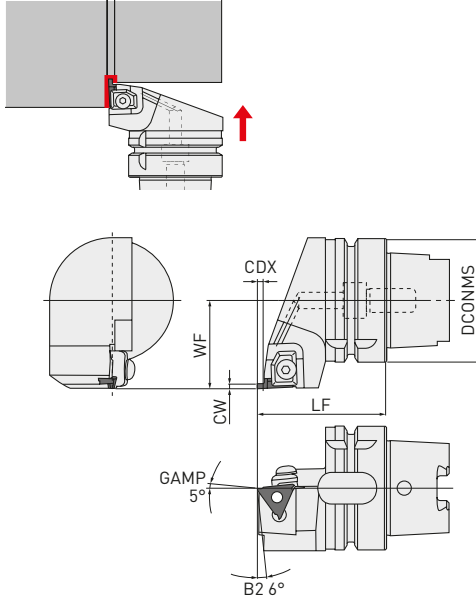
RECOMMENDED CUTTING CONDITIONS

SVPB/SVVB

Material	Hardness		Grade		Vc
P Mild steel	≤180HB	F	AP25N	F	250 (150 – 300)
		M	MC6115	MP	250 (180 – 330)
Carbon steel, Alloy steel	180 – 350HB	F	AP25N	F	210 (150 – 260)
		M	MC6125	MP	210 (160 – 260)
M Stainless steel	≤200HB	M	MP7135	MM	100 (70 – 120)
K Gray cast iron	Tensile Strength < 350MPa	M	MC5115	MK	220 (160 – 290)

MG

GROOVING



Right hand tool holder shown.





Order number	Stock	Hand	DCONMS	CW	CDX	LF	WF	WT*2	Insert number
H63TH-MGHR-DX4315*	★	R	63	1.25	1.2	65	45	1.2	
H63TH-MGHL-DX4315*	★	L	63	1.25	1.2	65	45	1.2	
H63TH-MGHR-DX4315*	★	R	63	1.45	1.5	65	45	1.2	
H63TH-MGHL-DX4315*	★	L	63	1.45	1.5	65	45	1.2	
H63TH-MGHR-DX4315*	★	R	63	1.5 < CW ≤ 2.3	3.0	65	45	1.2	MGTR/L 43125 - 43470
H63TH-MGHL-DX4315*	★	L	63	1.5 < CW ≤ 2.3	3.0	65	45	1.2	
H63TH-MGHR-DX4323*	★	R	63	2.3 < CW < 3.3	4.5	65	45	1.2	
H63TH-MGHL-DX4323*	★	L	63	2.3 < CW < 3.3	4.5	65	45	1.2	
H63TH-MGHR-DX4333*	★	R	63	3.3 < CW < 4.7	4.5	65	45	1.2	
H63TH-MGHL-DX4333*	★	L	63	3.3 < CW < 4.7	4.5	65	45	1.2	

1/1

(10 inserts in one case)



SPARE PARTS

Insert number		 *1		
	Clamp bridge	Clamp screw	Spring	Wrench
MGTR/L	MTK1R/L	HBH06020	MES3	HKY40R



* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 Clamp Torque [N • m]: HBH06020 = 7.0

*2 WT: Tool Weight

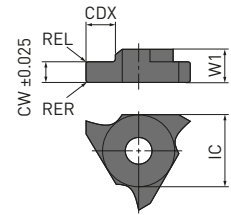
RECOMMENDED CUTTING CONDITIONS

MG

Material	Hardness	 	Grade	Vc	f
P Carbon steel, Alloy steel	180 – 350HB	F	VP20MF	120 (100 – 140)	0.10 (0.03 – 0.18)
		M	NX2525	130 (100 – 160)	0.12 (0.03 – 0.2)
M Stainless steel	≤200HB	M	VP20MF	120 (100 – 140)	0.10 (0.03 – 0.18)
K Gray cast iron	Tensile Strength < 350MPa	M	VP20MF	120 (100 – 140)	0.10 (0.03 – 0.18)

INSERTS

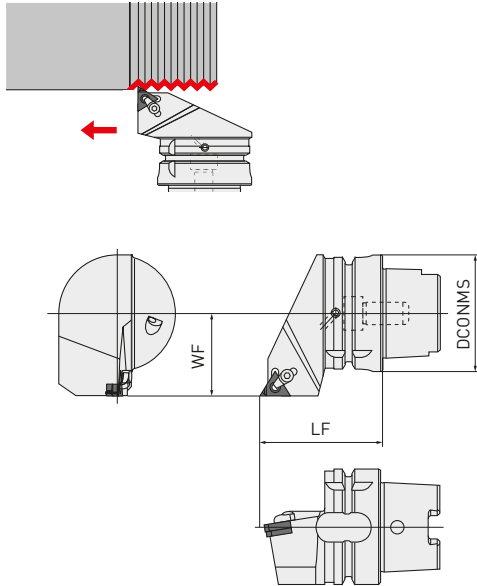
Order number	VP20MF		NX2525		UT120T		CW	CDX	IC	W1	RER/L	LE	Geometry
	R	L	R	L	R	L							
MGTR/L43125	★	★	★	★	●	●	1.25	1.2	12.7	4.76	0.2	2.7	MGTR/L \odot
MGTR/L43145	★	★		★	●	★	1.45	1.5	12.7	4.76	0.2	—	
MGTR/L43150	★	★	★	●	●	●	1.50	3.0	12.7	4.76	0.2	2.7	
MGTR/L43175	★	★	★	★	●	●	1.75	3.0	12.7	4.76	0.2	—	
MGTR/L43200	★	★	★	●	●	●	2.00	3.0	12.7	4.76	0.2	2.7	
MGTR/L43230	★	★	●	★	●	●	2.30	3.0	12.7	4.76	0.2	—	
MGTR/L43250	★	★	★	★	●	●	2.50	4.5	12.7	4.76	0.3	2.7	
MGTR/L43260	★	★	★		●	●	2.60	4.5	12.7	4.76	0.3	—	
MGTR/L43270	★	★			●	★	2.70	4.5	12.7	4.76	0.3	—	
MGTR/L43280		★		★	●	●	2.80	4.5	12.7	4.76	0.3	—	
MGTR/L43300	★	★	★	★	●	●	3.00	4.5	12.7	4.76	0.3	2.7	
MGTR/L43320	★				●	●	3.20	4.5	12.7	4.76	0.3	—	
MGTR/L43330		★		★	●	●	3.30	4.5	12.7	4.76	0.3	—	
MGTR/L43350	★	★	★	★	●	●	3.50	4.5	12.7	4.76	0.3	2.7	
MGTR/L43400	★	★	★		●	●	4.00	4.5	12.7	4.76	0.3	2.7	
MGTR/L43420	★	★	★		●	●	4.20	4.5	12.7	4.76	0.4	—	
MGTR/L43430	★	★	★		●	●	4.30	4.5	12.7	4.76	0.4	—	
MGTR/L43450	★	★	●	★	●	●	4.50	4.5	12.7	4.76	0.4	—	
MGTR/L43470	★	★	★	★	●	★	4.70	4.5	12.7	4.76	0.4	—	




Right hand tool holder shown.

MMTE

THREADING









Right hand tool holder only.

Order number	Stock	Hand	DCONMS	LF	WF	WT*2	Insert number
H63TH-MMTER-DX16*	★	R	63	65	45	1.2	MMT16ER 

1/1



SPARE PARTS

Insert number		 *1			 *1	
	Clamp bridge	Clamp screw	Stop ring	Shim	Shim screw	Wrench
MMT16ER	SETK51	SETS51	CR4	CTE32TP15	HFC03008	TKY15F/HKY20R

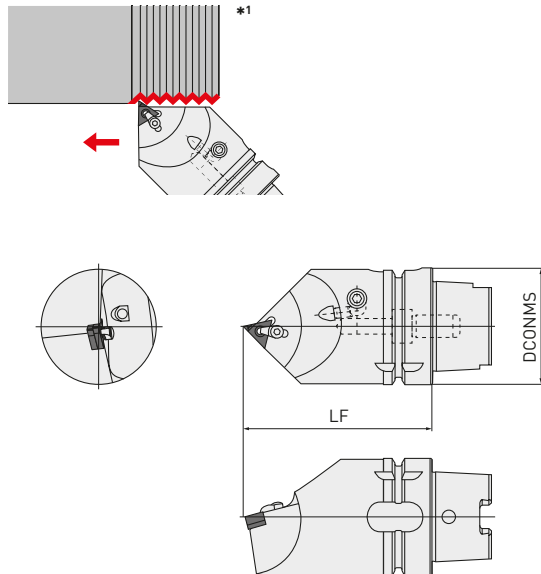
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 Clamp Torque (N • m): SETS51 = 3.5, HFC03008 = 1.5


*2 WT: Tool Weight

MMTEN

THREADING









Tool holder for right hand insert only.

Order number	Stock	DCONMS	LF	WT*3	Insert number
H63TH-MMTENR-H16	★	63	100	1.7	MMT16ER 
H63TH-MMTENR-L16	★	63	140	2.7	

1/1



SPARE PARTS

Insert number		 *2			 *2	
	Clamp bridge	Clamp screw	Stop ring	Shim	Shim screw	Wrench
MMT16ER	SETK51	SETS51	CR4	CTE32TP15	HFC03008	TKY15F/HKY20R

*1 For use with B axis tilted at 45 degrees.

*2 Clamp Torque (N • m): SETS51 = 3.5, HFC03008 = 1.5

*3 WT: Tool Weight

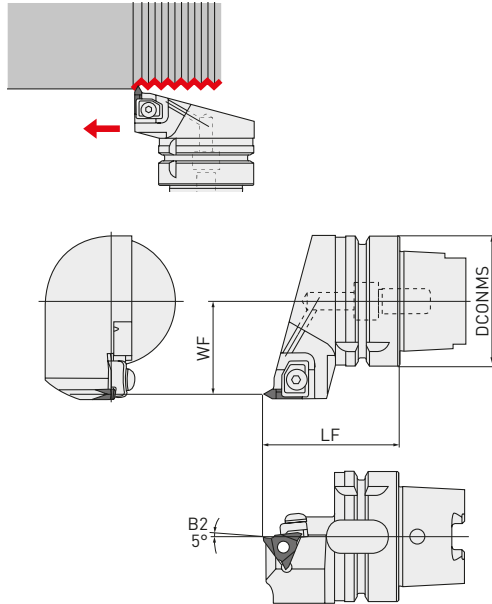
RECOMMENDED CUTTING CONDITIONS

MMTE/MMTEN

Material	Hardness	Grade	Vc
P Mild steel	≤180HB	MP9025	80 (60 – 100)
		VP10MF	150 (70 – 230)
		VP15TF	100 (60 – 140)
		VP20RT	80 (60 – 100)
Carbon steel, Alloy steel	180 – 350HB	MP9025	80 (60 – 100)
		VP10MF	140 (80 – 200)
		VP15TF	100 (60 – 140)
		VP20RT	80 (60 – 100)
M Stainless steel	≤200HB	MP9025	80 (40 – 120)
		VP15TF	80 (40 – 120)
		VP20RT	80 (40 – 120)
K Gray cast iron	Tensile Strength < 350MPa	VP10MF	140 (80 – 200)
		VP15TF	90 (60 – 120)

MT

THREADING







Right hand tool holder shown.

Order number	Stock	Hand	DCONMS	LF	WF	WT*2	Insert number
H63TH-MTHR-DX43*	★	R	63	65	45	1.2	MTTR/L 43○○○○
H63TH-MTHL-DX43*	★	L	63	65	45	1.2	

1/1



SPARE PARTS

Insert number		 *1		
	Clamp bridge	Clamp screw	Spring	Wrench
MTTR/L	MTK1R/L	HBH06020	MES3	HKY40R

* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 Clamp Torque (N • m): HBH06020 = 7.0

*2 WT: Tool Weight

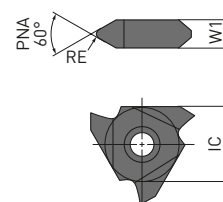
RECOMMENDED CUTTING CONDITIONS

MT

Material	Hardness	Grade	Vc
P Mild steel	≤180HB	UP20M	140 (100 - 180)
		NX2525	200 (150 - 250)
		UTi20T	120 (100 - 150)
Carbon steel, Alloy steel	180 - 350HB	UP20M	120 (100 - 150)
		NX2525	170 (150 - 200)
		UTi20T	100 (70 - 120)
M Stainless steel	≤200HB	UP20M	120 (80 - 150)
		UTi20T	100 (70 - 130)
K Gray cast iron	Tensile Strength < 350MPa	UP20M	80 (60 - 100)
		UTi20T	80 (60 - 100)
		HTi10	100 (70 - 130)

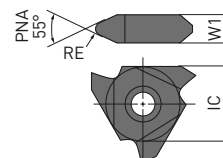
THREADING INSERTS

GENERAL 60°

Order number	Class	UP20M	NX2525	UTi20T	HTi10	ISO Pitch mm (thread / inch)	IC	W1	RE	Geometry
MTTR436000	G	●	●			- 0.8	12.7	4.76	0.0	MTTR/L(60°) (G Class) 
MTTR436001	G	★	●	●	★	1.0 – 1.75	12.7	4.76	0.1	
MTTL436001	G	★		●	★	1.0 – 1.75	12.7	4.76	0.1	
MTTR436002	G	★	●	●	★	2.0 – 2.5	12.7	4.76	0.2	
MTTL436002	G		●	●		2.0 – 2.5	12.7	4.76	0.2	
MTTR436003	G	★	●	●	★	3.0 – 3.5	12.7	4.76	0.3	
MTTL436003	G		●	●		3.0 – 3.5	12.7	4.76	0.3	
MTTR436004	G		●	●		4.0 – 4.5	12.7	4.76	0.4	

1/1

GENERAL 55°

Order number	Class	UP20M	NX2525	UTi20T	HTi10	ISO Pitch mm (thread / inch)	IC	W1	RE	Geometry
MTTR435501	G		●	●	★	28 – 10	12.7	4.76	0.1	MTTR/L(55°) (G Class) 
MTTR435502	G		●	●	●	16 – 8.0	12.7	4.76	0.2	
MTTR435503	G		●	●	●	11 – 8.0	12.7	4.76	0.3	

1/1

Right hand tool holder shown.

STANDARD OF DEPTH OF CUT

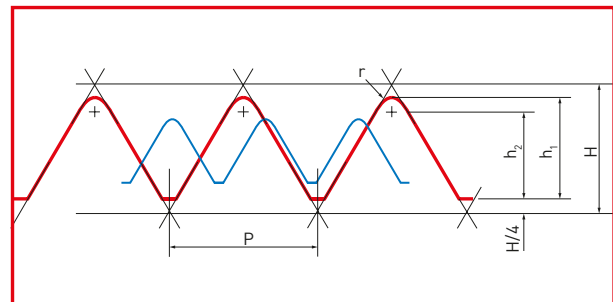
METRIC SCREW THREAD

P	0.75	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	
h1	0.46	0.61	0.77	0.92	1.07	1.23	1.53	1.84	2.15	2.45	2.76	
h2	0.35	0.47	0.59	0.70	0.82	0.94	1.17	1.41	1.65	1.87	2.11	
r	0.11	0.14	0.18	0.22	0.25	0.29	0.36	0.43	0.50	0.58	0.65	
Number of Passes	1	0.18	0.20	0.20	0.25	0.25	0.25	0.30	0.30	0.35	0.35	0.40
	2	0.13	0.15	0.18	0.20	0.20	0.25	0.25	0.25	0.30	0.30	0.35
	3	0.10	0.10	0.12	0.15	0.20	0.20	0.20	0.25	0.25	0.25	0.30
	4	0.05	0.10	0.12	0.15	0.15	0.15	0.20	0.20	0.20	0.25	0.25
	5		0.06	0.10	0.10	0.12	0.15	0.15	0.20	0.20	0.25	0.25
	6			0.05	0.07	0.10	0.10	0.10	0.15	0.20	0.20	0.20
	7				0.05	0.08	0.10	0.15	0.15	0.20	0.20	0.20
	8					0.05	0.10	0.10	0.15	0.15	0.15	0.15
	9						0.08	0.10	0.10	0.15	0.15	0.15
	10							0.05	0.09	0.10	0.10	0.15
	11								0.05	0.10	0.10	0.10
	12									0.05	0.10	0.10
	13										0.05	0.10
	14											0.06

1/1

1. The first pass causes a high load on the cutting edge.
In order to avoid damage, restrict the depth of cut to a maximum of 0.4 – 0.5mm.

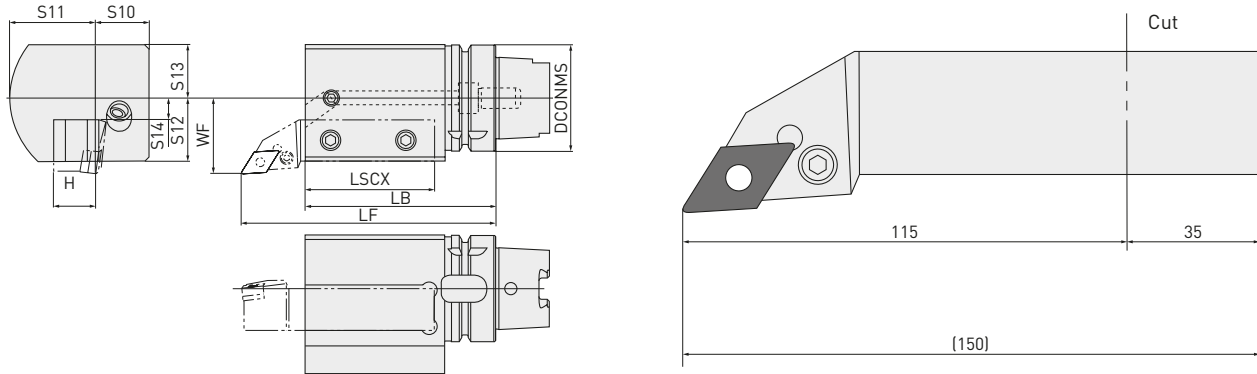
- The chart on the right shows the cutting depths when machining external ISO metric screw threads.
- When using cermet grades or cutting stainless steel, please increase the number of passes by 2 – 3 times.



EXTERNAL TURNING TOOL HOLDERS

EXTERNAL TURNING – FACING

This holder is for 25 x 25 size tools. Please shorten the tool as shown below before use.





Right hand tool holder shown.

Order number	Stock	Hand	DCONMS	LF	LB	LSCX	H	S10	S11	WF	S14	S12	S13	WT*1
H63TH-EV2525R-112*	★	R	63	150	112	77	25	32	53	45	13	38	32	3.9
H63TH-EV2525L-112*	★	L	63	150	112	77	25	32	53	45	13	38	32	3.9

1/1

SPARE PARTS

Order number		
	Clamp screw	Plug
H63TH-EV2525R/L-112	HSS12025	HGM-PT1/8

1. Can be used with 32 x 32 and 32 x 25 tool holders. Possible to fit a 25 x 25 tool by using a 7 mm plate.

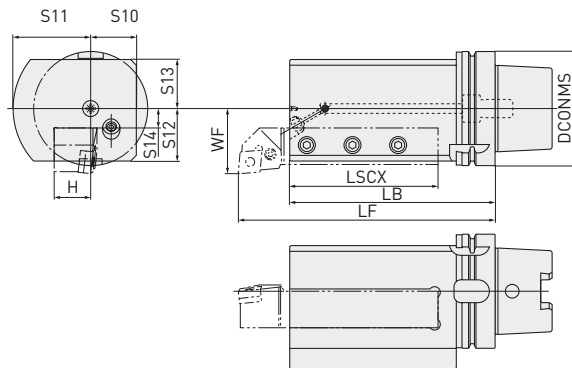
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 WT: Tool Weight

EXTERNAL TURNING TOOL HOLDERS

EXTERNAL TURNING – FACING

This holder is for 32 x 32 and 32 x 25 size tools.





Right hand tool holder shown.

Order number	Stock	Hand	DCONMS	LF	LB	LSCX	H	S10	S11	WF	S14	S12	S13	WT*1
H100TH-EV3232R-180*	★	R	100	220	180	130	32	40	68	57	17	46	43	11.7
H100TH-EV3232L-180*	★	L	100	220	180	130	32	40	68	57	17	46	43	11.7

1/1

SPARE PARTS

Order number		
	Clamp screw	Plug
H100TH-EV3232R/L-180	HSS14035	HSS06006

1. Can be used with 32 x 32 and 32 x 25 tool holders. Possible to fit a 25 x 25 tool by using a 7 mm plate.

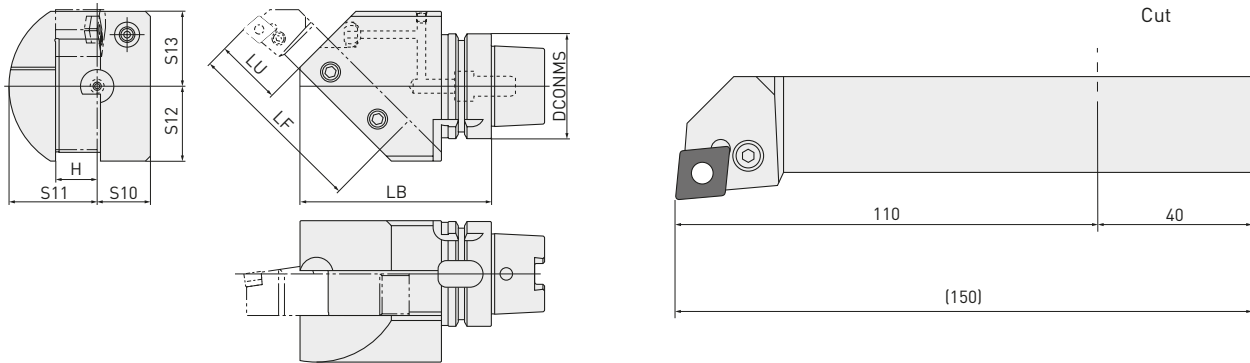
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 WT: Tool Weight

EXTERNAL TURNING TOOL HOLDERS

EXTERNAL TURNING – FACING

This holder is for 25 x 25 size tools. Please shorten the tool as shown below before use.





Right hand tool holder shown.

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Order number	Stock	Hand	DCONMS	LF	LU	LB	H	S10	S11	S12	S13	WT*1
H63TH-EN2525R-115*	★	R	63	110	40	115	25	32	53	45	45	3.7
H63TH-EN2525L-115*	★	L	63	110	40	115	25	32	53	45	45	3.7

1/1

SPARE PARTS

Order number		
	Clamp screw	Plug
H63TH-EN2525R/L-115	HSS12030	HSS06006

1. Can be used with 32 x 32 and 32 x 25 tool holders. Possible to fit a 25 x 25 tool by using a 7 mm plate.

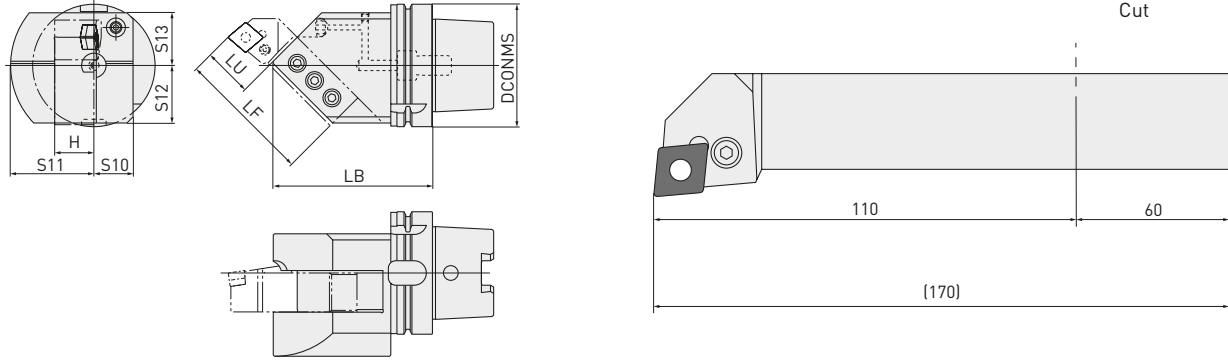
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 WT: Tool Weight

EXTERNAL TURNING TOOL HOLDERS

EXTERNAL TURNING – FACING

This holder is for 32 x 32 and 32 x 25 size tools. Please shorten the tool as shown below before use.





Right hand tool holder shown.

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Order number	Stock	Hand	DCONMS	LF	LU	LB	H	S10	S11	S12	S13	WT*1
H100TH-EN3232R-130*	★	R	100	110	40	130	32	32	68	47	43	6.6
H100TH-EN3232L-130*	★	L	100	110	40	130	32	32	68	47	43	6.6

1/1

SPARE PARTS

Order number		
	Clamp screw	Plug
H100TH-EN3232R/L-130	HSS14030	HSS06006

1. Can be used with 32 x 32 and 32 x 25 tool holders. Possible to fit a 25 x 25 tool by using a 7 mm plate.

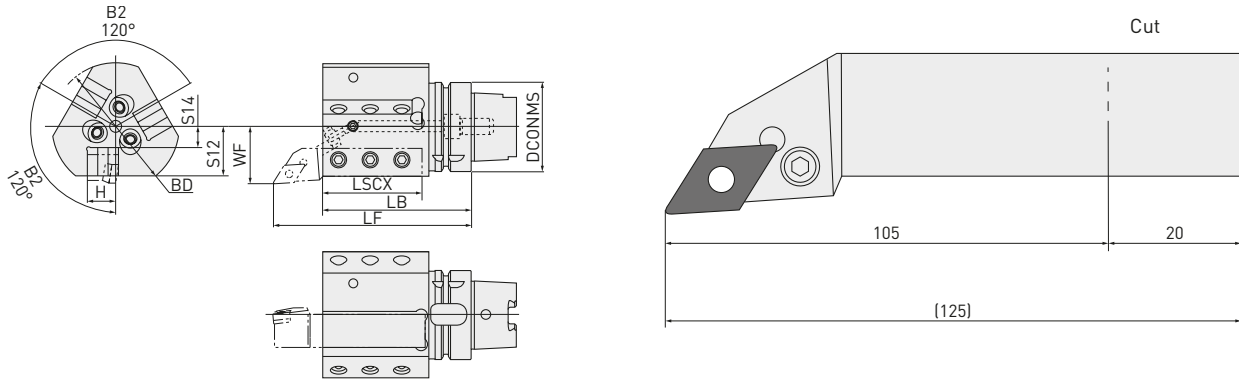
* Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*1 WT: Tool Weight

EXTERNAL TURNING TOOL HOLDERS

EXTERNAL TURNING – FACING

This holder is for 20 x 20 size tools. Please shorten the tool as shown below before use.






Right hand tool holder shown.

Order number	Stock	Hand	DCONMS	LF	LSCX	H	BD	WF	S14	S12	WT*1
H63TH-EV2020R-105-3*	★	R	63	140	70	20	90	40	15	35	2.9
H63TH-EV2020L-105-3*	★	L	63	140	70	20	90	40	15	35	2.9

1/1

SPARE PARTS

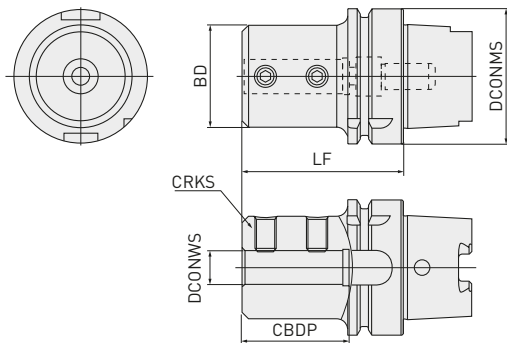
Order number			
	Clamp screw	Nozzle plug	Plug
H63TH-EV2020R/L-105-3	HSS12030	HSS05012	HSS06006

*1 Tools marked in the table cannot be fitted on the Yamazaki Mazak INTEGREX i, j series.

*2 WT: Tool Weight

BORING BAR HOLDERS


BORING



Order number	Stock	DCONMS	BD	DCONWS	LF	CBDP	CRKS	WT*
H63TH-B08-65	★	63	28	8	65	40	M8	0.9
H63TH-B10-70	★	63	35	10	70	45	M8	1.0
H63TH-B12-70	★	63	42	12	70	45	M8	1.1
H63TH-B16-75	★	63	48	16	75	50	M10	1.3
H63TH-B20-75	★	63	52	20	75	50	M10	1.4
H63TH-B25-83	★	63	62	25	83	58	M12	1.7
H63TH-B32-87	★	63	62	32	87	62	M12	1.7
H63TH-B40-97	★	63	65	40	97	72	M16	1.8

1/1

SPARE PARTS

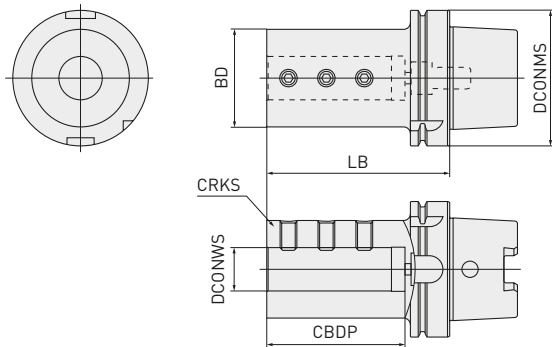
Order number	 Clamp screw
H63TH-B08-65	HSS08010
H63TH-B10-70	HSS08012
H63TH-B12-70	HSS08012
H63TH-B16-75	HSS10016
H63TH-B20-75	HSS10016
H63TH-B25-83	HSS12016
H63TH-B32-87	HSS12016
H63TH-B40-97	HSS16012

1. Please cut the boring bar to adjust the shank length. This also applies to indexable type drills.

* WT: Tool Weight

BORING BAR HOLDERS


BORING



Order number	Stock	DCONMS	BD	DCONWS	LB	CBDP	CRKS	WT*
H100TH-B25-120	★	100	62	25	120	88	M12	3.9
H100TH-B32-135	★	100	72	32	135	102	M12	4.8
H100TH-B40-150	★	100	82	40	150	117	M16	5.9
H100TH-B50-180	★	100	92	50	180	147	M16	7.7

1/1

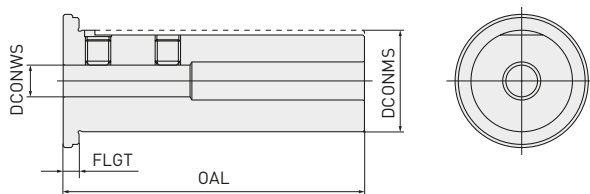
SPARE PARTS

Order number	 Clamp screw
H100TH-B25-120	HSS12016
H100TH-B32-135	HSS12018
H100TH-B40-150	HSS16020
H100TH-B50-180	HSS16020

1. Available for use with a sleeve for small round-shank tool installation.

* WT: Tool Weight

BORING BAR SLEEVES FOR H100TH-B32-135



Order number	Stock	DCONWS	DCONMS	OAL	FLGT	WT*
SL3208-90	★	8	32	95	5	0.6
SL3210-90	★	10	32	95	5	0.5
SL3212-90	★	12	32	95	5	0.5
SL3216-90	★	16	32	95	5	0.5
SL3220-90	★	20	32	95	5	0.4

1/1


SPARE PARTS

Order number	Clamp screw
SL3208-90	HSS06008
SL3210-90	HSS08008
SL3212-90	HSS08008
SL3216-90	HSS08006
SL3220-90	HSS08005

1. These sleeves are only compatible with H100TH-B32-135 holder.

* WT: Tool Weight

SYMBOLS

RECOMMENDED CUTTING CONDITIONS		MACHINING TYPE	
	Recommended cutting conditions		Roughing
	Completely new products or expansions released in the current Spring or Autumn product launch and are not included in the latest version of the General Catalogue.		Medium cutting
	Products or expansions that have already been introduced in one of the previous Spring or Autumn product launches but are not included in the latest General Catalogue.		Light cutting
APPLICATION			Pre-finishing
	Face milling		Finishing
	Chamfer milling		Fine-finishing
	Shoulder milling with R	TOOL MATERIAL	
	Face milling close to a wall		Ultra micro grain carbide Ultra micro grain carbide substrate material.
	Shoulder milling		Cubic boron nitride Mitsubishi Materials' original CBN material.
	Side milling		Ceramic For high speed efficient machining of super alloys due to the excellent high temperature strength property.
	Slot milling		High hardness powder metallurgy HSS High hardness powder metallurgy HSS substrate material.
	Ramping		High grade high alloy HSS High grade high alloy HSS substrate material.
	Pocket milling		Cobalt high speed steel Cobalt high speed steel substrate material.
	Slot milling with R		High speed steel High speed steel substrate material.
	Copy milling		
	T-Slot milling		

SYMBOLS

COATING



SMART MIRACLE coating
New smooth and dense coating technology for high efficiency milling of difficult to cut materials.



CRN coating
Newly developed CrN coating for Copper Electrodes machining.



Violet coating
Increased tool life of 2-3 times more than TiN coated products.



DP coating
New generation coating suitable for a wide range of materials.



MIRACLE coating
The original Miracle (Al,Ti)N coating. Also suitable for dry cutting.



[Al, Ti]N coating
[Al,Ti]N highly versatile application range.



[Al,Ti,Cr]N multi-layer coating
For carbon, alloy and hardened steels.



IMPACT MIRACLE coating
Single phase nano crystal coating technology has higher film hardness and heat resistance.



MIRACLE coating
The original MIRACLE (Al,Ti)N coating. Also suitable for dry cutting.



VFR coating
The (AlCrSi)N/(AlTiSi)N PVD multilayer coating is ideal for machining of extremely hard materials up to 70 HRC.



DLC coating
Hardness similar to CVD diamond coating achieved with high adhesion strength.



Diamond coating
Suitable for CFRP and CFRP-aluminium materials.



Diamond coating
Suitable for graphite machining.



Diamond coating
The original CVD diamond coating.



CVD Diamond coating
Unique multi-layer micro-grain diamond crystal control technology drastically improves wear resistance and smoothness.

CUTTING EDGE PROPERTIES



Sharp corner edge
Indicates the end mill has a sharp corner edge.



Gash land
Indicates the end mill cutting edge has a protective chamfer.



Rake angle



Helix angle
Indicates the helix angle of the end mill.



Point angle
Indicates the drill point angle.



Roughing flute geometry



Variable helix



Rounded gash



Corner angle

WEB THINNING



X type point geometry
X web thinning used at the drill point.



XR type point geometry
XR web thinning used at the drill point.



S type point geometry
Easy cutting geometry.



N type point geometry
Effective when the point web is thick.



Chipbreaker

SYMBOLS

TOLERANCES



Tolerance of taper angle
Indicates the tolerance of the taper angle.



R tolerance
Indicates the radial tolerance of a ball nose end mill.



R tolerance
Indicates the radial tolerance of the corner radius.



R tolerance
Indicates the radial tolerance of a cutter with a corner radius.



Outside diameter tolerance
Indicates the diameter tolerance of the end mill.



Peak tolerance
Indicates the tolerance for the end diameter.



Shank diameter tolerance



Shank diameter tolerance



Drill tolerance / diameter

COOLANT HOLES



External coolant



Internal coolant



Internal coolant



Centered, internal coolant hole



Radial, internal coolant holes



Internal coolant holes



Internal coolant holes

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