



High Quality Turning Centers



HT-40/60/80/100 A,B,C,D,E Multiaxial Series
HT-30 Multiaxial Series

High Quality Turning Centers



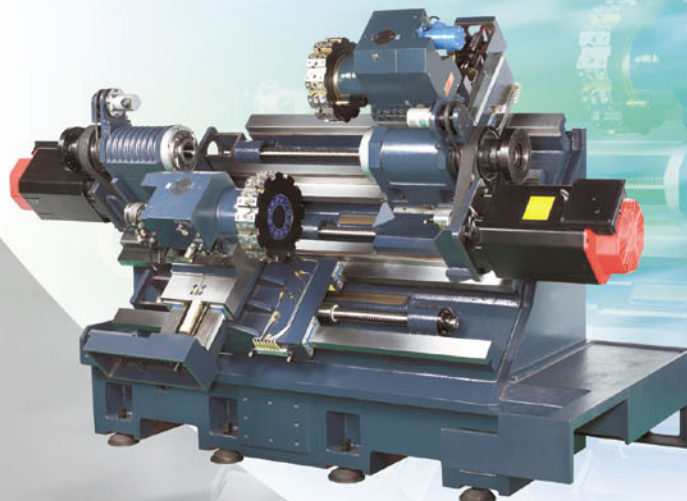
Twin Spindles / Twin Turrets

The JOHNFORD HT Series High Quality Turning Centers provide what you need not only today, but also in the future.

The HT Series starts with a time proven slant bed design and space-saving characteristics.



HT-30A-2SD / HT-40A-2SD / HT-4





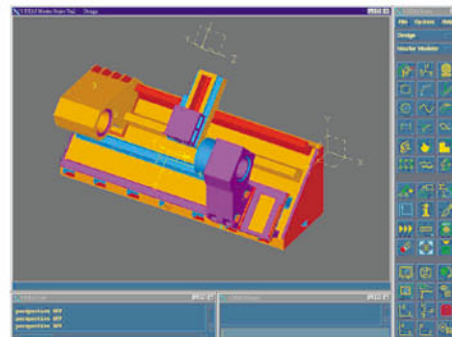
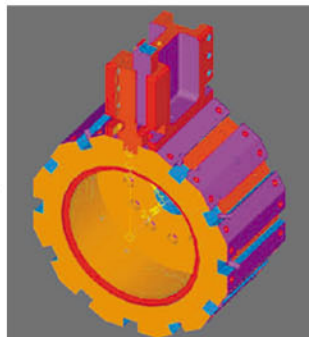
are designed out of the ordinary to meet

for rigidity, chip flow, accessibility, and

➔ Reliable Design

IDEAS advanced engineering software is utilized to optimize the design of the HT Series. It is used to calculate the physical and material properties of the components used, ensuring no weakness in the machine.

ANSYS Finite Element Analysis (FEA) software is employed to analyze all components of the HT series to determine the optimal machine structure.



A New Machine for the New Millennium

0A-2D

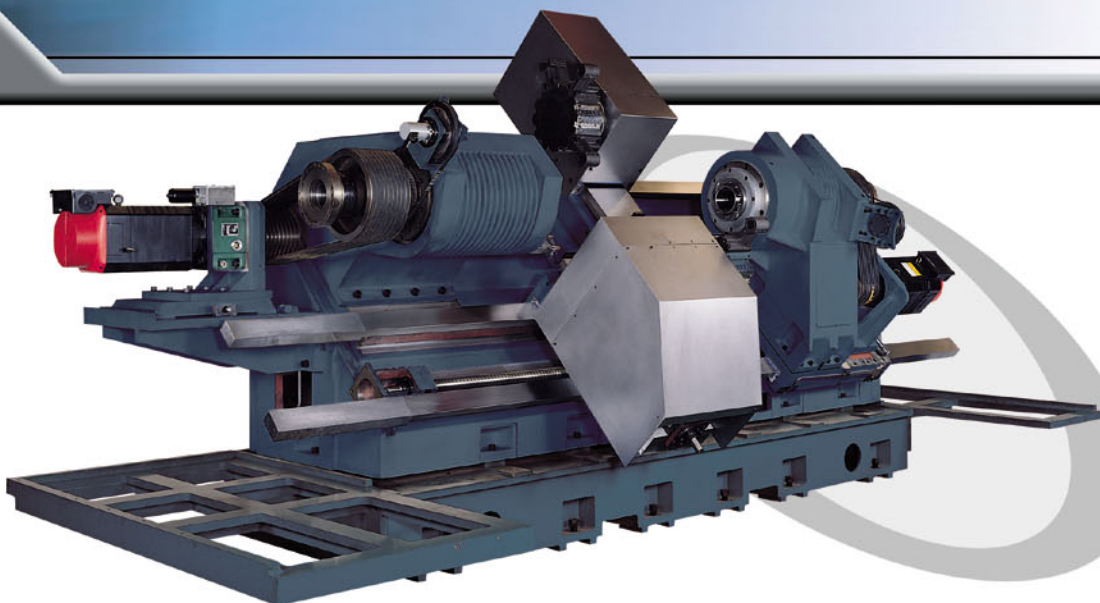
➔ Twin Turrets with Tailstock

These machines are built for outstanding performance in medium and large lot production runs.

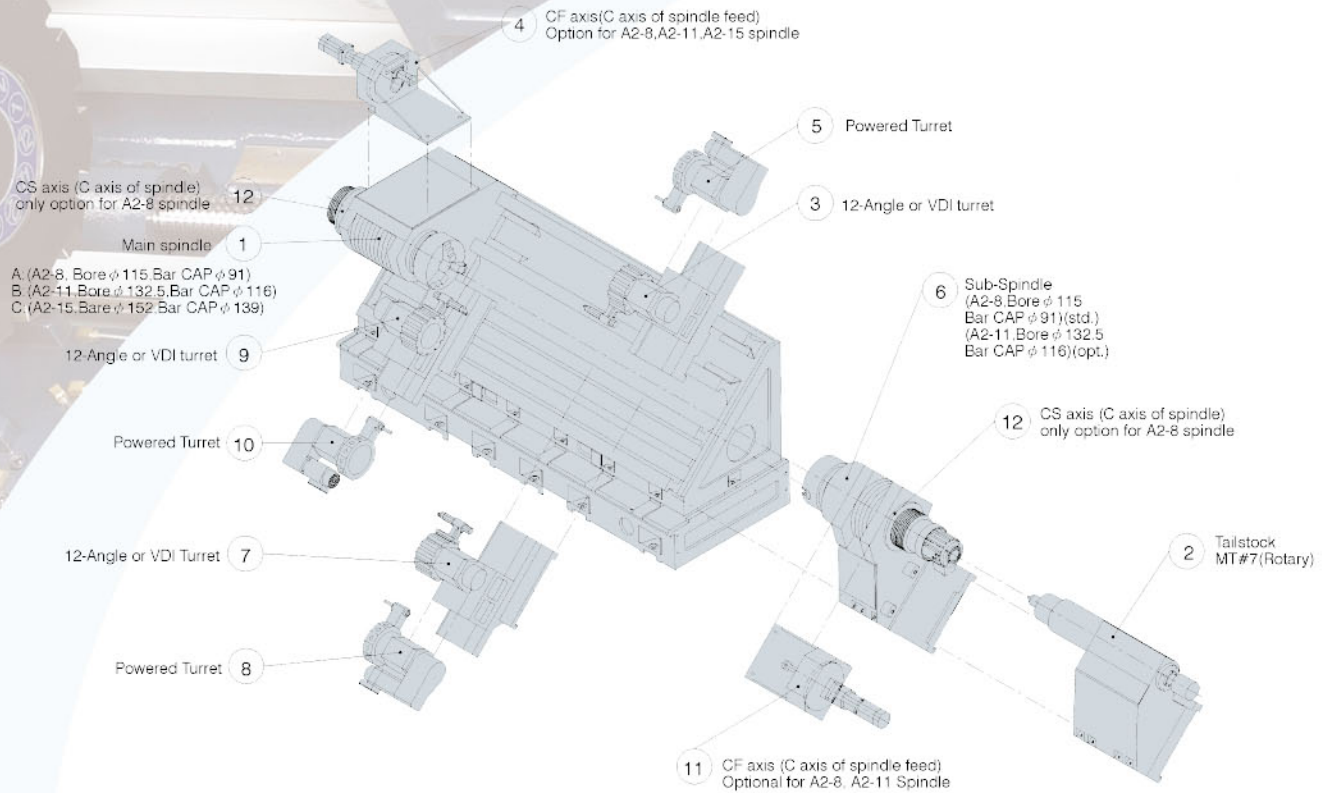
These machines always deliver the precision and efficiency which are far beyond the ordinary.

➔ Advanced Engineering and Solid Construction

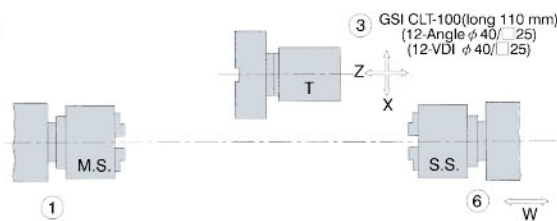
- Meehanite cast iron
- Torque tube bed
- Rigid box ways
- Large diameter pretensioned ballscrews
- Direct coupled ballscrews



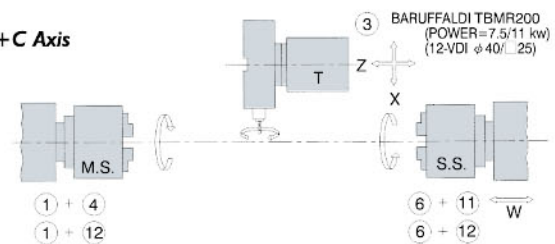
Multiple Construction to Meet Your Need



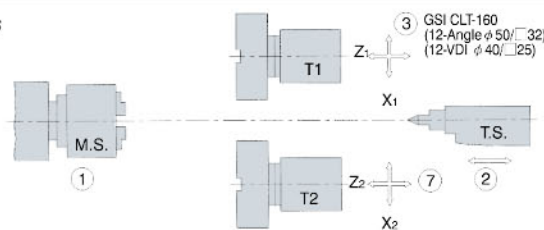
3 Axis



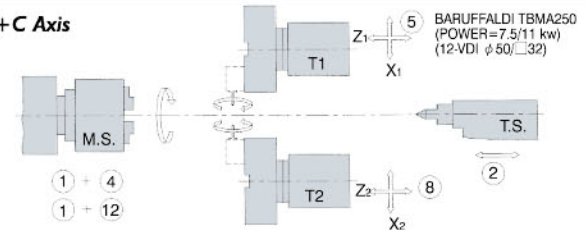
+C Axis



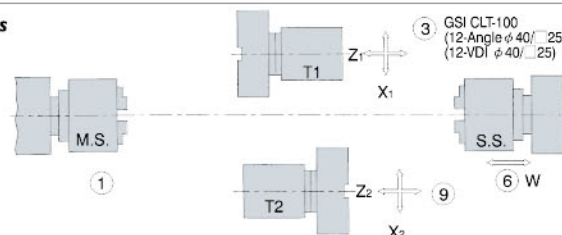
4 Axis



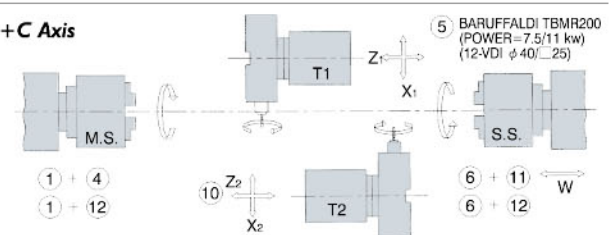
+C Axis



5 Axis



+C Axis



High Performance Spindles

High Performance Belt-type Spindles

➔ Spindle

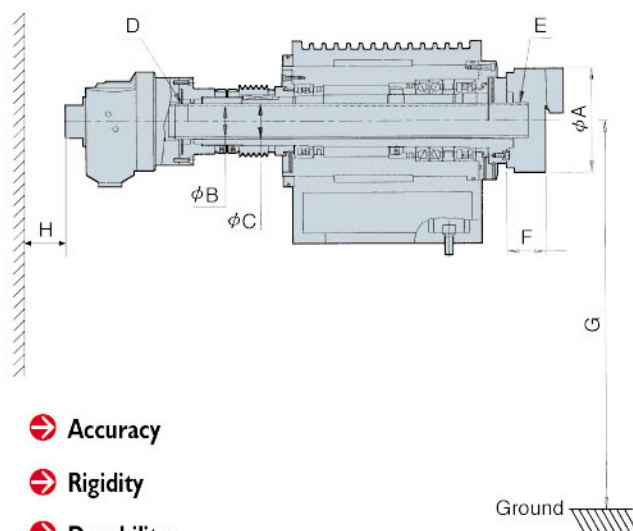
The spindle is mounted on precision-double-row roller bearings in conjunction with angular contact ball bearings, providing highest rigidity and accuracy.

The spindle is manufactured from alloy steel, heat treated and precision ground for maximum uniformity and durability.

The quill inner and outer lining is precision ground for fit with the spindle, thus ensuring extreme concentricity and accuracy of turned parts, and spindle service life is greatly extended.



Dimensions of Head



➔ Accuracy

➔ Rigidity

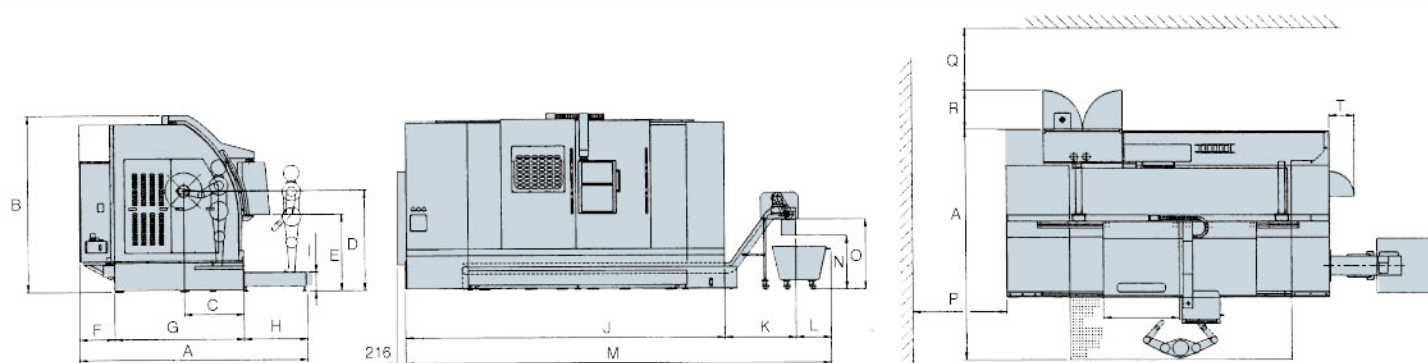
➔ Durability

➔ Efficiency

Unit: mm

Model	Dimension	A	B	C	D	E	F	G	H
HT-30 Series	Std.	φ 210 (8")	φ 51	φ 65	M60 x P2.0	M60 x P2.0	103	1210	345
HT-40/60/80/100, A	Std.	φ 315 (12")	φ 91	φ 115	M100 x P2.0	M100 x P2.0	122	1595	380
	Opt.	φ 381 (15")					160		345
HT-40/60/80/100, B	Std.	φ 381 (15")	φ 116	φ 132.5	M130 x P2.0	M130 x P2.0	149		345
	Opt.	φ 450 (18")					149		345
HT-40/60/80/100, C	Std.	φ 510 (20")	φ 139	φ 152	M175 x P3.0	M150 x P2.0	144	1605	270
	Opt.	φ 610 (24")					180		270
HT-40/60/80/100, D	Std.	φ 508 (20")	φ 165	φ 185	M175 x P3.0	M175 x P3.0	155	1605	270
	Opt.	φ 610 (24")					183		270
HT-40/60/80/100, E	Std.	φ 610 (24")	φ 204	φ 236	M215 x P3.0	M215 x P3.0	183	1605	310

Dimensions



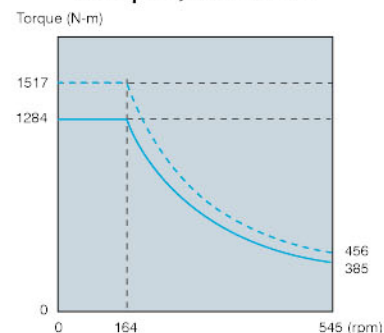
Unit: mm

Model	Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	T
HT-30 Series		2250	2085	615	1210	1050	540	1350	-	-	3175	815	545	4535	975	1085	1000	1000	550	-
HT-40 A/B/C/D/E		3615	2870	965	1595	1220	460	2130	1025	300	5140	1145	560	6845	850	1110	1500	1000	660	730
HT-60 A/B/C/D/E		3615	2870	965	1595	1220	460	2130	1025	300	5640	1145	560	7345	850	1110	1500	1000	660	730
HT-80 A/B/C/D/E		3615	2870	965	1595	1220	460	2130	1025	300	6140	1145	560	7845	850	1110	1500	1000	660	730
HT-100 A/B/C/D/E		3615	2940	983	1605	1255	460	2130	1025	300	6600	1250	560	8410	850	1110	1500	1000	660	730

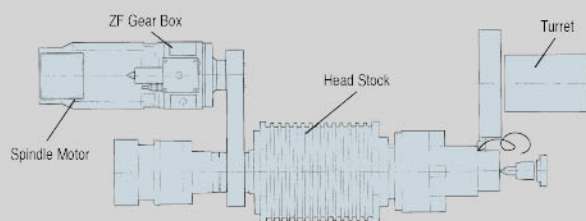
Spindle Power & Torque Chart

HT-A Series with ZF gear box

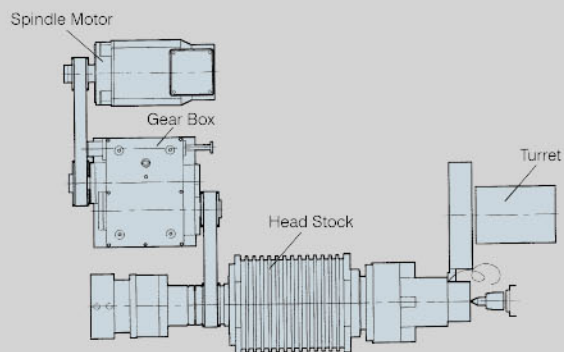
Low speed, ratio=0.109



Construction



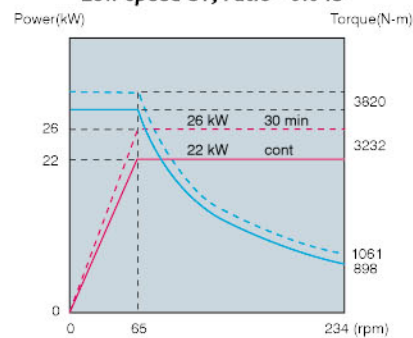
With ZF gear box drive



With Auto 4-speed drive

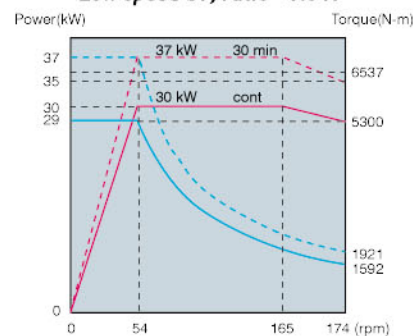
HT-B Series with Auto 4-speed

Low speed SI, ratio=0.043

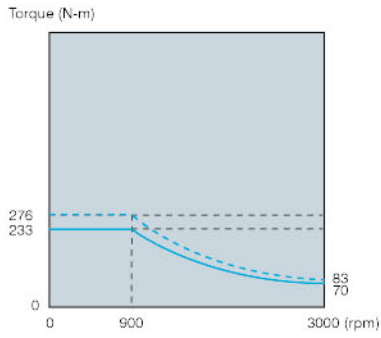


HT-C Series with Auto 4-speed

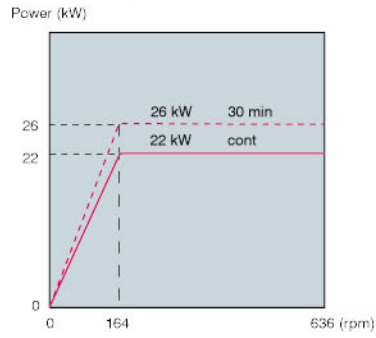
Low speed SI, ratio=0.047



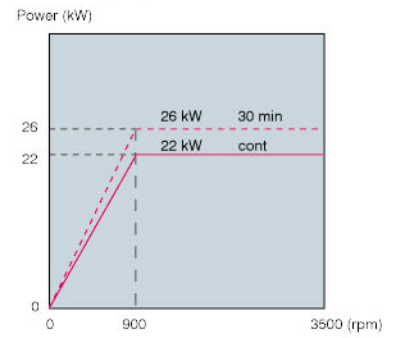
High speed, ratio=0.6



Low speed, ratio=0.109

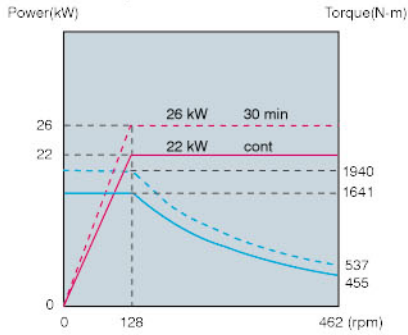


High speed, ratio=0.6

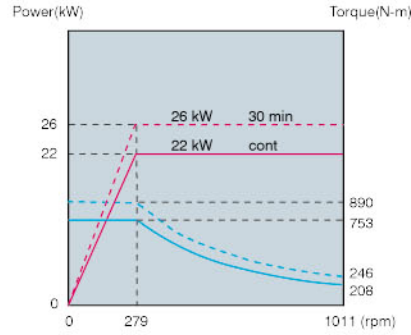


gear box

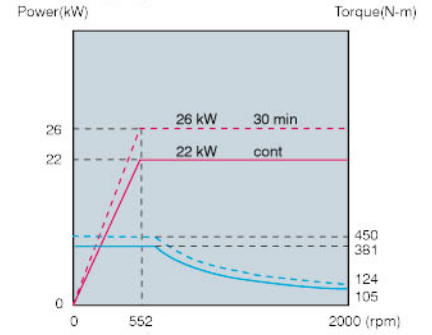
Low speed S2, ratio=0.085



High speed S3, ratio=0.186

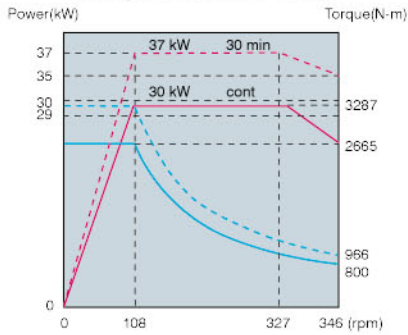


High speed S4, ratio=0.368

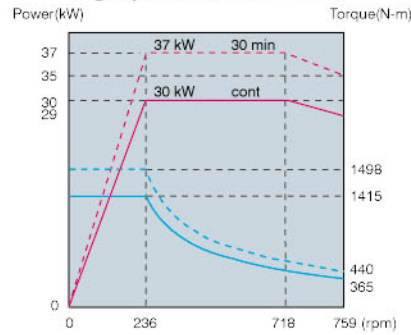


gear box

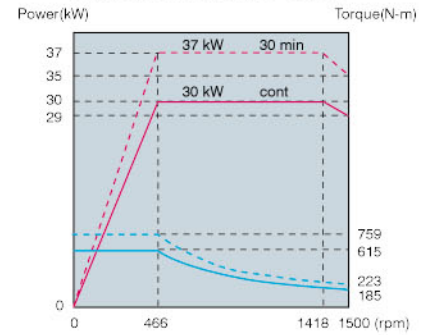
Low speed S2, ratio=0.094



High speed S3, ratio=0.205



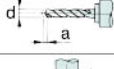
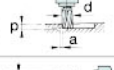
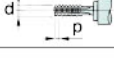
High speed S4, ratio=0.405



Powered Turret + C-Axis Function



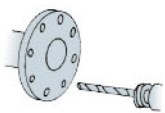
C-axis provides flexible turning performance for handling cam or special profiled parts that need milling / drilling / tapping operations. 0.001 degree indexing allows accurate circular positioning.

Item	Power Turret Model	TBMR 200	TBMA 250
Max. speed of turret		3800 rpm	3276 rpm
Twist drilling	$d \times a$ (mm)x(mm/rev)	 20 x 0.20	22 x 0.20
Slot milling	$d \times P \times a$ (mm)x(mm)x(mm/min)	 25 x 14 x 40	25 x 20 x 40
Tapping	$d \times p$ (mm)x(mm)	 M16 x 2	M18 x 2
Toolholder shaft size		VDI 40	VDI 50
Motor horsepower		AC 3.7 / 5.5 kW	AC 3.7 / 5.5 kW

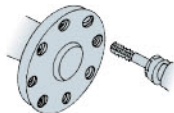
Live Tooling



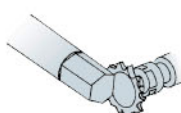
Examples for Machining with Live Tools



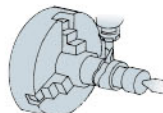
Drilling



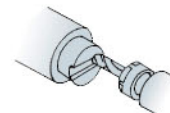
Thread cutting



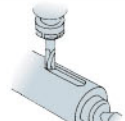
Face cutting



Cam cutting

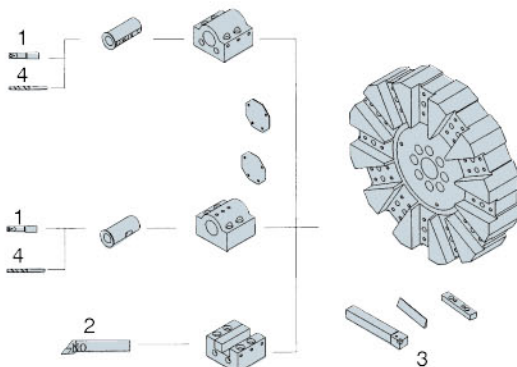


Slot cutting

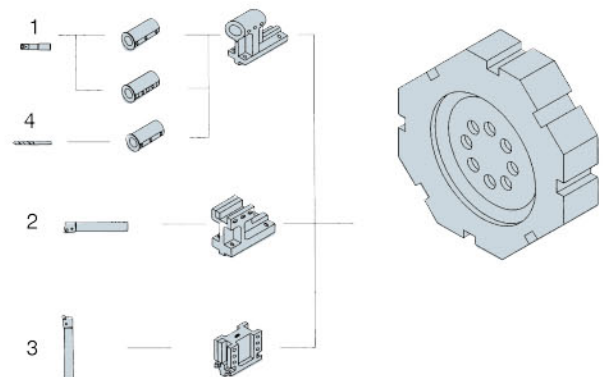


Key way cutting

Tool System



4 Axis Series



3/5 Axis Series

No.	Model	HT-30 / 40 / 60 / 80 / 100 (4 Axis)	
	Tool Type	Metric System (mm)	Imperial System
1	Bore	$\phi 12, \phi 16, \phi 20, \phi 25$ $\phi 32, \phi 32, \phi 40, \phi 50$	$\phi 1/2", \phi 5/8", \phi 3/4", \phi 1"$ $\phi 1-1/4", \phi 1-1/2", \phi 2"$
2	End	$\square 32$	$\square 1-1/4"$
3	Outerdia	$\square 32$	$\square 1-1/4"$
4	Drill	MT#2, #3, #4, #5	

No.	Model	HT-30 / 40 / 60 / 80 / 100 (3/5 Axis)	
	Tool Type	Metric System (mm)	Imperial System
1	Bore	$\phi 8, \phi 10, \phi 12, \phi 16$ $\phi 20, \phi 25, \phi 32, \phi 40$	$\phi 1/4", \phi 1/2", \phi 5/8", \phi 3/4"$ $\phi 1", \phi 1-1/4", \phi 1-1/2"$
2	End	$\square 25$	$\square 1"$
3	Outerdia	$\square 25$	$\square 1"$
4	Drill	MT#2, #3, #4	

3-Axis Series Specifications

Model			HT-30-2S	HT-40-2S	HT-60-2S	HT-80-2S	HT-100-2S
Swing over bed (mm)			φ 580 (22.8")	φ 750 (29.5")	φ 730 (28.7")	φ 710 (28")	φ 690 (27.2")
Swing over cross slide (mm)			φ 300 (11.8")	φ 600 (23.6")			
Distance between Centers (mm)			550 (21.7")	1000 (39.4")	1500 (59")	2000 (78.7")	2500 (98.4")
Main Spindle	Chuck size (in)	Std.	8" (φ 203.2 mm)	A: 12" (φ 315 mm) / B: 15" (φ 381 mm) / C , D: 20" (φ 510 mm) / E: 24" (φ 610 mm)			
		Opt.		A: 15" (φ 381 mm) / B: 18" (φ 450 mm) / C , D: 24" (φ 610 mm) / E: —			
	Bar capacity (mm)	Std.	φ 51 (2")	A: φ 91 (3.6") / B: φ 116 (4.6") / C: φ 139 (5.5") / D: φ 165 (6.5") / E: φ 204 (8")			
		Opt.		A: φ 95 (3.7")			
	Spindle nose		A2-6	A: A2-8 / B: A2-11 / C: A2-12 / D , E: A2-15			
	Spindle bore (mm)		φ 65 (2.6")	A: φ 115 (4.5") / B: φ 132.5 (5.2") / C: φ 152 (6") / D: φ 185 (7.3") / E: φ 236 (9.3")			
	Spindle speed step	Std.	One step	A , B: Auto Hi-Lo / C , D , E: Auto 4-Steps			
		Opt.		B: Auto 4-Steps			
	Spindle speed range (rpm)	Std.	4500	A: 3000 for 12" chuck, 2000 for 15" chuck / B: 2000 for Hi-Lo / C:1200 / D:1000 / E:750			
		Opt.		B: 2000 for Auto 4-Steps			
Spindle motor (kW)	Std.	11 / 15	A, B: 22 / 26 ; C , D , E: 30 / 37				
	Opt.		B: 30 / 37 ; C , D , E: 37 / 45				
Spindle bearing diameter (mm)			φ 100 (3.9")	A: φ 160 (6.3") / B: φ 180 (7") / C: φ 200 (7.9") / D: φ 240 (9.4") / E: φ 280 (11")			
Sub Spindle (Y-axis)	Chuck size (in)	Std.	8" (φ 203.2 mm)	A: 12" (φ 315 mm) / B , C , D , E: 15" (φ 381 mm)			
		Opt.		A: 15" (φ 381 mm)			
	Bar capacity (mm)		φ 51 (2")	φ 91 (3.6") (Std.) / φ 95 (3.7") (Opt.) / φ 116 (4.6") (Opt. for A2-11)			
	Spindle nose		A2-6	A2-8 (Std.) / A2-11 (Opt.)			
	Spindle bore (mm)		φ 65 (2.6")	φ 115 (4.5") (Std.) / φ 132.5 (5.2") (Opt.)			
	Spindle speed step		One step	A: One step / B , C , D , E: Auto Hi-Lo			
	Spindle speed range (rpm)		4500	A: 3000 for 12" chuck, 2000 for 15" chuck / B: 2000 / C: 1500 / D:1000 / E:750			
	Spindle motor (kW)		11 / 15 (Std.)	A: 9 / 11 ; B: 11 / 15 ; C, D, E: 15 / 18.5			
Spindle bearing diameter (mm)			φ 100 (3.9")	φ 160 (6.3") (Std.) / φ 180 (7.1") (Opt.)			
No. of tools			12				
Cross travel (X-axis) (mm)			160 (6.3")	320 (12.6")			
Longitudinal travel (Z-axis) (mm)			550 (21.7")	1000 (39.4")	1500 (59")	2000 (78.7")	2500 (98.4")
Rapid traverse (m/min)			X: 15, Z / W: 18	X: 12, Z: 15, W: 10			
Servo motor (X-axis) (kW)			4				
Servo motor (Z-axis) (kW)			4			7	
Servo motor (W-axis) (kW)			4			7	
Bed inclination			45°				
Weight (kg)			7500 (16500 lb)	A: 16500 (36300 lb) B: 16550 (36410 lb) C: 16600 (36520 lb) D: 16650 (36630 lb) E: 16700 (36740 lb)	A: 18500 (40700 lb) B: 18550 (40810 lb) C: 18600 (40920 lb) D: 18650 (41030 lb) E: 18700 (41140 lb)	A: 20500 (45100 lb) B: 20550 (45210 lb) C: 20600 (45320 lb) D: 20650 (45430 lb) E: 20700 (45540 lb)	A: 22500 (49500 lb) B: 22550 (49610 lb) C: 22600 (49720 lb) D: 22650 (49830 lb) E: 22700 (49940 lb)
Machine dimensions (mm)	W x H	2300 x 2300 (90.6"x90.6")	3470 x 2840 (136.6"x111.8")				3595 x 2940 (141.5"x115.7")
	L	5100 (200.8")	5200 (204.7")	5600 (220.5")	6000 (236.2")	6600 (259.8")	

■ All data subject to change without notice.

■ All the specifications are listed with the FANUC CNC system.

4-Axis Series Specifications

Model		HT-30-2D	HT-40-2D	HT-60-2D	HT-80-2D	HT-100-2D
Swing over bed (mm)		φ 580 (22.8")	φ 750 (29.5")	φ 730 (28.7")	φ 710 (28")	φ 690 (27.2")
Swing over cross slide (mm)		φ 330 (13")	φ 600 (23.6")			
Distance between Centers (mm)		550 (21.7")	1000 (39.4")	1500 (59")	2000 (78.7")	2500 (98.4")
Chuck size (in)	Std.	10" (φ 254 mm)	A: 12" (φ 315 mm) / B: 15" (φ 381 mm) / C, D: 20" (φ 510 mm) / E: 24" (φ 610 mm)			
	Opt.		A: 15" (φ 381 mm) / B: 18" (φ 450 mm) / C, D: 24" (φ 610 mm) / E: —			
Bar capacity (mm)	Std.	φ 76.5 (3")	A: φ 91 (3.6") / B: φ 116 (4.6") / C: φ 139 (5.5") / D: φ 165 (6.5") / E: φ 204 (8")			
	Opt.		A: φ 95 (3.7")			
Spindle nose		A2-8	A: A2-8 / B: A2-11 / C, D, E: A2-15			
Spindle bore (mm)		φ 86 (3.4")	A: φ 115 (4.5") / B: φ 132.5 (5.2") / C: φ 152 (6") / D: φ 185 (7.3") / E: φ 236 (9.3")			
Spindle speed step	Std.	One step	A , B: Auto Hi-Lo / C , D , E: Auto 4-Steps			
	Opt.		B: Auto 4-Steps			
Spindle speed range (rpm)	Std.	3500	A: 3000 for 12" chuck, 2000 for 15" chuck / B: 2000 for Hi-Lo / C:1200 / D:1000 / E:750			
	Opt.		B: 2000 for Auto 4-Steps			
Spindle motor (kW)	Std.	15 / 18.5	A , B: 22 / 26 ; C , D , E: 30 / 37			
	Opt.		B: 30 / 37 ; C , D , E: 37 / 45			
Spindle bearing diameter (mm)		φ 130 (5")	A: φ 160 (6.3") / B: φ 180 (7") / C: φ 200 (7.9") / D: φ 240 (9.4") / E: φ 280 (11")			
No. of tools (T ₁ / T ₂)		12 / 12				
Cross travel (X ₁ / X ₂ -axis) (mm)		175 (6.9") / 175 (6.9")	320 (12.6") / 320 (12.6")			
Longitudinal travel (Z ₁ -axis) (mm)		550 (21.7")	1000 (39.4")	1500 (59")	2000 (78.7")	2500 (98.4")
Rapid traverse (m/min)		X: 15 / Z: 18	X: 12, Z: 15			
Tailstock travel (mm)		530 (20.9")	700 (27.6")	1200 (47.2")	1700 (66.9")	2200 (86.6")
Tailstock quill travel (mm)		100 (3.9")	200 (7.9")			
Tailstock quill diameter (mm)		φ 85 (3.3")	φ 200 (7.9")			
Tailstock Spindle taper	Rotary	MT#5	MT#7			
Servo motor (X ₁ / X ₂ -axis) (kW)		3	4			
Servo motor (Z ₁ / Z ₂ -axis) (kW)		4			7	
Bed inclination		45°				
Weight (kg)		7200 (15840 lb)	A: 17000 (37400 lb) B: 17050 (37510 lb) C: 17100 (37620 lb) D: 17150 (37730 lb) E: 17200 (37840 lb)	A: 19000 (41800 lb) B: 19050 (41910 lb) C: 19100 (42020 lb) D: 19150 (42130 lb) E: 19200 (42240 lb)	A: 21000 (46200 lb) B: 21050 (46310 lb) C: 21100 (46420 lb) D: 21150 (46530 lb) E: 21200 (46640 lb)	A: 23000 (50600 lb) B: 23050 (50710 lb) C: 23100 (50820 lb) D: 23150 (50930 lb) E: 23200 (51040 lb)
Machine dimensions (mm)	W x H	2300 x 2300 (90.6"x90.6")	3470 x 2840 (136.6"x111.8")			3595 x 2940 (141.5"x115.7")
	L	5100 (200.8")	5200 (204.7")	5600 (220.5")	6000 (236.2")	6600 (259.8")

■ All data subject to change without notice.

■ All the specifications are listed with the FANUC CNC system.

Standard Accessories:

- | | |
|-------------------------------------|---|
| 1. Coolant system | 7. Tool holders (direct mounting type) |
| 2. Splash guard | 8. Auto lubrication with alarm |
| 3. Through hole 3-jaw chuck | 9. Halogen working lamp |
| 4. Programmable hydraulic tailstock | 10. Rotary tailstock (4 Axis series) |
| 5. Chain type chip conveyor | 11. Fanuc 18iTB-2path controller (only for 2D and 2SD series) |
| 6. Tool box and various manuals | |

5-Axis Series Specifications

Model			HT-30-2SD	HT-40-2SD	HT-60-2SD	HT-80-2SD	HT-100-2SD
Swing over bed (mm)			φ 580 (22.8")	φ 750 (29.5")	φ 730 (28.7")	φ 710 (28")	φ 690 (27.2")
Swing over cross slide (mm)			φ 330 (13")	φ 600 (23.6")			
Distance between Centers (mm)			550 (21.7")	1000 (39.4")	1500 (59")	2000 (78.7")	2500 (98.4")
Main Spindle	Chuck size (in)	Std.	8" (φ 203.2 mm)	A: 12" (φ 315 mm) / B: 15" (φ 381 mm) / C, D: 20" (φ 510 mm) / E: 24" (φ 610 mm)			
		Opt.		A: 15" (φ 381 mm) / B: 18" (φ 450 mm) / C, D: 24" (φ 610 mm) / E: —			
	Bar capacity (mm)	Std.	φ 51 (2")	A: φ 91 (3.6") / B: φ 116 (4.6") / C: φ 139 (5.5") / D: φ 165 (6.5") / E: φ 204 (8")			
		Opt.		A: φ 95 (3.7")			
	Spindle nose		A2-6	A: A2-8 / B: A2-11 / C, D, E: A2-15			
	Spindle bore (mm)		φ 65 (2.6")	A: φ 115 (4.5") / B: φ 132.5 (5.2") / C: φ 152 (6") / D: φ 185 (7.3") / E: φ 236 (9.3")			
	Spindle speed step	Std.	One step	A, B: Auto Hi-Lo / C, D, E: Auto 4-Steps			
		Opt.		B: Auto 4-Steps			
	Spindle speed range (rpm)	Std.	4500	A: 3000 for 12" chuck, 2000 for 15" chuck / B: 2000 for Hi-Lo / C:1200 / D:1000 / E:750			
		Opt.		B: 2000 for Auto 4-Steps			
Spindle motor (kW)	Std.	11 / 15	A: 22 / 26 ; B: 22 / 26 ; C, D, E: 30 / 37				
	Opt.		B: 30 / 37 ; C, D, E: 37 / 45				
Spindle bearing diameter (mm)			φ 100 (3.9")	A: φ 160 (6.3") / B: φ 180 (7") / C: φ 200 (7.9") / D: φ 240 (9.4") / E: φ 280 (11")			
Sub Spindle (Y-axis)	Chuck size (in)	Std.	8" (φ 203.2 mm)	A: 12" (φ 315 mm) / B, C, D, E: 15" (φ 381 mm)			
		Opt.		A: 15" (φ 381 mm)			
	Bar capacity (mm)		φ 51 (2")	φ 91 (3.6") (Std.) / φ 95 (3.7") (Opt.) / φ 116 (4.6") (Opt. for A2-11)			
	Spindle nose		A2-6	A2-8 (Std.) / A2-11 (Opt.)			
	Spindle bore (mm)		φ 65 (2.6")	φ 115 (4.5") (Std.) / φ 132.5 (5.2") (Opt.)			
	Spindle speed step		One step	A: One step / B, C, D, E: Auto Hi-Lo			
	Spindle speed range (rpm)		4500	A: 3000 for 12" chuck, 2000 for 15" chuck / B: 2000 / C: 1500 / D:1000 / E:750			
	Spindle motor (kW)		11 / 15 (Std.)	A: 9 / 11 ; B: 11 / 15 ; C, D, E: 15 / 18.5			
	Spindle bearing diameter (mm)		φ 100 (3.9")	φ 160 (6.3") (Std.) / φ 180 (7.1") (Opt.)			
	No. of tools (T ₁ / T ₂)			12 / 12			
Cross travel (X ₁ / X ₂ -axis) (mm)			175 / 175 (6.9")	320 (12.6") / 320 (12.6")			
Longitudinal travel (Z-axis) (mm)			460 (18.1")	1000 (39.4")	1500 (59")	2000 (78.7")	2500 (98.4")
Rapid traverse (m/min)			X: 15, Z / W: 18	X: 12, Z: 15, W: 10			
Servo motor (X ₁ / X ₂ -axis) (kW)			3	4			
Servo motor (Z ₁ / Z ₂ -axis) (kW)			4			7	
Servo motor (W-axis) (kW)			4			7	
Bed inclination			45°				
Weight (kg)			7500 (16500 lb)	A: 18000 (39600 lb) B: 18050 (39710 lb) C: 18100 (39820 lb) D: 18150 (39930 lb) E: 18200 (40040 lb)	A: 20000 (44000 lb) B: 20050 (44110 lb) C: 20100 (44220 lb) D: 20150 (44330 lb) E: 20200 (44440 lb)	A: 22000 (48400 lb) B: 22050 (48510 lb) C: 22100 (48620 lb) D: 22150 (48730 lb) E: 22200 (48840 lb)	A: 24000 (52800 lb) B: 24050 (52910 lb) C: 24100 (53020 lb) D: 24150 (53130 lb) E: 24200 (53240 lb)
Machine dimensions (mm)	W x H	2300 x 2300 (90.6"x90.6")	3470 x 2840 (136.6"x111.8")				3595 x 2940 (141.5"x115.7")
	L	5100 (200.8")	5200 (204.7")	5600 (220.5")	6000 (236.2")	6600 (259.8")	

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■ All the specifications are listed with the FANUC CNC system.

Optional Accessories:

1. C-axis (C.S axis without gear box/C.F axis with gear box)
2. Contact tool setting system (Renishaw TS-20 or BULM NT-A2 / NT-A3)

3. Tool holders (VDI type)
4. Manual guide *i* / *O* / *O* (0i TC) ; Manual guide *i* (18i T / 21i T)

CNC Control Specs



■ CNC system type

O: Std. △: Opt. -: Nil

Type	Model	HT-30 Series	HT-40/60/80/100 A,B,C,D,E
Fanuc 0i-TC			○
Fanuc 21i/T			△
Fanuc 18i/T			△
Siemens 810D			△
Siemens 840D (572.5)			△
Siemens 840D (573.5)			△

■ Fanuc specifications

O: Std. △: Opt. -: Nil

	Item	Specifications	0iTC	18iT	21iT
Display unit	7.2" mono LCD		○	-	-
	8.4" color LCD		△	-	-
	10.4" color LCD		△	○	○
Function	Data Server with 1GB CF card		△	△	△
	NC program memory	640M (256KB)	○	○	○
	Conversational programming	Manual guide 0i / 0iTC	○	-	-
	with graphic function	Manual guide i / 18iT / 21iT / 0iTC (10.4" LCD)	△	○	○
	No. of tool offset sets		64	16	16
	No. of variable command sets		500	100	100
	Work coordinate system	G54~G59	○	△	△



■ Siemens specifications

O: Std. △: Opt. -: Nil

	Item	Specifications	810D	840D
Operation Panel	10.4" color LCD		○	○
	12.1" color LCD		△	△
	15.1" color LCD		△	△
	KB 483C full CNC keyboard		△	△
	PCU 20 without hard disk		○	○
	Network / disk drive management	CF card	△	△
Function	PCU 50 with hard disk	Include HD & Ethernet	△	△
	ShopTurn operation (copy licence)		○	○
	ShopTurn programming (copy licence)		△	△
	Automatic residual material detection		△	△
	Transmit / Peripheral surface transformation		○	○
	Thread cutting with constant or variable pitch		○	○
	Tapping with compensating chunk / rigid tapping		○	○
	Positioning axes and spindle via synchronized actions		○	○
	Measuring cycles for drilling/milling and turning		△	△



4-Axis Series Specifications

Model		HT-40A-2D	HT-60A-2D	HT-80A-2D	HT-40B-2D	HT-60B-2D	HT-80B-2D	HT-40C-2D	HT-60C-2D	HT-80C-2D
Item										
Swing over bed (mm)		φ 750	φ 730	φ 710	φ 750	φ 730	φ 710	φ 750	φ 730	φ 710
Swing over cross slide		φ 600 mm								
Distance between Centers		1000 mm	1500 mm	2000 mm	1000 mm	1500 mm	2000 mm	1000 mm	1500 mm	2000 mm
Chuck size		12" (φ 315 mm) (Std.) 15" (φ 381 mm) (Opt.)			15" (φ 381 mm) (Std.) 18" (φ 450 mm) (Opt.)			20" (φ 510 mm) (Std.) 24" (φ 610 mm) (Opt.)		
Bar capacity		φ 91 mm (Std.) φ 95 mm (Opt.)			φ 116 mm			φ 139 mm		
Spindle nose		A2-8			A2-11			A2-15		
Spindle bore		φ 115 mm			φ 132.5 mm			φ 152 mm		
Spindle speed step (s)		Auto Hi-Lo			Auto Hi-Lo (Std.) Auto 4-Steps (Opt.)			Auto 4-Steps		
Spindle speed range		3000 rpm for 12" chuck 2000 rpm for 15" chuck			2000 rpm for Hi-Lo 2000 rpm for Auto 4-Steps (Opt.)			1200 rpm		
Spindle motor		22 / 26 kW (Std.)			22 / 26 kW (Std.) 30 / 37 kW (Opt.)			30 / 37 kW (Std.) 37 / 45 kW (Opt.)		
Spindle bearing diameter		φ 160 mm			φ 180 mm			φ 200 mm		
No. of tools (T ₁ /T ₂)		12 / 12								
Cross travel (X ₁ /X ₂ -axis)		320 mm / 320 mm								
Longitudinal travel (Z ₁ -axis) (mm)		1000	1500	2000	1000	1500	2000	1000	1500	2000
Rapid traverse		X: 12 m/min Z: 15 m/min								
Tailstock travel (mm)		700	1200	1700	700	1200	1700	700	1200	1700
Tailstock quill travel (mm)		200								
Tailstock quill diameter		φ 200 mm								
Tailstock Spindle taper	Rotary	MT#7								
Servo motor (X ₁ /X ₂ -axis)		4 kW								
Servo motor (Z ₁ /Z ₂ -axis)		4 kW		7 kW	4 kW		7 kW	4 kW		7 kW
Bed inclination		45°								
Weight (kg)		17000	19000	21000	17050	19050	21050	17100	19100	21100
Machine dimensions (mm)	W x H	3470 x 2840			3470 x 2840			3470 x 2840		
	L	5200	5600	6000	5200	5600	6000	5200	5600	6000

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5-Axis Series Specifications

Model \ Item		HT-40A-2SD	HT-60A-2SD	HT-80A-2SD	HT-40B-2SD	HT-60B-2SD	HT-80B-2SD	HT-40C-2SD	HT-60C-2SD	HT-80C-2SD
Swing over bed (mm)		φ 750	φ 730	φ 710	φ 750	φ 730	φ 710	φ 750	φ 730	φ 710
Swing over cross slide		φ 600 mm								
Distance between Centers		1000 mm	1500 mm	2000 mm	1000 mm	1500 mm	2000 mm	1000 mm	1500 mm	2000 mm
Main Spindle	Chuck size	12" (φ 315 mm) (Std.) 15" (φ 381 mm) (Opt.)			15" (φ 381 mm) (Std.) 18" (φ 450 mm) (Opt.)			20" (φ 510 mm) (Std.) 24" (φ 610 mm) (Opt.)		
	Bar capacity	φ 91 mm (Std.) φ 95 mm (Opt.)			φ 116 mm			φ 139 mm		
	Spindle nose	A2-8			A2-11			A2-15		
	Spindle bore	φ 115 mm			φ 132.5 mm			φ 152 mm		
	Spindle speed step	Auto Hi-Lo			Auto Hi-Lo (Std.) Auto 4-Steps (Opt.)			Auto 4-Steps (Opt.)		
	Spindle speed range	3000 rpm for 12" chuck 2000 rpm for 15" chuck			2000 rpm for Hi-Lo 2000 rpm for Auto 4-Steps (Opt.)			1200 rpm		
	Spindle motor	22 / 26 kW (Std.)			22 / 26 kW (Std.), 30 / 37 kW (Opt.)			30 / 37 kW (Std.), 37 / 45 kW (Opt.)		
	Spindle bearing diameter	φ 160 mm			φ 180 mm			φ 200 mm		
Sub Spindle (Y-axis)	Chuck size	12" (φ 315 mm) (Std.) 15" (φ 381 mm) (Opt.)			15" (φ 381 mm) (Std.)					
	Bar capacity	φ 91 mm (Std.) / φ 95 mm (Opt.) / φ 116 mm (Opt. for A2-11)								
	Spindle nose	A2-8 (Std.) / A2-11 (Opt.)								
	Spindle bore	φ 115 mm (Std.) / φ 132.5 mm (Opt.)								
	Spindle speed step	One Speed			Auto Hi-Lo					
	Spindle speed range	3000 rpm for 12" chuck 2000 rpm for 15" chuck			2000 rpm			1500 rpm		
	Spindle motor	9 / 11 kW (Std.)			11 / 15 kW (Std.)			15 / 18.5 kW (Std.)		
	Spindle bearing diameter	φ 160 mm (Std.) / φ 180 mm (Opt.)								
No. of tools (T ₁ /T ₂)		12 / 12								
Cross travel (X ₁ /X ₂ -axis)		320 mm / 320 mm								
Longitudinal travel (Z-axis) (mm)		1000	1500	2000	1000	1500	2000	1000	1500	2000
Rapid traverse		X: 12 m/min Z: 15 m/min W: 10 m/min								
Servo motor (X ₁ /X ₂ -axis)		4 kW								
Servo motor (Z ₁ /Z ₂ -axis)		4 kW		7 kW	4 kW		7 kW	4 kW		7 kW
Servo motor (W-axis)		4 kW		7 kW	4 kW		7 kW	4 kW		7 kW
Bed inclination		45°								
Weight (kg)		18000	20000	22000	18050	20050	22050	18100	20100	22100
Machine dimensions (mm)	W x H	3470 x 2840			3470 x 2840			3470 x 2840		
	L	5200	5600	6000	5200	5600	6000	5200	5600	6000

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