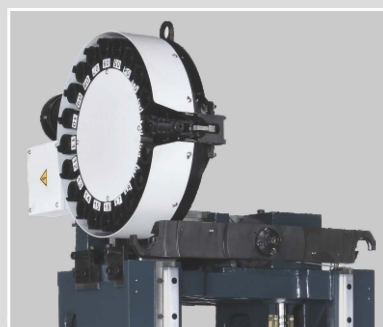
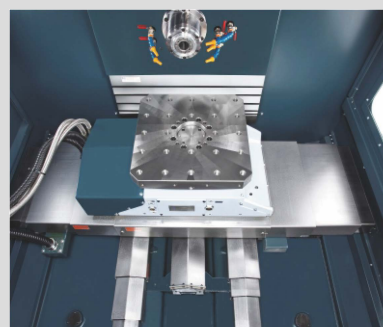


Twinhorn®

HF-380

HIGH SPEED HORIZONTAL MACHINING CENTER



CHI-FA MACHINERY MANUFACTURER CO., LTD.

NO.44-8 MING-CHUAN RD., SHENG KANG DISTRICT,

TAICHUNG CITY, TAIWAN

TEL: +886-4-2562 8747

FAX: +886-4-2561 4199

<http://www.twinhorn.com.tw>

E-mail: chifaltd@ms36.hinet.net / info@twinhorn.com.tw



C.so Moncenisio n.63 ROSTA 10090 (TO)

Tel. 011.95.40.933

gstools@gstoolsitalia.com

www.gstoolsitalia.com



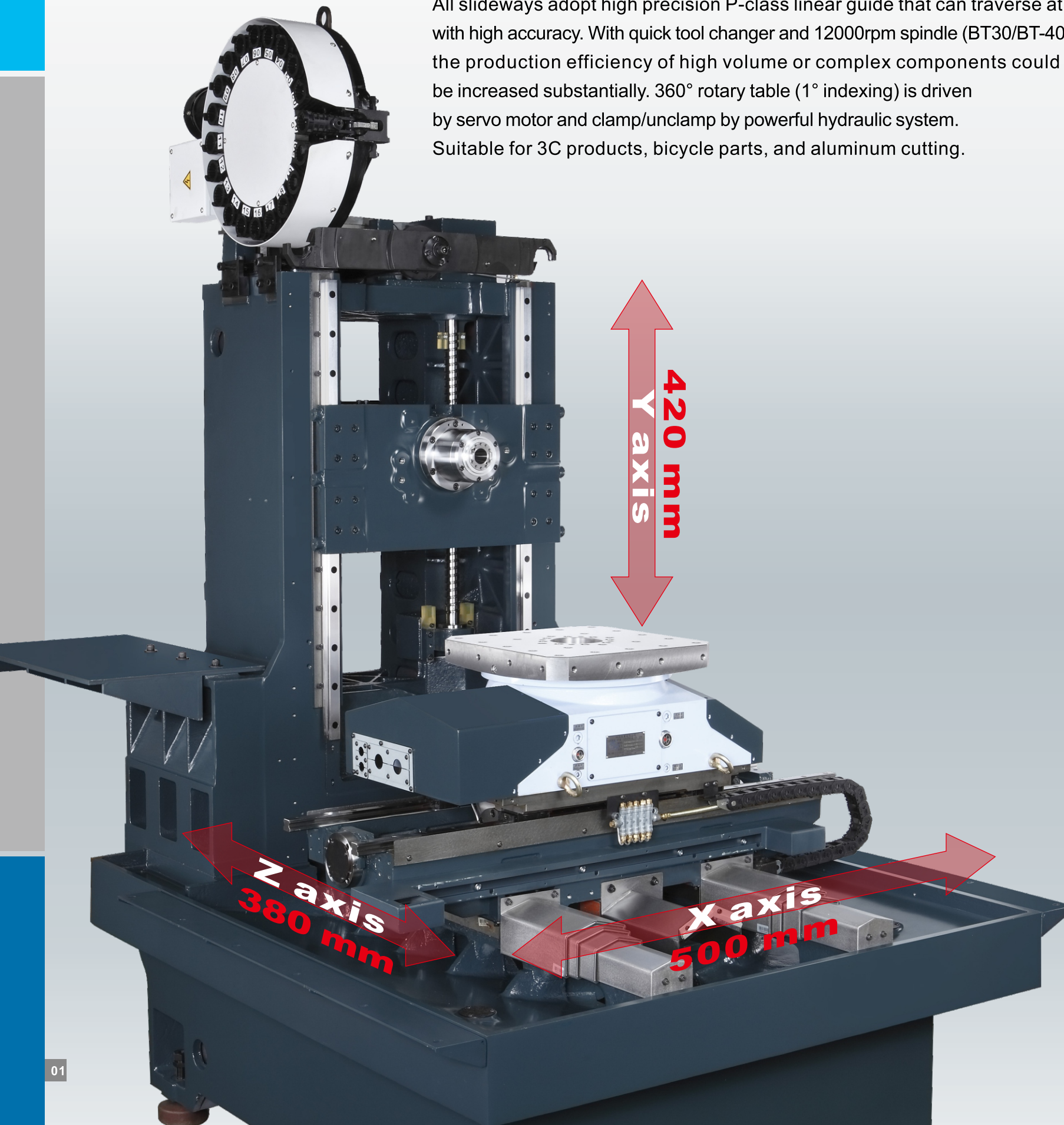
Daya-HF380-201109.2000E



CHI-FA MACHINERY MANUFACTURER CO., LTD.

HF-380

This mini HMC is quite sufficient for non-iron material, aluminum workpiece or any light cutting. All slideways adopt high precision P-class linear guide that can traverse at 48/48/48 M/min (X/Y/Z) with high accuracy. With quick tool changer and 12000rpm spindle (BT30/BT-40), the production efficiency of high volume or complex components could be increased substantially. 360° rotary table (1° indexing) is driven by servo motor and clamp/unclamp by powerful hydraulic system. Suitable for 3C products, bicycle parts, and aluminum cutting.



- All major parts are built with certified Meehanite cast irons, featuring high tensile, superior vibration absorbing capacity and long term wearing resistance.
- 3D finite element analysis is utilized in casting process to provide optimized thermal stability and best dampening ability during high speed machining.
- Each axis equipped with C3 grade Ø32mm ballscrews.
- High performance, ultra low momentum servo motor on Z axis provides best accuracy and performance during high speed machining.
- High precision linear guide way on all 3 axes.

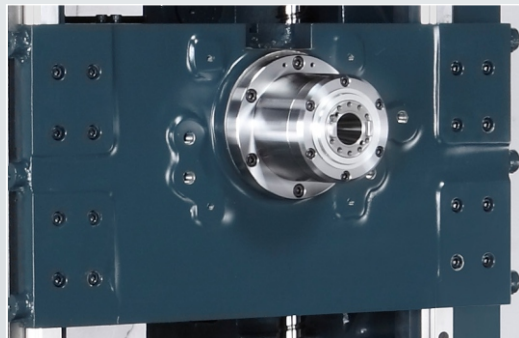
Spindle



BT-30 Direct drive spindle

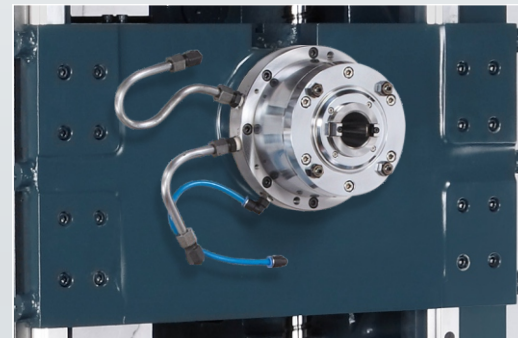
The advanced design provides high axial thrust capacity and generates minimum heat. For BT-30, we adopt motor direct-driven spindle; BT-40, built-in spindle. Both are very suitable for high-speed machining application. Without belt transmission, it dramatically reduces noise and vibration thus bring out high accurate cutting performance even working at high speeds. Surrounding spindle front are 4 coolant nozzles with wide range adjustable angle. User can adjust the nozzles according to different tool in order to fully flush down the chips and reduce the temperature right away. Standard air-blast function prevents chips and coolant liquid from entering spindle interior to ensure spindle bearing cleanliness and prolong its life.

BT-30 Spindle Motor Direct Driven



Spindle speed: 12000rpm (Mitsubishi)
15000rpm (Fanuc)
Spindle motor power: 2.2/3.7kw, (Cont./30mins)
Spindle bearing diameter: Ø 50mm

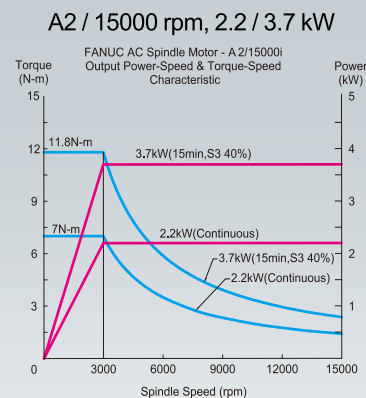
BT-40 Spindle Built-in Design



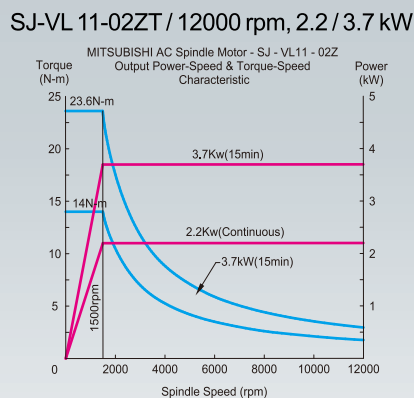
Spindle speed: 12000rpm
Spindle motor power: 18/23kw, (S1/S6-60%)
Spindle bearing diameter: Ø 70mm

SPINDLE MOTOR POWER-TORQUE DIAGRAM

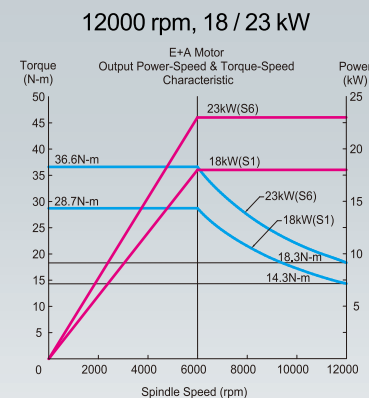
BT-30 Fanuc Spindle Motor



BT-30 Mitsubishi Spindle Motor

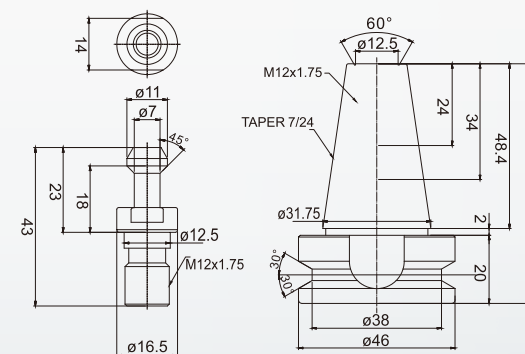


BT-40 E+A Spindle Motor



PULL STUD AND TOOL SHANK

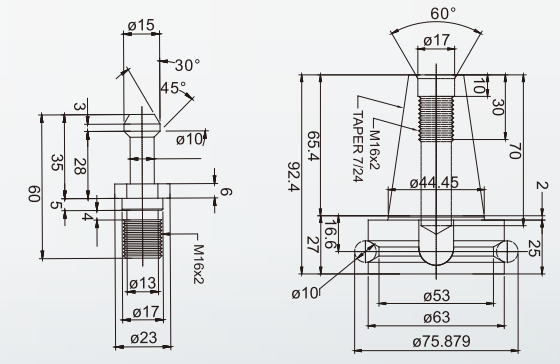
BT-30



MAS 403 P30T-1 45°

MAS BT-30

BT-40



MAS 403 P40T-1 45°

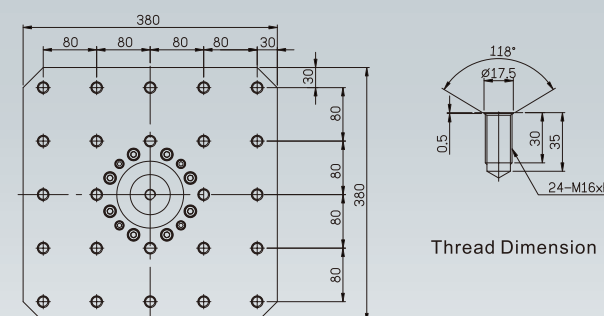
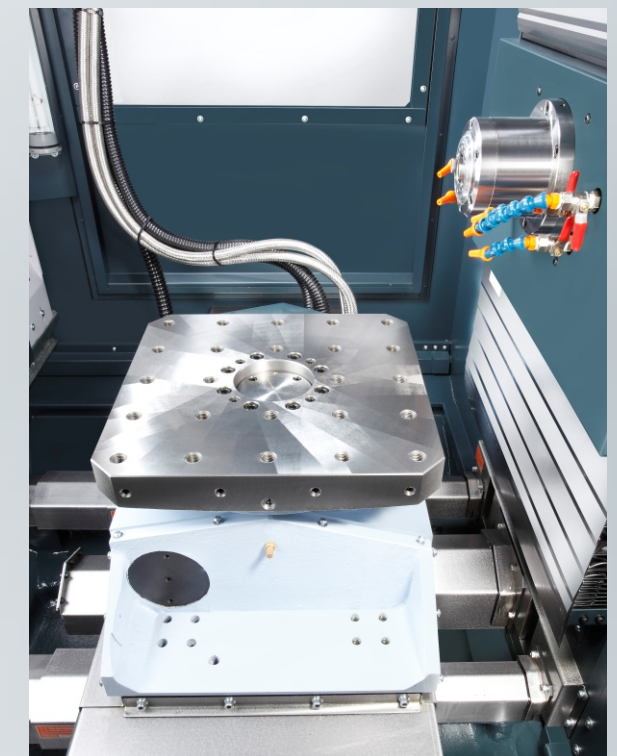
MAS BT-40

WORKING TABLE

ROTARY TABLE



HF-380 adopts powerful hydraulic clamp system for rotary table. Collaborating 360° gear, which guarantees the index accuracy and also reduces the service/maintenance time on gear gap adjustment.

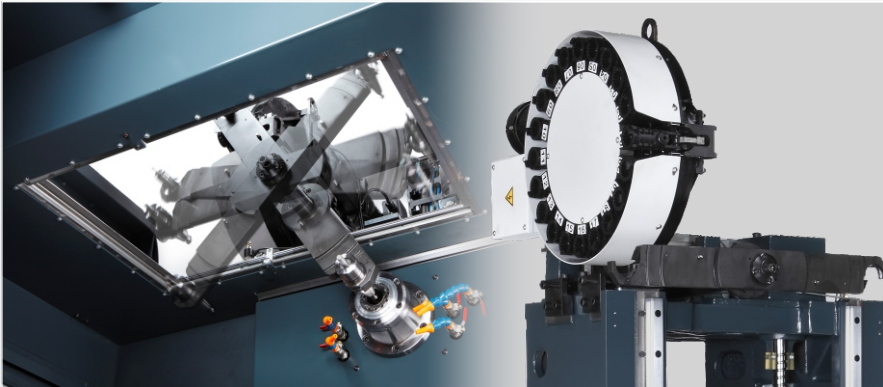


Thread Dimension

Table size: 380x380mm

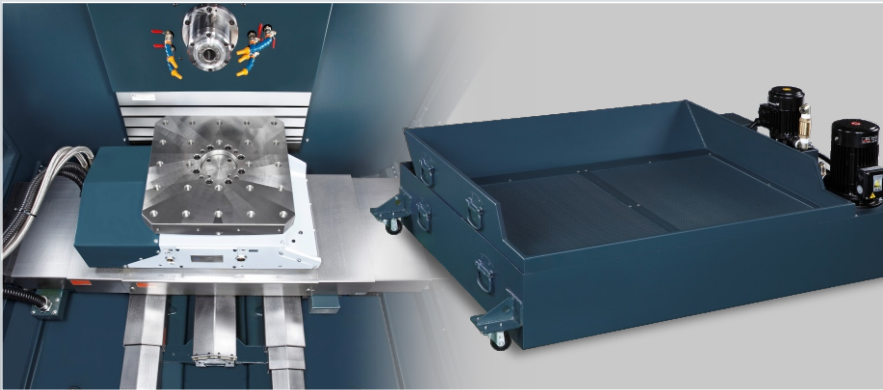
- 1.Servo motor driven with brake
- 2.Powerful hydraulic clamp system
- 3.Index by 360° gear (1° indexing)
4. Max. loading: 200kgs
5. Max. speed: 16.6rpm

HIGH SPEED AUTO TOOL CHANGER SYSTEM



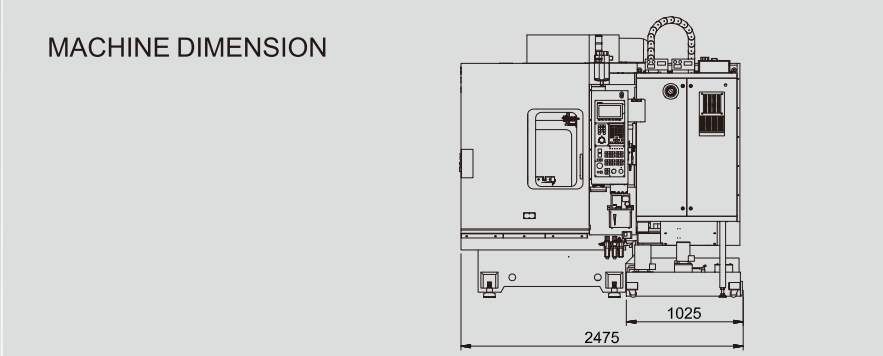
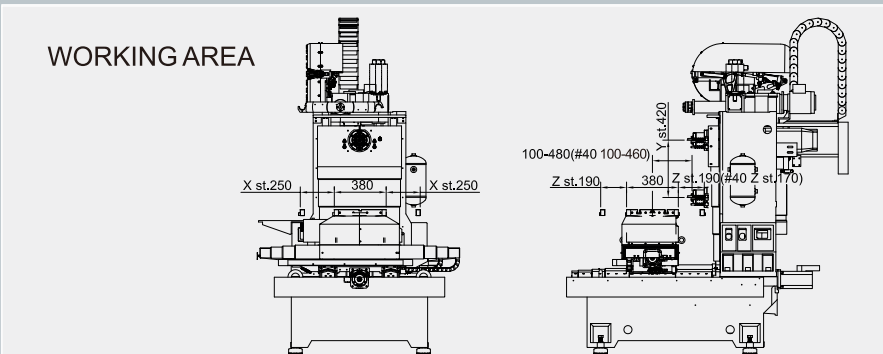
The ATC adopts double gripper exchange arm to minimize the tool to tool time. This could highly increase the production efficiency of high volume or complex components.

CHIP REMOVE SYSTEM



The large-tilted design on the base collaborating with powerful chip flush down device, all the chips can be efficiently removed to rear coolant tank right away.

MACHINE DIMENSION & WORKING AREA



HF-380 BT-30 : 20 Tools
HF-380A BT-40 : 16 Tools
24 Tools(Opt.)

SPINDLE OIL COOLER
BT-30 direct drive spindle (standard)
BT-40 built-in spindle (standard)



HF-380(Arm type ATC)SPECIFICATION

Model	Item	HF-380 (#30)	HF-380A (#40)
Travel	X axis travel	500 mm	
	Y axis travel	420 mm	
	Z axis travel	380 mm	360 mm
Spindle	Spindle nose to B axis center	100~480 mm	100~460 mm
	Spindle nose to B axis table surface	90~510 mm	
	Spindle taper	7/24 No. 30	7/24 No. 40
	Spindle Transmission & speed	Direct driven 12000 / 15000 rpm	Built-in 12000 rpm
	Spindle bearing diameter	50 mm	70 mm
	Rotary table size (LXW)	380 x 380 mm	
Table	Fasten hole (No. / size / distance)	24 / M16 / 80 mm	
	Min. index	1° (opt. 0.001°)	
	Basic bore diameter	ø60 H7	
	Servo motor	Mitsubishi (1.5 kw), Fanuc (1.2 kw)	
	Gear ratio	1:120	
	Rotary table max. speed	16.6 rpm	
	Max. load	200 kgf	
	Index accuracy	4 sec (opt. 20 sec)	
	Repeatability accuracy	± 1 sec (opt. ± 2 sec)	
	Rapid feedrate (X/Y/Z)	48 / 48 / 48 m/min	
Feedrate	Cutting feedrate	20 m/min	
	Y axis counterweight	NA	
	Ballscrew diameter & pitch	32 mm, P16	
	X / Y / Z axis guide way	Linear ways	
Accuracy	Positioning accuracy	VDI 3441 P0.014 mm (JIS B6338 ± 0.004 / 300 mm)	
	Repeatability accuracy	VDI 3441 PS0.010 mm (JIS B6338 ± 0.003 mm)	
ATC	Tool holder	BT30	BT40
	Tool number	20T (arm type)	16T (arm type)
	Tool changer	T-T 1.5 sec	T-T 2 sec
	Pull stud	MAS 403 P30T-1 (45°)	MAS 403 P40T-1 (45°)
	Max. tool diameter (w/ adjacent tool)	55 mm	76 mm
	Max. tool diameter (w/o adjacent tool)	100 mm	120 mm
	Max. tool length	200 mm	250 mm
	Max. tool weight	3 kgs	7 kgs
Motor	Spindle motor	Mitsubishi SJ-VL11-02ZT (12000 rpm) Fanuc A2i/15000i, 2.2 / 3.7 kW (Cont./15mins)	E + A mW13.5 / 15.5-4 18 / 23 kW (S1/S6-60%)
	Spindle motor X / Y / Z	XZ: Mitsubishi (1.5 kw), Fanuc (1.2 kw) Y: Mitsubishi (2 kw), Fanuc (1.8 kw)	
	Coolant pump	0.56 kw	
	Side chip flush pump	1.27 kw	
Other	Standard controller	Mitsubishi M70, Fanuc OI-MD	
	Power capacity	10 KVA	15 KVA
	Pressure capacity	5~6 kg/cm ² , 150 L/min	
	Machine dimension (WxDXH)	1500 x 2500 x 2450 mm	
	Machine weight	3500 kgs	

All specifications and designs are subject to change without notice

Standard Accessories

- Spindle oil cooler (built-in spindle)
- Coolant tank
- Full splash guard
- Working lamp
- Auto lubrication system
- Operation lamp
- Spindle blast
- Auto side chip flush device
- Coolant system
- Rigid taping
- Heat exchanger for electrical cabinet
- Tool box with adjusting tools
- Air gun
- Water gun
- Leveling bolts & pads
- Mechanical manual, part list, operation manual
- ELC manual, inspection report, controller operation/ maintenance manual
- Safety switch

Optional Accessories

- BT-30 pull stud
- Auto tool length measuring system
- Oil skimmer
- Transformer
- Water-level sensor in coolant tank
- Portable MPG
- Spindle oil cooler (direct drive spindle)