

CNC Precision Lathe

XY-120

CNC PRECISION LATHE XY-120

TAKAMAZ

Perfect turning operation with Y-axis control

We have gone beyond turning machines to bring you complete operation from blanks to finished parts on a single multi-functional lathe, the "XY-120".

The "Y-axis" for vertical turret travel is the embodiment of our engineer's unique idea, which gives boundless possibilities.

With exceptional ease of operation that allows the operator to manage it as desired, XY-120 will be the standard machine for the next generation.

CNC Precision Lathe

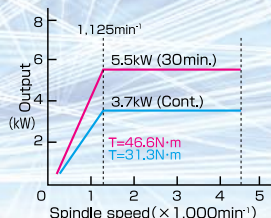
XY-120



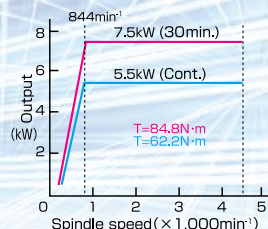
Spindle Types Available

[Spindle motor output characteristics diagram]

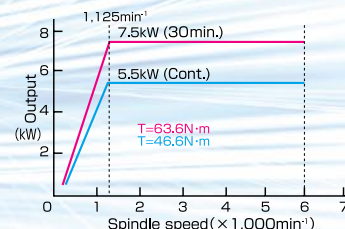
A AC 5.5/3.7kW
Max. 4,500min⁻¹



B AC 7.5/5.5kW
Max. 4,500min⁻¹



C AC 7.5/5.5kW
Max. 6,000min⁻¹



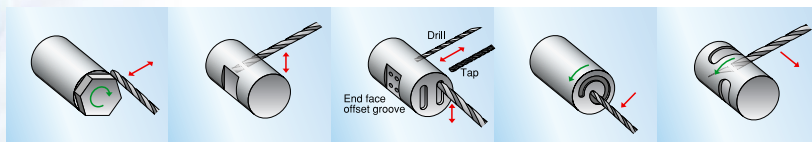
Diverse milling capabilities enable efficient milling/turning operations

The 12-station turret assures high-speed indexing, within 0.2sec., which shortens air-cutting time. Square guideways are used for the X- and Z-axis slideways for a rigid design. The optional turret head dedicated to VDI tools is available for even quicker tool changes.

Power tools can be mounted on any station of the turret. The 3.7 kW AC motor, with its wide constant-output range, enables powerful milling/drilling in a short cycle time. High-accuracy tapping is also possible with the rigid tap function.

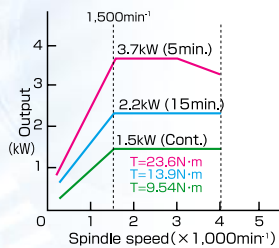
Diverse milling capabilities with a Y-axis function

The Y-axis function enables you to perform side milling or offset grooving with a single chucking operation. Precise positioning accuracy meets the severe requirements for quality products.



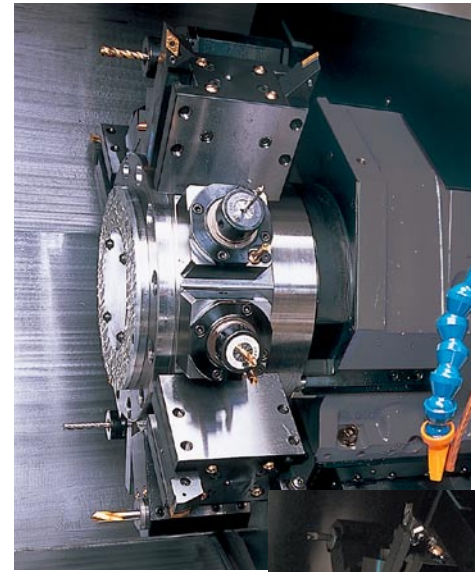
1. Face milling at end face
2. Side milling at cylindrical portion
3. Side/Face milling/Tapping for offset holes or tapped holes
4. Scroll grooving
5. Cam grooving

[Power tools motor output characteristics diagram] AC3.7/2.2/1.5kW (Max.4,000min⁻¹)

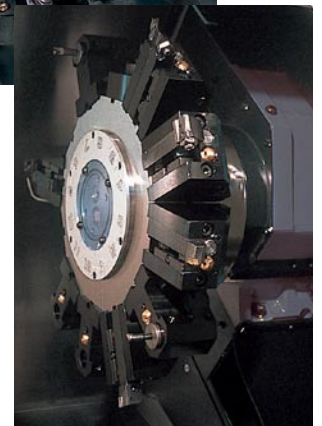


[Major specifications]

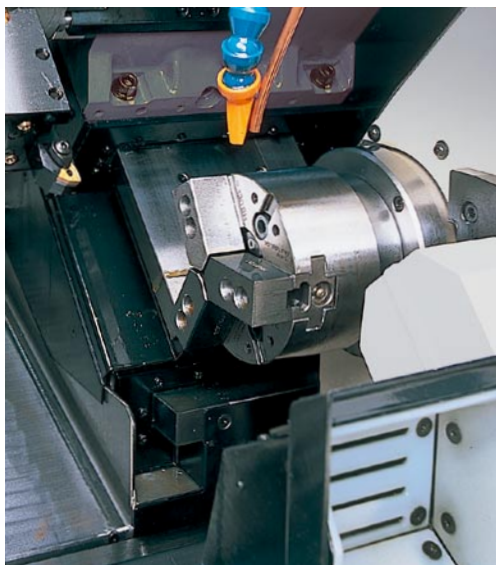
Tool storage capacity	pcs.	12
Max. rotating speed	min ⁻¹	Max. 4,000
Motor	kW	AC3.7/2.2/1.5
Capacity	Drill	mm Max. φ13
	Endmill	mm Max. φ13
	Tap	mm Max. M8



■VDI turret
Single-touch tool change for speedy setup (Option)



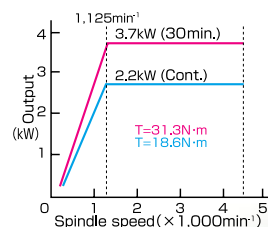
Complete turning from blank to finish when equipped with sub-spindle (Option)



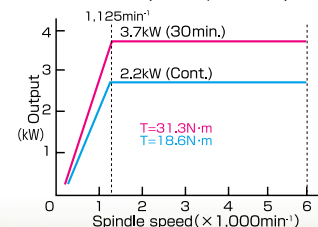
A collet chuck or 5-inch chuck can be mounted. Back-face turning/milling in a short time is assured thanks to the 3.7 kW AC motor with a wide constant-output range. Back-face milling with a Cs-axis orientation is also possible.

[Sub-spindle motor output characteristics diagram]

AC3.7/2.2kW (Max. 4,500min⁻¹)



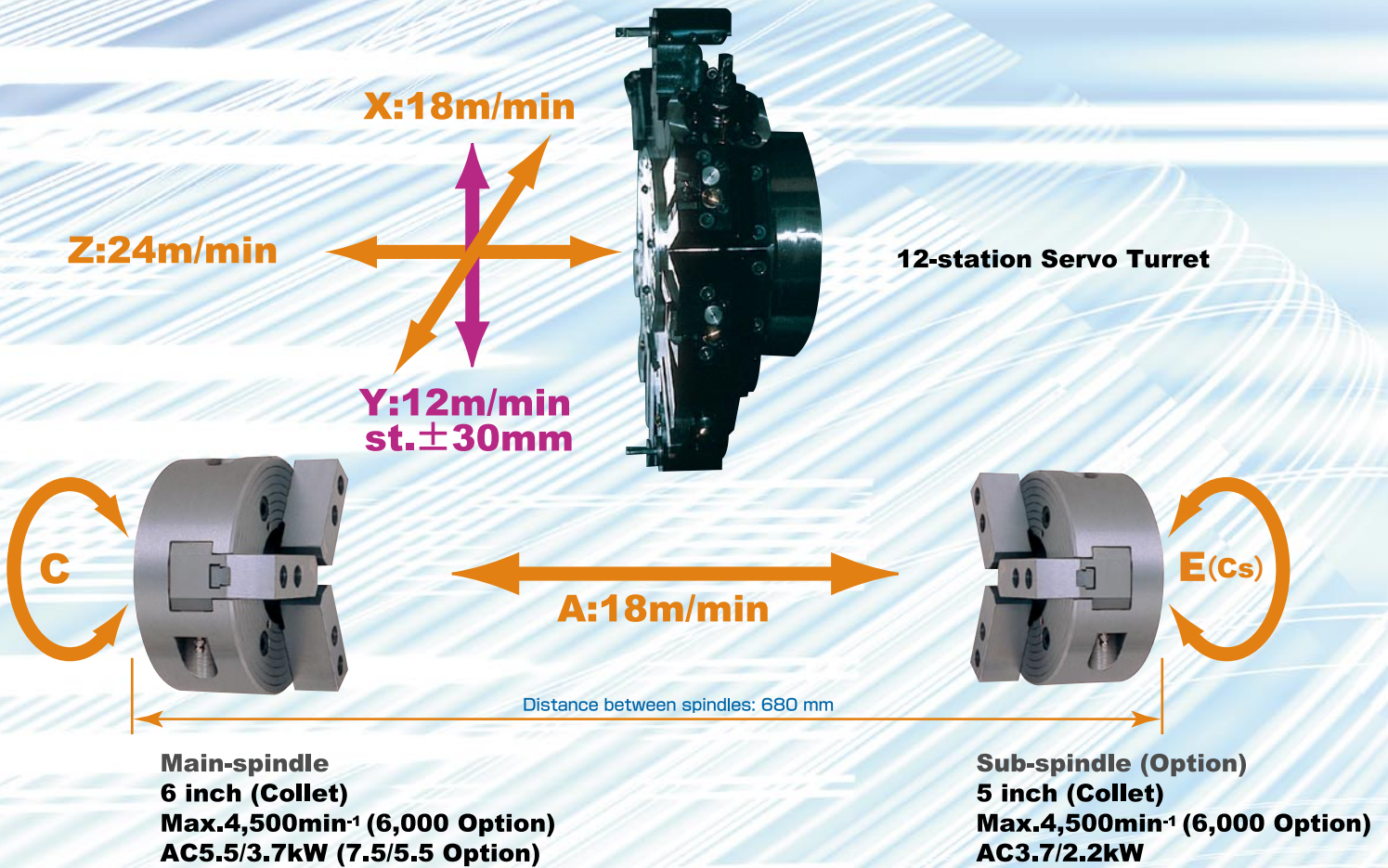
AC3.7/2.2kW (Max. 6,000min⁻¹)



[Major specifications]

Chuck size	inch	5
Max. bar diameter	mm	φ20
Spindle speed	min ⁻¹	Max.4,500·Max.6,000
Spindle motor	kW	AC3.7/2.2
Max. stroke	mm	380
Rapid traverse rate	m/min	18
Synchronization		Complete

Increased speed with the shortest air-cutting time



FANUC Manual Guide i for exceptional operability (Option)

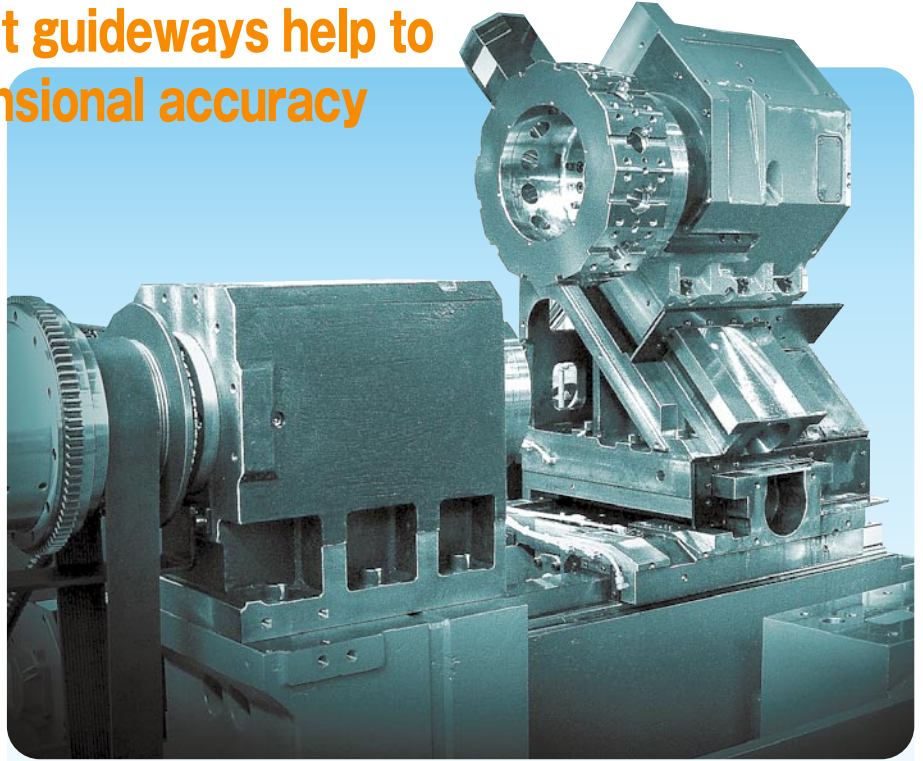
- ◆ All operations from programming to the simulation check to actual turning can be performed on a single screen.
- ◆ In addition to useful editing functions, such as copy, cut, and paste, a variety of programming support functions are available: the M-code menu, the program format menu, guidance messages, and so on.
- ◆ Cycle operations (milling, turning, slant-facing, etc.) can be programmed with ease and reviewed through simulation.
- ◆ Setup support functions such as tool measurement, work zero point measurement and in-machine workpiece measurement, are available as required.



※The above figure is only an example.

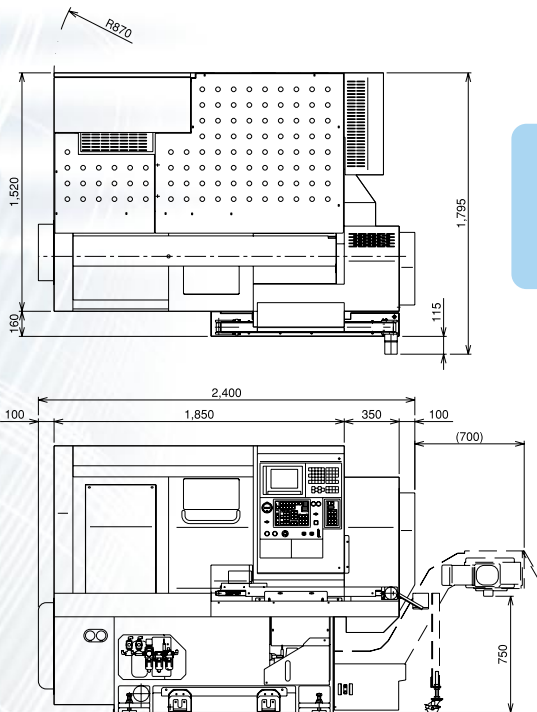
Unique square slant guideways help to maintain high dimensional accuracy

Takamatsu's unique square slideways are combined with a rigid box-shaped bed for durability and positioning accuracy that will last over years of service. The 45-degree slant structure assures smooth chip removal, ridding you of the trouble that accumulated chips cause.



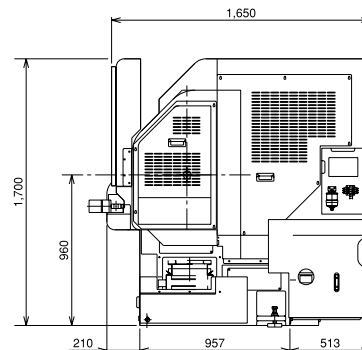
Oil mist collector

Oil mist collection facilitates a clean production environment.



XY-120

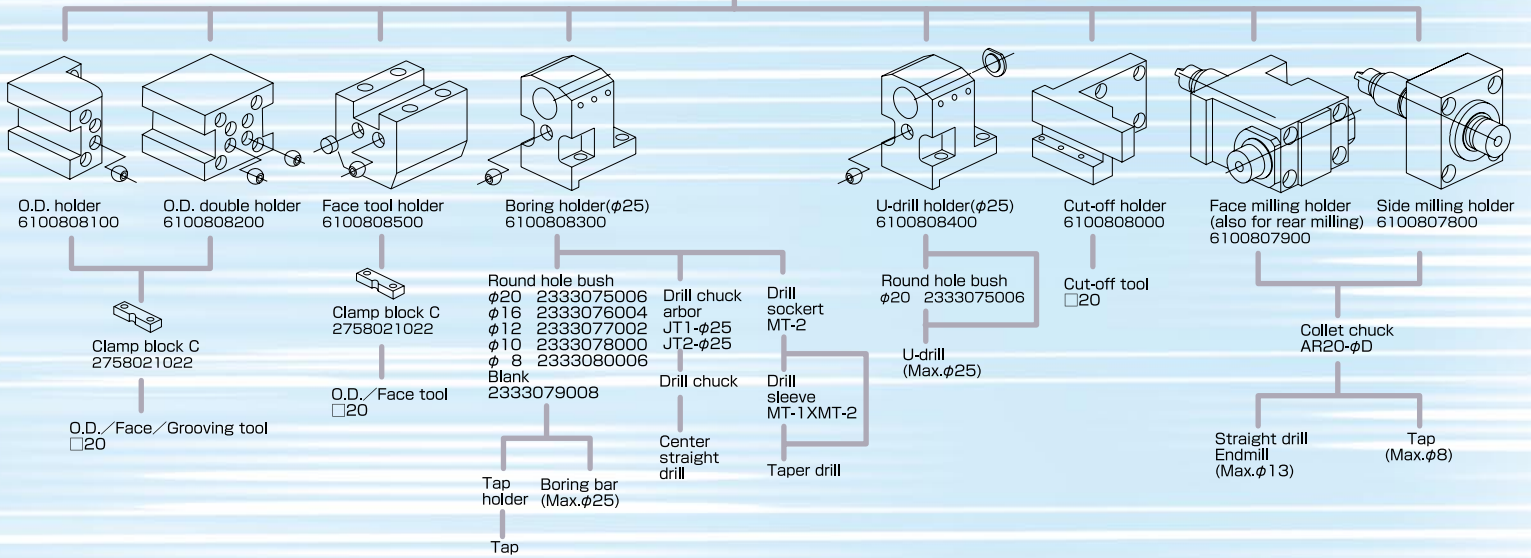
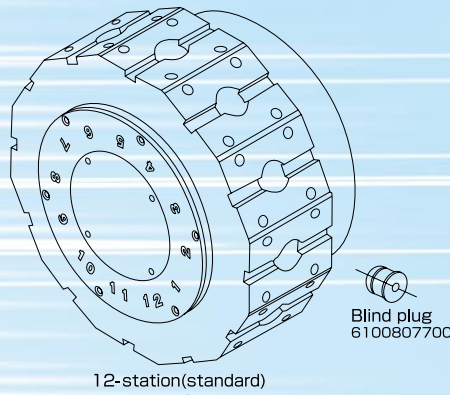
Required Floor Space



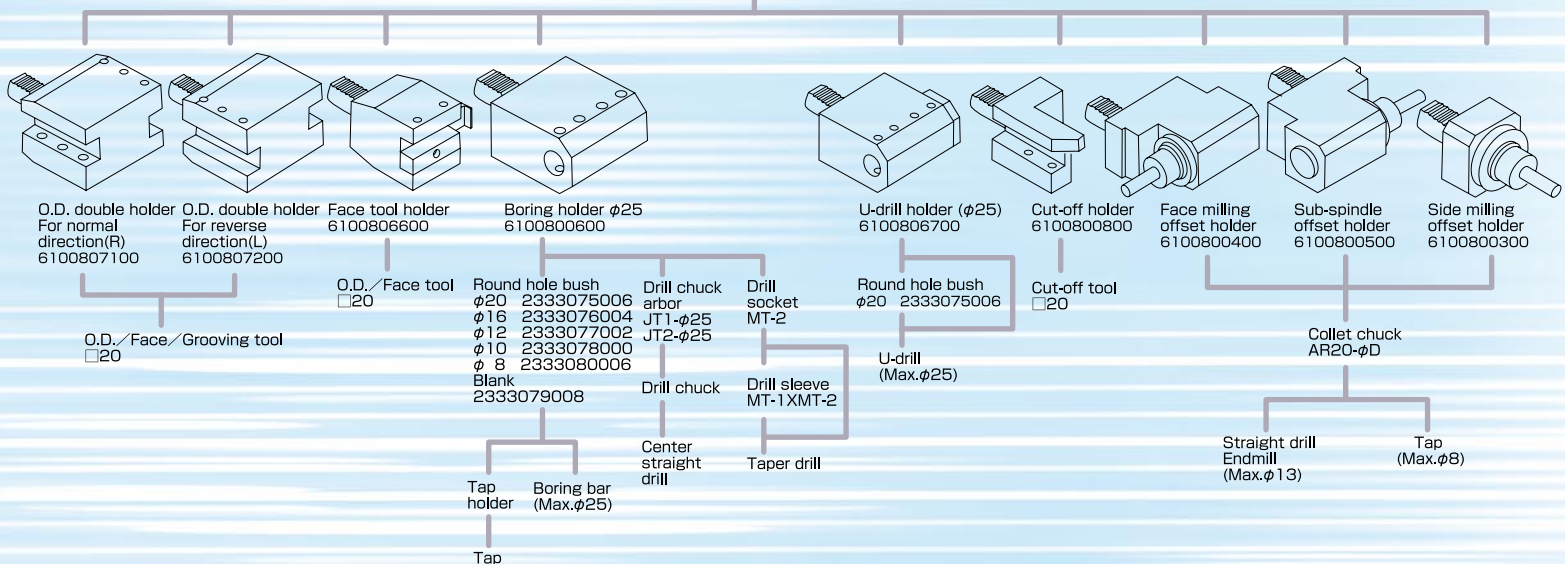
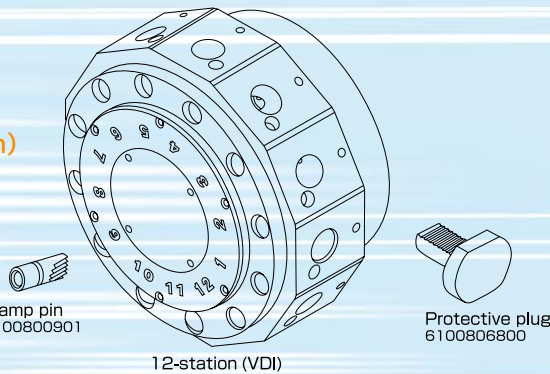
(mm)

XY-120

Tooling System [Standard]

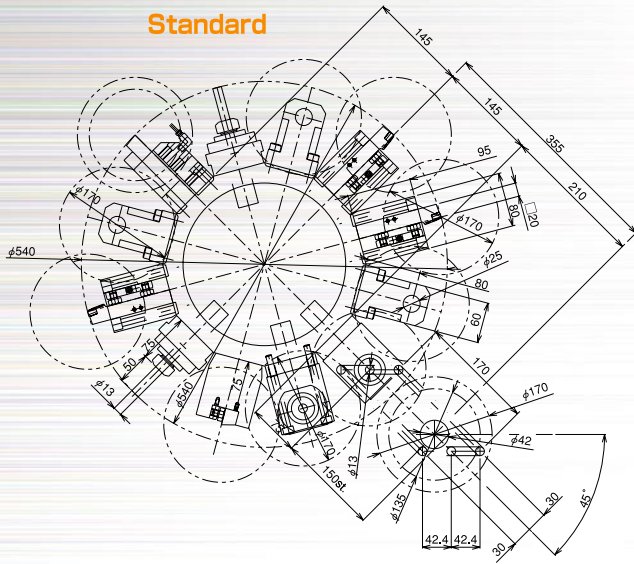


Tooling System [VDI] (Option)

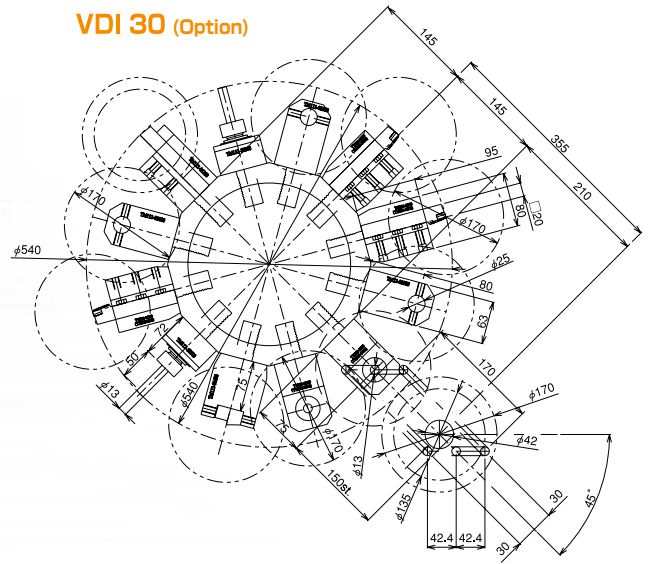


Turret Interference Drawing

Standard



VDI 30 (Option)

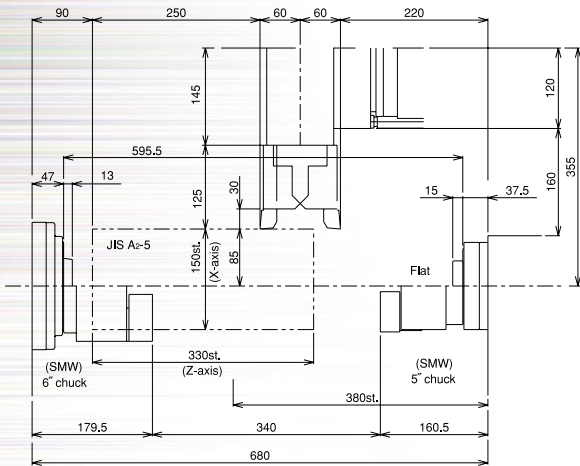


(mm)

Stroke-Related Drawing

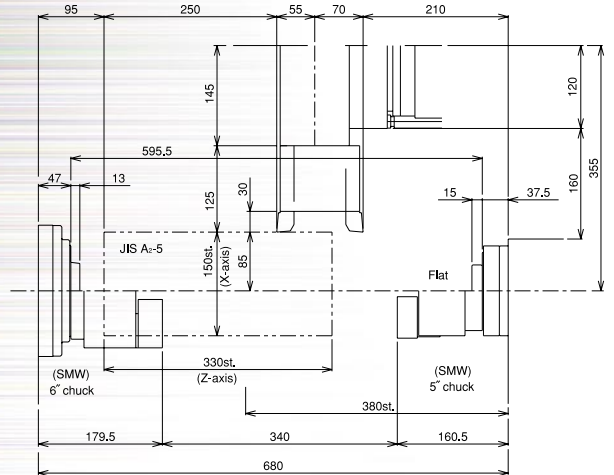
Standard

O.D. turning range (Standard)

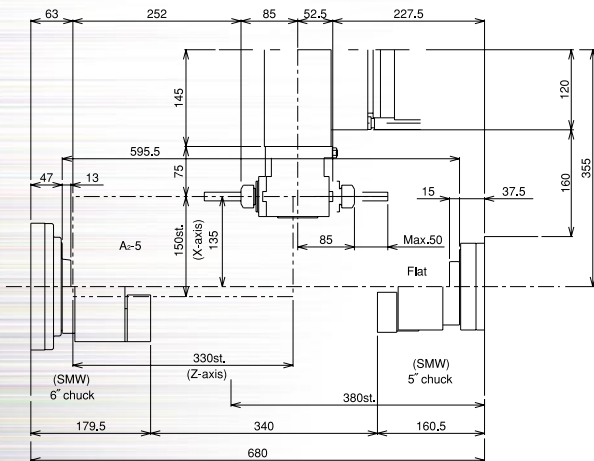


VDI 30

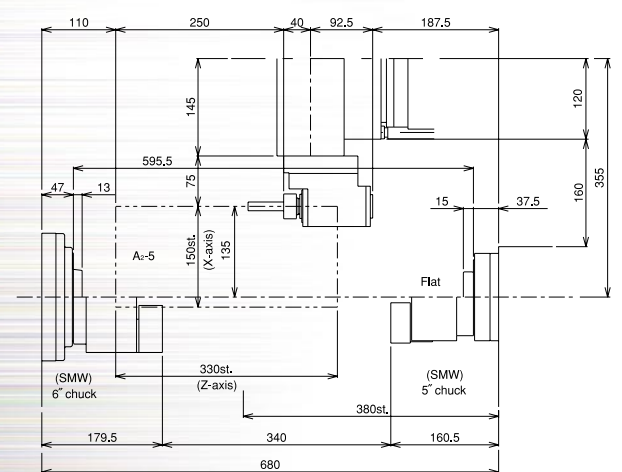
O.D. turning range (VDI)



Face/Back-face milling range (Standard)



Face milling range (VDI)



(mm)

(mm)

Machine Specifications

Item		Unit	Main-spindle	(Sub-spindle)
Capacity	Max. turning diameter	mm	φ170	
	Max. turning length	mm	330	
	Max. bar diameter	mm	φ35	(φ42) (φ20)
Spindle	Chuck size	inch	Collet/6 Collet/5	
	Spindle nose	JIS	Aε-5 Flat type	
	Spindle bearing I.D.	mm	φ75	(φ85) φ65
	Spindle indexing		C Cs	
Tool post	Spindle speed	min ⁻¹	Max.4,500(6,000)	(Max.4,500) Max.4,500(6,000)
	Type		12-station (VDI: 30)	
Motors	Tool shank	mm	□20 (VDI: 30)	
	Boring holder I.D.	mm	φ25 (VDI: 30)	
	Max. stroke	mm	X: 150 Z: 330 Y: ±30 A: 380	
	Rapid traverse rate	m/min	X: 18 Z: 24 Y: 12 A: 18	
Power tools	Spindle motor	kW	AC5.5/3.7 (7.5/5.5)	AC3.7/2.2
	Feed motor	kW	X: AC1.6 Z: AC3.0 Y: AC1.0 A: AC1.0	
	Hydraulic motor	kW	AC1.5	
C-axis	Tool storage capacity	pcs.	12 each	
	Spindle speed	min ⁻¹	Max. 4,000	
	Power tools motor	kW	AC3.7/2.2/1.5	
	Size	Drill	mm	φ13
Endmill		mm	φ13	
Tap		mm	M8	
Rapid traverse rate	min ⁻¹	50	60	
	C-axis motor	kW	0.5	Cs
Machine weight	Spindle center height	mm	960	
	L × W × H	mm	2,400 × 1,650 × 1,700	
	Machine weight	kg	3,500	
Total electric capacity	KVA	27		

() : Option

Standard Accessories

- O.D. holder 2sets Power tools drive unit 1set
 Boring holder 2sets Coolant unit (130 lit.) 1set
 Cut-off holder 1set Splash guard 1set
 Collet flange (Main, Sub) 1set ea. Service tool kit 1set
 Spindle C-axis orientation 1set TAKAMAZ Instruction manual ... 1set
 Chucking selector switch 1set
 (Screen setting)

Optional Accessories

- Sub-spindle Signal light
 Sub-spindle Cs-axis orientation (1-color/2-color/3-color)
 Power tools (Face/Side milling) Chip conveyor (Right/Rear)
 VDI30 12-station turret (Floor type/Spiral type)
 Spindle φ42-mm through Bar feeder system
 (7.5/5.5kW motor) Parts catcher
 Stroke adjusting cylinder Out conveyor
 Hydraulic chuck (Main: 6 Sub: 5) Automatic power shut-off device
 Collet chucks Automatic fire extinguisher
 Special spindle speed (6,000min⁻¹) Work set detector
 Sub-spindle parts ejector Cut-off check device
 Air blow unit Special color
 Rear coolant unit Others*

*For more information on attachments, consult our sales representative.

Item	TAKAMAZ & FANUC
Controlled axes	6 axes (X, Z, C, Y, A, E)
Simultaneously controllable axes	Simultaneous 4 axes
Least input increment	0.001mm (X in diameter)
Least command increment	X:0.0005mm Z:0.001mm
Auxiliary function	M-code 3 digit
Spindle function	S-code 4 digit
Tool function	T-code 4 digit
Tape code	EIA(RS232C)/ISO(840) automatic recognition
Cutting feedrate	1~5,000mm/min
Command system	Incremental/Absolute
Linear interpolation	G01
Circular interpolation	G02, G03
Cutting feedrate override	0~150%
Rapid traverse override	F0, 100%
Program number	4 digits
Backlash compensation	0~9999μm
Part program storage length	40m
Tool offsets	16 sets
Registered programs	63 pcs.
Tool geometry/Wear offset	Standard
Canned cycle	G90, G92, G94
Radius designation on arc	Standard
Tool offset measurement input	Standard
Background editing	Standard
Custom macro	Standard
Nose R compensation	G40, G41, G42
Programmable data input	G10
Multiple repetitive cycle	G70~G76
Canned drilling cycle	Standard
Spindle synchronous control	Standard
Sub-spindle torque skip	Standard
Y-axis offset	Standard
Chamfering/Corner R	Standard
Rigid tapping	For power tool only
Spindle orientation	Standard
Constant surface speed control	G96, G97
Clock function	Standard
Help function	Standard
Alarm history display	25 pcs.
Self-diagnosis function	Standard
Sub-program call	Up to 4 loops
Decimal point input	Standard
2nd reference point return	G30
Polar coordinate interpolation	For main spindle only
Cylindrical interpolation	Standard
Stored stroke check 1	Standard
Stored stroke check 2, 3	Standard
Input/Output interface	RS232C, Memory card
Alarm message	Standard
Abnormal load detection	Standard
Option functions	Work/Tool counter, Tool load monitor, other

Optional Controller Specifications

Additional part program storage length	80m · 160m
Additional tool offset memory	32 sets · 64 sets
Tool life management	
Additional registered programs	125 pcs.
Direct drawing dimension programming	
Inch/Metric conversion	G20/G21
Run hour/Parts count display	
Extended part program editing	
Multiple repetitive cycle II	Pocket-shaped
Multiple M codes in one block	Max. 3
Continuous thread cutting	G32
Variable lead thread cutting	G34
Work coordinate system setting	G50, G54~G59
Conversational programming with graphic function	
Helical interpolation	
Manual guide i	

● Distributed by:

TAKAMAZ

TAKAMATSU MACHINERY CO.,LTD.

■ HEAD OFFICE & PLANT
 1-8 ASAHIGAOKA HAKUSAN-CITY ISHIKAWA JAPAN, 924-8558 TEL +81-(0)76-274-1403 FAX +81-(0)76-274-8530
 ■ EUROPE OFFICE
 INDUSTRIEGEBIET, DIEPENBROICH 27 D-51491 OVERATH, GERMANY
 TEL +49-(0)2206-866-150 FAX +49-(0)2206-865-123

TAKAMAZ TRADING (HANG ZHOU) CO.,LTD.

120 SHINXIN NORTH ROAD, XIAOSHAN ECONOMY AND TECHNOLOGY DEVELOPMENT AREA, HANGZHOU, ZHEJIANG PROVINCE, CHINA TEL +86-(0)571-8287-9709 FAX +86-(0)571-8286-5311

TAKAMATSU MACHINERY USA INC.

■ CHICAGO HEAD OFFICE
 1320 LANDMEIER ROAD ELK GROVE VILLAGE, IL 60007 USA TEL +1-(0)847-981-8577 FAX +1-(0)847-981-8599
 ■ CINCINNATI OFFICE
 5233 MÜHLHAUSER ROAD, WEST CHESTER TOWNSHIP, OH 45011 USA TEL +1-(0)513-870-9777 FAX +1-(0)513-870-0325

TAKAMATSU MACHINERY (THAILAND) CO.,LTD.

■ THAILAND HEAD OFFICE
 888/17 MOO 19, BANGPLEE-DAMRU ROAD., BANGPLEEYAI, BANGPLEE, SAMUTPRAKARN 10540
 TEL +66-(0)2-382-5372 FAX +66-(0)2-382-5373

TAKAMAZ MACHINERY EUROPE GmbH

■ EUROPEAN HEAD OFFICE
 INDUSTRIEGEBIET, DIEPENBROICH 27 D-51491 OVERATH, GERMANY
 TEL +49-(0)2206-919-3960 FAX +49-(0)2206-865-123

http://www.takamaz.co.jp/



This brochure is made from 100% recycled paper.