

CNC Precision Lathe

X-200

CNC PRECISION LATHE X-200

ISO 9001
ISO 14001



JQA-1989
JQA-EM1138



TAKAMAZ

A 10-inch Model that Delivers

We have taken a new stride toward a perfect machine based on our skills and the varied feedback from customers over the past 50 years

"Customer-oriented design" is the key concept we have acquired from the customers' need for strict quality standards in EU countries.

The "X-200" CNC precision lathe equipped with a 15-kW spindle motor and 10-inch chuck can handle even multi-functional, heavy-duty turning operations.

CNC Precision Lathe

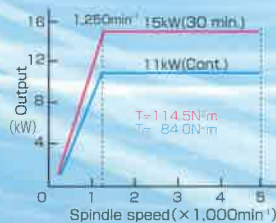
X-200



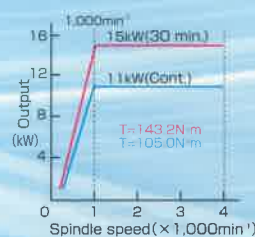
Spindle Types Available

[Spindle output characteristics diagram]

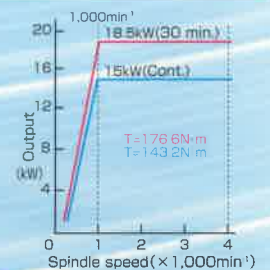
A $\phi 51$ -mm hole through spindle
AC 15/11kW
Max. 5,000min⁻¹



B $\phi 65$ -mm hole through spindle
AC 15/11kW
(Opt.) Max. 4,000min⁻¹



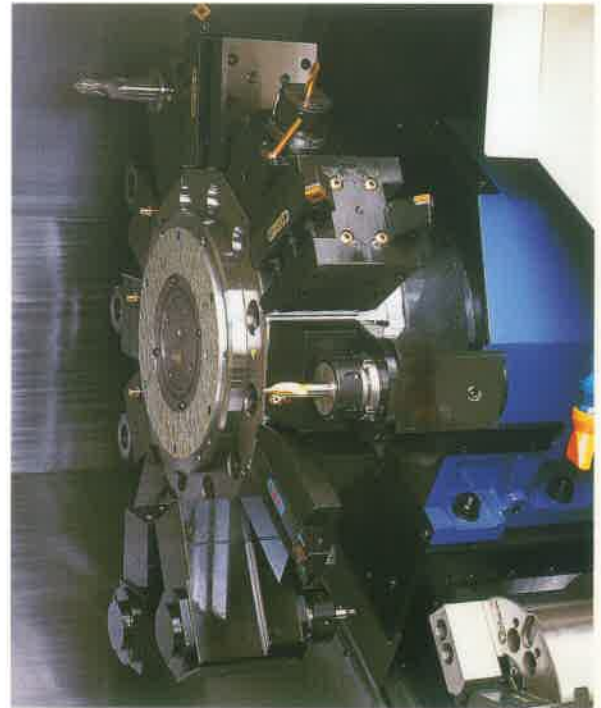
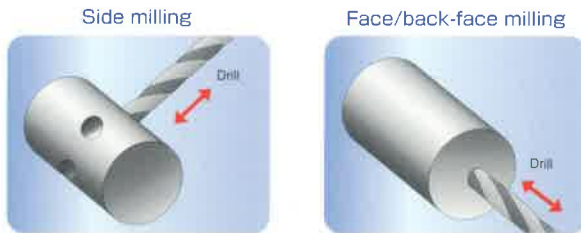
C $\phi 65$ -mm hole through spindle
AC 18.5/15kW
(Opt.) Max. 4,000min⁻¹



High-rigidity 12-station servo turret for heavy-duty turning and milling

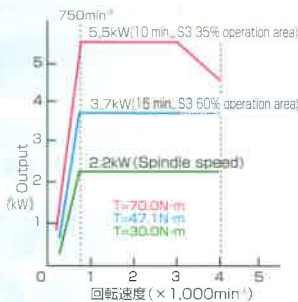
The 12-station turret assures high-speed indexing, within 0.2 sec., which shortens air-cutting time. Square guideways are used for the X- and Z-axis slideways for a rigid design. The optional turret head dedicated to VDI tools is available for even quicker tool changes.

Power tools can be mounted on any station of the turret. The 5.5-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.



[Power tool output characteristics diagram]

AC5.5/3.7/2.2kW (Max.4,000min⁻¹)



[Major specifications]

Tool storage capacity	pcs	12	
Max. rotating speed	min ⁻¹	Max. 4,000	
Motor	kW	AC 5.5/3.7/2.2	
Capacity	Drill	mm	Max. ϕ 20
	Endmill	mm	Max. ϕ 20
	Tap	mm	M4~M12

VDI turret

Single-touch tool change for speedy setup (Opt.)

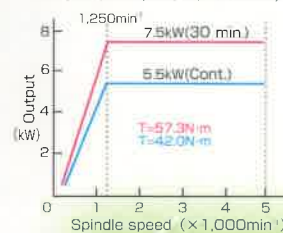
Complete turning from blank to finish when equipped with sub-spindle (Opt.)



A collet chuck or 6-inch chuck can be mounted. Back-face turning/milling in a short time is assured thanks to the 7.5-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]

AC7.5/5.5kW (Max.5,000min⁻¹)



[Major specifications]

Chuck size	inch	6
Max. bar dia.	mm	ϕ 26
Spindle speed	min ⁻¹	Max. 5,000
Spindle motor	kW	AC 7.5/5.5
Max. stroke	mm	515
Rapid traverse rate	m/min	30
Synchronization		Complete

Increased speed with the shortest air-cutting time



FANUC Manual Guide "i" for exceptional operability (Opt.)

- ◆ 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.

Gantry Loader "SIGMA 200" with 5-kg Capacity

The "SIGMA 200" is a gantry loader that can be tailored flexibly to suit your transfer application; working in a single cell or between linked multiple machines. The 3-jaw double chuck with secure clamping has a workpiece carrying capacity of 5-kg in each chuck. Our "know-how" for automatic loading/unloading systems enables us to cope with the needs of customers who machine a large variety of heavy workpieces in variable quantities.



SIGMA200 [Major specifications]

Controllable axes	2axesX1 set
Max. transfer diameter	mm $\phi 80$
Max. transfer length	mm 70
Max. transfer weight (one side)	kg 5.0
Finger stroke (one side)	mm 16

■ Loader hand
Equipped with a 3-jaw double chuck that assures secure clamping



Station stoker

You can choose from a number of variations according to the workpiece shape or production style.

Tool presetter (Opt.)



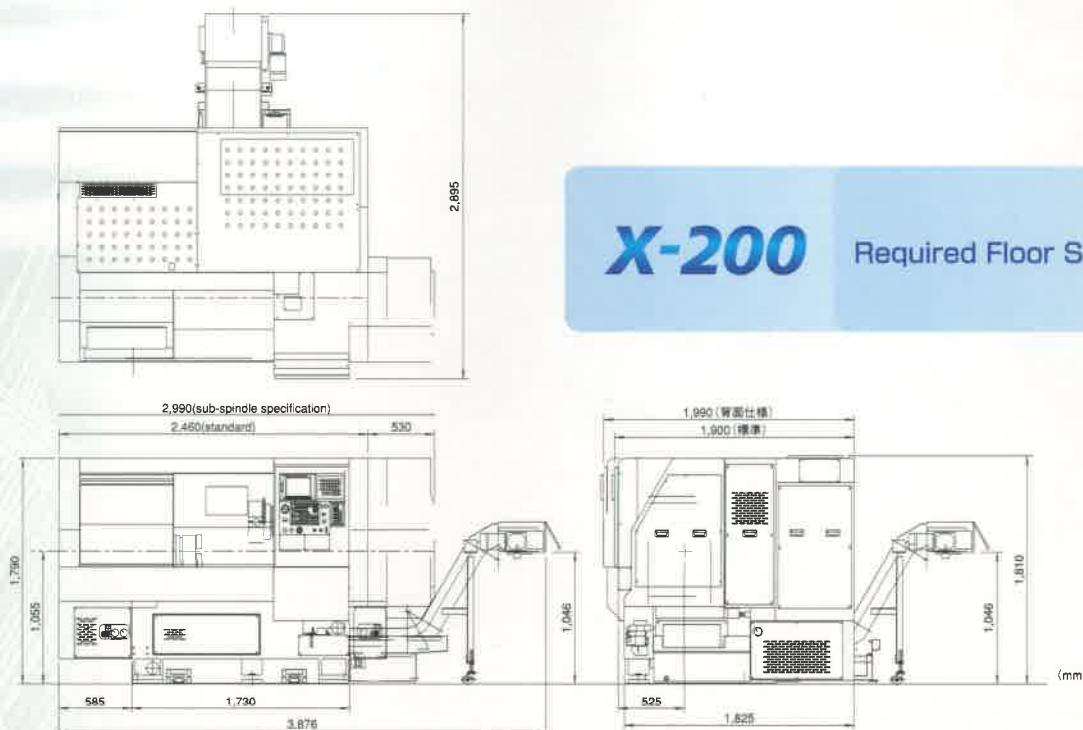
The tool presetter helps you to shorten the setup time.

Energy-saving hydraulic pump "Ecorich" (Opt.)



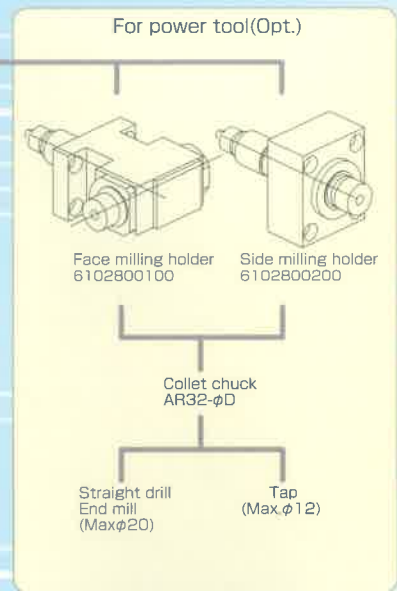
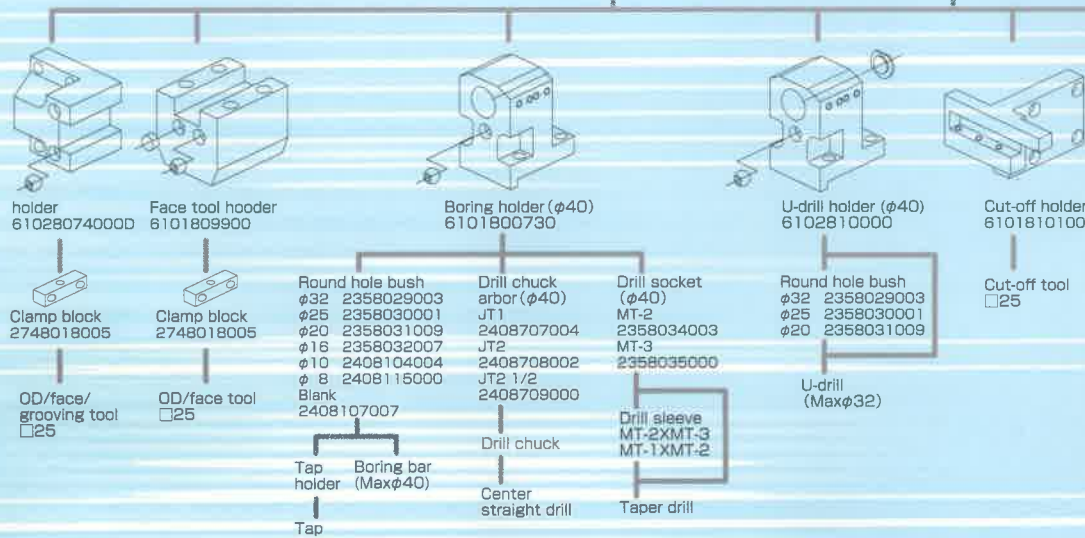
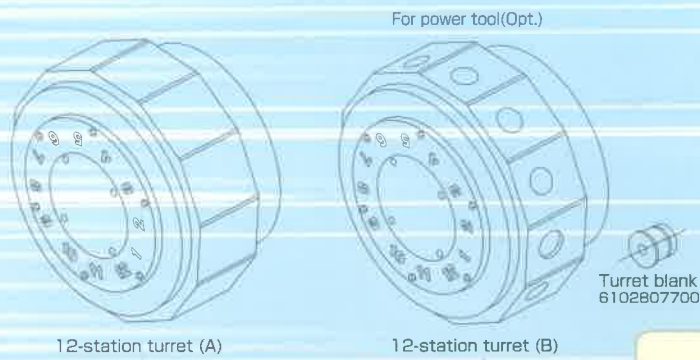
Separate type

Slowing down the motor's rotational speed while the pressure remains constant enables energy savings as well as cost reductions.

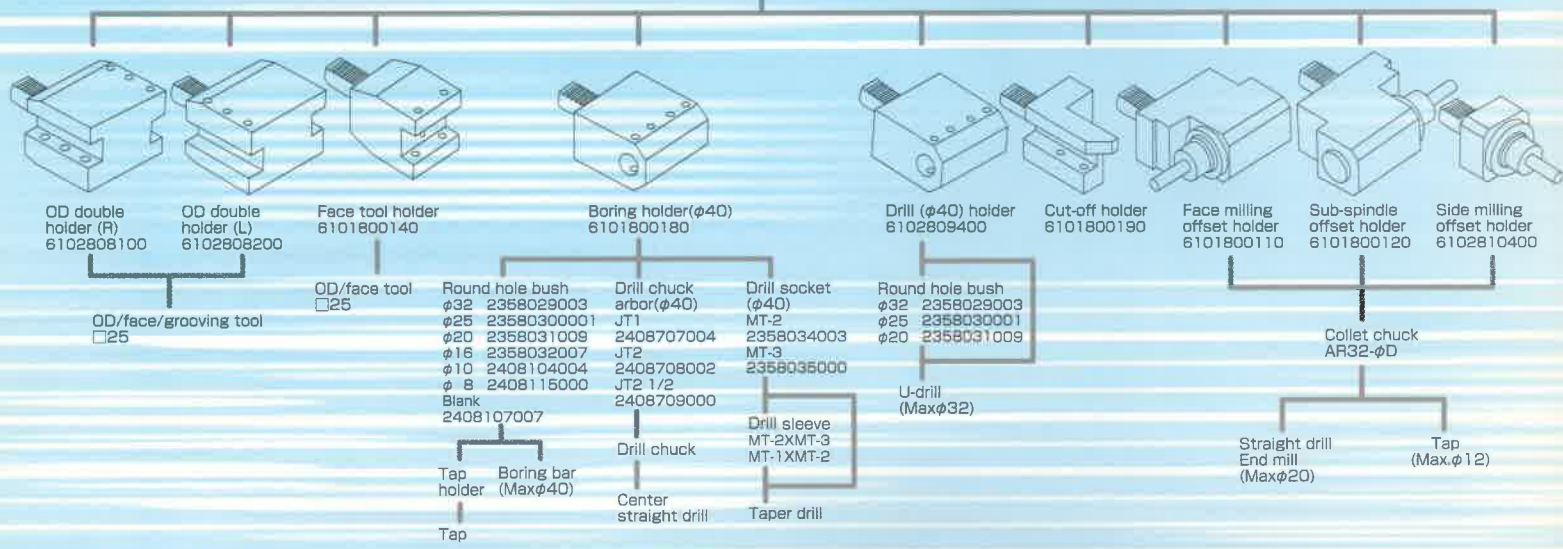
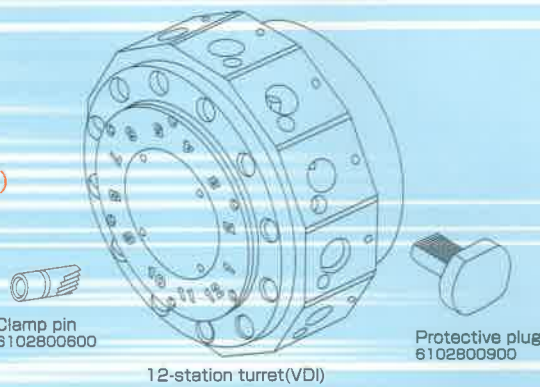


X-200

Tooling System [Standard]

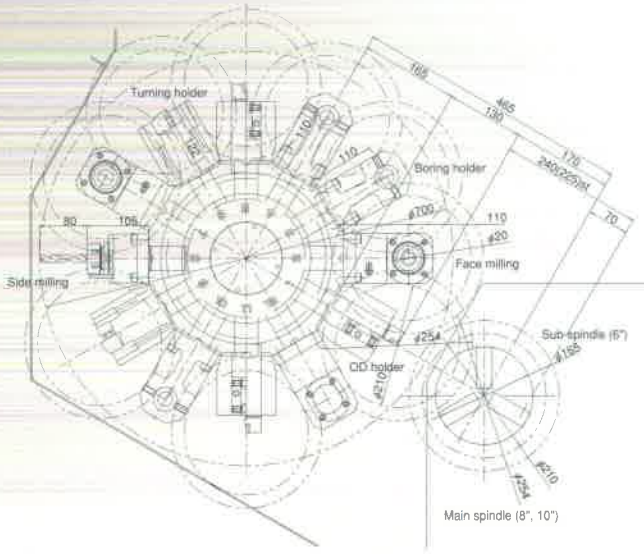


Tooling System [VDI] (Opt.)

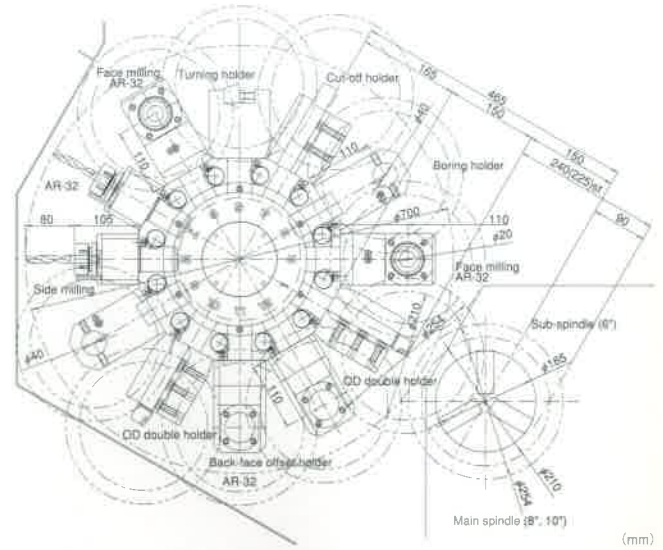


Turret Interference Diagram

Standard turret



VDI 40 turret (Opt.)

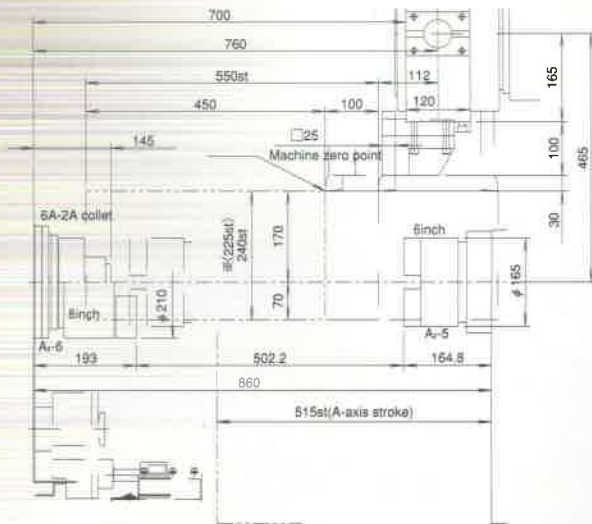


※When the sub-spindle is equipped, the X-axis stroke is shortened to 225 mm from the machine zero point.

Stroke Diagram

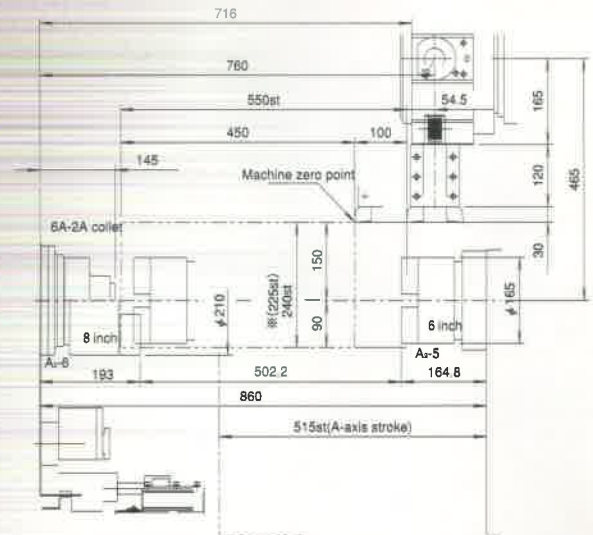
Standard turret

φ100-mm spindle with A₂-6 sub-spindle OD holder

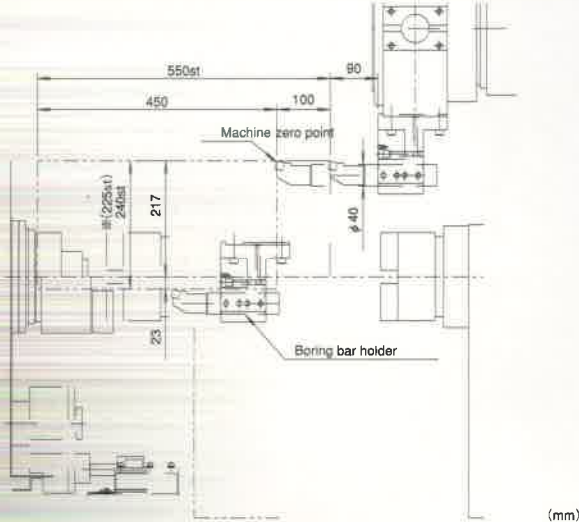


VDI 40 turret

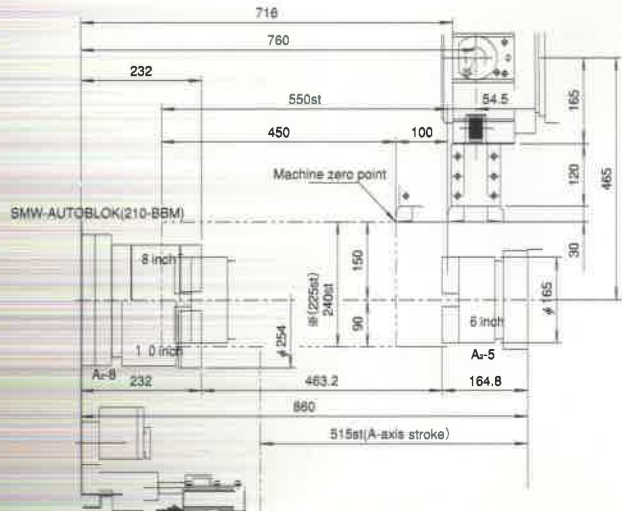
φ100-mm spindle with A₂-6 sub-spindle OD double holder



φ100-mm spindle with A₂-6 sub-spindle Boring bar



φ120-mm spindle with A₂-8 sub-spindle OD double holder



※When the sub-spindle is equipped, the X-axis stroke is shortened to 225 mm from the machine zero point.

Machine Specifications

Item	Unit	Main Spindle	(Sub-spindle)		
Capacity	Optimum turning dia.	mm	φ 340	φ 300	
	Max. turning length	mm	510	360	
	Max. bar dia.	mm	φ 51	(φ 65)	(φ 35)
Chuck size	Chuck size	inch	8 or collet	(10)	6 or collet
	Spindle nose	JIS	A2-6	(A2-8)	A2-5
	Spindle bearing I.D.	mm	φ 100	(φ 120)	φ 75
Spindle speed	Spindle speed	min ⁻¹	Max. 5,000	(Max. 4,000)	Max. 5,000
	Type		12-station		
Tool post	Tool size	mm	25 sq., φ 40 (VDI: 40)		
	Max. stroke	mm	X: 240 (φ 225)	Z: 550 A: 515	
	Rapid traverse rate	m/min	X: 18 Z 24 A: 30		
Motor	Spindle motor	kW	AC15/11	AC15/11 (18/15)	AC7.5/5.5
	Feed motor	kW	X: 3.0 Z: 3.0 A: 1.6		
	Hydraulic motor	kW	1.5		
Power tools (Carbide)	Tool storage capacity	pcs	12		
	Max. rotating speed	min ⁻¹	Max. 4,000		
	Drive motor	kW	AC5.5/3.7/2.2		
Carbide (Tailstock)	Max. capacity	mm	φ 20, M12		
	Rapid traverse rate	min ⁻¹	50	60	
	Drive motor	kW	AC0.5	Cs	
Tailstock	Tailstock stroke	mm	350		
	Quill stroke	mm	125		
	Taper size		MT-5		
Size	Quill OD	mm	φ 90		
	Tailstock thrust	N	5,880		
	Spindle center height	mm	1,055		
Machine weight	L × W × H	mm	2,460 (2,990) × 1,960 × 1,810		
	Machine weight	kg	4,300 (4,800)		
	Total electric capacity	KVA	33 (54)		

(): Option ※:With sub-spindle

Standard Accessories

- OD holder 2sets
 Boring holder 2sets
 Cut-off holder 1set
 Collet flange 1set
 Chucking selector switch 1set (Screen setting)
- Coolant unit (170 lit.) 1set
 Splash guard 1set
 Tool kit 1set
 Instruction manual 1set

Optional Accessories

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

- Spindle C-axis orientation
 Sub-spindle (Cs control)
 Power tool drive unit
 Power tools
 VDI tooling system
 Spindle φ65-mm through
 Spindle motor 18/15 kW
 Hydraulic chuck (main: 8/10, sub: 6)
 Collet chucks
 Sub-spindle parts ejector
 Tailstock
 Spindle 15-degree indexing
 Automatic door
 Air blow unit
 Rear coolant unit
- Cycle end signal light (1-color, 2-color, 3-color)
 Parts counter (total/preset/multi)
 Chip conveyor (right/rear) (Floor type, spiral type)
 Bar feeder system
 Parts catcher
 Out conveyor
 Tool presetter
 Automatic power interception device
 Automatic fire extinguisher
 Work set detector
 Cut-off check device
 Special color
 Others

Controller Specifications

Controller	TAKAMAZ & FANUC
Controlled axes	5 axes (X, Z, C, A, E)
Simultaneously controllable axes	Simultaneous 4 axes
Least input increment	0.001 mm (X in diameter)
Least command increment	X: 0.0005 mm, Z/A: 0.001 mm
Auxiliary function	M-3 digit
Spindle function	S-4 digit
Tool function	T-4 digit
Tape code	EIA (RS232C) / ISO (840) automatic recognition
Cutting feedrate	1 to 5,000 mm/min
Command system	Incremental / Absolute
Interpolation	Linear / circular
Cutting feedrate override	0 to 150%
Rapid traverse override	F0/100%
Program number	4 digits
Backlash compensation	0 to 9999 μm
Part program storage length	40 m
Tool offsets	16 sets
Registered programs	63 pcs
Tool geometry/wear offset	standard
Canned cycle	standard
Radius designation on arc	standard
Tool offset measurement input	standard
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	standard
Stored stroke check	standard
Input/output interface (RS232C)	standard
Constant surface speed control	G96, G97
Stored stroke check 2, 3	standard
Abnormal load detection	standard
Alarm message	standard
English display	standard

Optional Attachments

- Spindle orientation
 Spindle C-axis orientation
 Sub-spindle Cs-axis orientation
 Spindle synchronous control
 Sub-spindle torque skip
 Rigid tapping
 Multiple repetitive cycle (G70 to G76)
 Chamfering/corner R
 Custom macro
 Tool nose R compensation (G40, G41, G42)
 Conversational programming with graphic function
 Direct drawing dimension programming
 Additional tool offset memory (32 sets, 64 sets)
 Tool life management
 Automatic tool offset
- Background editing
 Extended part program editing
 Tape storage capacity (80 m, 160 m)
 Run hour display/parts count display
 Programmable data input (G10)
 Continuous thread cutting (G33)
 Multiple M codes in one block (max. 3)
 Inch/metric conversion (G20/21)
 Polar coordinate interpolation (for main spindle only)
 Cylindrical interpolation
 Work coordinate system
 Additional registered programs (125 pcs in total)
 Operation guidance function (manual guide "I")

● Distributed by:

TAKAMAZ

TAKAMATSU MACHINERY Co., Ltd.

- HEAD OFFICE & PLANT**
 1-8 ASAHIGAOKA MATTO-CITY ISHIKAWA JAPAN. 924-8558 TEL 81-76-274-1403 FAX 81-76-274-8530
EUROPE OFFICE
 INDUSTRIEGEBIET, DIEPENBROICH 27 D-51491 OVERATH, GERMANY
 TEL 49-2206-866-150 FAX 49-2206-865-123
JAKARTA REPRESENTATIVE OFFICE
 RUKO MAL BEKASI FALAJAR BLOK.D9 KAWASAN INDUSTRI MM 2100 CIBITUNG-BEKASI 17520.INDONESIA
 TEL 62-21-899-820-84 FAX 62-21-899-820-85

TAKAMATSU MACHINERY USA INC.

- CHICAGO HEAD OFFICE**
 1320 LANDMEIER ROAD ELK GROVE VILLAGE, IL 60007 USA TEL 1-847-981-8577 FAX 1-847-981-8599

TAKAMATSU MACHINERY (THAILAND) Co., Ltd.

- BANGKOK HEAD OFFICE**
 14th FL., (1404) HOME PLACE OFFICE BLDG., 283/69 SOI SUKHUMVIT 55 (THONGLOR 13), SUKHUMVIT RD.,
 KLONGTON NUA, WATTANA, BANGKOK 10110 TEL 66-2-712-9705 FAX 66-2-712-7350

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

Specifications and accessories are subject to change without notice.
 Standard specifications of the machine may differ according to destinations.

R100



This brochure is made
 from 100% recycled paper.