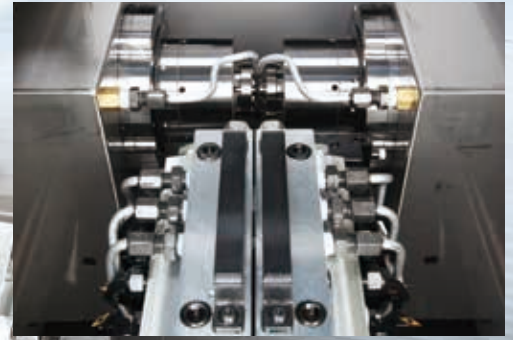# HIGH ACCURACY
HIGH SPEED
HIGH RIGIDITY

PRECISION TSUGAMI

Realizing not only productive ultra precision processing but also high productive processing by the comprehensive design of the loader and symmetric structure

CNC High Precision Automatic Lathe

C180

- ■ High precision simultaneous processing of the front and back sides of a workpiece are possible thanks to the symmetrically arranged spindles and slides.

- ■ Integrated design of machine and loader makes compact floor space and improved productivity

- ■ Realizing high-speed rotation thanks to the Tsugami's original air-tube integrated spindle

Standard machine specifications

Item		C180
Capability	Swing over bed	220 mm
	Spindle center height from X slide surface	45 mm
	Distance between spindle and X slide face	−10 to 140 mm
Spindle	Max. spindle speed	15,000 min⁻¹
	Spindle face	φ 114 mm Flat
	Spindle through ID	Air-tube integrated type
	Chuck size	3", 4"
Tool post	Type	Gang type tool post
	XR-, XL-axis stroke	300 mm
	ZR-, ZL-axis stroke	150 mm
	Rapid traverse rate — XR, XL axis	24 m/min
	Rapid traverse rate — ZR, ZL axis	24 m/min
	Tool size	12 mm square
Motors	Spindle	1.5/2.2 kW
	XR, XL axis	0.75 kW
	ZR, ZL axis	0.75 kW
	Coolant pump	1.5 kW
	Spindle cooling oil pump	75 W
Tank	Spindle cooling oil tank	8 L
	Coolant tank	215 L
Power source	Weight	2,200 kg (including loader x 2 pallets)
	Electric power	10 KVA
	Compressed air	More than 0.4 MPa
	Air discharge rate	40 NL/min
	Width x Depth x Height	1,560 mm x 1,545 mm x 1,700 mm

Standard NC specifications

Item	Specification
NC unit (FANUC)	FANUC 31i-A
LCD/MDI	7.2" monochrome LCD
No. of control axis	2 axes (XR/ZR),(XL/ZL)
Least input increments	0.01 μm (Diameter value is specified for X-axis)
Feed format	mm/rev, mm/min
Command method	Absolute/incremental
Interpolation method	Linear/circular
Auxiliary function	M5 digits
Spindle function	S5 digits
Tool function	T4 digits
Tool offset pairs	32 pairs (Total of L&R)
Part program storage size	Total of all paths: 64 byte (Equivalent to 160 m tape length)
Feedrate override	0 to 150 % (10 % step)
Optional block skip	1
Backlash compensation	
Program number search	04 digits
Sequence number search	N5 digits
Canned cycle	
Display language	English
Memory card interface	Compact Flash & USB interface
Manual handle feed	
Pitch error compensation	

NC option

Tool nose radius compensation	Multiple repetitive cycle	Part program storage size
Custom macro	Inch/metric conversion	128 kbyte, 256 kbyte, 512 kbyte
Chamfering corner R	Spindle speed fluctuation	RS232C interface
Run time & parts number display	Tool offset (64 pairs)	Cs contour control
Tool geometry/wear offset	Concurrent editing of multiple programs	

Standard Accessories

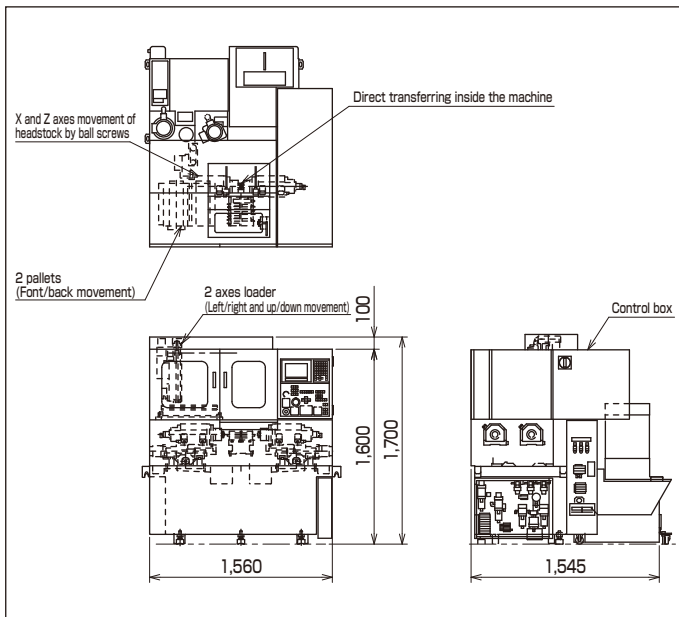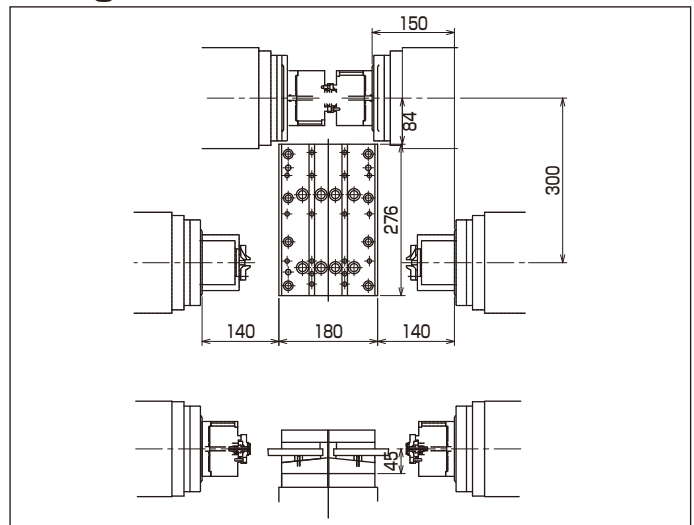| |
|---|
| Foundation plate |
| Transit clamps |

Options

NC loader (3 axes including one axis for pallet)
2-pallet tray stocker
Automatic shutter
Coolant tank system
Automatic fire extinguisher
External illumination light
Signal indicator
X-axis scale
Air gun

External view

X and Z axes movement of headstock by ball screws

Direct transferring inside the machine

2 pallets (Font/back movement)

2 axes loader (Left/right and up/down movement)

Control box

100
1,600
1,700
1,560
1,545

Tolling zone

150
84
300
276
140 180 140
45

When submitting the exporting documents, use the following machine model name according to the machine specifications.

Specifications	Machine model name
With X-axis scale	C180(X)
With X-axis scale and Z-axis scale	C180(X·Z)

Export permission by the Japanese Government may be required for exporting our products in accordance with the Foreign Exchange and Foreign Trade Law. Please contact our sales office before exporting our products.

The specifications of this catalogue are subject to change without prior notice.

CAT.NO.E116715.MAY.1T(H)