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CY Series

CNC Vertical Turning Center

KEY to productivity



10Jan2019

High Accuracy | High Productivity Complex Machining | Space Saving

Our aim is always meet customer requirements by collaborating and exchanging information with global manufacturers and continuously developing and upgrading our design & production techniques to ensure that we are able to offer high quality products with prompt after-service and support. Customers are totally satisfied and benefit from our 37 years of vast experience and our total commitment to our manufacturing philosophy. For stand alone and flexible manufacturing systems the versatile design configuration of the You Ji product makes it the perfect choice for all aspects of industrial application:



Machine Features

The You Ji CY Series

- Reduces inertia, avoiding out of round turning problems, achieving optimum accuracy.
- Excellent surface contact between work piece and chuck to ensure high precision turning.
- Suitable for irregular-shape, large, thin, and heavy work piece turning, easy part loading & unloading.
- Multiple fixturing possibilities helping to reduce cost.
- High rigidity designed machine base for low thermal displacement.
- The ergonomic design of vertical turning lathes for increased work flow.
- Vertical turning lathes occupy half the floor space of horizontal turning lathes.

Vertical Turning Lathe Twin Series

- Simultaneous cutting using the twin series machines run by one operator, enhancing quality and reduce labour cost.
- Twin series machines are fitted with 2 independent controllers to operate 1 or 2 machines, the best flexible production capacity can be achieved.
- Twin series machines are combined together to provide the best clean environment and reduce turnaround times.
- Increase production flow, reduce the physical strength and enhance working efficiency.
- Select the variety of turret options, to optimize the best machining methods.
- The design of high rigidity structure is fitted with telescopic guideway covers to prevent chip & coolant contamination.



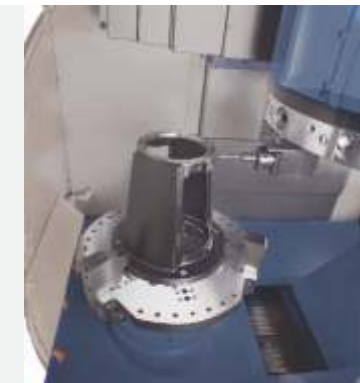
Single column structure

Slideway Design



Superb high load linear guideways ensure high repeatability & heavy duty cutting. High precision ball screws with rigid pre-tensioned bearing housing blocks are driven directly by AC servo motor, enhancing repeatability and positioning accuracy.

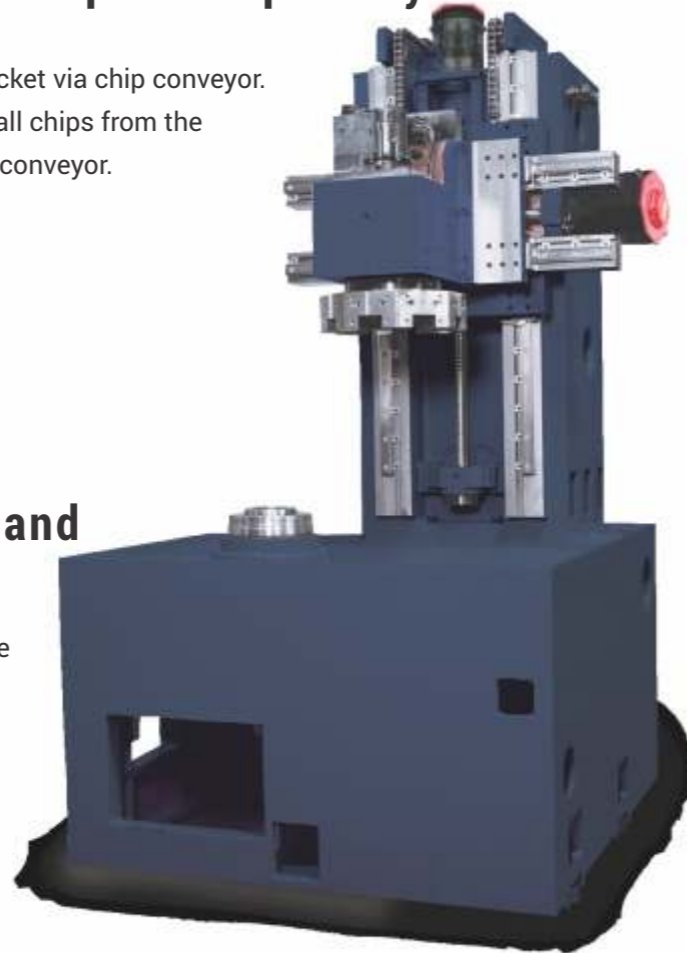
High efficient chip disposal capability



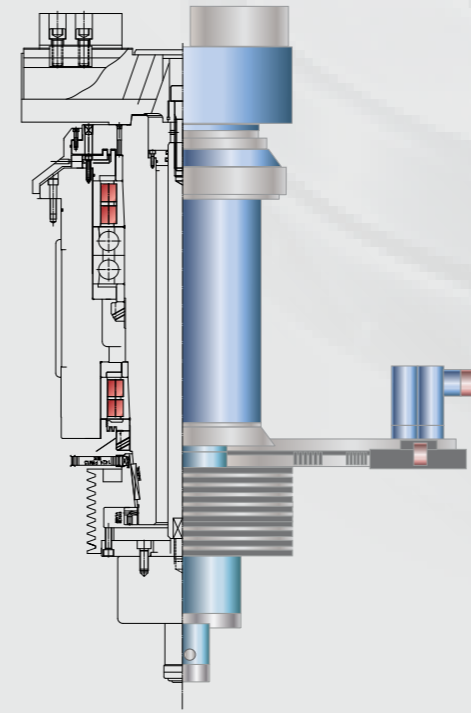
- Chips are expelled to chip bucket via chip conveyor.
- Coolant flush system forces all chips from the machining area into the chip conveyor.

Ease of Operation and Maintenance

Ease of access and maintenance for spindle encoder & belts.



Spindle structure



NN cylindrical roller bearings



Angular contact ball bearings

NN bearings

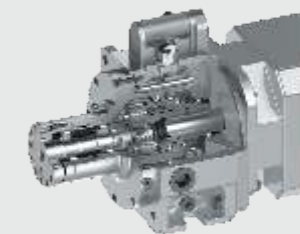
- Machine model: CY 275-CY 900
- Transmission method : Belt transmission
- Bearing arrangement:
The front side is fitted with NN cylindrical roller bearings and angular contact ball bearings which are used to withstand radial and axial loads during machining. The rear side is fitted with NN cylindrical roller bearings which are use to withstand the belt tension.

Box Guideways (Optional)



Wide hardened & ground box guideways available.

ZF Gearbox (Optional)



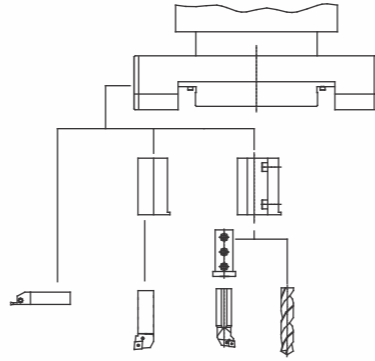
Two speed gearbox generates high torque at low speed.

Modular Turret System



H Type turret

This design of turret has the shortest route tool selection, coupled with high rigidity & high accuracy curved coupling, providing high positioning accuracy and repeatability for the best turning capability.

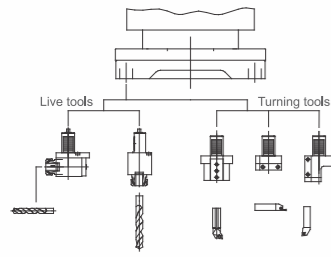


Turnkey Solutions



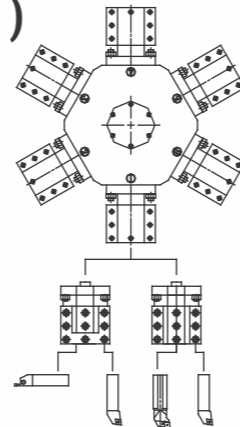
Live tool turret

High rigidity V.D.I turrets are designed for turning, drilling, tapping operations, etc, reducing the time of loading & unloading and fixturing cost to help to reduce turn-around times.



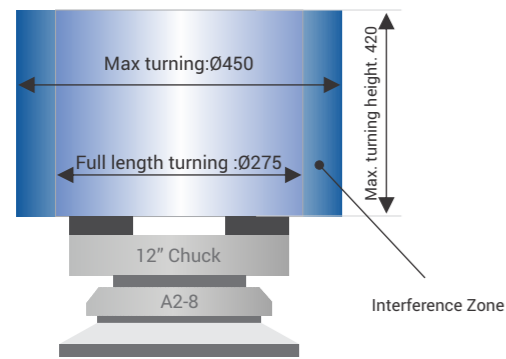
Vertical turret (V type turret)

Turret positioning is achieved with high accuracy curved coupling, providing positioning accuracy of 5" and repeatability 3". Turrets with curved coupling withstands heavy cutting forces, a high torque hydraulic motor ensures rotation. The speed of turret rotation and tool change smoothly is controlled by a cam system. The PC ensures the shortest route and bi-directional tool selection reducing the tool change time.



Turning Range & Axis Travel

CY-275H



Max Turning Dia:
 \varnothing 450 mm / 85 mm Length

Full Length Turning:
 \varnothing 275 mm

Max Turning Height:
 420 mm

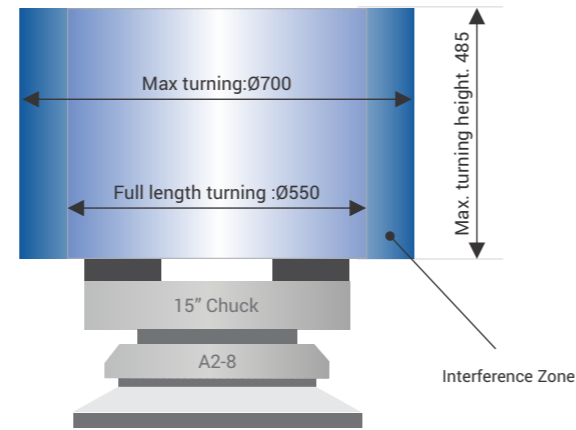
Features:

- Fanuc Oi TF CNC control System
- 11/15 kW Spindle Motor (α P 22)
- A2-8 Spindle with 100mm Bearing
- 12" Hydraulic Chuck
- 8 Station Hydraulic Turret (25x25, \varnothing 40)
- THK Make Linear Guide ways for X & Z axes

Standard Tooling System:

- Boring Bar Holder \varnothing 40: 4pcs
- (Sleeves: \varnothing 8, \varnothing 10, \varnothing 12, \varnothing 16, \varnothing 20, \varnothing 25, \varnothing 32, MT2 & MT3)
- Facing Tool Holder : 2 Pcs

CY-550H



Max Turning Dia:
 \varnothing 700 mm / 120 mm Length

Full Length Turning:
 \varnothing 550 mm

Max Turning Height:
 485 mm

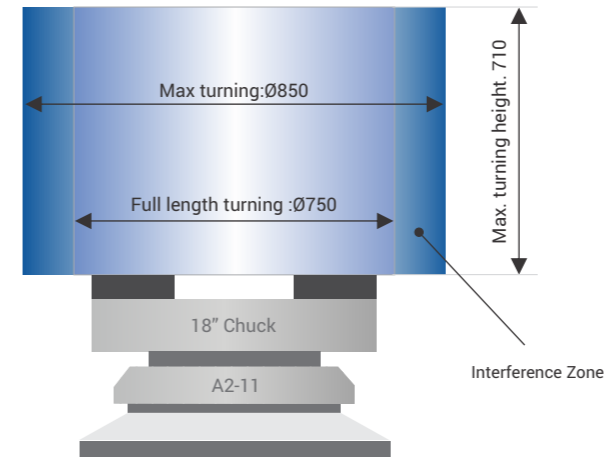
Features:

- Fanuc Oi TF CNC control System
- 18.5/22 kW Spindle Motor (α P 40)
- A2-8 Spindle with 120mm Bearing
- 15" Hydraulic Chuck
- 8 Station Hydraulic Turret (32x32, \varnothing 50)
- THK Make Linear Guide ways for X & Z axes

Standard Tooling System:

- Boring Bar Holder \varnothing 50: 4pcs
- (Sleeves : \varnothing 10, \varnothing 12, \varnothing 16, \varnothing 20, \varnothing 25, \varnothing 32, \varnothing 40, MT2 & Mt3)
- Facing Tool Holder : 2 Pcs

CY-750H



Max Turning Dia:
 \varnothing 850 mm / 135 mm Length

Full Length Turning:
 \varnothing 750 mm

Max Turning Height:
 710 mm

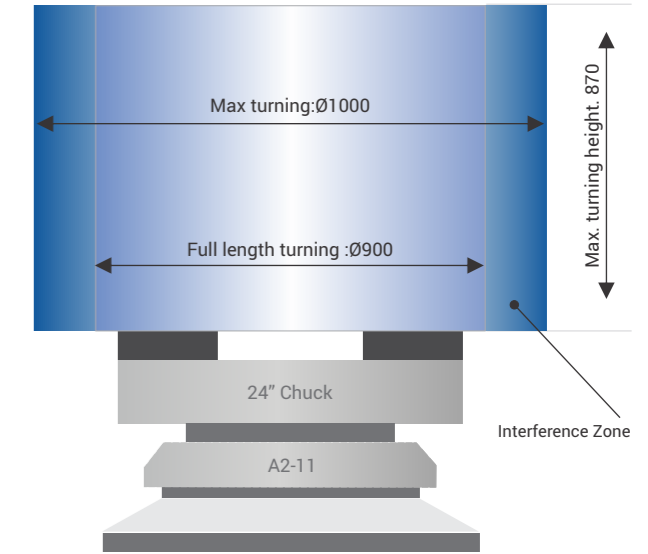
Features:

- Fanuc Oi TF CNC control System
- 18.5/22 kW Spindle Motor (α P 40)
- A2-11 Spindle with 160mm Bearing
- 18" Hydraulic Chuck
- 10 Station Hydraulic Turret (32x32, \varnothing 63)
- THK Make Linear Guide ways for X & Z axes

Standard Tooling System:

- Boring Bar Holder \varnothing 63: 4pcs
- (Sleeves : \varnothing 16, \varnothing 20, \varnothing 25, \varnothing 32, \varnothing 40 MT4 & MT5)
- Facing Tool Holder : 2 Pcs

CY-900H



Max Turning Dia:
 \varnothing 1000 mm / 135 mm Length

Full Length Turning:
 \varnothing 900 mm

Max Turning Height:
 870 mm

Features:

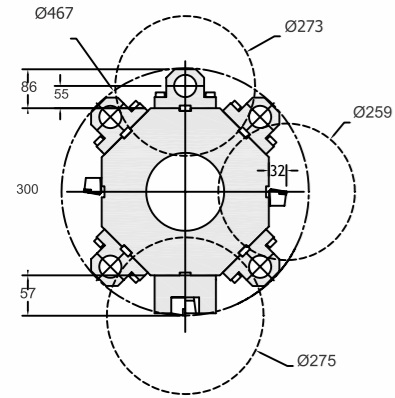
- Fanuc Oi TF CNC control System
- 18.5/22 kW Spindle Motor (α P 40)
- A2-11 Spindle with 200mm Bearing
- 24" Hydraulic Chuck
- 10 Station Hydraulic Turret (32x32, \varnothing 63)
- THK Make Linear Guide ways for X & Z axes
- ZF Two Speed Gear Box

Standard Tooling System:

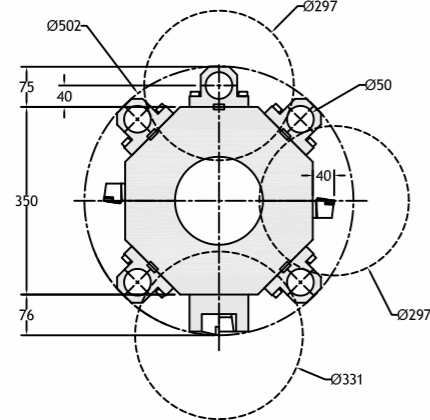
- Boring Bar Holder \varnothing 63: 4pcs
- (Sleeves : \varnothing 16, \varnothing 20, \varnothing 25, \varnothing 32, \varnothing 40 MT4 & MT5)
- Facing Tool Holder : 2 Pcs

Tooling Interference

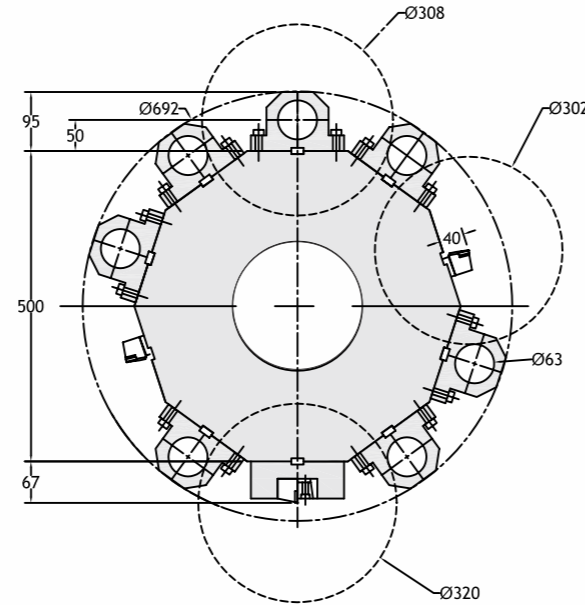
CY-275H



CY-550H

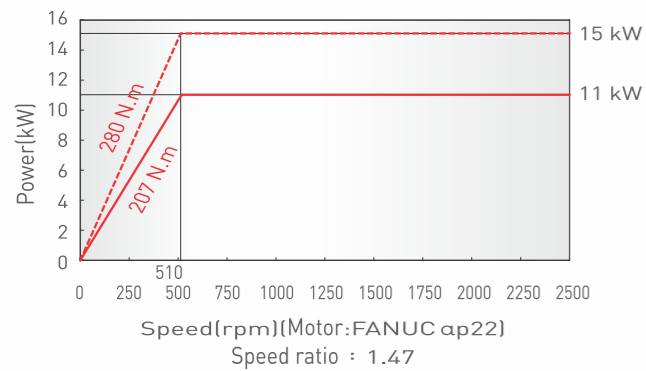


CY-750H, CY-900H

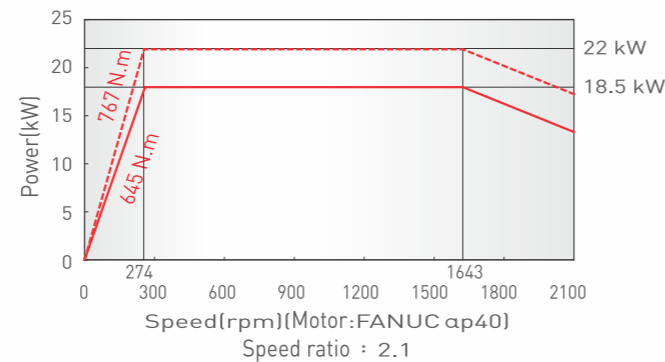


Torque Diagram

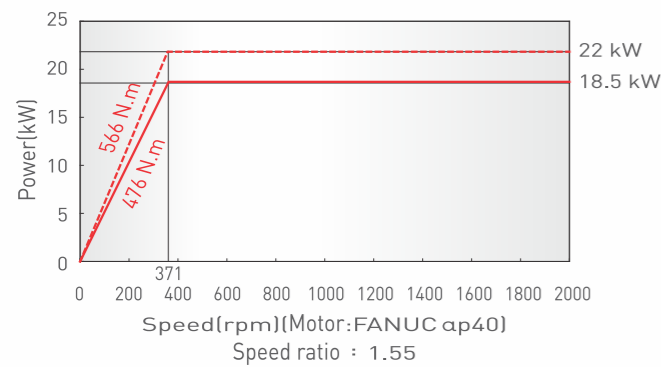
CY-275H



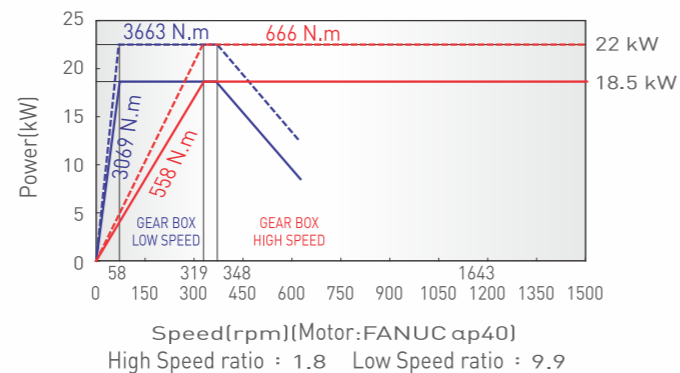
CY-550H



CY-750H



CY-900H



— high gear - - - - - 30 min operation zone
 — low gear — Continuous operation zone

Machine Specification

FEATURES	UNIT	CY-275H	CY-550H	CY-750H	CY-900H
Capacity					
Max. Swing dia	mm	600	750	1000	1200
Swing over saddle	mm	275	550	750	900
Max. Turning diameter	mm	Ø 450/L 85	Ø 700/L 120	Ø 850/L 150	Ø 1000/L 150
Max. turning height	mm	420	485	710	900
Chuck size	mm	12"	15"	18"	24"
Max. weight capacity	kg	300	500	1200	1800
Travel					
X axis travel	mm	-25/+225	-15 / +350	-50 / +430	-50 / +495
Z axis travel	mm	450	500	620	800
Main Spindle					
Spindle speed	rpm	50-2500	50~2500	50~2000	50~1500
Spindle nose		A 2-8	A 2-8	A 2-11	A 2-11
Spindle bearing diameter	mm	100	120	160	200
Turret					
Type		Hydraulic	Hydraulic	Hydraulic	Hydraulic
No. of station		8	8	10	10
OD tool size	mm	25	32	32	32
Boring bar diameter	mm	40	50	63	63
Feed rates					
X axis rapid	m/min	12	12	12	12
Z axis rapid	m/min	24	24	20	20
Motor					
Spindle motor	kw	11/ 15 (conti/30 min) α P 22	18.5 / 22 (conti/30 min) α P 40	18.5 / 22 (conti/30 min) α P 40	18.5 / 22 (conti/30 min) α P 40
X axis motor	kw	1.6	1.6	3	4
Z axis motor	kw	3	3	4	4
Machine size					
Machine height	mm	2480	3045	3330	4100
floor space	mm	2950x1520	2960x1800	3250x1800	4400x2450
machine weight	kg	4500	6500	12000	13500
power supply	KVA	25	40	40	40
Controller		Fanuc 0i-TF	Fanuc 0i-TF	Fanuc 0i-TF	Fanuc 0i-TF

Standard Accessories :

- 3 Jaw Hydraulic Chuck
- Set of Hard Jaws
- Set of Soft Jaws
- Chip Conveyor and Bucket
- Air Gun
- Coolant Flushing
- Transformer
- Coolant Gun
- Tool Kit
- Leveling Pads & Screw

Optional Accessories :

- Air Conditioner for electric cabinet
- Proximity Switch for Chuck clamp detection
- Hi Low Pressure Clamping
- Oil skimmer
- Tool presetter
- Auto Door
- Zf. Gear Box (CY-275H / CY-550H / CY-750)
- Box Guideways - X & Z Axis (CY-750H / CY-900H)

Optional Chucks :

- | | | | |
|-----------------|--|-----------------|--|
| CY 275 H | 15" 3 Jaw Hydraulic Chuck | CY 750 H | 21" 3 Jaw Hydraulic Chuck
24" 3 Jaw Hydraulic Chuck |
| CY 550 H | 18" 3 Jaw Hydraulic Chuck
21" 3 Jaw Hydraulic Chuck | CY 900 H | 32" 3 Jaw Hydraulic Chuck |

Note: Different chuck selection will change the turning height & RPM