

V-TURN Series

Vertical Turning Centre



YCL 600 | YCL 700 | YCL 850 | YCL 1000

Crafting Machines of **Tomorrow**

Bringing precision and innovation to the forefront of industrial manufacturing, Cosmos has been a pioneer in the machine tool industry since 1987. Providing versatile and high-performance solutions, including vertical machining centres, drill tap centres, surface grinding machines, vertical lathes, and many more, Cosmos provides Indian and global industries with the latest technological advancements.

At Cosmos, growth is driven by more than just innovation; it's guided by a deeper purpose - bringing joy and meaning to people's lives. Every machine we create reflects this philosophy, blending precision with heart to ensure progress isn't just about staying ahead but about sparking happiness along the way. For us, every advancement is a step toward a future where innovation and fulfilment go hand in hand.



**India's Largest
Exporter of Vertical
Machining Centres**



**Leading Business
Enterprise of
Tomorrow**



**Best Metal
Cutting Brand of
2024-25**

Industries We Serve



Die & Mould



Aerospace



Medical Implants & Equipments



Automotive Industry



Pumps & Valves



Steel & Energy



Electronics & Semiconductors



Oil & Gas Industry

Core Values

At Cosmos, our guiding principles are not just statements, they are promises. They define our aspirations, guide our path, and reflect our commitment to excellence. By aligning with these, we strive to make a positive and lasting impact.

At Cosmos, our values are the core of who we are.

SINCERITY

Drives our relationships, building trust with every interaction.

DISCIPLINE

Ensures precision and excellence in all we do.

INTEGRITY

Forms the backbone of our identity, as we stand by our commitments.

ETHICAL PRACTICES

Underpin every decision, reflecting our moral compass.

HARMONY

Guides our teamwork, fostering collaboration across boundaries and providing best customer experience.

SUSTAINABILITY

Fuels our responsibility towards future generations.

YCL 600 / 700 / 850 / 1000

The YCL series feature robustly designed structure. The transmission includes rigid roller guideways and C3 class precision ball screws. The extremely rigid Hydraulic Turrets provide ultimate stability to ensure heavy cutting and obtain best surface finish.

Backed by over 40 years of manufacturing expertise from our collaborators, the machines deliver reliability and exceptional performance.



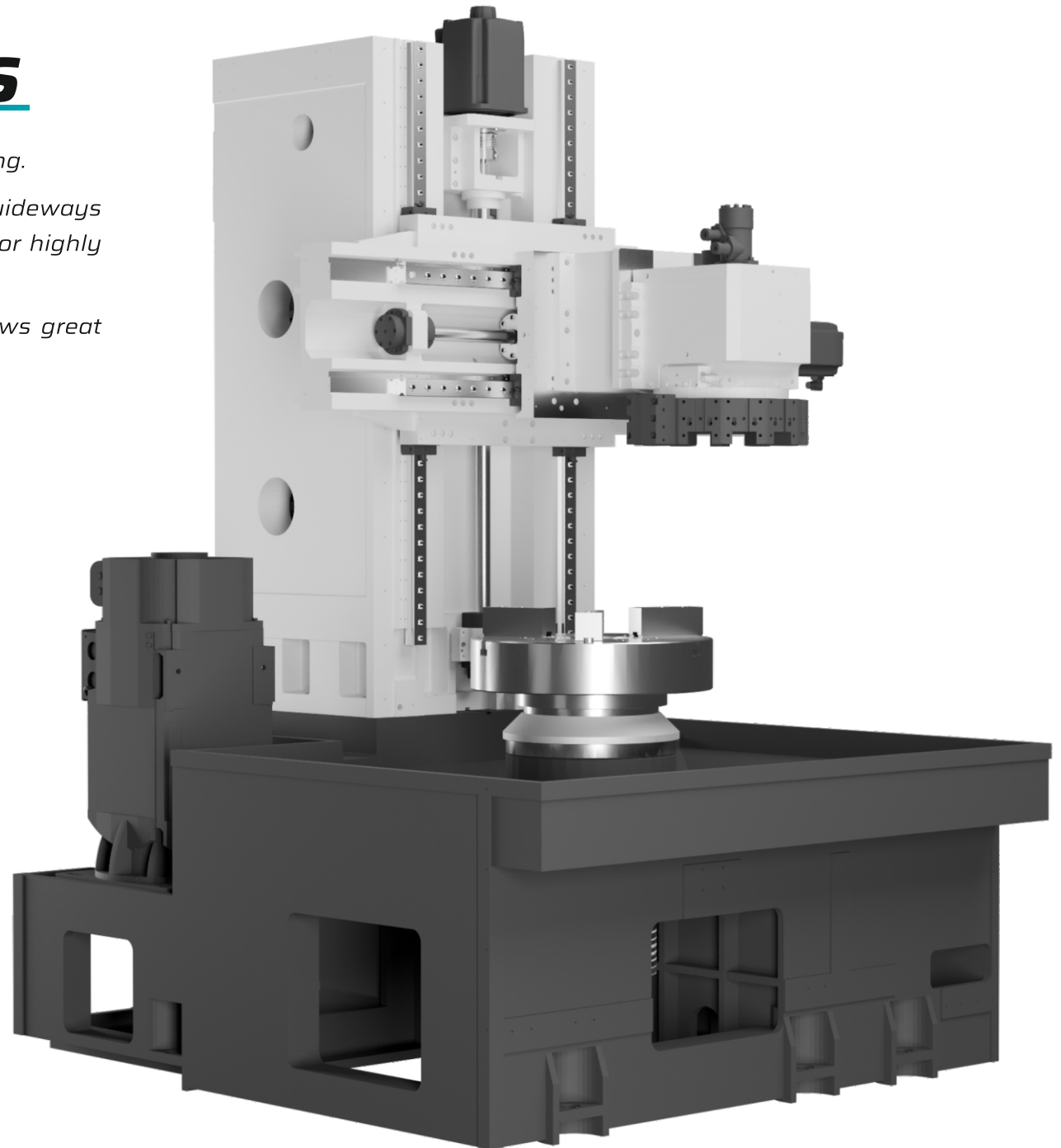
Robust Performance



	YCL 600	YCL 700	YCL 850	YCL 1000
<i>Chuck Size</i>	18"	18"	21" / 24"	24"
<i>Spindle Motor - Mitsubishi/Fanuc</i>	18.5/22 kW	18.5/22 kW	18.5/22 kW	18.5/22 kW
<i>Spindle Power - Siemens</i>	16/28 kW	16/28 kW	16/28 kW	16/28 kW
<i>Max. Speed</i>	2500 rpm	2500 rpm	2000 rpm	1500 rpm
<i>Max. Weight</i>	600 kgs	600 kgs	1000 kgs	1200 kgs

Design Features

- *You Ji Vertical Lathe is designed for heavy duty turning.*
- *The combination of robust structure and roller LM Guideways ensures the highest level of rigidity and stability for highly accurate turning.*
- *Hydraulic Turret with powerful spindle motor allows great cutting performance.*



Superior Rigidity



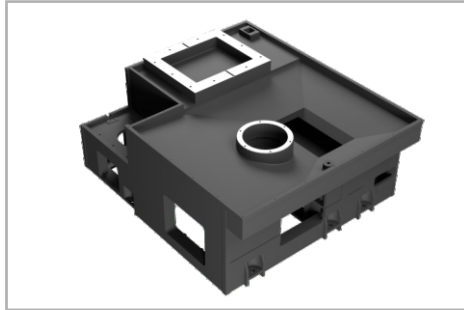
Superior Efficiency



Superior Accuracy



Superior Performance



Base

YCL base is specially designed to withstand heavy loads and absorb vibrations during severe machining conditions.

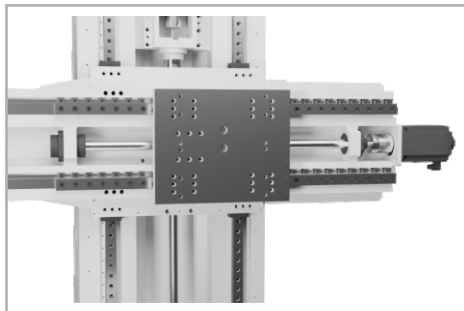
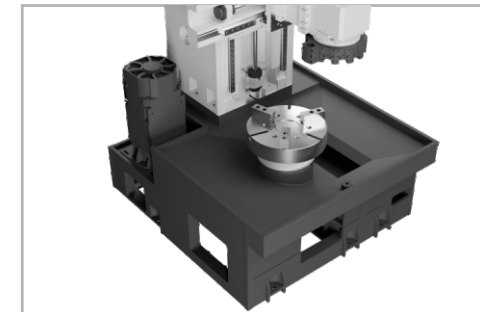
Robust mono-block base made of cast iron.

For efficient chip disposal of high volume of chips the base is designed with steep slope and high capacity flushing system.

Heavy Construction Spindle

YCL series spindles are built to provide unsurpassed performance in turning tough steels as well as difficult materials like Titanium, Inconel and Nickel-base and superalloys and other challenging material.

Coupled with rigid cylindrical roller bearings and angular contact ball bearings which are used to withstand radial and axial loads during machining, precision and performance are assured.



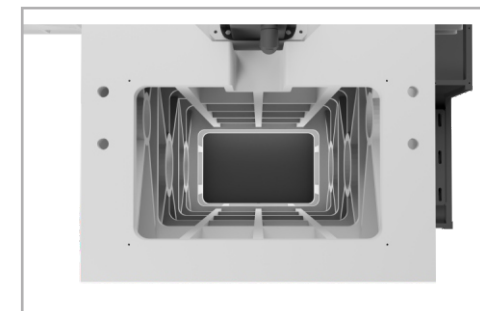
Strong Saddle

Robust Saddle design ensures the high cutting performance and rigid mounting for the heavy duty hydraulic turret. This ensures high durability and accuracy.

Column

The column is heavily ribbed to provide a balanced strong structure for heavier cutting.

Roller Guideway along with the integrated motor mounting bracket design on saddle provides vibration free performance and ensures high precision with long life.



Components on YCL



Hub



Motor Housing



Motor Base



Housing



Fly Wheel



Elevator Part



Motor Cover



Compressor Housing



Brake Drum (Truck)



Press Plate



Brake Disc



Brake Drum



Stub Axle



Aluminum Wheel

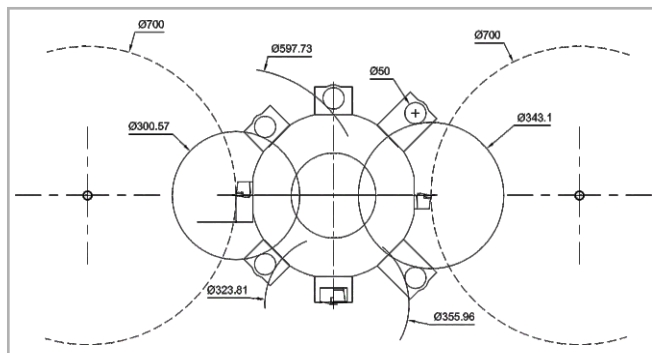


Pump



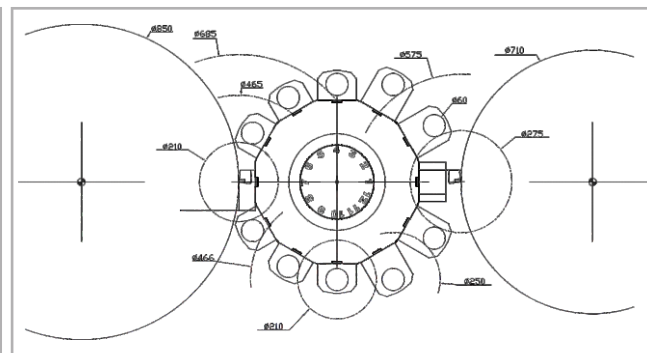
Valve

Turret Interference Diagrams



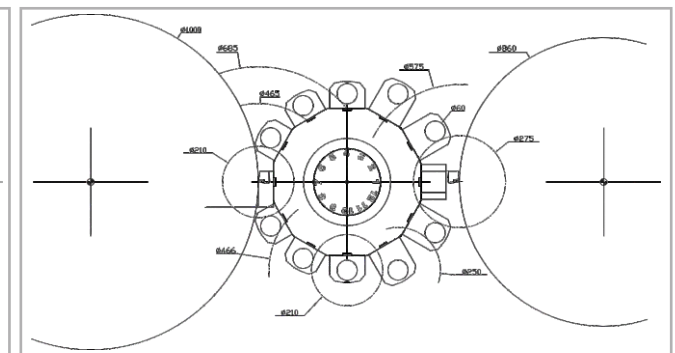
YCL 600 | YCL 700

- 8 Station
- 50 dia. Boring Bar
- 32 mm Sq Tool Shank



YCL 850

- 12 Station
- 60 dia. Boring Bar
- 32 mm Sq Tool Shank

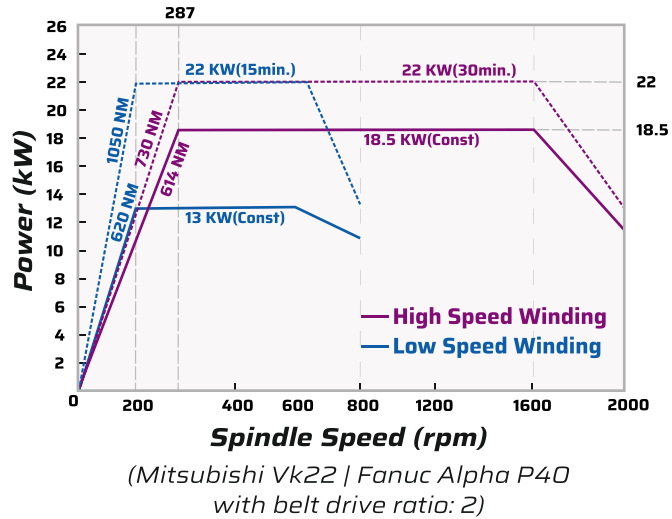


YCL 1000

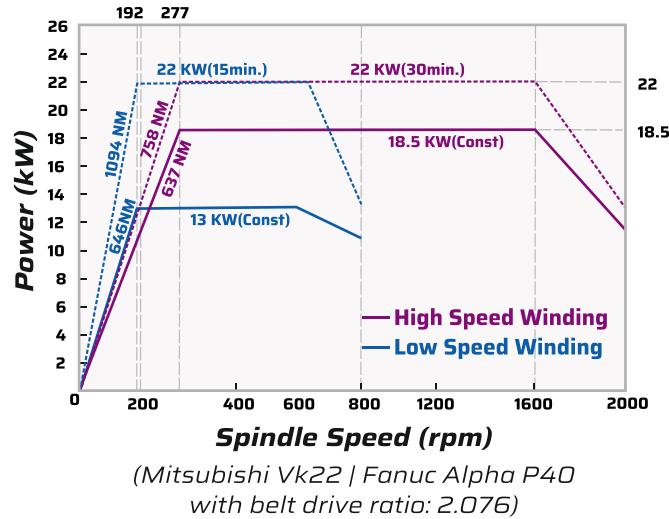
- 12 Station
- 60 dia. Boring Bar
- 32 mm Sq Tool Shank

Torque Power Diagrams

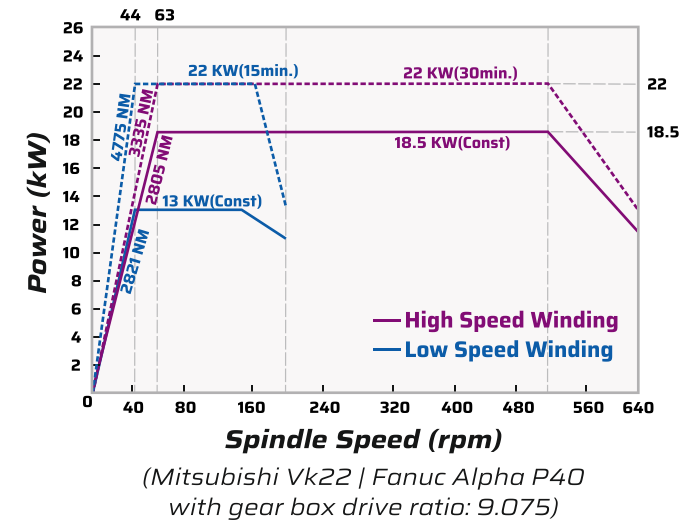
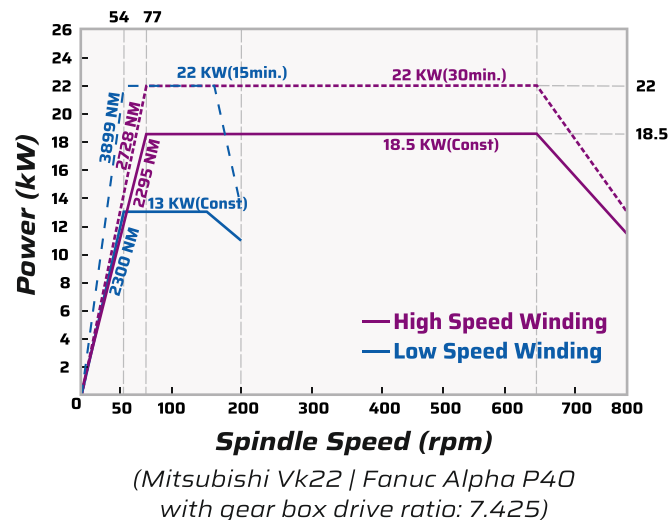
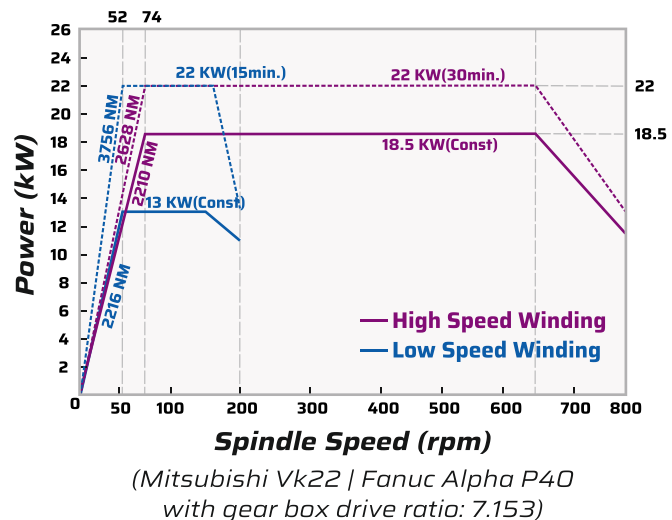
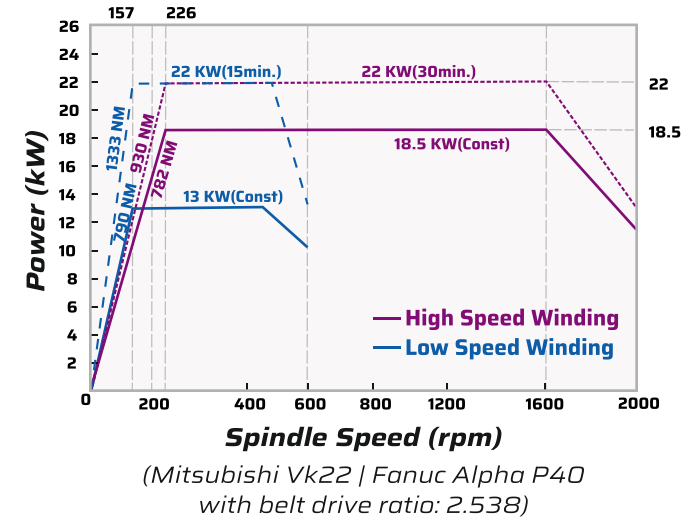
YCL 600 | YCL 700



YCL 850



YCL 1000



digiFAC FEATURES



Dashboard Monitoring

- ▶ Live information of the entire factory.
- ▶ Categorise machines (Unit-wise).
- ▶ View regular utilisation of the machine.



Program Transfer

- ▶ Upload programs from the computer to machines directly.
- ▶ Download programs and edit them from anywhere around the globe.



Alarm Analysis

- ▶ Alarm history by code or machine.
- ▶ Time and duration of all alarms generated by a separate machine.



Tool Cutting Time Information

- ▶ No more unidentified dry-runs.
- ▶ Program path optimisation in-sight.
- ▶ Tool usage clarity.
- ▶ Shorter cycle-times (if modified).
- ▶ Eliminate NVA air time and improve your process.



Feed-rate Override and Override Report

- ▶ Monitor adjustments in real-time.
- ▶ Understand impact on cycle times, output & efficiency.
- ▶ Records to speed up production or breaks ensures transparency and control.
- ▶ Ensuring faster production doesn't sacrifice precision.



Production Information (Utilisation)

- ▶ Detailed production information report.
- ▶ An automated daily production report.
- ▶ All reports are available in Excel format.



Downtime Analysis

- ▶ See total machine downtime.
- ▶ Monitor downtime and the reasons for it (Macro Downtime Feature).
- ▶ Focus and can easily get the classified major losses/downtimes and work on optimisation.



Email Alerts

- ▶ Set a time for machines' idle condition and receive or get alarm notification on email.
- ▶ Management Reporting: Receive daily production report and downtime analysis report by email on daily basis.



Live OEE Monitoring

- ▶ Automate data collection and reporting.
- ▶ Imagine and display real-time OEE on the shop floor.
- ▶ Execute cross-functional daily reviews and conversation sessions.
- ▶ Use Root-Cause Analysis.

SMARTCONNECT+

Machine Specifications

Specifications	Units	YCL 600	YCL 700	YCL 850	YCL 1000
Capacity					
Max. Swing Diameter	mm	650	800	1000	1200
Swing Over Saddle	mm	500	600	750	850
Max. Turning diameter	mm	Ø 600 / L 120	Ø 700 / L 120	Ø 850 / L 120	Ø 1000 / L 120
Max. Turning Height	mm	500	500	800	800
Chuck Size	mm	15"	18"	21"(24")	24"
Traverse					
X-Axis	mm	-25/+305	-25/+355	-35/+430	-35/+530
Z-Axis	mm	520	520	820	820
Main Spindle					
Speed	mm	2500	2500	2000	1500
Spindle Nose Taper	mm	A2-8	A2-8	A2-11	A2-11
Max. weight capacity of Spindle (without chuck)	kg	500	600	1000	1200
Turret					
Type	-	Hydraulic	Hydraulic	Hydraulic	Hydraulic
No. of Stations	-	8	8	12	12
OD Tool Size	mm	32	32	32	32
Boring Bar Diameter	mm	50	50	60	60
Axis Drive					
Rapid Traverse X - Axis	m/min	20	20	20	20
Rapid Traverse Z - Axis	m/min	20	20	20	20
Motor					
Spindle Motor - Mitsubishi/Fanuc	kW	18.5 / 22	18.5 / 22	18.5 / 22	18.5 / 22
Spindle Power - Siemens	kW	16 / 28	16 / 28	16 / 28	16 / 28
Others					
Machine Weight	kgs	6000	6500	9500	10500
Power Supply	kVA	40	40	40	40

Standard Features

- Mitsubishi M80 | Fanuc OiMF | Siemens 828D Controller
- 3 Jaw Hydraulic Chuck
- 1 Set Hard & Soft Jaw
- Chip Conveyor with Bucket
- Coolant Flushing
- Transformer
- Coolant Gun & Air Gun
- Automatic Lubrication System
- Panel AC
- Hi-Lo Pressure Clamping
- Portable MPG
- LED Work Lamp
- Tool Kit
- Levelling Pad
- 4 Sets of Boring Holders
- 2 Sets Facing Holders

Optional Features

- ZF Gear Box
- Auto Door
- Turning Height Extension to 700 mm (on YCL 700)
- Oil Skimmer
- Proximity for Chuck Clamp Detection
- Special Boring Holders
- Contact sales team for more accessories

Note: Specifications and features are subjected to change without prior notice.
Please refer the offer document, offer document as precedence.



Corporate Office

Cosmos House, Plot No. 85/2, Padra Road, Atladara, Vadodara, Gujarat - 390 012

Manufacturing Facilities

Plant - I

Cosmos Impex India Pvt. Ltd., Plot No. 847, 848 Village Ranu, Ta. Padra, Vadodara, Gujarat - 391 445

Plant - II

Plot No. 68-B, Sigil Compound, Padra Road, Atladara, Vadodara, Gujarat - 390 012

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