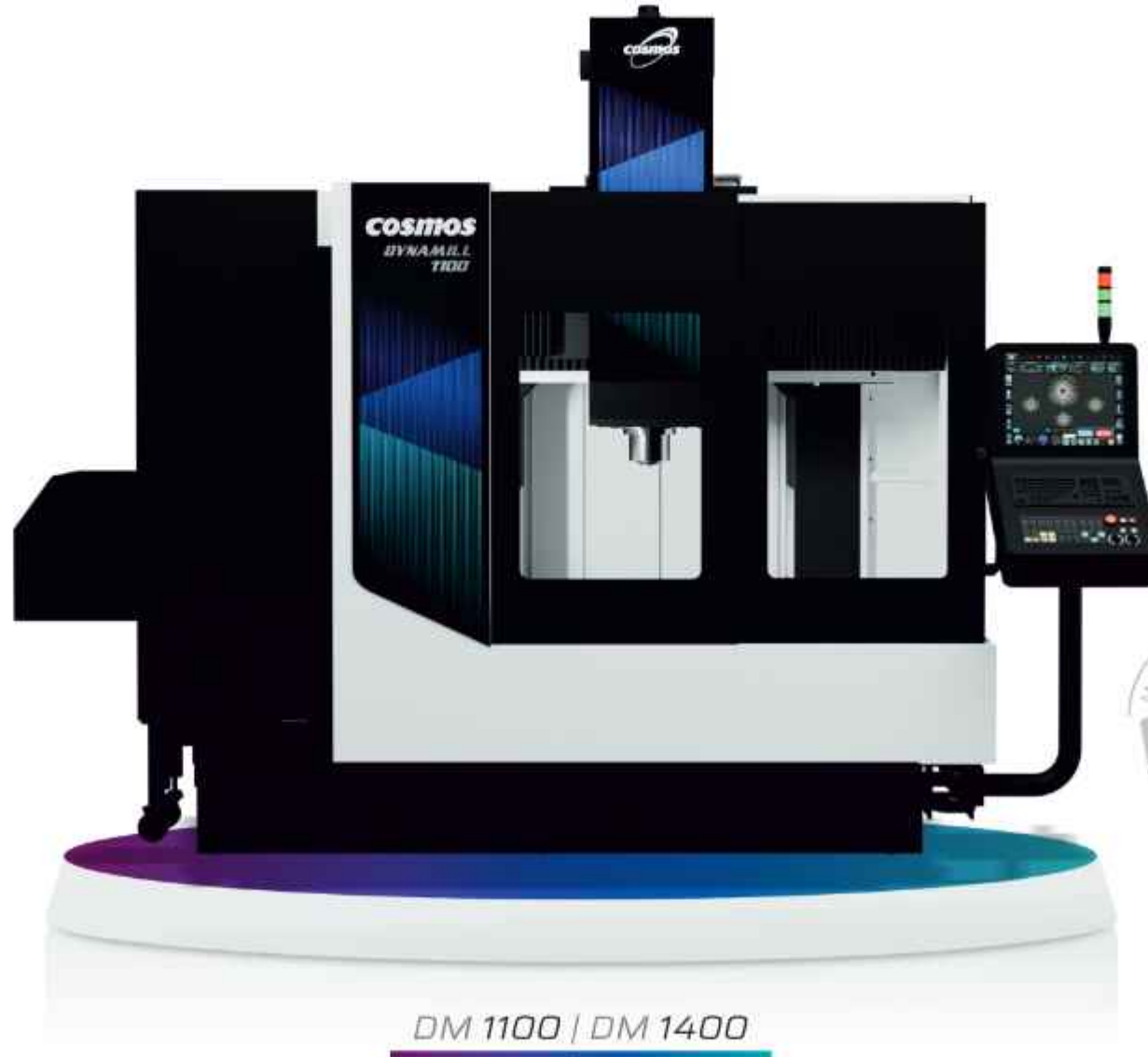


# **DYNAMILL** Series

High Speed Machining Centres



# About **DYNAMILL Series**

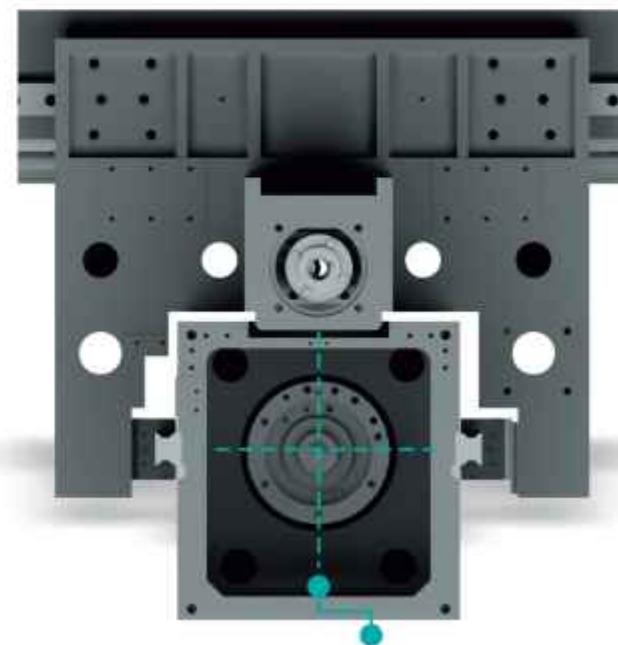


*The DYNAMILL Series Machining Centres are designed for high Dynamics and accuracy as demonstrated in both surface finish quality and consistent precision.*

## *Centro-Aligned Z-Axis with Spindle: The Heart of High-Performance Cutting*

- *The new DYNAMILL Series redefines machining precision with its Centro-aligned Z-Axis and Spindle. By aligning the spindle and LM guideway with the centre of gravity of moving parts, it delivers unmatched balance and stability.*
- *This advanced design minimises deflection and vibrations, ensuring superior Z-axis responsiveness for high-speed, high-feed operations.*
- *A rigid nested framework further enhances this setup, offering robust support for fine, swift tool movements. The result? Optimal performance, even for the most complex profiles.*

## **Spindle Centre**



# Machine Structure

## Robust Single Casting Bed

Integrated bed frame ensures high rigidity, excellent vibration absorption and outstanding surface finishes. The base width provides stability for heavy table loads even when operating at high speed.

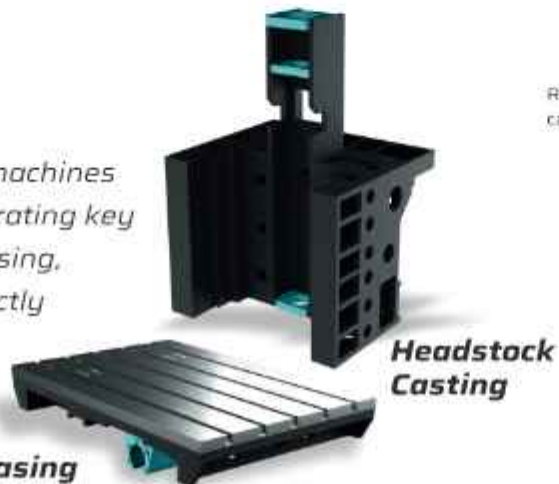


## Mono Bridge Type Column Design

The one-piece bridge column design provides symmetrical stability to the head stroke adding much important value to Dynamill

## Unity Structure

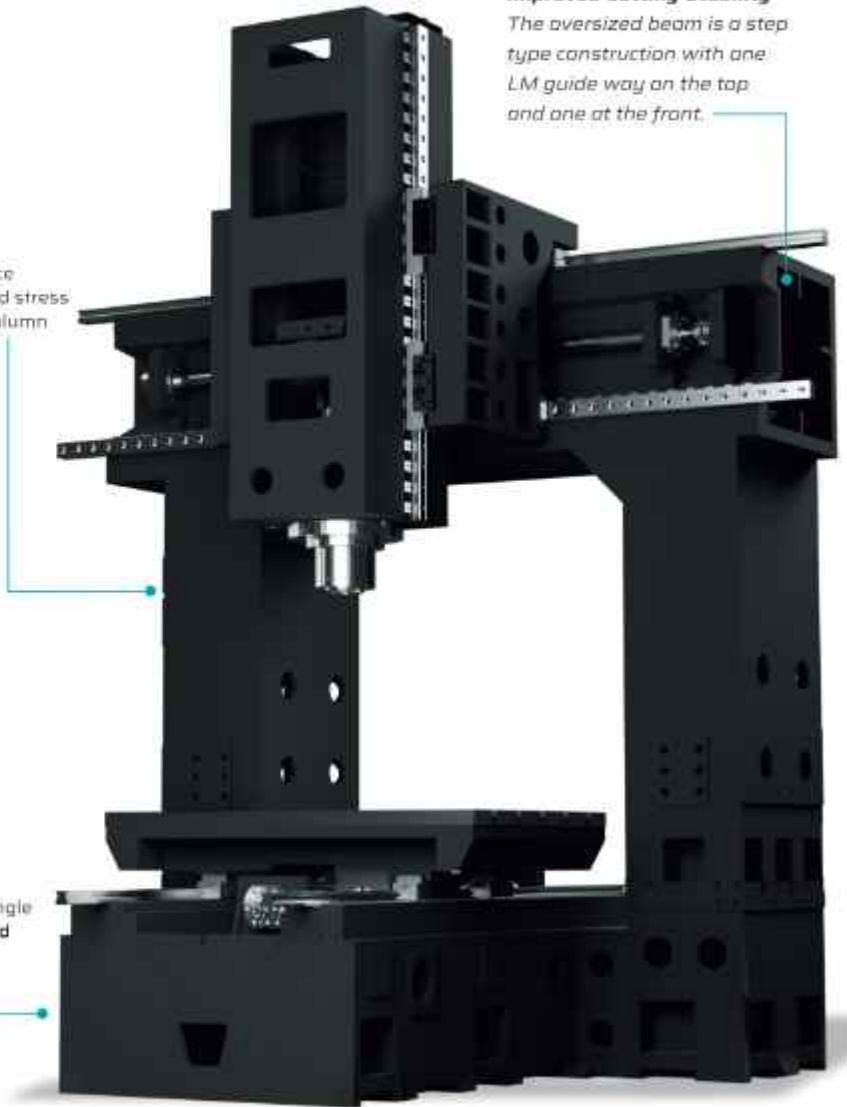
We've enhanced the lifespan of our machines by reducing subassemblies. By integrating key components such as the bearing housing, motor brackets, and nut housing directly into the main casting.



Step Type Beam for Improved Cutting Stability  
The oversized beam is a step type construction with one LM guide way on the top and one at the front.

Single piece casting and stress relieved column

Robust Single casting bed



# Machine Features

## **Ergonomics Design**

- The full enclosure (without the top cover) provides a safe and clean operating environment. The top cover is optional and can be added to meet CE safety directives or specific machining needs.
- The swivel operation panel allows users to operate from any angle or position.
- A wide door width makes loading and unloading of the workpiece easier.
- Large windows on the door provide excellent visibility.

## **Spindle Cooling**

The DYNAMILL Series machine is the only one in its class with a heat-dissipating spindle chiller, maintaining tight control over the spindle, bearings, and motor. This reduces thermal growth, ensuring better spindle preload, stiffness, rigidity, tool life, surface finish, and part accuracy.

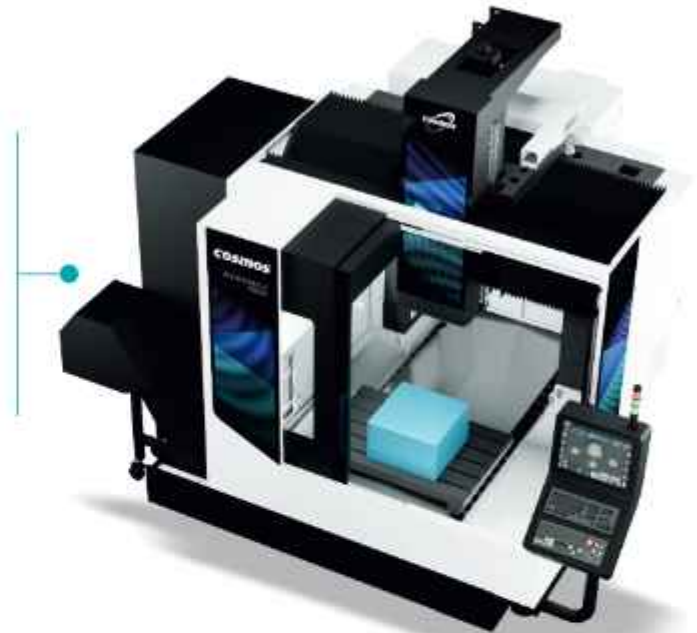
- Stiffness and rigidity for roughing and hard milling operations
- High-speed for small tools, finishing operations and graphite
- Thermal Control for Precision

## **Roller Type LM Guideways**

All axes are equipped with LM roller guideways. These feature higher load capacity and greater rigidity even at high acceleration.

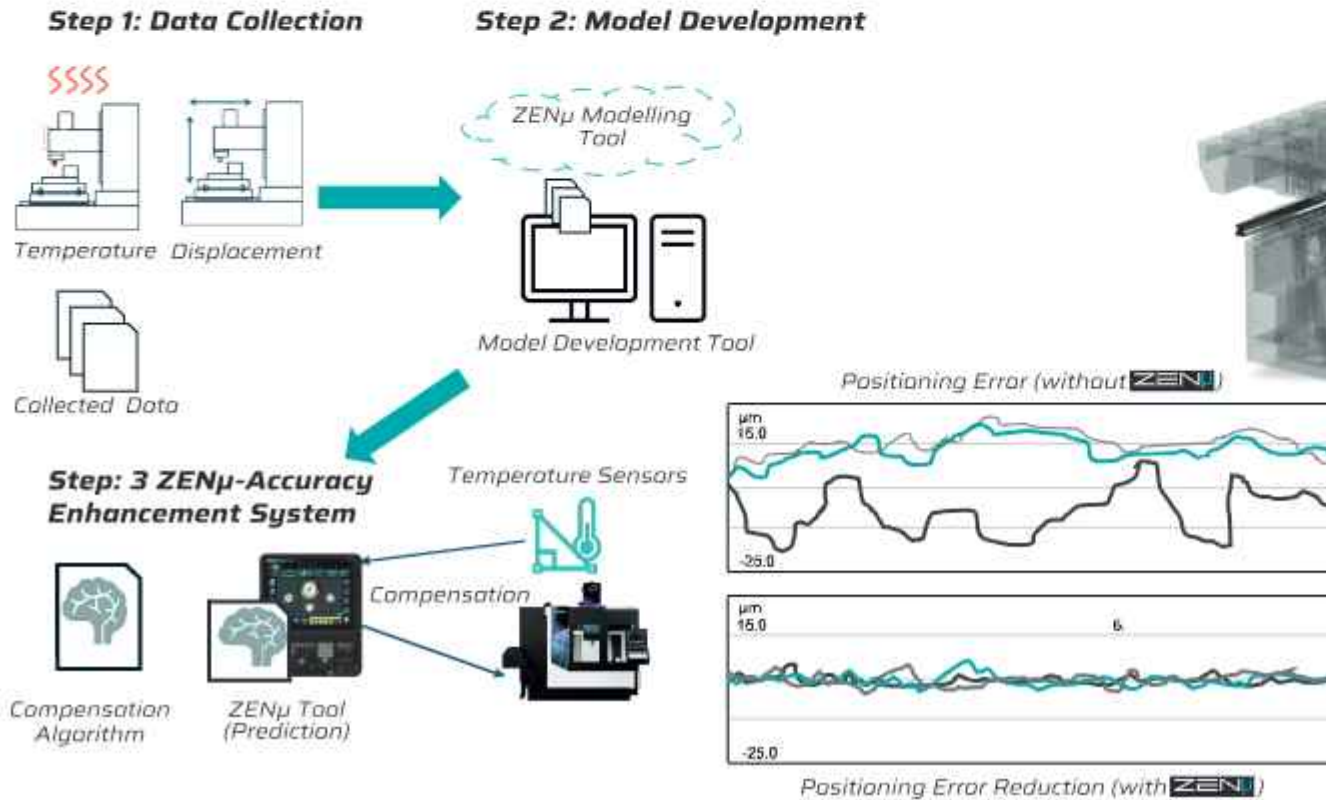
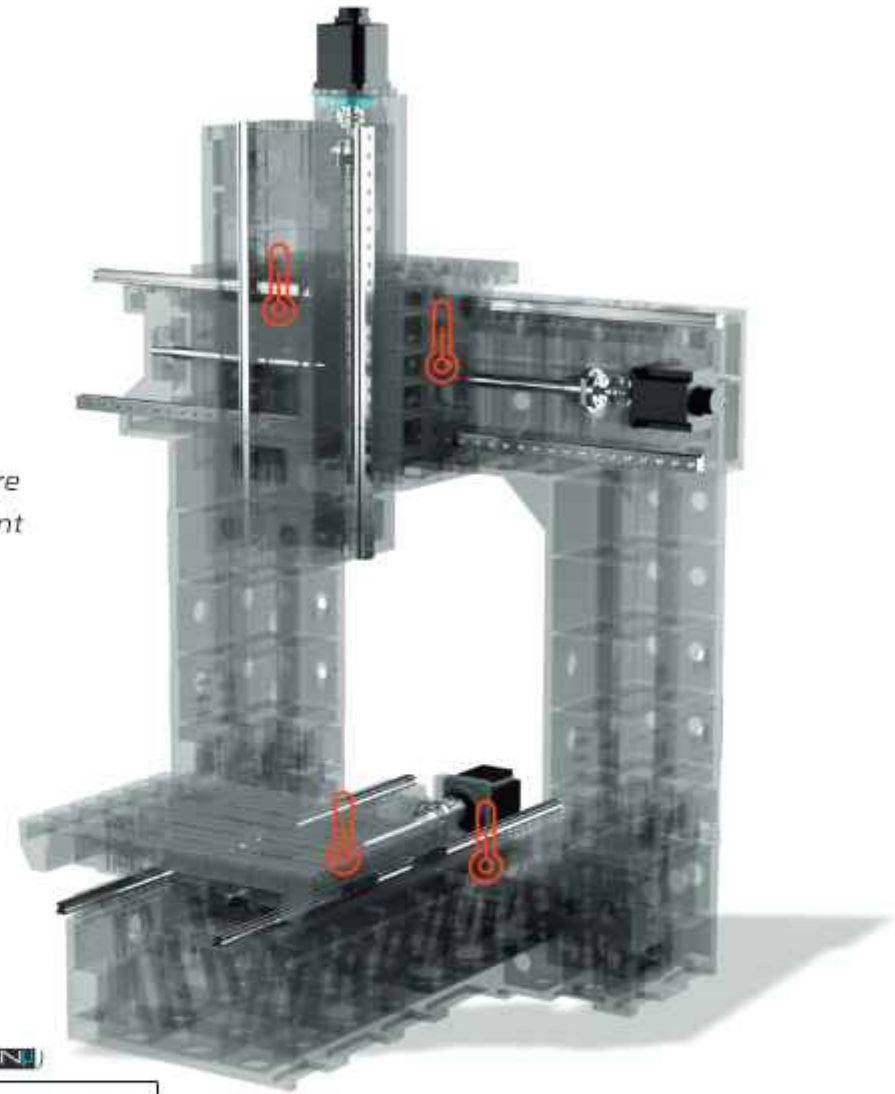
## **Ball Screw Cooling (OPT)**

The Ball Screw cooling option is available for more demanding applications ensuring constant temperature control in addition to Zenµ which is already working in the backend.





- Zenμ is 'AI based' accuracy enhancement system that focuses on maintaining the tool centre point using AI algorithms.
- Using algorithms written in the module, the external zero point of X, Y and Z axis are shifted in multiple degrees of freedom to maintain the tool centre point at a constant position in the real time.



# Machine Layout

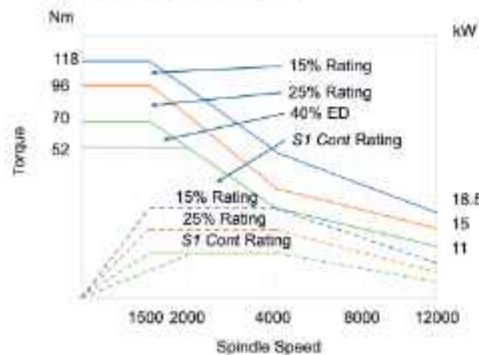
Sr. No.	Machine Model	H1	H2	L	D
1	DM 1100	2285	3660	2990	2818
2	DM 1400	2400	3800	3100	4200



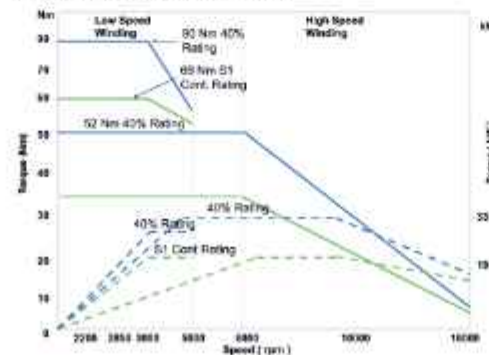
## High Performance Imported Spindle

### Mitsubishi Controller

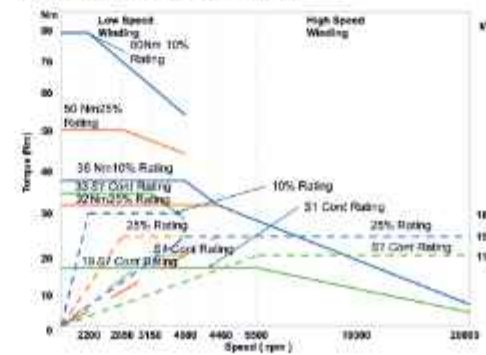
Power 11/15/18.5 kW | Torque 118 Nm  
DDS 12,000 rpm (STD)



Power 19/33 kW  
Built-in 18,000 rpm (OPT)

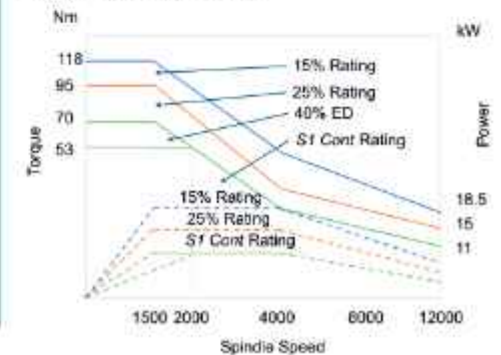


Power 11/15/18.5 kW  
Built-in 20,000 rpm (OPT)



### Fanuc Controller

Power 11/15/18.5 kW  
DDS 12,000 rpm (STD)



# Machine Specifications

Items	Unit	DM 1100	DM 1400
<b>Travel</b>			
X axis	mm	1100	1400
Y axis	mm	700	1000
Z axis	mm	600	600
Distance Between Columns	mm	1100	1100
<b>Table</b>			
Dimension	mm	1050 x 700	1600x1000
Max. Load	kg	1000	3000
T-slot (width x pitch x number)	mm	18*100*5	18*100*5
<b>Spindle</b>			
Spindle Type (Standard)	-	Direct-drive	Direct-drive
Spindle Speed	rpm	12000	12000
Motor Power (S1/S3-25%) (Mitsubishi M80V/M830V Control)	kW	11/15/18.5kW	11/15/18.5kW
Spindle Taper	-	BBT40	BBT40
<b>Feed Rate</b>			
Rapid Traverse (X/Y/Z)	m/min	32 m/min	32 m/min
Cutting Feed Rate	m/min	20 m/min	20 m/min
Motor Power (X/Y/Z)(Mitsubishi M80V/M830V Control)	kW	3/3/4.5	4.5/3/4.5
<b>ATC</b>			
ATC Type	-	Twin Arm	Twin Arm
Magazine Capacity	pcs	24	24
Max. Tool Diameter / Next Pocket Empty	mm	150	150
Max. Tool Length	mm	300	300
Max. Tool Weight	kg	7	7
Tool Change Time (Tool to Tool)	Sec.	2.4	2.4
<b>Machine Weight</b>			
Machine Weight	kg	-7500	-10000
Total Connected Load	kVA	30	30
Power Supply	-	415V/3 phase, 50-60Hz	415V/3 phase, 50-60Hz

## • Standard Features

- Mitsubishi CNC M80V-Type A - 15" with Die-Mould Features (Fanuc CNC Oi-MF Plus - 15")
- ZENEZ-V+HMI
- Cutting Air Blast
- Coolant Tank & Coolant Flushing System
- Coolant Gun & Air Gun
- Dual Auger for Chip Exit
- Air Curtain
- Handheld Manual Pulse Generator (HMPG)
- Air Conditioner for Electric Cabinet
- Ethernet interface for Data Transfer
- Automatic Centralised Lubrication System
- 3-Colour Signal Light
- Working Light
- Levelling Block and Screws
- Maintenance Tools
- Manuals

## • Optional Features

- Mitsubishi CNC M830VS -15"
- ZENEZ-Supreme Series Platform
- HSK-A63 Taper
- Linear Scales XYZ (Fagor / Heidenhain)
- 3-Axis Ballscrew Cooling with Chiller
- 15000 rpm Air-oil Lubricated Direct Drive Spindle
- 18000rpm Grease Lubricated Built-in Spindle
- 20000rpm Grease Lubricated Built-in Spindle
- Oil-Skimmer
- Workpiece Measurement Systems (Renishaw/Blum)
- Tool Measurement Systems (Renishaw/Blum)
- Collision Monitoring System (Artis/Mantronic)
- Coolant Through Spindle (20/30/70 Bar)
- Air Through Spindle (ATS)

- Chip Conveyor - Scraper
- Chip Conveyor - Chain Belt
- Oil Mist Collector
- Safety Door Lock
- 4"/5" Axis Interface

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



**YOUR PARTNER IN  
PROGRESS** 



**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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