



# DOUBLE COLUMN VERTICAL MACHINING CENTERS

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## DCM 1510 / DCM 2112



# DCM

## SERIES



TEXT

ONE NUMBER - MULTI SOLUTIONS

FOR SALES INQUIRIES & CUSTOMER CARE

7998-7998-16



[www.macpowercnc.com](http://www.macpowercnc.com)



## WHY MACPOWER ?

- Totally In-house Manufacturing Capability
- Wide range of products to choose from
- Effective "Cost to Performance" solution provider
- Believing in partnership with customers and not as buyer and seller
- Efficient after sales service back up
- Availability of spares
- Emphasis on continuous R & D & Training
- Flexibility & Openness to manufacture customized machines
- Fast decision making process
- Macpower is a company with a modern outlook - giving you contemporary solutions through time-tested expertise.

## COMPANY PROFILE

Macpower CNC Machines Limited (Macpower) welcomes to the world of machining excellence. More than one and half decades of experience and the vision towards creating a niche has transformed Macpower into India's fastest growing CNC Manufacturing Company. This meteoric growth is a result of Macpower's vision of par excellence to manufacture state of the art products, adopting the best in technology.

In 2003, Macpower Group started Macpower CNC Machines Limited, CNC Machines manufacturing unit in an area of around 4 acres and has grown to almost double thereafter with 2 units in operation at present situated at Metoda G. I. D.C., Rajkot (India). Macpower is registered to ISO 9001(Design), a universally accepted quality assurance designation and MSE-1 certification for highest financial strength and operational ability by CRISIL.

The modern headquarters contains a spacious State of the Art Machine Shop, Totally Equipped Assembly Shops, All Modern Measuring and Testing Equipments, Technologically Advanced Sheet Metal Unit and One of it's Kind Powder Coating Plant make Macpower Totally In-House Manufacturing Company.

Macpower is currently offering widest range of **9** different product categories namely Turning Center, Twin Spindle Turning Center, VMC, Twin Spindle VMC, TurnMill Center, HMC, VTL, DTC, Grinder with **27** versions and **60+** different models serving **27** industry segment world wide with **8000+** installations.

Sales & Service Team presence in **37** cities across the country with **107** qualified engineers and **9** business associates; establishment of multiple regional offices and technology centers across the country to have better connect with our valued customers.



## OUR VISION

To Provide Best Solution In Machine Tool Industry.



## OUR MISSION

Fostering A Spirit Of Continuous Learning And Innovation.

To Offer World Class Products Through Continuous Innovation.

To Reach New Sectors Of Industry In Particular And Society At Large By Offering Products Which Make Change In Present State Of Machine Tools.

To Nurture Best Brains In The Company So As To Develop Them As A Future Leader To Enhance The Company To A Newer Level.

To Provide Quick And Effective Service Base To Enhance Customer Satisfaction Index.





**MACHINE SHOP AREA**



**ASSEMBLY AREA**



**POWDER COATING AREA**



**SHEET METAL AREA**



**SPINDLE ASSEMBLY AREA**



**RESEARCH AND DEVELOPMENT**

Major strength of our product quality is usage of highly precision parts as a part of our In-house manufacturing facilities. We have well qualified, trained skilled intellectual capital to manage manufacturing of High technology driven machines. We have proven state of the art manufacturing and assembly facilities to fulfill the customers' need.

We have **IN HOUSE FACILITIES LIKE,**

The Ultra-Modern **MACHINE SHOP** hosts an a series of mother machineries like multi axes internal and external thread grinder, moving column boring machine, multiple DCMs, toolled up HMCs, surface grinder, series of VMCs, Turn Mill Center along with latest material handling facilities and all the mother machineries are equipped with latest high end tooling and separate set of measuring instruments and QC procedure is being laid down for testing of machined components.

In House **SPINDLE MANUFACTURING AREA** equipped with Kellenberger KEL 100 Universal Cylindrical Grinder with internal and external Thread Grinding Facility and Spindle assembly along with Controlled Temperature Precision Room with Hi tech Spindle Balancing System.

**ASSEMBLY SHOP** has been established with Ucreate flooring, Hi-tech Assembly equipment's & Totally dust Free Environment. In addition Assembly set up classified with product categories like **TURNING CENTERS, MACHINING CENTERS, TURN MILLS CENTER & MULTI AXES CENTERS.**

**SHEET METAL** division is equipped with 8 Axes AMADA Press Brake with Auto Angle correction, SLTL fiber laser profile cutting machine, Modular welding with Assembly set up & Separate Storage Area for ready to use Sheet Metal enclosures for the world class machine with high quality sheet required for the machine guarding.

**POWDER COATING PLANT** is performing with 11 Tank PT Hot and Cold Process with GEMA Automatic Powder Coating Gun system for preventing from corrosion and giving the best aesthetically appeal design with dynamic looks of machines.

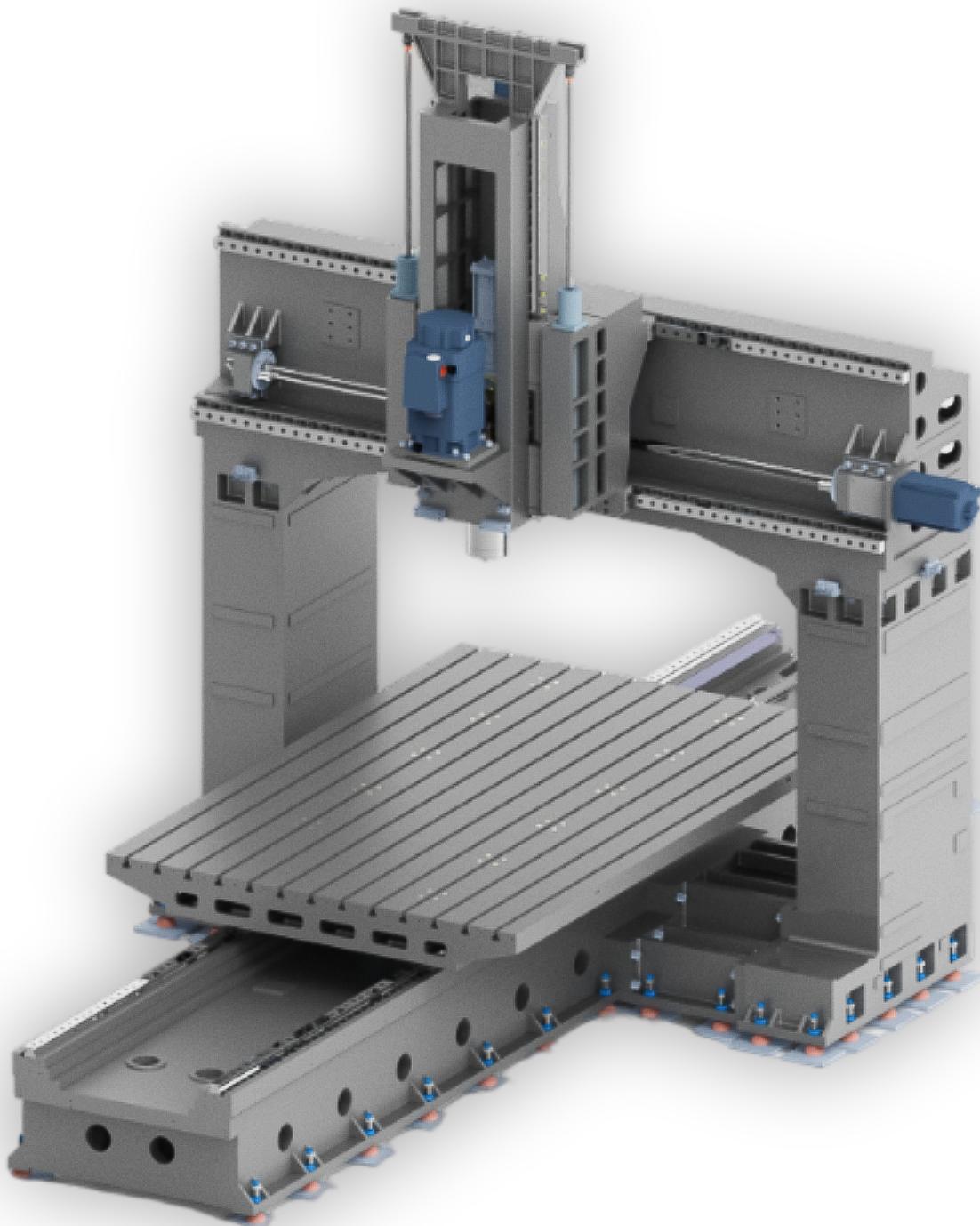
At Macpower **R&D department**, we have intelligent minds with diverse backgrounds to develop technology that is not just effective today, but also tomorrow.

As our machine development process afforded by the incorporation of digital design techniques, we were able to take an idea and turn it into a prototype in just under one to two months.

In today's competitive market, you need robust Double column machine with un-compromised performance and specifications to produce world class products quickly accurately and with minimum non productive time.

### **Structure & Frame**

The rigid bed and step up structure are made out of grade 25 cast iron for more stability. It is ribbed to provide more rigidity and less distortion during cuts and faster production, with virtually no vibration. A totally revamped ergonomic structure and frame helps stabilise different machining operations with requisite precision.



## **HIGH CAPACITY ACCURATE SPINDLE**

The precision cartridge spindle unit having three super precise angular contact bearings at front and two at rear end, this combination ensures higher stiffness. Bearings are perfectly aligned and grease packed for long life. Spindle is indirectly driven by high speed AC spindle motor with reduced pulley ratio, to achieve high spindle torque and optimal performance of machine.



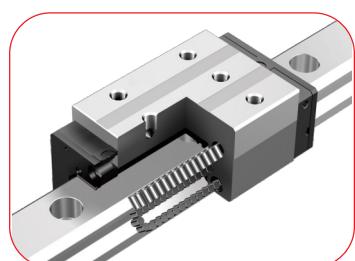
## **ADVANCE INSPECTION TECHNOLOGY**

Laser Calibration is carried out to insure the linear accuracy, providing accurate compensation for pitch and backlash. The machine facilities the attainment of positional accuracy up to 0.01 mm / 300 mm and repeatability accuracy up to 0.007 mm.



## **HEAVY DUTY ROLLER LM GUIDEWAYS**

All axes are furnished with precise and heavy load capacity re-circulating roller guide ways enabling high acceleration-de acceleration and hence better rigidness.



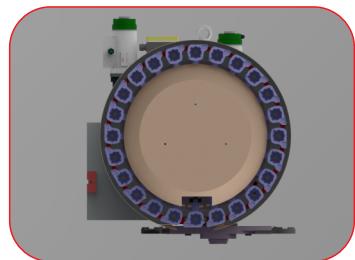
## **DOUBLE - ANCHORED BALL SCREWS**

Ball Screws are directed by direct coupled AC servo motor with flexible coupling. This greatly improves positioning accuracy, and provides more accurate threading and contouring. Ball Screws are anchored at both ends and inspected for parallelism with axis guide. Pre-loaded ball nuts eliminate backlash.



## **RELIABLE ATC**

Twin arm type side mounted ATC driven by screw and cam speed up tool changing time with random access and resulted in reduce cycle time and higher productivity. Each subsystem is tested for innumerable cycle at every stage to enhance reliability.



**90° MILLING HEAD (AUTOMATIC/MANUAL)**

An Automatic 90° Milling head is a tool used in milling machines that allows for precise machining operations at a right angle ( 90°) to the workpiece surface. this type of milling head is typically used when milling horizontal surfaces or performing vertical milling operations.

**AC SWIVELING HEAD (AUTOMATIC/MANUAL)**

an automatic change swiveling milling head enhances the versatility and productivity of milling machines by automating tool changes and enabling multi-axis machining operations.

**COOLANT THROUGH SPINDLE (CTS)**

This option provides high pressure filtered coolant directly to the cutting edge minimizing heat distractions, ensuring maximum productivity with today's high performance tooling. Highly recommended for jobs demanding deep boring and tapping.

**GEAR BOX**

For applications requiring high cutting for harder material or high cutting speed for soft materials, 2-speed gearbox need to be opted. These gearbox provide higher cutting torque at lower RPM with auto shifting mechanism keeping power constant. Such gearbox get directly coupled to main spindle motor giving production flexibility without disturbing precision.

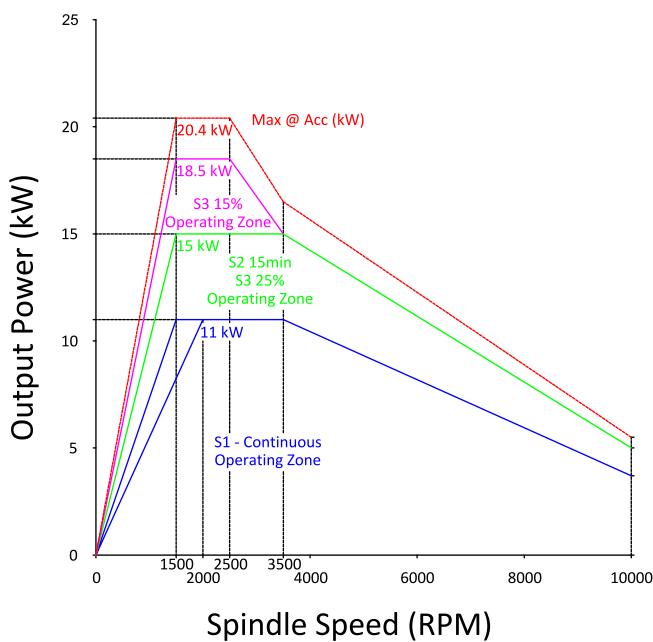
**CHIP CONVEYOR**

Machine can be mounted with chip conveyor option for efficient Swarf removal for entire series. such type of arrangements is very much useful for applications requiring continuous machining hours having much metal removal. with help of downtime can be reduced drastically.

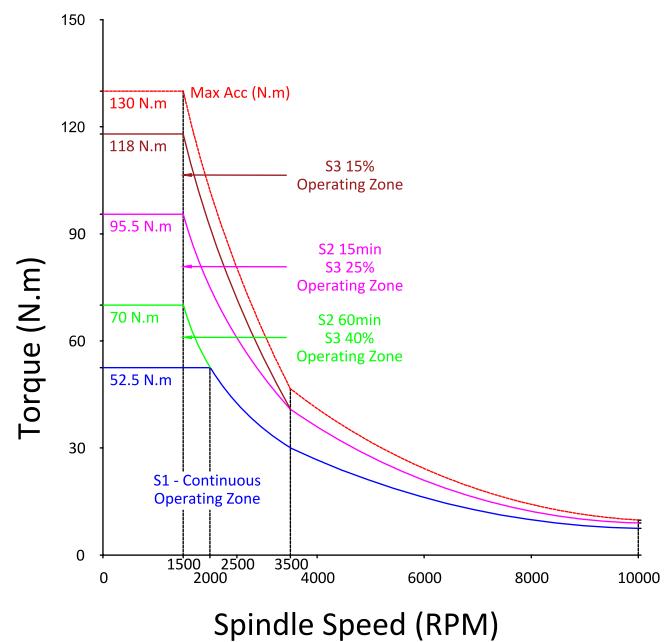


MODEL	Y AXIS STROKE	SPINDLE NOSE TO TABLE TOP	Z AXIS STROK	DIST. BETWEEN COLUMNS
	Y	A	Z	W
<b>DCM - 1510</b>	<b>1000</b>	<b>150</b>	<b>750</b>	<b>1150</b>
<b>DCM - 2112</b>	<b>1200</b>	<b>150</b>	<b>750</b>	<b>1350</b>

## POWER DIAGRAM



11 / 15 kw



11 / 15 kw

# MACHINE CONFIGURATIONS



AXIS CAPACITY	UNIT	DCM 1510	DCM 2112
Travel X	mm	1500	2100
Travel Y	mm	1000	1200
Travel Z	mm	750	750
Distance Between Column	mm	1150	1350
Rapid X/Y/Z	m/min.	20/20/20	20/20/20
Distance Table - Spindle Face	mm	150 - 900	150 - 900

## TABLE

Size	mm	1600 x 1000	2200 x 1200
T Slot No	-	7	7
T Slot CD	mm	125	160
T Slot Width	mm	22	22
Max. Safe Load on Table	Kg	2200	4000

## SPINDLE

Taper	-	BT-40 / BT-50	BT-40 / BT-50
RPM	-	8000 / 6000	8000 / 6000
Cutting Feed Rate	mm/min.	0 - 10000	0 - 10000
Spindle Motor - Fanuc	Kw	11	11
Spindle Motor - Siemens	Kw	15	15

## AUTOMATIC TOOL CHANGER

ATC	-	Pragati	Pragati
No. of Tools (Std/Opt)	-	24/20 (30/40)	24/20 (30/40)
Max. Tool Dia. (All pocket full)	mm	250/400	250/400
Max. Tool Dia. (Adj. pocket empty)	mm	125/200	125/200
Tool Length Max.	mm	250/400	250/400
Tool Weight Max.	Kg	7/20	7/20
Tool Change Time (Tool to Tool)	-	-	-

## ACCURACY

Positional Accuracy	mm	0.020	0.020
Repeatability	mm	0.008	0.008

## CHIP REMOVAL

Chip Removal	-	Screw	Screw
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## OTHER

Machine Weight	Kg	14000	16500
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## SYSTEMS

Fanuc	-	Oi MF Plus	Oi MF Plus
Siemens	-	828D	828D
Mitsubishi	-	M80V	M80V

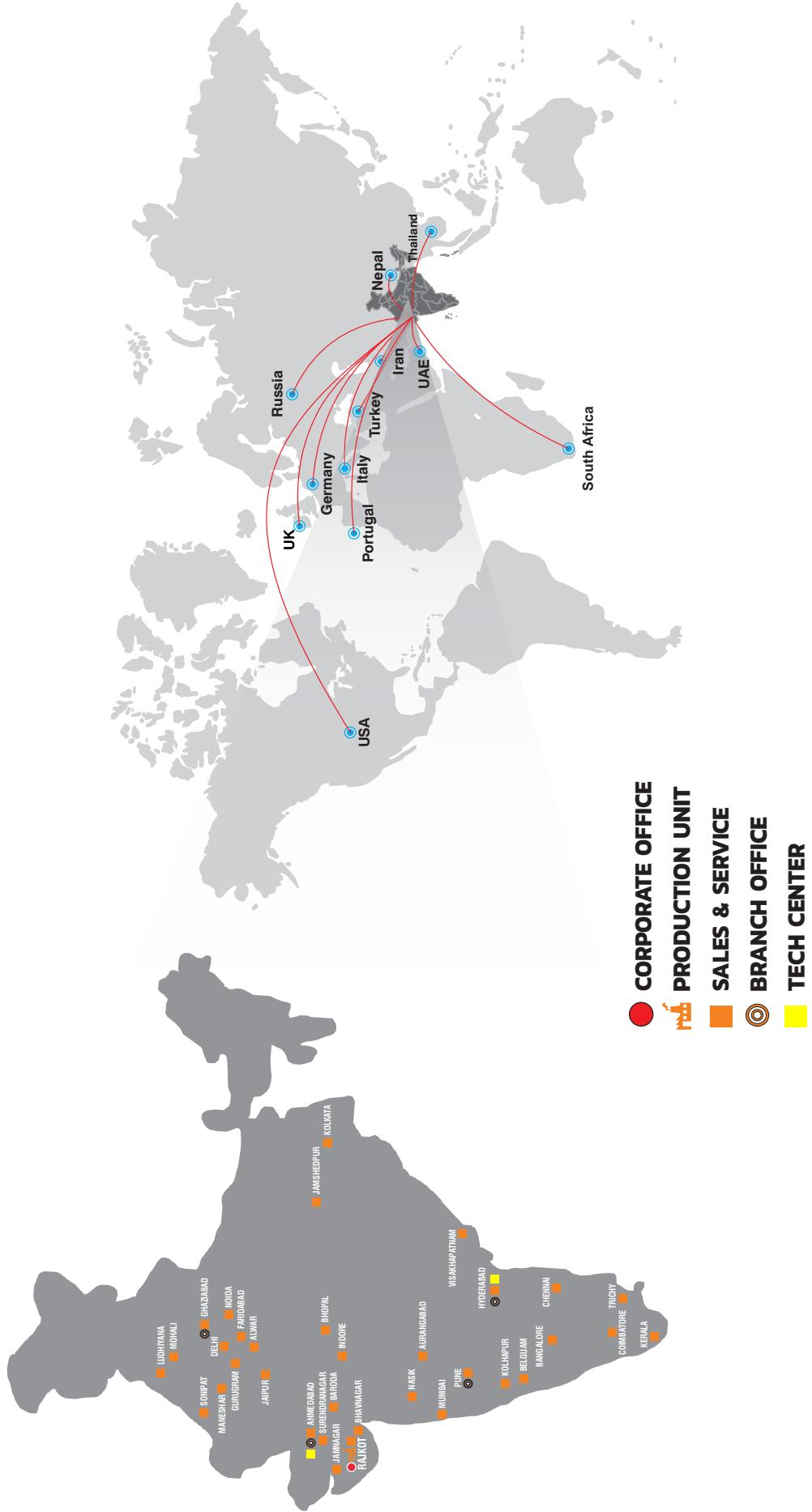
**STANDARD**

- ROLLER GUIDEWAYS
- WORK LIGHT
- HAND WHEEL
- LEVELING PAD
- RING COOLANT
- AIR GUN
- CENTRALIZED LUBRICATION SYSTEM
- PULL STUD
- DRY AIR CUTTING
- COOLANT GUN
- SCREW CONVEYOR TWIN TYPE

**OPTIONAL**

- AUTO DOOR
- LINEAR SCALE
- STABILIZER
- FLUSH COOLANT
- COOLANT THROUGH SPINDLE
- ROTARY TABLE
- ROTARY TILTING TABLE
- GEAR BOX
- HIGHER RPM SPINDLE
- SPINDLE CHILLER
- TOOL PROBE
- WORK PROBE
- TOOLED UP SOLUTIONS
- CHIP CONVEYOR
- 90° MILLING HEAD  
(AUTOMATIC & MANUAL)
- AC SWIVELING HEAD  
(AUTOMATIC & MANUAL)
- VERTICAL AXIS PULL UP  
DURING POWER FAILURE

## OUR PRESENCE



# FOR MORE INFORMATION PLEASE CONTACT

## WEST ZONE

Rajkot	:	93777 87930
Jamnagar	:	74860 42366
Surendranagar	:	74860 42366
Morbi	:	93777 87930
Bhavnagar	:	93777 87930
Ahmedabad	:	93775 87930
Sanand	:	93775 87930
Anand	:	93775 87930
Baroda	:	63560 02810
Halol	:	63560 02810
Surat	:	93753 87930
Vapi	:	93753 87930
Mumbai	:	93203 87930
Nasik	:	93713 87930
Aurangabad	:	93456 87930
Kolhapur	:	72858 55955
Pune	:	93210 87930
Ahmednagar	:	93210 87930

## NORTH ZONE

Delhi	:	76000 10288
Faridabad	:	74860 29853
Ghaziabad	:	72111 02820
Noida	:	76000 10288
Gurugram	:	63588 811123
Haryana	:	89504 69265
Sonipat	:	89504 69265
Ludhiana	:	99886 93302
Mohali	:	99886 93302
Jaipur	:	72111 88869
Alwar	:	72111 88869
Jodhpur	:	72111 88869

## EAST ZONE

Kolkata	:	93758 45361
Jameshedpur	:	93758 45361

## SOUTH ZONE

Hyderabad	:	72111 03869
Bangalore	:	72111 03869
Chennai	:	63560 02822
Belgaum	:	91641 02610
Coimbatore	:	72111 02822
Trichy	:	72111 02822
Kerala	:	72111 02822

## CENTRAL ZONE

Indore	:	99747 97756
Bhopal	:	87706 96570

*at  
your service  
anytime  
anywhere*



**MACPOWER CNC MACHINES LTD.**



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CE Certified

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