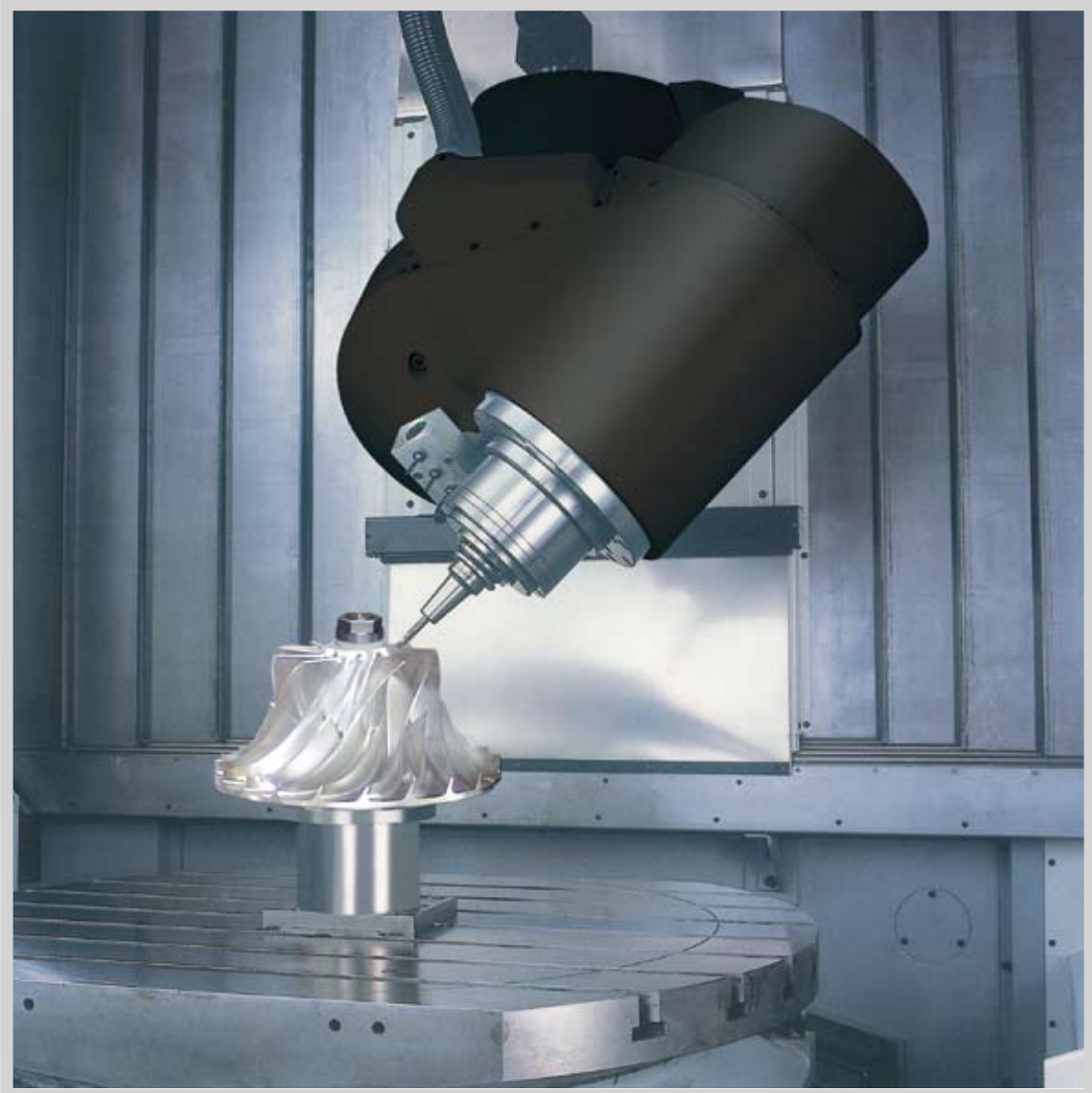


Eumach

Always A Step Ahead



UMC-1000

5 AXES MACHINING CENTER

5 AXES

A PROFESSIONAL CNC MACHINES MANUFACTURER

THE MOST EFFICIENT & INTELLIGENT MACH PERFORMANCE MACHINING, INCREASE PRO

• UMC-1000 5 AXIS SIMULTANEOUS MILLING CENTER :

- 1000mm x 800mm x 700mm
three axis travel
- 1000mm x 800mm working rotary
table with 1500kg load
- 0.001 degree swivel milling head
and rotary table :
Torque motor driven B axis swivel
milling head Worm gear driven
C axis rotary table
- Standard 3 axis linear scales +
2 axis rotary encoders
- BT#40 / 14000RPM / 29.3KW
motor spindle
- Time saving thanks to
multi-sided machining
without having re-set
- Maximum productivity thanks
to rapid movement and
high acceleration
- Unlimited flexibility &
versatility when manufacturing
individual part
- Maximum stability thanks to
optimum load distribution
- Highest machine precision
repeatability thanks to the
avoidance of any axis overlapping

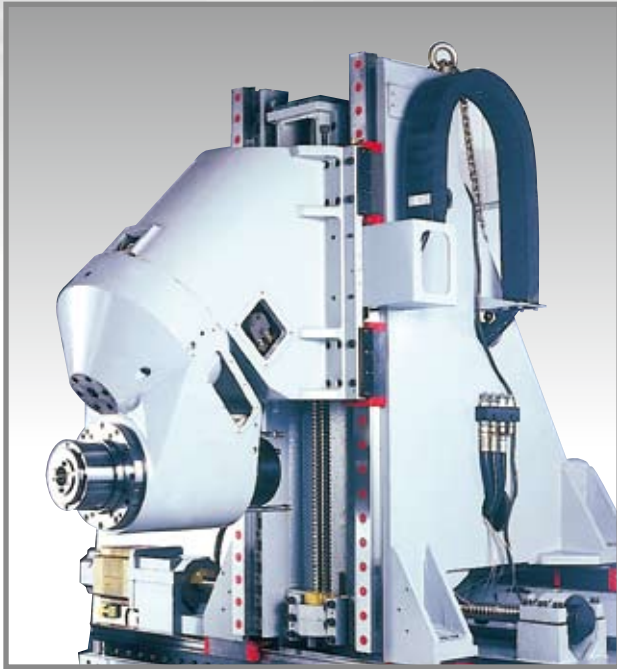


INING CONCEPT FOR MULTI-SIDED HIGH DUCTIVITY, FLEXIBILITY AND REPEATABILITY



Sliding front & side doors with a super wide top opening, this make very easily for straight forward loading awkward shaped workpiece.

NEXT GENERATION



Automatic swiveling milling head

● ROLLER GUIDEWAYS

- ▶ The high rigid & heavy duty roller type linear motion guideways on 3 axes to provide low starting inertia, low friction and high acceleration, rates optimizing servo drive and ensure machine response immediately & precisely for high speed cutting requirements, especially in rapid positioning and contouring cutting.

● BALL SCREWS

- ▶ The high precise & rigid 50mm diameter ballscrews on 3 axes, driven by powerful AC servo motors, directly coupled by couplings provides the utmost results in high speed cutting for the very fine accuracy and finishing.

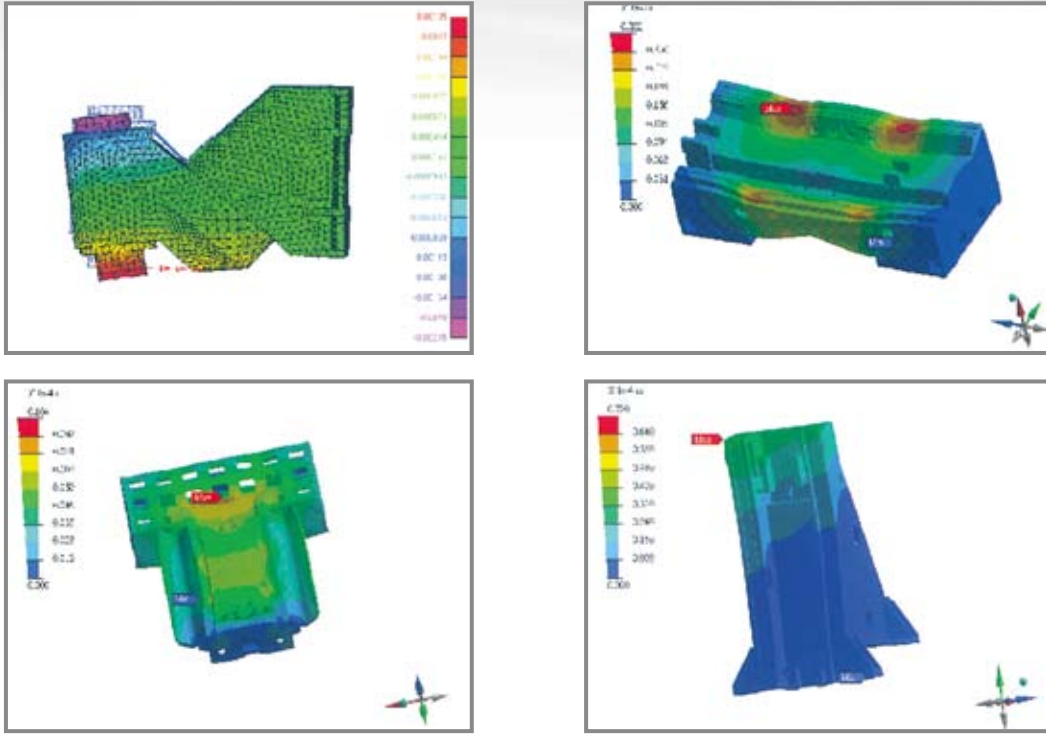


Hi-Lo ladder bed design to increase column resistant rigidity.

TECHNOLOGY DESIGN

● RIGID CASTING FRAME

- Using the most advanced Computer Aided Design and Finite Element Method analysis programs, an extremely rigid casting frame is being created.



● OUTSTANDING ACCURACY

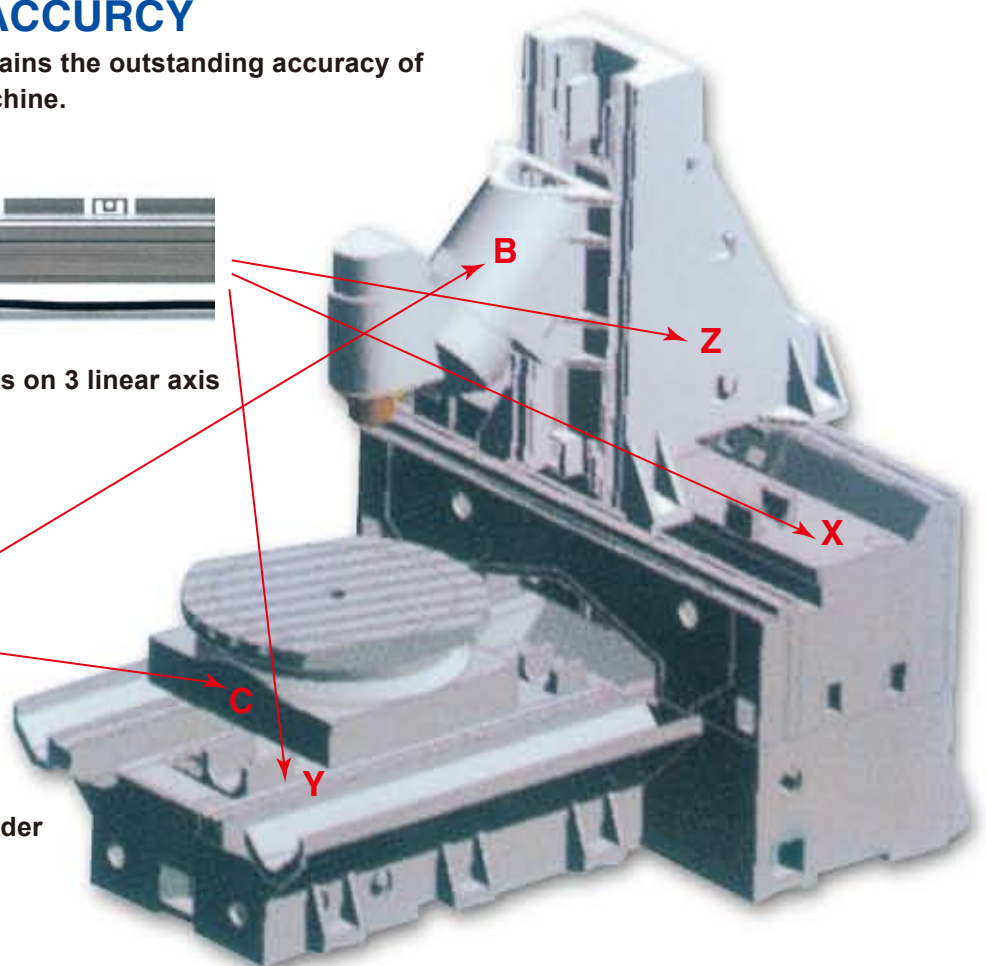
- Standard equipment maintains the outstanding accuracy of this high performance machine.



- High precision linear scales on 3 linear axis X & Y & Z.



- High precision rotary encoder on 2 rotary axis B & C.

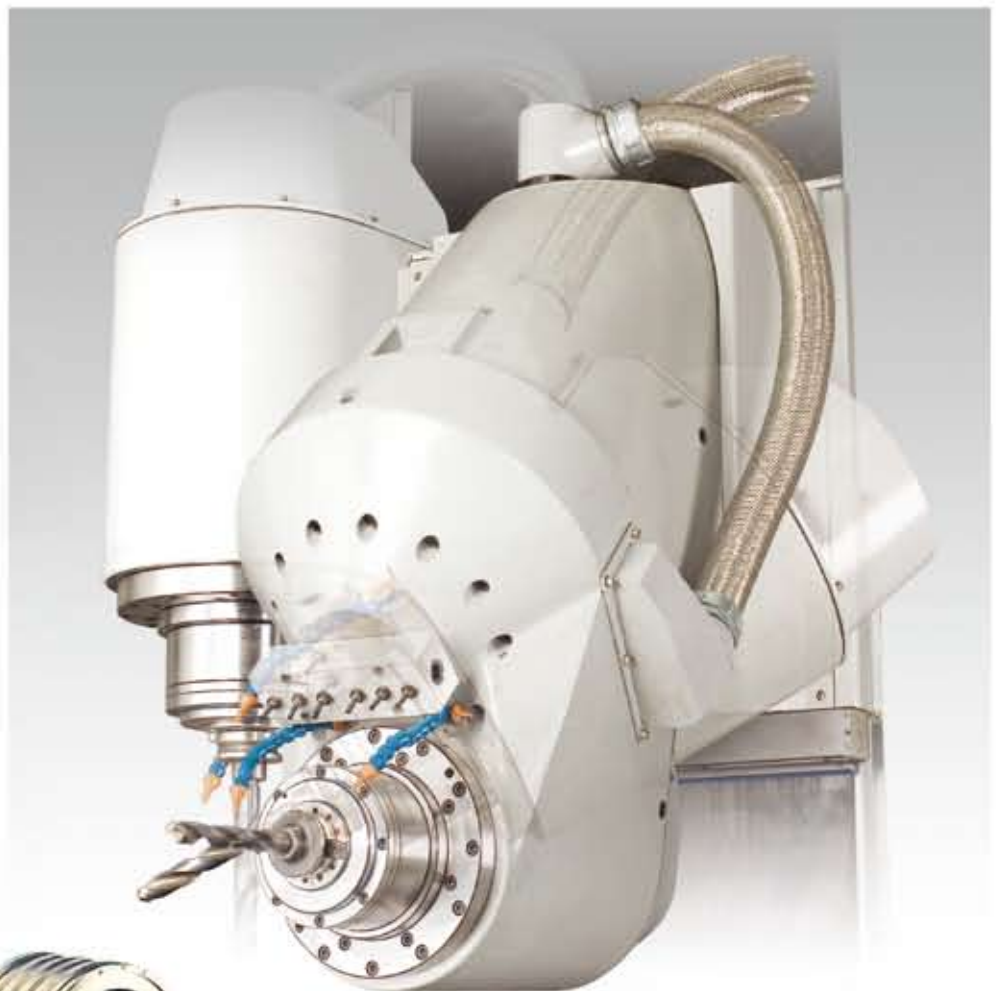


B AXIS INNOVATIVE SWIVEL MILLING HEAD



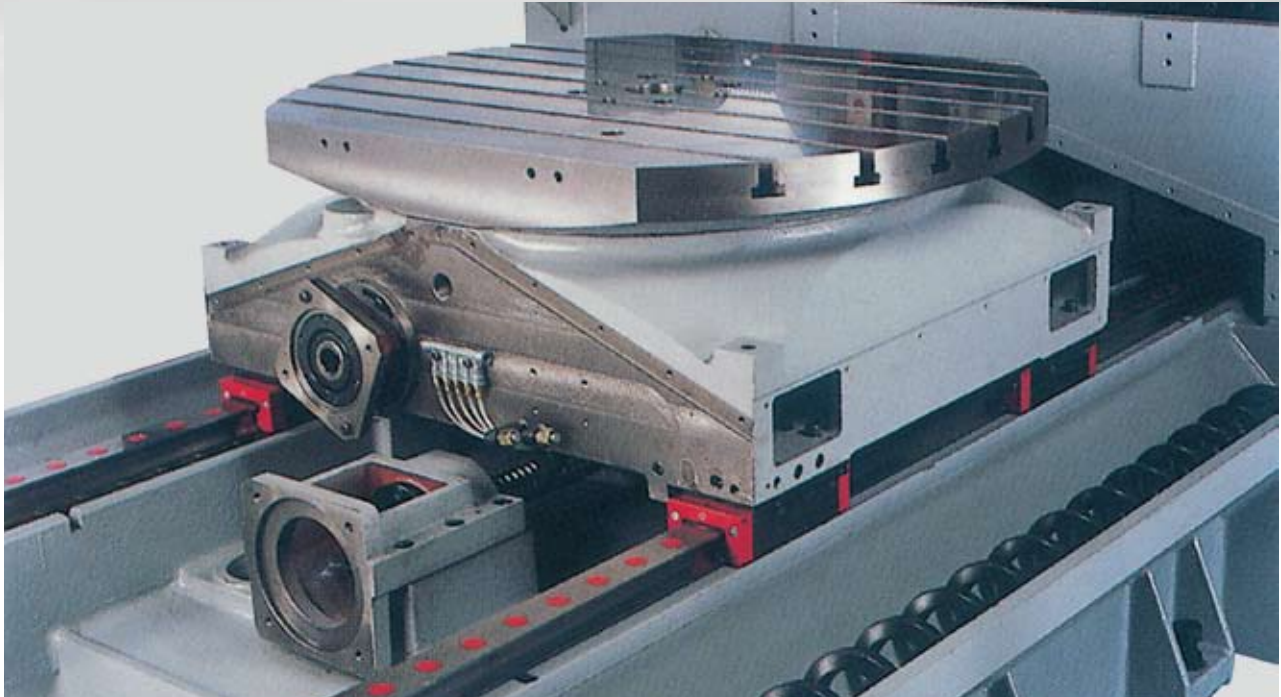
- The latest technology torque motor manages the B axis continuous swivel milling head , it guarantees maximum movement dynamic and linearity and thanks to the absence of those traditional mechanical kinematics parts, it results a much higher performance on finishing surface. The direct reading system by a high precision angular encoder is being integrated for maximum precision.

- As a controlled B-axis, the swivel head changes from vertical to horizontal machining in seconds.



- Offers an extra flexibility; the fully automatic 0.001 indexing from vertical to horizontal positions by means of torque motor, this gives operator an extra flexibility: multi-sided machining without re-setting the workpiece; manufacture of complex components with a single set-up; 5 sided machining without additional fixture; 5 axis machining in combination of rotary table.

C AXIS DURABLE CNC ROTARY TABLE

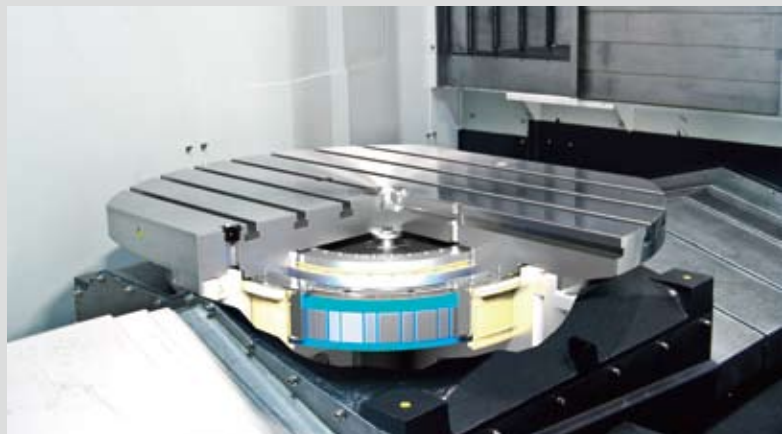


● STANDARD:

- ▶ 1000mm x 800mm dimension with 1500kg load driven by AC servo motor, it can be indexing 0.001° by high precision worm gear, clamping force up to 9000kg, positioning by hydraulic cylinder; a high precision rotary encoder is included.

● OPTIONAL:

- ▶ 1000mm diameter torque motor drive rotary table with maximum rotation 60 RPM, 1820Nm peak torque, 4000Nm brake torque, 1200kg load, $\pm 5'' / \pm 2.5''$ positioning / repeatability accuracy, German made !

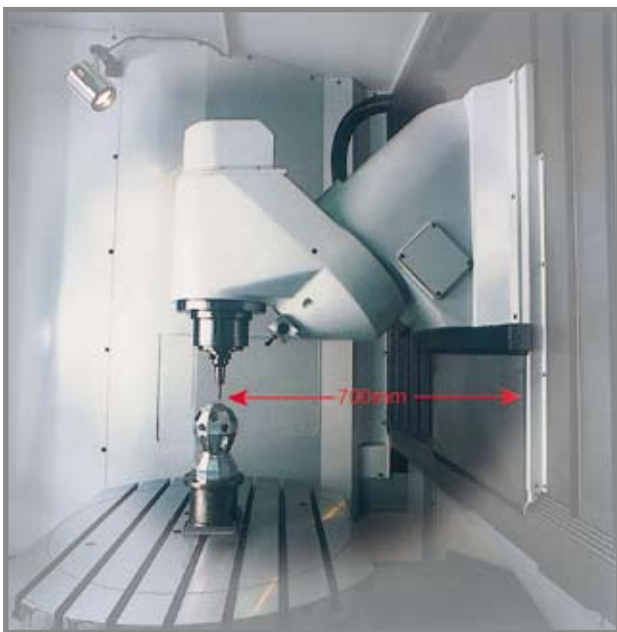


	Standard milling	Optional milling	Optional mill & turn
Transmission	Worm gear	Torque motor	Torque motor
Table surface size	1000mm x 800mm	1000mm diameter	800mm diameter
Max. speed RPM	11	60	500
Maximum load	1500kgs	1200kgs	500kgs or 800kgs
Country made	Taiwan	Germany	German or Italy

OPERATOR WORKING



● USER-FRIENDLY FULL GUARDINGS



● WIDE THROAT DISTANCE

- ▶ A very wide distance 700mm between spindle center and X axis slideway cover, this gives operator a great convenience of different workpiece setup.



● AUTOMATIC TOOL CHANGER

- ▶ A 40 positions double swing arm ATC provides as standard for most of machining applications.

CONSIDERABLE ORIENTATION

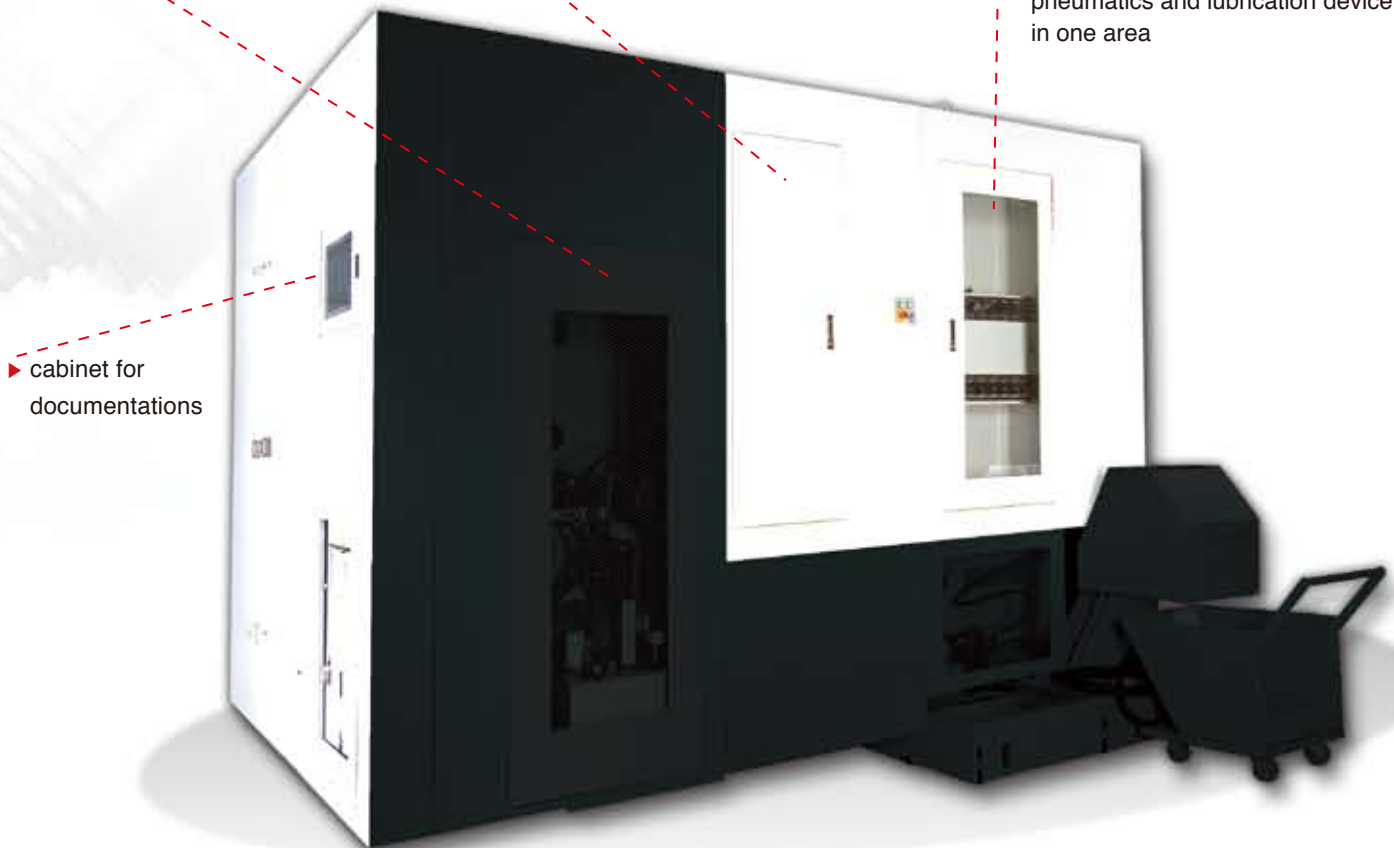
• TOTALLY COVERED GUARDING



► hydraulics, spindle water cooler
all in machine back for easy
maintenance with safety door

► manual tool loading from automatic
tool changer magazine side door
with transparent window

► centrally arranged for all solenoids,
pneumatics and lubrication device
in one area



► cabinet for
documentations

POWERFUL MOTOR SPINDLE



N14D Standard



P16 / 24 Optional

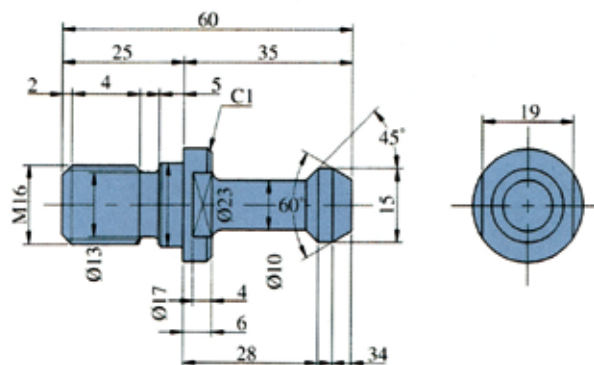
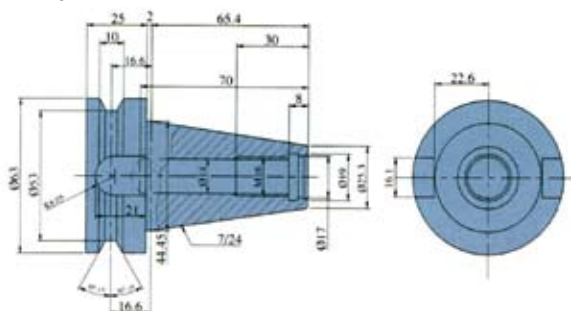


C18 / C24 Optional

Models	N14	P18	P24	C18	C24
Max. speed RPM	14000	18000	24000	18000	24000
Rated speed RPM	4000	1000	2000	2000	4500
Spindle taper	BT#40	HSK-A63	HSK-A63	HSK-A63	HSK-A63
Housing diameter mm	210	210	210	180	180
Power S1/S6 KW	29.3 / 35	22 / 26	21 / 27	21 / 27	34 / 43
Torque S1/S6 Nm	70 / 160	124 / 154	85 / 116	100 / 130	72 / 91

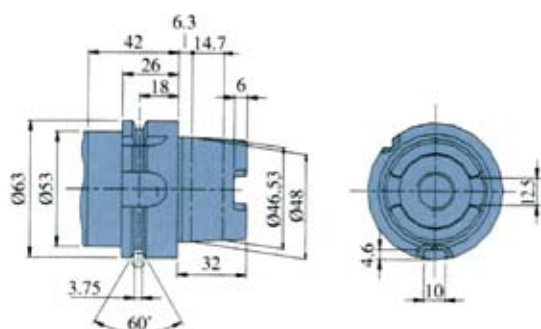
STANDARD:

BT#40

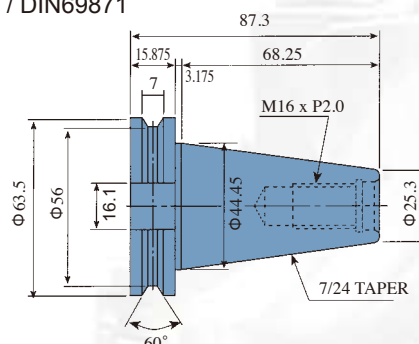


OPTIONAL:

HSK-A63



CAT-40 / DIN69871



DIGITAL CNC CONTROL

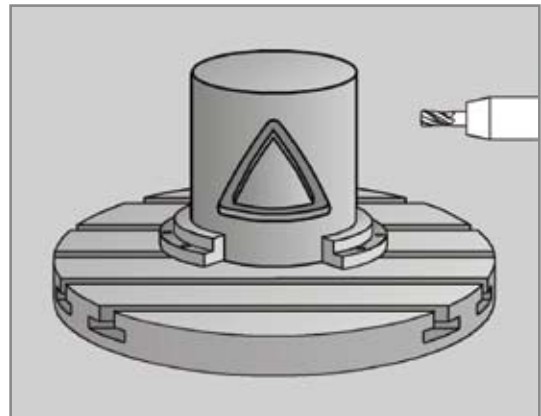


Heidenhain iTNC-530 / 640 HSCI newest control :

1. MC 7222 1.8GHz more powerful CPU than before
2. 32G SSDR storage media resistance to vibration
3. New HEROS 5 operating interface with PDF viewer
4. TE 730 key board & MB 720 panel & 15" XGA screen



Inspecting and optimizing machine accuracy by calibrating rotary axes with kinematics

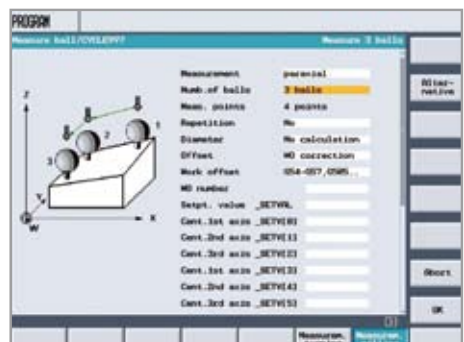
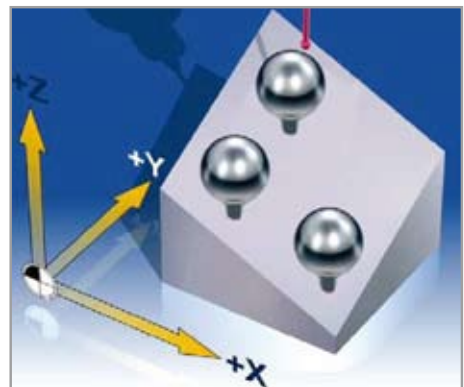


Cylindrical surface interpolation



Siemens 840Di Solution Line newest control :

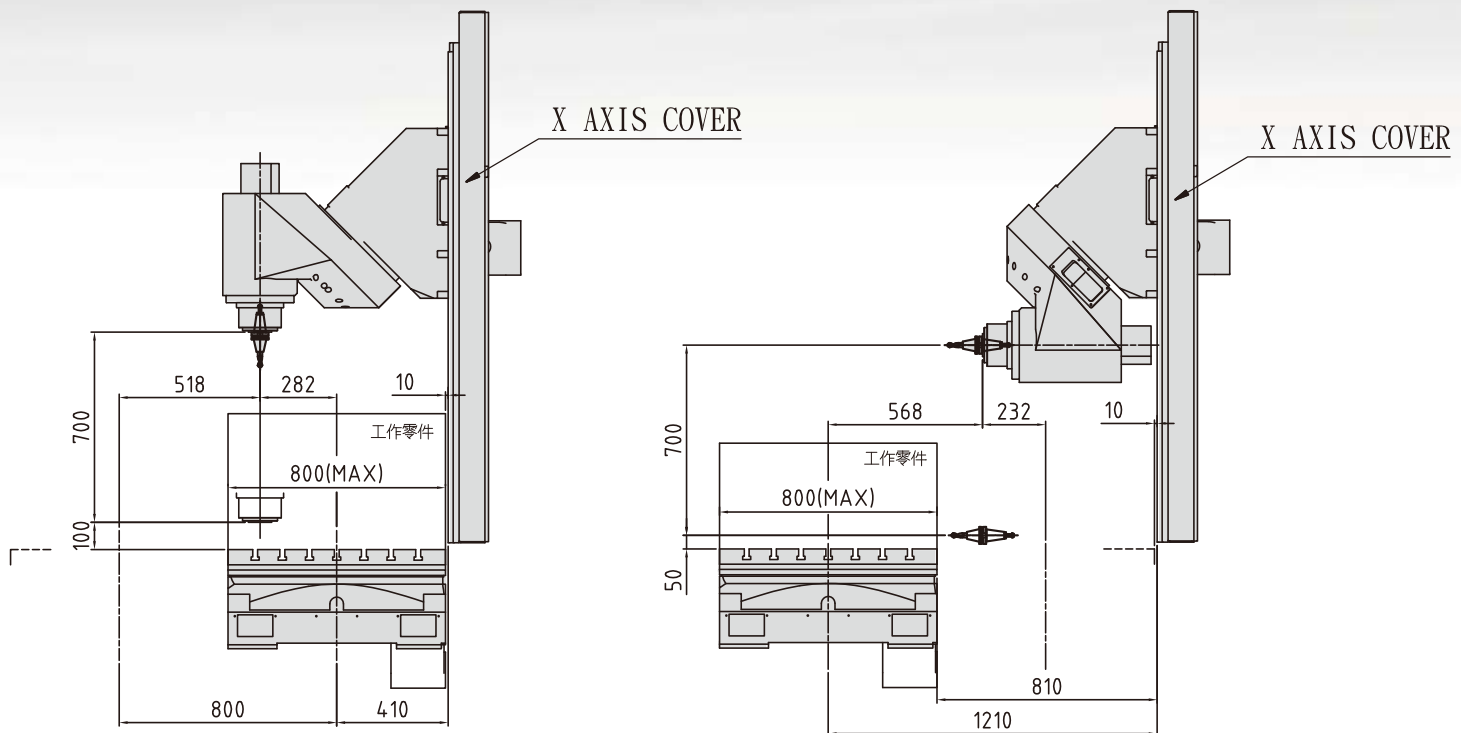
1. NCU 730.2 with PLC 317 - 2DP + 40GB HD
2. PCU 50.3 1.5Ghz , 512Mb, WinXP/Pro interface
3. Shopmill + 3D simulation 1 & HMI Advanced
4. MCP483C panel + OP 015A 15" TFT screen



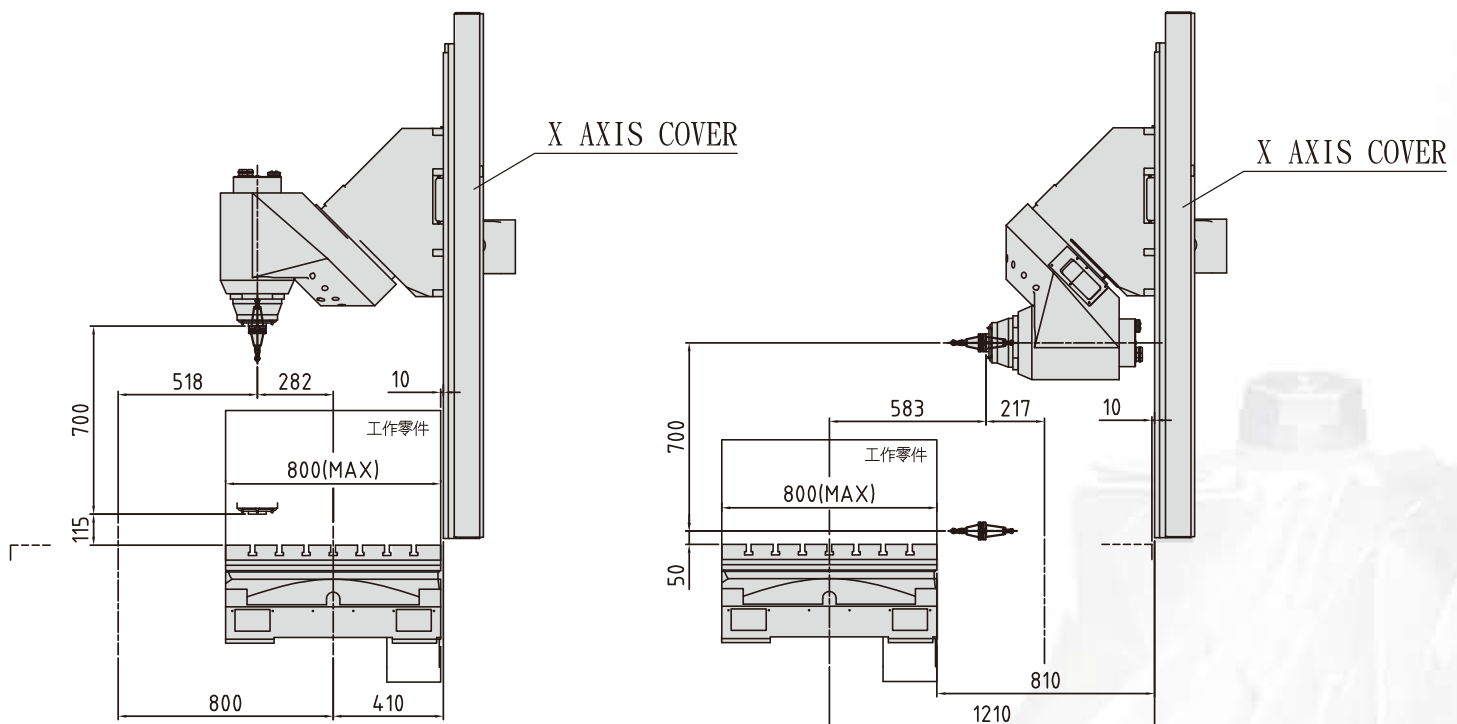
MEASURING 3 SPHERE

WORKING ENVELOPE

1. With standard spindle N140D



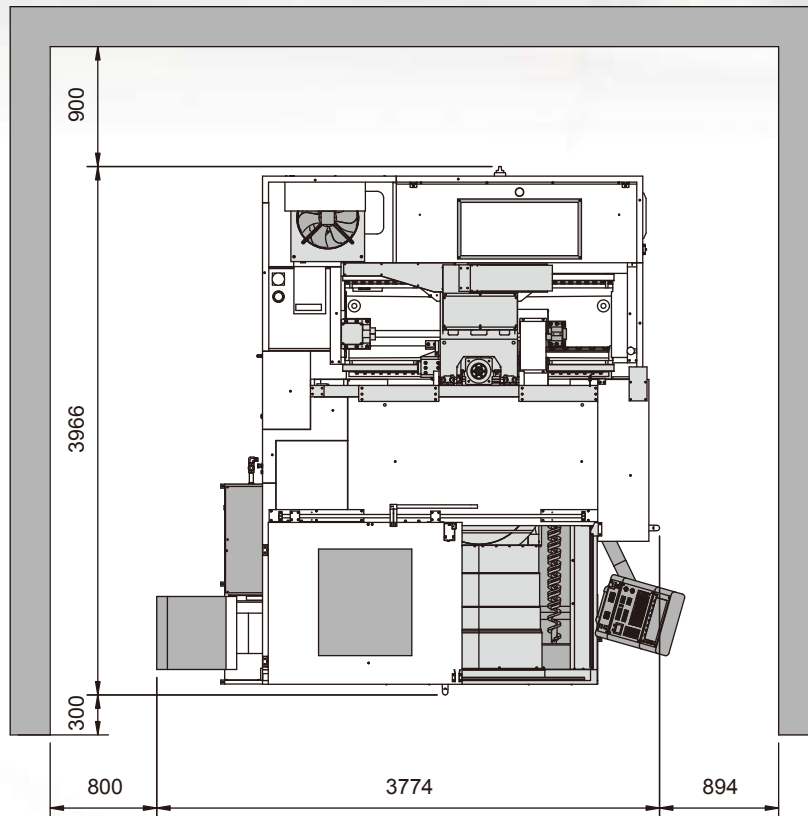
2. With optional spindle C18 / C24



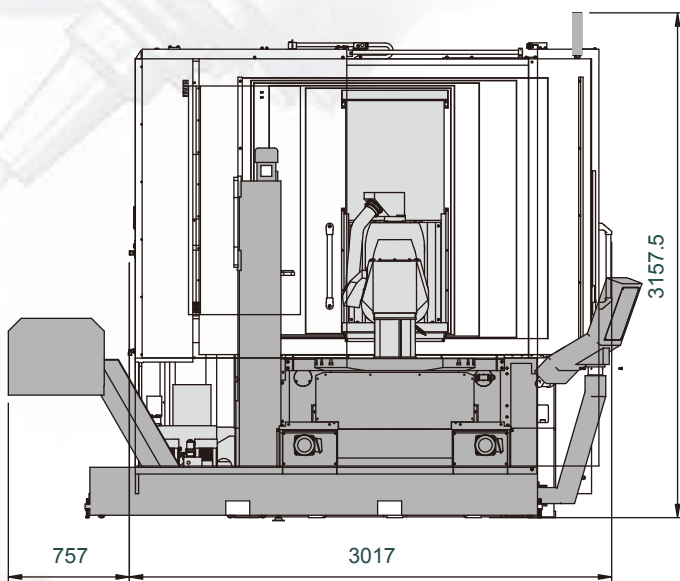
Note : above dimension will be different if spindle is different.

MACHINE DIMENSION

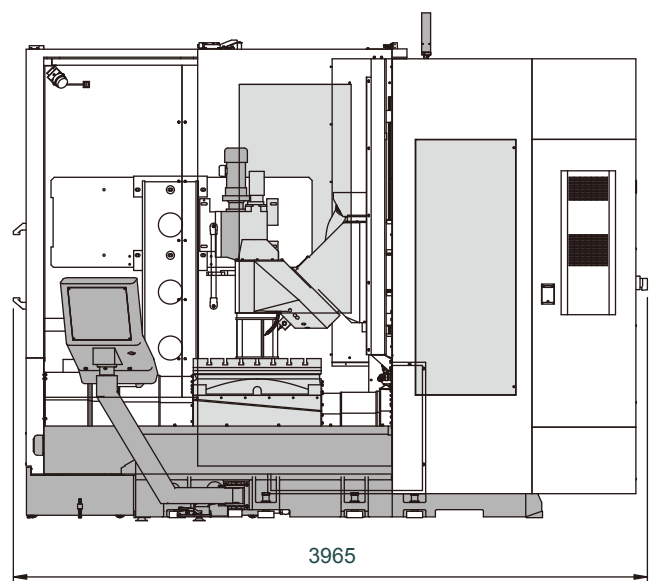
1. TOP VIEW



2. FRONT VIEW

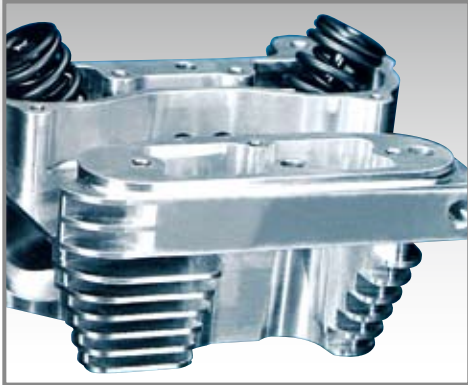


3. SIDE VIEW

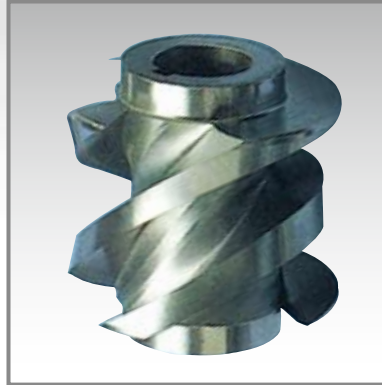


APPLICATIONS-MILLING

- The milling center can be used not only the typical various turbo impeller industries but also servicing aerospace aviation, automotive, medical and mould industries etc.



1. CYLINDER



2. SHAFT



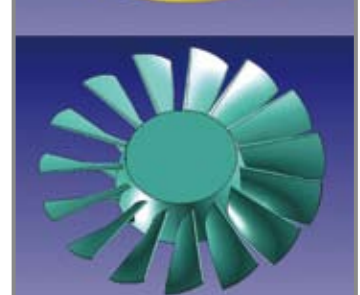
3. GEAR CUTTING



4. MOULD

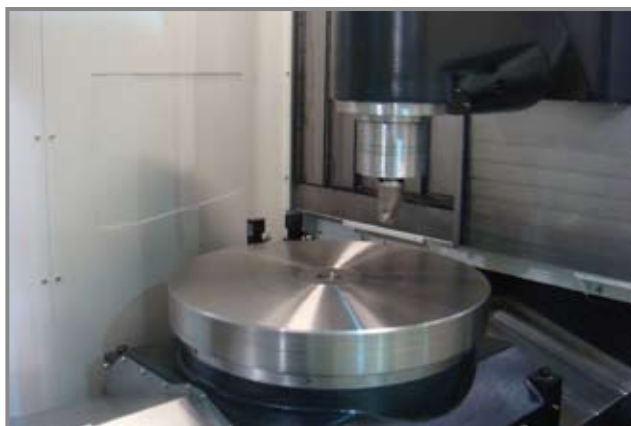


5. TURBO IMPELLERS



6. BLISK

APPLICATIONS-MILLING & TURNING :



MACHINE SPECIFICATIONS

() OPTION

Item	Model Description	UMC-1000 Milling center	UMTC-1000 Mill-turn center
Travel	Linear axis X / Y / Z	1000 / 800 / 700	1000 / 800 / 610
	Swivel head B axis	0° ~ 180°	
	Rotary table C axis	0.001 degree x 360,000	
Swivel head (B axis)	Maximum spindle speed	14000 (18000,24000) RPM	12000 RPM
	Spindle power & torque	29.3 & 35KW, 70 & 160Nm (S1&S6) see page 9	
	Spindle taper	BT (CAT/SK)40, (HSK-A63)	KM 63
	Front bearings diameter	70mm	
	Vertical spindle nose to table	100mm ~ 800mm,	29mm ~ 729mm,
	Hor.spindle center to table top	50mm ~ 750mm	9mm ~ 709mm
	Hor.spindle nose to table center	-230mm ~ 570mm	-262mm ~ 538mm
Rotary table (C axis)	Table dimension	800mm x 1000mm	φ800mm
	Maximum loading	1500kg	1000kg
	Indexing increment	0.001 degree	
	T slots (size x No.x pitch)	18mm x 7 x 100mm	18mm x 7 x 120mm
	Table top to floor	1000mm	1036mm
Feed rate	Rapid linear axis X/Y/Z	24M / 24M / 24M	
	rotary axis B/C	10 (60) RPM	500 RPM
	Cutting feed	20 m/min	
Transmission	Linear axis XYZ	φ50mm C3 ball screw	
	Swivel head B axis	Torque motor	
	Rotary table C axis	Worm wheel (Torque motor)	Torque motor
Axis Accuracy (VDI3441)	Positioning linear axis XYZ / BC	12 microns / 10 "	
	Repeatability linear axis XYZ / BC	8 microns / 5 "	
ATC	Tools number	40 (52) stations	
	Max.tool dia./length/weight	120 mm / 300mm / 7kg	
	Tools exchanging	vertical position	
Weight	Net (before packing)	15 ton	16 ton

STANDARD FEATURES & ACCESSORIES

- FULL SPLASH GUARD WITH TOP ROOF
- PROGRAMMABLE COOLANT SYSTEM
- AUTOMATIC LUBRICATION SYSTEM
- SPINDLE AIR BLAST SYSTEM
- WORK ALARM, INDICATON LAMPS
- SPINDLE WATER COOLER
- LEVELLING BOLTS & PADS
- RS-232 TERMINAL INTERFACE PORT
- MACHINE & CONTROL MANUALS
- TOOLBOX WITH SPANNERS & WRENCHES
- CHAIN TYPE CHIP CONVEYORS + 2 SCRCW CHIP AUGERS
- 3 AXIS LINEAR SCALES + 2 AXIS ROTARY ENCODERS

OPTIONAL ACCESSORIES :



TOOL PROBE



TOOL LASER MEASUREMENT



WORK PLECE PROBE



COOLANT THUR SPINDLE



EUMACH FAMILIES



• **VMC-2150**
Vertical machine center
400MM ~ 3200MM X axis travel



• **TVMC-2000 / 3000**
Moving column machine center
2320MM & 3320MM X axis travel



• **LBM-1500**
High speed bridge type machine center
1100MM ~ 2200MM X axis travel



• **MH-500**
Horizontal machine center
720MM x 650MM x 650MM travel



• **EBM-2150**
5 Face machine center
1400MM ~ 3200MM X axis travel



• **MB-1500**
Moving column horizontal machine center
1100MM ~ 2200MM X axis travel



• **DVM-4025**
5 Face & double column machine center



• **FBE-1500**
Universal milling machine
1500MM ~ 4000MM X axis travel



• **FBM-10040**
Floor type milling center
4M~20M X axis travel

Eumach Co.,LTD.

★ Specifications subject to change without notice.
Catalogue No.A4010306

2, YING LIN LANE, HE-SHENG STREET, SHI-GANG
DISTRICT, TAICHUNG CITY 422, TAIWAN, R.O.C.
TEL:886-4-25810031 FAX:886-4-25810003
E-mail:eumach.coltd@msa.hinet.net ; eumach@ms8.hinet.net
<http://www.eumach.com>

