

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 800(or 1150)mm 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

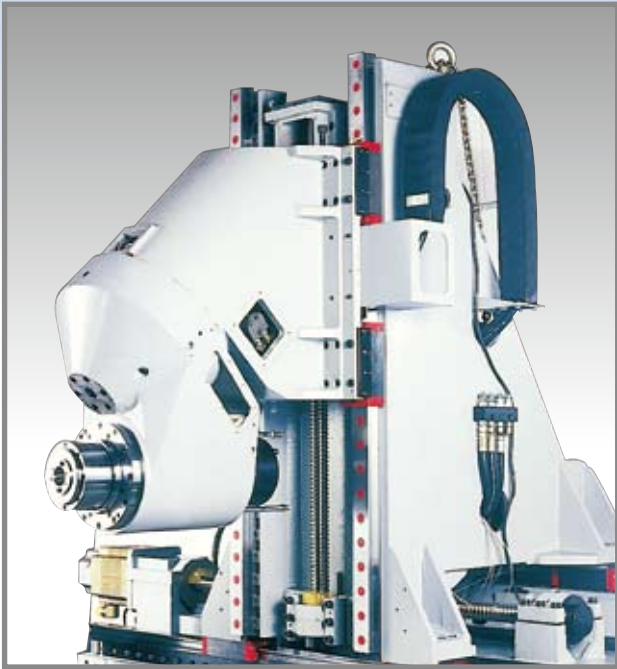


INING CONCEPT FOR MULTI-SIDED HIGH DUCTIVITY, FLEXIBILITY AND REPEATABILITY



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.

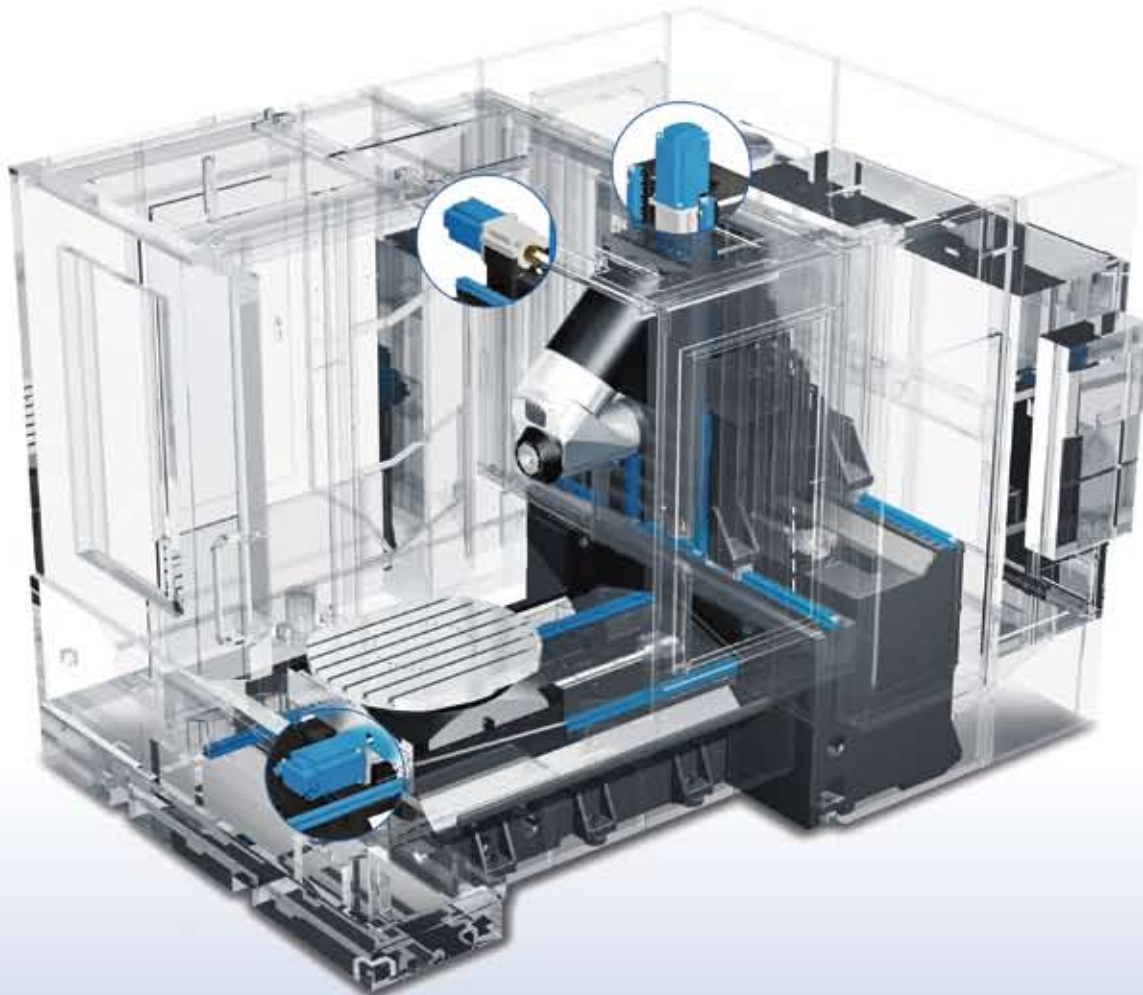
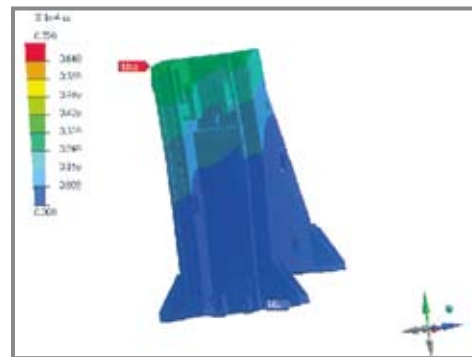
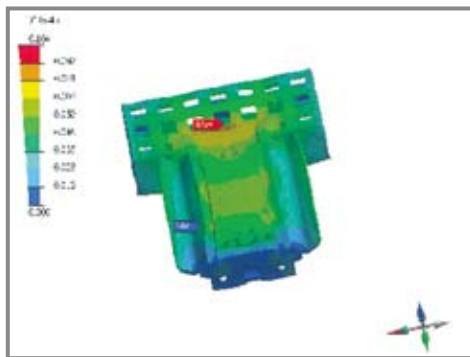
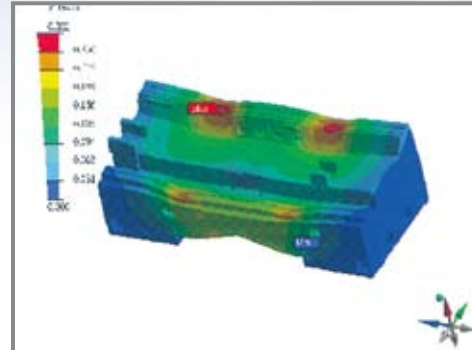
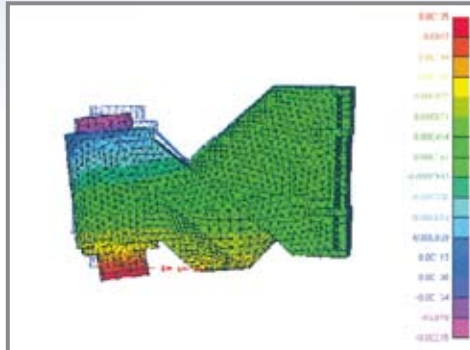


Hi-Lo ladder bed design to increase column resistant rigidity.

TECHNOLOGY DESIGN

● RIGID CASTING FRAME

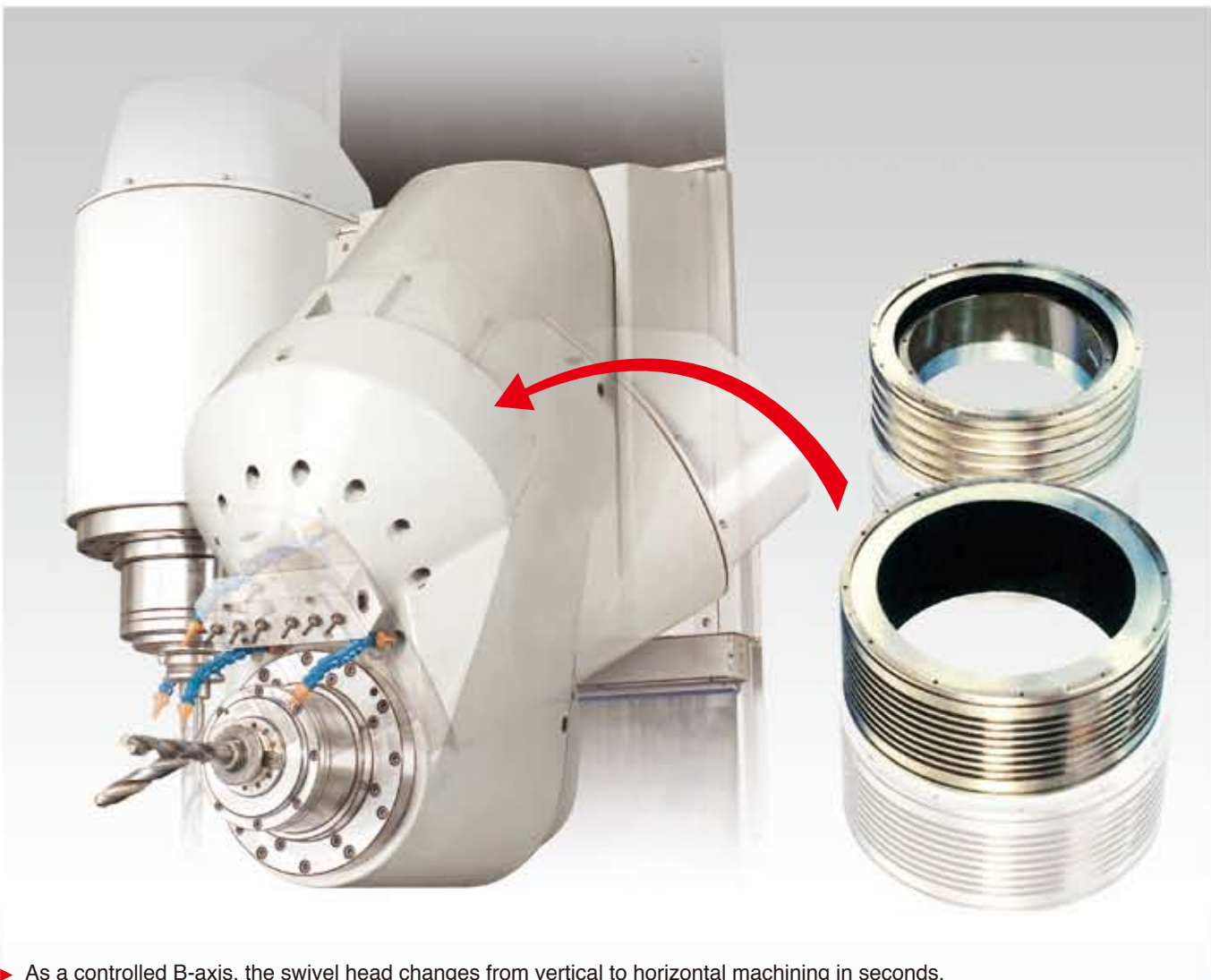
- ▶ Using the most advanced Computer Aided Design and Finite Element Method analysis programs, an extremely rigid casting frame is being created.



B AXIS INNOVATIVE SWIVEL MILLING HEAD

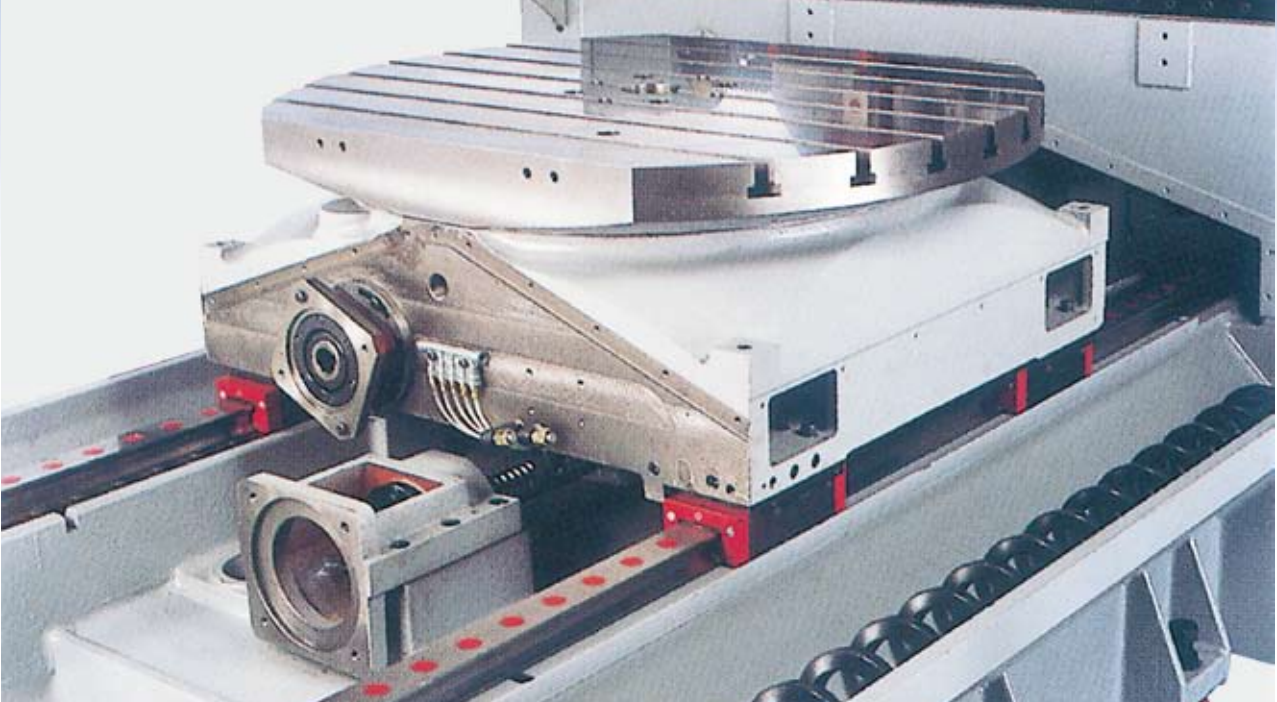


- ▶ The latest technology torque motor manages the B axis continuous swivel milling head , it guarantees maximum movement dynamic and linearity and thanks to the absence of those traditional mechanical kinematics parts, it results a much higher performance on finishing surface. The direct reading system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



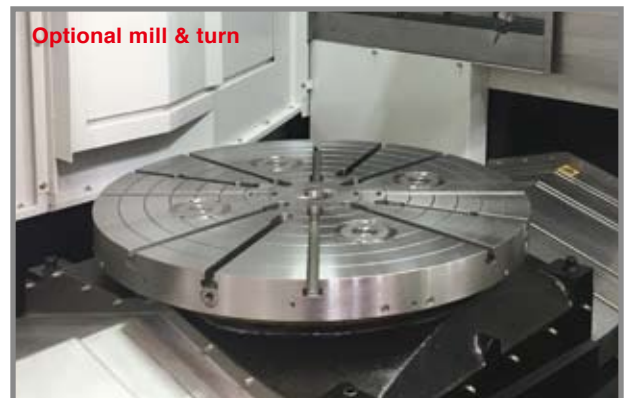
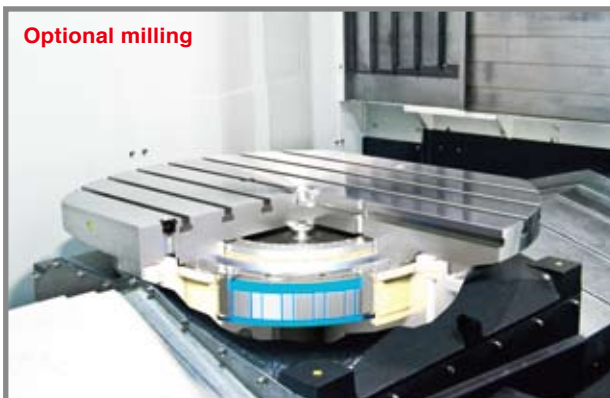
- ▶ As a controlled B-axis, the swivel head changes from vertical to horizontal machining in seconds.
- ▶ Offers an extra flexibility; the fully automatic 0.001 indexing from vertical to horizontal positions by means of torque motor, this gives operator an extra flexibility: multi-sided machining without 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.



	Standard milling	Optional milling	Optional mill & turn
Transmission	Worm gear	Torque motor	Torque motor
Table surface size mm	1000 x 800	§ 1000	§ 900
Max. speed RPM	11	60	800
Maximum load kg	1500	1200	2000mill / 1000turn
Country made	Taiwan	Germany	Germany

OPERATOR WORKING



▲ user friendly swivel CNC control panel



▲ air conditioner on electric cabinet to protect all the inside electric components

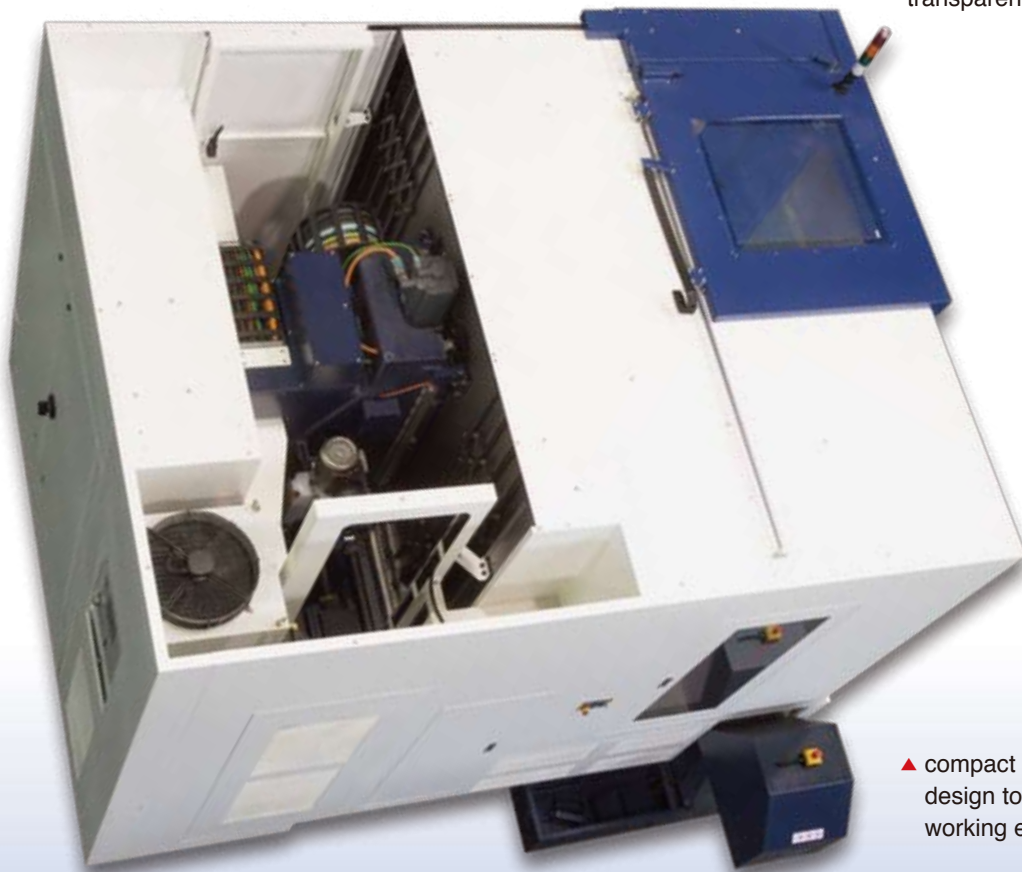
CONSIDERABLE ORIENTATION



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

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

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



▶ compact & space saving design to get a clean working environment

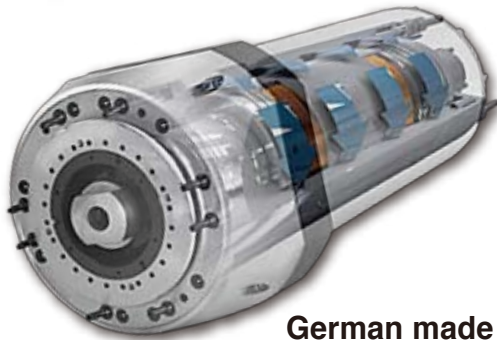
POWERFUL MOTOR SPINDLE



Taiwan made milling



Italy made milling



German made milling

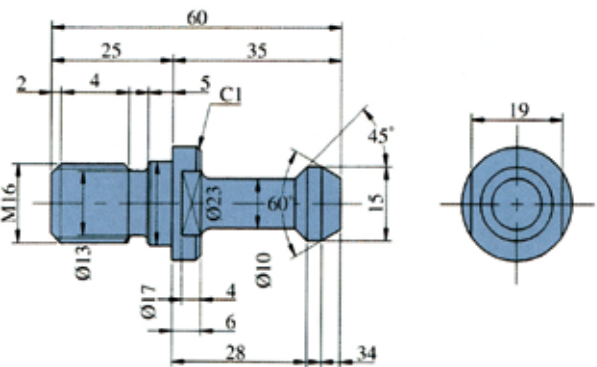
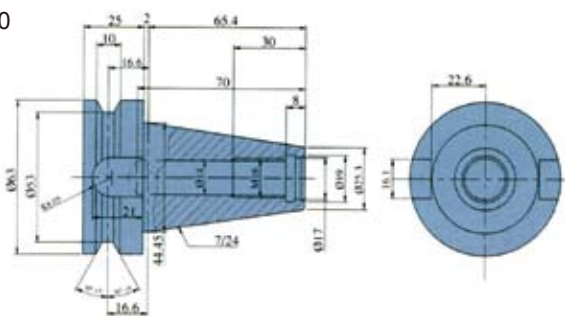


German made mill turn

Models	RPM	Taper	KW	Nm	In use	Made	Remarks
N14	14000	BT#40	29.3 / 35	70 / 160	Milling	Taiwan	Standard
P18	18000	HSK-A63	26 / 32	124 / 154	Milling	Italy	Optional
C34	24000	HSK-A63	34 / 43	72 / 91	Milling	Germany	Optional
C34B	12000	HSK-A63	34 / 42	160 / 200	Milling	Germany	Optional
P12	12000	HSK-A100	30 / 39	227 / 295	Milling	Italy	Optional
C40	15000	HSK-A100	40 / 50	160 / 200	Milling	Germany	Optional
C50	8000	HSK-A100	50 / 64	240 / 300	Milling	Germany	Optional
C27T	12000	HSK-T63	27 / 34	130 / 170	Mill turn	Germany	Optional
C34T	10000	HSK-T100	34 / 43	160 / 200	Mill turn	Germany	Optional

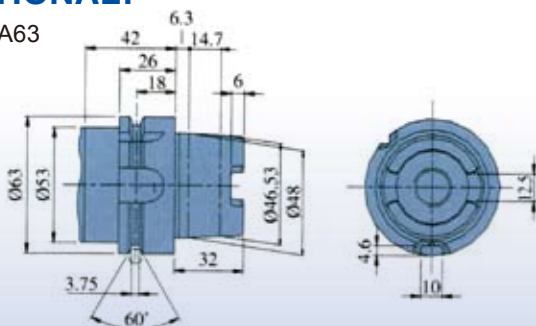
STANDARD:

BT#40

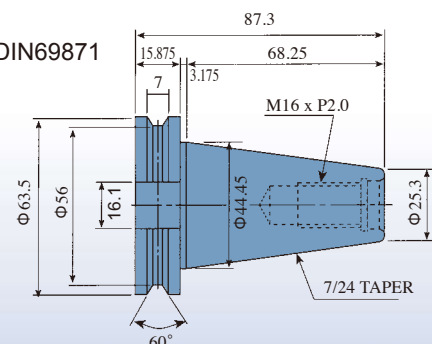


OPTIONAL:

HSK-A63



CAT-40 / DIN69871



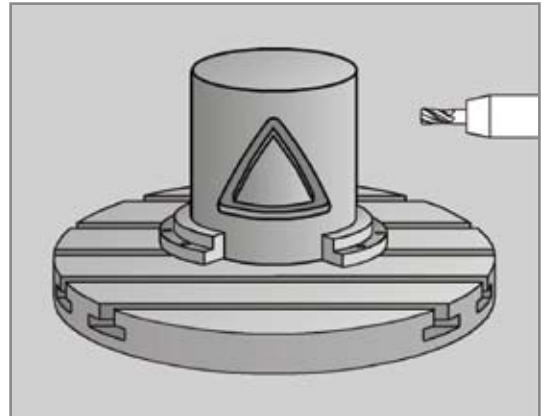
DIGITAL CNC CONTROL



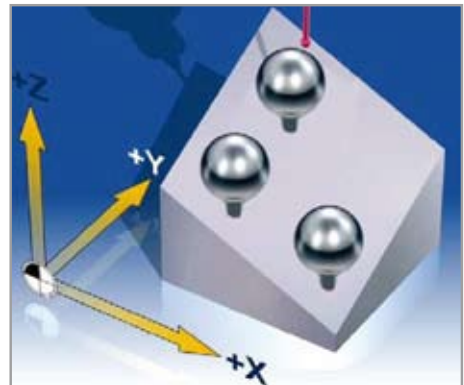
Inspecting and optimizing machine accuracy by calibrating rotary axes with kinematics

Heidenhain iTNC-640 HSCI newest control :

1. MC 7522 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

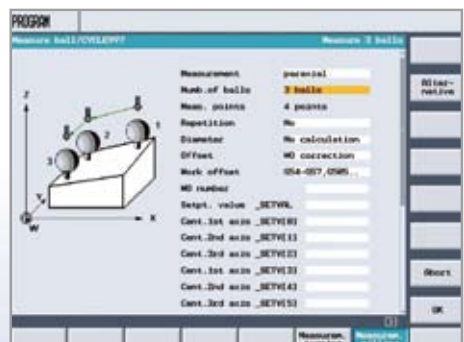


Cylindrical surface interpolation



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

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. Engine block



2. Gear wheel



3. Mould



4. Mould



5. Casting machine part



6. Precision part



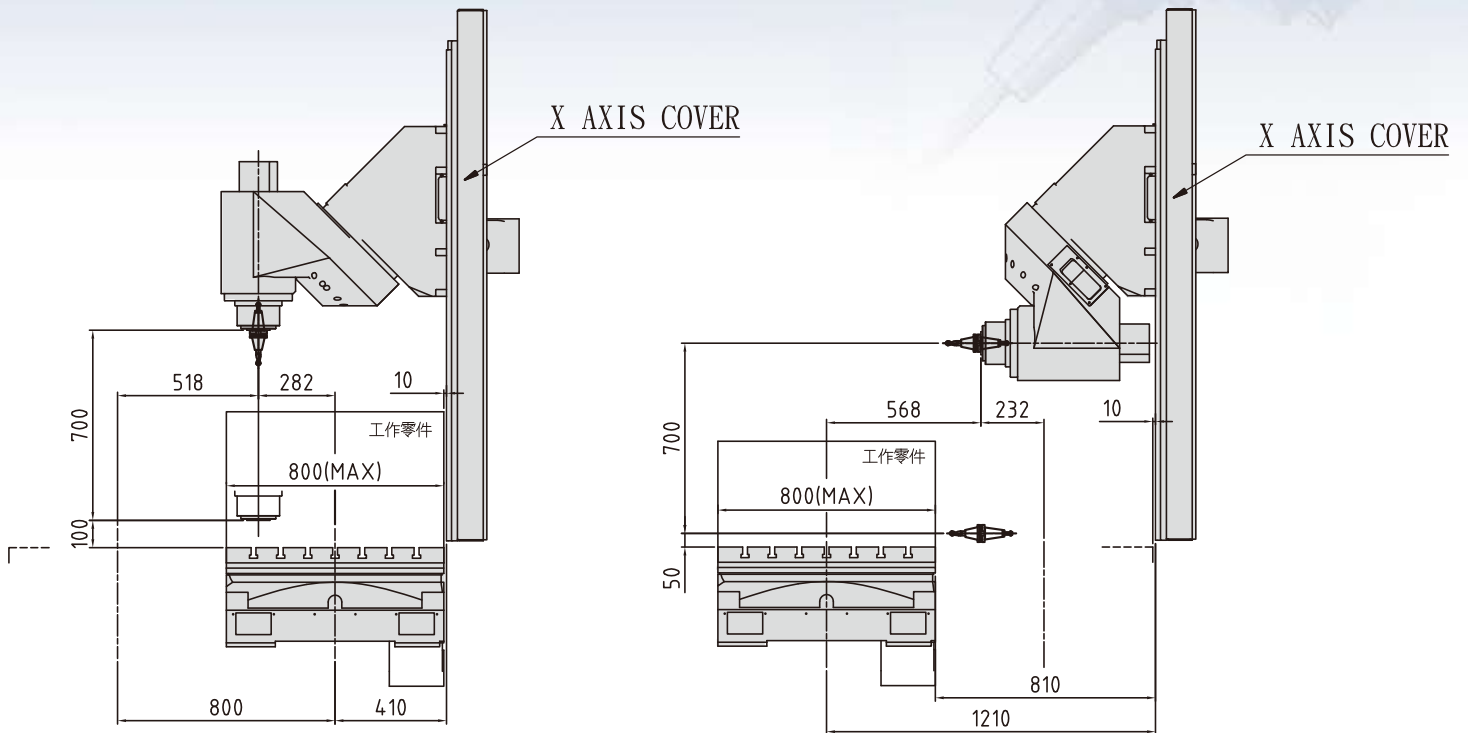
7. Turbo impeller

APPLICATIONS-MILLING & TURNING :



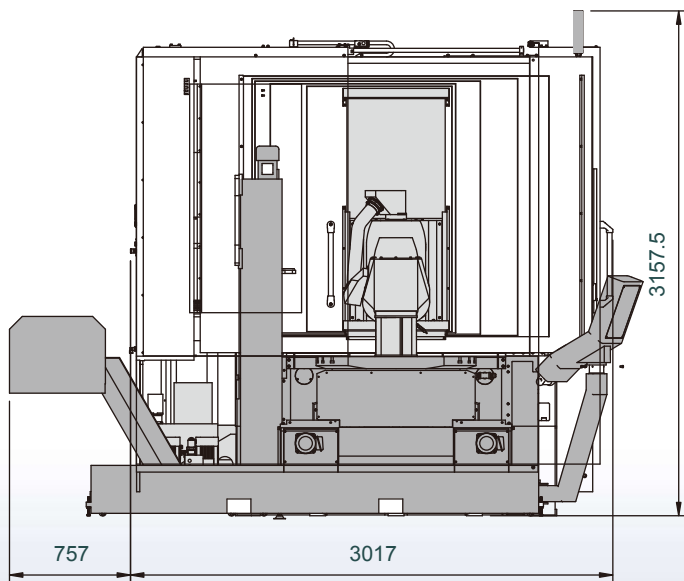
WORKING ENVELOPE

With standard spindle N140D

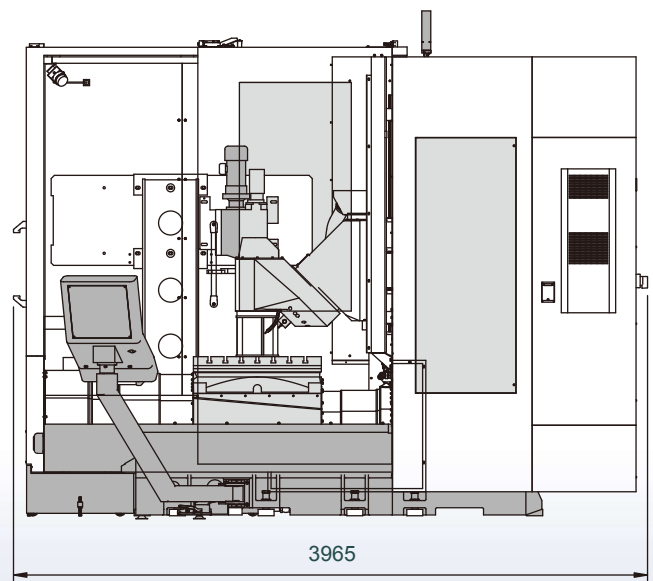


MACHINE DIMENSION

FRONT VIEW



SIDE VIEW



MACHINE SPECIFICATIONS

unit : mm

Item	Model Description	Milling center	Mill-turn center
Travel	Linear axis X / Y / Z	1000 / 800 (or 1150) / 700	1000 / 800 (or 1150) / 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	10000 ~ 12000 RPM
	Spindle power & torque	29.3 & 35KW, 70 & 160Nm (S1&S6) see page 9	
	Spindle taper	#40 (#50, HSK-A63,100)	HSK-T63 (100)
	Front bearings diameter	70 (100)	
	Vertical spindle nose to table	100 ~ 800	29 ~ 729
	Hor.spindle center to table top	50 ~ 750	9 ~ 709
	Hor.spindle nose to table center	-230 ~ 570	-262 ~ 538
Rotary table (C axis)	Table dimension	800 x 1000	φ800
	Maximum loading	1500kg	1000kg
	Indexing increment	0.001 degree	
	T slots (size x No.x pitch)	18 x 7 x 100	18 x 7 x 120
	Table top to floor	1000	1036
Feed rate	Rapid linear axis X/Y/Z	24M / 24M / 24M / Min	
	rotary axis B/C	10 (60) RPM	800 RPM
	Cutting feed	20 m/min	
Transmission	Linear axis XYZ	φ50 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, 60, 80) stations	
	Max.tool dia./length/weight	120 / 300 / 7kg ~ 150 / 300 / 20kg	
	Tools exchanging	vertical position	
Weight	Net (before packing)	15 ton	16 ton

() OPTION

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



◦ **GVM-800U**
5 Axes gantry type machining center



◦ **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.A7070102

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>

