

Eumach

Always A Step Ahead



TVMC-2000/3000/4000/5000 & 5XA/5XC

**TRAVELLING COLUMN & FIXED TABLE 3~5 AXIS
VERTICAL MACHINING CENTERS**

EMC / CE / ISO 9002 CERTIFIED

A PROFESSIONAL CNC MACHINES MANUFACTURER

**3 TO 4 AXIS TRAVELLING COLUMN + FIXED
DYNAMIC RIGIDITY, PRODUCTIVITY,**



TVMC-2000



TVMC-3000

TABLE DESIGN PROVIDE GREATER FLEXIBILITY AND HIGHER PRECISION:



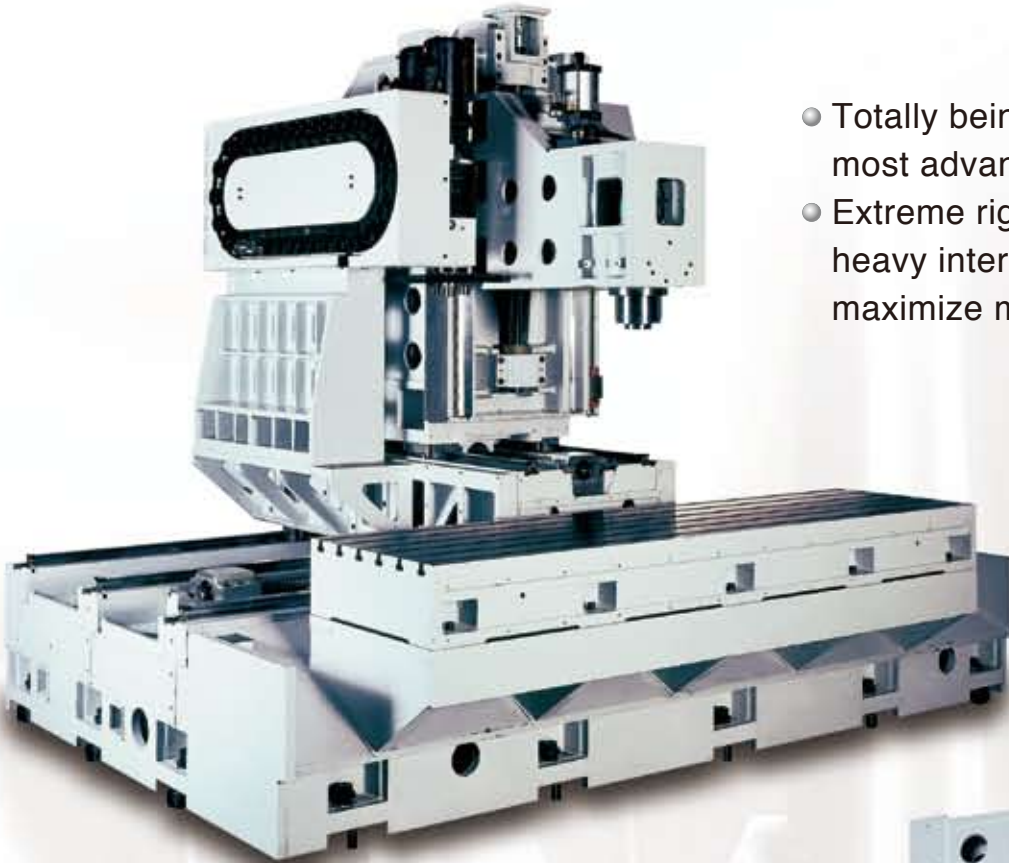
TVMC-4000



TVMC-5000

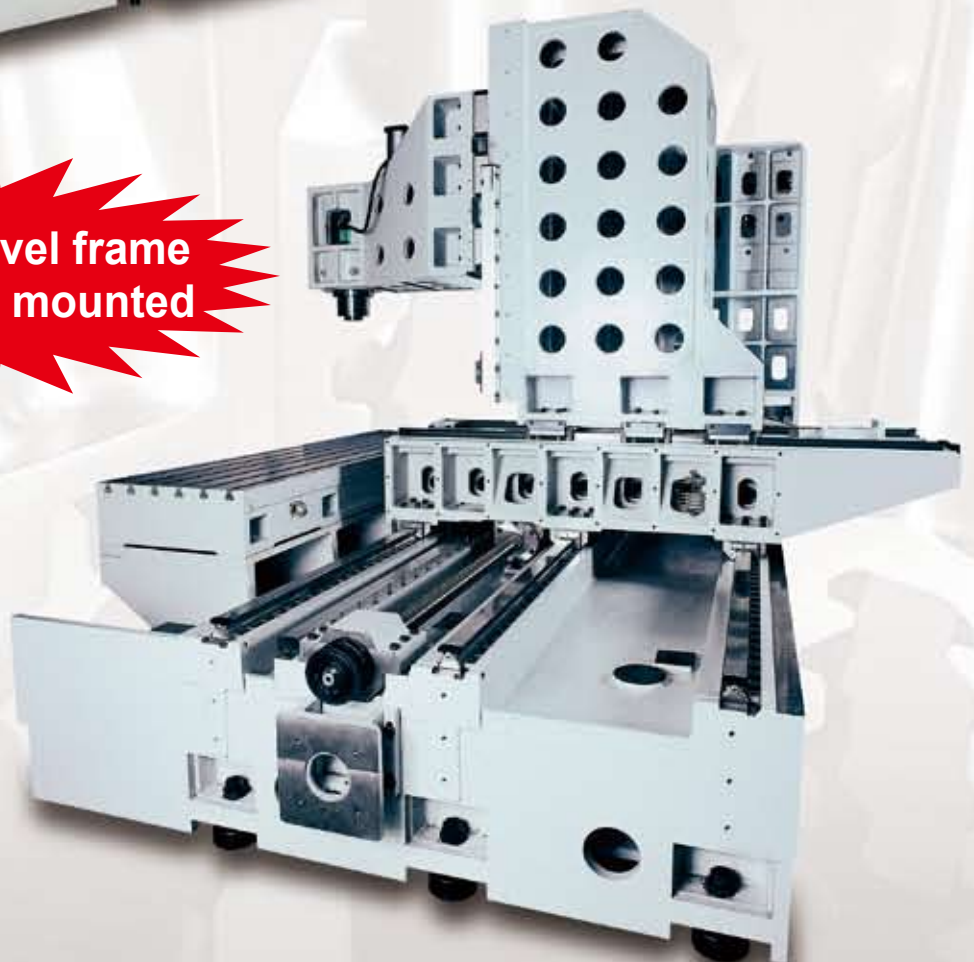
INCREDIBLE RIGID FRAME DESIGN:

The column feed concept is inherently more rigid and accurate while the column travels above the workpiece in a double box - even over-sized or off-centre workpieces, the load on the guide



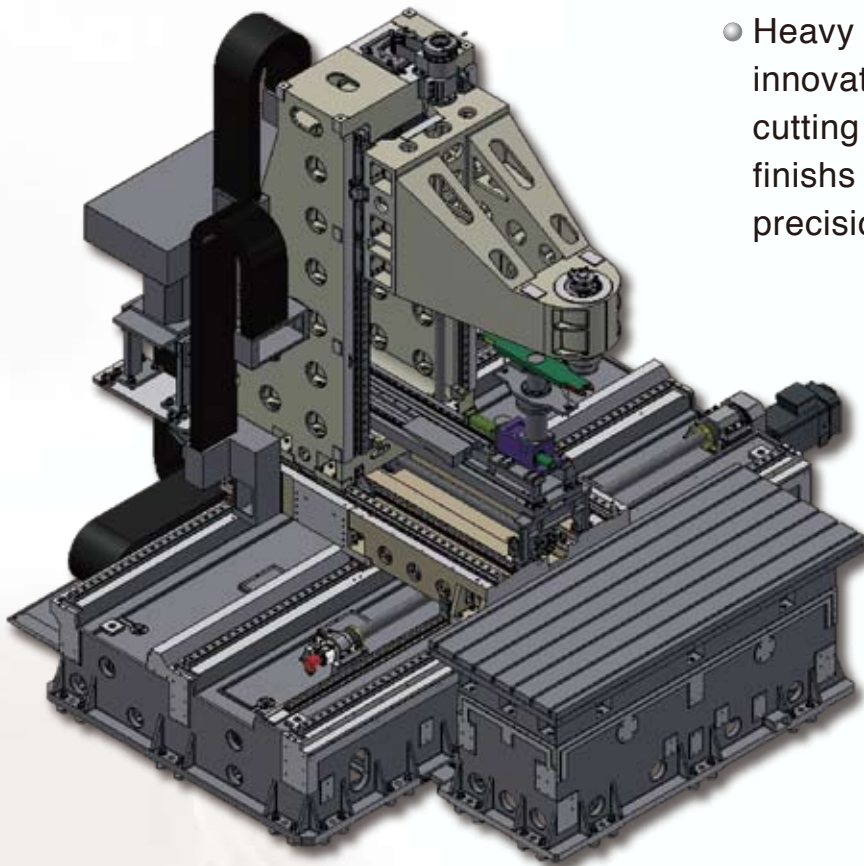
- Totally being analyzed by the most advanced CAD and FEM.
- Extreme rigid construction with heavy internal bracing to maximize machine rigidity.

**Y axis 700mm travel frame
ATC column side mounted**

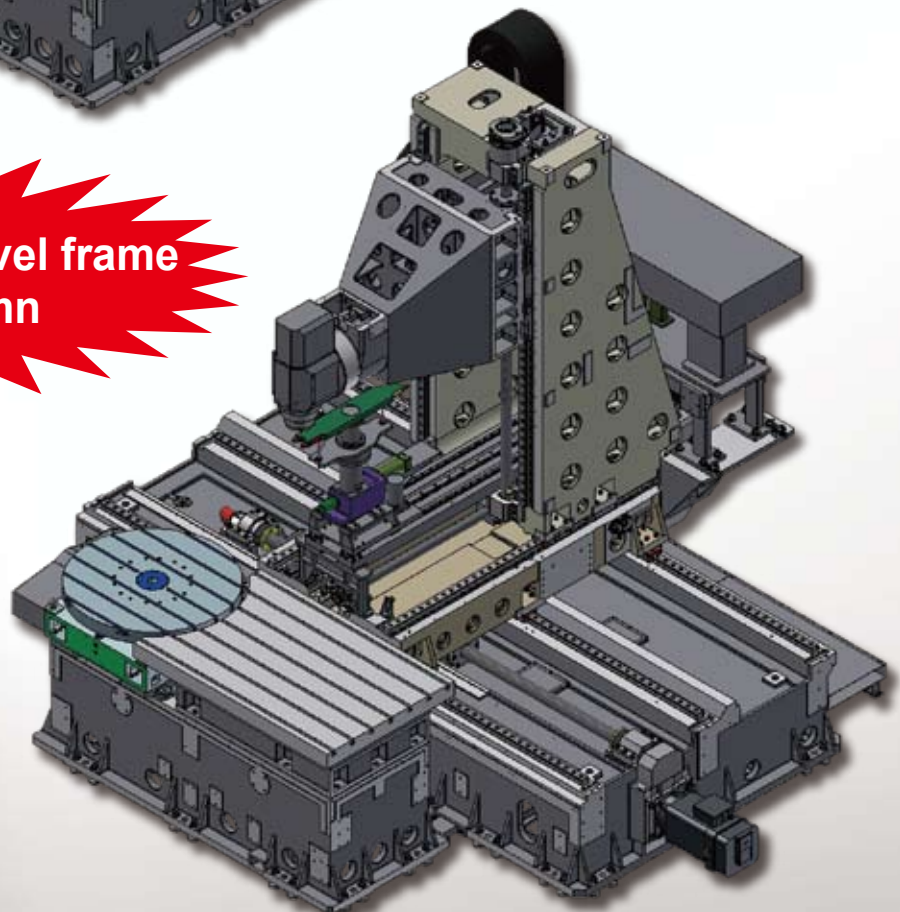


***because the table and fixturings remain stationary
Y over X plane, regardless the workpiece's configuration,
ways, ballscrews and motors are remain unchanged.***

- Heavy frame with torsional stiffness innovative design supports heavy cutting to produce better surface finishes and provides long term precision for accuracy.



**Y axis 1000mm travel frame
ATC through column**



INNOVATIVE CERAMIC BEARINGS SPINDLES:

- Standard direct coupling



#40 taper 10000RPM / 12000RPM / 15000RPM
or optional #50 taper 8000RPM / 10000RPM

- Optional motor spindle



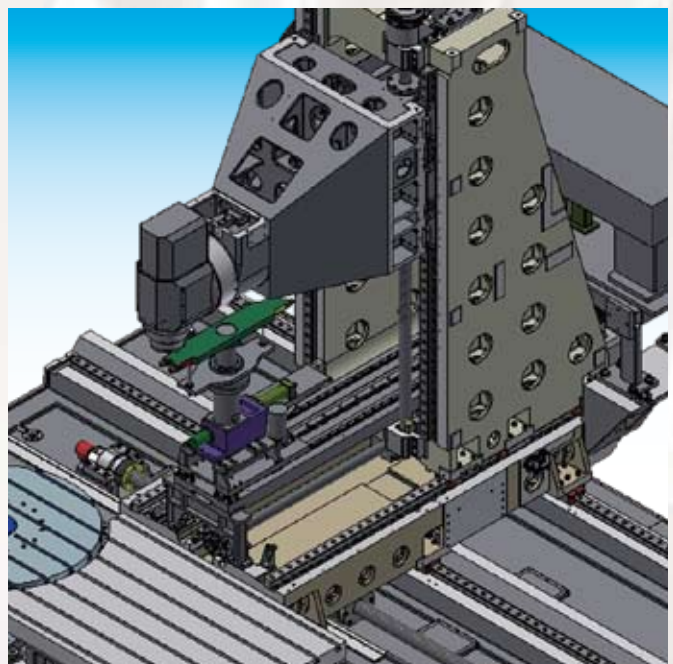
HSK-A63 taper 14000 / 18000 / 24000 / 30000RPM
HSK-A100 taper 10000 / 12000 / 15000RPM

FAST AUTOMATIC TOOL CHANGER:

- Standard #40 taper:



Standard Y axis 700mm travel column
side mounted ATC 24 / 32 / 40 / 50 stations



Optional Y axis 1000mm travel ATC through
column ATC 32 / 40 / 60 stations

SPLASH GUARDING:



- Full splash guard with top closed roof for TVMC-2000/3000/4000



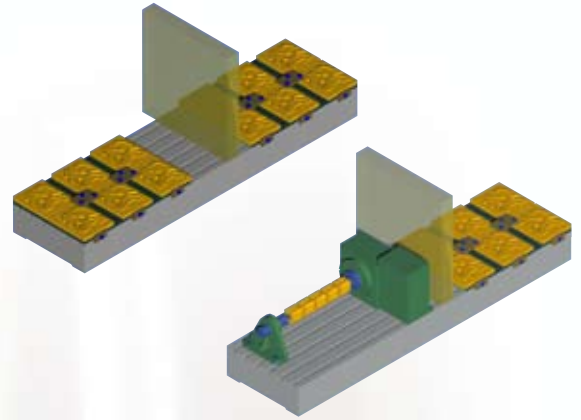
- Open top splash guard for TVMC-5000 for long work piece

WIDE RANGE OF FLEXIBILITY FOR LONG FIXED TABLE:



DIVIDING INTO 2 DIVISIONS:

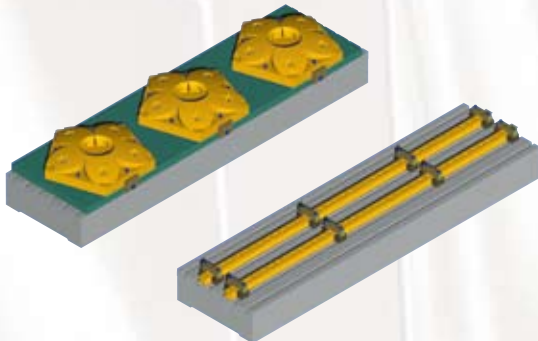
- For many identical parts production.
- For different operation on each division.



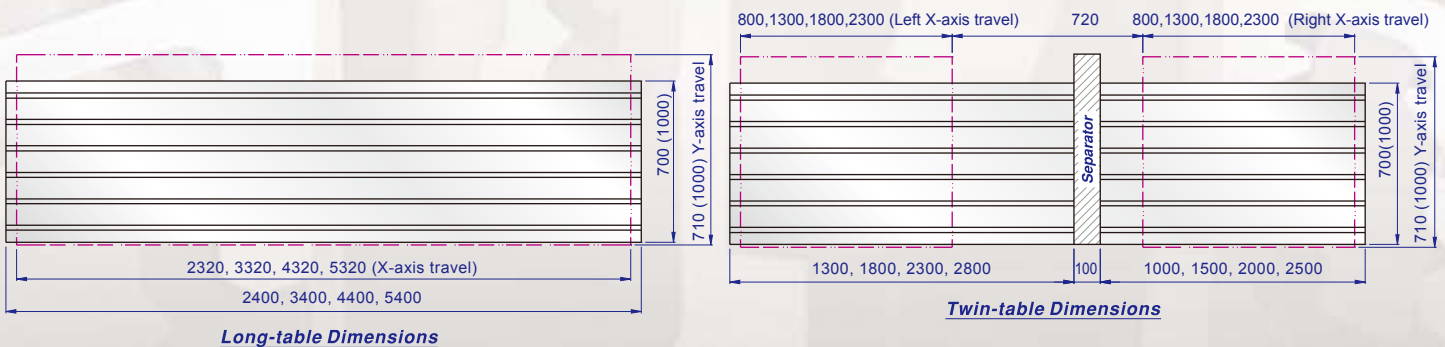
- Loading & Unloading on one division while machine is machining on other division.
- Each division working range is 800mm, 1300mm, 1800mm, 2300mm

FULL TABLE:

- For multiple identical parts production.
- For large or long parts production.



- With above twin-table concept, it is possible to save up to 100% of the machining time if compares with conventional machining center, also without the need for additional investment in complicated & troublesome automatic pallet changer system.



TVMC 3~4 AXIS SERIES SPECIFICATIONS :

Unit : MM

MODEL	TVMC-2000(L)	TVMC-3000(L)	TVMC-4000(L)	TVMC-5000(L)
TABLE :				
Overall size	2400, 3400, 4400, 5400 x 700 (1000) mm			
T slots (size×no×pitch)	18 x 7 x 100 (125) mm			
Maximum loading	3000 KG	4000 KG	5000 KG	5500 KG
TRAVEL :				
X / Y / Z axis #40 spindle	2320, 3320, 4320, 5320 mm x 710(1000) mm x 610(1000) mm			
DISTANCES :				
Spindle to column ways	750 (1281) mm			
Spindle to table top	150~760 (300~1300) mm			
Floor to table top	860 (1051) mm			
SPINDLE :				
Taper	BT(CAT / SK)40			
Speed	10000 RPM UP TO 24000 RPM			
Front bearing diameter	70mm			
Motor	7.5 kw / 11 kw UP TO 42 kw			
FEED RATES : X / Y / Z				
Cutting feedrate	10M			
Rapid feedrate	30M / 30M / 30M	24M / 30M / 30M	24M / 30M / 30M	18M / 30M / 30M
AUTOMATIC TOOL CHNGER :				
Type of atc	SWING ARM			
No.of atc	24 (32, 40, 50)			
Max.tool (dia / length)	150 / 300 mm			
Max.tool weight	7 kg			
Tool to tool	3"			
Chip to chip	10"			
BALLSCREWS ON 3 AXIS				
Diameter	50 / 70 / 80 x 50 x 50 mm			
Precision class	C3, 0.008 mm / 300 mm			
Coolant motor power	1.27 kw			
Coolant tank volume	600 L ~ 1000 L			
Coolant motor capacity	20 L / Min.			
Lubrication motor power	25 Watt			
Lubrication tank voume	4L			
ACCURACY :				
Positioning	JIS 6338 : ±0.005 mm / 300 mm		VDI 3441: P0.015 ~ P0.02 mm	
Repeatability	JIS 6338 : ±0.003 mm		VDI 3441: PS0.01 ~ PS0.015 mm	
Roundness	JIS 6338 : ±0.01 mm / 300 mm		DIAMETER	
MISCELLANEOUS :				
Machine net weight	21000 kg ~ 40000 kg			
Pneumatic required	6 kg			
Guarding	FULL GUARD & ROOF EXCEPT TVMC-5000 IS HALF GUARD			
CNC CONTROL AVAILABLE :	Fanuc, Heidenhain, Siemens			

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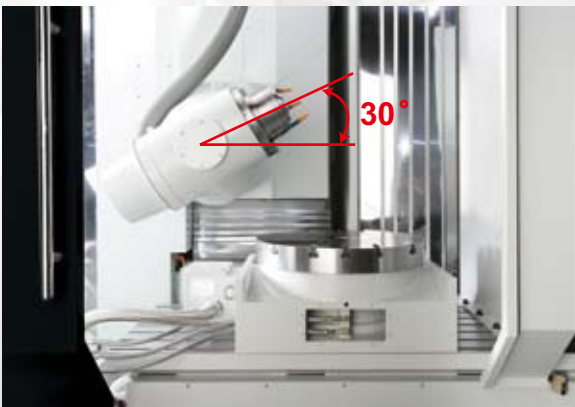
STANDARD FEATURES & ACCESSORIES

1. FULL SPLASH GUARD WITH TOP ROOF
2. PROGRAMMABLE COOLANT SYSTEM
3. AUTOMATIC LUBRICATION SYSTEM
4. SPINDLE AIR BLAST SYSTEM
5. WORKING LAMP
6. ALARM LAMP FOR ABNORMAL SITUATION
7. M.P.G.
8. INDICATION LAMP FOR DWELL & END OF JOB
9. LEVELLING BOLTS & PADS
10. SPINDLE #40 TAPER & 24 ARM ATC
11. RS-232 TERMINAL INTERFACE PORT
12. MACHINE & CONTROL MANUALS
13. TOOLBOX WITH SPANNERS & WRENCHES
14. CHAIN TYPE CHIP CONVEYORS

5 AXIS VERSIONS:

TVMC-5X

Depending on various applications, TVMC can be equipped with B axis swivel milling head, one or two rotary table as vertical A axis or horizontal C axis to be a 5 axis simultaneous machining center.

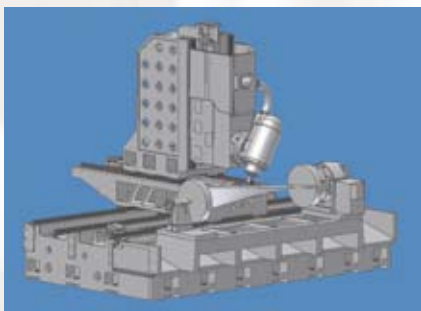


A minus 30 degree is possible for under cut work piece, very ideal for various applications.

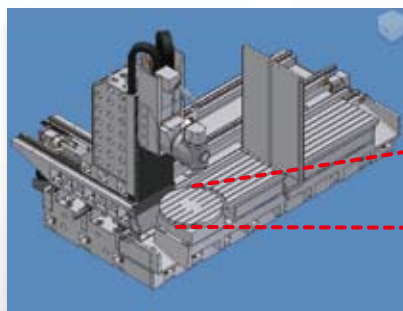
TVMC 4~6 AXIS SERIES SPECIFICATIONS :

MODEL	TVMC-5XA (L)	TVMC-5XC (L)
FIXED TABLE :		
Overall size	2400, 3400, 4400, 5400 x 700(1000) mm	
T slots (size×No×pitch)	18 x 7 x 100(125) mm	
Maximum load	2000 KG ~ 4000 KG	
ROTARY TABLES :		
Table diameter	φ 250 ~ φ 800 mm	φ 700(1000) mm
Table type	WORM WHEEL	DD MOTOR ONLY
Table rotation speed	11.1 ~ 16.6 RPM	30 RPM
Maximum load	UP TO 600 KG WITH TAILSTOCK	500(1000) KG
TRAVEL :		
X / Y / Z linear axis	2320, 3320, 4320, 5320 / 760(1000) / 760(1000)mm	
A / B / C rotary axis	A / B : 0.001° x 360,000 / ±120°	B / C : ±120° / 0.001° x 360,000
DISTANCES :		
Spindle (V) to column way	891(1281) mm	
SPINDLE (V)to table top	115~875(300~1300) mm	
Floor to fixed table top	860(1051) mm	
B AXIS SWIVEL SPINDLE :		
Driven system	DD MOTOR	
SPINDLE (Swivel milling head B axis) :		
Speed	14000 (18000, 24000) RPM	
Taper	BT(CAT / SK) 40 (or HSK-A63)	
Front bearing diameter	70mm	
Motor power	29.3 KW / 35 KW (~ 34 / 42 KW)	
FEED RATES : X / Y / Z		
Cutting feed rate	10M	
Rapid feed rate	30M / 24M / 24M / 18M x 30M x 30M	
AUTOMATIC TOOL CHNGER :		
Type of ATC	SWING ARM	
No.Of TC	24 (32,40,52)	
Max. tool (Dia. X length)	150 / 300 mm	
Max. tool weight	7 kg	
Tool to tool	3 sec.	
Chip to chip	10 sec.	
BALLSCREWS ON 3 AXIS		
Diameter	63 / 70 / 80 x 50 x 50 mm	
Precision class	C3, 0.008 mm / 300 mm	
Coolant motor power	1.27 KW	
Coolant tank volume	600 (1000) L	
Coolant motor capacity	20 L / MIN	
Lubrication motor power	25 WATT	
Lubrication tank volume	4 L	
MISCELLANEOUS :		
Machine NET weight	22000 KG ~ 40000 KG	
Pneumatic required	6 KG	
Guarding	FULL GUARD & ROOFEXCEPT TVMC-5000 IS HALF GUARD	
CNC control available :	Heidenhain or Siemens	

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- **TVMC-5XA**
with various sizes CNC rotary tables & tail stocks for machining turbine blade or long work pieces.



- **TVMC-5XC**
with various sizes CNC rotary tables, built-in or add-on as the C axis



- ∅700 / ∅1000mm rotary table integrated into standard long fixed table is available.



EUMACH FAMILIES



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



◦ **FBM-10040**
Floor type milling center
4M-20M 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



◦ **UMC-1000**
5 Axis machine center
1000MM x 800MM x 700MM travel

Eumach Co.,LTD.

★ Specifications subject to change without notice.
Catalogue No.A4010305

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