Marshall

SUPER OPTIMIZED TURNMILLING

TURNMILLING - BETTER THAN TURNING + VMC

www.marshallcnc.com

TM 400
COMPACT SERIES

60 Degree True slant bed Structure with "Torque Tube" for additional rigidity

SPECIAL FEATURES:

German design, Best compactTurnmill center made in India.
Very rigid single piece casting of bed.
Very compact design with floor-space of only 2.1 X1 .25meter
Biggest X/Z stroke for this size of machines.
60 Degree True slant bed design.
Small distance between operator and chuck for easy loading.
Heavy duty roller LM Guideways for Rigidity, Long Life &Accuracy.
12 position, fast servo turret (Barruffaldi) for toolchange within 0.2 seconds.

ADVANTAGES OF MILTURN TM 400:

Turnmilling is an extremely important technology in today's highly competitive environment as it saves manpower and machinery (mostly VMCs) used to drill, mill & tap after turning of component on CNC Lathe.
Complete job finished in one setup resulting in higher accuracy.
TM 400 offers German Quality at Indian price.

SPECIFICATIONS

Max. Swing Diameter	400 mm
Max. Turning Diameter	280 mm
Max. Turning Length	410 mm
Stroke X/Y (Option)/Z	X200/ Z515
Rapid Speed X/Z	18 /24
Max. Speed	4000 rpm
Chuck Size	200 mm
Spindle Power (Cont.)	11 KW
Spindle Torque	96 NM
Taper in Tail stock Quil	MT 4
Quill Diameter	60
Stroke Body	500 mm
Number ofTools	12
Tool Holder	VDI 30
Rotating Tool	12
Max. Speed of Rotating Tools (Std)	6000 rpm
Max. Speed of Rotating Tools (Opt)	20000 rpm
Weight	4000 Kg
Dimensions	2.1 X 1 .35 X 1.8m

TMH
HEAVY DUTY TURNMILL SERIES

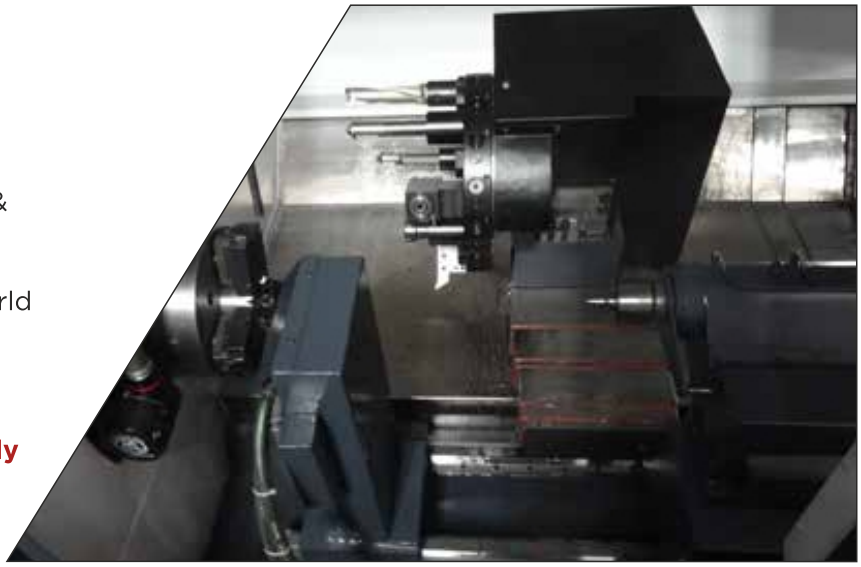
Our design, manufacturing processes & selection of finest machine elements from the best manufacturers in the world ensure the following;

RIGIDITY of Bed & Base

RIGIDITY of Head & Spindle Assembly

RIGIDITY of Tailstock

RIGIDITY of LM Guideways



This Attribute of RIGIDITY is present in even our smallest models because RIGIDITY is vital for:

PRODUCTIVITY | ACCURACY | SURFACE FINISH | TOOL LIFE

SPECIFICATIONS

MODEL	TMH-20	TMH-25	TMH-30
CAPACITY			
Swing Over Carriage Cover (mm)	595	735	815
Maximum Turning Dia. (mm)	350	400	500
Maximum Turning Length (mm)	700/1000/1500	700/1000/1500/ 2000	700/1000/1500/ 2000/2500/3000
MAIN SPINDLE			
Spindle Nose (Standard)	A2-8	A2-8	A2-11
Front Bearing Bore (mm)	110	130	150
Maximum Bar Capacity (Std.) (mm)	63	75	90
SPINDLE DRIVE			
Spindle Motor rated power (KW)	11/15	11/15(17/22)	17/22(18.5/25)
Inf. Variable speed range (rpm)	50-3000	50-2800	50-2000
RAPID TRAVERSE			
STANDARD			
X-axis (m/min.)	24	20	15
Z-axis (m/min.)	24	20	15
TAILSTOCK			
Taper in Quill (mm)	MT-5	MT-5	MT-6
Adjustable Thrust (Max.)	600	600	750
TOOL TURRET			
No. of Stations (Std.) -Baruffaldi	12	12	12
Tool Cross Section (mm)	25X25	32X32	32X32
Max. Boring Bar Dia.	40	50	50
POSITIONING REPEATABILITY			
X-axis	±1.5 Microns	±1.5 Microns	±1.5 Microns
z-axis	±2 Microns	±2 Microns	±2 Microns
CNC CONTROLS:			
SIEMENS 828D (SL)/ FANUC 0i mate			
TD Weight (approx.) (Kg)	5100/5700/7000	6000/7000	7500/8500/10000/ 11500/13000/14500

Note: Product improvement is a continuous process at "Marshall".
Design & Specifications are therefore, subject to change, without prior notice.

TWINTURN-TM

DOUBLE HEAD DOUBLE TURRET CNC TURNMILL CENTRES

The 2 in 1 Turnmill Centres designed to meet the REAL needs of Component Manufacturers:
Saving in Space **Saving in Manpower** **Saving in Shop Floor Material Movement**

SPECIFICATIONS

MODEL	TWINTURN 8TM	TWINTURN 12TM	TWINTURN XLTM
CAPACITY			
Swing Over Carriage Cover (mm)	360	430	600
Maximum Turning Dia. (mm)	260/320	400	550
Maximum Turning Lenght (mm) with Tailstock (without Tailstock in case of 12T & XL) mm	350	400	200
MAIN SPINDLE			
Spindle Nose (Standard)	A2-6	A2-8	A2-11
Front Bearing Bore (mm)	100	130	150
Maximum Bar Capacity (Std.) (mm)	52	66	90
SPINDLE DRIVE			
Spindle Motor rated power (KW)	11/15	12/16	18.5/25
Inf. Variable speed range (rpm)	100-3200	50-2500	30-1800
RAPID TRAVERSE			
STANDARD			
X-axis (m/min.)	24	20	20
Z-axis (m/min.)	24	20	20
Tool TURRET			
No. of Station (Std.) -Baruffaldi	12	12	12
Tool Cross Section	25x25	32x32	32x32
Max. Boring Bar Dia.	40	50	50
POSITIONING REPEATABILITY			
X-axis	±1.5 Microns	±1.5 Microns	±1.5 Microns
Z-axis	±2 Microns	±2 Microns	±2 Microns
CNC Controls: Siemens 828D (SL)/ FANUC 0i mate TD			
Weight (approx.) Kg	6500	8000	15000

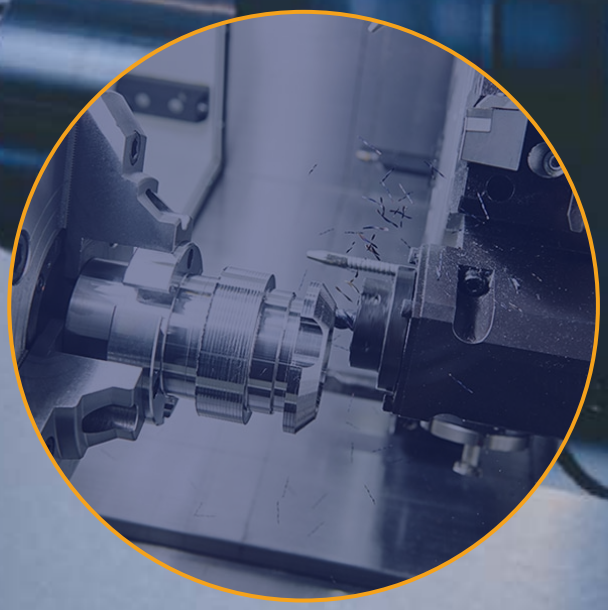
TURNMILL is Better than Turning + VMC

 # 1 Better Accuracy.
Turned & Milled/Drilled Dimensions are made in same setup, so geometrical accuracies (e.g. Concentricity of Drilled Holes with Bore) are better.

 # 2: Only one Loading/Unloading per setup. Saving in time & manpower

#3: Balanced Output. In most cases turning & milling/drilling times are different so one machine stays idle (e.g. Turning time is 120 sec & VMC Drilling time is 67 seconds. VMC will be idle most of the time). In case of TurnMill, complete component will be produced and there is no idle time.

#4: No need for 4th Axis or 4th & 5th Axis. In case Job has Radial Holes, VMC needs 4th axis & table. If there are angular holes, 4th + 5th axis may be required. This greatly adds to cost of VMC. TurnMill centres can easily drill radial holes. For angular holes, special live holders are required. Cost is MUCH less than 4th & 5th Axis VMC.



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