SPECIFICATIONS

Model	SL-11 (D)	SL-12 (D)	SL-14(D)	SL-16(D)
CAPACITY				
Swing Over Carriage Cover (mm)	310	360	400	520
Maximum Turning Dia. (mm)	135	210	260	400
Maximum Turning Length (mm)	100	125	150	200
Chuck Size (mm)	135	165	200	315
MAIN SPINDLE				
Spindle Nose (Standard)	A2-4	A2-5	A2-6	A2-8
Front Bearing Bore (mm)	75	85	100	110
Maximum Bar Capacity (Std.) (mm)	32	42	52	63
SPINDLE DRIVE				
Spindle Motor rated power (KW)	5.5/7.5	7.5/11	11/15	11/15
Inf. Variable speed range (rpm)	100-4500	100-4000	100-3500	50-2500
RAPID TRAVERSE				
STANDARD				
X-axis (m/min.)	24	24	20	20
Z-axis (m/min.)	24	24	20	20
POSITIONING REPEATABILITY				
X-axis (m/min.)	+ 2 Microns	+ 1.5 Microns	+ 1.5 Microns	+ 1.5 Microns
Z-axis (m/min.)	+ 2 Microns	+ 2 Microns	+ 2 Microns	+ 2 Microns
CNC Controls:	FANUC 0i mate TD / FANUC 0i mate TD	SIEMENS 828D(SL)/ FANUC 0i mate TD	SIEMENS 828D(SL)/ FANUC 0i mate TD	SIEMENS 828D(SL)/
Weight (approx.) (Kg)	3600	4000	5000	6500

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

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TWO SPINDLES ARE BETTER THAN ONE

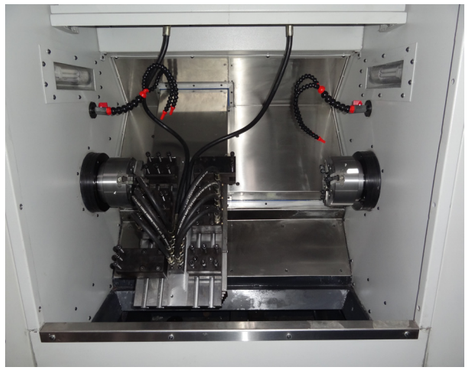
RAPIDTURN

Double Head Single Slide CNC Turning Centre

Most Productive & Cost effective
Turning Solutions for mass produced chucking jobs

THE ART OF TURNING... *intelligently*

THE ART OF TURNING... *intelligently*



ADVANTAGES

- NO IDLE TIME resulting in higher productivity
- WHILE MACHINING is going on at one head, the operator unloads completed job and clamps fresh job at the second head.
- TWO SET UPS available on one machine one half of a job can be completed on one spindle while the second half be completed on other spindle.
- ONLY ONE OPERATOR required & space taken is similar to be one machine.
- LINEAR TOOLING SYSTEM used on "MARSHALL" DOUBLE SPINDLE MACHINES reduces machining time because of faster positioning of tools compared to tool turret.

PRODUCTIVITY COMPARISON DURING TURNING OF BEARING RING

Single Spindle Machine

	Machining Time	NCT (Avg.)	Total Floor to Floor
1st Setup	22 Sec.	14 Sec.	36 Sec.
2nd Setup	20 Sec.	14 Sec.	34 Sec.

Total Component Floor to Floor Time = 70 Sec.

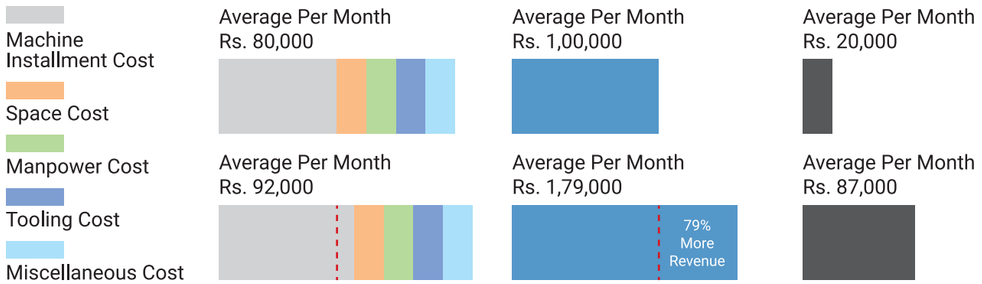
Double Spindle Machine

1st Setup Machining Time	NCT Non Cutting Time (Avg.)	2nd Setup Total Floor to Floor
20 Sec.	02 Sec.	17 Sec.

Total Component Floor to Floor Time = 39 Sec.

PRODUCTIVITY ADVANTAGES = 70/39 = 1.79 i.e. 79%

EXTRA PRODUCTIVITY = MUCH HIGHER PROFITS!



MORE ADVANTAGE OF DOUBLE SPINDLE

Saving in Space

For Daily Production Requirement of 10000 pieces of Job **Bearing Ring**
On Single Spindle Machines, JOB Machining time (floor to floor time) = 70 sec
Output /machine in 3 shifts @75% efficiency =926 pieces
Therefore for 11000/pc/day = 10000/926 = 10.79 **i.e. 11 machines**

On Marshall **Double Spindle** Floor to Floor time = 39 sec
Therefore Output/machine in 3 Shifts is 1662
i.e. Machine required are , 10000/1662 = 6.01= **6 Machines**

RAPIDTURN ULTRA

Job Examples

Aluminum Piston

LPG Valve


Gear Blank


Bearing Ring

ULTIMATE TURNING SOLUTION FOR SMALL CHUCKING JOBS

- *Super Speed: **5500** Rpm max. Spindle Speed & **30/30** m/min X/Z Rapids for highest productivity*
- *Smartlink for connecting to SmartCorrect Digital, Hybrid Gauging Stations*
- *Thermastable Technology for no size variation after stop and start*
- *CLAMPSYS for protecting machine from blunt & broken inserts.*
- *CLAPTECH for auto-analysis of measurements & auto-correction of tool offsets*

THE ART OF TURNING... *intelligently*