

**TM-1500**

*Multi-tasking Machine*

## Multi-tasking Machine

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※ All performance are based on 220V/3PH/60HZ. Specification are subject to change without notice.

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# Multi-Tasking Machine

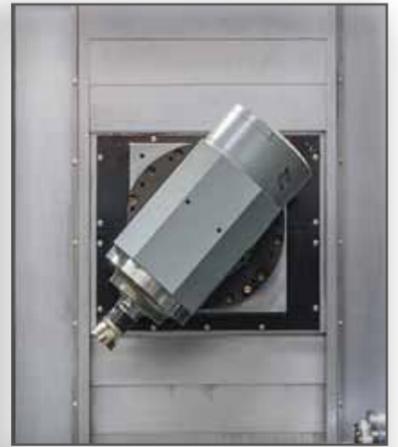
1. The multi-function machine with B-axis can have bevel angle drilling and cutting work easily.
2. The B-axis is driven by DD built-in motor, the best torque is 1200Nm, and with curved coupling it can easy do a heavy cutting job shop work and also curved surface milling.
3. The machine use special Electro Spindle, the spindle speed can reach 12000rpm and torque 103Nm, it is a special machine for rough and final cutting need.
4. The Y-axis design with orthogonal type is available for complete movement to match with our moving column machine structure.
5. 15" chuck (C-axis) + servo tailstock (build-in M.T #6) + 60 tools ATC (Capto C6) + 1550mm Z-axis travel + B-axis (-10°~+230°)=Perfect machine.



## ■ B axis travel 240° (-10°~+230°)

- The B-axis is driven by DD built-in motor, the best torque is 1200Nm, and with curved coupling it can easily do a heavy cutting job shop work and also curved surface milling.

## • FULL Telescopic cover protection



## 5-axis Simultaneous Machining Without Dead Angle



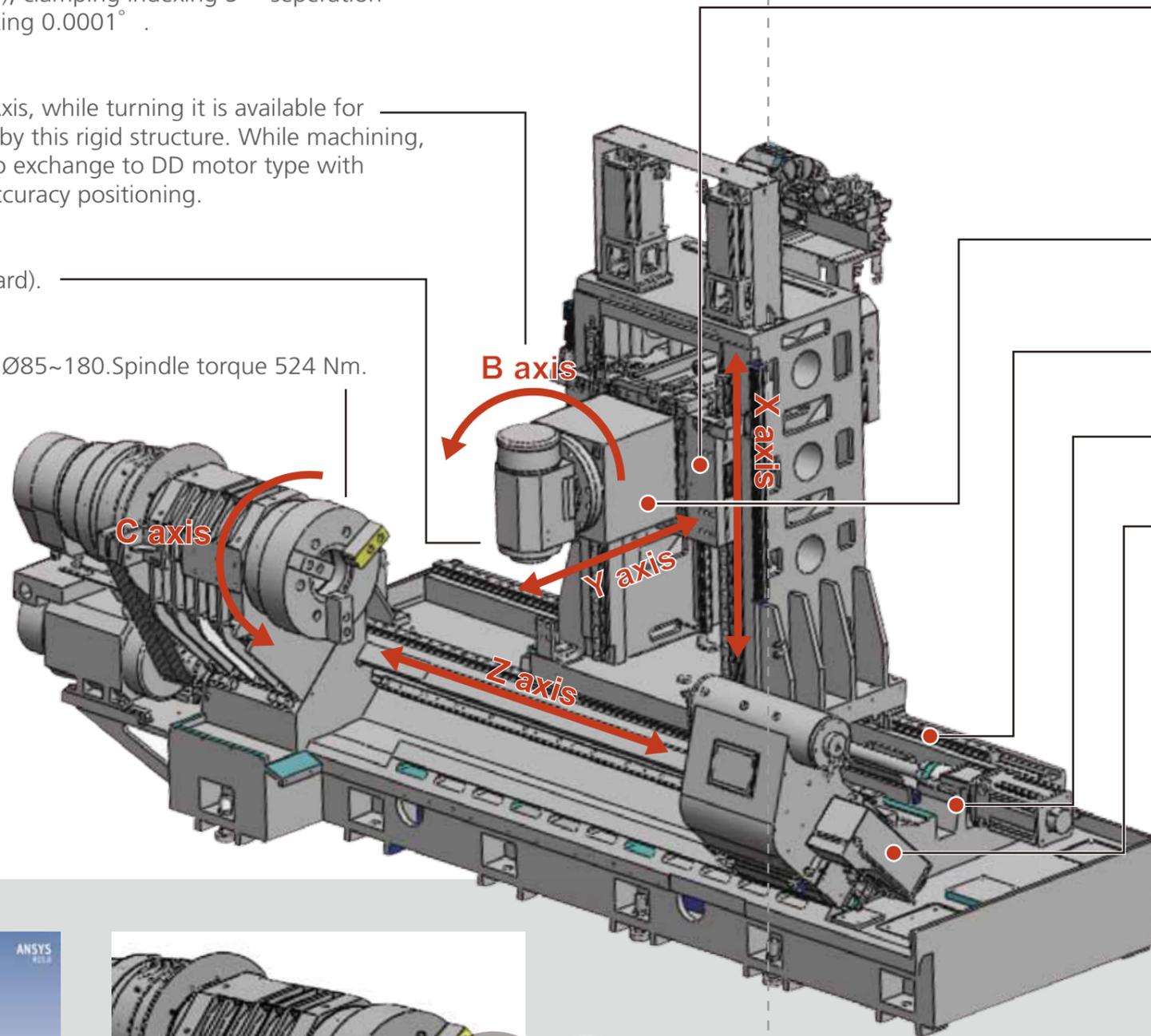
## Test Workpiece for The 5-Axis Simultaneous Milling Machining

- Vertical tool orientation.
- The mating of the cylinder and the taper is carried out in the same direction, the machining of the taper groove in counter direction.

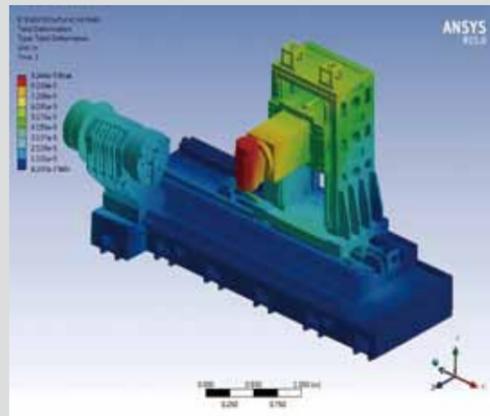


# Multi-Tasking Machine

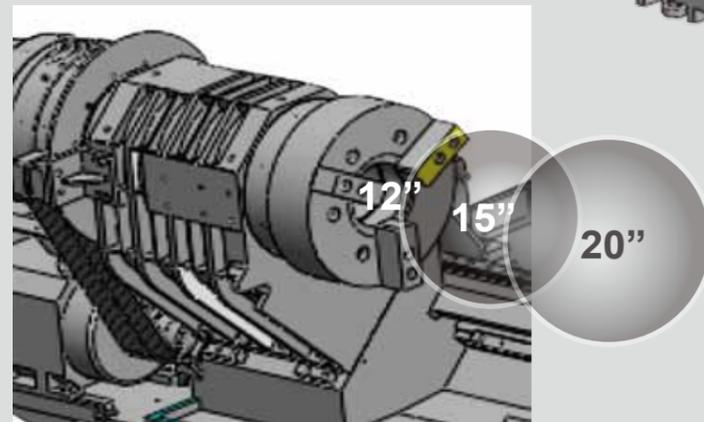
- B axis : 240° (-10° ~+230° ), clamping indexing 5° separation  
brake clamping indexing 0.0001° .
- With the clutch design in B Axis, while turning it is available for positioning in each 5 degree by this rigid structure. While machining, it is also available for B axis to exchange to DD motor type with 0.0001 indexing high level accuracy positioning.
- Spindle coolant nozzle(standard).
- C axis : hold through spindle Ø85~180.Spindle torque 524 Nm.



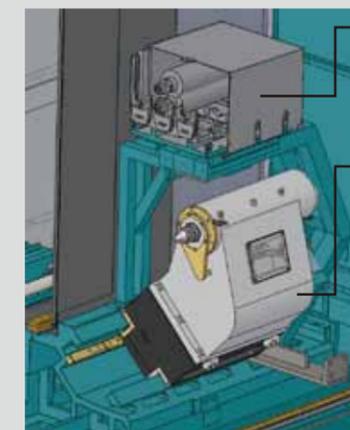
- X axis : box structure column design, selected dual ball screw central drive, without counter-weight to keep high performance in 3D-profile, and diameter 45 roller type guide way.  
**Dual-driven System on X-axis**  
Controls vibration, and optimizes the quality of machined surfaces.
- Y axis : square ram structure design, This kind of diagonal structure design to maintain the structural motion Stability.
- Z axis : big span design(662 mm), diameter 55 roller type guide way.
- Five axes linear scale(as standard).
- Servo tailstock.



FEA – optimized design



12",15",20" chuck available

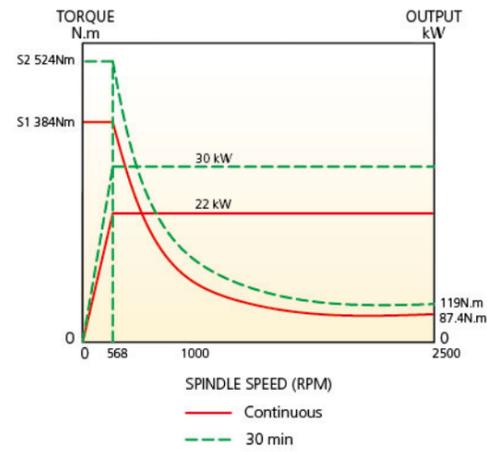


- Additional magazine for 3 extra tools (tool length 500mm).O.P.T
- Servo tailstock

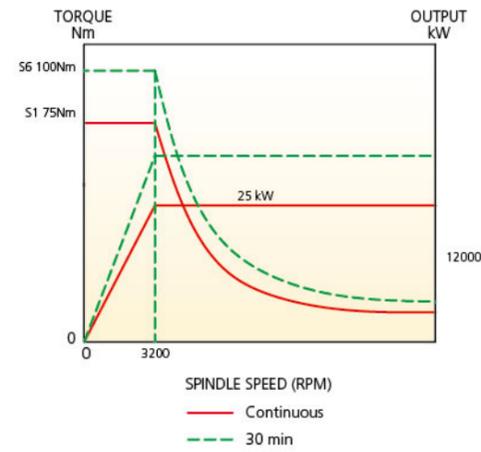
# SPINDLE POWER CURVE

## SIEMENS

TM-1500 chuck spindle motor torque drawing  
1PH7163-2ND03-0CJ0

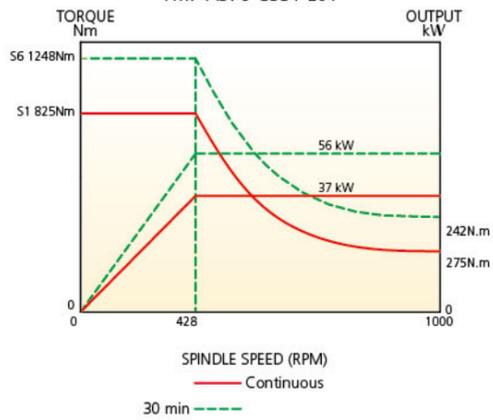


TM-1500 electrospindle motor torque drawing

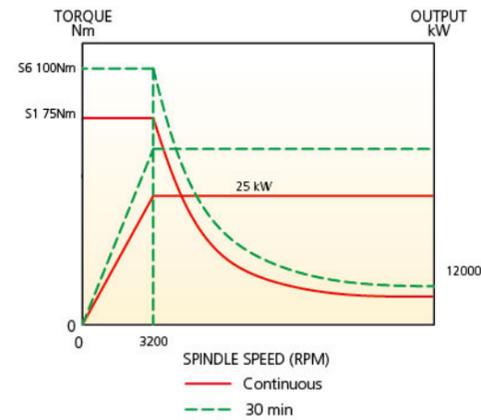


## FAGOR

TM-1500 CHUCK SPINDLE MOTOR TORQUE DRAWING  
FM7-A370-C3B1-E01

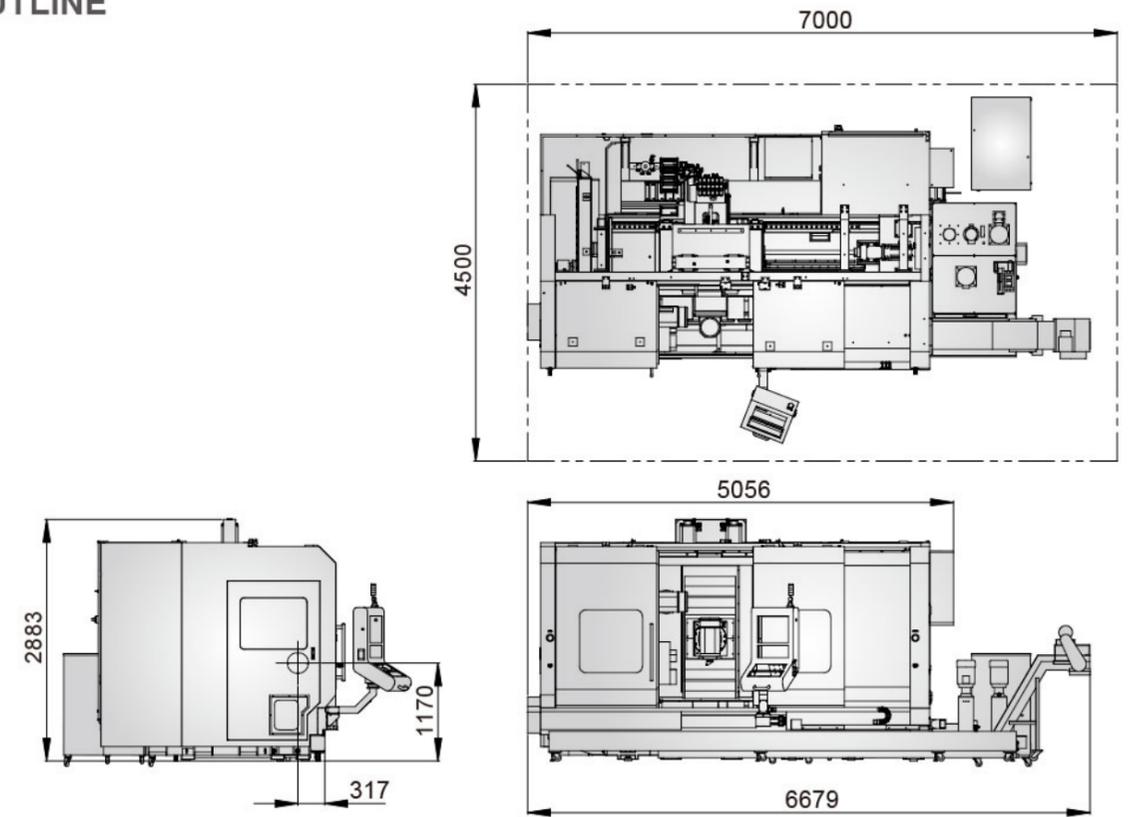


TM-1500 electrospindle motor torque drawing



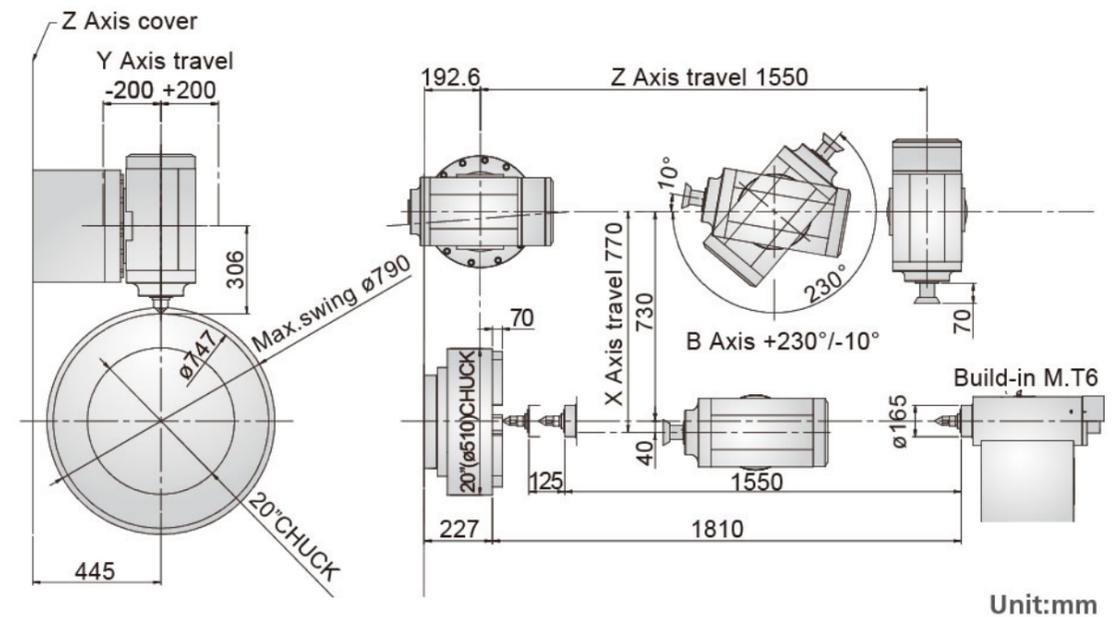
# DIMENSION

## OUTLINE



Unit:mm

## WORKING CAPACITY



Unit:mm

## MACHINE SPECIFICATIONS

ITEM	MODEL		TM-1500
<b>CAPACITY</b>			
	Unit		FAGOR/SIEMENS
Max. swing	mm(in)		790 (31)
Max. turning diameter	mm(in)		ø780 (30.7)
Max. turning length	mm(in)		1500 (59)
Bar capacity	mm(in)		115 (4.5)
<b>TRAVEL</b>			
X axis	mm(in)		730+40 (28.7+1.57)
Z axis	mm(in)		1550 (61)
Y axis	mm(in)		±200 (7.87)
B axis	Deg		240° (-10° ~ +230°)
<b>CHUCK SPINDLE</b>			
Spindle speed range	rpm		1500
Chuck size	in		15
Type of spindle nose			A2-11
Spindle motor power	KW(HP)		37~56(49-75)/30 (40)
<b>ELECTRO SPINDLE</b>			
Spindle speeds	min <sup>-1</sup>		12,000
Spindle nose			Capto C6
Spindle motor power	KW(HP)		25 (33.5)
Max. spindle torque	Nm (ft.lbf)		75 S1/100 S6
<b>B Axis</b>			
Angular Stroke	Deg		240° (-10° ~ +230°)
Brake Clamping Angular	Deg		0.0001°
Max Torque Motor Torque (continuous)	Nm		1080
<b>A.T.C</b>			
Tool shank			Capto C6
Tool storage capacity			60
<b>FEEDRATE</b>			
X axis rapid traverse	m(ft)/min		20 (65.616)
Z axis rapid traverse	m(ft)/min		30 (98.425)
Y axis rapid traverse	m(ft)/min		20 (65.616)
<b>FEED MOTORS</b>			
X axis motor	KW(HP)		10.1(14.2)/5.37 (7.2)
Y axis motor	KW(HP)		10.1(14.2)/5.37 (7.2)
Z axis motor	KW(HP)		10.1(14.2)/5.37 (7.2)
<b>TAILSTOCK</b>			
Tailstock movement type			Servo
Quill inside taper	M.T		build-in M.T 6
Max. thrust	kgf		829
<b>MISCELLANEOUS</b>			
Power supply	KVA		75
Mass of machine	kg		18000
Floor space(L)	mm(in)		7000(275.6)
Floor space(W)	mm(in)		4500(177.2)
Machine dimensions(H)	mm(in)		2900 (114)

## MACHINE ACCESSORIES



SIEMENS



FAGOR

### Standard Accessories:

- 15" Hydraulic Power Chuck.
- Programmable Tailstock.
- 20BAR CTS & Spindle Annular CoolantJet.
- Oil Skimmer.
- Siemens controller 840D.
- Three Layers Alarm Lamp.
- Chip Conveyor.
- Spindle & Tailstock Foot Switch.
- 60 ATC
- Air Conditioner in Electrical Cabinet.
- Linear Scale.
- Chip Flushing Device.
- Spindle Oil Chiller.

### Optional Accessories:

- Fagor Controller 8065T.
- Oil Mist Collector.
- Rotoclear system.
- Automatic Workpiece Measurement.
- Automatic Tool Setter.
- Chip Bucket.
- Manual Steady Rest( Max  $\varnothing$  400)
- Hydraulic Steady Rest(Max  $\varnothing$  300)
- Sub Tool Magazine.(3 SET, Max:500L)
- Transformer.

