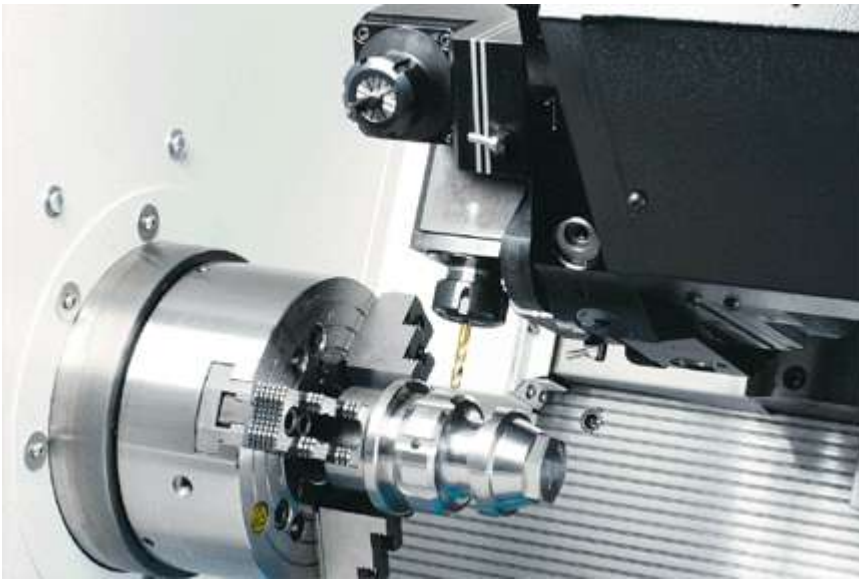


TORNADO

T6M, T8M & T10M 3 Axis Turning



The Tornado T6M, T8M & T10M 3 Axis CNC Lathes are true precision turning centers with Turret Mounted Powered Tooling, controlled from the state-of-the-art G.E. Fanuc 21i TB control. 'M' models have all the machine design features as the 2 axis models with the added production flexibility of live tooling.

Features

- Tornado T6M, T8M & T10M offers milling power for both radial and axial milling, drilling, boring and tapping operations
- Live turret mounted tooling adds flexibility and large production gains by cutting the number of set-ups and operations
- Tornado "M" models are fitted with a linear scale on the X axis to maintain high accuracy even during 'off center' operations
- Powerful live tooling drive motor for real milling power, 5 hp on T6M & T8M, 7.5 hp on T10M
- High powered tool cutting speeds, up to 5000 rpm on T6M models and 4000 rpm on T8M & T10M models
- Twelve station high speed bi-directional turret with 12 powered stations on T6M & T10M models and 6 powered stations on T8M
- C axis positioning increment of 0.001° is fully programmable
- C axis contouring selected by M-code
- Quick changeover and set-up with VDI 30 tooling on T6M models and VDI 40 on T8M & T10M models
- Optional CAM system software package, designed to run on virtually any PC, developed for more complex 3 axis programming
- Available in Chucker, Barfeed and Unmanned 'Lights-Out' models

Models

Model No.	Chuck Type	rpm	Max Bar
T6MA	6.7" Hyd	6000	2.12" (54mm)
T6MB	8.26" Hyd	4000	2.12" (54mm)
T6MAB Bar Feed	Collet	6000	2.12" (54mm)
T6MBB Bar Feed	Collet	4000	2.12" (54mm)
T6MAL Lights-Out	Collet	6000	2.12" (54mm)
T6MBL Lights-Out	Collet	4000	2.12" (54mm)
T8MA	8.26" Hyd	5000	2.59" (66mm)
T8MB	10" Hyd	3500	2.59" (66mm)
T8MAB Bar Feed	Collet	5000	2.59" (66mm)
T8MBB Bar Feed	Collet	3500	2.59" (66mm)
T8MAL Lights-Out	Collet	5000	2.59" (66mm)
T8MBL Lights-Out	Collet	3500	2.59" (66mm)
T10MA	10" Hyd	4000	3.25" (82.5mm)
T10MB	12" Hyd	3000	3.25" (82.5mm)
T10MAB Bar Feed	Collet	4000	3.25" (82.5mm)
T10MBB Bar Feed	Collet	3000	3.25" (82.5mm)
T10MAL Lights-Out	Collet	4000	3.25" (82.5mm)
T10MBL Lights-Out	Collet	3000	3.25" (82.5mm)

Specifications

Tornado 3 Axis	T6M	T8M	T10M
Capacity			
Swing over bed cover	17.32" (440mm)	20.07" (510mm)	23.62" (600mm)
Max. turned diameter	8.46" (215mm)	11.42" (290mm)	14.17" (360mm)
X axis travel	7.87" (200mm)	9.25" (235mm)	10.63" (270mm)
Max. turning length	17.72" (450mm)	21.26" (540mm)	23.62" (600mm)
Spindle			
Spindle nose	A2-5	A2-6	A2-8
Power chuck (type A/B)	6.7"/8.27" (170/210mm)	8.26"/10" (210/254mm)	10"/12" (254/305mm)
Front bearing I/D	3.54" (90mm)	4.33" (110mm)	5.12" (127mm)
Spindle bore	2.52" (64mm)	3.05" (77.5mm)	3.56" (90.5mm)
Bar capacity	2.12" (54mm)	2.59" (65mm)	3.25" (82.5mm)
Max. spindle speed (A/B) (rpm)	6000/4000	5000/3500	4000/3000
Spindle motor (Cont./30 min.)	15/20 hp (11/15kW)	25/30 hp (19/22kW)	30/35 hp (19/22kW)
Spindle speed @ full Hp (A/B)	1500/1000 rpm	1250/880 rpm	597/448 rpm
Axes			
Rapid traverse X/Z-axis	984/1181 ipm (25/25mpm)	984/1181 ipm (30/25mpm)	984/1181 ipm (30/25mpm)
X/Z-axis thrust (continuous)	800/1,000 lbf (3.75/4.44 kN)	1,330/1,610 lbf (5.91/7.15 kN)	1,330/1,610 lbf (5.91/7.15 kN)
X/Z-axis ballscrew	32x8/32x10 mm	32x8/40x10 mm	32x8/40x10 mm
X/Z-axis encoder feedback	linear/rotary	linear/rotary	linear/rotary
Positioning accuracy	±0.0002 (0.005mm)	±0.0002 (0.005mm)	±0.0002 (0.005mm)
Repeatability	±0.0001 (0.002mm)	±0.0001 (0.002mm)	±0.0001 (0.002mm)
Construction			
Carriage inclination	60°	60°	60°
Spindle center height	37.40" (950mm)	37.79" (960mm)	38.46" (977mm)

Cross slide width	9.45" (240mm)	10.35" (263mm)	10.35" (263mm)
Cross slide type	20mm roller guides	35mm roller guides	35mm roller guides
Width across cross guides ways	8.15" (207mm)	8.9" (226mm)	8.9" (226mm)
Z-axis type	20mm roller guides	35mm roller guides	35mm roller guides
Bed width - linear guide rails	12.91" (328mm)	15.35" (390mm)	15.35" (390mm)
Tool Turret			
Turret disc diameter	14.57" (370mm)	17.32" (440mm)	18.58" (472mm)
Tooling system	VDI 30	VDI 40	VDI 40
No. of turret tool stations	12 bi-directional	12 bi-directional	12 bi-directional
Index time	0.45 sec	0.45 sec	0.45 sec
Tool shank size	3/4"x3/4" (20x20mm)	1"x1" (25.4x25.4mm)	1"x1" (25.4x25.4mm)
Max. boring bar	1.25" (32mm)	1.57" (40mm)	1.57" (40mm)
Travel past center line	1.06" (27mm)	1.06" (27mm)	1.06" (27mm)
Live Tooling			
C-axes min. increment	.001°	.001°	.001°
Power driven stations	12	6	12
Power station servo motor	5 hp	5hp	7.5hp
Rotating tool shank size	DIN5482 15x12	DIN5482 17x14	DIN5482 20x0.8
Maximum tool speed	5000 rpm	4000 rpm	4000 rpm
Maximum collet size	0.625" (16mm)	0.75" (20mm)	0.75" (20mm)
Coolant, Space & Weight			
Coolant tank capacity	26 gal. (100 litres)	40 gal. (150 litres)	40 gal. (150 litres)
Coolant pump delivery	6.6 gal/min (25 litres/min)	6.6 gal/min (25 litres/min)	6.6 gal/min (25 litres/min)
Maximum power consumption	28kVA	50kVA	37kVA
Dimensions: L x W	103"x65" (2616x1651mm)	107"x62" (2719x1575mm)	107"x62" (2719x1575mm)
Approx. net weight	8,818 lbs. (4000kg)	10,031 lbs. (4550kg)	10,251 lbs. (4650kg)
Optional Tailstock	(retrofittable)		
Tailstock quill diameter	2.48" (63mm)	3.74" (95mm)	3.74" (95mm)
Tailstock quill taper	3MT	5MT	5MT
Tailstock quill stroke	4.13" (105mm)	4.92" (125mm)	4.92" (125mm)
Tailstock body travel	21.25" (540mm)	23.62" (600mm)	23.62" (600mm)
Max. tailstock quill thrust	1,131 lbf (5.0 kN)	1,768 lbf (7.85 kN)	1,768 lbf (7.85 kN)