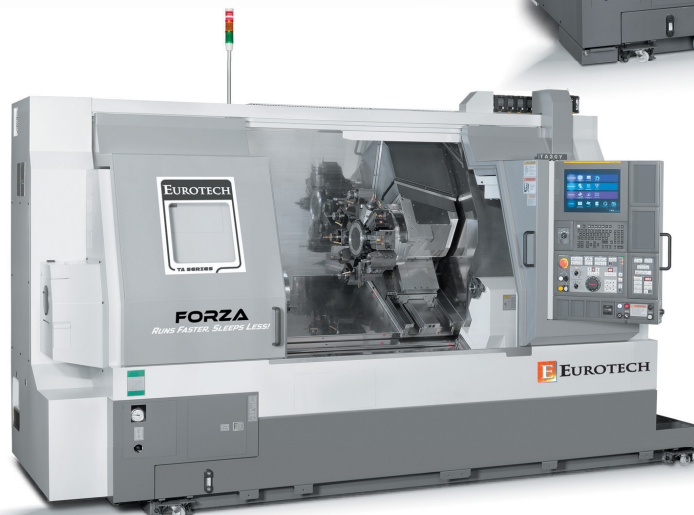
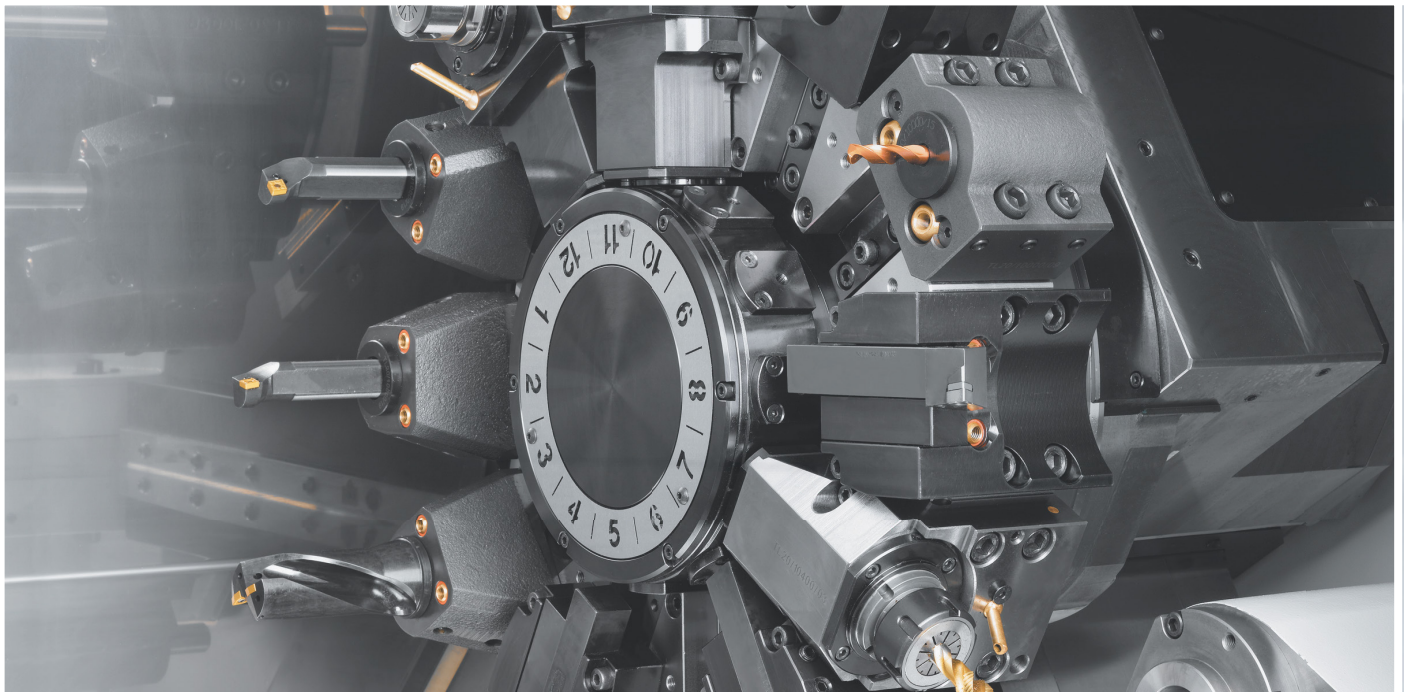


# SINGLE TURRET HEAVY DUTY TURNING

## FORZA

### TA SERIES: Z400 Z640 Z1100 Models



**Runs Faster,  
Sleeps Less!**

 **EUROTECH**  
*Winning with Technology that Runs Faster, Sleeps Less!*

# MODEL RANGE

## 2 to 5 Axes

S - Sub-spindle  
M - Milling  
Y - Axis

## 4 - Different Main Spindles Chuck / Bar

- 15 - 8" / 52 mm
- 20 - 10" / 66 mm
- 25 - 10" / 66 mm (high torque)
- 30 - 12" / 81 mm

## 3 - Different Machining Lengths

- 400 mm
- 640 mm
- 1100 mm

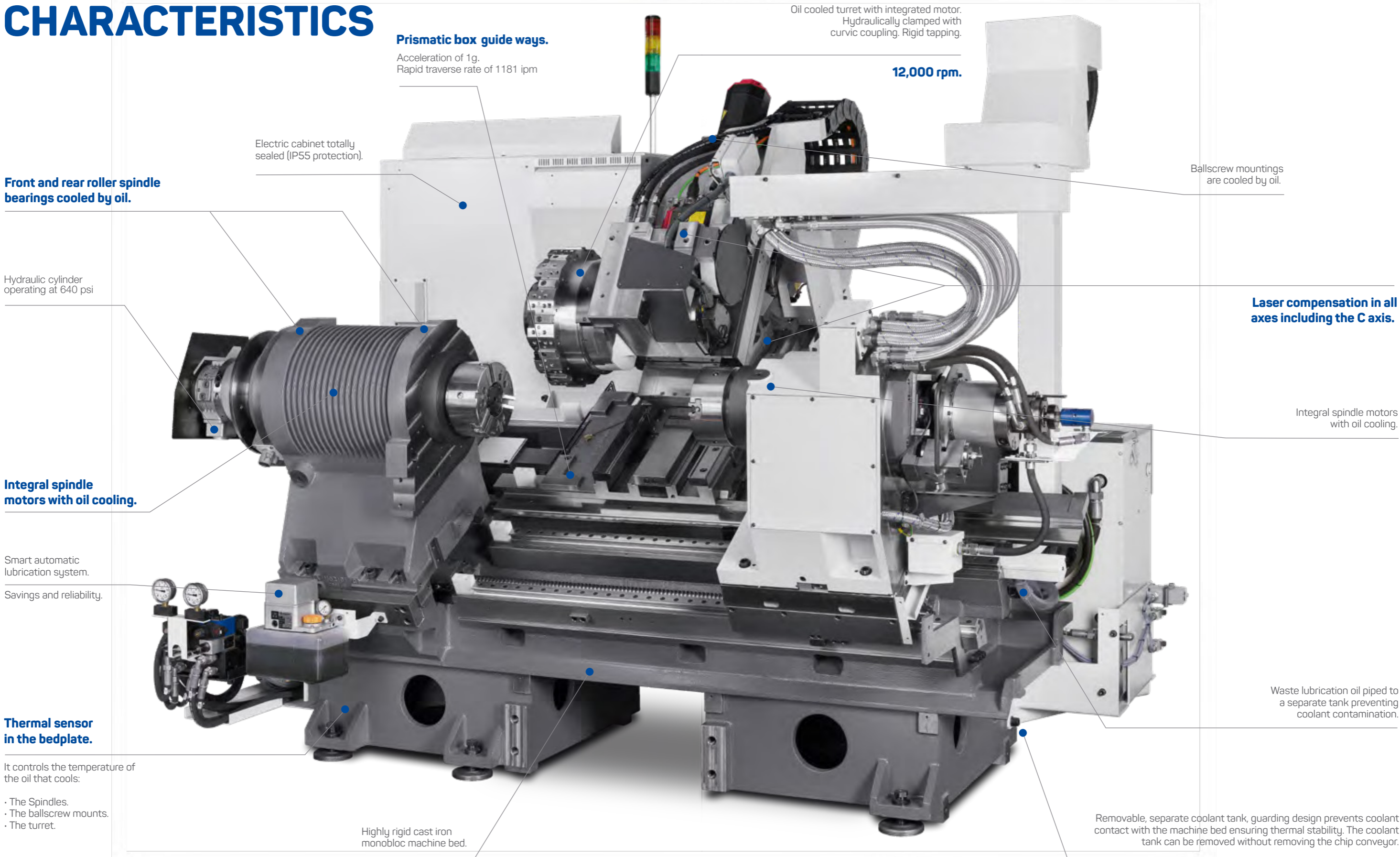
PRECISION  
RELIABILITY

# FORZA TA SERIES



# TECHNICAL CHARACTERISTICS

# FORZATA SERIES

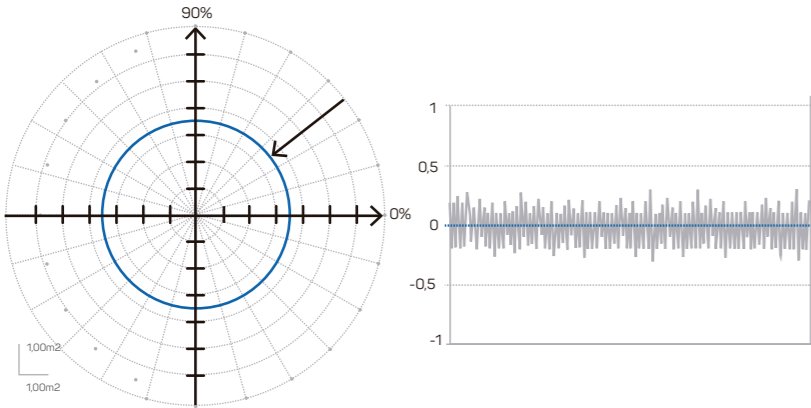


# INTEGRATED SPINDLES

## INTEGRATED SPINDLE MOTORS INCREASE ACCURACY AND REDUCE MACHINING TIMES

The spindle is driven through a motor integrated in the headstock body itself. This construction ensures an outstanding spindle robustness and vibration dampening that significantly improves surface finish and roundness.

Additionally, spindle acceleration and braking times are shortened by about 20-50% because of the reduced inertia and higher loading capacity of oil-cooled headstocks.



### ROUNDNESS

- MACHINE: TA 15
- MATERIAL: ALUMINIUM
- Ø 2.36 in.
- ROUNDNESS ACHIEVED: 0,3 µm
- FILTER: 150 p/r (50%)
- MEASUREMENT RANGE: 0,10°

### SURFACE FINISH

- MACHINE: TA 15
- MATERIAL: ALUMINIUM
- Ø 2.36 in.
- ROUGHNESS ACHIEVED: Rmax 0,6 µm
- FILTER: 150 p/r (50%)

\* The results obtained herein may not be attainable due to environmental and measuring differences.

# FORZA TA SERIES

## No pulleys or belts

- No belt slipping.
- Better surface finish.
- Lower noise level.

## Hydraulic cylinder at 640 psi

- More compact.
- Reduced cross-section means higher speed clamping.
- Higher sensitivity for light clamping.

Built-in encoder. Compensation of mensuration errors by laser measurement and bidirectional and interpolated error correction.

Double row roller bearings can withstand substantial impacts without damage.

Greater rigidity, accuracy and durability.

Spindle and bearings cooled by oil.

## Special coolant collection tray made by Eurotech

Excellent access to adjust the detectors. Easy chip removal. Protection against coolant entering into the hydraulic circuit.

Hydraulic brake on C axis.

# CNC FANUC SERIES 30

WITH IHMI INTERFACE  
AND NEW HARDWARE STEP 2



Visualize your CNC in your PC

1

Use VNC Viewer software to see the CNC screen of your lathe in any computer sharing the screen with your operator and being able to get support online in a very simple and efficient way.



Visualize your PC in the lathe

2

The operator can access to a desktop screen through the CNC. With this functionality software like ERP, Excel, email, Autocad, CAD/CAM... can be used from the lathe.

15" Touch screen

Adjustable height 100 mm

2 GB

Part program memory

Data Transfer

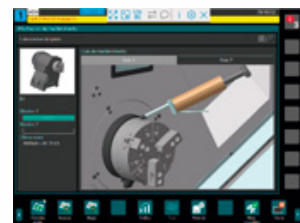
- Ethernet
- USB
- PCMCIA

Ready for Industry 4.0



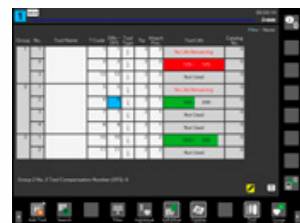
## Conversational programming

The CNC is equipped with the New Manual Guide i conversational programming system. It allows programming and simulating the programs in 3D.



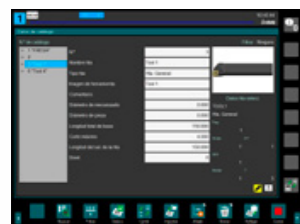
## Maintenance manager

The Maintenance manager will guide you to perform the recommended maintenance tasks. The dates when the maintenance was performed will be saved automatically when "Maint. complete" is pushed.



## Tool life (option)

The CNC allows to define groups of sister tooling. When a tool finishes its life due to the number of times being called or its cutting time, it is automatically substituted by its sister tool.



## Tool catalogue

The control has a tool catalogue from which we can select the tools we want to use in our machining process. This permits to directly get the geometry of the tool for simulation purposes.



## Variable speed function (Anti vibration)

With a simple setup to define the period and amplitude of a sinusoidal curve to modify the spindle speed, very good results are obtained in reducing chatter vibration. This function is available for turning with or without tailstock.



## Manuals

Check any machine manual instantly in the CNC. The files are indexed so that you can access the information you require directly from the table of contents of the manual.



## Easy diagnosis

Easy detection of machine faults through the graphical interface that shows the signals that control the different devices in the machine. Status of the detectors, signals to activate the hydraulic maneuvers, motor temperature and pressure measurements are easily monitored live.



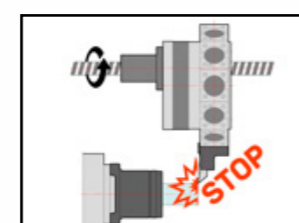
## Tool monitoring (option)

This functions memorises the power consumption of each tool. Once the values are obtained it monitors the power consumption of each tool to detect tool wear or breakage. This reduces the manual handling in an unmanned process.



## Execution of program with the MPG handwheel

This function allows checking the programs executing them back and forth with the MPG handwheel.



## Electronic detection of collisions (airbag).

The CNC detects impacts through monitorisation of the motors' forces and following errors. With an overload the axes and spindles are stopped to prevent further damages.

# FORZA TA SERIES

## TURRET WITH A BUILT-IN MOTOR

## AND HYDRAULIC CLAMPING

12,000 rpm /  
55.3 lb.ft. torque

## Turret

Sturdily-built turret, incorporating a large diameter turret disk which enables the interferences between tools and chuck to be reduced.

## Indexing

Bi-directional high-speed indexing is driven by a servomotor. The motor used for turret rotation is similar to motors used for axis movement, thus achieving high rotation rigidity and smoothness.

## Indexing time

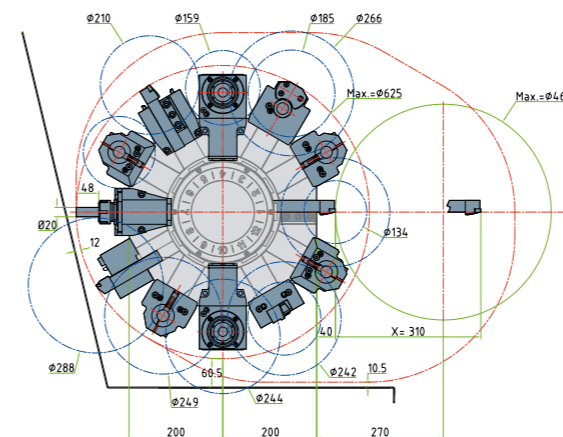
The indexing time is 0.2 seconds for adjacent turret positions and 0.5 seconds for 180 degrees.

## Unclamping

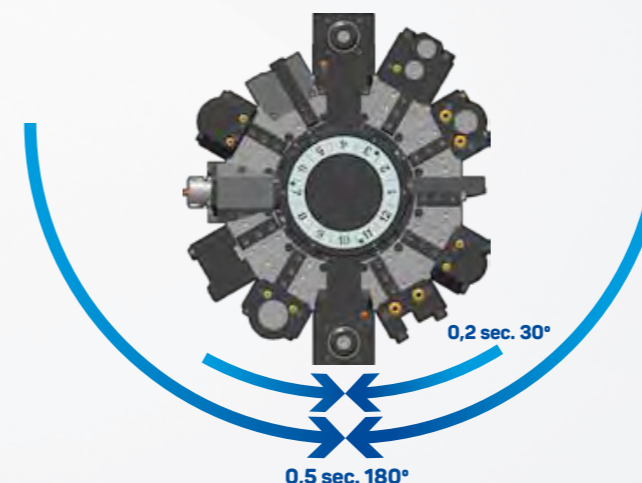
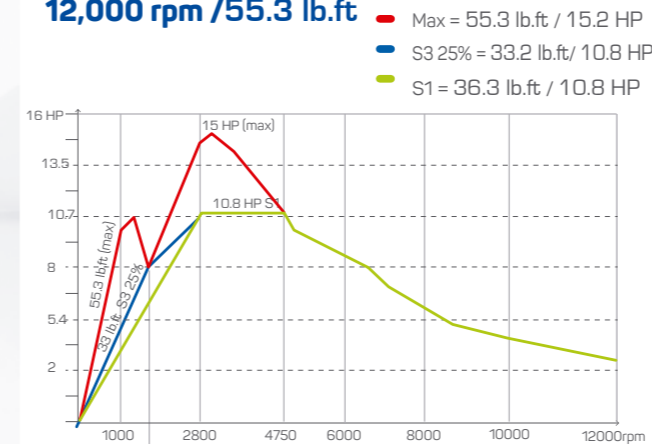
The turret is unclamped on retract and clamped on approach, thus ensuring an effective tool changing time of 0.2 s.



Interference diagram of driven tool motor. 12,000 rpm /55.3 lb.ft

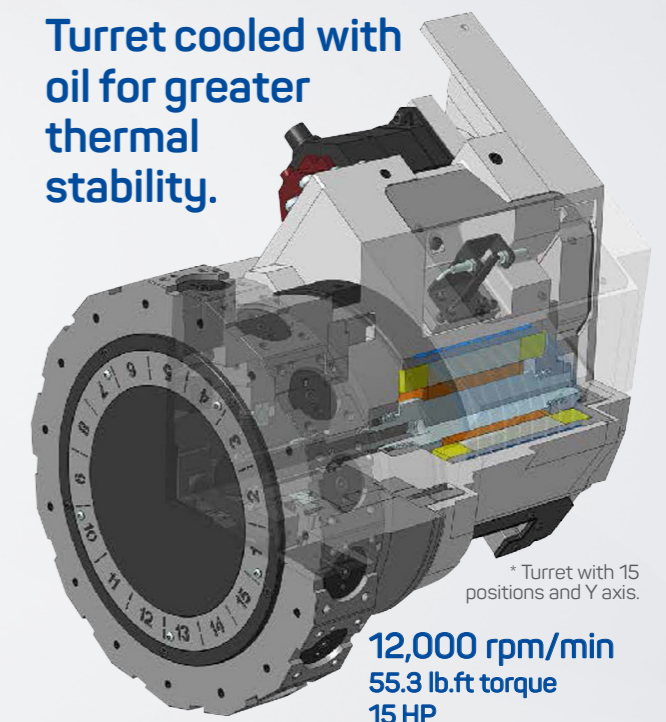


Power and torque diagram of driven tool motor. 12,000 rpm /55.3 lb.ft



**Tool Turret** - The robust turret disk does not lift while indexing. The turret is unclamped on retract and clamped on approach, thus ensuring an effective tool changing time of 0.2 s. - 12 positions disc. 0.2 seconds 30°

Turret cooled with oil for greater thermal stability.




12,000 rpm/min  
55.3 lb.ft torque  
15 HP

\* Turret with 15 positions and Y axis.


# FORZA TA SERIES

## TOOL HOLDERS


### Boring & drilling holders Ø40



TD/10300/40  
(Ø1.57 in)

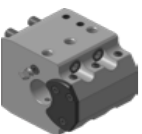


TD/10300/41  
(Ø1.57 in)

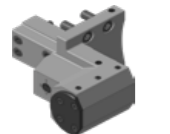


TL20/10000/14 (Ø0.31 in)  
TL20/10000/15 (Ø0.39 in)  
TL20/10000/16 (Ø0.47 in)  
TD/10300/16 (Ø0.63 in)  
TD/10300/20 (Ø0.79 in)  
TD/10300/25 (Ø0.98 in)  
TD/10300/32 (Ø1.26 in)


### Double boring holders Ø32



TD/10300/43  
(Ø1.26 in)



TD/10300/42  
(Ø1.26 in)



TL20/10000/27 (Ø0.31 in)  
TL20/10000/28 (Ø0.39 in)  
TL20/10000/29 (Ø0.47 in)  
TL20/10000/30 (Ø0.63 in)  
TL20/10000/31 (Ø0.79 in)  
TL20/10000/43 (Ø0.98 in)

### Boring holders Ø60



TD/10300/60  
(Ø2.36 in)




TD/10300/50  
(Ø1.97 in)

### Boring holders Ø80

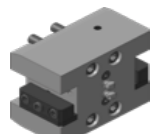


TD/10300/80  
(Ø3.15 in)  
\*Not suitable for 16 station turret

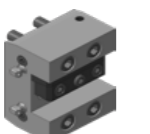
### Turning holders □25



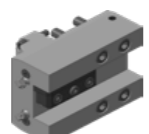
TD/10300/45



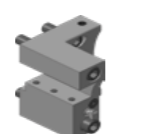
TD/10300/46




TD/10300/48



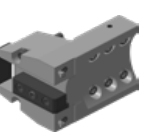
TD/10300/47



TD/10300/49




TD/10300/44




TD/10300/59


### Live tool holders




TL20/10400/01B  
Max: 6000 rpm




TL20/10400/05B  
Max: 6000 rpm




TL20/10400/06  
Max: 12000 rpm




TL20/10400/07B  
Max: 6000 rpm



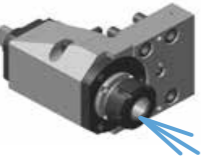
TL20/10400/08  
Max: 12000 rpm




TL20/10400/04A  
Max: 8000 rpm



TL20/10400/03A  
Max: 8000 rpm



TL20/10400/09  
Max: 12000 rpm



TL20/10400/10  
Max: 4000 rpm

### Others



TL20/10000/03



TL20/10000/36  
(Ø10mm)



TL20/10000/37

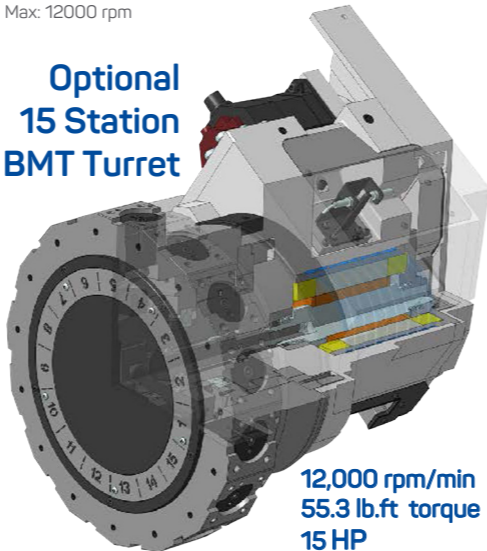


TL15/10000/05



TL20/10051  
TL20/10054

Optional  
15 Station  
BMT Turret

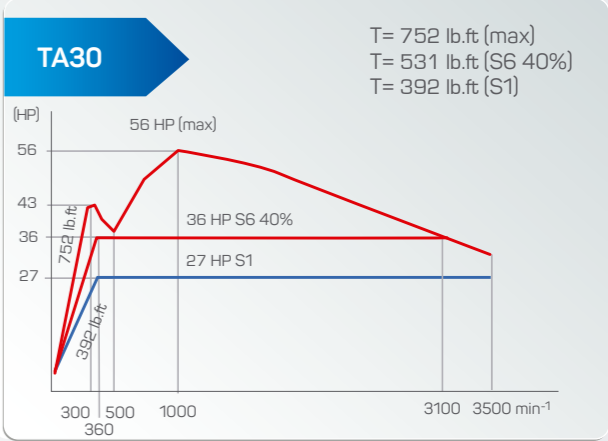
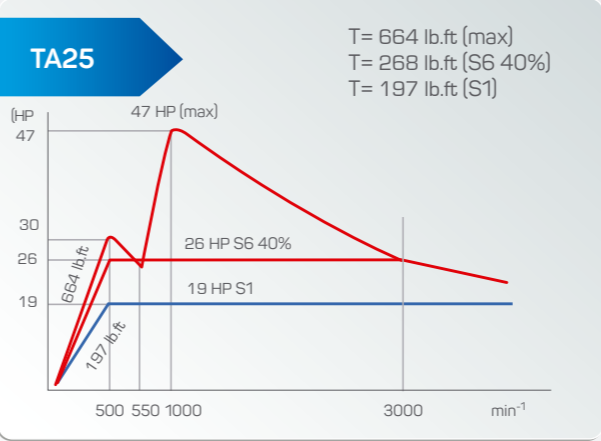
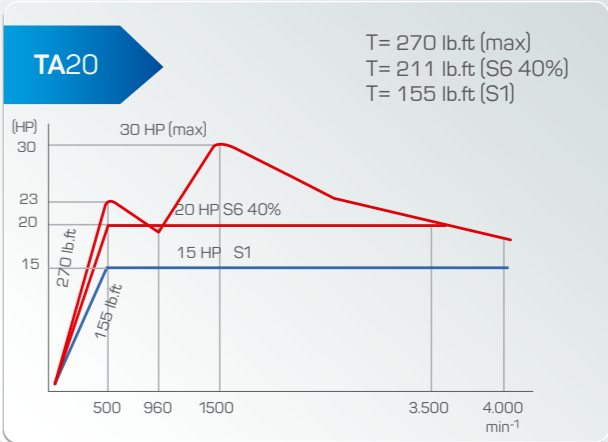
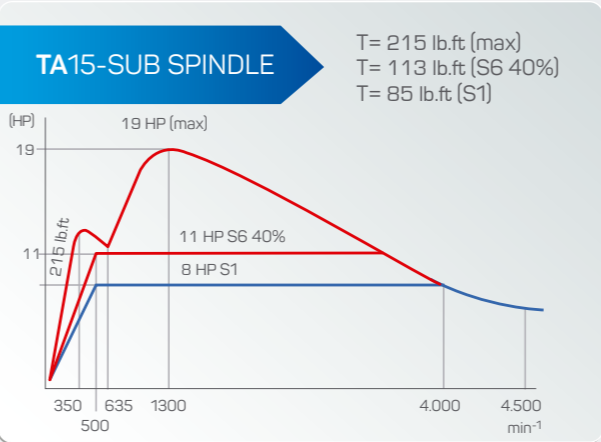


12,000 rpm/min  
55.3 lb.ft torque  
15 HP

# FORZA TA SERIES

## INTEGRATED SPINDLES

### POWER AND TORQUE DIAGRAM OF SPINDLES



# ROBOT GL20 II

## AUTOMATE SHORT AND LONG BATCHES

A range of gripper heads with 2 x 22lb capacity to suit your needs (GL20 II)

Very easy to use



Easy to use and to program. Eurotech have developed a conversational programming system that makes it very easy to set and use the GL20 II and GL6 Gantry robots.

- 1\_3-jaw servo gripper with 2 x 180° indexing.
- 2\_2-jaw servo gripper with 2 x 180° indexing.
- 3\_3-jaw pneumatic gripper with 2 x 90° indexing.
- 4\_Pneumatic gripper for shafts with 2 x 90° indexing.
- 5\_Servo gripper for shafts with 2 x 90° indexing.

Workstocker WS-280x400x14 with 14 pallets.



The Vertical movement of the wrist reduces the height required and doubles the movement speed.

A wide range of workstockers with large capacity permits long periods of unmanned operation.

This workstocker can accommodate components to a maximum diameter of 11.2 in and maximum stacked height of 19.7 in (maximum travel of 15.8 in). The 14 rotary pallets each have a carrying capacity of 165 lb maximum.

WS280

Checking station.

# FORZATA SERIES



Workstocker WS-700 for shafts:

Workstocker to stock shafts from 3.15 in to 27.6 in long and from 0.39 in to 3.15 in diameter. (Contact Eurotech for other sizes).



Z axis speed  
(Longitudinal): 7086 ipm

Y axis speed  
(Transverse): 4724 ipm

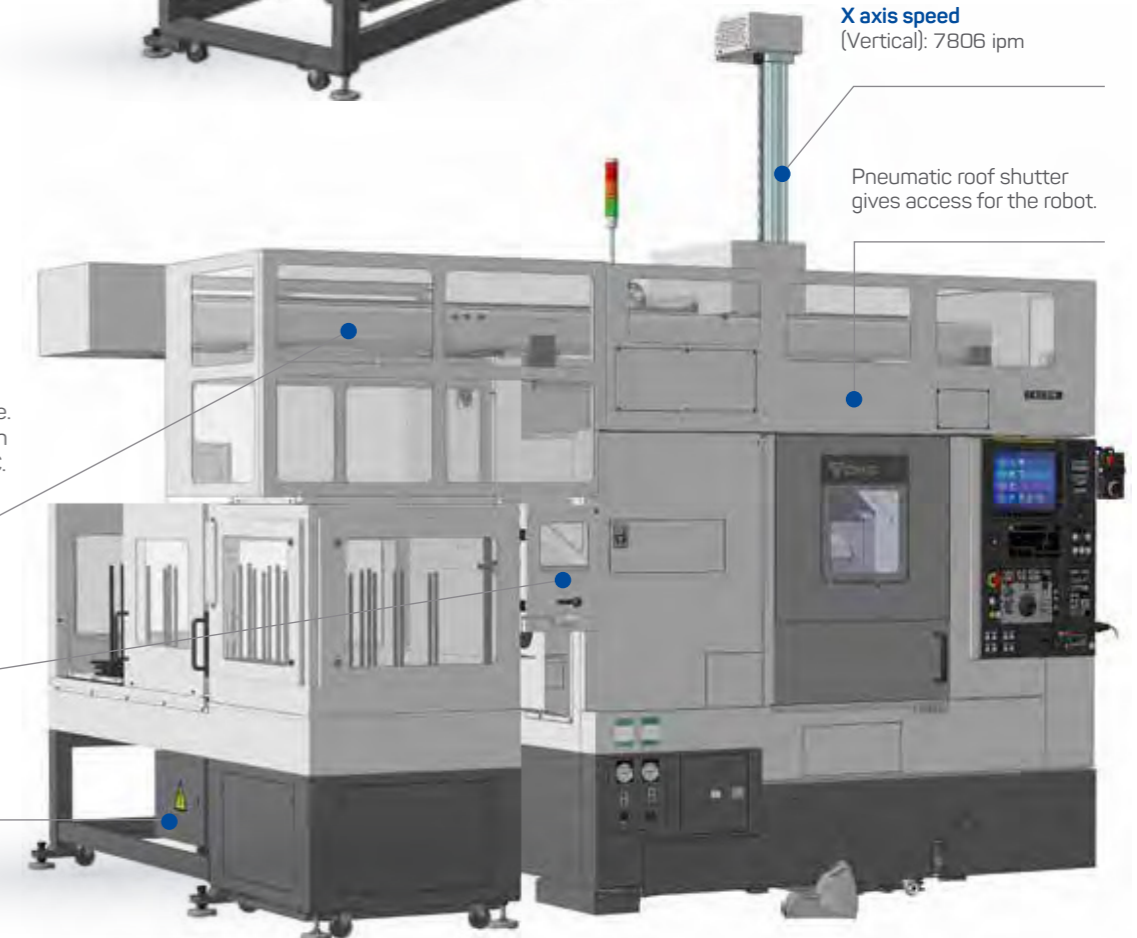
X axis speed  
(Vertical): 7806 ipm

Pneumatic roof shutter gives access for the robot.

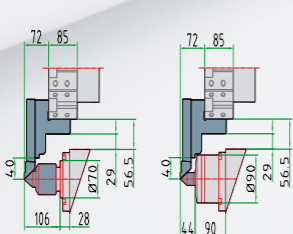
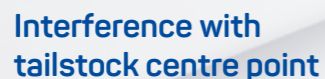
CNC controlled axes.  
• Rack and pinion drive.  
• Automatic lubrication controlled by the CNC.

Checking station.

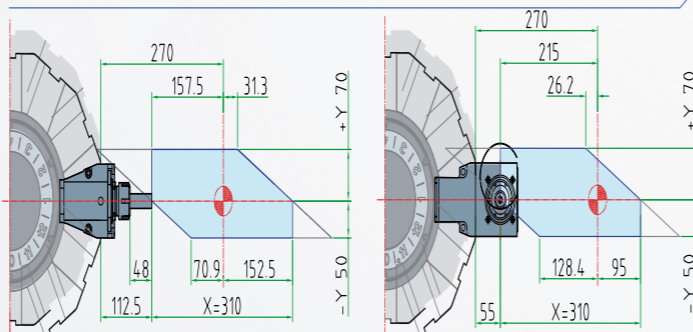
WS280



## Travels with tailstock



## Travels with tailstock and live tooling



# TECHNICAL SPECIFICATIONS

TECHNICAL DATA			TA15		TA20		TA25		TA30		
			TA15M, TA15Y, TA15S, TA15MS, TA15YS		TA20, TA20M, TA20Y, TA20S, TA20MS, TA20YS		TA25, TA25M, TA25Y, TA25S, TA25MS, TA25YS		TA30, TA30M, TA30Y, TA30S, TA30MS, TA30YS		
GENERAL DATA	Maximum diam. swing over bed (inch)		29.92		29.92		29.92		29.92		
	Maximum diam. swing over slides (inch)		23.62		23.62		23.62		23.62		
	Maximum turning diameter (inch)		18.11		18.11		18.11		18.11		
	Distance between spindle and tailstock center (inch)	Z400	19.29	-	18.62	-	18.62	-	17.68	-	
		Z640	28.74	-	28.07	-	28.07	-	27.12	-	
		Z1100	46.85	-	46.18	-	46.18	-	45.24	-	
	Distance between center of spindles (inch)	Z640	-	26.22	-	25.55	-	25.55	-	24.61	
		Z1100	-	44.33	-	42.66	-	43.66	-	42.72	
	X-axis travel (inch)		12.2		12.2		12.2		12.2		
	Z-axis travel (inch)	Z400	15.75		15.75		15.75		15.75		
		Z640	25.2		25.2		25.2		25.2		
		Z1100	43.31		43.31		43.31		43.31		
	Y-axis travel (inch)		-	-	-	-	-	-	-	-	
	B-axis travel (inch)		Z400	15.75	-	15.75	-	15.75	-	15.75	-
			Z640	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
			Z1100	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31
Fast feedrate X (m/min)		30		30		30		30			
Fast feedrate Z (m/min)		30		30		30		30			
Fast feedrate Y (m/min)		-	-	15	-	-	-	15	-	-	
Fast feedrate B (m/min)		11	30	11	30	11	30	11	30		
Axis acceleration		1g=9.8 m/s2		1g=9.8 m/s2		1g=9.8 m/s2		1g=9.8 m/s2			
SPINDLE	Maximum speed (rpm)		4500		4000		4000		3500		
	Bearing outside diameter (inch)		5.9		6.69		6.69		7.87		
	Bearing inside diameter (inch)		3.94		4.33		4.33		5.12		
	Spindle nose		ASA 6" A2		ASA 6" A2		ASA 6" A2		ASA 8" A2		
	Spindle inside diameter (inch)		2.4		2.87		2.87		3.58		
	Maximum bar diameter (inch)		2.05		2.6		2.6		3.23		
	Chuck diameter (inch)		6.89/8.27		8.27		9.84/8.27		10/12.4		
	Chuck bore (inch)		2.2/2.05		2.6		2.6		3.23		
	Spindle power (HP (max./S6 40%))		18.8/10.7		29.5/20.1		46.9/25.5		58.3/36.2		
	Turning torque (lb.ft)		215.4 (max) 112.8 (S6 40%)		269.9 (max) 210.9 (S6 40%)		663.8 (max) 267.7 (S6 40%)		752.3 (max) 531 (S6 40%)		
TAILSTOCK	Morse cone	Ø90x120 live center	CM5	-	CM5	-	CM5	-	CM5	-	
		Ø90x120 rotary quill	CM3	-	CM3	-	CM3	-	CM3	-	
	Tailstock travel (inch)	Z400	15.75	-	15.75	-	15.75	-	15.75	-	
		Z640	25.2	-	25.2	-	25.2	-	25.2	-	
		Z1100	43.31	-	43.31	-	43.31	-	43.31	-	
Max. force (lbf)		930	-	980	-	980	-	1350	-		

TECHNICAL DATA			TA15				TA20				TA25				TA30					
			TA15M, TA15Y, TA15S, TA15MS, TA15YS				TA20, TA20M, TA20Y, TA20S, TA20MS, TA20YS				TA20, TA20M, TA20Y, TA20S, TA20MS, TA20YS				TA30, TA30M, TA30Y, TA30S, TA30MS, TA30YS					
TURBET	Number of positions		12				12				12				12					
	Section of tools (mm)		25x25 (Ø50)				25x25 (Ø50)				25x25 (Ø50)				25x25 (Ø50)					
	Changing time		30° 0,2s-180° 0,5s				30° 0,2s-180° 0,5s				30° 0,2s-180° 0,5s				30° 0,2s-180° 0,5s					
	Interlocking force at 45 bar (kgf)		5090				5090				5090				5090					
DRIVEN TOOLS	Number of driven tools		-	12	-	12	-	12	-	12	-	12	-	12	-	12	-	12		
	Turning speed (rpm)		-	12000	-	12000	-	12000	-	12000	-	12000	-	12000	-	12000	-	12000		
	Power (HP) (max./S1)		-	15.2/10.9	-	15.2/10.9	-	15.2/10.9	-	15.2/10.9	-	15.2/10.9	-	15.2/10.9	-	15.2/10.9	-	15.2/10.9		
	Maximum torque (lb.ft)		-	55.3	-	55.3	-	55.3	-	55.3	-	55.3	-	55.3	-	55.3	-	55.3		
SUBSPINDLE	Maximum speed (rpm)		-	4500	-	4500	-	4500	-	4500	-	4500	-	4500	-	4500	-	4500		
	Bearing outside diameter (inch)		-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9		
	Bearing inside diameter (inch)		-	3.94	-	3.94	-	3.94	-	3.94	-	3.94	-	3.94	-	3.94	-	3.94		
	Spindle nose		-	ASA 6" A2	-	ASA 6" A2	-	ASA 6" A2	-	ASA 6" A2	-	ASA 6" A2	-	ASA 6" A2	-	ASA 6" A2	-	ASA 6" A2		
	Spindle inside diameter (inch)		-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4	-	2.4		
	Bar diameter (inch)		-	2.05	-	2.05	-	2.05	-	2.05	-	2.05	-	2.05	-	2.05	-	2.05		
	Chuck diameter (inch)		-	6.89	-	6.89	-	6.89	-	6.89	-	6.89	-	6.89	-	6.89	-	6.89		
	Chuck bore (inch)		-	2.2	-	2.2	-	2.2	-	2.2	-	2.2	-	2.2	-	2.2	-	2.2		
	Power (HP) (max./ S6 40%)		-	18.8/10.7	-	18.8/10.7	-	18.8/10.7	-	18.8/10.7	-	18.8/10.7	-	18.8/10.7	-	18.8/10.7	-	18.8/10.7		
Turning torque (lb.ft) (max./S6 40%)		-	215/113	-	215/113	-	215/113	-	215/113	-	215/113	-	215/113	-	215/113	-	215/113			
MISCELLANEOUS	Coolant tank (gal)	Z400 Lateral	57.2				57.2				57.2				57.2					
		Z400 Rear	52.0				52.0				52.0				52.0					
		Z640 Lateral	59.8				59.8				59.8				59.8					
		Z640 Rear	52.0				52.0				52.0				52.0					
		Z1100	67.6				67.6				67.6				67.6					
	Hydraulic oil tank (liters)		2.6				2.6				2.6				2.6					
	Lubrication oil tank (liters)		1.0				1.0				1.0				1.0					
	Installed power kVA		30	30	30	45	45	45	30	30	30	45	45	45	30	30	30	45	45	45
	Functioning voltage	400V 50Hz +5%		400V 50Hz +5%				400V 50Hz +5%				400V 50Hz +5%				400V 50Hz +5%				
		(230V 50Hz +5%)		(230V 50Hz +5%)				(230V 50Hz +5%)				(230V 50Hz +5%)				(230V 50Hz +5%)				
	Environmental temperature		35°C				35°C				35°C				35°C					
	Total weight (lb)	Z400	14550(*)	-		14991(*)	-		14991(*)	-		15432(*)	-		17195(*)	-		19180(*)		
		Z640	15432(*)	16314(*)		15652(*)	16534(*)		15652(*)	16534(*)		16093(*)	17195(*)		17195(*)	19180(*)				
		Z1100	17195(*)	18077(*)		17416(*)	18298(*)		17416(*)	18298(*)		17636(*)	19180(*)		19180(*)	20860(*)				
	Dimensions (inch)	TA	Z400	91x70x74				91x70x74				91x70x74				91x70x74				
		TAY	Z400	91x70x83				91x70x83				91x70x83				91x70x83				
		TA	Z640	100x69x74				100x69x74				100x69x74				100x69x74				
		TAY	Z640	100x69x83				100x69x83				100x69x83				100x69x83				
		TA	Z1100	135x73x76				135x73x76				135x73x76				135x73x76				
TAY		Z1100	135x73x88				135x73x88				135x73x88				135x73x88					
Innervolume (ft3)		TA	Z400	35.31				35.31				35.31				35.31				
TAY	Z400	40.61				40.61				40.61				40.61						
TA	Z640	45.91				45.91				45.91				45.91						
TAY	Z640	52.97				52.97				52.97				52.97						
TA	Z1100	63.56				63.56				63.56				63.56						
TAY	Z1100	74.16				74.16				74.16				74.16						

(\*) Approximate weights. Due to constant development of our products all specifications given here in are subject to change without notice.



## Nationwide Service

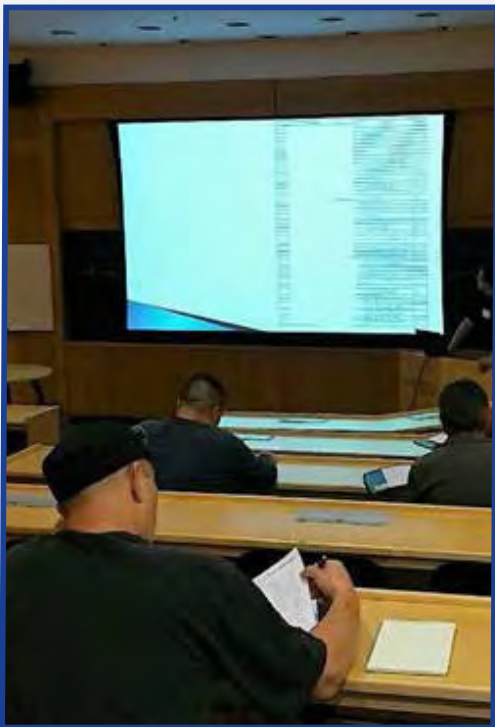
Eurotech has nationwide distributors with over 100 service technicians. Eurotech's USA headquarters trains and supports our distributors and customers.

*"Our relationship with the service department is bar none!"*

– Les Richards, Custom Mold

*"You can't go wrong with the Eurotech equipment and the customer care they provide after the purchase."*

– Geoff Giner, Model Screw Products



## Nationwide Engineering and Training Classes

Eurotech's highly-advanced engineers have established a value that delivers more to our customers' needs than anything else in the industry - by listening to our customers' needs. Some key benefits Eurotech engineers deliver are:

- Factory Certified Training
- Proven to Increase ROI and Cycle Time
- New & Unique Ideas for Parts Processing

**Free Lifetime Training!** Knowledge is the power of productivity!

For 25 years we have offered FREE lifetime training to our valued customers as well as free engineering phone support. We have found this to be an important factor in helping our customers become profitable. Thousands of CNC machinists have trained at our FREE Eurotech College.

*"Class was 5 Stars. The instruction was great as was the training binder. Thank you for the awesome two days of training."*

– Dan Gibbons, J.C. Gibbons Mfg. Inc.



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