



CMZ Machinery Group, S.A.

TX Series



ENGLISH

Model range

- TX 66 Y3
- TX 66 Y2 Quattro
- TX 66 Y2 Twin
- TX 52 Y3
- TX 52 Y2 Quattro
- TX 52 Y2 Twin



TX66 Y3
CMZ Machinery Group

CMZ TX Series

CMZ
Machinery Group

CMZ

High performance from within

High quality double anchor pre-tensioned ballscrews provide high thermal stability.

Servo driven turret with hydraulically clamped Curvic Coupling. Rigid tapping.

Prismatic guide ways. Acceleration of 1 g.

Electric cabinet totally sealed (IP55 protection).

Front and rear roller spindle bearings give high rigidity, accuracy and long life.

Hydraulic cylinder operating at 45 kg/cm².

Smart automatic lubrication system saves money and increases reliability.



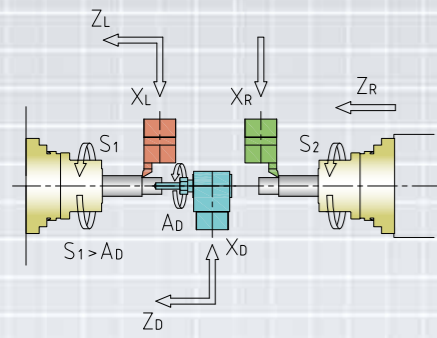
▲ High performance CNC control unit and servomotors.

Waste lubrication oil piped to a separate tank preventing coolant contamination.

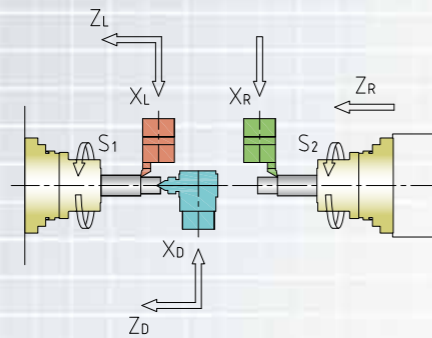
Removable, separate coolant tank. Guarding design prevents coolant contact with the machine bed ensuring thermal stability.

Examples of Simultaneous Machining

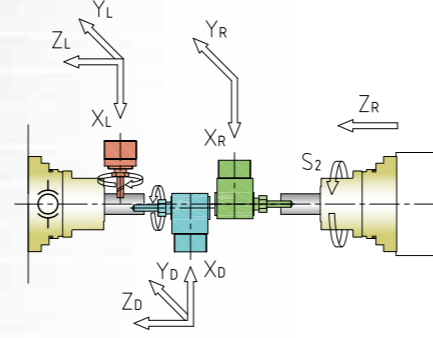
Differential Cut



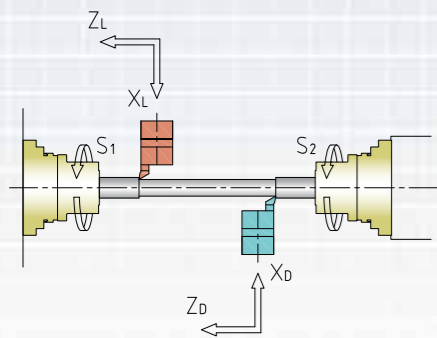
Center Support



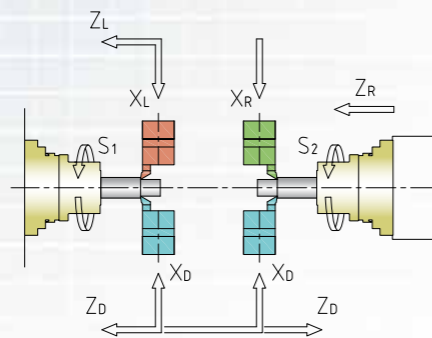
Drilling & Tapping



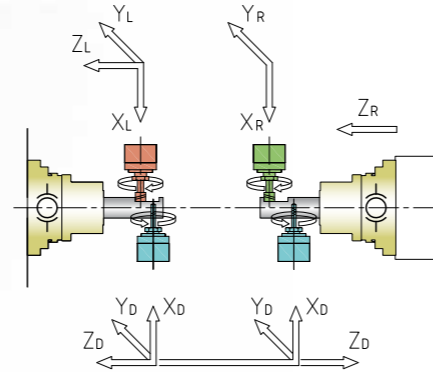
4-Axis Turning



6-Axis Turning



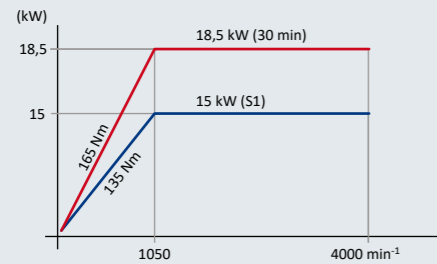
9-Axis Combined



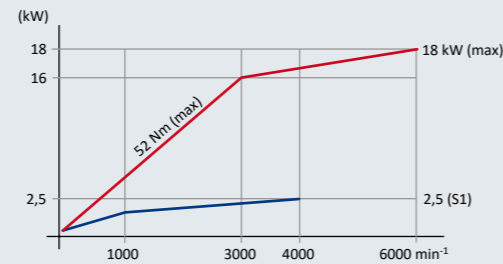
**3x High rigidity
24 position turrets**

- 3x ±40 mm Y axis
- 2x spindle with full C axis
- 3x 18 Kw 52 Nm Milling Motors
- 18x CNC controlled axes

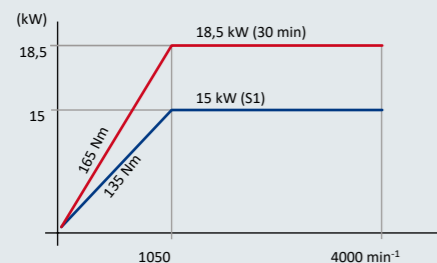
TX-66 Left Spindle



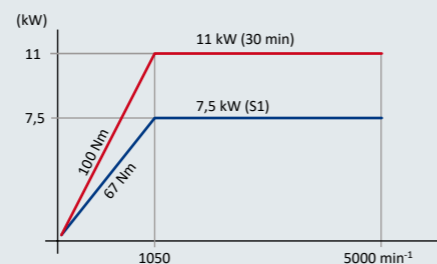
DRIVEN TOOLS POWER (ON 3 TURRETS)



TX-52 Left Spindle

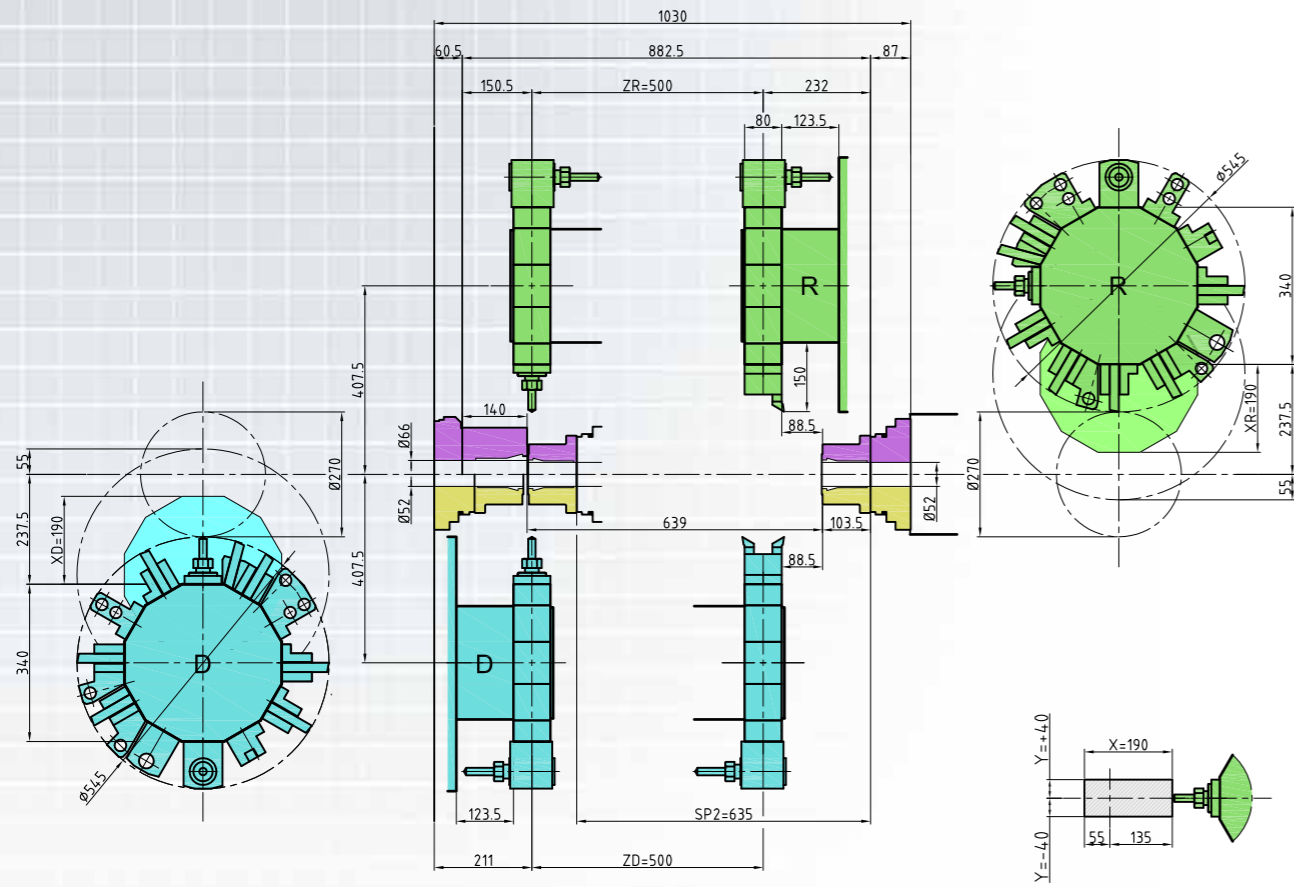


TX Right Spindle

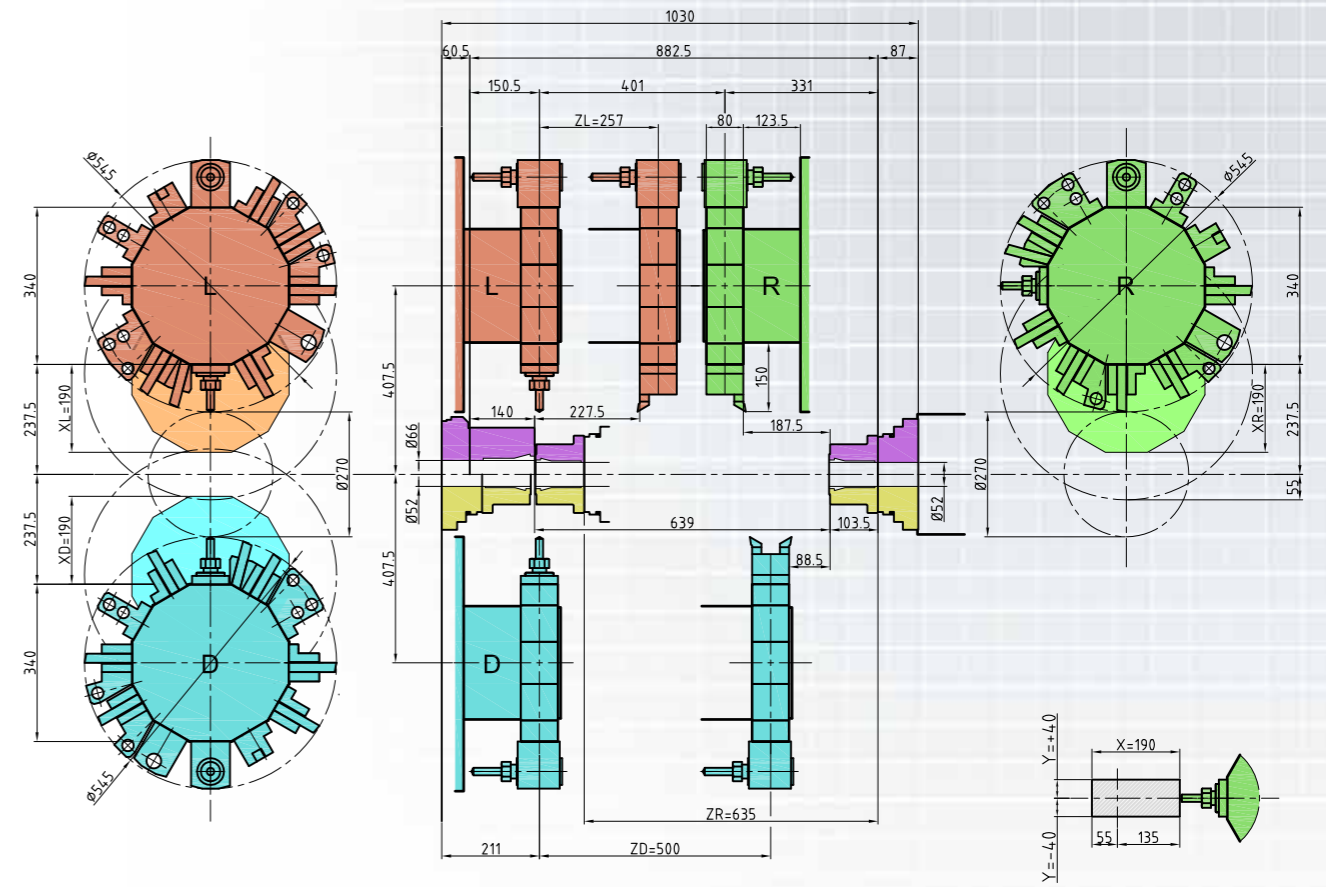


Travels & Interferences

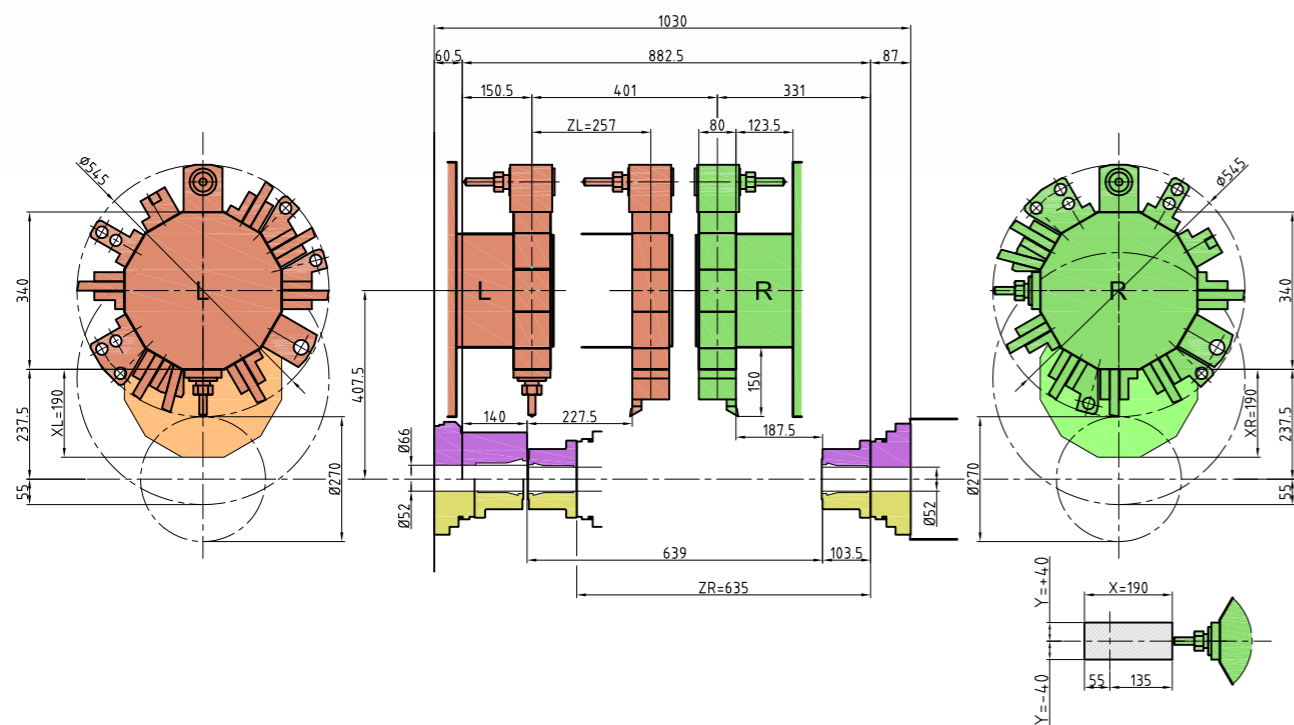
TX-66-Y2 Quattro



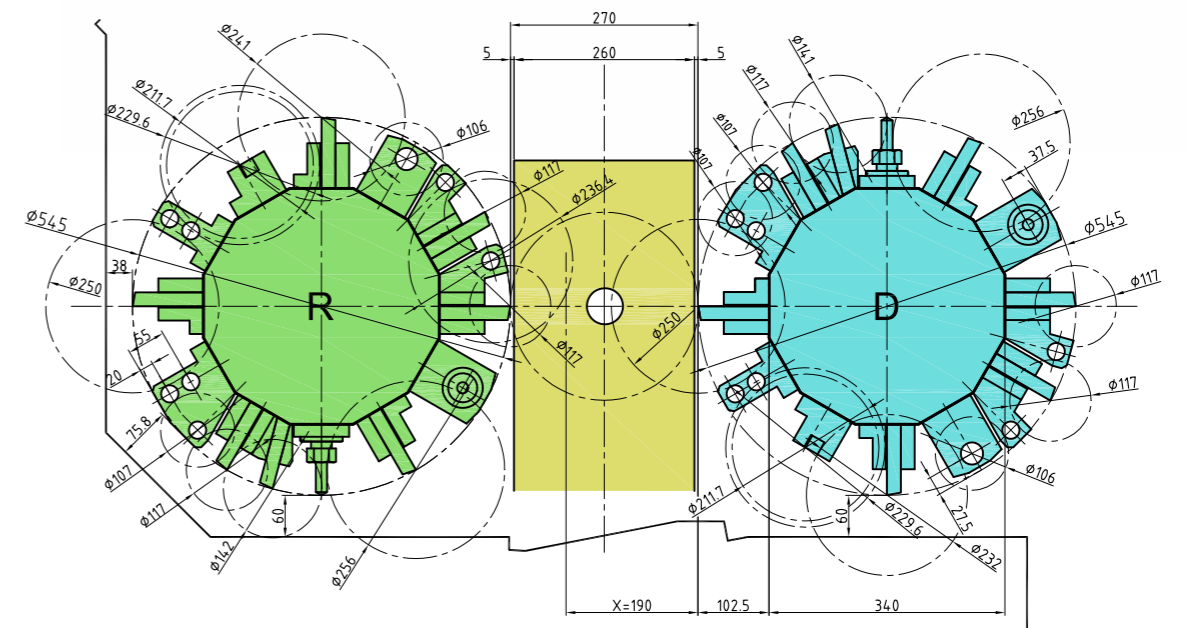
TX-66-Y3



TX-66-Y2 Twin



Tooling interferences



Automate your production with the CNC controlled automatic parts loader

Large capacity loader.

The loader arm is fitted with twin grippers that can carry two components up to 3kg each and up to 150mm diameter. Having twin grippers means that both the raw and finished part can be carried at the same time. This reduces the loading time and minimises the distance that the loader has to travel.

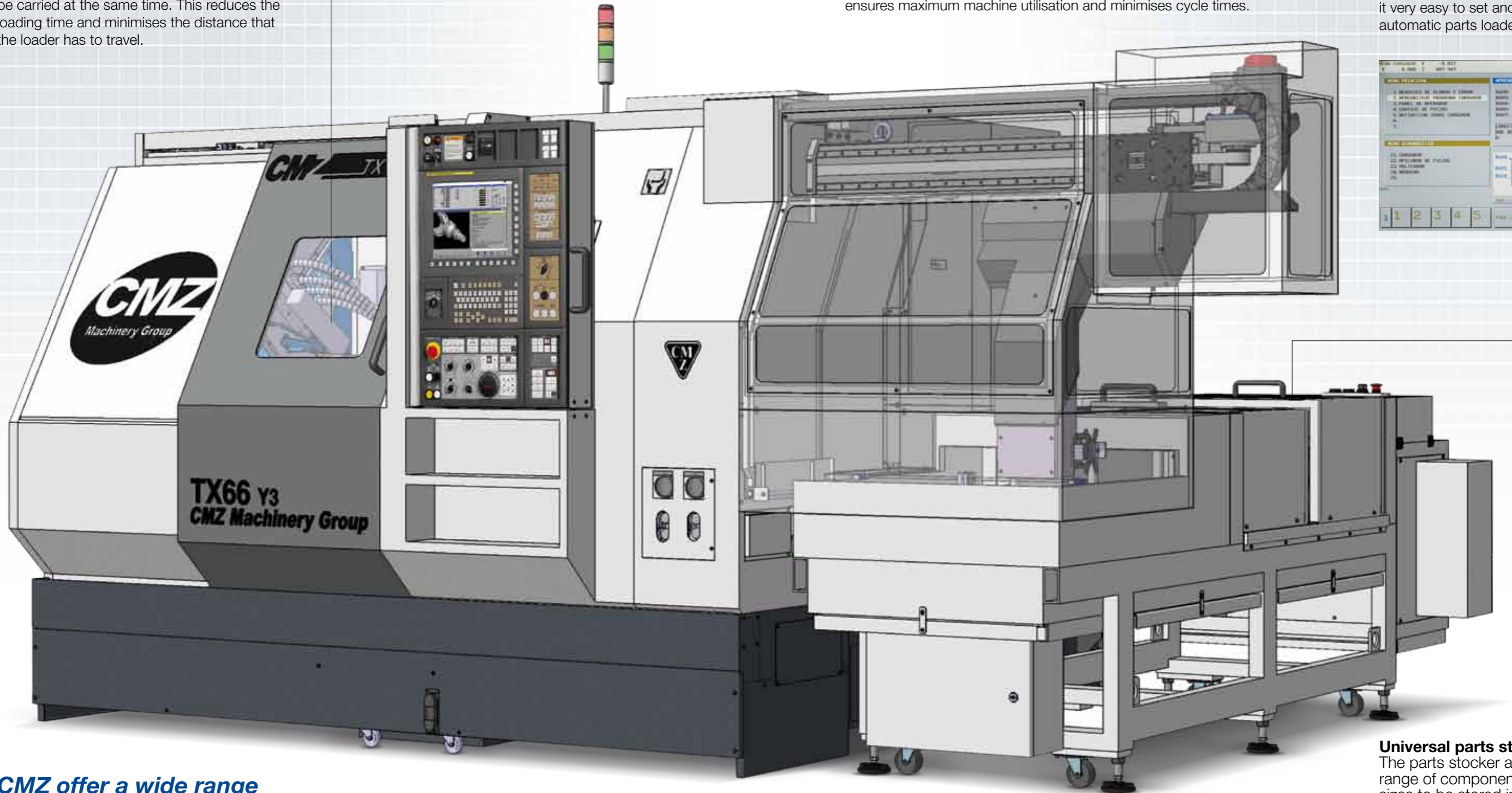
- Z axis speed (longitudinal): 180 m/min.
- X axis speed (vertical): 120 m/min.

Loader with non-stop machining feature.

The innovative design of this loader allows a part to be loaded or unloaded from the either chuck without stopping the opposite spindle. Unlike a gantry loader where the cycle has to stop for loading, this system allows for continuous production. This feature ensures maximum machine utilisation and minimises cycle times.

VERY EASY TO USE.

Easy to use and to program, CMZ have developed a conversational programming system that makes it very easy to set and use the automatic parts loader.



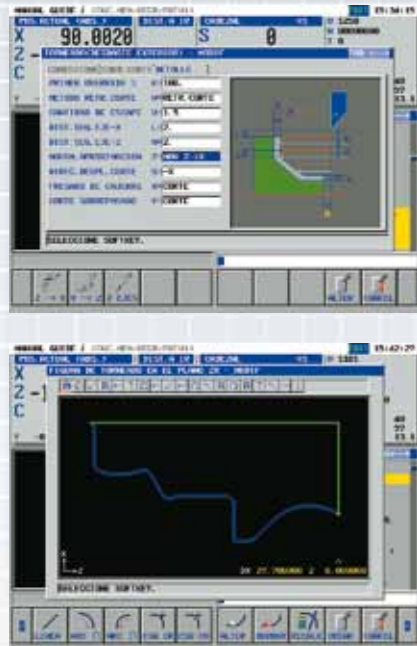
CMZ offer a wide range of products for automation. Contact us for more information.

Universal parts stocker.

The parts stocker allows a wide range of component types and sizes to be stored in the pre-machined and finished state. Blanks up to 150mm and 3kg can be accommodated by the automatic loader and stocker. Shafts up to 300mm long can also be handled.

Latest generation control systems

Manual Guide i. Conversational programming simplifies programming and program proving.



Nano CNC.

The CNC makes internal calculations for the servos in 1/1000 of a micron (in nanometres - 0.000001mm).

0.0001 mm resolution & 1 g acceleration.

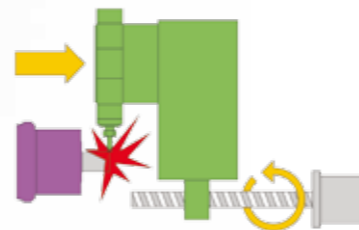
With 1 million pulse encoders, better precision, surface finish and acceleration are achieved.

Manual handle retrace function.

With this function you can retrace (forward and reverse) the programmed tool path of all 3 turrets using the electronic handwheel. This function can greatly reduce the setup time of the machine.

Electronic detection of collisions.

This function detects any abnormal torque on machine motors caused by mechanical impacts, immediately stopping machine heads and axes, which prevents further damage.



Tool life management (optional).

40 groups of up to 8 tools per group can be established so that when the life of the tool is over, either through the number of times that this has been called up or through cutting time, the machine automatically changes to the following tool from that group.



▲ Screen for displaying the state of tool life.

Tool load monitoring (optional).

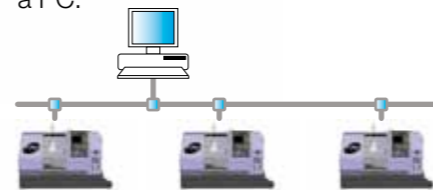
This function memorises the power consumption of each tool when the tool is new. Any change in power consumption is used to detect either a worn tool or a broken tool. This reduces the danger of accidents and rejects when working unattended jobs.



▲ Screen for typing values of tool wear and breakage.

Ethernet connection.

Connect the machine to your network using the CNC's FTP client to load and unload programs from a PC.



Introduce a memory card and use it as a hard drive.

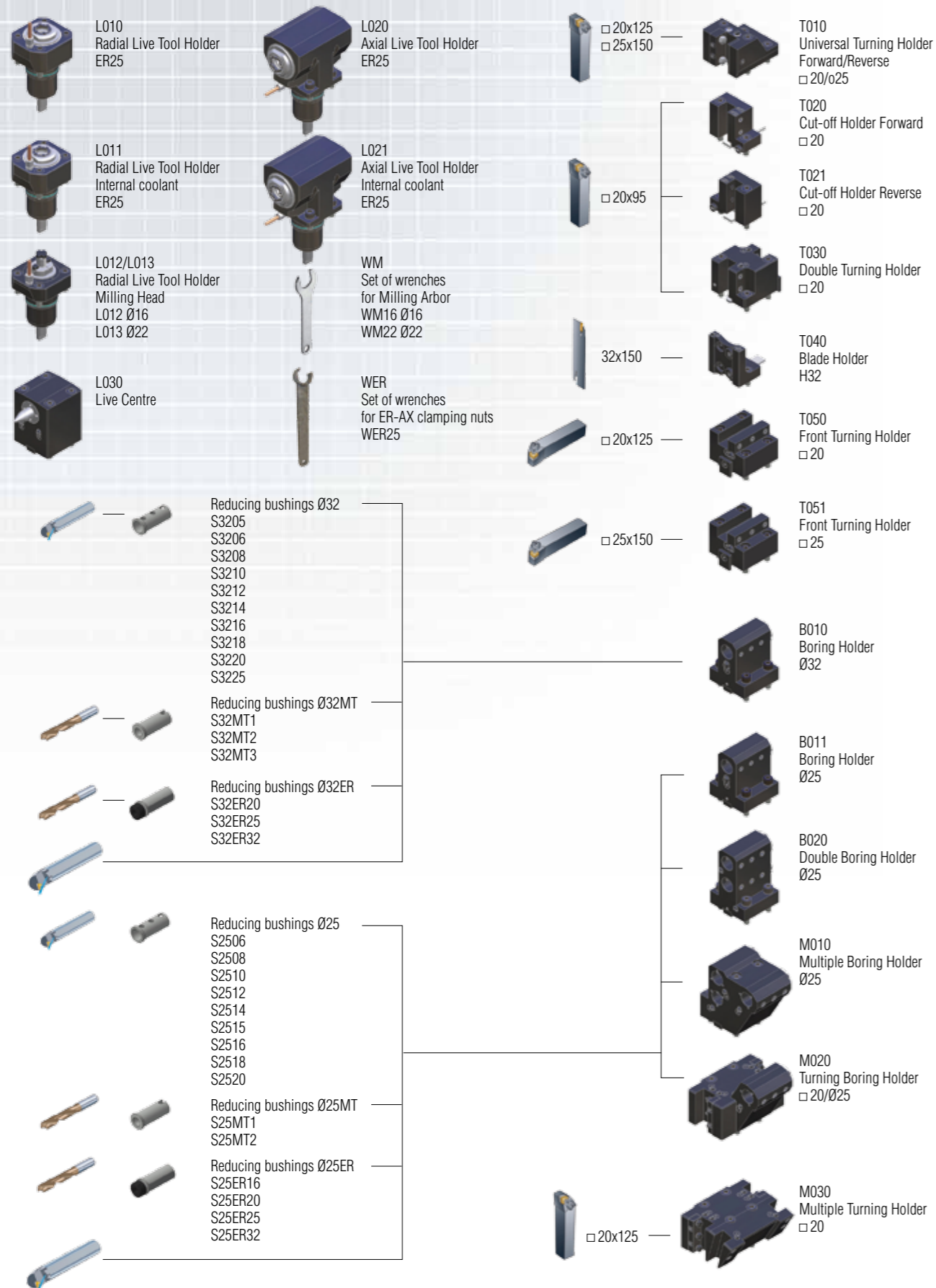
Insert a memory card then save and execute programs from it. The memory card can be installed permanently into the covered slot on the front panel. Once fitted, the cover can be closed for protection.



▶



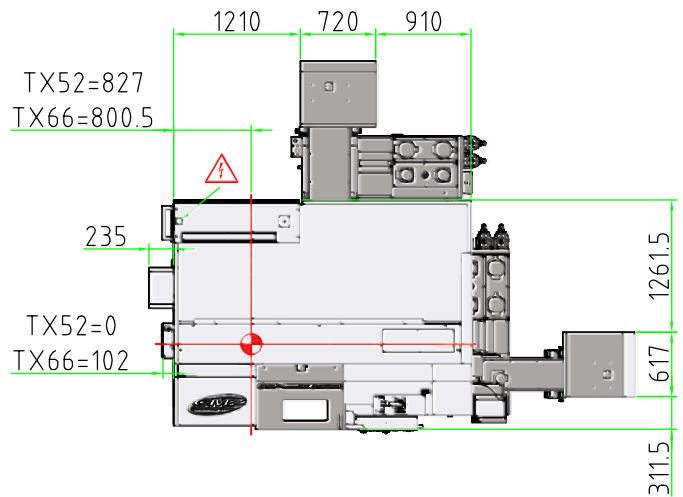
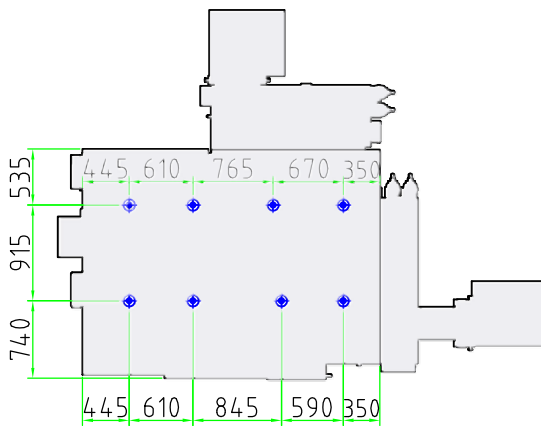
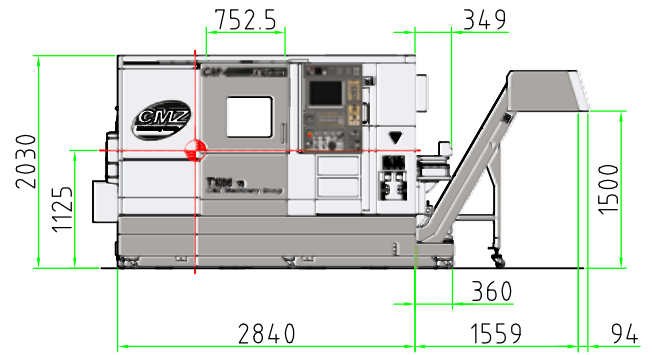
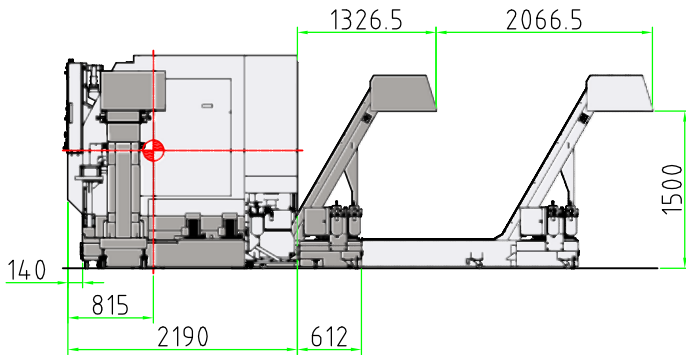
Tooling system:



| Technical Data | TX66 Y3 | TX52 Y3 | TX66 Y2 Quattro | TX52 Y2 Quattro | TX66 Y2 Twin | TX52 Y2 Twin | |
|---|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------|
| Ø Maximum turning diameter (mm) | 255 | 255 | 255 | 255 | 255 | 255 | |
| Ø Maximum swing over carriage (mm) | 270 | 270 | 270 | 270 | 270 | 270 | |
| Distance between collet chucks (mm) | 639 | 649 | 639 | 649 | 639 | 649 | |
| Ø Inside diameter of left spindle (mm) | 66 | 52 | 66 | 52 | 66 | 52 | |
| Ø Inside diameter of right spindle (mm) | 52 | 52 | 52 | 52 | 52 | 52 | |
| Strokes upper L Turret | XL (mm) | 190 | 190 | - | 190 | 190 | |
| | ZL (mm) | 300 | 300 | - | 300 | 300 | |
| | YL (mm) | ±40 | ±40 | - | ±40 | ±40 | |
| Strokes upper R Turret | XR (mm) | 190 | 190 | 190 | 190 | 190 | |
| | ZR (mm) | 635 | 635 | 500 | 500 | 635 | |
| | YR (mm) | ±40 | ±40 | ±40 | ±40 | ±40 | |
| Strokes Lower D Turret | XD (mm) | 190 | 190 | 190 | 190 | - | |
| | ZD (mm) | 500 | 500 | 500 | 500 | - | |
| | YD (mm) | ±40 | ±40 | ±40 | ±40 | - | |
| Strokes Right Spindle | 635 | 635 | 635 | 635 | 635 | 635 | |
| Rapid feed XL, XR & XD (m/min) | 16 | 16 | 16 | 16 | 16 | 16 | |
| Rapid feed ZL, ZR & ZD (m/min) | 20 | 20 | 20 | 20 | 20 | 20 | |
| Rapid feed YL, YR & YD (m/min) | 12 | 12 | 12 | 12 | 12 | 12 | |
| Rapid feed Right Spindle | 30 | 30 | 30 | 30 | 30 | 30 | |
| Axis acceleration | 1 g (1g=9,8 m/sec ²) | 1 g (1g=9,8 m/sec ²) | 1 g (1g=9,8 m/sec ²) | 1 g (1g=9,8 m/sec ²) | 1 g (1g=9,8 m/sec ²) | 1 g (1g=9,8 m/sec ²) | |
| Left-Headstock | Spindle speed (rpm) | 4.000 | 5.000 | 4.000 | 5.000 | 4.000 | 5.000 |
| | Ø Bearings external diameter (mm) | 180 | 150 | 180 | 150 | 180 | 150 |
| | Ø Bearings internal diameter (mm) | 120 | 100 | 120 | 100 | 120 | 100 |
| | Spindle nose | ASA 8" A2 | ASA 6" A2 | ASA 8" A2 | ASA 6" A2 | ASA 8" A2 | ASA 6" A2 |
| | Ø Inside diameter of spindle (mm) | 77 | 61 | 77 | 61 | 77 | 61 |
| | Ø Maximum bar size (internal diameter of drawtube)(mm) | 66 | 52 | 66 | 52 | 66 | 52 |
| | Ø Chuck diameter/bore size (mm) | 210/66 | 175/56 | 210/66 | 175/56 | 210/66 | 175/56 |
| | Spindle power (30 min/S1) | 15/11 Kw | 15/11 Kw | 15/11 Kw | 15/11 Kw | 15/11 Kw | 15/11 Kw |
| | Spindle torque (30 min/S1) | 136/100 Nm | 115/84 Nm | 136/100 Nm | 115/84 Nm | 136/100 Nm | 115/84 Nm |
| Right-Headstock | Spindle speed (rpm) | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 |
| | Ø Bearings external diameter (mm) | 150 | 150 | 150 | 150 | 150 | 150 |
| | Ø Bearings internal diameter (mm) | 100 | 100 | 100 | 100 | 100 | 100 |
| | Spindle nose | ASA 6" A2 | ASA 6" A2 | ASA 6" A2 | ASA 6" A2 | ASA 6" A2 | ASA 6" A2 |
| | Ø Inside diameter of spindle (mm) | 61 | 61 | 61 | 61 | 61 | 61 |
| | Ø Maximum bar size (internal diameter of drawtube)(mm) | 52 | 52 | 52 | 52 | 52 | 52 |
| | Ø Chuck diameter/bore size (mm) | 175/56 | 175/56 | 175/56 | 175/56 | 175/56 | 175/56 |
| Spindle power (30 min/S1) | 7,5/5,5 Kw | 7,5/5,5 Kw | 7,5/5,5 Kw | 7,5/5,5 Kw | 7,5/5,5 Kw | 7,5/5,5 Kw | |
| Spindle torque (30 min/S1) | 68/50 Nm | 68/50 Nm | 68/50 Nm | 68/50 Nm | 68/50 Nm | 68/50 Nm | |
| Turret | Number of tool stations (each turret) | 12 | 12 | 12 | 12 | 12 | 12 |
| | Number of index positions | 24 | 24 | 24 | 24 | 24 | 24 |
| | Tools section | □ 20 / □ 25 | □ 20 / □ 25 | □ 20 / □ 25 | □ 20 / □ 25 | □ 20 / □ 25 | □ 20 / □ 25 |
| Driven Tools | Tool index time | 0,1 sec | 0,1 sec | 0,1 sec | 0,1 sec | 0,1 sec | 0,1 sec |
| | Number of driven tool positions (each turret) | 12 | 12 | 12 | 12 | 12 | 12 |
| | Maximum speed | 6.000 | 6.000 | 6.000 | 6.000 | 6.000 | 6.000 |
| Varios | Power (max.) | 18 Kw | 18 Kw | 18 Kw | 18 Kw | 18 Kw | 18 Kw |
| | Torque (max.) | 52 Nm | 52 Nm | 52 Nm | 52 Nm | 52 Nm | 52 Nm |
| Varios | Capacity of coolant tank - lateral type chip conveyor (litres) | 350 | 350 | 350 | 350 | 350 | 350 |
| | Capacity of coolant tank - rear type chip conveyor (litres) | 250 | 250 | 250 | 250 | 250 | 250 |
| | Capacity of hydraulic oil tank (litres) | 10 | 10 | 10 | 10 | 10 | 10 |
| | Capacity of lubrication oil tank (litres) | 4 | 4 | 4 | 4 | 4 | 4 |
| | Fully installed power (KVA) | 65 | 65 | 65 | 65 | 65 | 65 |
| | Installation voltage | 400 V 50 Hz ± 5% | 400 V 50 Hz ± 5% | 400 V 50 Hz ± 5% | 400 V 50 Hz ± 5% | 400 V 50 Hz ± 5% | 400 V 50 Hz ± 5% |
| | Max. ambient temperature | 35° C | 35° C | 35° C | 35° C | 35° C | 35° C |
| Weight | 9.600 Kg | 9.500 Kg | 9.300 Kg | 9.200 Kg | 9.300 Kg | 9.200 Kg | |
| Dimensions (mm) | 2840x2190x2030 | 2840x2190x2030 | 2840x2190x2030 | 2840x2190x2030 | 2840x2190x2030 | 2840x2190x2030 | |

Due to constant development of our products all specifications given here in are subject to change without notice.

TX Series-Dimensions



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