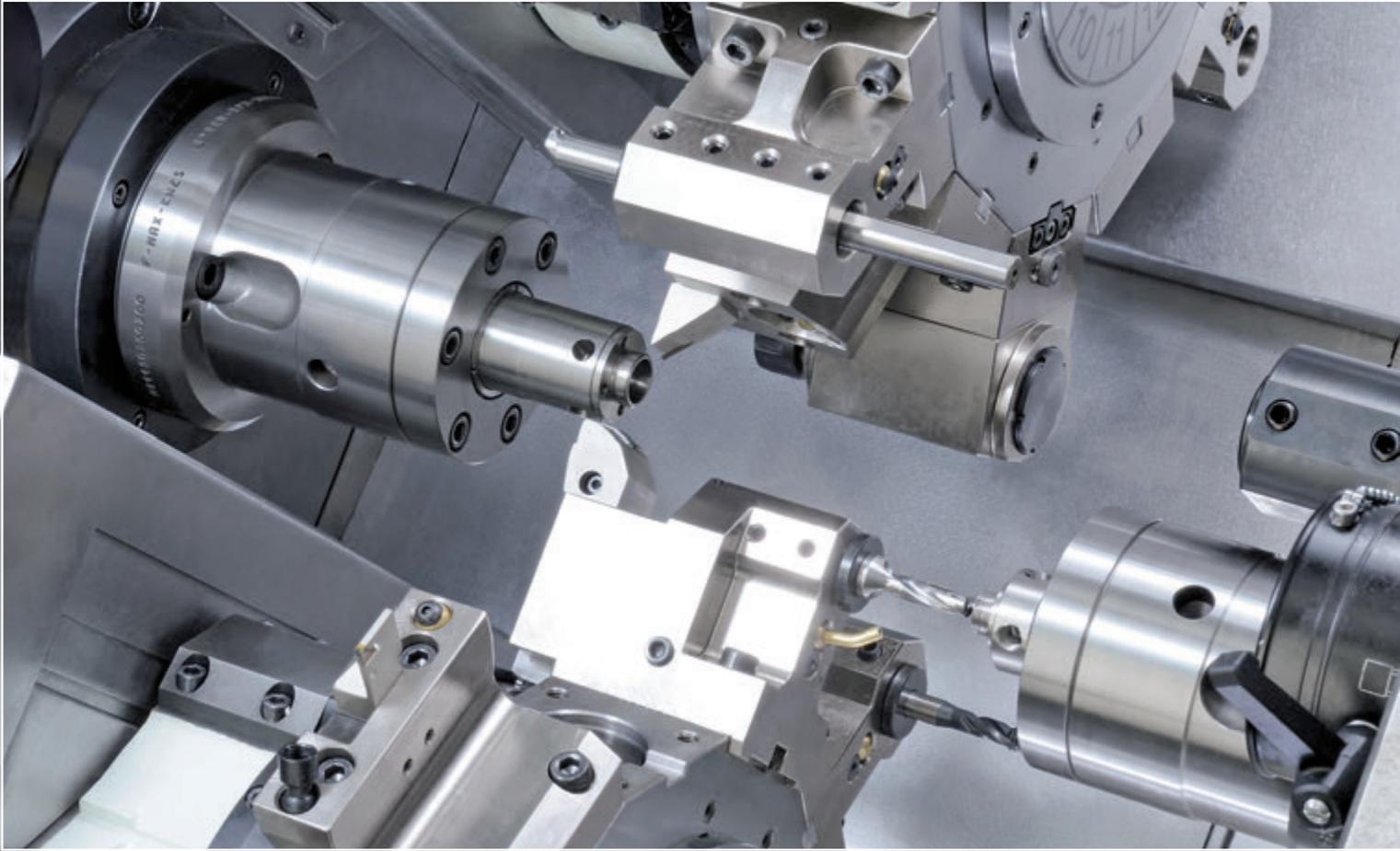
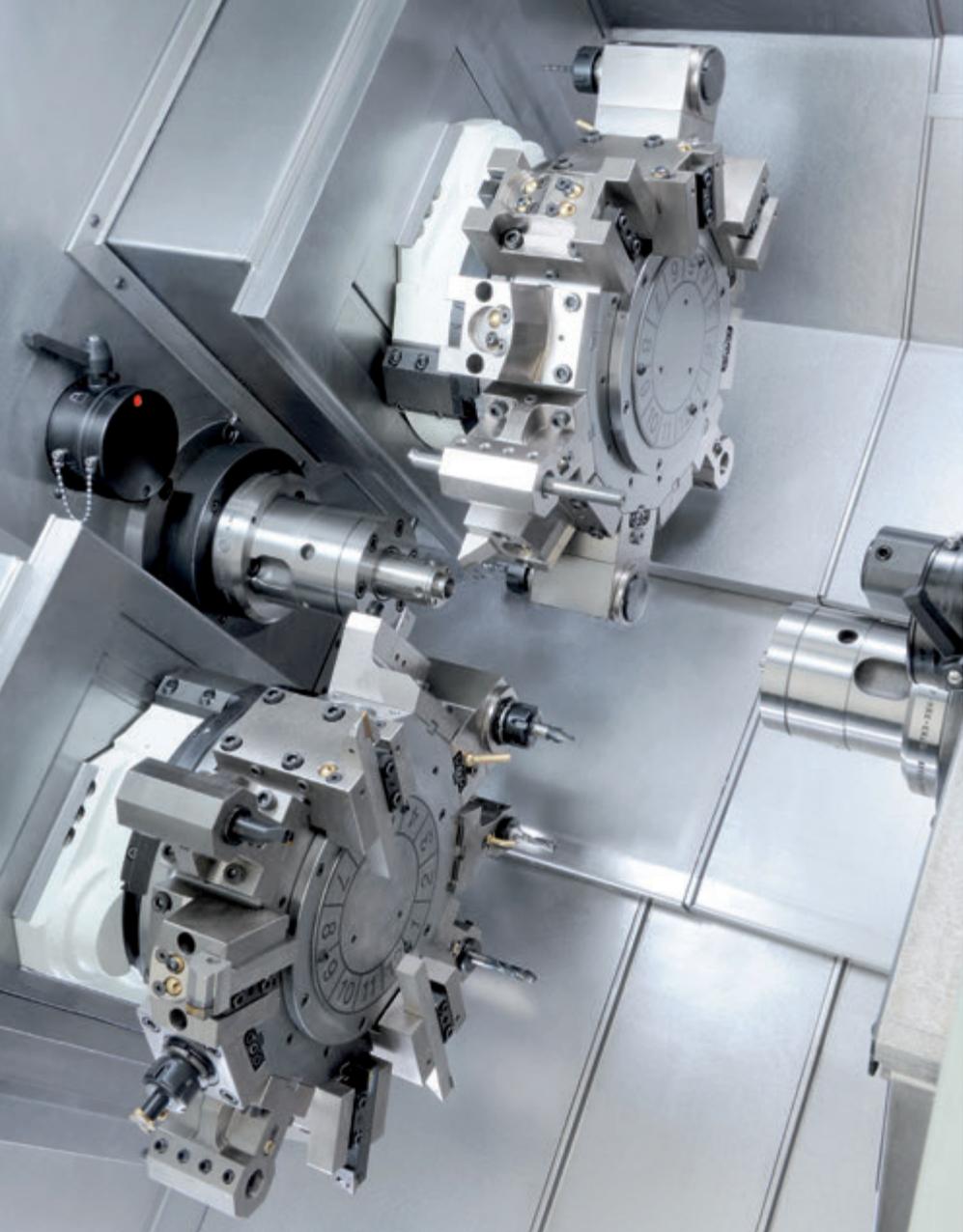


# MULTITURRET BAR TURNING

## B438Y2





# B438Y2

The range of **QUATTRO** machines have been produced by Biglia since 1990 and celebrating the third generation is now further enhanced by the B438Y2 model. This new model is launched to meet with the specific market requirements for bar machining in automatic turning: a twin-turret and twin-spindle CNC-lathe with fixed headstock, compact, versatile and quick for combined turning, milling and drilling of small-sized parts.

The B438Y2 has a very compact structure offering optimum use of available space in the workshop (less than 5 sqm).

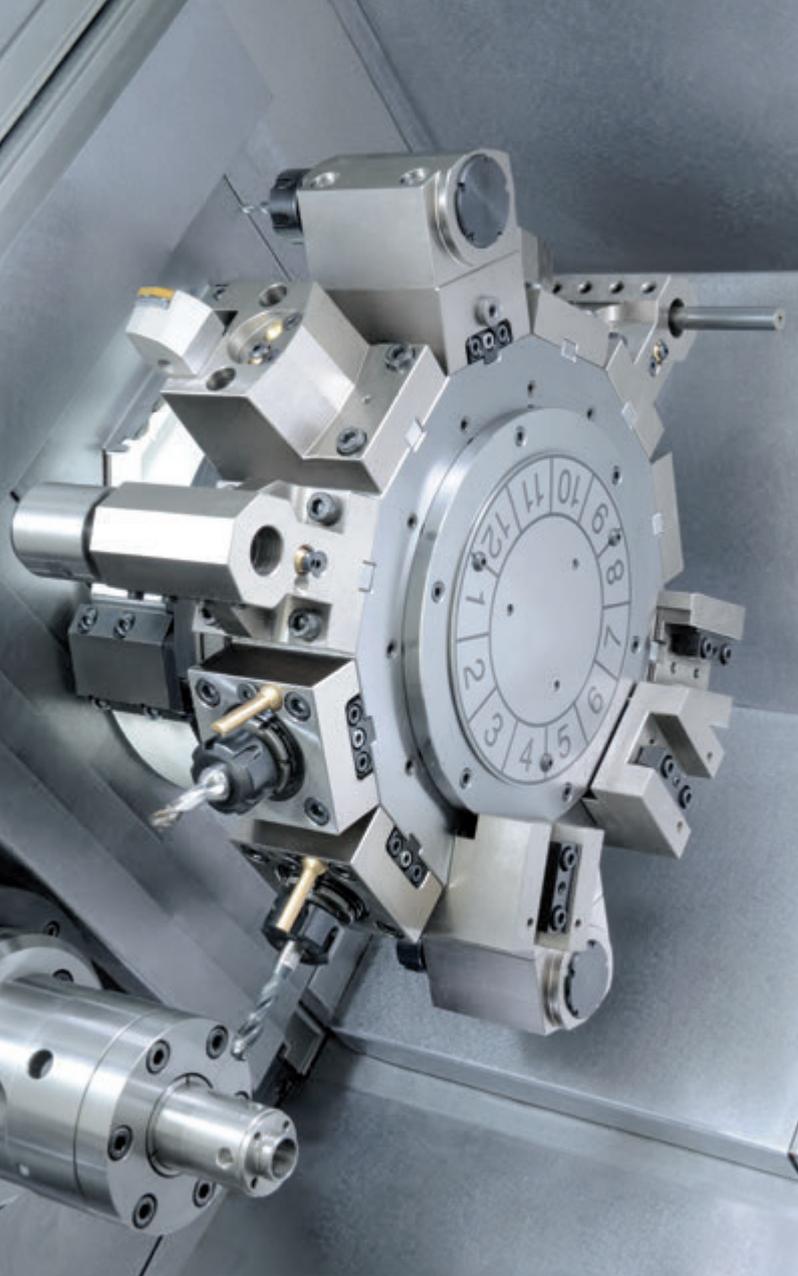
The sturdy cast-iron construction, the robust components such as the main bed, linear rails, turrets and spindles combined with powerful spindle motors (11 kW) and live tools (max. 4.6 kW) will allow you to achieve significant results:

- optimal machining of all materials, especially tough alloys
- reduction of cycle times and longer tool service life
- perfect and efficient method of 'Chip' removal
- ergonomics and easy access for setup and retooling operations.

## Double-spindle and double-turret turning centre featuring 2 Y-axes and

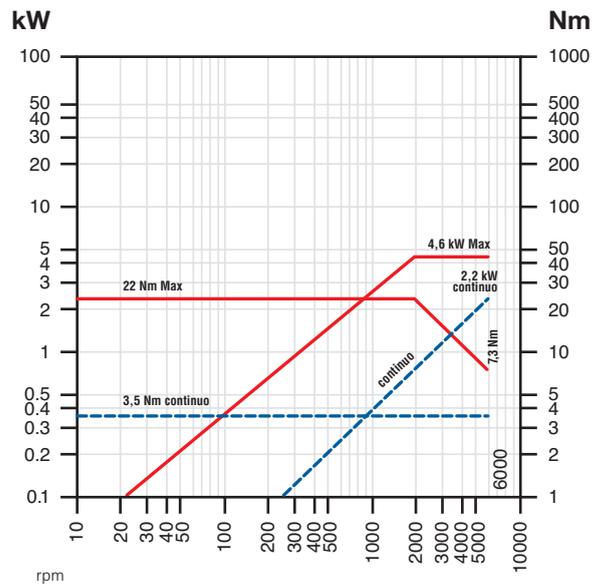
- Quick cycles
- From bar to the finished part in one set-up
- Higher productivity (up to 50%)
- Compact





## Biglia turrets Live tooling

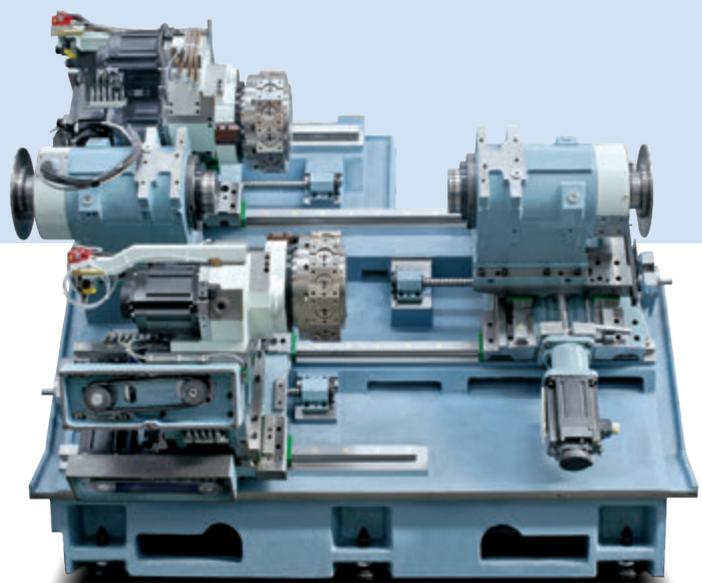
The B438Y2 is equipped with two rugged and quick Biglia servo turrets (index time 0.15 sec). Live tooling on all positions. Up to 30 tools can work simultaneously. The rotary tools are driven by a motor with 22 Nm torque, 2,2/4.6 kW power and speed range of 6000 rpm



## 2 C-axes: high productivity in machining complex parts from the bar

### Machine construction and bed

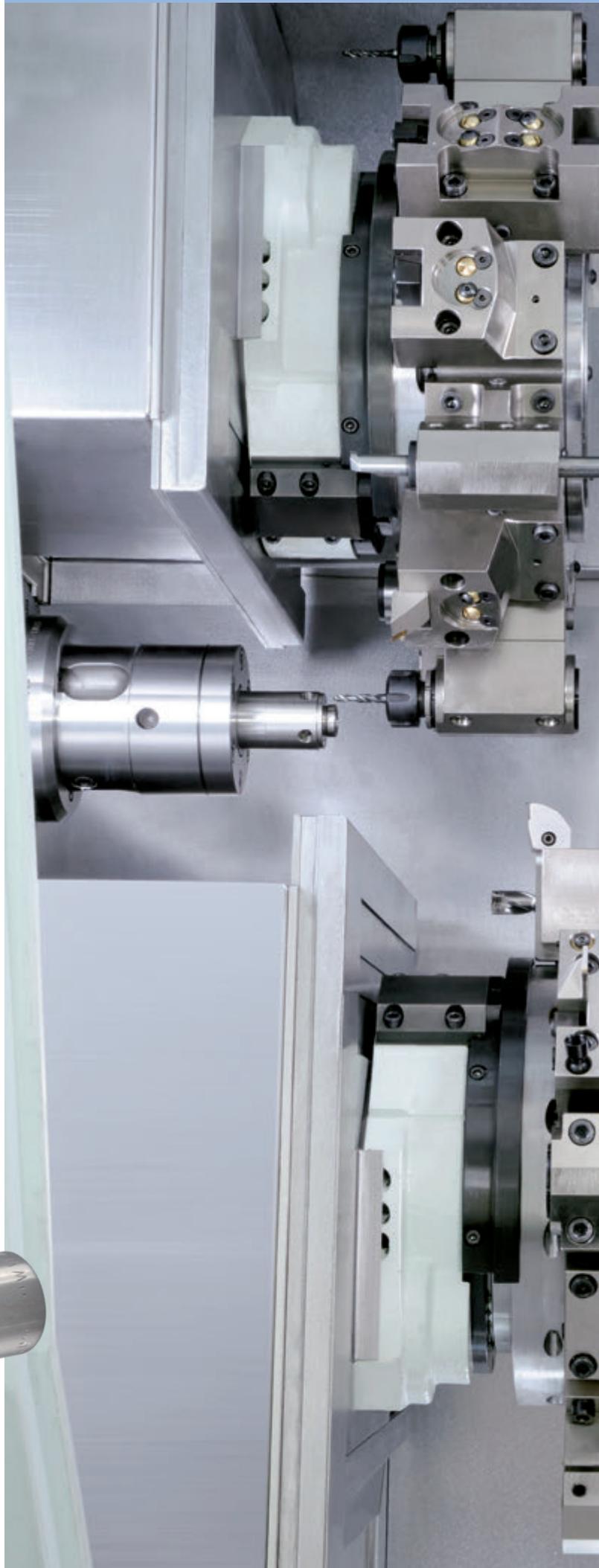
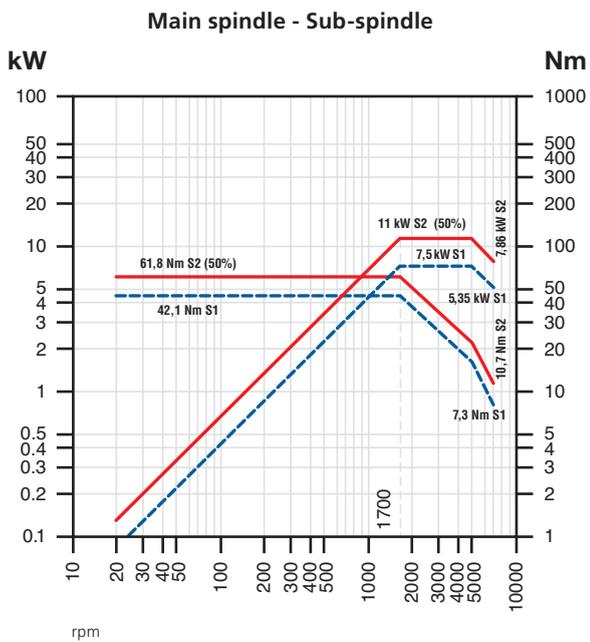
The massive rigid cast iron 45° slant bed embodying linear rails ensures high rigidity, exceptional vibration dampening and thermal stability.

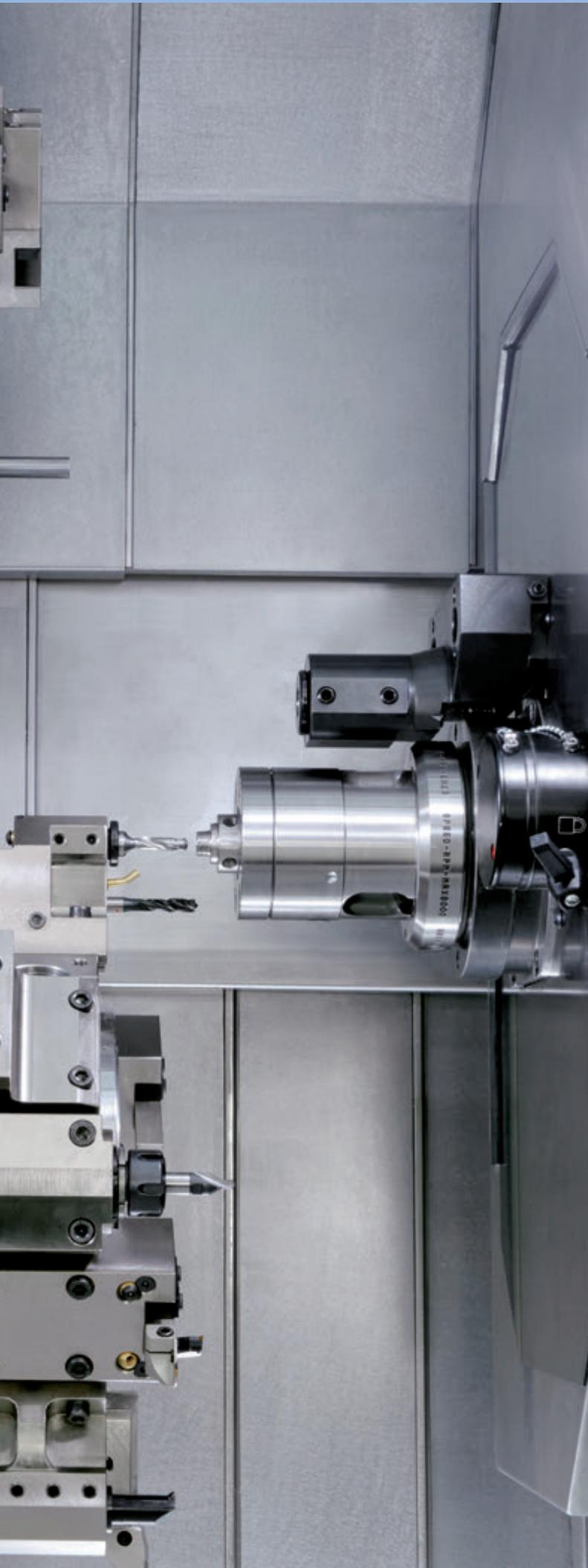


# B438Y2

## Spindles

The B438Y2 is equipped with two liquid cooled integral motor-spindles, which are driven by high-performance motors (11 kW power and 7000 rpm spindle speed). These spindles allow powerful cutting as well as exceptional surface finish and roundness accuracy.





## Sub-spindle

The position of the CNC-operated sub-spindle featuring a double movement (longitudinal and transversal - Z3 and X3 axes) enables reliable and flexible machining operations.

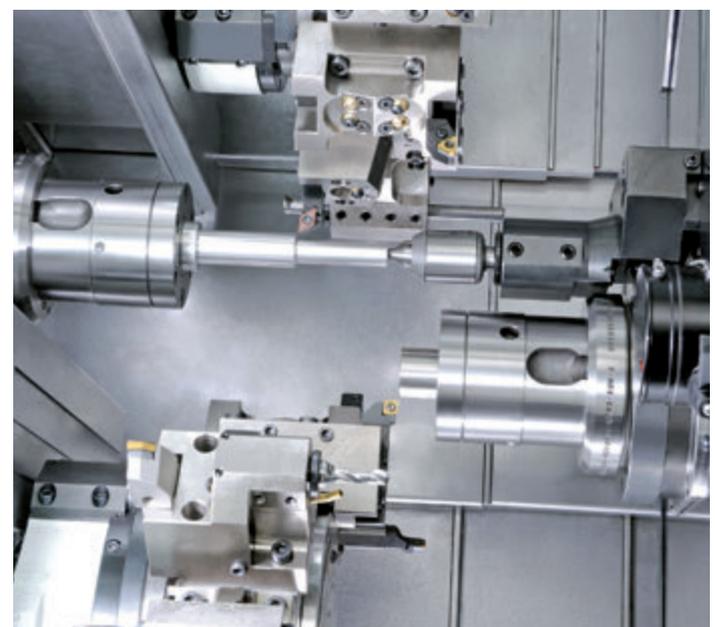
The sub-spindle can be offset from the main spindle.

The main advantages are:

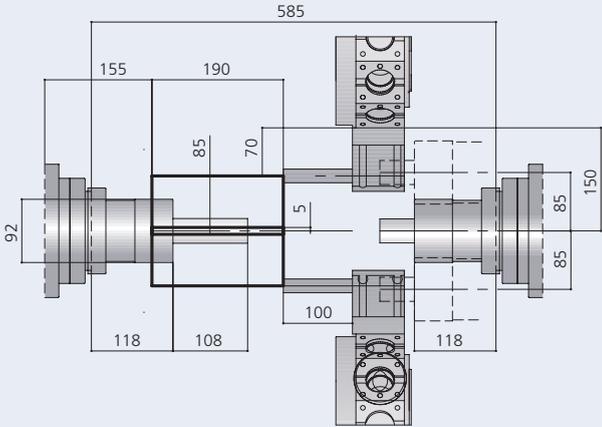
- elimination of interference problems between the two turrets
- possibility to use the sub-spindle as a regular tailstock to hold the component machined on the main spindle with T1 and simultaneously perform finishing with T2 (drawing 5 on page 6)
- Simultaneous "follow up" machining using three tools thanks to the "Superimposition" function (drawings 9, 10 and 11 on page 7).

## Tailstock on the sub-spindle (option)

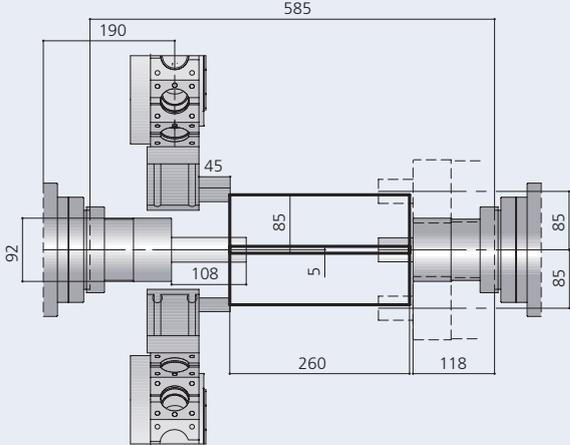
Upon installation of a support with rotating center, the sub-spindle can be used as a regular tailstock to machine small-sized shafts.



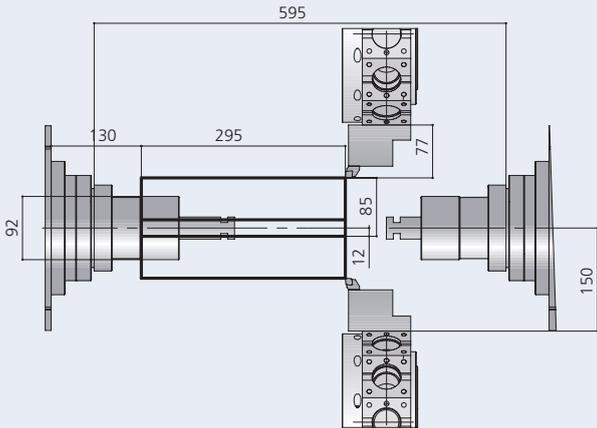
## Machining fields



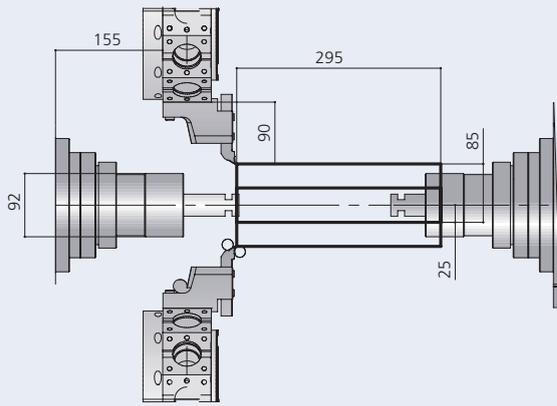
1 Simultaneous machining of T1 on M1 and T2 on M1



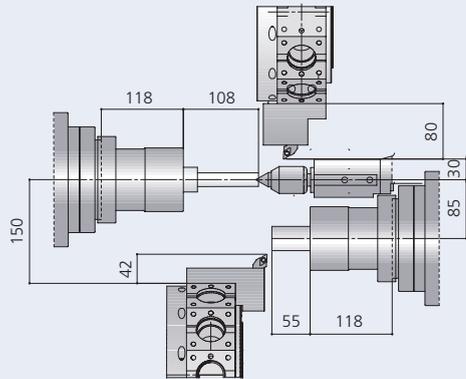
2 Simultaneous machining of T1 and T2 on M2



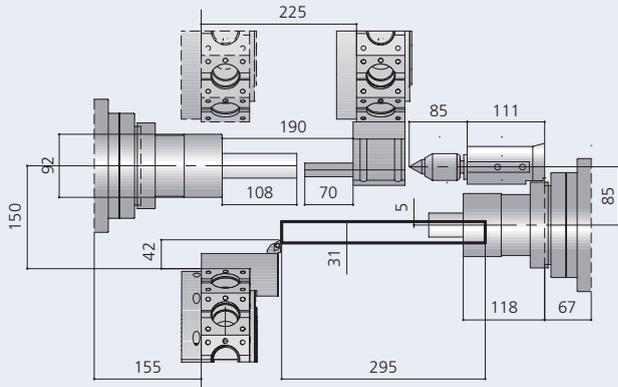
3 Simultaneous machining of T1 and T2 on M1



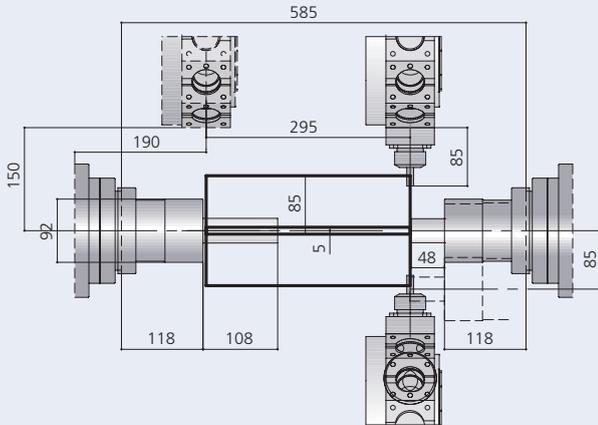
4 Simultaneous machining of T1 and T2 on M2



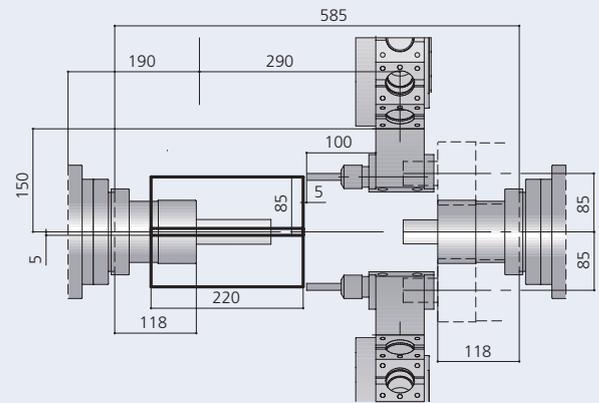
5 Simultaneous machining of T1 on M1 and T2 on M2 using tailstock to hold the component



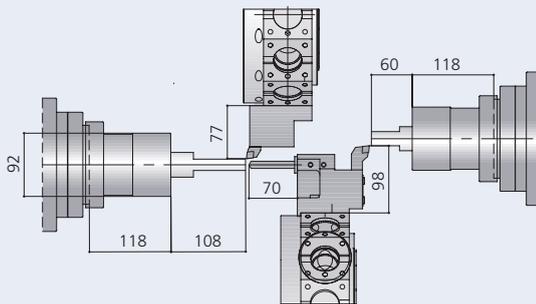
6 Simultaneous machining of T1 on M1 and T2 on M2 using tailstock



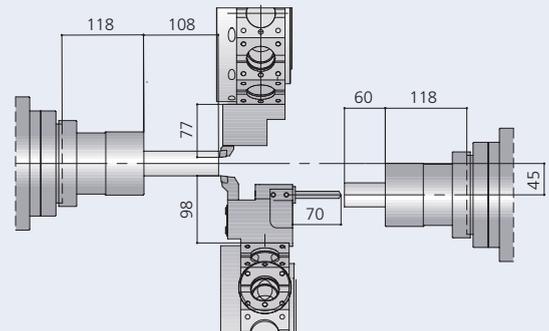
7 Simultaneous machining of T1 and T2 on M1 using radial driven tools



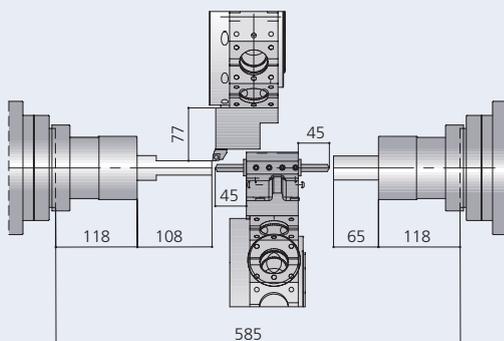
8 Simultaneous machining of T1 and T2 on M1 using axial driven tools



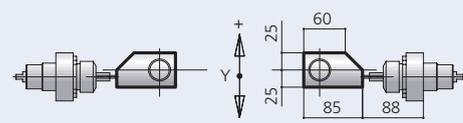
9 Simultaneous machining of T1 on M1 and T2 on M1 and M2 using three tools in "follow up" machining with Z2/Z3 thanks to the "Superimposition" function



10 Simultaneous machining of T1 on M1 and T2 on M2 using three tools in "follow up" machining with Z2/Z3 thanks to the "Superimposition" function



11 Simultaneous machining of T1 on M1 and T2 on M1 and M2 using three tools in "follow up" machining between Z2/Z3 thanks to the "Superimposition" function



Y axis

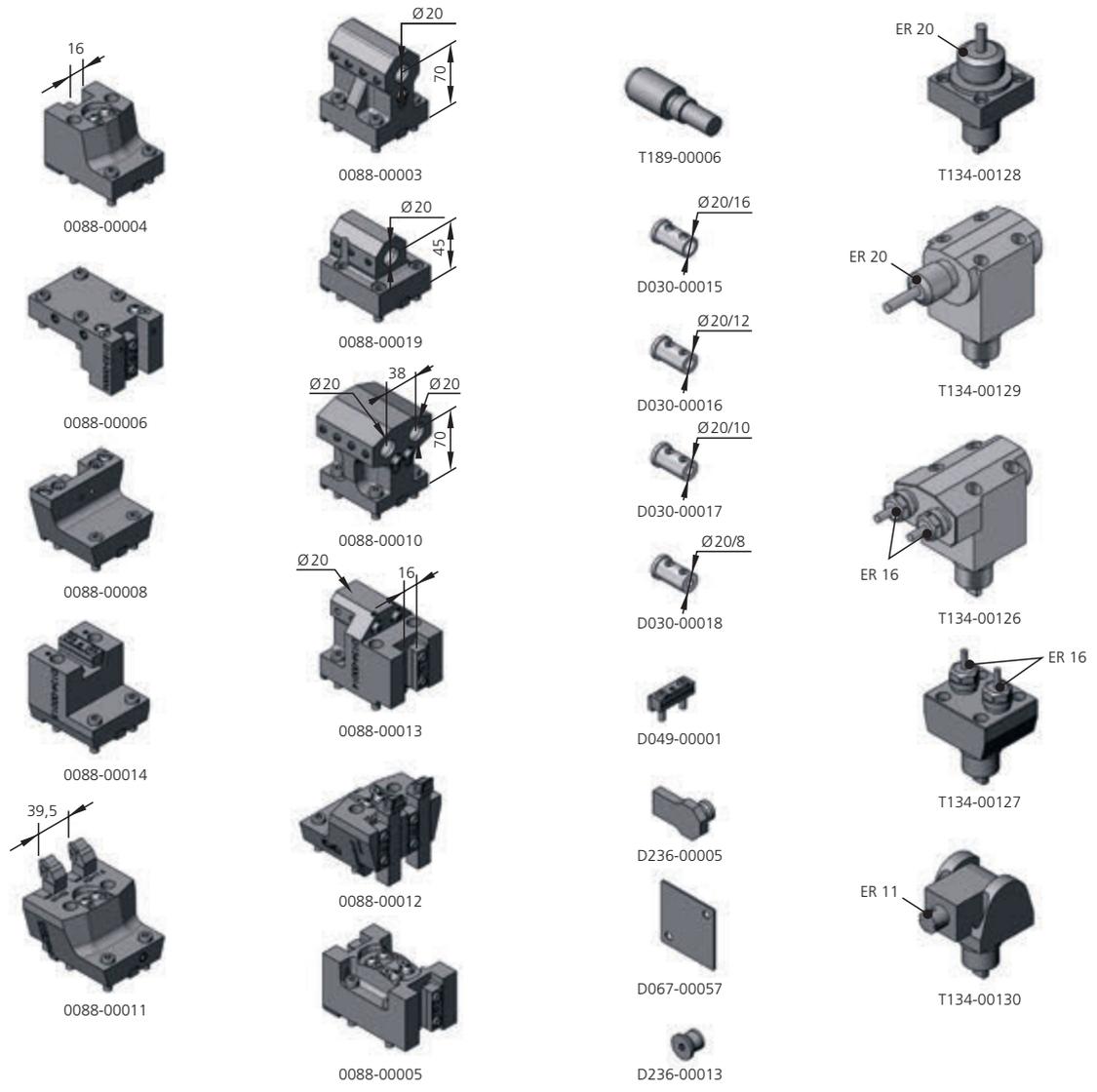
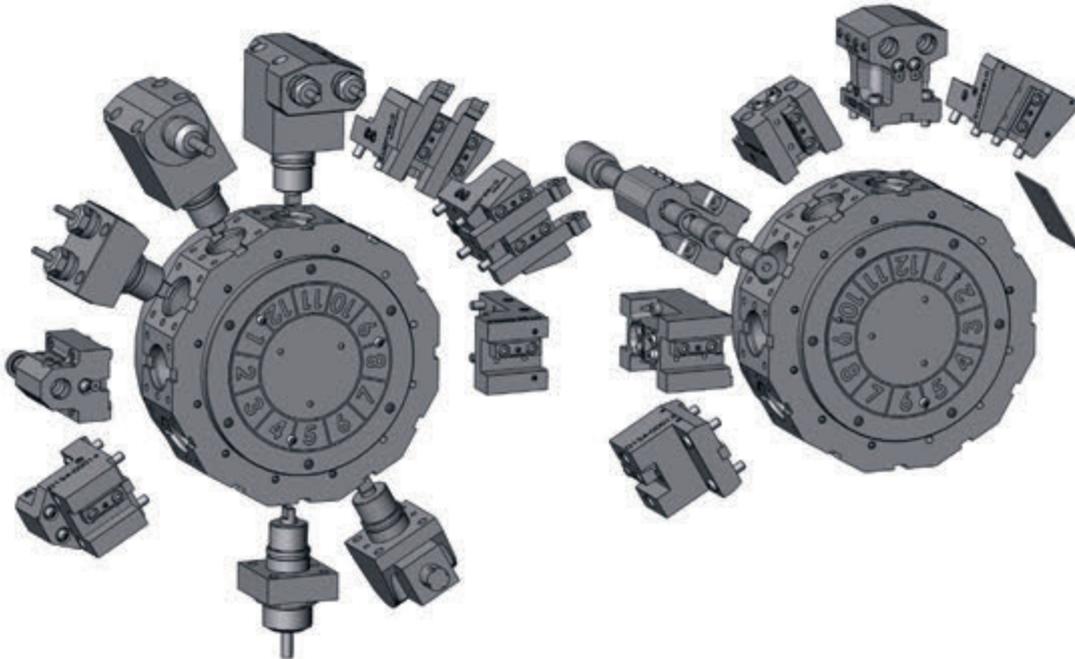
Legend

M1 = Main spindle  
M2 = Sub-spindle

T1 = Upper turret  
T2 = Lower turret

# Toolholders

# B438Y2



# Wide range of equipment and optionals.

## Standard features

- 2 integral motor-spindles
- 2 Biglia 12-post servo turrets featuring two Y-axes
- Sub-spindle with axial/radial movement, parts ejector and air blower
- Bar-feeder interface
- Rigid tapping
- Automatic parts-catcher
- Finished parts conveyor
- Swarf conveyor
- Coolant system featuring 7 bar pumps and filters
- Two colour alarm lamp
- Electrical cabinet - air conditioned
- Load detection on all axes
- Part present check on the sub-spindle



## Optional main features

- Tool Probing System
- High-pressure pump (40 bar)
- Mist extractor
- Polygon turning
- Tool wear and breakage monitoring system



## Programmable automatic parts-catcher

The automatic parts-catcher allows the unloading of finished parts up to 100 mm long in automatic mode and idle time.

## Tool setter (option)

This device makes tool-setting faster and easier.

The two tool setting sensors offers tool offsets to be measured on both turrets, thus reducing set up times.

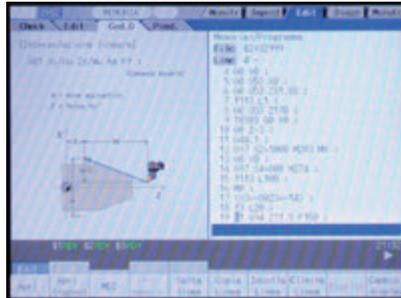




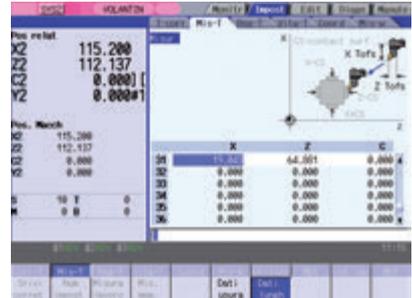
# CNC-Unit.



USB gate, Memory Card



Quick and easy for program reliability



- CNC-unit mod. Mitsubishi M730:
- 10.4" colour liquid crystal display
  - Alphanumeric full-keyboard
  - CPU RISC 64 bit
  - Biglia operator panel featuring softkeys
  - Data transmission: USB gate, Ethernet gate, Memory Card, RS232 gate

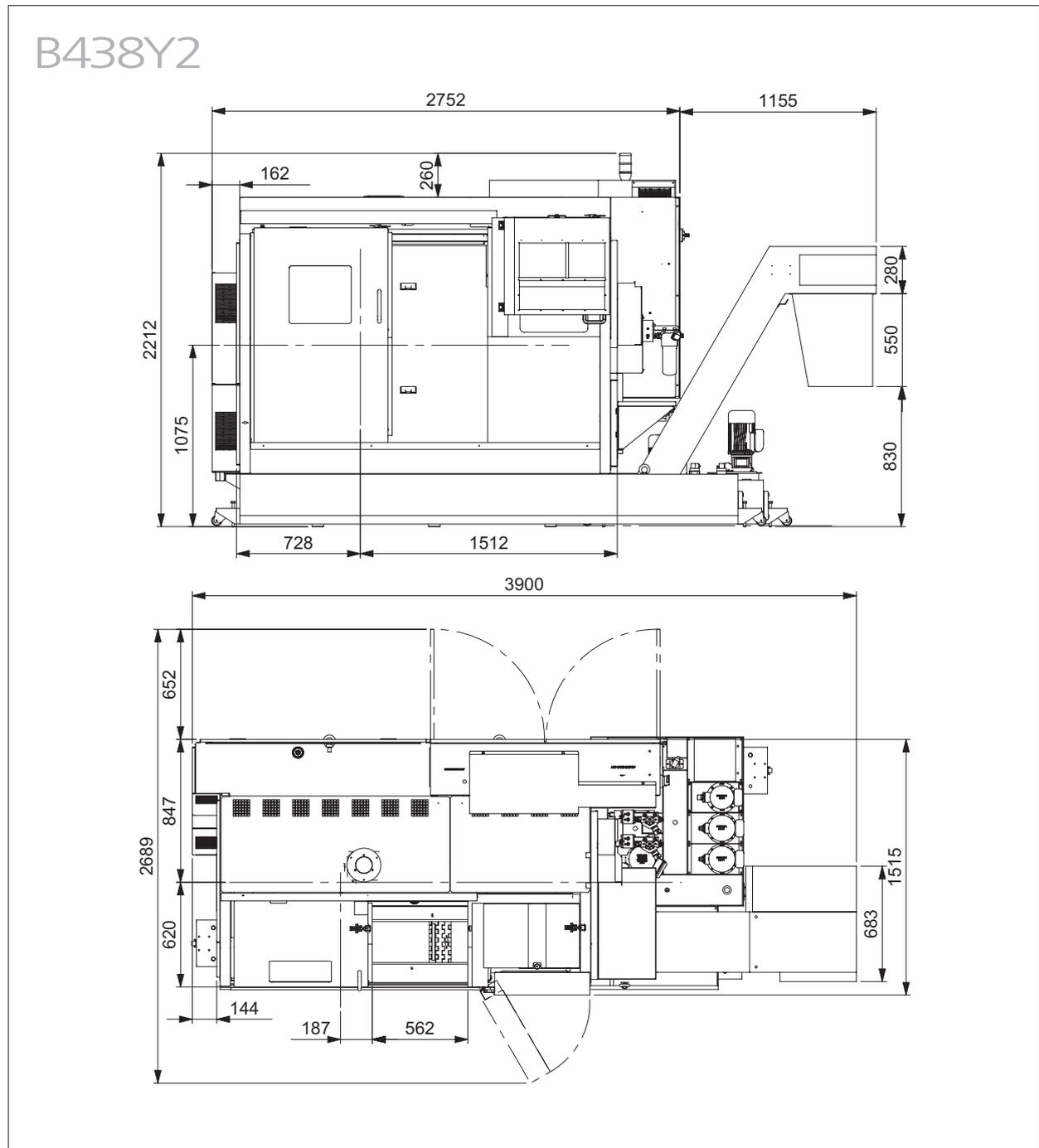


**SSS Control** (Super Smooth Surface for determining appropriate shapes and avoiding unnecessary decelerations),  
**Nano Interpolation** (controls everything from NC's operation to servo processing in the least command increment of 1 nm) and  
**OMR Control** (high speed and accuracy control of driving system by estimating paths of machine-end) to obtain higher-speed and higher-accuracy machining.

## T E C H N I C A L   S P E C I F I C A T I O N S

		<b>B438Y2</b>
<b>MACHINING CAPACITY</b>		
Bar capacity	mm	38
Max. machining diameter	mm	100
Max. machining length	mm	100
Max. swing over diameter	mm	140
<b>MAIN SPINDLE - SUB-SPINDLE</b>		
Max. speed	rpm	7000
Spindle nose (flange connection)	mm	115
Spindle bore	mm	46
Drawtube inside diameter	mm	39
Inner diameter of bearings	mm	75
Chuck diameter	mm	110
Max. motor power	kW	11
Max. torque	Nm	62
C-axis: min. programmable value	°	0,001°
X3-axis: sub-spindle offset stroke	mm-m/min	170 - 15
Z3-axis: sub-spindle stroke - rapid traverse	mm-m/min	340 - 30
<b>UPPER TURRET 1 - LOWER TURRET 2</b>		
Number of tools		12
Turret indexing (1 pos)	sec	0,15
Live tools : number of tools		12
Max speed	rpm	6000
Motor power	kW	2,2 / 4,6
Max torque	Nm	22
X1-X2 axes stroke - rapid traverse	mm-m/min	85 - 15
Z1-Z2 axes stroke - rapid traverse	mm-m/min	300 - 30
Y1-Y2 axes stroke - rapid traverse	mm-m/min	50 [-25/+25] - 15
<b>COOLING SYSTEM</b>		
Tank capacity	l	200
Pressure with standard pump	bar	7
<b>DIMENSIONS AND WEIGHT</b>		
Machine with swarf conveyor	mm	3900 x 1515 x 2212 h
Spindle centre height	mm	1015
Machine weight with swarf conveyor	kg	4700

## MACHINE DIMENSIONS



**THE TURNING TECH**