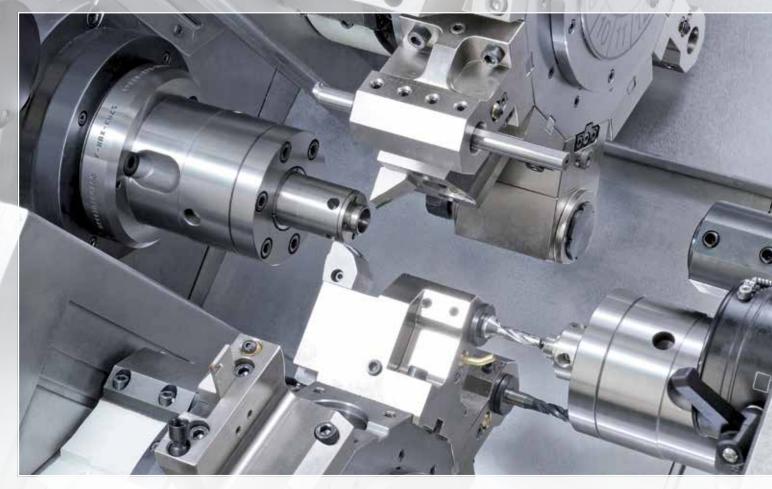
#### MULTITURRET BAR TURNING

B436Y2









# B436Y2

The range of **QUATTRO** machines have been produced by Biglia since 1990 and celebrating the third generation is now further enhanced by the B436Y2 model. This new model is launched to meet with the specific market requirements for bar machining in automatic turning: a twinturret and twin-spindle CNC-lathe with fixed headstock, compact, versatile and quick for combined turning, milling and drilling of small-sized parts.

The B436Y2 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

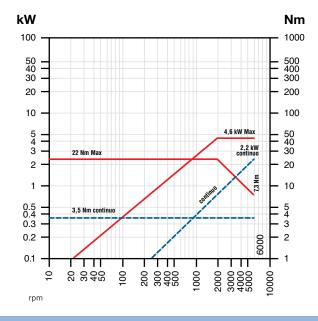






### Biglia turrets Live tooling

The B436Y2 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

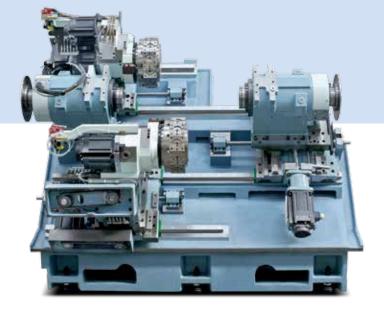


## 2 C-axes: high productivity in machining complex parts from the bar

#### Machine construction and bed

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





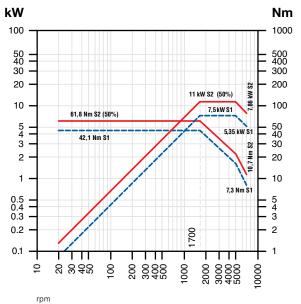
## Generous machining area to

# B436Y2

### **Spindles**

The B436Y2 is equipped with two liquid cooled integral motor-spindles with 36 mm bar capacity 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.

#### Main spindle - Sub-spindle





### achieve top-level performance.





#### **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).

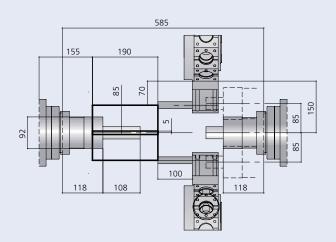
# Tailstock on the sub-spindle (option)

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

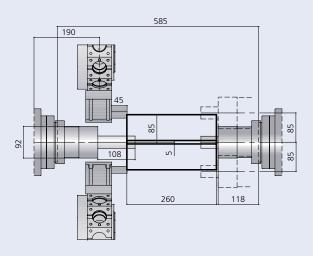


## **Machining fields**

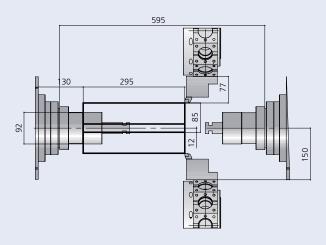
# B436Y2



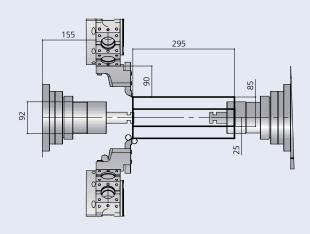
1 Simultaneous machining of T1 on M1 and T2 on M1



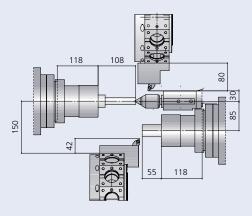
2 Simultaneous machining of T1 and T2 on M2



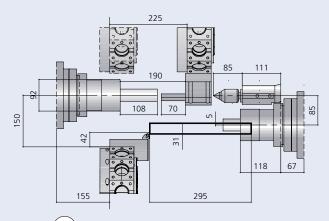
3 Simultaneous machining of T1 and T2 on M1



(4) Simultaneous machining of T1 and T2 on M2

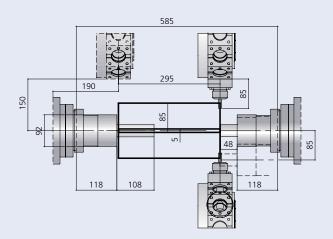


Simultaneous machining of T1 on M1 and T2 on M2 using tailstock to hold the component

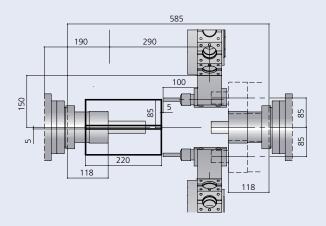


6 Simultaneous machining of T1 on M1 and T2 on M2 using tailstock

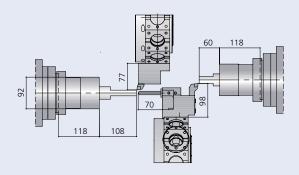




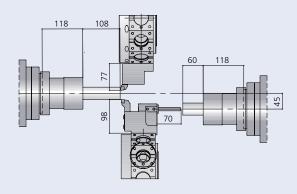
7 Simultaneous machining of T1 and T2 on M1 using radial driven tools



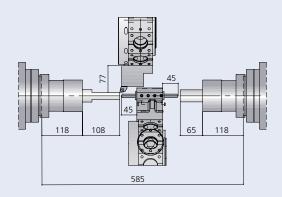
8 Simultaneous machining of T1 and T2 on M1 using axial driven tools



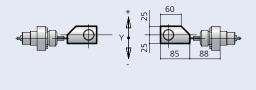
9 Simultaneous machining of T1 on M1 and T2 on M1 and M2 using three tools in "follow up" machining with Z2/Z3 thanks to the "Superimposition" function



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



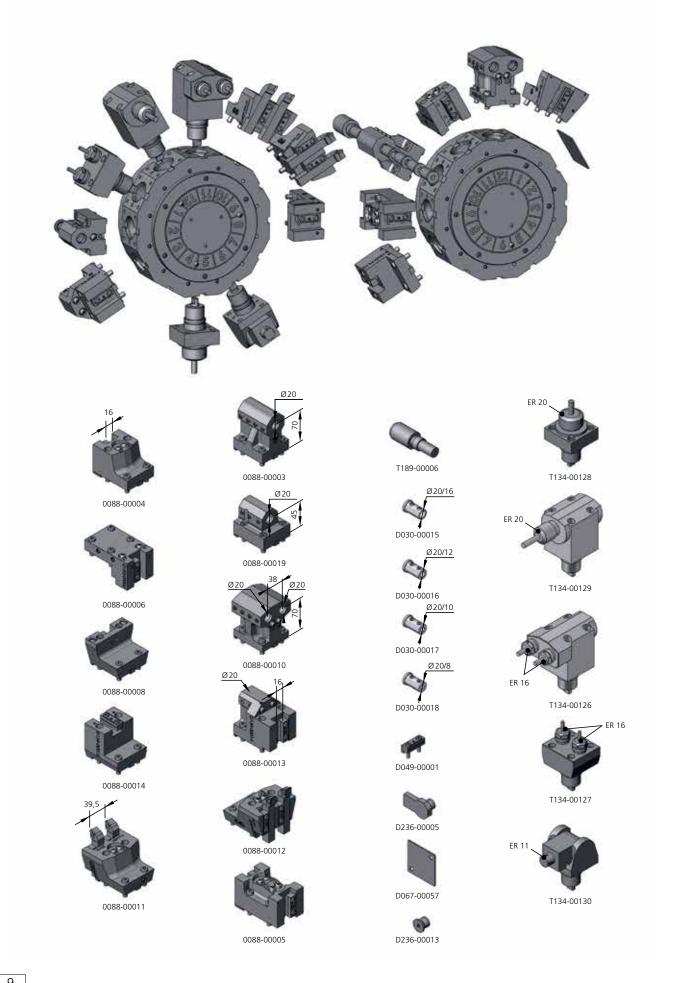
Simultaneous machining of T1 on M1 and T2 on M1 and M2 using three tools in "follow up" machining between Z2/Z3 thanks to the "Superimposition" function



Y axis

### **Toolholders**

# B436Y2





# Wide range of equipment and optionals.

#### Standard features

- 2 integral motor-spindles (36 mm bar capacity)
- 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 (18/25/30 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.



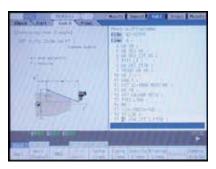




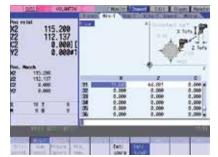
## **CNC-Unit.**



USB gate, Memory Card



Quick and easy for program reliability



CNC-unit mod. Mitsubishi M700:

- 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







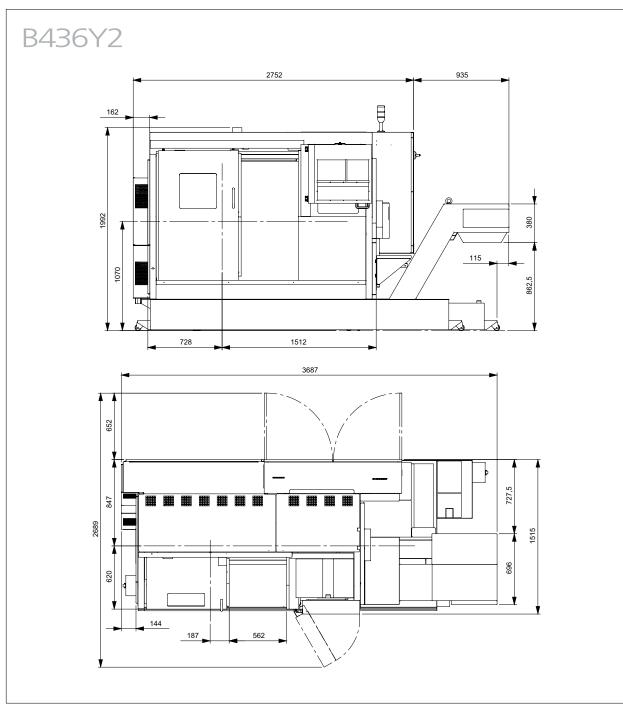
**SSS Control** (Super Smooth Surface for determining appropriate shapes and avoiding unnecessary decelerations),

**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.

#### TECHNICAL SPECIFICATIONS

Bar capacity         mm         36           Max. machining diameter         mm         100           Max. machining length         mm         100           Max. swing over diameter         mm         140           MAIN SPINDLE - SUB-SPINDLE			B436Y2
Max. machining diameter         mm         100           Max. machining length         mm         100           Max. swing over diameter         mm         140           Max. sying over diameter         mm         140           Max. syeed         rpm         7000           Spindle nose (flange connection)         mm         115           Spindle bore         mm         46           Crawtube inside diameter         mm         37,5           Inner diameter of bearings         mm         75           Chuck diameter         mm         110           Max. torque         Nm         62           C-axis: min. programmable value         % 0,001°         Nm         62           C-axis: sub-spindle offset stroke         mm-m/min         170 - 15         12           C-axis: sub-spindle stroke - rapid traverse         mm-m/min         340 - 30           UPPER TURRET 1 - LOWER TURRET 2         Value of tools         12           Turret indexing (1 pos)         sec         0,15           Live tools: number of tools         12         12           Max speed         rpm         6000           Motor power         kW         2,2,4 / 4,6           Max torque	MACHINING CAPACITY		
Max. machining length         mm         100           Max. swing over diameter         mm         140           MAIN SPINDLE - SUB-SPINDLE         Type 7000           Max. speed         rpm         7000           Spindle nose (flange connection)         mm         115           Spindle bore         mm         46           Drawtube inside diameter         mm         37,5           Inner diameter of bearings         mm         75           Chuck diameter         mm         110           Max. motor power         kW         11           Max. torque         Nm         62           C-axis: min. programmable value         °         0,0001°           X3-axis: sub-spindle offset stroke - rapid traverse         mm-m/min         170 - 15           23-axis: sub-spindle offset stroke - rapid traverse         mm-m/min         340 - 30           UPPER TURRET 1 - LOWER TURRET 2         12         12           Number of tools         12         12           Furrer indexing (1 pos)         sec         0,15           Live tools: number of tools         12         12           Max speed         rpm         6000           Motor power         kW         2,2 / 4,6	Bar capacity	mm	36
Max. swing over diameter         mm         140           MAIN SPINDLE - SUB-SPINDLE         Wax. speed           Max. speed         rpm         7000           Spindle nose (flange connection)         mm         115           Spindle bore         mm         46           Drawtube inside diameter         mm         37,5           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           X3-axis: sub-spindle stroke - rapid traverse         mm-m/min         340 - 30           UPPER TURRET 1 - LOWER TURRET 2         12           Number of tools         12         12           Turret indexing (1 pos)         sec         0,15           Max speed         rpm         6000           Motor power         kW         2,2 / 4,6           Max speed         rpm         6000           Motor power         kW         2,2 / 4,6           Max speed         rpm </td <td>Max. machining diameter</td> <td>mm</td> <td>100</td>	Max. machining diameter	mm	100
MAIN SPINDLE - SUB-SPINDLE         rpm         7000           Spindle nose (flange connection)         mm         115           Spindle bore         mm         46           Drawtube inside diameter         mm         37,5           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           UPPER TURRET 1 - LOWER TURRET 2         12           Number of tools         12         12           Live tools: number of tools         12         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           X1-Y2 axes stroke - rapid traverse         mm-m/min         300 - 30           X1-Y2 axes stroke - rapid traverse         mm-m/min	Max. machining length	mm	100
Max. speed         rpm         7000           Spindle nose (flange connection)         mm         115           Spindle bore         mm         46           Drawtube inside diameter         mm         37,5           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°           K3-axis: sub-spindle offset stroke         mm-m/min         170 - 15           23-axis: sub-spindle stroke - rapid traverse         mm-m/min         340 - 30           UPPER TURRET 1 - LOWER TURRET 2         TURRET 1 - LOWER TURRET 2           Number of tools         12         12           Furret indexing (1 pos)         sec         0,15           Live tools : number of tools         12         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         30 - 30           Y1-Y2 axes stroke - rapid traverse         mm-m/min         50 [-2	Max. swing over diameter	mm	140
Spindle nose (flange connection)	MAIN SPINDLE - SUB-SPINDLE		
Spindle bore         mm         46           Drawtube inside diameter         mm         37,5           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           UPPER TURRET 1 - LOWER TURRET 2         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         300 - 30           X1-Y2 axes stroke - rapid traverse         mm-m/min         50 [-25/+25] - 15           COOLING SYSTEM         I         200           Pressure with standard pump         bar         7           DIMENSIONS AND WEIGHT         mm         3687 x 1515 x 1992	Max. speed	rpm	7000
Drawtube inside diameter mm 37,5 mm 75 mm	Spindle nose (flange connection)	mm	115
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 UPPER TURRET 1 - LOWER TURRET 2 Number of tools Turret indexing (1 pos) sec 0,15 Live tools: number of tools Live tools: number of tools 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 COOLING SYSTEM Tank capacity I 200 Pressure with standard pump bar 7 DIMENSIONS AND WEIGHT Machine with swarf conveyor mm 3687 x 1515 x 1992 Spindle centre height mm 1015	Spindle bore	mm	46
Chuck diameter         mm         110           Max. motor power         kW         11           Max. torque         Nm         62           C-c-axis: min. programmable value         °         0,001°           x3-axis: sub-spindle offset stroke         mm-m/min         170 - 15           23-axis: sub-spindle stroke - rapid traverse         mm-m/min         340 - 30           UPPER TURRET 1 - LOWER TURRET 2          12           Number of tools         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           X1-Y2 axes stroke - rapid traverse         mm-m/min         300 - 30           Y1-Y2 axes stroke - rapid traverse         mm-m/min         50 [-25/+25] - 15           COOLING SYSTEM         I         200           Perssure with standard pump         bar         7           DIMENSIONS AND WEIGHT         mm         3687 x 1515 x 1992           Spindle centre height         mm         1015	Drawtube inside diameter	mm	37,5
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  UPPER TURRET 1 - LOWER TURRET 2  Number of tools 12  Furret 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  COOLING SYSTEM  Tank capacity I 200  Pressure with standard pump bar 7  DIMENSIONS AND WEIGHT  Machine with swarf conveyor mm 3687 x 1515 x 1992 Spindle centre height mm 1015	Inner diameter of bearings	mm	75
Max. torque C-axis: min. programmable value C-axis: min. programmable value C-axis: sub-spindle offset stroke C-axis: sub-spindle stroke - rapid traverse C-axis: sub-spindle offset stroke C-axis: sub-spindle offset sub-spindle C-axis: sub-spindle offset stroke C-axis: sub-spindle offset offset sub-spindle C-axis: sub-spindle C	Chuck diameter	mm	110
C-axis: min. programmable value  C-axis: min. programmable value  C-axis: sub-spindle offset stroke  C-axis: sub-spindle stroke - rapid traverse  Num-m/min  Sec  C-axis: sub-spindle offset stroke  12  Max spend  C-axis: sub-spindle offset stroke  12  Num-m/min  C-axis: sub-spindle rung  C-axis: sub-spindle value  12  Num-m/min  Sec  C-axis: sub-spindle rung  Num-m/min  Sec  C-axis: sub-spindle value  Num-m/min  Num-m/min	Max. motor power	kW	11
X3-axis: sub-spindle offset stroke mm-m/min 170 - 15 Z3-axis: sub-spindle stroke - rapid traverse mm-m/min 340 - 30  DPPER TURRET 1 - LOWER TURRET 2  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  Z1-22 axes stroke - rapid traverse mm-m/min 300 - 30  Y1-Y2 axes stroke - rapid traverse mm-m/min 50 [-25/+25] - 15  COOLING SYSTEM  Tank capacity I 200  Pressure with standard pump bar 7  DIMENSIONS AND WEIGHT  Machine with swarf conveyor mm 3687 x 1515 x 1992  Spindle centre height mm 1015	Max. torque	Nm	62
A speed Pressure with standard pump Pressure with swarf conveyor speed pump. Tourset sindexing to speed Pressure with swarf conveyor speed Pressure Pre	C-axis: min. programmable value	o	0,001°
Number of tools Turret indexing (1 pos) Turret indexin	X3-axis: sub-spindle offset stroke	mm-m/min	170 - 15
Number of tools Turret indexing (1 pos) Live tools: number of tools  Max speed  Motor power  Max torque  X1-X2 axes stroke - rapid traverse X1-X2 axes stroke - rapid traverse X1-X2 axes stroke - rapid traverse X1-Y2 axes strok	Z3-axis: sub-spindle stroke - rapid traverse	mm-m/min	340 - 30
Turret indexing (1 pos)  Live tools: number of tools  Max speed  Motor power  Motor power  Max torque  X1-X2 axes stroke - rapid traverse  X1-X2 axes stroke - rapid traverse  X1-X2 axes stroke - rapid traverse  X1-Y2 axes stroke - rapid traverse  Mm-m/min  Motor power  Max torque  X1-X2 axes stroke - rapid traverse  X1-X2 axes stroke - rapid traverse  Mm-m/min  Motor power  Mm-m/min  Mot	UPPER TURRET 1 - LOWER TURRET 2		
Live tools: number of tools  Max speed  Motor power  Motor power  Max torque  X1-X2 axes stroke - rapid traverse  X1-X2 axes stroke - rapid traverse  X1-X2 axes stroke - rapid traverse  X1-Y2 axes stroke - rapid traverse  Mm-m/min  Motor power  Mm-m/mi	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 COOLING SYSTEM Tank capacity I 200 Pressure with standard pump bar 7 DIMENSIONS AND WEIGHT Machine with swarf conveyor mm 3687 x 1515 x 1992 Spindle centre height mm 1015	Turret indexing (1 pos)	sec	0,15
Motor power  Max torque  Max torque  X1-X2 axes stroke - rapid traverse  X1-X2 axes stroke - rapid traverse  X1-X2 axes stroke - rapid traverse  X1-Y2 axes stroke - rapid tra	Live tools : number of tools		12
Max torque  X1-X2 axes stroke - rapid traverse  X1-X2 axes stroke - rapid traverse  Z1-Z2 axes stroke - rapid traverse  X1-Y2 axes stroke	Max speed	rpm	6000
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 COOLING SYSTEM Tank capacity I 200 Pressure with standard pump bar 7 DIMENSIONS AND WEIGHT Machine with swarf conveyor mm 3687 x 1515 x 1992 Spindle centre height mm 1015	Motor power	kW	2,2 / 4,6
Z1-Z2 axes stroke - rapid traverse mm-m/min 300 - 30 Y1-Y2 axes stroke - rapid traverse mm-m/min 50 [-25/+25] - 15 COOLING SYSTEM Tank capacity I 200 Pressure with standard pump bar 7 DIMENSIONS AND WEIGHT Machine with swarf conveyor mm 3687 x 1515 x 1992 Spindle centre height mm 1015	Max torque	Nm	22
Y1-Y2 axes stroke - rapid traverse mm-m/min 50 [-25/+25] - 15 COOLING SYSTEM  Tank capacity I 200 Pressure with standard pump bar 7 DIMENSIONS AND WEIGHT  Machine with swarf conveyor mm 3687 x 1515 x 1992 Spindle centre height mm 1015	X1-X2 axes stroke - rapid traverse	mm-m/min	85 - 15
COOLING SYSTEM  Tank capacity  Pressure with standard pump  DIMENSIONS AND WEIGHT  Machine with swarf conveyor  Spindle centre height  Tank capacity  I 200  Pressure with standard pump  bar 7  Tank capacity  I 3687 x 1515 x 1992  Spindle centre height	Z1-Z2 axes stroke - rapid traverse	mm-m/min	300 - 30
Tank capacity  Pressure with standard pump  DIMENSIONS AND WEIGHT  Machine with swarf conveyor  Spindle centre height  I 200  7  7  I 7  I 800  I 900  I 900	Y1-Y2 axes stroke - rapid traverse	mm-m/min	50 [-25/+25] - 15
Pressure with standard pump 5 bar 7  DIMENSIONS AND WEIGHT  Machine with swarf conveyor 5 mm 3687 x 1515 x 1992  Spindle centre height mm 1015	COOLING SYSTEM		
DIMENSIONS AND WEIGHT  Machine with swarf conveyor mm 3687 x 1515 x 1992  Spindle centre height mm 1015	Tank capacity	I	200
Machine with swarf conveyor mm 3687 x 1515 x 1992 Spindle centre height mm 1015	Pressure with standard pump	bar	7
Spindle centre height mm 1015	DIMENSIONS AND WEIGHT		
	Machine with swarf conveyor	mm	3687 x 1515 x 1992 h
Machine weight with swarf conveyor kg 4700	Spindle centre height	mm	1015
	Machine weight with swarf conveyor	kg	4700

#### **MACHINE DIMENSIONS**





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