

# MULTITURRET BAR TURNING

BMX51Y-Y2

BMX70Y-Y2

BMX80Y-Y2





# BMX51 BMX70 BMX80

The new multifunction turning centres **BMX51/70/80** represent the fourth generation of the **QUATTRO** series. This new range of double-spindle and double-turret machines has been designed to offer a wide spectrum of possibilities in bar machining of complex parts in one set-up. Available with bar capacity of **51mm, 70mm or 80mm**, this new line of machines offers the following main performance benefits:

- 45° slant cast-iron machine bed
- powerful synchronous built-in spindle motors
- **15**-post turrets with **direct drive** to the driven tools

Machine configurations:

### BMX51/70/80 Y

- 2 turrets featuring each 15 tool stations
- 2 spindles featuring C-axis
- 1 Y-axis

### BMX51/70/80 Y2

- 2 turrets featuring each 15 tool stations
- 2 spindles featuring C-axis
- 2 Y-axes



## Biglia Turrets

The **BMX51/70/80** is equipped with two fast and sturdy Biglia 15-station turrets with direct drive to the rotary tools. These turrets are equipped with a cooled and thermally stabilized direct drive built-in spindle motor integrated in the tool plate featuring 12.5 kW power, 34.5 Nm torque and 10.000 rpm which transmits the rotary motion directly to the rotary tool.

The main advantages are:

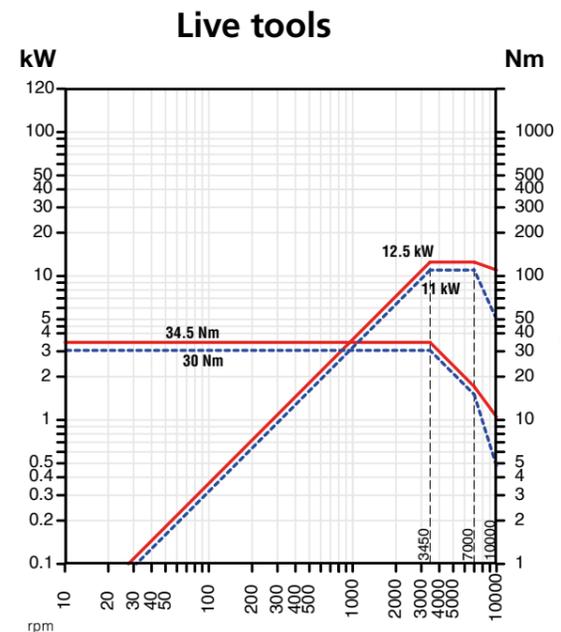
- Reduction of vibration dampening to ensure a better surface finish
- Elimination of power loss and mechanical play
- Restricted noise

## Double-spindle and double-turret turning centres: from bar to the finished part in one set-up

### Machine construction and bed

The successful combination of the large dimensioned main components (including the turret) and the machine bed reinforced by 25% in comparison to the previous design, the roller guideways on the Z-axis and the "box type" guideways on the X and Y axes – and the high performance of the main and tool drive motors offers the following advantages:

- Great rigidity allowing to machine harder materials
- Reduction of cycle times and longer tool service life
- Perfect removal of chippings
- More tool stations available for machining of complex parts
- Ergonomics and easy access for retooling operations

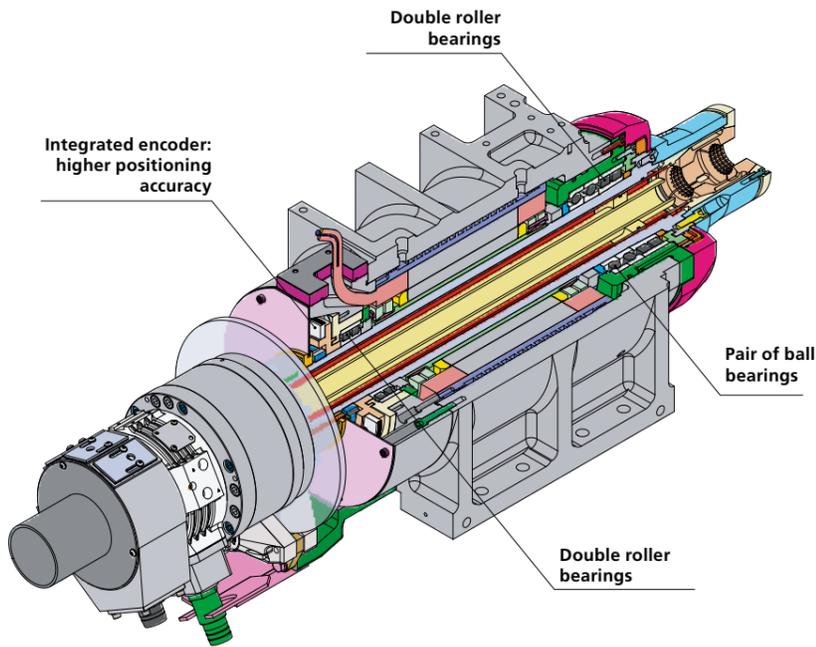


### 15-post turret with direct drive to the driven tools

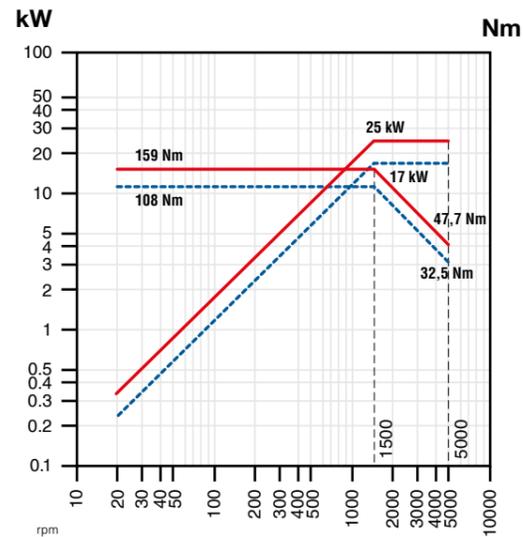


## SPINDLES WITH INTEGRATED MOTOR

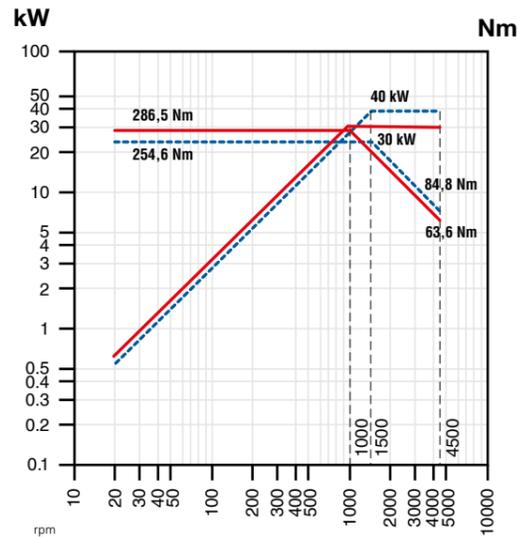
The **BMX51/70/80** is equipped with liquid cooled pressurized built-in motor spindles driven by powerful, fast high torque motors at top levels. The combination of high-precision roller and ball bearings, plus the high torque and power range available at low rpm allow superb chip removal rates as well as exceptional surface finish and roundness accuracy.



**ASA 5 main and sub-spindle (51mm bar capacity)**



**ASA 6 main spindle (70mm bar capacity)**

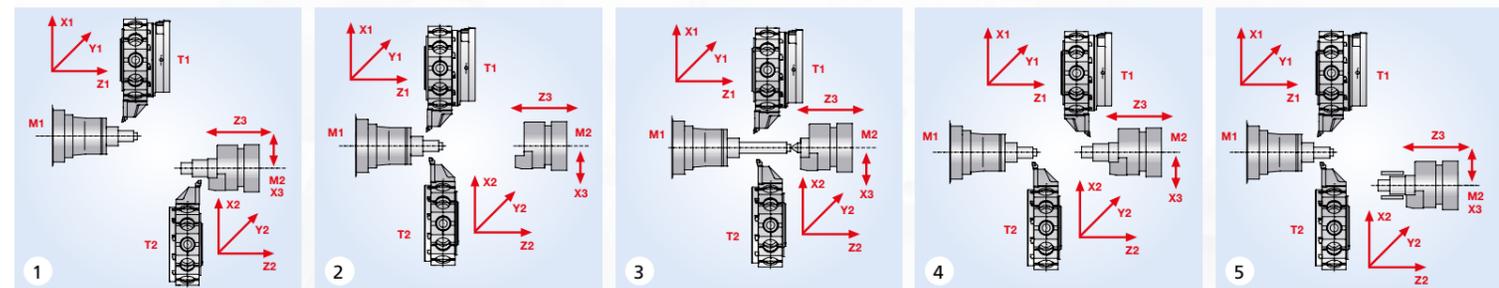


## Sub-spindle

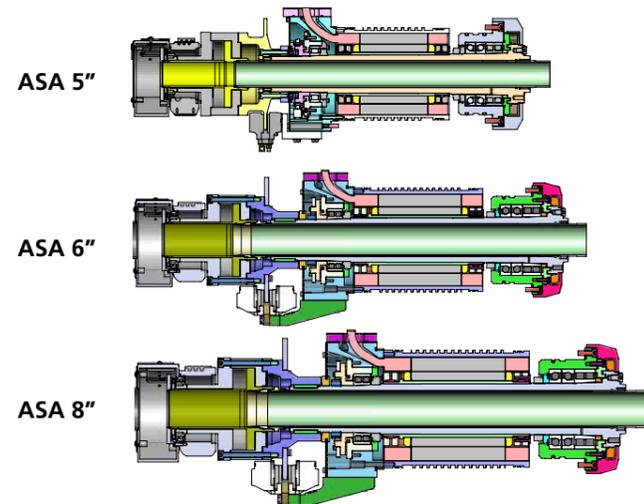
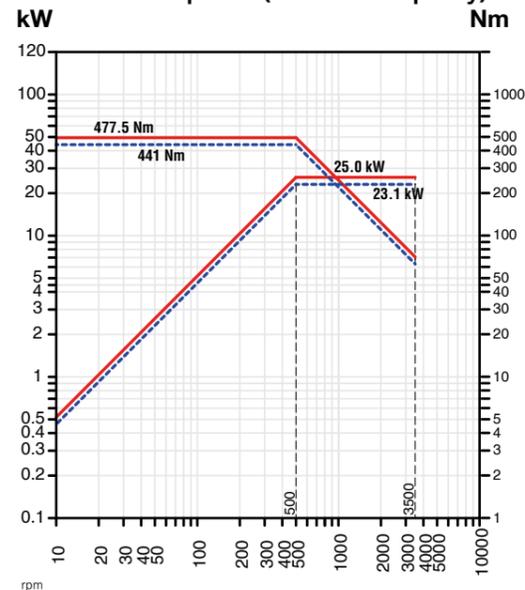
The position of the turrets and the sub-spindle featuring a double movement (longitudinal and transversal - Z3 and X3 axes) enables reliable and flexible machining operations on both spindles.

The main advantages are:

- Automatic and simultaneous machining on both sides of any workpiece
- 4-axis turning using both turrets on main spindle for simultaneous operation
- Parts unloading performed in idle time
- Reduction of non-productive times
- Higher productivity (up to 50%)
- Elimination of interference problems between the two turrets
- Simultaneous "follow up" machining using three tools thanks to the "Superimposition" function



**ASA 8 main spindle (80mm bar capacity)**





## Wide range of equipment and options

### STANDARD CONFIGURATION

- 2 liquid cooled pressurized built-in motor spindles
- 2 Biglia 15-post servo turrets with direct drive to the rotary tools
- Sub-spindle with axial and radial movement, equipped with a parts ejector

- Bar-feeder Interface
- Automatic parts-catcher
- Finished parts conveyor
- Swarf conveyor
- Coolant system featuring 7 bar pumps and filters

### MAIN OPTIONS

- Tool setter
- 40 or 70 bar high-pressure pumps
- Tool wear and breakage monitoring system
- Chip breakage function
- Mist extractor
- Auto Power On

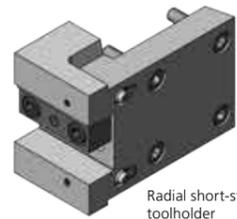
### PROGRAMMABLE AUTOMATIC PARTS-CATCHER

The automatic parts-catcher allows the unloading of finished parts in idle time



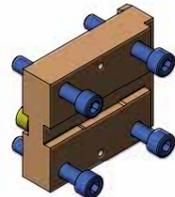
### TOOL SETTER (option)

This device makes tool-setting faster and easier.

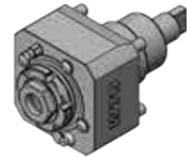


Radial short-style toolholder 20x20  
10.88.02.00

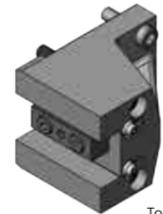
Radial short-style toolholder 25x25  
41.03.37.00



Spacer H=25  
10.88.19.00

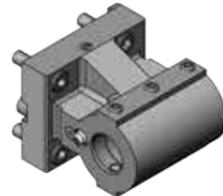


(A) Radial live-spindle  
T134-00242 ER25-QF  
T134-00089C ER32  
(B) ● T134-00243 ER25-QF  
● T134-00092B ER32



Tool holder 20x20  
10.57.60.00

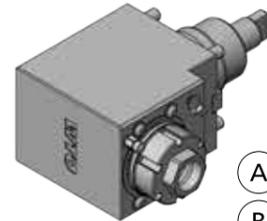
Tool holder 25x25  
10.88.16.00



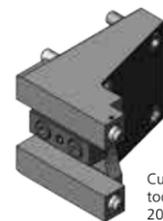
Boring bar holder Ø32  
10.57.75.00



Coolant plug  
10.57.75.03

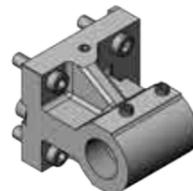


(A) Axial live-spindle  
T134-00212A ER25  
T134-00210A ER32  
(B) ● T134-00213A ER25  
● T134-00211A ER32

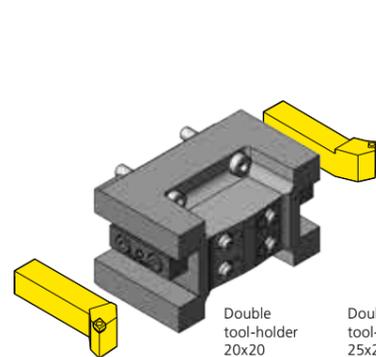


Cut-off tool holder 20x20  
10.57.77.00

Cut-off tool holder 25x25  
0088-00047

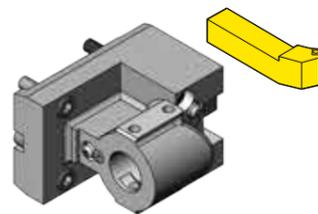


Retractable boring bar holder Ø32  
10.57.74.00

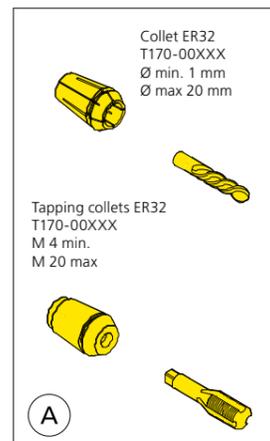


Double tool-holder 20x20  
10.57.76.00

Double tool-holder 25x25  
10.88.10.00



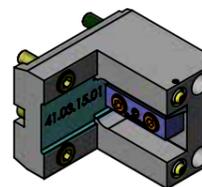
Boring bar holder Ø32 and tool-holder 20x20  
10.57.91.00



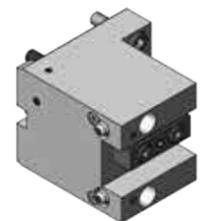
Collet ER32  
T170-00XXX  
Ø min. 1 mm  
Ø max 20 mm

Tapping collets ER32  
T170-00XXX  
M 4 min.  
M 20 max

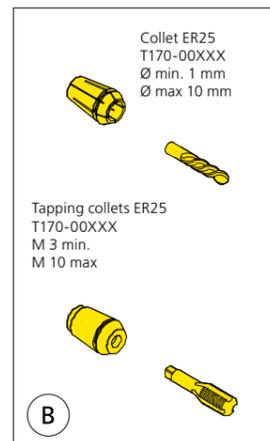
(A)



Radial retractable toolholder 20x20  
41.03.15.00



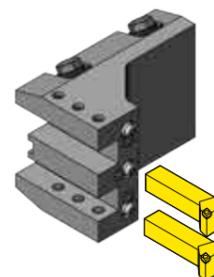
Frontal tool-holder 25x25  
41.03.36.00



Collet ER25  
T170-00XXX  
Ø min. 1 mm  
Ø max 10 mm

Tapping collets ER25  
T170-00XXX  
M 3 min.  
M 10 max

(B)



\* Vertical double tool-holder  
41.03.25.00



\* Base for multiple-holder  
10.57.92.00



**CNC FANUC 31i-mod. B Plus iHMI : Touch 15" colour liquid crystal display. Data transmission: Ethernet gate, memory card, USB, RS232 port. Direct import of DXF files.**



**i-HMI INTERACTIVE GRAPHIC INTERFACE**

The i-HMI is the new human-machine interface, 15" colour display with touch screen. The brand-new i-HMI system offers a high performance operating area where a simple touch allows the operator to gain access to all CNC functions: from work planning to BIGLIA customised pages, real time display of machining conditions and records of specific technical documentation.



**DATA DISPLAY**

Data displayed while machining includes: actual position of axes, machining feedrates, information on the spindle speed and current absorption, modal G-codes and machining cycle: all this on one screen page and in real time.



**MANUAL GUIDE: QUICK AND EASY FOR PROGRAM RELIABILITY**

The innovative MANUAL GUIDE software package provides operators with access to a very simple and user-friendly graphics interface, strong "editing" functions and offers a wide selection of machining cycles (turning, milling and drilling). This system allows the execution of even the most complex programs with ease of operation. The 3D simulation facilitates the checking of programmes before machining operations.

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

		<b>BMX 51-Y2</b>	<b>BMX 70-Y2</b>	<b>BMX 80-Y2</b>
<b>MACHINING CAPACITY</b>				
Bar capacity	mm	51	70	80
Max. machining diameter	mm	270	270	270
Max. machining length	mm	640	640	640
Max. swing over diameter	mm	270	270	270
<b>MAIN SPINDLE</b>				
Max. speed	rpm	5000	4500	3500
Spindle nose	ASA	5"	6"	8"
Spindle bore	mm	59,5	78	91
Inside diam. of bearings	mm	90	110	130
Chuck diameter	mm	165 / 210	210 / 250	210 / 250
Motor power	kW	17 / 25	30 / 40	23 / 25
Max. torque	Nm	108 / 159	255 / 286	441 / 477
C-axis: min. programmable value	°	0,001°	0,001°	0,001°
<b>SUB-SPINDLE</b>				
Max. speed	rpm	5000	5000	5000
Spindle nose	ASA	5"	5"	5"
Spindle bore	mm	59.5	59.5	59.5
Drawtube inside diameter	mm	50	50	50
Inside diam. of bearings	mm	90	90	90
Chuck diameter	mm	165 / 210	165 / 210	165 / 210
Motor power	kW	17 / 25	17 / 25	17 / 25
Max. torque	Nm	108 / 159	108 / 159	108 / 159
C-axis: min. programmable value	°	0,001°	0,001°	0,001°
<b>UPPER TURRET (1) - LOWER TURRET (2)</b>				
No of tools	N°	15	15	15
Turret indexing (1 pos)	sec	0,15	0,15	0,15
No. of live tools	N°	15	15	15
Max. speed	rpm	6000 / 10000	6000 / 10000	6000 / 10000
Motor power	kW	11 / 12,5	11 / 12,5	11 / 12,5
Max. torque	Nm	30 / 34,5	30 / 34,5	30 / 34,5
X1-X2 axis: stroke - rapid traverse	mm-m/min	180 - 18	180 - 18	180 - 18
Z1-Z2 axis: stroke - rapid traverse	mm-m/min	640-540 - 30	640-540 - 30	640-540 - 30
Y1-Y2 axis: stroke - rapid traverse	mm-m/min	90 - 9	90 - 9	90 - 9
<b>COOLING SYSTEM</b>				
Tank capacity	l	500	500	500
Power rating of 3 electropumps	kW	3,7	3,7	3,7
<b>DIMENSIONS AND WEIGHT</b>				
Machine with swarf conveyor	mm	5300 x 2235 x 2380 h		
Spindle centre height	mm	1280	1280	1280
Machine weight with swarf conveyor	kg	10800	11000	11300

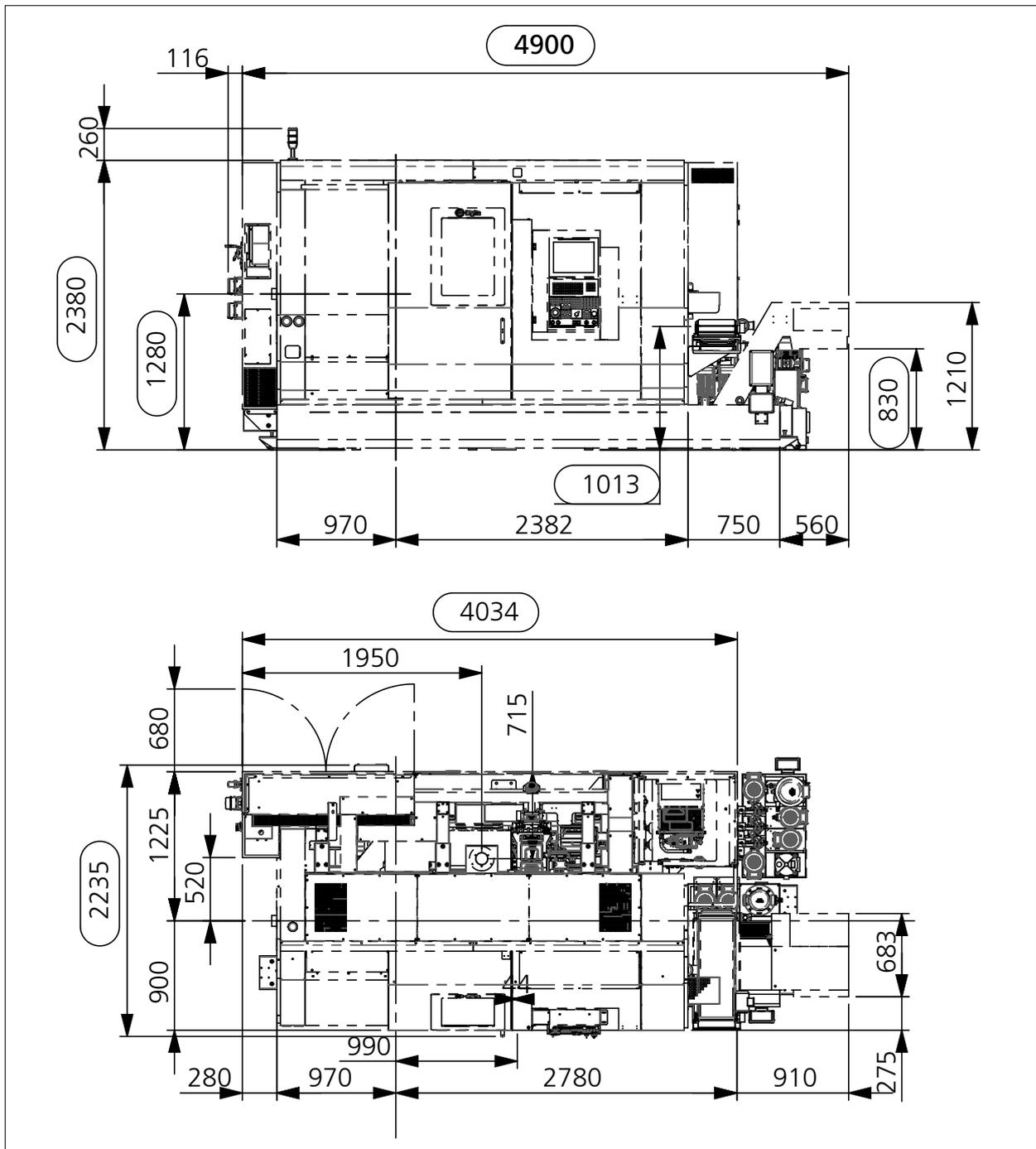
BMX 51-Y2   BMX 70-Y2   BMX 80-Y2



# MULTITURRET BAR TURNING

## MACHINE DIMENSIONS

BMX



THE TURNING TECH