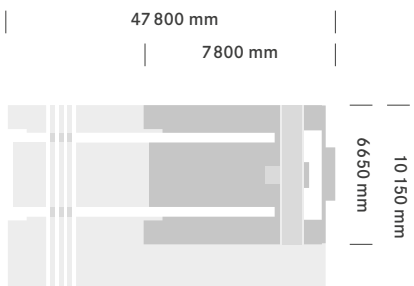
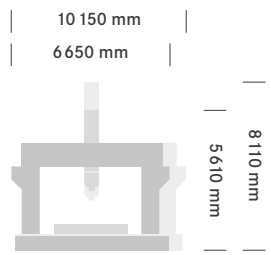
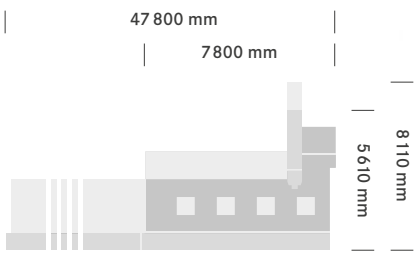


# FZ100

## 6-AXIS PORTAL MILLING MACHINE



Illustrations are similar.  
Subject to technical modifications.

## THE 6-AXIS MILLING VIRTUOSO: THE FZ100.

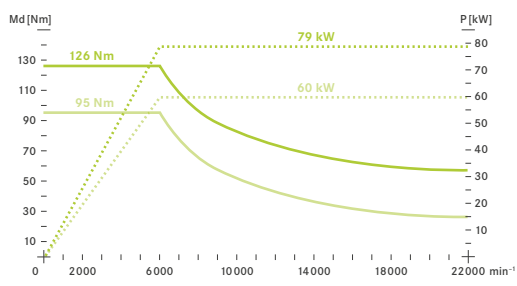
Unmatched precision: the FZ100 with the M3ABC 3-axis milling head.

The FZ100 6-axis CNC portal milling machine has a modular design which allows the combination of different operating ranges, travel distances, milling heads and CNC controls. The **gantry construction with fixed side walls**, fixed clamping table and overhead traveling portal in the X-direction provides the flexibility to machine a wide variety of sizes and materials. The machine table of the FZ100 is firmly anchored to the machine base. The milling process is highly precise, regardless of weight and size. The moving **structurally rigid portal** houses the Y axis and Z ram, and the **dynamic M3ABC milling head** which provides an efficient milling process. Thanks to its combination of high stability and rigidity the machine is able to meet all the requirements of model making, tool and mold construction, including the demands of the aerospace and automotive industries. This sophisticated 6-axis milling machine is perfect for machining of workpieces in shipbuilding and the alternative energy industry.

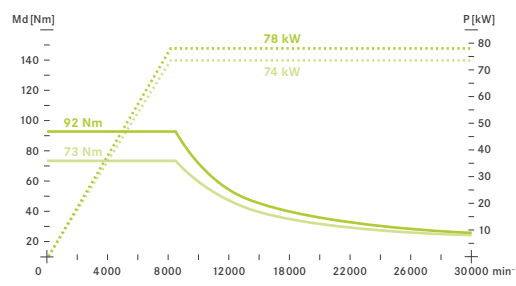


## AT THE HEART OF THE FZ100: OUR M3ABC MILLING HEAD.

The **dynamic M3ABC 3-axis milling head** (A-, B- and C-axes) sets new standards in the volume machining of aluminum, composites and modelmaking materials and in high-speed cutting of steel and cast iron. The M3ABC can machine different workpieces four times as fast as conventional 2-axis milling heads. This high-performance milling head is particularly suitable for complex processes, such as milling of conical pockets in structural components in the aerospace industry. The versatile 3-axis milling head performs simultaneous machining efficiently and precisely. With its constantly high advance rate and huge swiveling range the compact M3ABC offers almost unlimited flexibility.



Torque / Output diagram M3ABC – 60 kW



Torque / Output diagram M3ABC – 74 kW

## TECHNICAL DATA.

## FZ100

**Working Ranges\***

X-axis	3 000 – 40 000 mm (118"-1 575")
Y-axis	2 500 – 6 000 mm (98"-236")
Z-axis	1 000 – 2 500 mm (39"-98")

**Table Size**

Length	3 000 – 40 000 mm (118"-1 575")
Width	2 500 – 6 000 mm (98"-236")
Height	250 mm (10")
Table load	max. 5 000 kg/m <sup>2</sup>
T-Slots (longitudinal)	18 <sup>H12</sup> (opt. 18 <sup>H8</sup> )
Pitch of T-slots	250 mm (10")

**Drives - Linear Axes**

Feed rate	X-, Y-, Z-axis	up to 60 m/min (2 362 ipm)
Acceleration	X-, Y-, Z-axis	up to 5 m/s <sup>2</sup> (up to 197 in/s <sup>2</sup> )

**Dimensions**

Required space (without peripherals)	Length	7 800 – 47 800 mm (307"-1 882")
	Width	6 650 – 10 150 mm (262"-400")
	Height	5 610 – 8 100 mm (221"-319")

**Accuracy**

Standard accuracy	in accordance to VDI / DGQ 3441 or ISO 230-2
Special accuracy	on request

## MILLING HEAD M3ABC

**Performance**

Torque rotary axes	in control	A-axis: min 825 Nm (608 ft lb)
		B-, C-axis: min 1200 Nm (885 ft lb)
clamped		A-axis: min 2 000 Nm (1 475 ft lb)
		B-axis: min 1 700 Nm (1 254 ft lb)
		C-axis: min 3 000 Nm (2 213 ft lb)

**Swivelling Range**

A-axis	± 100°
B-axis	± 14°
C-axis	± 300°

**Drives - Rotary Axes**

Rate of feed	A-axis	180°/s
	B-, C-axis	120°/s
Acceleration	A-, C-axis	700°/s <sup>2</sup>
Resolution	A-, C-axis	0,0001°

**Accuracy**

Positioning accuracy	A-, C-axis	10"
Repeatability	A-, C-axis	6"

**Milling Spindle – 60 kW (80 hp)\***

Spindle power	S1 (100 %)	60 kW (80 hp)
	S6 (40 % /2 min)	79 kW (106 hp)
Spindle speed		22 000 rpm
Torque	S1 (100 %)	95 Nm (70 ft lb)
	S6 (40 % /2 min)	126 Nm (93 ft lb)
Constant power		6 000 – 22 000 rpm
Swivel axis – spindle nose		301 mm (12")
Tool holder		HSK-A63
Tool clamping		Spring clamp
Tool unclamping		hydraulic
Lubrication		Permanent grease lubrication
Coolant Supply, Minimum-Quantity Lubrication		External and through tool
Air blowing		external

**Milling Spindle – 74 kW (99 hp)\***

Spindle power	S1 (100 %)	74 kW (99 hp)
	S6 (40 % /2 min)	78 kW (105 hp)
Spindle speed		30 000 rpm
Torque	S1 (100 %)	73 Nm (54 ft lb)
	S6 (40 % /2 min)	92 Nm (68 ft lb)
Constant power	S1 (100 %)	9 690 – 30 000 rpm
	S6 (40 % /2 min)	8 140 – 30 000 rpm
Swivel axis – spindle nose		301 mm (12")
Tool holder		HSK-A63
Tool clamping		Spring clamp
Tool unclamping		hydraulic
Lubrication		Oil Mist Lubrication
Coolant Supply, Minimum-Quantity Lubrication		External and through tool
Air blowing		

\* Other dimensions / spindle options on request.

We reserve the right to make technical changes without prior notice.