



**Almac** / THE RANGE OF TORNOS  
MACHINING CENTERS

THINK PARTS THINK TORNOS



ALMAC FB 1005

CNC 3 to 6-axis horizontal bar  
milling machine.

# PRODUCTIVITY AND PRECISION FROM 3 TO 6 AXES



## Wide range of applications

In any sectors involving high technology – optical instruments, watchmaking-jewellery, medical, dental and connector industries, fine leather craft, accessories or fine electronics, to name a few – the FB 1005 is ideal for machining high precision parts from bar. Its modular design and easily programmed, user-friendly CNC control make it extremely flexible.



# VERSATILITY

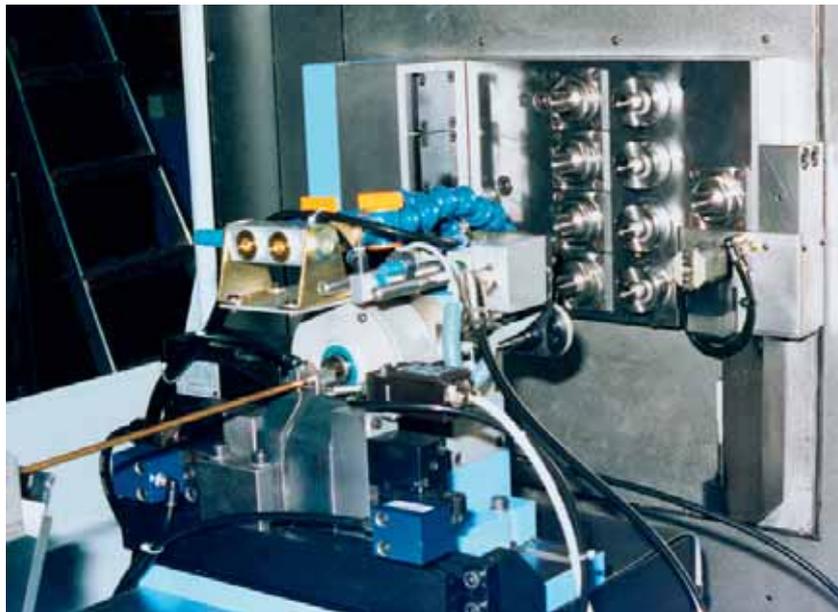
Designed to perform precision milling on a wide variety of materials – from hard steels to noble metals – the FB 1005 is a high-tech, high performance machine.

It is equipped with an X-axis slide travelling along on prestressed slideways by means of a ball screw. The X-axis slide supports the vertical Y-axis formed from a solid cast iron V-guide along which travels a rectangular sleeve, also moved by a ball screw. The sleeve is guided along 4 prestressed slideways and is equipped with a multi-spindle head fitted with frontal, horizontal and vertical spindles.

The Z-axis cross slide supports the tilting work table (B), bar-feed (W) and/or the dividing head (C).

All drive movements are performed by means of digitized AC brushless motors.

In addition to these numerous possibilities, the FB 1005 can also be fitted with other optional auxiliary equipment, such as high speed spindles, an oil mist extractor, a heating cycle, tool breakage detection and coolant temperature control. After machining and cutting-off, the parts can be collected by an articulated part removal arm. Another indispensable and cost-effective option is the tool presetting probe.



The FB 1005, equipped here with a 9-spindle front mounted head, can also accept side and vertical spindle heads (in 4-spindle modules).

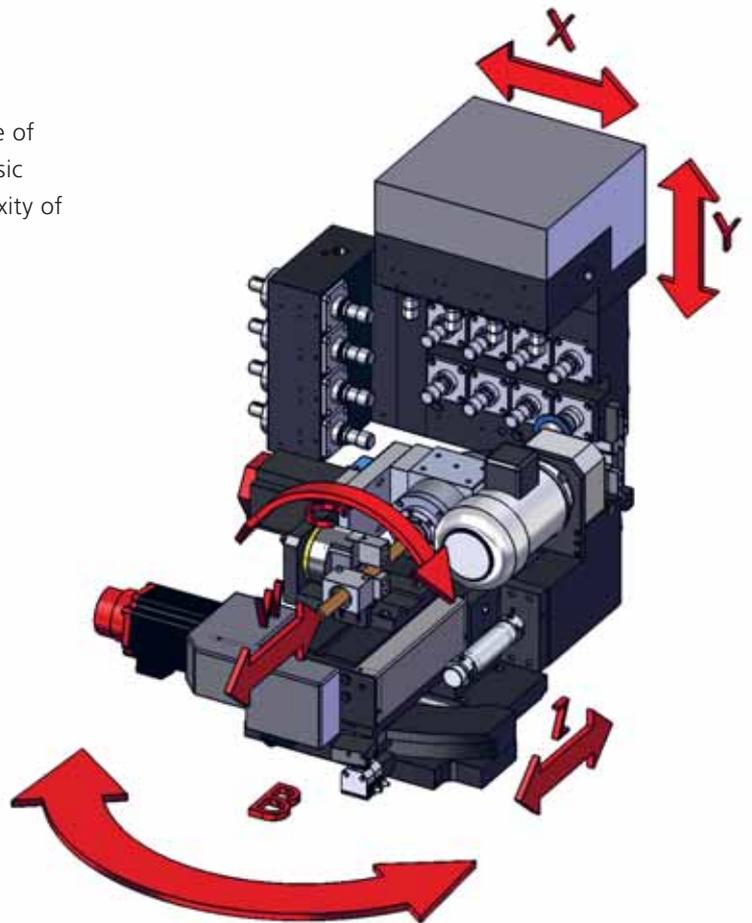
This wide range of options and auxiliary equipment allows the FB 1005 to be fully tailored to individual needs, giving it a number of advantages over other stand-alone machines:

- the range of equipment is optimized for maximum cost-effectiveness;
- a choice of dedicated options can be fully tailored to customer requirements;
- the machine is totally adaptable to individual needs.

Moreover, the machine's practical and ergonomic safety features meet all CEM and EC safety standards.

# MODULARITY

The bar milling machine FB 1005 is highly flexible and modular. It has been designed to allow a wide range of optional equipment to be added to the basic configuration, to suit the type and complexity of the workpieces.



NC tilting 0°/20°



NC tilting -5°/45°



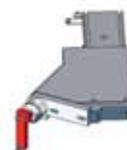
Dividing head 125 – maximum Ø 27 mm



Dividing head 80/2 – maximum Ø 18 mm



Block-spindle for the 6<sup>th</sup> face machining 3 x Ø 25

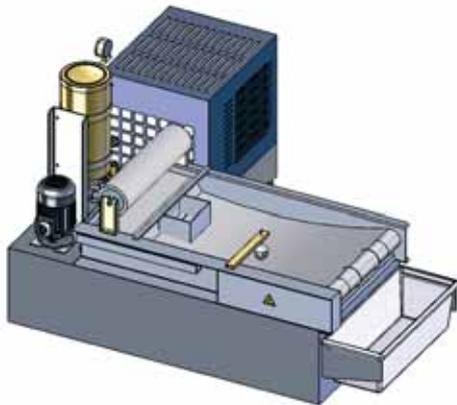


Tool-presetting system



NC bar feed

# ADAPTABILITY



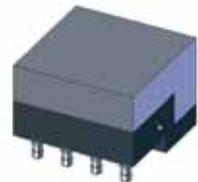
Coolant system with refrigerator



Standard side block-spindles



Front and side block-spindles with HF-spindles



Standard vertical block-spindles



Front block-spindles equipped with standard and HF-spindles



Standard front block-spindles



Compact work-piece remover arm

# THE LITTLE EXTRAS MAKE ALL THE DIFFERENCE

## Open machining

The standard version of the FB 1005 works on the X, Y, Z axes, which are normally sufficient for workpieces that only require machining on a few predefined surfaces. However, depending on the complexity of the parts to be machined, the FB 1005 can be equipped with additional axes, for the indexing (C), tilting (B) and feeding (W) of the bar. This modular system extends machining capacity to 6 axes, giving the FB 1005 far greater flexibility when it comes to milling bars.

## Economical

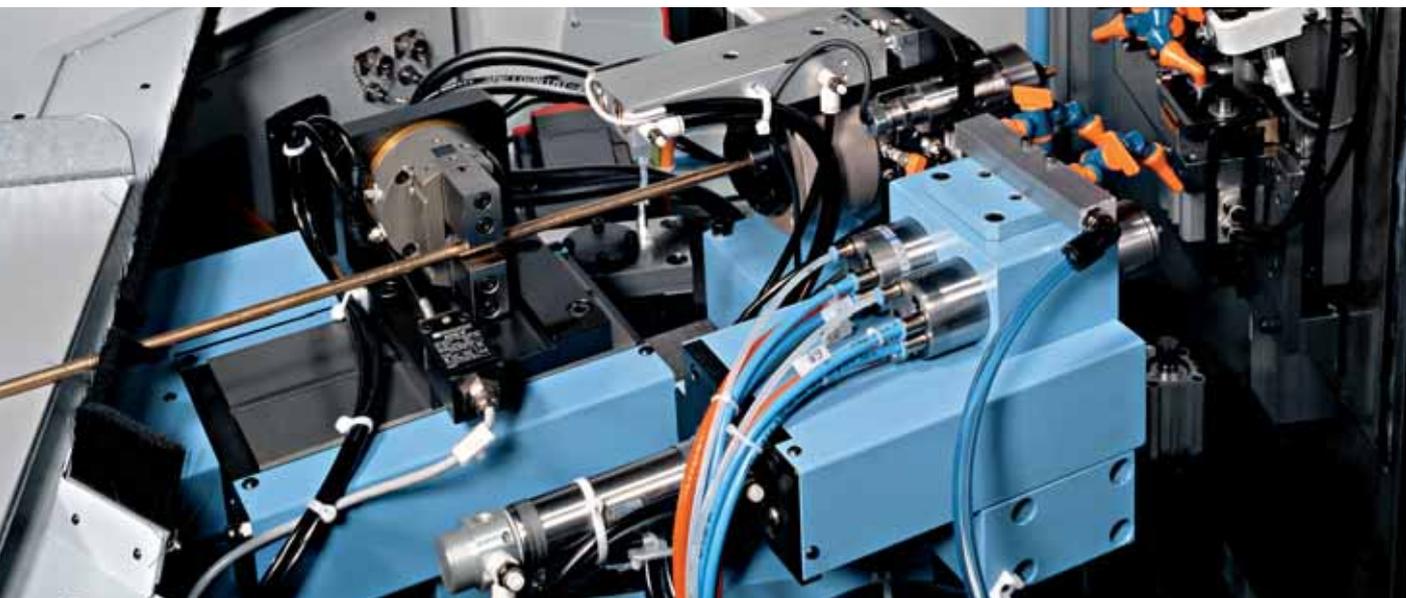
When equipped with the CNC bar feed system – the sixth axis (W) – the FB 1005 significantly reduces raw material waste.

## Ergonomic

The ergonomic design and compact size of the FB 1005 offers maximum operating convenience – from optimum security and operating comfort to easy access to the mechanical parts during startup operations.

## The FB 1005 has a lot going for it :

- excellent productivity and cost-effectiveness
- ideal flexibility and modularity
- ergonomic design
- high stability, rigidity and precision
- uncompromising reliability and security
- efficient technical assistance and customer support (programming, maintenance, etc.).



Bar-milling : numerical bar-feed, dividing head on tilting axis 4/5<sup>th</sup> axis, clamping system for cutting and HF-spindles for the 6<sup>th</sup> face milling.

# TECHNICAL CHARACTERISTICS

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Strokes	X/Y/Z	280 / 230 / 120 mm	
Feed rates	working feed X/Y/Z/W	0 to 5000 mm / min	
	rapid feed	12 m / min	
	resolution	0,001 mm	
Drive systems	motors	AC motor	
	closed-loop control	digital	
	Ø ball screw	20 x 4 mm	
Adapted spindle-blocks	front mounted	4 to 12 spindles	
	side mounted	4 spindles	
	vertical mounted	4 spindles	
	cutting	1 spindle	
Standard spindle	back side	2 or 3 spindles	
	speed	1000 to 12 000 min <sup>-1</sup>	
	power	1,4 / 3,4 kW (100 % / 25 % ED)	
	tool clamping system	ESX 20 / HSK 32-A	
	clamping diameter	1 to 13 mm / 1 to 9 mm	
HF-spindle	speed	3000 to 35 000 min <sup>-1</sup> / 8000 to 80 000 min <sup>-1</sup>	
	power	475 kW	
	collet	ER 11	
	clamping diameter	1 to 7 mm	
Cutting spindle	speed	100 to 3000 min <sup>-1</sup>	
	power	1,4 / 3,4 kW (100 % / 25 % ED)	
	tool clamping system	ESX 20 / HSK 32-A	
Dividing head	Ø through centre 18 mm / F22	– C axis rotation	50 min <sup>-1</sup>
		– positional deviations	22"
		– repeatability accuracy	7"
	Ø through centre 27 mm / F35	– C axis rotation	50 min <sup>-1</sup>
		– positional deviations	15"
		– repeatability accuracy	7"
Bar feed	pneumatic	25 mm	
	or CNC, W-axis	50 mm	
Bar tilting	manual	0 to 20°	
	or CNC, B-axis	0 to 20° or -5 + 45° (short bars)	
Numerical control		FANUC	
Standard coolant tank	capacity	205 l	
	flow	40 l / min	
	standard filtration	35 µm / 28 µm	
Temperature control	power	3000 W for r t 3° C	
Connections	installed power	10 kVA	
	voltage	3 x 400 V / 50 Hz	
	pneumatic pressure	6 bar	
Dimensions with bar support	L x W x H	1800 x 4250 x 2060 mm	
Weight		1800 kg	

*Technical specifications subject to change.*

### Numerical intelligence, easy programming

The CNC control panel is installed on the right of the machine and controls its 3, 4, 5 or 6 machining axes. This is the real nerve centre of the FB 1005, allowing the operator to programme precise machining sequences, while keeping an eye on production operations.

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**Conforms to the European CE/CEM Safety Standards**

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