



## EC conformity declaration

The Signature

**Soraluce, S. Coop.**  
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Spain

Declares that:  
The milling machine

**Model:** FR-6000  
**Serial number:** 5645  
**Year of manufacture:** 2019  
**Function:** Cold machining of ferrous and non-ferrous parts

complies with all the provisions of **DIRECTIVE 2006/42/EC** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006, on machinery, and amending Directive 95/16/EC (recast).

Moreover, it also complies with the provisions of the following directives:

**DIRECTIVE 2014/30/EU** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014, on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast).

**DIRECTIVE 2014/68/EU** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014, on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment (recast).

It has also been designed and elaborated in accordance with the provisions of the following harmonised standards:

EN 13128:2001+A2:2009		
EN ISO 13857:2008	EN ISO 14118:2018	EN 60204-1:2006
EN 349:1993+A1:2008	EN ISO 4413:2010	EN 13849-1:2015
EN ISO 14120:2015	EN ISO 4414:2010	EN ISO 12100:2010
EN ISO 14119:2013		

As the Technical Writer for Soraluce, S. Coop., Miriam Iribar is the person authorised to compile technical documentation.

**Rafael Idígoras Alberdi**  
Managing Director

**Bergara,**



### 1.5. MACHINE DATA SHEET

Technical features			
Feature	Machine	Dimension	Unit
Travel of horizontal axis (X axis)		6000	mm
Travel of vertical axis		4000	mm
Travel of transversal axis		1600	mm
Rapid longitudinal feed rate (X axis)		25000	mm/min
Thrust force (X axis)		31000	N
Rapid vertical axis feed rate		25000	mm/min
Thrust force in vertical axis		31000	N
Rapid transversal axis feed rate		25000	mm/min
Thrust force in transversal axis		31000	N
Head type		Automático Ortogonal (1° x 1°)	
Head power (S1)		46	kW
Head torque		1532	Nm
Head speed		4000	rpm
Type of cone		DIN 69871-AD BIG PLUS	
Tie rod		DIN 69872 Forma A	
Tool locking force		20000	N

Rotary table			
Feature		Dimension	Unit
Dimensions		2500 x 2500	mm
No. of divisions		360000	
Positioning		+ /- 1	'
Repeatability		+ /- 1	'
Linear axis path		1500	mm
Maximum transfer speed (W axis)		20000	mm/min
Rotation speed		3,4	rpm
Tilt torque		175000	Nm
Tangential torque (Locked)		80000	Nm
Tangential torque (Milling)		32000	Nm
W-axis thrust force		25000	N
Weight		18200	kg
Maximum weight on the table		40000	kg





### Control station

Control box weight (not including support arm)	50	kg
Control box depth (including keyboard)	200	mm
Control box rotation radius	180	°
Control box material	Steel plate	
Support arm materials	Extruded aluminium	

### Protective guards and devices

Working area guard	Fixed and movable guards with polycarbonate sheet. Fixed and movable guards. A photoelectric barrier at the front of the machine.
Perimeter enclosure	A fixed guard for the most part, it is equipped with doors on both sides: the doors are fitted with locking safety switch, blocking and monitoring of the door status (open or closed) features.

### 1.5.1. Fluids equipment

#### General hydraulic group

Feature	Dimension	Unit
Tank capacity	240	l
Flow	28	l/min
Maximum pressure	160	bar
Motor power	11	kW
Oil	Repsol Telex 46 (ISO HM46)	

#### General lubrication system

Feature	Dimension	Unit
Tank capacity	2	l
Maximum pressure	100	bar
Grease	Klüber Microlube GL 261 (ISO 6743-9 L-XCDHB-1)	

#### Automatic head oil cooling unit

Tank capacity	65	l
Flow	6	l/min
Maximum pressure	4	bar
Oil	ISO FC5	



Gearbox oil cooling unit		
Tank capacity	20	l
Flow	7,5	l/min
Maximum pressure	3	bar
Oil	ISO HM 32	

Head motor fluid cooling unit		
Tank capacity	65	l
Flow	15	l/min
Maximum pressure	2,5	bar
Fluid	50% MANTAIN FRICOFIN + 50% H <sub>2</sub> O	

Tool cooling		
Tank capacity	1000	l
Transfer tank capacity	500	l
Flow	50	l/min
External cooling pressure	5	bar
Internal cooling pressure	20	bar

### 1.5.2. Electrical equipment

Machine control and automation system	
Numerical control	HEIDENHAIN TNC-640
Electrical servomotor drives for X, Y and Z axes, head, rotating axis and transfer axis of the rotary table	HEIDENHAIN

### 1.5.3. Requirements for the installation location

Machine dimensions and weight		
Feature	Dimension	Unit
Machine dimensions without peripheral accessories (Width x Height x Depth)	15900x11500x6550	mm
Machine weight	36000	kg

Main electric connection		
Total installed power	96	kW
Power supply voltage	400	VAC
Power supply frequency	50	Hz
System	3 Phases + Earth	





Main electric connection		
Maximum current	173	A
Cable cross-section (Cu)	95	mm <sup>2</sup>

Pneumatic supply installation		
Compressed air pressure	6	bar
Compressed air flow	1000	l/min
Compressed air quality	ISO 8573-1:2001 3/5/4	

Physical environment and operating conditions		
Ambient temperature	+5 to +40 °C	
Relative humidity	Up to 50% at +40 °C	
Altitude	Up to 1500m	
Physical environment: No presence of contaminants (acids or corrosive gases), non-explosive atmosphere, and with no emission of ionising or non-ionising radiation. The machine is not designed to operate in outdoor locations.		

**Table 1.1. Machine features table**

