

WRF 150 CNC No.14

Floor type horizontal boring machine

Technical specification and machine order confirmation

Company (Buyer)

name (contact person)

address

town

country

email

phone

and

Company (Seller)	FERMAT Group, a.s.
name (contact person)	Jan Ferenc
address	Žitavského 496
town	Prague
country	Czech Republic
email	Jan.ferenc@fermat-machinery.com
phone	Mobile: +420 777 339 601

Offer no.: **01-JF-200516-rev.150218**Dated in Brno on: **18.05.2017**

This order is replacing previous order version 01-JF-200516, dated 18.5.2017.

General Technical Parameters

Headstock	dimension	units
Spindle Diameter	Ø150	mm
Spindle Taper	DIN 69871, ISO	
Pull Stud	DIN 69872 / ISO	
Spindle RPM	10 - 3000	RPM
Spindle Motor Power for Heidenhain (S1 Continuous/ S6-40%)	58/88	kW
Maximum Spindle Torque for Heidenhain (S1 Continuous/ S6-40%)	3281 / 4988	Nm
Headstock Dimension	540x460	mm
Working Ranges		
Column Travel (X-axis)	17 800	mm
Headstock Travel (Y-axis)	6 000	mm
Ram Travel (Z-axis)	1 500	mm
Spindle Travel (W-axis)	1 000	mm
Rapid Travel X-axis	40 000	mm/min
Rapid Travel Y-axis	15 000	mm/min
Rapid Travel Z-axis, W-axis	Z=15 000, W=10 000	mm/min
Max. Axial Force X-axis, Y-axis	35	kN
Max. Axial Force Z-axis, W-axis	35	kN
Positioning of X, Y, Z	Linear electro-optical	
Positioning of W	From the Encoder	
Hydraulic and Pneumatic System		
Tool Unclamping Pressure	9-14 accessories related	MPa
Tool Clamping Force	24 +/- 15%	kN
Tool Clamping	Hydro-mechanic	
Coolant system – optional		
Low pressure system - delivered volume	62	l/min
Low pressure system - aggregate out-coming value	6	bar
Low pressure – reservoir	2610	l
High pressure system - delivered volume	60	l/min
High pressure system - aggregate out-coming value	50	bar
High pressure – reservoir	255	l
Electricity (According to Local Requirements)		
Power Requirement		kVA
Operation Voltage	3 x 400	V
Operation Voltage Allowance	+/- 5 %	
Operation and Control Voltage	24	V
Operation Voltage Frequency	50	Hz
Maximal Noise Level At Operator's Location	80	dB

Machine Specification

- New design of the machine with 2 ballscrews on Y axis and new tilting headstock.
- Spindle Diameter 150 mm, Spindle Taper ISO50, Air + Oil Lubrication of spindle bearings. Exchangeable spindle nose. Bigger hole in the clamping bar for higher volume of coolant as on WRF Heavy.
- Tilting headstock with tilting 0 to -8°, headstock available for hydraulic permanent locking in one 0° position.
- Ram of the headstock on 3 linear guide ways and one hydraulic clamping feature.
- Siemens Spindle Motor Power 74 kW (S1), Gearbox CE18, ratio 1:4
- Column covered on the back side as well.
- Tilting function protection cover made from steel.
- Z-axis design to be matched with layout of factory to fit in existing building. X axes and Y axes will be matched with current foundation and building.
- Heidenhain iTNC 530 Control System
- HR 520 Heidenhain Hand wheel (MPG), Separate Control Panel with 15" LCD Screen
- CNC rotary table T80, 3000x4000 mm table, 80 tons max. load, V axis 3000 mm
- Linear Scales for X, Y1-Y2, Z, V axes
- Coolant Through the Spindle CTS50 with 50 bars high pressure unit, programmable.
- Outside Coolant System OCS4 with 4 bars (6 bars on the pump) low pressure unit (2610 liters)
- FERMAT Robotics 105, 105 tools exchange – standard design without roof. Second control panel on the robot house. Same solution like is WRF Heavy in Sæby (Height of the covers same like pickup height) Added one column like in WRF Heavy, the number of tools 105.
- 3 positions pickup station placed in robot house. No covers on pickup station.
- UHA 0.001 (continues. 4 servo-motors), Ram connection of the heads exchangeable with WRF Heavy.
- PHA60mi. Automatic right angular head.
- Automatic Lubrication System
- Hydraulic System
- Headstock gearbox oil Chiller.
- Platform for chilling units, hydraulic and air plus oil units will be placed on the platform. FERMAT will provide electric connection for 2 fans and light.
- Air conditioned distribution box.
- Work Lamp on the operator's cabin
- Remote Diagnostics (WiFi ready, connection to be done by the customer; service must)
- Moveable Operator's cabin
- Leveling Bolts & Seal Pads
- Packing for land transport
- Light beam and safety door. . FERMAT will supply light beam and safety door and connect them to the system.
- CE Standard with TÜV Certificate (Safety Fence is excluded, optional), EC Declaration of Conformity, Electro Revision Certificate
- Documentation (operator and Service Manuals; machine Documentation; Control System Programming, Service and Operator Manuals; geometric Measuring Documentation) in English
- 12 months' guarantee

WRF 150 CNC No.14 (X=17 800, Y=6 000, Z= 1500, W=1 000, T80 3000x4000 V=3 000)

Documentation Performance

Documentation in English

- Operator and Service Manuals
- Machine Documentation
- Control System Programming, Service and Operator Manuals
- Geometric Measuring Documentation
- One set printed, one set DVD version

Subject of the Performance Is Not

- Machine Foundation (informational plans only)
- Anchoring material (any liquid concrete for fixing the machine)
- Any Building Conversion Necessary for Installation of the Machine
- Covering and Equipping of the Supply Channels
- Power Supply Lines to the Machine
- Lifting Equipment Necessary for the Installation of the Machine
- Handling Equipment at the Place of the Installation
- Technological Tools
- Training of the Programmers in Programming of the Machine Control System
- Cooling Liquid Necessary for Cooling Systems
- Hydraulic Fillings
- Any machining test, technology

Machine Acceptance

Machine pre-acceptance in Fermat

The Pre-Acceptance will be carried out at FERMAT's premises in Brno, Czech Republic before shipment considering the local conditions at the assembly hall. The customer may participate at this inspection.

- Duration: 1 day of the Pre-Acceptance (mechanical and functional testing of the machine)
- Language: English

Scope of pre-acceptance

Inspection and Presentation of the Machine

- Check of machine completeness according to the order
- Check of documentation completeness

Functional Tests of the Machine

- Test of all functions of the machine including all options
- Partial geometrical test (column on a X axis segment)

Machine acceptance at Customer's Premises

Acceptance will be carried out immediately after termination of the installation at the customer's premises.

Scope of acceptance

Inspection and Presentation of the Machine

- Check of machine completeness according to the order
- Check of documentation completeness

Functional Tests of the Machine

- Test of all functions of the machine including all options
- Geometrical test on a complete machine set-up

Installation, Training

Installation at Customer's Premises

- Preparation of the machine base, including pre-cast holes for the foundation bolts, and power supply lines for construction of the machine according to the foundation plan, including photos of finished building and foundation
- Confirmation of dimensions according to the foundation plan, and the condition of the machine base prepared for the installation, including photos of the machine base
- Confirmation of delivery of the machine, including photos of delivered machine
- Securing the machine or its parts and protect it or its parts from loss, destruction or damage
- Providing any possible assistance during the period of the installation, namely electric power, compressed air etc.
- Installation can be started only completely finished buildings.

Training

- Training shall be carried out at the customer's premises during or after the installation of the machine. The customer will choose the relevant technicians (operators, maintenance staff) for the training.
- Training range: mechanical and electrical part, maintenance and operation of the machine
- Duration: 1 working days (given by the technician installing the machine, not an application engineer)
- Language: English