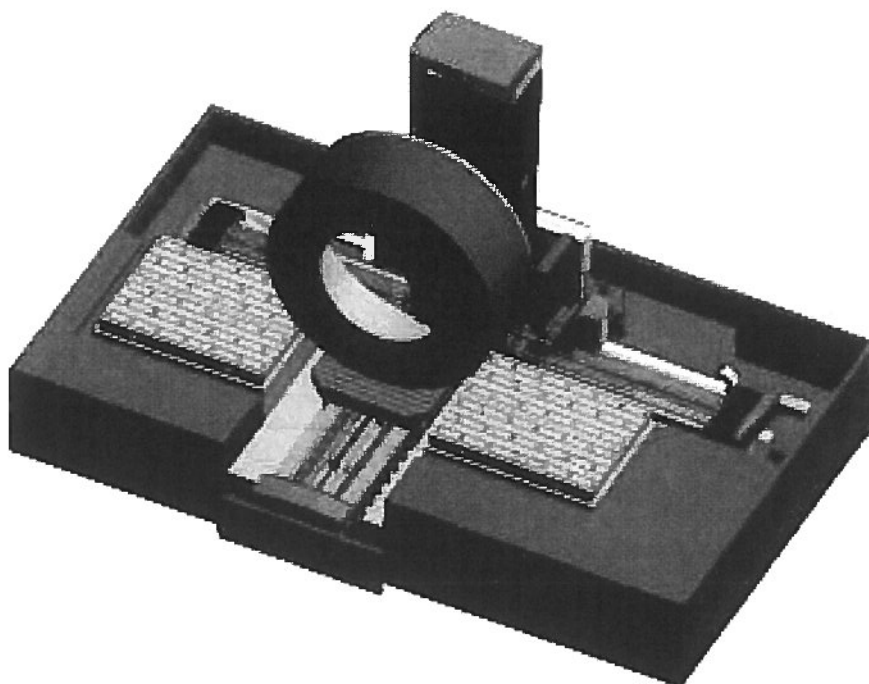


Company	Nordmark Maskinfabrik A/S
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Address	Kjeldgaardsvej 10, DK-9300 Saeby, Denmark
Installation place	Nordmark Production A/S, Karrosserivej 4, DK-8722 Hedensted, Denmark
Email	mj@nordmark-maskinfabrik.dk

Technical specification and machine order – contract 1114-JF-191112-5 for floor type horizontal boring machine WRF 160 CNC

project no.:

3-2226-131013



X axis [mm] - column travel	cca 9 500
Y axis [mm] - headstock travel	min 7 000
Z axis [mm] - ram travel	1 500
W axis [mm] - spindle out travel	1 000
CNC rotary table size [mm]	3 000 x 4 000
CNC rotary table load capacity [kg]	80 000
V axis [mm] - table travel	cca 3 000

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Machine Specification

- Heidenhain iTNC 530 Control System
 - Adaptive feed control option
 - ACC – Active Chatter Control
 - Hand Wheel HR 520
 - Separate Control Panel with 15" LCD Screen
 - Heidenhain Scales for X, 2xY, Z, V Axes
 - Remote Diagnostics (WiFi ready, connection to be done by the customer; service must)
- Spindle Diameter 160 mm, Spindle Taper ISO 50
 - Headstock section 520x520mm
 - Headstock on hardened steel guide ways (except top of the ram). Box way design with oil lubrication. Special steel screws with no glue to attached guide ways on the ram. Additional rollers on the bottom side of the ram.
 - Siemens Spindle Motor Power 60 kW, 2 steps ZF gearbox.
 - Space in the ram distribution box for connectors for chilling of the head.
- X axis casted bed with 4 linear guide way rails, 4 lines of anchoring screws. 2 beds, each with length 6000 mm and width 2150 mm (top) and 2190 mm (bottom)
- Two ball screws of 100 mm diameter for Y axes with counter balance system on linear guide ways and with break system for emergency stop
- One extra ball screw as a spare part to be delivered with the machine
- CNC Rotary Table on Cross Roller Taper Bearing with 2 Pinions and 2 Servomotors, Maximum Table Load 80 Tons, 3000x4000 mm, V axis travel approx. 3000 mm with Rotary Scale and encoder Heidenhain for B-Axis Table will be equipped by additional hydraulic brakes for table rotation – B axis. Bed width min.2500mm. Welded bed, table top and the slide. Two sets of cross roller taper bearings. T slots distance 225 mm.
- Pick up station with 4 positions (for 3 angular heads). Positioned on the right side. Side opening doors. Pick up with extra top cover protection. Reinforced heavy duty pick-up based on our standard design.
- 2pcs of Automatic universal head UHAmi 30, Micro positioning head with 30 kW power*
 - * All supplied heads have to reach with ram stroke minimum 2300 mm from the column or cabin.
 - * Better sealing of the head on the ram.
 - Second UHAmi30 head will be installed at WRF150CNC machine with tilting ram
- 1pcs of Automatic right angular head PHA37, 37kW, 2,5°positioning*
- Automatic Lubrication System – Linear guide ways lubricated by oil
- Rubber covers for the back side of column.
- Telescopic covers with 4 rows of rollers running on steel.
- Hydraulic System with Bosch Rexroth valves.
- Headstock Oil Chiller Frigera (made in Czech Rep.)
- Outside coolant system 4 bars
- Coolant through spindle 50 bars, adjustable pressure by CNC
- Tool Changer Robot, 90 tools storage, ISO50, tool weight 35 kg, gripper for 2 tools, Tool change and new tools controlled by Heidenhain control. Robot placed on the side of X axis.
- Chip conveyor belt type – standard type with length and height depending on the final layout
- Air condition of the distribution box

Prague, 2013-01-09

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- Work Lamp on the Column, operator's cabin
- Moveable Operator's cabin
- Leveling Bolts & Seal Pads, Concrete to be supplied by Nordmark, work to be done by Fermat.
- CE Standard with TUV Certificate (Safety Fence is Option), EC Declaration of Conformity, Electro Revision Certificate
- Documentation (operator and Service Manuals; machine Documentation; Control System Programming, Service and Operator Manuals; geometric Measuring Documentation)
- Installation (geometry accuracy gauging as per the valid international standards ISO 230-1:1996; ISO 3070-3,4:19). *Preference is to install machine by the same team (servicemen) as for the previous machine WRF160 with Y=4200mm*
- One day training (operation and maintenance)
- Packing
- Transport to Nordmark in Denmark
- 12 months guarantee
- Including Nordmark specific equipment:
 - preparation for connection to the exhaust system
 - Siemens contactors like on previous machines.
 - sensor of CTS on the spindle
 - electro cabinet extra top cover
 - Gear change by M function
 - Safety fence and electro safety locks for the doors of safety fence (2pcs). Manually pushed gate (doors) will be supplied by Nordmark. Electro safety locks for gate to be supplied by Fermat (2 extra). Central stop buttons to be supplied by Fermat.
 - M+H probes to be delivered by Nordmark to Fermat latest 4 months after the PO, FERMAT will integrate probes with the machine

WRF 160 CNC (X=cca 9 500, Y=min 7 000, Z=1 500, W=1 000, V=cca 3 000 mm)

**** (DAP, Denmark), excluding import tax, custom duties**

Optional accessories:

- Special automatic right angle head* with A-axis positioning without spindle stop, 60kW power, the price will be approved by selected solution and confirmed by customer. Wear spare parts will be kept at Fermat's stock or offered to Nordmark for purchase. Price range of the head

50 000 - 70 000 EUR

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Validity, Delivery, Packing, Warranty, Payment Conditions

Delivery:	5 months from down payment EXW Brno, Czech Republic						
Packing:	waterproof, inland						
Installation:	Included in the price						
Warranty:	12 months						
Retention of title:	The delivered goods is until full payment owned by FERMAT and are free to act accordingly if necessary.						
Terms of the offer:	The offer is non-binding and is subject to confirmation, and is subject to prior sale. In case of order placement, our confirmation of the order constitutes the final sales contract. Dependent on further development of our products, we reserve the right to change technical details. Please note, that we do not accept any penalty in case of delay in deliveries due to delayed incoming payments.						
Payment conditions:	20% advance payment in accordance with the advance invoice due within 14 days after placing the order 70% after Pre-Acceptance of the machine at FERMAT's premises in Brno, Czech Republic - before its shipment (CMR documents for Europe) 10% balance payment after bilateral signature of handover protocol in connection with successful Acceptance at customer's place						
Bank account details:	<table><tr><td>Bank details:</td><td>PPF banka a.s.</td></tr><tr><td>Account number:</td><td>CZ78 6000 0000 0020 1340 0010</td></tr><tr><td>SWIFT:</td><td>PMBPCZPP</td></tr></table>	Bank details:	PPF banka a.s.	Account number:	CZ78 6000 0000 0020 1340 0010	SWIFT:	PMBPCZPP
Bank details:	PPF banka a.s.						
Account number:	CZ78 6000 0000 0020 1340 0010						
SWIFT:	PMBPCZPP						

Nordmark is oblique to negotiate financing with leasing company within one week. Otherwise the contract is not valid.

In Saeby, Denmark / Prague, Czech Republic on Wednesday, January 09, 2013

On behalf of FERMAT Group, a.s.

FERMAT GROUP, a.s.
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Jan Ferenc, General Manager
Jan Kropacek, Executive Manager

On behalf of Nordmark Maskinfabrik A/S

Michael Jacobsen
Ejnar Jacobsen