

Headstock	Dimension	units
Spindle Diameter	Ø160	mm
Spindle Taper	DIN 69871, ISO	
Pull Stud	DIN 69872 / ISO	
Spindle RPM	10 – 2500	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	460 x 480	mm
Working Ranges		
Column Travel (X-axis)	9 200	mm
Headstock Travel (Y-axis)	4 500	mm
Ram Travel (Z-axis)	1 200	mm
Spindle Travel (W-axis)	1 000	mm
Operation Travel All Axis	1 – 8 000	mm/min
Rapid Travel X-axis	Minimal 20 000	mm/min
Rapid Travel Y-axis	Minimal 15 000	mm/min
Rapid Travel Z-axis, W-axis	Minimal 10 000	mm/min
Max. Axial Force X-axis, Y-axis	40	kN
Max. Axial Force Z-axis, W-axis	40	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	To be specified later	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

- Spindle Diameter 160 mm, Spindle Taper ISO50,
- Siemens Spindle Motor Power 58/88 kW (S1/S6-40%)
- Heidenhain iTNC 530 Control System
- HR 520 Heidenhain Hand wheel (MPG). Separate Control Panel with 15" LCD Screen
- CNC rotary table T40, 2500x3500 mm table, 40 tons max. load, V axis 2400 mm, on standard bearing
- 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)
- Automatic Robotic toolchanger for 105 tools. Same as for WRF 160 Heavy with one extra column.
- 3 positions pickup station.
- Automatic universal milling head UHA30mi.
- Chip conveyor belt type for the X axis
- Automatic Lubrication System
 - Hydraulic System
 - Headstock gearbox oil Chiller
 - 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. Safety fence will be supplied and build by Nordmark. 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
- Complete installation
- 12 months' guarantee

Including Nordmark specific:

- Siemens relay and contactors
- Better split for cable so they don't get electric noise
- Better protection of cables
- sensor of CTS on the spindle
- electro cabinet extra top cover
- Gear change by M function
- preparation for connection to the exhaust system

WRF 160 CNC (X_{min}=9 200, Y=4 500, Z= 1 200, W=1 000, V=2 400)