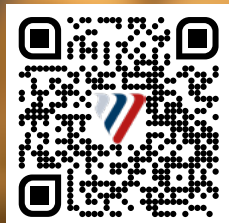




PROFESSIONAL MANUFACTURER  
**BORING AND MILLING MACHINES**



# VISIT OUR YOUTUBE CHANNEL



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# About Fermat

CANADA

TORONTO

USA

CLEVELAND



**Since 1990, FERMAT has grown to be a leading European manufacturer of CNC machine tools. Thanks to superior engineering, outstanding technology and modern design, FERMAT manufactures the most powerful and precise CNC table-type and floor-type horizontal boring mills, as well as cylindrical grinders, available anywhere on the market.**

FERMAT provides both standard and custom-built machines, with features to suit all production demands. Each FERMAT machine can be equipped with a large number of accessories enhancing manufacturing and improving production.

**FERMAT's product lines include CNC** horizontal boring mills and milling machines, milling heads, gantries, bridge mills, cylindrical grinders, rotary tables and other machine tools and accessories. As a result of its modular design of manufacturing and expert workforce, FERMAT can configure and build its horizontal boring mills to meet almost any requirement a customer may have.

## **Worldwide Sales and Distribution**

Based in the heart of Europe, Fermat is one of the leading suppliers of machine tools in Central Europe. The company celebrated achievements not only in European markets, but also in Canada, the USA, India, China and South America, exporting to more than 40 countries worldwide. Fermat is constantly growing and increasing its market share and participates in main International Fairs around the world including EMO – the leading International Trade Fair for the machine tool industry and IMTS – the largest machine tool exhibition for the North American market.





- **FERMAT's main manufacturing and assembly facilities** in Prague, Brno, and Lipník nad Bečvou, Czech Republic, occupying a total area equivalent to over 5 football fields, with room to spare. With new facilities being built for FERMAT's Ever expanding line of machine tools, capital expansion is set to continue.
- **FERMAT CZ s.r.o.** design, manufacture and sell horizontal boring mills, both table-type and floor-type, as well as milling machines, milling heads, machine tool accessories and provides exceptional after sale customer support.
- **FERMAT Pressl** concentrates on rebuilding and retrofitting used horizontal boring mills and other machine tools.
- **FERMAT Machine Tool** produces and sells cylindrical grinders and related accessories and also provides exceptional after sale customer support.
- **FERMAT Stroje Lipník** designs, manufactures and assembles horizontal boring mills (focusing mainly on table-type), as well as milling machines and milling heads.
- **LUCAS Precision** is a subsidiary of FERMAT representing the company and selling FERMAT products in the US market, Lucas also manufactures and provides spare parts and service.
- **FERMAT GmbH** is FERMAT's branch in Germany selling and servicing its machines in German-speaking markets.
- **FERMAT J & F Stroje** and **FERMAT Opravy** sell and service FERMAT machines in Slovakia. They also make machine tool components, manufacture automatic pick-up stations, and are involved in the production of FERMAT machines and presses.
- **FERMAT Machinery Pvt. Ltd** is FERMAT's branch in India selling and servicing FERMAT machines in the Indian market.
- **FERMAT Gépek kft.** is FERMAT's branch in Hungary selling and servicing FERMAT machines in the Hungarian market.
- **FERMAT Italia s.r.l.** takes care of direct sales, installation and service to support our customers in Italy.
- **FERMAT CZ s.r.o. Romania** - is a branch in Romania that takes care of Romanian customers.



**470**

Number of employees



**1901**

Oldest member of FERMAT Group (Lucas)



**6**

Branches worldwide



**100+**

Annual production / sold machines



**7**

Plants in the Czech Republic



**1µm**

1 micron is the most accurate production machine in our machine shop



**100**

Tons is the maximum weight of the workpiece our rotary table can handle



**10**

Meters is the maximum height of the workpiece our rotary table can handle

FERMAT



# About Lucas

CANADA

TORONTO

USA

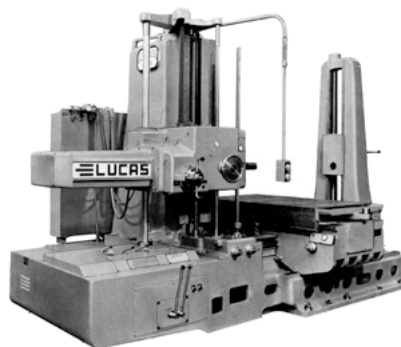
CLEVELAND



**Lucas Precision**, based in Cleveland, Ohio has been known as a world-famous producer of boring, milling and drilling machines for nearly a century. **In 1900** Henry M. Lucas and his partners organized the Lucas Machine Tool Company and they soon began production of boring mills at the original factory on East 99th Street in Cleveland. Their first machine was shipped in 1901 and ran to a production of 351 machines. Mr. Lucas made machine tool history by designing and building the original of the now familiar “**Lucas Type**” **Horizontal Boring machine**. This was the first commercially available machine with a fixed-height worktable and was equipped for simultaneous adjustment of both the counterweighted machine head and the tail block or backrest.

## Lucas Production

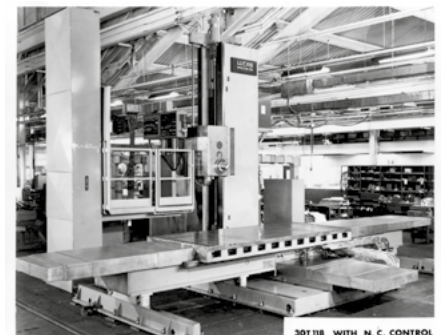
The most successful **models 41B and 42B** equipped with numerical control were produced during the three decades after World War II and made the Lucas Company famous worldwide, achieving a **total production of 2000 sold machines**. Within the environment of difficult economic times and disappearing domestic machine tool builders, the Lucas Machine Division was officially closed in February 1990. During its



**89 proud years of manufacturing**, Lucas Machine produced over 5700 horizontal boring, milling and drilling machines of approximately 40 separate models in addition to various presses, multi-spindle drills, conventional milling machines and other miscellaneous machinery.

## Fermat & Lucas Acquisition

After 1990 Lucas Precision was conceived as a supplier of **repair parts, field service, rebuilding, retrofitting and other general support services** for the large installed base of existing **Lucas machines**. Discussions with the Fermat Group in 2010, and a visit to the Czech Republic by management,



developed a relationship that led to Lucas becoming the **exclusive importing agent in the United States**, and the first boring mill presented by Lucas at the 2010 IMTS. Lucas Precision established a solid sales and service organization of the Fermat products in the United States over the next three years.

**In 2014 the Fermat Group decided to purchase Lucas Precision** as part of their global ambition to build and grow Fermat products worldwide. Fermat permanent presence in the United States is very beneficial for our customers. **Sales, service, and spare parts availability are an integral part of our customer service efforts.**



CLEVELAND

OHIO



Established in  
**1901**



Spare Parts

**Inventory**



Part of Fermat  
Group since

**2014**



Large OD & ID  
Grinding

up to **24"** in diameter



Based in Cleveland

**Ohio**



Thread Milling

up to **3"** in diameter



Fermat trained

**Field  
Service**

USA

WORLD

LUCAS



# WFC 10/11 (L)

**Economical, modern and compact solution. WFC is a continuously controlled machine with cross table and stationary column, ideal for machining pieces of up to 5 tons / 11 023 lbs.**

- Spindle diameter 100 mm / 3.9 in or 110 mm / 4.3 in; spindle travel 730 mm / 28.7 in.
- Machine suitable also for serial production, for shops with limited floor space.
- L Version WFC 10L/11L equipped with linear guideways.
- CNC rotary table with two servomotors
- Rigid, tough, precise, designed to absorb vibrations during machining.



*\*illustrative picture*

PARAMETERS	UNITS	WFC 10/11	WFC 10/11 L
Spindle Diameter	mm   in	100/110   3.9/4.3	
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI)	
Spindle Speed (max.)	rpm	4000 (opt. 5000)	
Main Power Heidenhain or SIEMENS CNC (S1/S6)	kW   hp	19.5/29.3; 30/45.5   26.1/39.3; 40.2/61	
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	951/1426; 1416/2124	
Main Power FANUC CNC (S1/S3)	kW   hp	22/26; 30/37	
Max. Torque FANUC CNC (S1/S3)	Nm	823/971; 1370/1692	
X-axis Cross Travel of Table	mm   in	1250/2000   49.2/78.7	
Y-axis Vertical Travel of Headstock	mm   in	1250/1700/2000   49.2/67/78.7	
Z-axis Longitudinal Travel of Table	mm   in	1250   49.2	1500   59.1
W-axis Spindle Travel	mm   in	730   28.7	
Rapid Feed X, Y, Z	mm/min. in/min.	8000 315	30 000 1181
Rapid Feed W	mm/min. in/min.	8000 315	12 000 472
Rapid Feed B	rpm	2 (opt. 5)	10
Max. Table Load	kg   lbs	5000   11023	
Table Size	mm in	1000 x 1120/1250 x 1400/1250 x 1800/ 1400 x 1600/1400 x 1800 39.4 x 44.1/49.2 x 55.1/49.2 x 70.9/55.1 x 63/55.1 x 70.9	





# REFERENCES



## WFC 10 CNC

### Centrisys Corporation | USA

Parameters: X = 2 000 mm / 79 in, Y = 1 700 mm / 67 in,  
Z = 1 250 mm / 49 in, W = 730 mm / 29 in  
Rotary Table 1 400 x 1 600 mm / 55 x 63 in, ATC 40



## WFC 10 (L) CNC

### RUPET formy a modely s.r.o. | CZECH REPUBLIC

Parameters: X = 2 000 mm / 79 in, Y = 1 700 mm / 67 in,  
Z = 1 250 mm / 49 in, Rotary Table 1 250 x 1 800 mm /  
49 x 71 in, CTS 70 bar, ATC 40



## WFC 10 CNC

### Anjalankosken Metallinen | FINLAND

Parameters: X = 2 000 mm / 79 in, Y = 1 700 mm / 67 in,  
Z = 1 250 mm / 49 in, Rotary Table 1 250 x 1 800 mm /  
49 x 71 in, CTS 70 bar, FERMAT Robotics 105, UHM 20

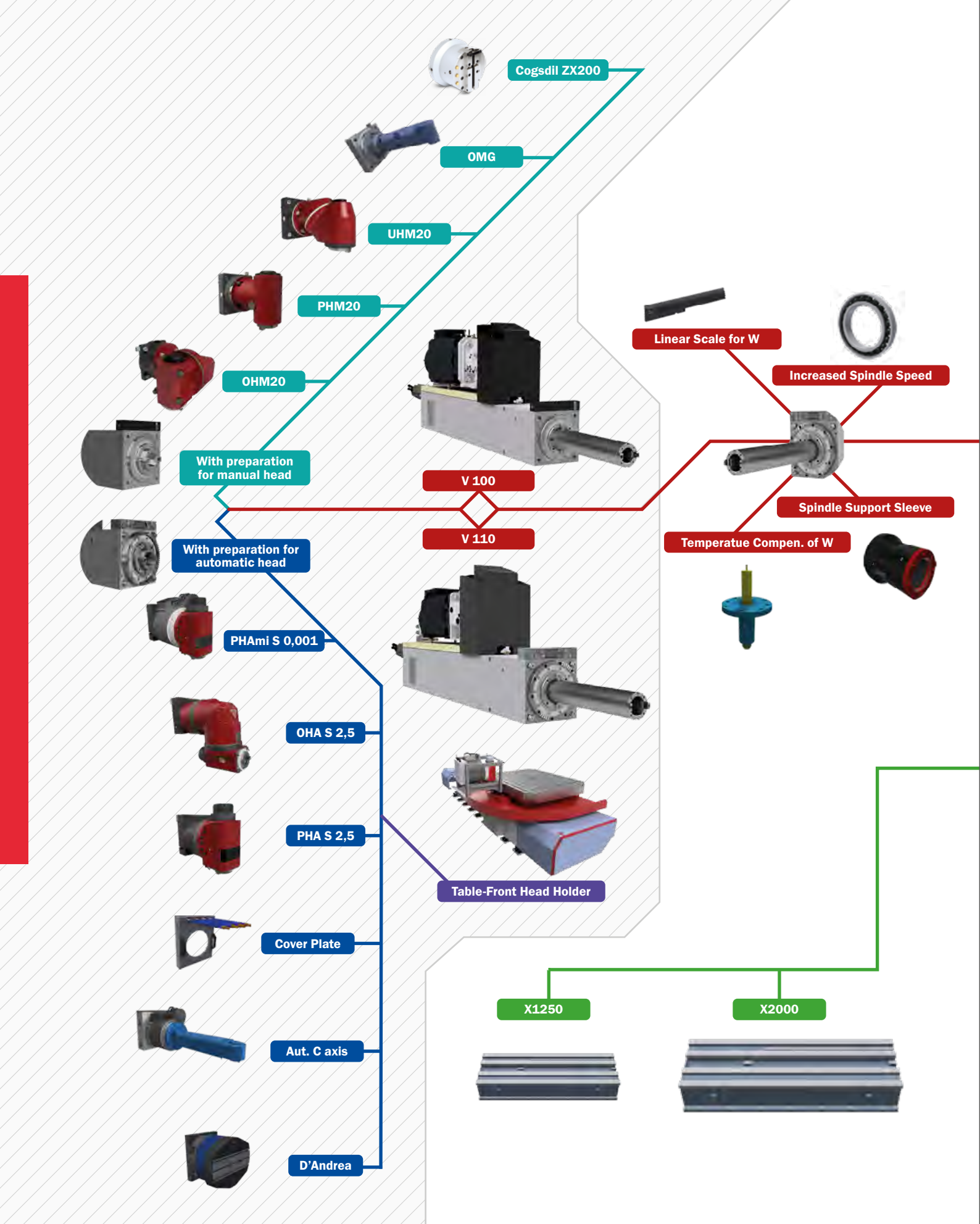


## WFC 11 CNC

### Bastuck Maschinenbau GmbH | GERMANY

Parameters: X = 2 000 mm / 79 in, Y = 1 700 mm / 67 in,  
Z = 1 250 mm / 49 in, W = 730 mm / 29 in,  
Rotary Table 1 400 x 1 600 mm / 55 x 63 in







# WFC 10/11 (L)

## HORIZONTAL BORING MILL

Y1250  
Y1700  
Y2000

VERTICAL HEADSTOCK  
TRAVEL

COOLING  
OF TOOLS

Oil Skimmer

Low Pressure 6 Bar

PRESSURE

CTS 20/70 Bar

FILTRATION

Self-Cleaning F.

Paper Filter

CABIN OPTIONS

Operator Shield

Z1250

ZPS Pallette Changer

Table Cover

1000x1120

1250x1400

1250x1800

1400x1600

1400x1800

Robot 96

ATC 20-60

Clamping Cubes

Clamping Angles



# WFT 10/11 (L)

**Medium size table-type horizontal boring mill, with longitudinal travel of the column and cross-wise travel of the table. Designed for machining of workpieces of up to 10 tons / 22 046 lbs.**

- Spindle diameter 100 mm / 3.9 in or 110 mm / 4.3 in; spindle travel 730 mm / 28.7 in.
- Optional version with longer X axis (3, 4, or 5 meters / 118, 158 or 197 in) for larger workpieces weighing up to 20 ton / 44 093 lbs.
- It is possible to equip with the pallet change system to speed up processing.
- Suitable for machining both longer weldments and complex welded frames.
- L Version WFT 10L / 11L equipped with linear guideways.



*\*illustrative picture*

PARAMETERS	UNITS	WFT 10/11	WFT 10/11 L
Spindle Diameter	mm   in	100/110   3.9/4.3	
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI)	
Spindle Speed (max.)	rpm	4000 (opt. 5000)	
Main Power HEIDENHAIN o SIEMENS (S1/S6-40%)	kW   hp	19.5/29.3; 31/46.5   26.1/39.3; 41.6/62.4	
Max. Torque Heidenhain o SIEMENS (S1/S6-40%)	Nm	951/1426; 1416/2124	
Main Power CNC FANUC (S1/S3-60%)	kW   hp	22/26; 30/37   29.5/34.9; 40.2/49.6	
Max. Torque FANUC (S1/S3-60%)	Nm	823/971; 1370/1692	
X-axis Cross Travel of Table	mm in	2000/3000 for T10 (opt. 2000/3000/4000/5000 for T20) 78.7/118.1 for T10 (opt. 78.7/118.1/1575/196.9 for T20)	
Y-axis Vertical Travel of Headstock	mm   in	1250/1700/2000   49.2/67/78.7	
Z-axis Longitudinal Travel of Column	mm   in	1250/1700   49.2/67	1500   59.1
W-axis Spindle Travel	mm   in	730   28.7	
Rapid Feed X, Y, Z	mm/min.	8000	12 000
	in/min.	315	472.4
Rapid Feed W	mm/min.	8000	12 000
	in/min.	315	472.4
Rapid Feed B	rpm	2 (5 optional)	
Max. Table Load	kg   lbs	10 000 (optional 20 000)   22046 (optional 44093)	
Table Size	mm	1200x1200 / 1200x1400 / 1400x1600 / 1600x1600 / 1400x1800 / 1600x1800 (opt. 1600 x 1800 / 1800 x 2200 / 1800 x 2600 / 2000 x 2400 / 2500 x 2500 / 2000 x 3000)	
		47.2 x 47.2 / 47.2 x 55.1 / 55.1 x 62.9 / 55.1 x 70.8 / 62.9 x 62.9	
	in	62.9 x 70.8 (opt. 62.9 x 70.9 / 70.9 x 86.6 / 70.9 x 102.4 78.7 x 94.5 / 78.7 x 118.1 / 98.4 x 98.4)	





# REFERENCES



## WFT 11 CNC

### CBM Precision Parts Manufacturer | USA

Parameters: X = 2 000 mm / 79 in, Y = 2 000 mm / 79 in,  
Z = 1 700 mm / 67 in, W = 730 mm / 29 in  
Rotary Table 1 600 x 1 800 mm / 63 x 71 in, ATC 40



## WFT 11 CNC

### Eggersmann GmbH | GERMANY

Parameters: X = 2 000 mm / 79 in, Y = 2 000 mm / 79 in,  
Z = 1 250 mm / 49 in, W = 730 mm / 29 in, Rotary Table  
1 200 x 1 400 mm / 47 x 55 in, CTS 40 bar, ATC 40



## WFT 11 CNC

### TIE Services International | ROMANIA

Parameters: X = 3 000 mm / 118 in, Y = 2 000 mm / 79 in,  
Z = 1 250 mm / 49 in, W = 730 mm / 29 in,  
1 400 x 1 600 mm / 55 x 63 in



## WFT 11 CNC

### MG Calandre | ITALY

Parameters: X = 3 000 mm / 118 in, Y = 2 000 mm / 79 in,  
Z = 1 250 mm / 49 in, W = 730 mm / 29 in, Rotary  
Table 1 600 x 1 800 mm / 63 x 71 in, UHM 20, ATC 40,  
CTS 70 bar

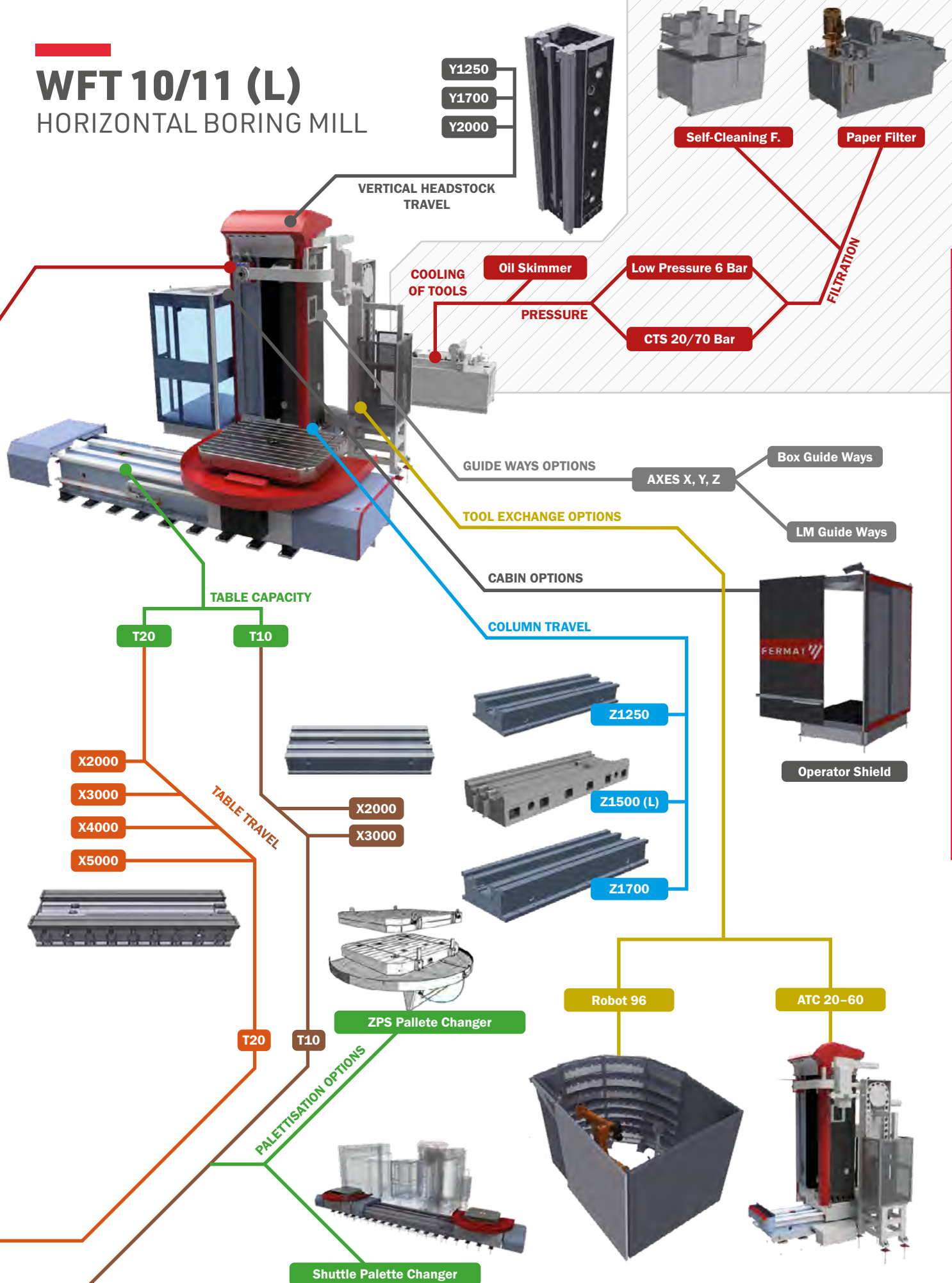






# WFT 10/11 (L)

## HORIZONTAL BORING MILL



# WFT 13/15 (R, L)

**Most popular FERMAT table-type horizontal boring mill, for high-performance machining with maximum utilization of accessories and automatic milling heads for efficient machining of workpieces of up to 20 tons / 44092.5 lbs.**

- Spindle diameter 130 mm / 5.1 in or 150 mm / 5.9 in; spindle travel 800 mm / 31.5 in.
- Powerful and precise milling, coordinate drilling, boring, and threading.
- Extremely versatile series of table-type horizontal boring mills, fully compatible with a wide range of accessories and automatic milling heads.
- R - Version WFT 13R / 15R equipped with ram stroke 700 mm / 27.6 in.
- L - Version WFT 13L / 15L equipped with linear guideways



*\*illustrative picture*

PARAMETERS	UNITS	WFT 13/15 (R, L)	
Spindle Diameter	mm   in	<b>130   5.1</b>	<b>150   5.9</b>
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100	
Spindle Speed (max.)	rpm	3400 (opt. 4000)	3000 (opt. 3500)
Main Power Heidenhain or SIEMENS CNC (S1/S6-40%)	kW   hp	41/61.5; 53/77.9   55/82.5; 71.1/104.5	
Max. Torque Heidenhain or SIEMENS CNC (S1/S6-40%)	Nm	2099/3149; 2713/3989	
Main Power FANUC CNC (S1/S3)	kW   hp	37/45; 53/62   49.6/60.3; 71.1/83.1	
Max. Torque FANUC CNC (S1/S3)	Nm	2210/2687; 2713/3989	
X-axis Cross Travel of Table	mm in	2000 / 3000 / 4000 / 5000 (opt. 6100 / 6500) 78.7 / 118.1 / 157.5 / 196.9 (opt. 240.2 / 256)	
Y-axis Vertical Travel of Headstock	mm   in	2000 / 2500 / 3000 / 3500   78.7 / 98.4 / 118 / 137.8	
Z-axis Longitudinal Travel of Column	mm   in	1500 / 2000 / 2500 / 3000   59.1 / 78.7 / 98.4 / 118	
W-axis Spindle Travel	mm   in	800   31.5	
Ram Stroke in V-axis (opt. for WFT 13R/15R)	mm   in	700   27.6	
Rapid Feed X, Y	mm/min.	12 000, 12 000 (Box GW); 20 000, 15 000 (Lin. GW Standard); 20 000, 25 000 (Lin. GW Exclusive)	
	in/min.	472.4, 472.4 (box GW); 787.4, 590.6 (Lin. GW Standard); 787.4, 984.3 (Lin. GW Exclusive)	
Rapid Feed Z, W	mm/min.	8500, 10 000 (Box GW); 20 000, 10 000 (Lin. GW Standard); 25 000, 10 000 (Lin. GW Exclusive)	
	in/min.	334.6, 393.7 (Lin. GW Exclusive); 787.4, 393.7 (Lin. GW Standard); 984.3, 393.7 (Lin. GW Exclusive)	
Rapid Feed V	mm/min. in/min.	10 000   393,7	
Rapid Feed B	rpm	2 (opt. 5)	
Max. Table Load	kg   lbs	20 000 (opt. 10 / 25 / 50)   44 093 (opt. 22 046 / 55 116 / 110 231)	
Table Size T20 (standard)	mm	1600 × 1800 / 1800 × 2200 / 1800 × 2600 / 2000 × 2400 / 2500 × 2500 / 2000 × 3000	
	in	63 x 70.9 / 70.9 x 86.6 / 70.9 x 102.4 / 78.7 x 94.5 / 98.4 x 98.4 / 78.7 x 118.1	
Table Size T25-50	mm	2000 × 2000 / 2000 × 2500 / 2500 × 2500 / 2000 x 3000 / 2500 × 3000	
	in	78.7 x 78.7 / 78.7 x 98.4 / 78.7 x 118.1 / 98.4 x 98.4 / 98.4 x 118.1 / 98.4 x 137.8	
Table Size T10	mm	1200 x 1200 / 1200 x 1400 / 1400 x 1600 / 1600 x 1600 / 1400 x 1800 / 1600 x 1800	
	in	47.2 x 47.2 / 47.2 x 55.1 / 55.1 x 63 / 63 x 63 / 55.1 x 70.9 / 63 x 70.9	







### EASILY REPLACEABLE SPINDLE NOSE & SPINDLE SUPPORT SLEEVE

**Spindle Nose** is part of spindle that is often stressed, especially during tool exchange (clamping and unclamping). It is possible to exchange the nose to improve geometric accuracy of machining.

**Spindle Support Sleeve** for stabilization of cutting process in case of using W axes travel out.



### RAM EXTENSION (OPTIONAL)

**Ram stroke** offers better access to workpieces while keeping rigidity and accuracy. Controlled by servomotor with gear-box and ball-screw, on box guide ways.

Combined reach of spindle travel and ram stroke maximum 1500 mm / 59 in

All deflections compensated through different mechanical features of ram and headstock.



# REFERENCES



## WFT 13 CNC

### CBM Precision Parts Manufacturer | USA

Parameters: X = 4 000 mm / 158 in, Y = 3 000 mm / 118 in, Z = 1 500 mm / 59 in, W = 730 mm / 29 in, Rotary Table 2 000 x 2 400 mm / 79 x 95 in, ATC 40, FERMAT PHM 37 Manual Head



## WFT 13R CNC

### Neubacher Metalltechnik GmbH | AUSTRIA

Parameters: X = 5 000 mm / 197 in, Y = 2 500 mm / 98 in, Z = 3 000 mm / 118 in, W = 730 mm / 29 in, V=700 mm / 28 in, Rotary Table 2 000 x 3 000 mm / 79 x 118 in



## WFT 13 CNC

### SH Group A/S | DENMARK

Parameters: X = 5 000 mm / 197 in, Y = 2 500 mm / 98 in, Z = 1500 mm / 59 in, W=730 mm / 29 in, V = 700 mm / 28 in, Rotary Table 1 800 x 2 600 mm / 71 x 103 in



## WFT 13 CNC

### Bücker + Essing | GERMANY

Parameters: X = 3 000 mm / 118 in, Y = 2 500 mm / 98 in, Z = 1 500 mm / 59 in, W = 730 mm / 29 in, Rotary Table 1 800 x 2 200 mm / 71 x 87 in





# REFERENCES



## WFT 13 CNC

### Bonatrans | CZECH REPUBLIC

Parameters: X = 5 000 mm / 197 in, Y = 2 500 mm / 98 in, Z = 2 000 mm / 79 in, Rotary Table 2 000 x 3 000 mm / 79 x 118 in, CTS 20 bar, ATC 32H



## WFT 13 CNC

### Steelwind Industries | USA

Parameters: X = 4 000 mm / 158 in, Y = 2 500 mm / 98 in, Z = 1 500 mm / 59 in, W = 800 mm / 32 in, Rotary Table 2 000 x 3 000 mm / 79 x 118 in, ATC 40, Moveable Cabin H+V



## WFT 15 R CNC

### Hydrema A/S | GERMANY

Parameters: X = 3 000 mm / 118 in, Y = 2 000 mm / 79 in, Z = 2 400 mm / 95 in, W = 730 mm / 29 in, Rotary Table 1 800 x 2 200 mm / 71 x 87 in, Cross-wise Pallette Changer, CTS 20 bar, ATC 60



## WFT 13 CNC

### KBS s.r.o. | SLOVAKIA

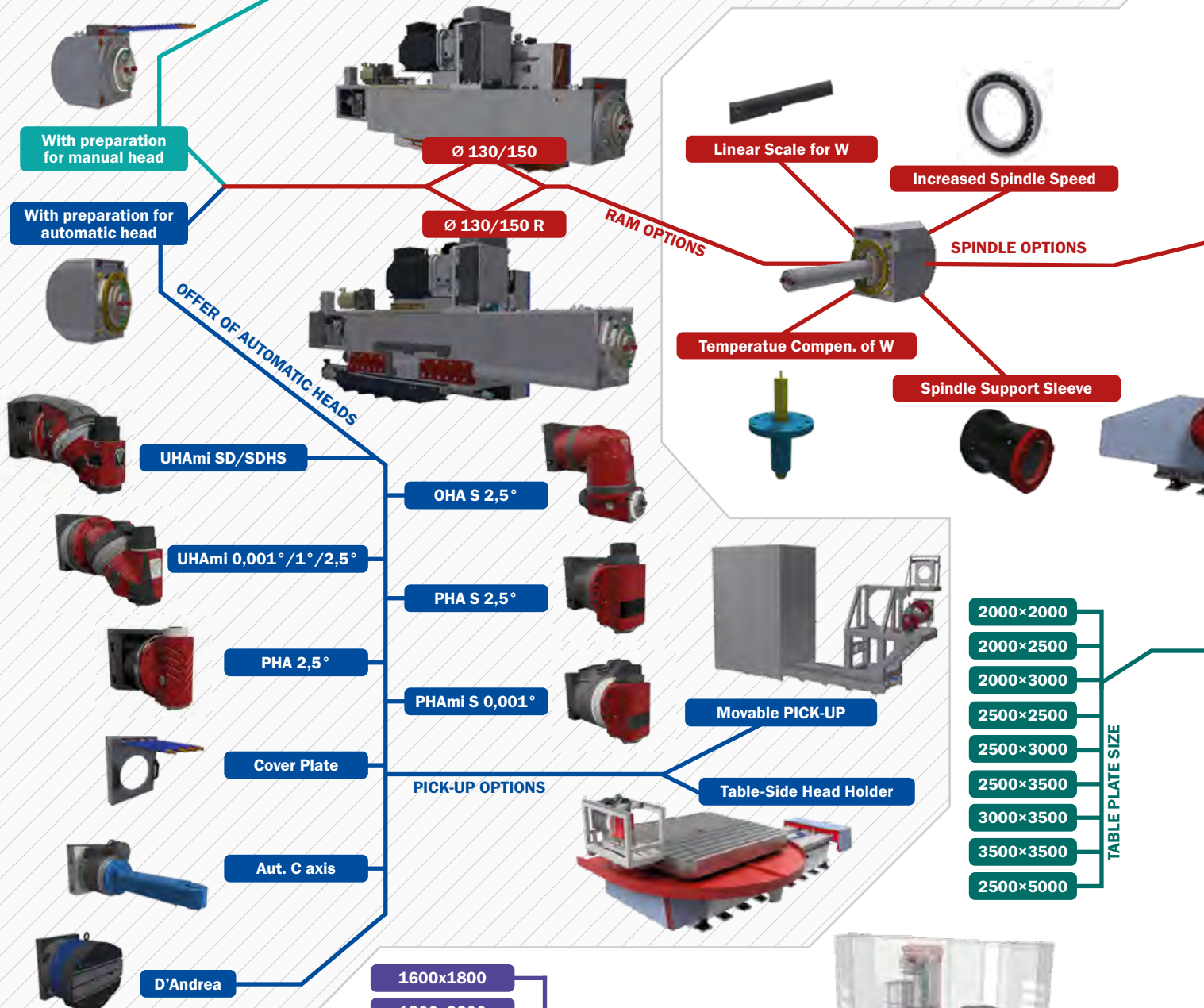
Parameters: X = 5 000 mm / 197 in, Y = 2 500 mm / 98 in, Z = 2 000 mm / 79 in, Rotary Table 2 000 x 3 000 mm / 79 x 118 in, CTS 20 bar, ATC 32H







### OFFER OF MANUAL HEADS



Clamping Cubes



Clamping Angles

### CLAMPING FIXTURES

- 1600x1800
- 1800x2200
- 1800x2600
- 2000x2400
- 2000x3000
- 2500x2500

TABLE PLATE SIZE

- 1200x1200
- 1200x1400
- 1400x1600
- 1400x1800
- 1600x1600
- 1600x1800

TABLE PLATE SIZE

### Cross-Wise Pallette Changer

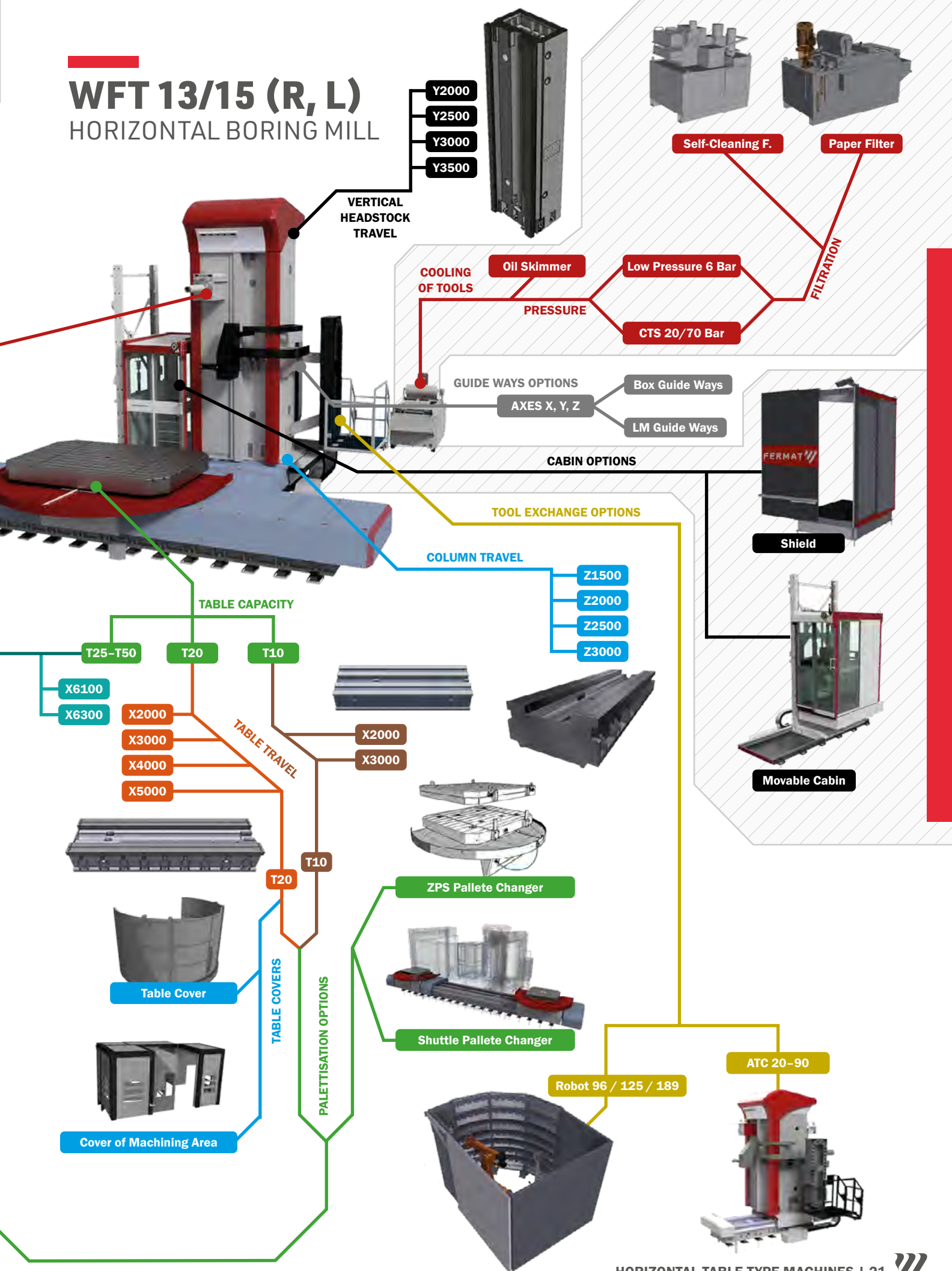
T20

T10



# WFT 13/15 (R, L)

## HORIZONTAL BORING MILL



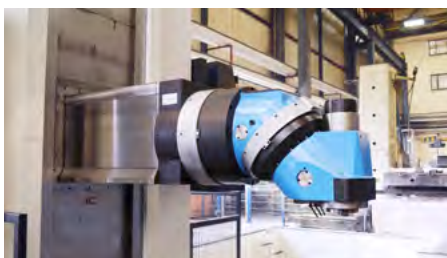
# WF 13R / 15R

**FERMAT's floor-type horizontal boring mill for powerful, precise and high-performance coordinate drilling, boring, and threading large and heavy workpieces.**

- Spindle diameter 130 mm / 5.1 in or 150 mm / 5.9 in; spindle travel 800 mm / 31.5 in.
- The headstock moves up to 700 mm / 27.6 in towards the workpiece.
- Equipped with floor plates and/or rotary tables.
- Fully compatible with a wide range of accessories and automatic milling heads.
- Rigid, tough, precise, designed to absorb vibrations during machining.

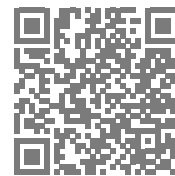


PARAMETERS	UNITS	WF 13/15 R (L)		*illustrative picture
Spindle Diameter	mm   in	130   5.1	150   5,9	
SpindleTaper		SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100		
Spindle Speed (max.)	rpm	3400 (opt. 4000)	3000 (opt. 3500)	
Main Power Heidenhain or SIEMENS CNC (S1/S6)	kW   hp	41/61.5; 53/77.9   55/82.5; 71.1/104.5		
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	2099/3149; 2713/3989		
Main Power FANUC CNC (S1/S3)	kW   hp	37/45; 53/62   49.6/60.3; 71.1/83.1		
Max. Torque FANUC CNC (S1/S3)	Nm	2210/2687; 2713/3989		
X-axis Cross-Travel of Column	mm   in	4000 - 22 000   157.5 - 866.1		
Y-axis Vertical Travel of Headstock	mm   in	2000/2500/3000/3500   78.7 / 98.4 / 118 / 137.8		
Z-axis Longitudinal Travel of Ram	mm   in	700   27.6		
W-axis Spindle Travel	mm   in	800   31.5		
Rapid Feed X, Y	mm/min. in/min.	20 000, 12 000 787.4, 472.4		
Rapid Feed Z, W	mm/min. in/min.	12 000, 10 000 472.4, 393.7		
Rapid Feed V	mm/min. in/min.	10 000 393,7		
ROTARY TABLE - OPTIONAL ACCESSORY				
Max. Table Load	kg lbs	T10-10 000 / T20 - 20 000 / T25 - 25 000 / T50 - 50 000 T10 - 22 046 / T20 - 44 092 / T25 - 55 116 / T50 - 110 231		





# 15 REFERENCES



## WF 13 CNC

### DMT Marine | ROMANIA

Parameters: X = 10 000 mm / 394 in, Y = 3 000 mm / 118 in, Z = 7 000 mm / 276 in, W = 730 mm,  
Table 2 500 x 3 000 mm / 98 x 118 in



FERMAT MACHINES  
3x

## WF 13R CNC

### Bender & Hesse Fräs- und Bohrwerktechnik GmbH | GERMANY

Parameters: X = 9 000 mm / 354 in, Y = 3 000 mm / 118 in,  
Z = 600 mm / 24 in, Rotary Table 1 800 x 2 200 mm  
/ 71 x 87 in, PHM 37 1°, ATC 40



## WF 13 CNC

### SSI Schäfer | CZECH REPUBLIC

Parameters: X = 10 000 mm / 394 in, Y = 2 500 mm / 98 in, Z = 2 000 mm / 79 in, W=730 mm / 29 in, Rotary  
Table 1 800 x 2 600 mm / 71 x 102 in



FERMAT MACHINES  
2x

## WF 13R CNC

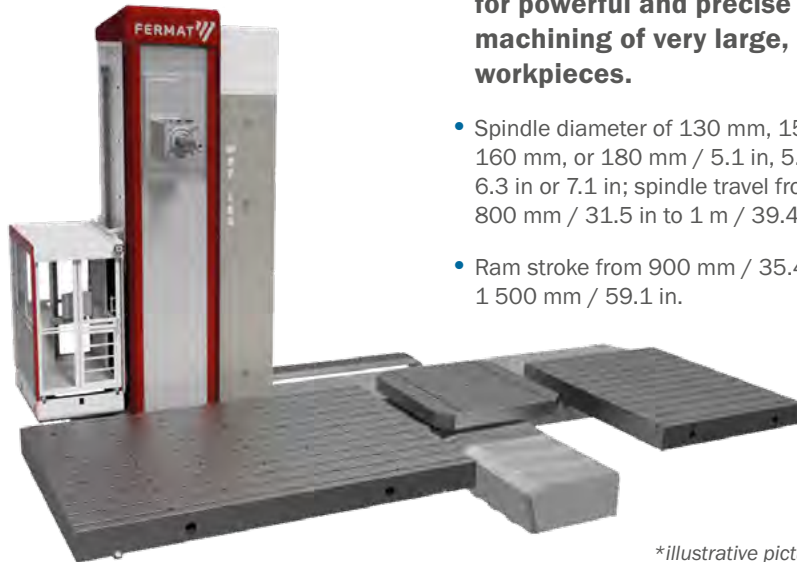
### T. Bruce Sales Inc. | USA

Parameters: X = 8 300 mm / 327 in, Y = 3 500 mm / 138 in, Z = 700 mm / 28 in, W = 730 mm / 29 in, Rotary Table  
2 000 x 2 400 mm / 79 x 95 in, Moveable Cabin, FERMAT  
UHM 30 Head



# WRF 130/150/160/180

**WRF is FERMAT's large, robust series of floor-type horizontal boring mills, excellent for powerful and precise machining of very large, heavy workpieces.**



*\*illustrative picture*

- Spindle diameter of 130 mm, 150 mm, 160 mm, or 180 mm / 5.1 in, 5.9 in, 6.3 in or 7.1 in; spindle travel from 800 mm / 31.5 in to 1 m / 39.4 in.
- Ram stroke from 900 mm / 35.4 in to 1 500 mm / 59.1 in.
- Optional tilting headstock.
- Equipped with operator's cabin with both horizontal and vertical travel.
- Equipped with floor plates and/or rotary tables that can hold up to 100 T / 220 462 lbs.
- The headstock is made from cast iron GGG60 and is equipped with a digitally-controlled servomotor turning the spindle, continuously regulating its rpm.
- Column is a massively constructed weldment. Maximum stiffness is achieved through annealing which leads to rigidity and firmness in metal-working procedures.
- Ram stroke is controlled by servomotor with gear-box and ball-screw, on linear motion (LM) guideways.

PARAMETERS	UNITS	WRF 130	WRF 150	WRF 160/180
Spindle Diameter	mm   in	130   5.1	150   5.9	160/180   6.3/7.1
Spindle Taper	SK 50 (DIN, MAS 45°, ANSI) / BIG+/ HSK100			
Spindle Speed (max.)	rpm	3400 (opt. 4000)	2800 (opt.3500)	2500 (opt. 3200) / 2500
Max. Power Heidenhain or SIEMENS CNC (S1/S6)	kW hp	41/61.5; 53/77.9 55/82.5; 71.1/104.5	58/86; 74/109 77.8/115.3; 99.2/146.2	
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	2099/3149; 2713/3989	3281/4988; 3349/4923	
Main Power FANUC CNC (S1/S3)	kW hp	37/45; 53/77.9 49.6/60.3; 71.1/104.5	60/75 80.5/100.6	
Main Torque FANUC CNC (S1/S3)	Nm	2362/2873; 2713/3989	2829/3536	
X-axis Cross-Travel of Column	mm   in	4000 - 27 500   157.5 - 1 082.7		
Y-axis Vertical Travel of Headstock	mm in	2500 / 3000 / 3500 / 4000 / 4500 / 5000 / 5500 / 6000 98.4 / 118 / 137.8 / 157.5 / 177.2 / 196.9 / 216.5 / 236.2		
Z-axis Longitudinal Travel of Ram	mm in	1000 (opt. 1200) 39.4 (opt. 47.2)	1200 (opt. 1500) 47.2 (opt. 59.1)	
W-axis Spindle Travel	mm   in	800   31,5	1000   39,4	
Rapid Feed X, Y	mm/min. mm/min.	20 000, 15 000 787.4, 590.6		
Rapid Feed Z, W	mm/min. mm/min.	10 000 393.7	10 000 393.7	

## ROTARY TABLE - OPTIONAL ACCESSORY

Max. Table Load	kg	T20 - 20 000 / T25 - 25 000 / T50 - 50 000 / T60 - 60 000 / T80 - 80 000 / T100 - 100 000		
	lbs	T20 - 44 092 / T25 - 55 116 / T50 - 110 231 / T60 - 132 277 / T80 - 176 370 / T100 - 220 462		





# 30/150

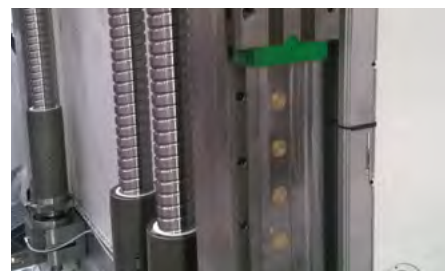
## REFERENCES



### WRF 180 CNC

#### Midwest Press & Automation | USA

Parameters: X = 10 500 mm / 413 in, Y = 4 500 mm / 77 in, Z = 1 200 mm / 47 in, W = 1 000 mm / 39 in, Rotary Table 3 000 x 3 500 mm / 118 x 138 in, V = 2 400 mm / 94 in, ATC 60, Fermat UHA 0.001 Head



### WRF 130 CNC

#### Maag Pump Systems AG | SWITZERLAND

Parameters: X = 9 800 mm / 386 in, Y = 3 000 mm / 118 in, Z = 1 000 mm / 39 in, W = 800 / 32 in, Rotary Table 2 000 x 2 500 mm / 79 x 98 in, V=2 400 mm / 95 in





# WRF HEAVY

**WRF Heavy is FERMAT's titan, monster-size floor-type horizontal boring mill. It's sturdy headstock is built between two columns for maximum stability.**

- Spindle diameter 150mm, 160 mm / 5.9 in, 6.3 in, spindle extension of 1 meter / 39.4 in.
- Ram stroke of 1.6 meters / 63 in.
- 4 servomotors and 4 racks and pinions are used for swift and smooth precise movement along Y axis.
- Equipped with floor plates and/or rotary tables that can hold up to 100 T / 220 462 lbs.
- Ideal for oversized workpieces.
- Headstock "ram" is designed with the latest world trends in machine tool design and is prepared to accept manual and automatic attachment heads, face plates, etc.
- Rigid, tough, precise, designed to absorb vibrations during machining.
- Thanks to simple design and excellent components, FERMAT CNC rotary tables require minimum maintenance and adjustments during their lifetime.

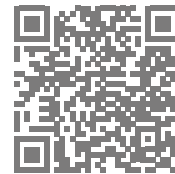


*\*illustrative picture*

PARAMETERS	UNITS	WRF HEAVY
Spindle Diameter	mm   in	150 / 160   5.9 / 6.3
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI) / BIG+ / HSK100
Spindle Speed (max.)	rpm	2800 (opt. 3500) / 2500 (opt. 3200)
Max. Power Heidenhain or SIEMENS CNC (S1/S6)	kW   hp	74/91   99.2/122
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	3349/4120
X-axis Cross-Travel of Column	mm   in	4000 - 28 100   157.5 - 1 106.3
Y-axis Vertical Travel of Headstock	mm   in	4000 - 10 000   157.5 - 393.7
Z-axis Longitudinal Travel of Ram	mm   in	1600   63
W-axis Spindle Travel	mm   in	1000   39.4
Rapid Feed X, Y	mm/min. in/min.	20 000, 15 000 787.4, 590.6
Rapid Feed Z, W	mm/min. in/min.	15 000, 10 000 590.6, 393.7
<b>ROTARY TABLE - OPTIONAL ACCESSORY</b>		
Max. Table Load	kg	T20 - 20 000 / T25 - 25 000 / T50 - 50 000 / T60 - 60 000 / T80 - 80 000 / T100 - 100 000
	lbs	T20 - 44 092 / T25 - 55 116 / T50 - 110 231 / T60 - 132 277 / T80 - 176 370 / T100 - 220 462



# REFERENCES



## 2x WRF 160 HEAVY CNC

### Nordmark, Maskinfabrik A/S | DENMARK

Parameters: X = 17 000 mm / 669 in, Y = 8 000 mm / 315 in, Z = 1 500 mm / 59 in, W = 1 000 mm / 39 in, Rotary Table 3 000 x 4 000 / 118 x 158 in & 3 000 x 3 000 mm / 118 x 118 in tilting, CTS 50 bar, ATC 105, Robotic, Milling Heads PHAmi 60, PHA 37, Automatic Pick-Up Station



## WRF 160 HEAVY CNC

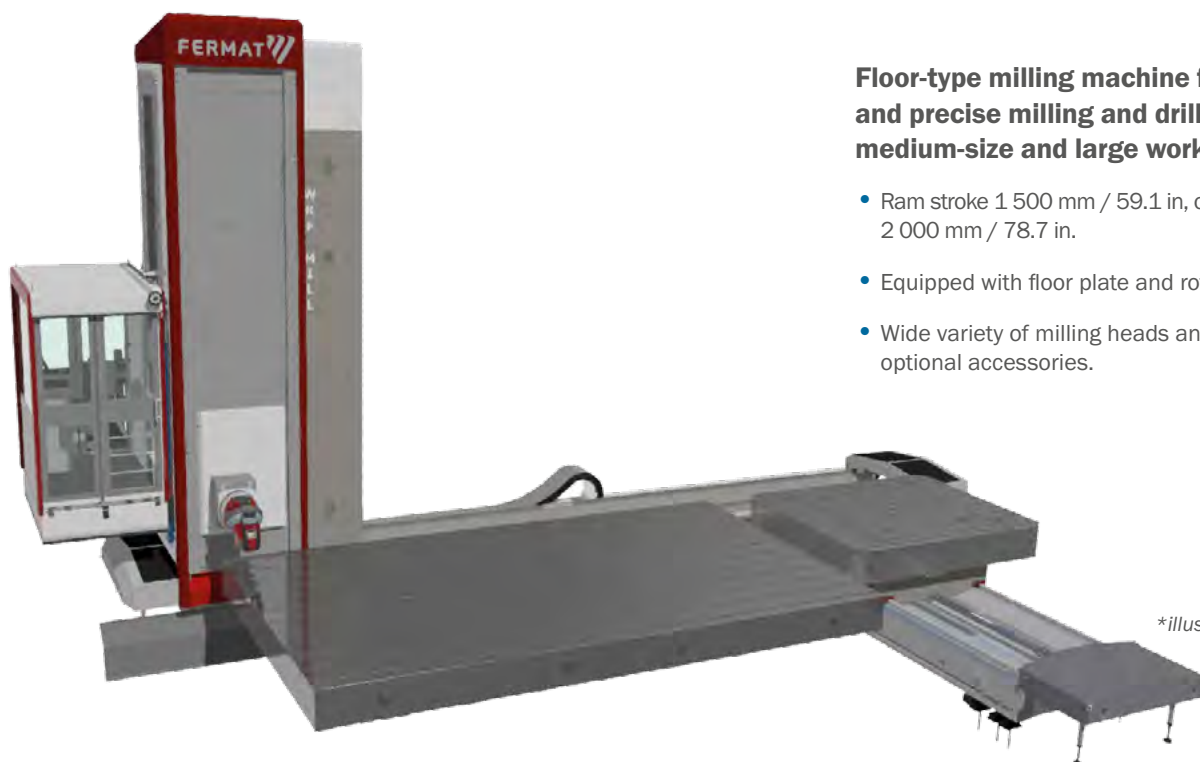
### D & S Machine Service Inc. | USA

Parameters: X = 27 000 mm / 1 063 in, Y = 5 000 mm / 197 in, Z = 1 500 mm / 59 in, W = 1 000 mm / 39 in, Rotary Table 3 500 x 3 500 mm / 138 x 138 in, CTS 20 bar, ATC 60, UHAmi 30, PHA 37





# WRF MILL



**Floor-type milling machine for fast and precise milling and drilling of medium-size and large workpieces.**

- Ram stroke 1 500 mm / 59.1 in, optionally 2 000 mm / 78.7 in.
- Equipped with floor plate and rotary table.
- Wide variety of milling heads and other optional accessories.

*\*illustrative picture*

PARAMETERS	UNITS	WRF MILL
Spindle taper		SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100
Spindle Speed (max.)	rpm	5000
Max. Power Heidenhain or SIEMENS CNC (S1/S6)	kW   hp	43/60; 53/77,9   57.7/80.5; 71.1/104.5
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	917/1274; 1591/2338
X-axis Travel of Column	mm   in	4000 - 28 100   157.5 - 1 106.3
Y-axis Travel of Headstock	mm   in	2500 - 6000   98.4 - 236.2
Z-axis Travel of Ram	mm   in	1550/optionally 2000   61 (opt. 78.7)
Rapid Feed X/Y/Z	mm/min. in/min.	20 000/15 000/20 000   787.4/590.6/787.4
<b>ROTARY TABLE - OPTIONAL ACCESSORY</b>		
Max. Table Load	kg	T20 - 20 000 / T25 - 25 000 / T50 - 50 000 / T60 - 60 000 / T80 - 80 000 / T100 - 100 000
	lbs	T20 - 44 092 / T25 - 55 116 / T50 - 110 231 / T60 - 132 277 / T80 - 176 370 / T100 - 220 462





# REFERENCES



## WRF Mill CNC

### Schäfer – Menk | CZECH REPUBLIC

Parameters: X = 8 600 mm / 339 in, Y = 3 500 mm / 138 in, Z = 1 550 mm / 61 in, V = 2 400 mm / 95 in, Rotary Table 2 500 x 3 000 mm / 98 x 118 in



## WRF Mill CNC

### Verarbeiten Pausits Kft. | HUNGARY

Parameters: X = 24 000 mm / 945 in, Y = 5 000 mm / 197 in, Z = 1 550 mm / 61 in, V = 2 400 mm / 95 in, Rotary Table 3 000 x 3 500 mm / 118 x 138 in



UHAmi SDHS



STRAIGHT HEAD



PHAmi S



OMG



D'ANDREA



ROTARY TABLE



# GANTRY HEAVY

## BORING HEADSTOCK



**Gantry Heavy is a machine designed for machining workpieces in one setup.**

- Ram stroke 1 600 mm / 63 in.
- The unique spindle verified by its use on floor-type horizontal mills features a 1 000 mm / 39.4 in extension in the W-axis.
- Machine equipped with floor plates.
- Great variety of optional accessories and milling heads.



*\*illustrative picture*

PARAMETERS	UNITS	GANTRY HEAVY
Spindle Diameter	mm   in	160   6.3
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100
Spindle Speed (max.)	rpm	2500
Max. Power Heidenhain or SIEMENS CNC (S1/S6)	kW   hp	74/91   99.2/122
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	3 349/4 120
X-Axis Travel of Columns	mm   in	10 000 - 50 000   393.7 - 1 968.5
Y-Axis Travel of Headstock	mm   in	6 100   240.1
W-Axis Spindle Travel	mm   in	1000   39.4
Z-Axis Travel of Ram	mm   in	1500   59
Floor Plate width	mm   in	4 000   157.4
Rapid Feed X, Y, Z	mm/min. in/min.	20 000 / 20 000 / 10 000 787.4/787.4/393.7





# GANTRY HEAVY-DUTY

## BORING HEADSTOCK



**Gantry Heavy Duty is a machine designed for heavy and complex machining of extra large workpieces from 5 sides in one setup.**

- The machine construction utilizes an “O” shape for the crossbeam and columns, which is characterized by high rigidity and precision.
- The unique spindle verified by its use on floor-type horizontal mills features a 1 000 mm / 39.4 in extension in the W-axis.
- Ram stroke up to 2 000 mm / 78.7 in.



PARAMETERS	UNITS	GANTRY HD	<i>*illustrative picture</i>
Spindle Diameter	mm   in	160   6.3	
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100	
Spindle Speed (max.)	rpm	2500	
Max. Power Heidenhain or SIEMENS CNC (S1/S6)	kW   hp	74/91   99.2/122	
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	3 349/4 120	
X-Axis Travel of Columns	mm   in	10 000 - 50 000   393.7 - 1 968.5	
Y-Axis Travel of Headstock	mm   in	5800/6800/7800   228.3/267.7/307.11	
Z-Axis Travel of Ram	mm   in	1500/2000   59/78.7	
W-Axis Spindle Travel	mm   in	1000   39.4	
Floor Plate Width	mm   in	3 000/4 000/5 000   118.1 /157.4/196.9	
Rapid Feed X, Y	mm/min. in/min.	20 000, 20 000 787.4, 787.4	
Rapid Feed Z	mm/min. in/min.	10 000 393,7	





# FP

## MILLING HEADSTOCK

**A bridge-type machine with movable table, adjustable according to the dimensions of the workpiece.**

- Machine with a milling headstock.
- Ram travel up to 1550 mm / 61 in.
- Equipped with movable table.
- Great variety of optional accessories and milling heads.
- Compatible with: UHAmi SDHS, PHAmi S, Fermat Straight Head, D'Andrea, OMG.



*\*illustrative picture*

PARAMETERS	UNITS	FP
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100
Spindle Speed (max.)	rpm	5 000/6 000
Max. Power Heidenhain or SIEMENS CNC (S1/S6)	kW   hp	43/60; 53/77.9
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	917/1274; 1591/2338
X-Axis Travel of Table	mm   in	4500/5500/6500/8500   177.2/216.5/256/334.6
Y-Axis Horizontal Travel of Headstock	mm   in	3 600/4 100/4 600   141.7/161.4/181.1
Z-Axis Vertical Travel of Ram	mm   in	1550   61
Table Plate Dimensions	mm in	4 000/5 000/6 000/8 000 x 2 000/2 500/3 000 157.5/196.9/236.2/315 x 78.7/98.4/118.1
Table Load Capacity	kg   lbs	25 000   55 116
Rapid Feed X, Y	mm/min. in/min	25 000, 15 000   984.3, 590.6
Rapid Feed Z	mm/min. in/min	20 000 787.4





**A gantry-type machine with movable portal, adjustable according to the dimensions of the workpiece.**

- Machine with a milling headstock.
- Ram travel up to 1550 mm / 61 in.
- Equipped with a fixed table.
- Great variety of optional accessories and milling heads.
- Compatible with: UHAmi SDHS, PHAmi Fermat Straight Head, D'Andrea, OMG.

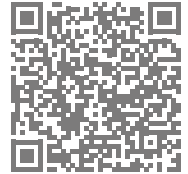


*\*illustrative picture*

PARAMETERS	UNITS	FG
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100
Spindle Speed (max.)	rpm	5 000/6 000
Max. Power Heidenhain or SIEMENS CNC (S1/S6)	kW   hp	43/60; 53/77.9   57.7/80.5; 71.1/104.5
Max. Torque Heidenhain or SIEMENS CNC (S1/S6)	Nm	917/1274; 1591/2338
X-Axis Travel of the Portal	mm   in	7 000/9 000/11 000/13 000   275.6/354.3/433.1/511.8
Y-Axis Horizontal Travel of Headstock	mm   in	3 600/4 100/4 600   141.7/161.4/181.1
Z-Axis Vertical Travel of Ram	mm   in	1 550   61
Fixed Table Plate Width	mm   in	2 000/2 500/3 000   78.7 / 98.4 / 118.1
Fixed Table Plate Length	mm in	6 000/8 000/10 000/12 000 236.2/315/393.7/472.4
Rapid Feed X, Y	mm/min. in/min	15 000 590.6
Rapid Feed Z	mm/min. in/min	20 000 787.4



# ROTARY TABLE ACCESSORIES

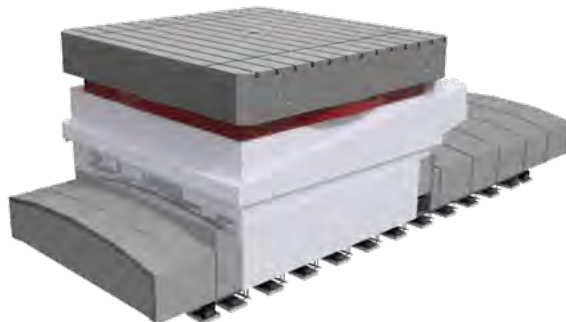


All our tables have outstanding positioning precision (4 arc sec. 0.010 mm / 1000 mm; 0.0004 in / 39.4 in radius). There is no slip-stick during the positioning of the table. Due to simple design and assembled components, FERMAT tables require minimum maintenance and adjustments during their lifetime.



	T10	T20	T25/50
Clamping Plate Size (mm   in)	1200 x 1200, 1200 x 1400, 1400 x 1600, 1400 x 1800, 1600 x 1600, 1600 x 1800 47.2 x 47.2, 47.2 x 55.1, 55.1 x 63, 55.1 x 70.9, 63 x 63, 63 x 70.9	1600 x 1800, 1800 x 2200, 1800 x 2600, 2000 x 2400, 2500 x 2500, 2000 x 3000 63 x 70.9, 70.9 x 86.6, 70.9 x 102.4, 78.7 x 94.5, 98.4 x 98.4, 78.7 x 118.1	2000 x 2000, 2000 x 2500, 2500 x 2500, 2500 x 3000, 3000 x 3000, 3000 x 3500, 3500 x 3500, 2500 x 5000 (T25) 78.7 x 78.7, 78.7 x 98.4, 98.4 x 98.4, 98.4 x 118.1, 118.1 x 118.1, 118.1 x 137.8, 137.8 x 137.8, 98.4 x 196.9 (T25)
Max. Table Load (mm   in)	10 000   22 046	20 000   44 093	25 000, 50 000   55 116, 110 231
Table Travel (mm   in)	2000 - 3000   78.7 - 118.1	2000 - 5000   78.7 - 196.9	1200 - 9500   47.2 - 374
T-Slots Size	22H8 / 22H12	22H8 / 22H12 (option 28H8 / 22H12)	28H8 / 28H12 (opt. 36H8 / 36H12)
Operational Travel (mm/min   in/min)	1 - 8000   0.04 - 315	1 - 12 000   0.04 - 472.4	1 - 15 000   0.04 - 590.6
Speed of B-Axis (rpm)	2 (opt.10)	2 (opt. 5)	0 - 1.7

The clamping plate is fitted onto a cross roller bearing that secures high load capacity with minimal passive resistance. The table is governed by the control system of the machine, and there is a rotary encoder in the centre of the table that facilitates the automatic positioning in increments of 0.001°. As a standard, the rotary table operates as a continuous 4th axis.



	T60	TT 60/80	T80 / T100
Clamping Plate Size (mm   in)	3000 x 3000, 4000 x 4000 118.1 x 118.1, 157.5 x 157.5	3000 x 3000, 3000 x 3500, 3000 x 4000, 4000 x 4000 118.1 x 118.1, 118.1 x 137.8, 118.1 x 157.5, 157.5 x 157.5	3000 x 3000, 3000 x 3500, 3000 x 4000, 4000 x 4000 118.1 x 118.1, 118.1 x 137.8, 118.1 x 157.5, 157.5 x 157.5
Max. Table Load (kg   lbs)	60 000 132 277	60 000, 80 000 132 277, 176 370	80 000, 100 000 176 370, 220 462
Table Travel (mm   in)	2000 - 8000   78.7 - 315	2000 - 8000   78.7 - 315	2000 - 8000   78.7 - 315
T-Slots Size	28H8 / 28H12 (opt. 36H8 / 36H12)	28H8 / 28H12 (opt. 36H8 / 36H12)	28H8 / 28H12 (opt. 36H8 / 36H12)
Operation Travel V-Axis (mm/min)	1 - 10 000   0.04 - 394	1 - 10 000   0.04 - 394	1 - 10 000   0.04 - 394
Operation Travel B-Axis (rpm)	0 - 1.7	0 - 1.7	0 - 1.7
Tilting Angle (°)	-	0 - 10	-





# PALLET SYSTEM ACCESSORIES



## Zero Point Pallet Changer

Automatic Pallet Changer (APC) on the machine reduces unproductive time during machining. Machining can be carried out on one pallet, while the others can be used for preparation (cleaning of table, set up of work-piece).

Pallet clamping system at zero point. To clamp the device on the table, built-in modules are provided. The number of removable pallets is not limited.

- The pin is kept in position by two pistons.
- The pistons clamp the pin by the power of eight springs.
- The pistons are released pneumatically.
- Suitable for all types of FERMAT machines.



## Shuttle Pallet Changer

Automatic Pallet Changer (APC) on the machine reduces unproductive time during machining. Machining can be carried out on one pallet, while the others can be used for preparation (cleaning of table, set up of work-piece).

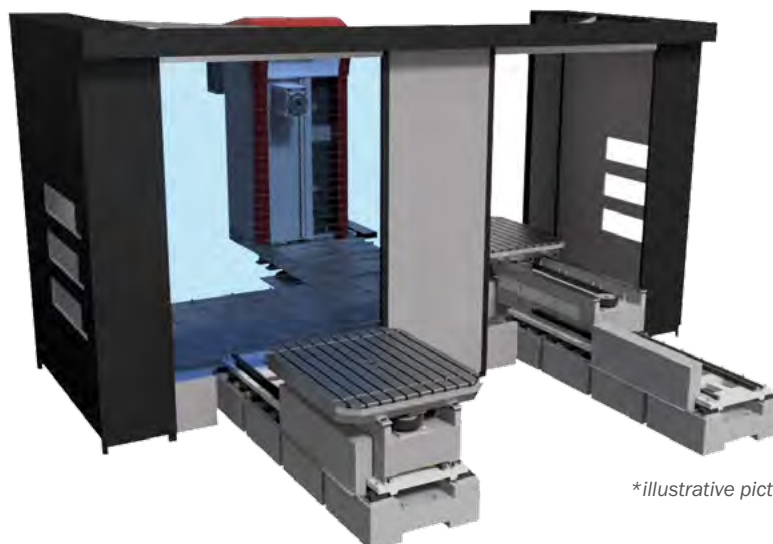
- 2 tables installed on one bed – the X axis.
- Max. load of one table: up to 50 tons / 110 231 lbs
- Tables Dimensions: 1200 x 1200 mm / 47.2 x 47.2 in up to 3000 x 3000 mm / 118.1 x 118.1 in



## Cross-wise Pallet Changer

Automatic pallet changer (APC) on the machine reduces unproductive time during machining. Machining can be carried out on one pallet, while the others can be used for preparation (cleaning of table, set up of work-piece).

- 2 pallets are perpendicular to the X axis, each on its own bed.
- Max. load of one table: up to 50 tons / 110 231 lbs
- Pallets Dimensions: 1600 x 1800 mm / 63 x 70.9 in, 1800 x 2200 mm / 70.9 x 86.6 in, 2000 x 2400 mm / 78.7 x 94.5 in, 1800 x 2600 mm / 70.9 x 102.4 in



*\*illustrative pictures*



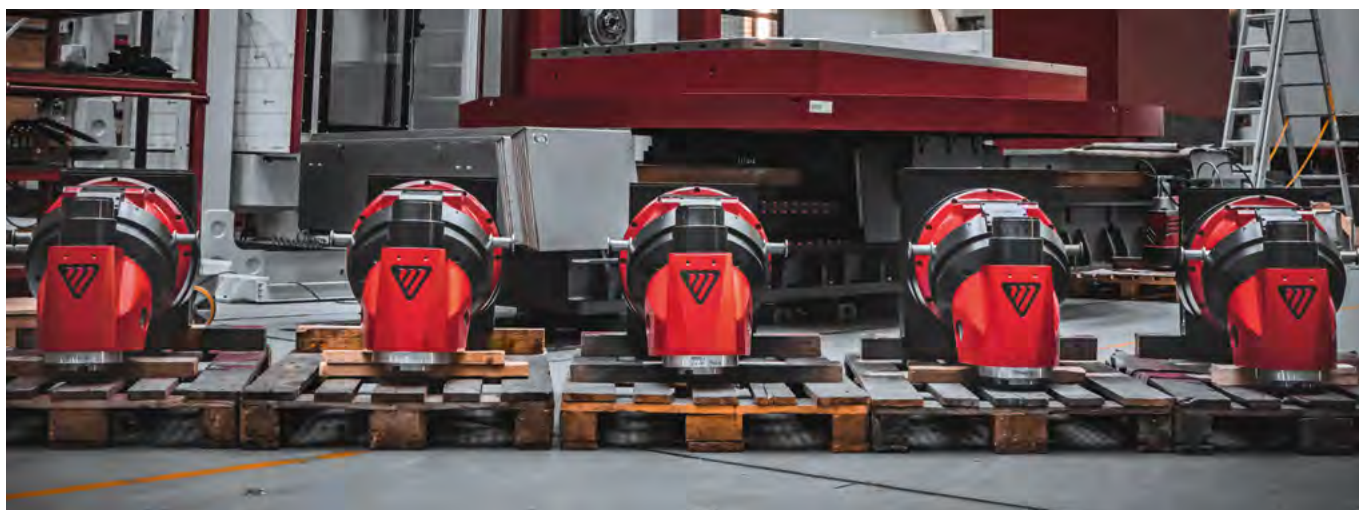
# MILLING HEADS

## ACCESSORIES



All milling heads (from 30 Kw / 40 hp up) are designed and manufactured by FERMAT and that determines their high quality as well as favorable service times, since Fermat has also its own warehouse of spare parts. As a part of Fermat head assembly

shop there is an offer of spare milling heads. They are offered within Fermat excellent customer service to those customers, whose heads are currently being repaired (whether because of a crash or just routine maintenance).



## MANUAL MILLING HEADS

Manually attached to the headstock, manual positioning, hydraulic tool clamping and unclamping. Suitable for machines with spindle diameter 130 mm / 5.1 in and bigger.

**UHM 30:** Two Axis Universal Manual Milling Head

**PHM 37:** Right Angle Manual Milling Head



MODEL	UHM 30	PHM 37
Revolutions (Max. rpm)	3000	
Spindle Taper	SK 50 (DIN, MAS 45°, ANSI)	
Max. Torque (Nm)	1600	2000
Clamping Force of Tool	20±15%	
Indexing	any/2.5° /1°	
External Tool Coolant	standard	
Coolant Through Spindle:	optional	
Lubrication	manual by grease	





# AUTOMATIC UNIVERSAL MILLING HEADS

Automatic Universal Milling Heads are offered in five options – the main differences is drive of head, positioning and max. speed of head. All heads are fully automatic (attachment to the headstock, tool clamping, positioning, lubrication).

**UHAmi SDHS:** Universal Automatic Milling Head Servo-Drive High-Speed. Positioned by the means of 2 x 2 servomotors (in MASTER-SLAVE preloading), enables continuous machining without the necessity to stop the spindle (5-axis machining).

**UHAmi SD:** Universal Automatic Milling Head Hight Speed. Positioned by the means of 1 x 1 servomotors for faster positioning.

**UHAmi 0.001°:** Universal Automatic Micro-Indexing Milling Head. Positioned by the spindle of headstock, the same spindle drives heads speed.

**UHA 1°/UHA 2,5°:** Universal Automatic Milling Head. Software upgrade to 0.001° / 0.001° Positioned by the spindle of headstock, the same spindle drives heads speed.



*\*illustrative pictures*

MODEL	UHAmi SDHS	UHAmi SD	UHAmi 0.001°	UHA 1°	UHA 2,5°			
Revolutions (Max. rpm)	5000	4000	3000 (opt. 4000)					
Indexing	0.001°/ 0.001°		0.001°/ 0.001°	1°/ 1°	2.5°/ 2.5°			
Max. Torque (Nm)	1500		1600					
Number of Servomotors	2 x 2 servomotors (in MASTER-SLAVE preloading)	1 x 1 servomotor	-					
Positionig Time (sec.) - both axes from 0° to 180°	A-Axis + C-Axis - 14					A-Axis - 25 C-Axis - 25		
Continuous Machining	yes	no						
Spindle Taper	SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100							
Clamping Force of Tool	20±15% kN							
External Tool Coolant	sandard							
Coolant Through Spindle	standard							
Lubrication	automatic, oil	automatic, grease						



# AUTOMATIC MILLING HEADS S-TYPE

Compatible with all machines, including small headstocks of WFC 10 and WFT 11.

Automatically attached to the headstock, automatic positioning, automatic tool clamping and unclamping.

**PHAmi S:** One Axis Right-Angle Automatic Micro-Indexing Angle Head

**PHA S 2.5°:** One Axis Right-Angle Automatic Angle Head

**OHA S 2.5°:** Two Axis Orthogonal Automatic Angle Head



*\*illustrative pictures*



MODEL	PHAmi S	PHA S 2.5°	OHA S 2.5°
Revolutions (Max. rpm)		4000	
Spindle Taper		SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100	
Max. Torque		-	
Clamping Force of Tool		20±15%	
Indexing	0.001°	2.5°	2.5°/2.5°
External Tool Coolant		standard	
Coolant Through Spindle:		optional	
Lubrication		manual by grease	





# MANUAL MILLING HEADS S-TYPE

Compatible with all machines, including small headstocks of WFC 10 and WFT 11.

Manually attached to the headstock, manual positioning, manual tool clamping and unclamping.

**UHM 20:** Two Axis Universal Manual Milling Head.

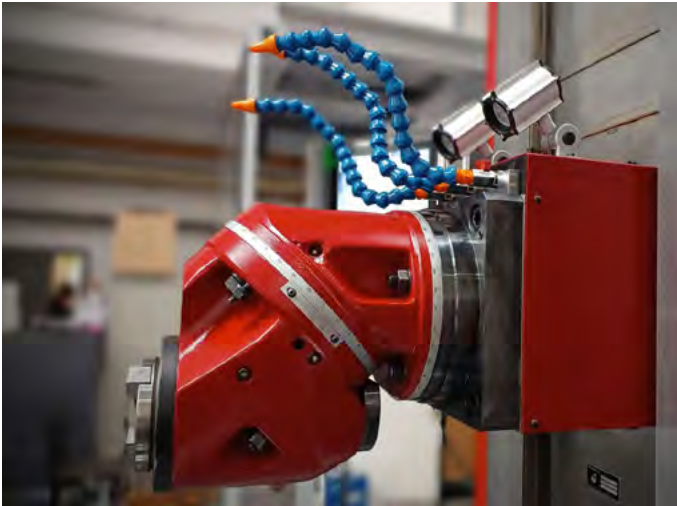
**PHM 20:** Right Angle Manual Milling Head

**OHM 20:** Two Axis Orthogonal Manual Milling Head.

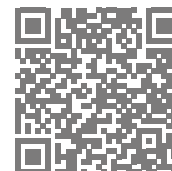


*\*illustrative pictures*

MODEL	UHM 20		PHM 20	OHM 20
Revolutions (Max. rpm)			2000	
Spindle Taper			SK 50 (DIN, MAS 45°, ANSI)	
Max. Torque (Nm)			1000	
Clamping Force of Tool			20±15%	
Indexing	any°		any°	2.5° / 2.5°
External Tool Coolant			standard	
Coolant Through Spindle:			-	
Lubrication			manual by grease	



# FACING HEADS



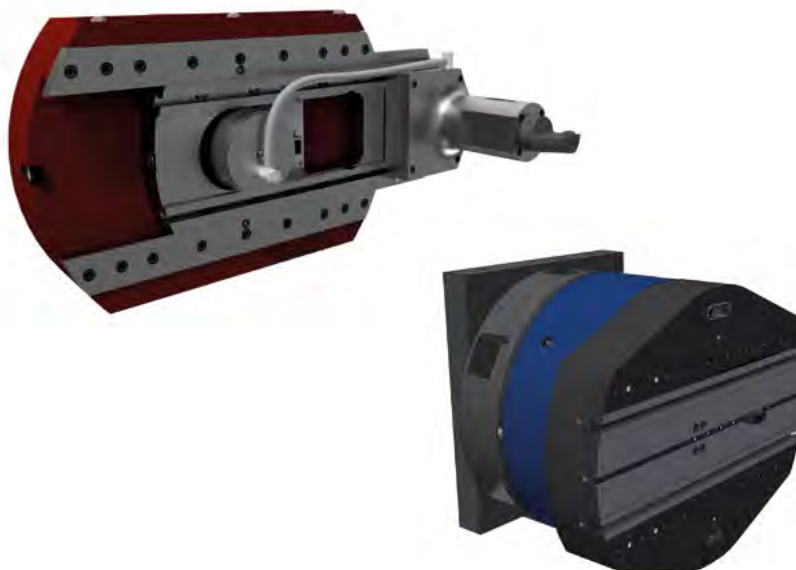
## FERMAT FH 65/80

### Semi-Automatic Facing Head

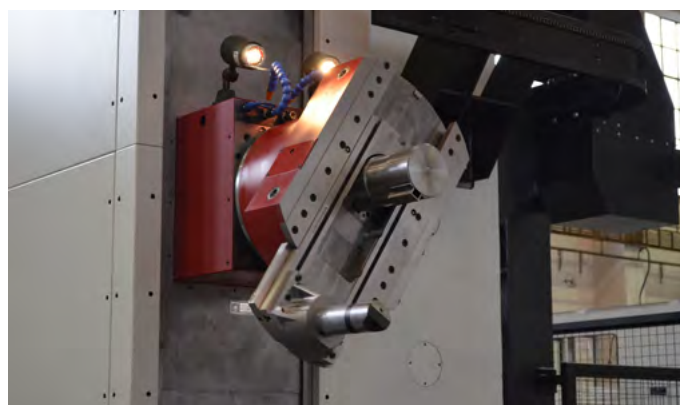
Manual connection to headstock, CAPTO clamping of tools (option), automatic positioning, manual lubrication.

## D'ANDREA U-TRONIC

Medium and large CNC heads that connect to the U-axis of the CNC tool machine for the machining of external, internal, and sub-quadrant faces, cylindrical and conical reaming, and threading, concave and convex radiuses, by interpolation with the other axes of the machine tool.



MANUFACTURER	FERMAT			D'ANDREA U-TRONIC		
MODEL	FH 65	FH 80	UT 3-360 S	UT 5-500 S	UT 5-630 S	UT 5-800S
Plate Diameter (mm   in)	650   25.6	800   31.5	360   14.2	500   19.7	630   24.8	800   31.5
Radial Traverse U-Axis (mm   in)	170   6.7	220   8.6	120   4.7	160   6.3	200   7.9	250   9.8
Max. Speed (rpm)	250	220	500	315	250	200
Maximum Boring Diameter (mm   in)	1200   47.2	1400   55.1	800   31.5	1000   38.4	1250   49.2	1440   56.7
Boring Accuracy:	0.05		H7			
Approx. Weight (kg   lbs)	290   639	360   794	130   287	230   507	350   772	530   1169
Connection to Headstock	manual		manual/automatic			
Clamping of Tools	Manual - D'Andrea / CAPTO C6 / CAPTO C8		manual / CAPTO C6 / CAPTO C8			
Positioning			automatic			
Lubrication	manual		manual by grease			
Compatibility Spindle Ø /Model	130-180/150-180 (WRF)		110-180	130-180		130-180 (WRF)



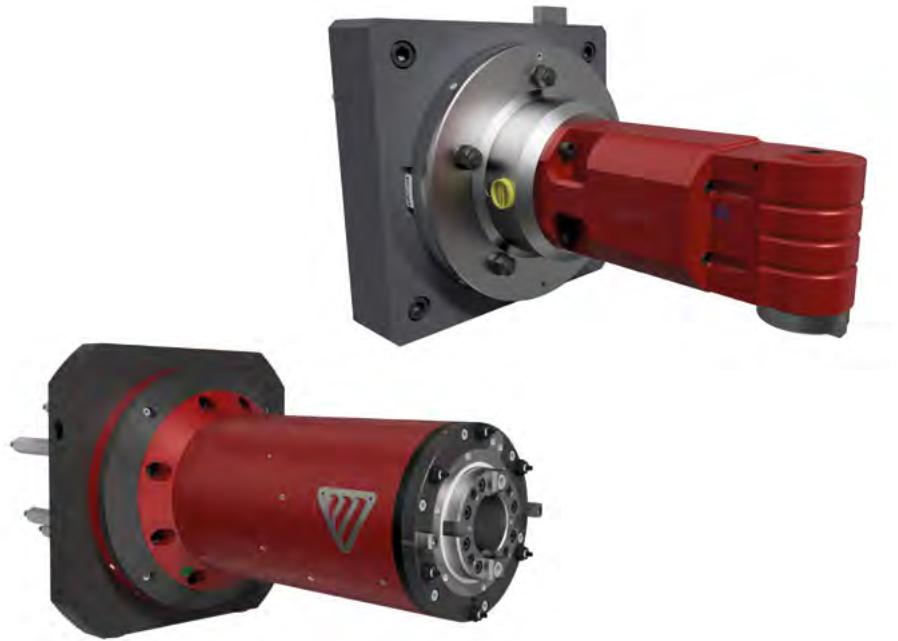
# SPECIAL MILLING HEADS

## OMG TA26\_T Right-Angle Manual Angle Head

Manually or automatically attached to the headstock, manual tool clamping and un-clamping, manual positioning. Extension elements: 200, 400, 600, 800 mm / 7.8, 15.7, 23.6, 31.5 in.

## Fermat Straight Head

Suitable for milling headstocks only, may be partly considered as a replacement of boring spindle. Automatic clamping on headstock automatic clamping of tools, max. speed 5000 rpm.



*\*illustrative pictures*

MANUFACTURER	FERMAT	OMG
MODEL	STRAIGHT HEAD	TA26_T
Speed (Max. rpm)	5000	2500
Max. Power (kW   hp)	53   71.1	
Max. Torque (Nm)	1591	
Spindle Taper	SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100	SK 40 (DIN, MAS 45°, ANSI)/Capto C4, HSK63, SK40, ER40
Clamping Force of Tool (kN)	20±15%	-
Positioning	-	any
Extention (mm   in)	-	200/400/600/800   7.9/15.7/23.6/31.5
External Tool Coolant	standard	
Coolant Through Spindle:	standard	-
Lubrication	-	long-life grease





# AUTOMATIC RIGHT ANGLE MILLING HEADS

Fully automatic - attachment to the headstock, tool clamping, positioning, lubrication.

**PHAmi 60:** One Axis Right-Angle Automatic Micro-Indexing Milling Head. Axis of the milling head is positioned by 2 servomotors, and its motion is therefore independent from spindle of headstock

**PHA 37 2.5°:** One Axis Right-Angle Automatic Milling Head



MODEL	PHAMI 60	PHA 37 2.5°
Revolutions (Max. rpm)	1700	3000
Indexing	0.001°	+/- 180, by 2.5° (hirt coupling)
Max. Torque (Nm)	3200	2000
Number of Servomotors	2 servomotors	-
Continuous Machining	yes	no
Stall Torque in Axis C (Nm)	7000	
Spindle Taper	SK 50 (DIN, MAS 45°, ANSI)/BIG+/HSK100	
Clamping Force of Tool	20±15%	
External Tool Coolant	standard	
Coolant Trough Spindle	standard	
Lubrication	automatic, oil	automatic, grease

# AUTOMATIC C-AXIS 0.001°

Manual heads are typically positioned manually after screws that keep the head in position, are released. This restriction can be removed by adding an adapter - automatically positioned C-axis - between headstock and the milling head. Therefore manual head becomes automatic, where positioning of C-Axis is faster and more accurate.

- this adapter is suitable for all types of headstocks
- indexing by 0.001°
- automatic positioning by servo motor
- range of C-Axis ± 180°
- clamping force of brake 3033/3427 Nm
- sensor accuracy ±3.8''
- max. torque 830/976 Nm
- max. speed 8.5/7.3 rpm
- automatic or manual clamping to headstock



# PICK-UP STATIONS

## ACCESSORIES



### 1-Position PICK-UP

PICK-UP is used for automatic exchange of milling heads with automatic clamping on headstock. Suitable for table-type machines for tables 1600 x 1800 mm / 63 x 71 in and bigger.

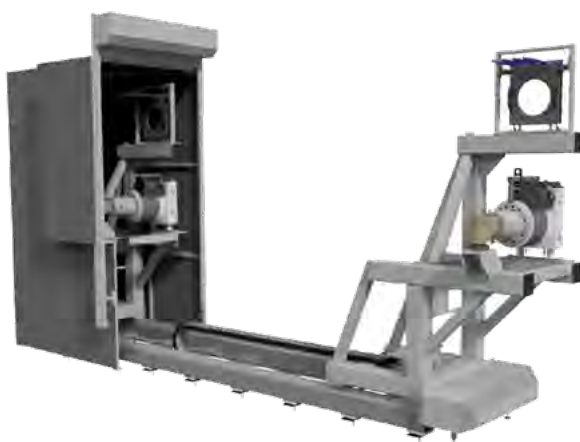
- The head holder consists of two hinged arms permanently attached to the side of table plate (when arms are folded, there is no risk of holder hitting the column during rotation).
- The head is accurately seated in a portable frame.
- It is semi-automatic exchange of milling head, controlled and inspected by machine operator.
- Fast and accurate exchange for reasonable price.



### 2-Position PICK-UP

PICK-UP is used for automatic exchange of milling heads with automatic clamping on headstock. **Suitable for table-type machines WFT 13 and WFT 15.**

- Automatic exchange with CNC control system.
- The whole pick-up is movable, so it can reach the headstock.
- Typically, one position is for a milling head and the other for a cover plate.
- Can be also used for two milling heads (plastic cover plate attached to headstock manually).



### 2/3/4-Position PICK-UP

**Suitable for all floor type machines.**

- Attached to floor plate.
- Fast and accurate exchange that eliminates the danger of damaging the adapter of milling head.

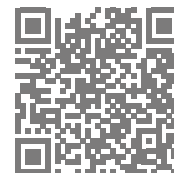


*\*illustrative pictures*



# OPERATOR CABINS

## ACCESSORIES



### Operator Shield with/without Travel

Operator shield is available in a version with horizontal travel in direction of Z-axis.

	UNITS	TRAVEL
Horizontal Travel	mm   in	-
Horizontal Travel H1	mm   in	1200   47.2



### Operator Cabin for WFT Machines

Operator cabin is available in several versions, with horizontal or/and vertical travel.

	UNITS	TRAVEL
Horizontal Travel H1	mm   in	800   31.5
Horizontal Travel H2	mm   in	800/1500   31.5/59.1
Vertical Travel V1	mm   in	1800   70.9

### Operator Cabin for WRF Machines

Cabins for floor-type machines WF and WRF, with vertical and horizontal travel as a standard. Length of vertical travel depend on Y axis.

AXIS Y (mm   in)	VERTICAL CABIN TRAVEL V (mm   in)	HORIZONTAL CABIN TRAVEL H (mm   in)
2500   98.4	1400   55.1	800   31.5
3000   118.1	1900   74.8	800   31.5
3500   137.8	2400   94.5	800   31.5
4000   157.5	2800   110.2	800   31.5
4500   177.2	3300   130	800   31.5
5000   196.9	3800   150	800   31.5
6000   236.2	4700   185	800   31.5
7000-10000 275.6 - 393.7		800   31.5





# ATC, ROBOT ACCESSORIES



## KUKA Robot 96/125/189

Tool rack with robot is an independent enclosed workspace that provides possibility of manipulation with tools without safety risks for operator or risk of crash with the machine. Robot needs minimal maintenance or service interventions. It is possible to change tools into various accessories and attachments.

### PARAMETERS

Max. Number of Positions	96/125/189
Max. Tool Weight (kg   lbs)	25/50   55/110
Max. Tool Diameter – Every Pocket Full (mm   in)	110-180   4.3-7.1
Max. Tool Diameter – Every Other Pocket Empty (mm   in)	300   11.8
Max. Tool Length (mm   in)	700   27.6



*\*illustrative pictures*

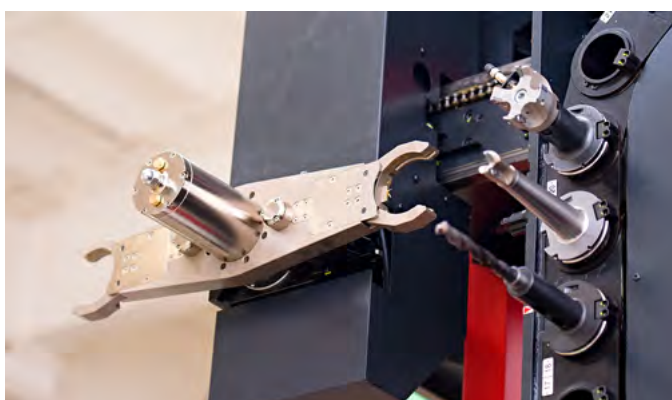
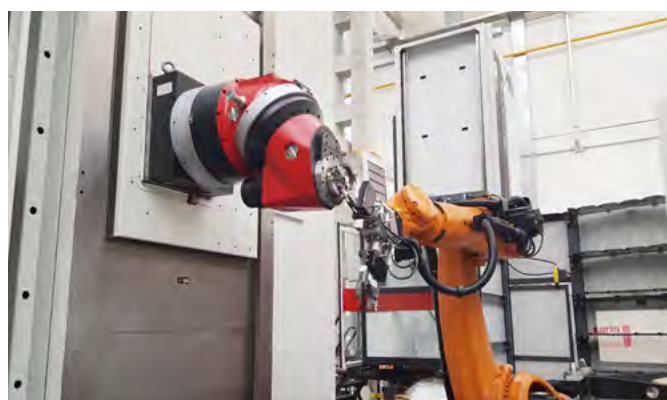


## ATC 20/32/40/60/90/120

ATC – Chain-Type Automatic Tool Changer is one of the possibilities of how to automatically change tools into spindle on FERMAT machines. Depending on the version, the ATC can change tool into spindle of headstock (horizontal exchange), or into spindle of automatic milling head in zero position (vertical exchange).

### PARAMETERS

Max. Number of Positions	20/32/40/60/90/120
Max. Tool Weight (kg   lbs)	25   55
Max. Tool Diameter – Every Pocket Full (mm   in)	125   4.9
Max. Tool Diameter – Every Other Pocket Empty (mm   in)	250   9.8
Max. Tool Length (mm   in)	400   15.7



# REFERENCES



## WFT 13 CNC

### Tigercat Industries Inc. | CANADA

Parameters: X = 3000 mm, Y = 3500 / 3000 mm, Z = 1500 mm, W = 730 mm, Rotary Table 1600 x 1800 mm / 2000 x 24000 mm, CTS 20 bar, ATC 40



## WFT 13 CNC

### Vanhoutte | BELGIUM

Parameters: X = 4000 mm, Y = 3500 mm, Z = 2500 mm, W = 730 mm, Rotary Table 1800 x 2200 mm, CTS 30 bar, ATC 40, Milling Heads OHM 20, UHAmi 30, Face plate FH 65 Robotic Tool Change, Pick up Station



## WFT 13 CNC

### Hyma Hydraulica y Mecanica, S.A. de C.V. | MEXICO

Parameters: X = 3000 / 3500 mm, Y = 2000 / 2500 mm, Z = 1700 mm, W = 730 mm, Rotary Table 1800 x 2200 mm, ATC 40 (60)



## WFT 13 CNC

### Precision Boring Company | USA

Parameters: X = 3500 mm, Y = 2000 mm, Z = 1700 mm, W = 730 mm, Rotary Table 1800 x 2200 mm, CTS 20 bar, ATC 40





#### **WFT 13 CNC**

**ROEZ, s.r.o. | SLOVAKIA**

Parameters: X = 5000 mm, Y = 2500 mm, Z = 2000 mm,  
W=730 mm, Rotary Table 1800 x 2600 mm



#### **WRF 130 CNC**

**Hopax s.r.o | CZECHIA**

Parameters: X = 12900 mm, Y = 3500 mm, Z = 900 mm,  
W = 730 mm, Turning Table diam. 2000 mm, CTS 40 bar,  
ATC 40, Milling Head UHM 30



#### **WFT 13 CNC**

**BVT Components | POLAND**

Parameters: X = 4000 mm, Y = 3000 mm, Z = 1500 mm,  
W=730 mm  
Rotary Table 2000 x 2400 mm



#### **WFT 13R CNC**

**Seaqest Systems | IRELAND**

Parameters: X = 4000 mm, Y = 3500 mm, Z = 2000 mm,  
W=730 mm, V=700 mm  
Rotary Table 2000 x 3000 mm





# REFERENCES



## WRF 160 CNC

### Fay Ind. | BRAZIL

Parameters: X = 8600 mm, Y = 5000 mm, Z = 1200 mm,  
W = 1000 mm, Rotary Table 3000 x 3000 mm, CTS 50 bar,  
Milling Heads VGCI, FH 80, IFVW 1B



## WFT 13R CNC

### Sennebogen Maschinenfabrik GmbH. | GERMANY

Parameters: X = 4000 mm, Y = 3000 mm, Z = 1500 mm,  
W = 730 mm, Rotary Table 1800 x 2200 mm, CTS 30 bar,  
ATC 60, Milling Heads UHAmi30



## WRF 160 CNC

### Stroje a Mechanizmy a.s. | SLOVAKIA

Parameters: X = 8000 mm, Y = 5000 mm, Z = 1200 mm,  
W = 1000 mm, Rotary Table 250 x 3500 mm, CTS 50 bar,  
ATC 60, Milling Head UHM 30



## WFT 13R CNC

### Bruhin and Diethelm AG | SWITZERLAND

Parameters: X = 3000 mm, Y = 2000 mm, Z = 3000 mm,  
W = 600 mm, Rotary Table 1600 x 1800 mm, CTS 50 bar,  
Robotic Tool Changer 180, Milling Head UHA 30





#### **WFT 13R CNC**

**Rossner Verwaltung GmbH and Co. KG | GERMANY**

Parameters: X = 4000 mm, Y = 2500 mm, Z = 1500 mm,  
W=730 mm, V=700 mm  
Rotary Table 1800 x 2200 mm



#### **WRF 160 CNC**

**Prominox S.A. | MOROCCO**

Parameters: X = 11700 mm, Y = 6000 mm, Z = 1200 mm,  
W = 1000 mm, Rotary Table 2500 x 3000 mm, CTS 50 bar,  
ATC 60, Milling Head UHM 30



#### **WRF 130 CNC**

**Faure Pere et Fils | FRANCE**

Parameters: X = 6200 mm, Y = 3000 mm, Z = 900 mm,  
W = 730 mm, Rotary Table 2000 x 2400 mm, CTS 20 bar,  
Milling Head UHM 30 with automatic clamping



#### **WFT 13 CNC**

**Doosan Bobcat Engineering s.r.o. | CZECHIA**

Parameters: X = 5000 mm, Y = 2500 mm, Z = 2000 mm,  
W = 730 mm, Rotary Table 1800 x 2600 mm, CTS 20 bar,  
ATC 40





# CYLINDRICAL GRINDING MACHINES



**Fermat Machine Tool** is a specialized division for the development and production of excellent universal cylindrical grinding machines. All models can be individually tailored to the customer's requirements. Fermat is specialized in machines with a good price-performance ratio and highly technologically advanced machines. All machines are hand assembled, including hand scraping of the guide ways, which are then coated with a special Teflon surface to reduce friction and minimize the stick-slip effect.

Weight of Workpiece (kg   lbs)	500 – 5 000 1 102 - 11 023
Workpiece Diameter (mm   in)	320 – 1 200 12.6 - 47.2
Length of Workpiece (mm   in)	1 000 – 6 000 39.4 - 236.2



## Key features include:

- Possibility of fully automatic B-axis with up to three tools (including internal grinding)
- In-process gauge
- Automatic balancing system
- Rolling spindle bearing
- Different grinding wheel sizes and variations
- Various tailstock options, including automatic movement and cylindricity calibration
- Full covering and mist extraction
- Axial probe
- Different dressing technologies





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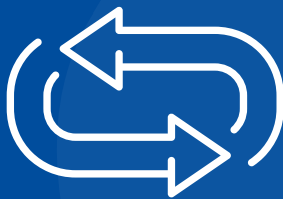
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