Parameters: X = 27000 mm (1062.99") | Y = 5000 mm (196.85") | Z = 1500 mm (59.05") | W = 1000 mm (39.37") |
Rotary Table = T50, 3500 x 3500 mm (137.79 x 137.79") | CTS = 20 | ATC = 60 | UHAmi30 | PHA 37
## About Fermat

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees</td>
<td>527</td>
</tr>
<tr>
<td>Annual sales in 2018</td>
<td>€ 80 mil.</td>
</tr>
<tr>
<td>Oldest member of Fermat Group (Lucas)</td>
<td>1901</td>
</tr>
<tr>
<td>Plants in the Czech Republic</td>
<td>8</td>
</tr>
<tr>
<td>Other branches worldwide</td>
<td>6</td>
</tr>
<tr>
<td>Annual production / sold machines</td>
<td>100+</td>
</tr>
<tr>
<td>1 micron is the most accurate production machine in our machining shop</td>
<td>1µm</td>
</tr>
</tbody>
</table>
Since 1990, FERMAT has grown to be a leading European manufacturer of CNC machine tools. Thanks to superb 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 reconfigure 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, USA, Russia, 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 every expanding line of machine tools, capital expansion is set to continue.

• FERMAT CZ & FERMAT Group design, manufacture and sell horizontal boring mills, both table-type and floor-type, as well as milling machines, milling heads, machine tool accessories and strong after market parts and service 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 they also provide customer service.

• FERMAT Stroje Lipnik 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 after market 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 its machines in the Indian market.

• FERMAT Gépek kft. is FERMAT's branch in Hungary selling and servicing its machines in the Hungarian market.
About Lucas

- Established in 1901
- Part of Fermat Group since 2014
- Based in Cleveland, Ohio
- Fermat trained Field Service
- Spare Parts Inventory
- Large OD & ID Grinding up to 24” in diameter
- Thread Milling up to 3” in diameter
Lucas Precision Company based in Cleveland, Ohio has been known as a world famous producer of Boring, Milling and Drilling machines for nearly a century. In 1900 at the age of 30, 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 tailblock or Backrest.

Production

The most successful models 41B and 42B equipped with Numerical Control were produced during three decades after World War II and made the Lucas Company famous worldwide, achieving a total production of 2000 sold machines.

In early 1984 Lucas Machine began construction of a Flexible Manufacturing System. This was to be a total factory automation system comprising not only state-of-the-art CNC controlled machines but also was to include fully-automated guided vehicles to carry tooling and materials to the machines, automatic part and tooling inspection and automated part wash-down, all under the control of a central, master computer system to control part flow, tooling flow and scheduling of all machining operations. Sadly, while the prototype system was made fully operational within the Lucas factory, no systems were ever shipped to customers.

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 Fermat 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 the Fermat products worldwide. Fermat permanent presence in the United States is very beneficial for prospective customers. Sales, service, and spare parts availability are an integral part of our customer service efforts.
WFC 10
Economical, modern, and compact solution. It is a continuously controlled cross-type or moving saddle machine of a modern design, ideal for powerful and complete machining of workpieces of up to 5 tons | 11023 lbs.
- Spindle diameter 100 mm | 3.9 in or 110 mm | 4.3 in; spindle travel 730 mm | 28.7 in.
- Suitable for both single, one-off machining of a workpiece or serial production; ideal for manufacturing facilities with space limitations.
- Version WFC 10 L equipped with linear guideways.
- CNC rotary table (2 servo motors), suitable for machining molds.

WFT 11
Middle size table-type horizontal boring mill with longitudinally movable column base for the Z axis, and a table movable in a crosswise way for efficient machining of workpieces of up to 10 tons | 22046 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 | 118.1, 157.5 or 196.9 in) for larger workpieces weighing up to 20 tons.
- It is possible to equip the pallet change system to speed up processing.
- Suitable for machining both longer weldments and complex welded frames.

WFT 13
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 | 44093 lbs.
- Spindle diameter 130 mm | 5.1 in or 110 mm | 4.3 in; spindle travel 800 mm | 31.5 in.
- Optional ram stroke 700 mm | 27.6 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.

WFT 15
Similar to WFT 13, but with a spindle diameter of 150 mm | 5.9 in. Ideal for even larger and heavier workpieces up to 20 tones | 44093 lbs (optionally up to 40 tones | 88185 lbs).
- Spindle diameter 150 mm | 5.9 in; spindle travel 800 mm | 31.5 in.
- Optional ram stroke 700 mm | 27.6 in, total extension along the axis W = 1500 mm | 59.1 in.
- Optional spindle travel of 1 meter | 39.4 in.
- Extremely versatile series of table-type horizontal boring mills, fully compatible with a wide range of accessories and automatic milling heads.
Floor Type Horizontal Boring Mills

WF
FERMAT’s floor-type horizontal boring mill for powerful and precise, 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.
- Optional ram stroke of 700 mm | 27.5 in.
- Equipped with floor plates and/or rotary tables.
- Fully compatible with a wide range of accessories and automatic milling heads.

WRF
WRF is FERMAT’s large, robust series of floor-type horizontal boring mills, excellent for powerful and precise machining of enormous, heavy workpieces.
- Spindle diameter of 130 mm | 5.1 in, 150 mm | 5.9 in, or 160 mm | 6.3 in; spindle travel from 800 mm | 31.5 in to 130 mm | 5.1 in.
- Ram stroke from 900 mm | 35.4 in to 1.2 meters | 47.2 in.
- Optional tilting headstock.
- Equipped with operator’s cabin which moves both horizontally and vertically.
- Equipped with floor plates and/or rotary tables that can hold up to 100 metric tons | 220462 lbs.

WRF 2G
WRF is FERMAT’s large, robust series of floor-type horizontal boring mills, excellent for powerful and precise machining of enormous, heavy workpieces.
- Spindle diameter 150 mm | 5.9 in or 160 mm | 6.3 in; spindle travel 1000 mm | 39.4 in.
- Ram stroke 1.5 meters | 59.1 in.
- Rapid Travel Feed 40000 mm/min | 1574.8 in/min.
- X,Y, headstock motors are water-chilled – the heat is dissipated out of the machine to keep the machine geometry.
- Low-profile design – the highest possible Y axis travel with the lowest machine total height.

WRF HEAVY
WRF Heavy is FERMAT’s titan, monster-size floor-type horizontal boring mill. Its sturdy headstock is built between two columns for maximum stability.
- Spindle diameter 160 mm | 6.3 in, spindle extension of 1 meter | 39.4 in.Ram stroke of 1.5 or 1.6 meters | 59.1 or 62.9 in.
- 4 servomotors and 4 rack 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 metric tons | 220462 lbs.
- Ideal for oversize workpieces.
## WFC 10

### Units

<table>
<thead>
<tr>
<th>Metric</th>
<th>WFC 10</th>
<th>WFC 10 L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter of Spindle</td>
<td>mm</td>
<td>100 / 110</td>
</tr>
<tr>
<td>Taper of Spindle</td>
<td></td>
<td>ISO50 / BT50 / CAT50</td>
</tr>
<tr>
<td>Max. Spindle Speed</td>
<td>rpm</td>
<td>3000 (optionally 4000)</td>
</tr>
<tr>
<td>Main Power Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>kW</td>
<td>19.5 / 29.3; 31 / 46.5</td>
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<tr>
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<tr>
<td>Main Power FANUC CNC (S1/S3)</td>
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<tr>
<td>Y Vertical Travel of Headstock</td>
<td>mm</td>
<td>1250 / 1700 / 2000</td>
</tr>
<tr>
<td>Z Longitudinal Travel of Column</td>
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<td>1250</td>
</tr>
<tr>
<td>W Spindle Travel</td>
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</tr>
<tr>
<td>Rapid Feed Z, W</td>
<td>mm/min</td>
<td>8000</td>
</tr>
<tr>
<td>Rapid Feed B</td>
<td>rpm</td>
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</tr>
<tr>
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<td>kg</td>
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</tr>
<tr>
<td>Table Size</td>
<td>mm</td>
<td>1000 x 1120 / 1250 x 1400 / 1250 x 1800 / 1400 x 1600</td>
</tr>
</tbody>
</table>

* A large number of accessories are available.

### ACCESSORIES & DETAILS

* A large number of accessories are available.
**HEADSTOCK**

**Rugged, powerful, precise.**

- The headstock is made from cast iron GGG60 and is equipped with a digitally-controlled servomotor turning the spindle, continuously regulating its rpm.
- Spindle travel (W axis) of 730 mm | 28.7 in, driven by a servomotor and ball screw.
- Clamping spindle taper SK50 (ISO, BT, or CAT).
- Torque transferred to the spindle through a two-speed planetary gearbox. Gears change automatically according to the programmed rpm.
- Standard spindle support sleeve of 250 mm | 9.8 in.

**COLUMN**

- Headstock carriage in a cast iron casting, provides movement of headstock in axis Y controlled by ball-screw and along box guideways.
- Guideways are lubricated by oil.

**COLUMN AND BEDS**

**Rigid, tough, precise, designed to absorb vibrations during machining.**

- The main framework of the machine (the longitudinal and crosswise beds, slides, and the column base) are made of cast iron GG30 with the addition of Cr and Cu; the functional surfaces of all the ways of the box guides is hardened (56 HRC) and ground.
- Servomotors and ball screws drive the CNC rotary table along X axis and Z axis, headstock on Y axis.
- Ball-screw on axis Y is equipped with an electric brake at the bottom.
- Separate servo drives on all axes, controlled digitally, provide the means for linear, circular, and helical interpolation.

**CNC ROTARY TABLE**

**Thanks to the simple design and excellent components, FERMAT CNC rotary tables require minimum maintenance and adjustments during their lifetime.**

- Maximum load is up to 5 tons | 11023 lbs.
- Rotary table moves along X and Z axis on box guideways or linear guideways.
- The CNC rotary table consists of three main parts – bed, slide, and rotary clamping plate. The clamping plate is fitted to a cross roller bearing that secures high load capacity, no stick slip, minimum friction.
- 2 servomotors with pinions provide the rotary movement on B axis, master/slave, no backlash.
- The rotary positioning of the table uses an absolute angle encoder (increment of 0.001°); the table is set in position, and held in place by hydraulic brakes.
**WFT 11**

<table>
<thead>
<tr>
<th>Units</th>
<th>WFT 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter of Spindle</td>
<td>mm</td>
</tr>
<tr>
<td>Taper of Spindle</td>
<td>ISO50 / BT50 / CAT50</td>
</tr>
<tr>
<td>Max. Spindle Speed</td>
<td>rpm</td>
</tr>
<tr>
<td>Main Power Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>kW</td>
</tr>
<tr>
<td>Max. Torque Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>Nm</td>
</tr>
<tr>
<td>Main Power FANUC CNC (S1/S3)</td>
<td>kW</td>
</tr>
<tr>
<td>Max. Torque FANUC CNC (S1/S3)</td>
<td>Nm</td>
</tr>
<tr>
<td>X Cross Travel of Table</td>
<td>mm</td>
</tr>
<tr>
<td>Y Vertical Travel of Headstock</td>
<td>mm</td>
</tr>
<tr>
<td>Z Longitudinal Travel of Column</td>
<td>mm</td>
</tr>
<tr>
<td>W Spindle Travel</td>
<td>mm</td>
</tr>
<tr>
<td>Rapid Feed X, Y</td>
<td>mm/min</td>
</tr>
<tr>
<td>Rapid Feed Z, W</td>
<td>mm/min</td>
</tr>
<tr>
<td>Rapid Feed B</td>
<td>rpm</td>
</tr>
<tr>
<td>Max. Table Load</td>
<td>kg</td>
</tr>
<tr>
<td>Table Size</td>
<td>mm</td>
</tr>
</tbody>
</table>

**ACCESSORIES & DETAILS**

* A large number of accessories are available.
HEADSTOCK

Rugged, powerful, precise.

- The headstock is made from cast iron GGG60 and is equipped with a digitally-controlled servomotor turning the spindle, continuously regulating its rpm.
- Spindle travel (W axis) of 730 mm | 28.7 in, driven by a servomotor and ball screw.
- Clamping spindle taper SK50 (ISO, BT, or CAT).
- Torque transferred to the spindle through a two-speed planetary gearbox. Gears change automatically according to the programmed rpm.
- Standard spindle support sleeve of 250 mm | 9.8 in.

HEADSTOCK CARRIAGE

- Headstock carriage in a cast iron casting, provides movement of headstock in axis Y controlled by ball-screw and along box guideways.
- Guideways are lubricated by oil.

COLUMN AND BEDS

Rigid, tough, precise, designed to absorb vibrations during machining.

- The main framework of the machine (the longitudinal and cross-wise beds, slides, and the column base) are made of cast iron GG30 with the addition of Cr and Cu; the functional surfaces of all the ways of the box guides is hardened (56 HRC) and ground.
- Servomotors and ball screws drive the CNC rotary table along X axis, headstock on Y axis, and column along Z axis.
- Ball-screw on axis Y is equipped with an electric brake at the bottom.
- Separate servo drives on all axes, controlled digitally, provide the means for linear, circular, and helical interpolation.
- X, Y and Z axis are moving on hardened box guideways or wide linear guideways.

CNC ROTARY TABLE

Thanks to the simple design and excellent components, FERMAT CNC rotary tables require minimum maintenance and adjustments during their lifetime.

- Maximum load is up to 10 tons | 22046 lbs.
- The CNC rotary table consists of three main parts – bed, slide, and rotary clamping plate. The clamping plate is fit to a cross roller bearing that secures high load capacity, no stick slip, minimum friction.
- Slides and clamping plate are castings.
- 2 servomotors with pinions provide the rotary movement on B axis, master/slave, no backlash.
- The rotary positioning of the table uses an absolute angle encoder (increment of 0.001°); the table is set in position, and held in place by hydraulic brakes.
<table>
<thead>
<tr>
<th>Units</th>
<th>WFT 13</th>
<th>WFT 13R</th>
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<tbody>
<tr>
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</tr>
<tr>
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<td>rpm</td>
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<tr>
<td>Max. Spindle Speed</td>
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</tr>
<tr>
<td>Main Power Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>kW</td>
<td>41 / 61.5; 53 / 77.9</td>
</tr>
<tr>
<td>Max. Torque Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>Nm</td>
<td>2099 / 3149; 2713 / 3989</td>
</tr>
<tr>
<td>Main Power FANUC CNC (S1/S3)</td>
<td>kW</td>
<td>37 / 45; 53 / 62</td>
</tr>
<tr>
<td>Max. Torque FANUC CNC (S1/S3)</td>
<td>Nm</td>
<td>2362 / 2873; 2713 / 3989</td>
</tr>
<tr>
<td>X Cross Travel of Table</td>
<td>mm</td>
<td>2000 / 3000 / 4000 / 5000</td>
</tr>
<tr>
<td>Y Vertical Travel of Headstock</td>
<td>mm</td>
<td>2000 / 2500 / 3000 / 3500 / 4000</td>
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<tr>
<td>Z Longitudinal Travel of Column</td>
<td>mm</td>
<td>1500 / 2000 / 2500 / 3000</td>
</tr>
<tr>
<td>W Spindle Travel</td>
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<td>800</td>
</tr>
<tr>
<td>V Ram Travel</td>
<td>x</td>
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<tr>
<td>Rapid Feed X, Y</td>
<td>mm/min</td>
<td>15000, 12000</td>
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<tr>
<td></td>
<td>in/min</td>
<td>590.5, 472.4</td>
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<tr>
<td>Rapid Feed Z, W, V</td>
<td>mm/min</td>
<td>8500, 10000, 12000</td>
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<tr>
<td></td>
<td>in/min</td>
<td>334.6, 393.7, 472.4</td>
</tr>
<tr>
<td>Rapid Feed B</td>
<td>rpm</td>
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</tr>
<tr>
<td>Max. Table Load</td>
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</tr>
<tr>
<td></td>
<td>lb</td>
<td></td>
</tr>
<tr>
<td>Table Size</td>
<td>mm</td>
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</tr>
<tr>
<td></td>
<td>in</td>
<td>62.9 x 70.8 / 70.8 x 86.6 / 70.8 x 102.3 / 78.7 x 94.4 / 98.4 x 98.4 / 78.7 x 118.1</td>
</tr>
</tbody>
</table>

**ACCESSORIES & DETAILS**

*a large number of accessories are available.*
STANDARD HEADSTOCK

Rugged, powerful, precise.

- The headstock is made from cast iron GGG60 and is equipped with a digitally-controlled servomotor turning the spindle, continuously regulating its rpm.
- Spindle travel (W axis) of 800 mm | 31.5 in, driven by a servomotor and ball screw.
- Clamping spindle taper SK50 (ISO, BT, or CAT).
- Torque transferred to the spindle through a two-speed planetary gearbox. Gears change automatically according to the programmed rpm.
- Standard spindle support sleeve of 250 mm | 9.8 in.

RAM EXECUTION (OPTIONAL)

The headstock moves up to 700 mm towards the workpiece.

- Combined reach of spindle travel and ram stroke maximum 1500 mm | 59.1 in.
- Ram stroke drives deep into the heart of the workpiece while maintaining the highest rigidity and accuracy.
- Ram stroke is controlled by servomotor with gear-box and ball-screw.
- All deflections compensated through different mechanical features of ram and headstock.

COLUMN AND BEDS

Rigid, tough, precise, designed to absorb vibrations during machining.

- Column frame, beds, slides, base, are made of reinforced cast iron GG30.
- Maximum rigidity and firmness of column and bed achieved through annealing; guideways and box ways hardened (56 HRC).
- Servomotors and ball screws (80 mm | 3.2 in in diameter) drive the CNC rotary table along X axis, headstock on Y axis, and column along Z axis.
- Y axis servomotor is equipped with mechanical brake.
- Separate servo drives on all axes, controlled digitally, provide the means for linear, circular, and helical interpolation.

CNC ROTARY TABLE

Thanks to the simple design and excellent components, FERMAT CNC rotary tables require minimum maintenance and adjustments during their lifetime.

- Standard load is up to 20 tons | 44093 lbs. Please see more options on page 24.
- The CNC rotary table consists of three main parts – bed, slide, and rotary clamping plate. The clamping plate is fit to a cross roller bearing that secures high load capacity, no stick slip, minimum friction.
- Slides and clamping plate are castings.
- 2 servomotors with pinions provide the rotary movement on B axis, master/slave, no backlash.
- The rotary positioning of the table uses an absolute angle encoder (increment of 0.001°); the table is set in position, and held in place by hydraulic brakes.
- With linear option X, Y and Z axis move on linear ways.
### WFT 15

<table>
<thead>
<tr>
<th>Units</th>
<th>WFT 15 / WFT 15R</th>
<th>WFT 15-1000</th>
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</thead>
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<tr>
<td>Diameter of Spindle</td>
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</tr>
<tr>
<td>Taper of Spindle</td>
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</tr>
<tr>
<td>Max. Spindle Speed</td>
<td>rpm</td>
<td>2800</td>
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<tr>
<td>Main Power Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>kW</td>
<td>41 / 61.5; 53 / 77.9</td>
</tr>
<tr>
<td></td>
<td>hp</td>
<td>54.9 / 82.4; 71 / 104.4</td>
</tr>
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<td>Max. Torque Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>Nm</td>
<td>2099 / 3149; 2713 / 3989</td>
</tr>
<tr>
<td>Main Power FANUC CNC (S1/S3)</td>
<td>kW</td>
<td>37 / 45; 53 / 62</td>
</tr>
<tr>
<td></td>
<td>hp</td>
<td>49.6 / 60.3; 71 / 104.4</td>
</tr>
<tr>
<td>Max. Torque FANUC CNC (S1/S3)</td>
<td>Nm</td>
<td>2362 / 2873; 2713 / 3989</td>
</tr>
<tr>
<td>X Cross Travel of Table</td>
<td>mm</td>
<td>2000 / 3000 / 4000 / 5000</td>
</tr>
<tr>
<td></td>
<td>in</td>
<td>78.7 / 98.4 / 118.1 / 137.7</td>
</tr>
<tr>
<td>Y Vertical Travel of Headstock</td>
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<tr>
<td></td>
<td>in</td>
<td>78.7 / 98.4 / 118.1 / 137.7</td>
</tr>
<tr>
<td>Z Longitudinal Travel of Column</td>
<td>mm</td>
<td>1500 / 2000 / 2500 / 3000</td>
</tr>
<tr>
<td></td>
<td>in</td>
<td>59 / 78.7 / 98.4 / 118.1</td>
</tr>
<tr>
<td>W Spindle Travel</td>
<td>mm</td>
<td>800</td>
</tr>
<tr>
<td></td>
<td>in</td>
<td>31.4</td>
</tr>
<tr>
<td>V Ram Travel</td>
<td>mm</td>
<td>x / 700</td>
</tr>
<tr>
<td>Rapid Feed X, Y</td>
<td>mm/min</td>
<td>12000</td>
</tr>
<tr>
<td></td>
<td>in/min</td>
<td></td>
</tr>
<tr>
<td>Rapid Feed Z, W, V</td>
<td>mm/min</td>
<td>8500, 10000, 12000</td>
</tr>
<tr>
<td></td>
<td>in/min</td>
<td></td>
</tr>
<tr>
<td>Rapid Feed B</td>
<td>rpm</td>
<td>2 (optionally 5)</td>
</tr>
<tr>
<td>Max. Table Load</td>
<td>kg</td>
<td>20000</td>
</tr>
<tr>
<td></td>
<td>lb</td>
<td></td>
</tr>
<tr>
<td>Table Size</td>
<td>mm</td>
<td>1600 x 1800 / 1800 x 2200 / 1800 x 2600 / 2000 x 2400 / 2500 x 2500 / 2000 x 3000</td>
</tr>
<tr>
<td></td>
<td>in</td>
<td>62.9 x 70.8 / 70.8 x 86.6 / 70.8 x 102.3 / 78.7 x 94.4 / 98.4 x 98.4 / 78.7 x 118.1</td>
</tr>
</tbody>
</table>

**ACCESSORIES & DETAILS**

*A large number of accessories are available.*
HEADSTOCK WITH SPINDLE TRAVEL 1000 mm | 39.4 in

Powerful headstock with long spindle extension.

- The headstock is made from cast iron GGG60 and is equipped with a digitally-controlled servomotor turning the spindle, continuously regulating its rpm.
- Spindle travel (W axis) of 1000 mm | 39.4 in, driven by a servomotor and ball screw.
- Clamping spindle taper SK50 (ISO, BT, or CAT).
- Torque transferred to the spindle through a two-speed planetary gearbox. Gears change automatically according to the programmed rpm.
- Standard spindle support sleeve of 250 mm | 9.8 in.

RAM EXECUTION (OPTIONAL)

The headstock moves up to 700 mm | 27.6 in towards the workpiece. Spindle Travel 800 mm 31.5 in.

- Combined reach of spindle travel and ram stroke maximum 1430 mm | 56.3 in (optionally 1500 mm | 59.1 in).
- Ram stroke drives deep into the heart of the workpiece while maintaining the highest rigidity and accuracy.
- Ram stroke is controlled by servomotor with gear-box and ball-screw.
- All deflections compensated through geometric features of ram and headstock.

COLUMN AND BEDS

Rigid, tough, precise, designed to absorb vibrations during machining.

- Column frame, beds, slides, base, are made of reinforced cast iron GG30.
- Maximum rigidity and firmness of column and bed achieved through annealing; guideways and box ways hardened (56 HRC).
- Servomotors and ball screws (80 mm | 3.1 in in diameter) drive the CNC rotary table along X axis, headstock on Y axis, and column along Z axis.
- Y axis servomotor is equipped with mechanical brake.
- Separate servo drives on all axes, controlled digitally, provide the means for linear, circular, and helical interpolation.

CNC ROTARY TABLE

Thanks to the simple design and excellent components, FERMAT CNC rotary tables require minimum maintenance and adjustments during their lifetime.

- Standard load is up to 20 tons | 44093 lbs. Please see more options on page 24.
- The CNC rotary table consists of three main parts – bed, slide, and rotary clamping plate. The clamping plate is fit to a cross roller bearing that secures high load capacity, no stick slip, minimum friction.
- Slides and clamping plate are castings.
- 2 servomotors with pinions provide the rotary movement on B axis, master/slave, no backlash.
- The rotary positioning of the table uses an absolute angle encoder (increment of 0.001°); the table is set in position, and held in place by hydraulic brakes.
### ACCESSORIES & DETAILS

<table>
<thead>
<tr>
<th>Units</th>
<th>WF 13R</th>
<th>WF 15R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter of Spindle</td>
<td>mm</td>
<td>130</td>
</tr>
<tr>
<td>Taper of Spindle</td>
<td>ISO50 / BT50 / CAT50 / BIG PLUS option</td>
<td></td>
</tr>
<tr>
<td>Max. Spindle Speed</td>
<td>rpm</td>
<td>3000 (optionally 4000)</td>
</tr>
<tr>
<td>Main Power Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>kW</td>
<td>41</td>
</tr>
<tr>
<td>Max. Torque Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>Nm</td>
<td>2099</td>
</tr>
<tr>
<td>Main Power FANUC CNC (S1/S3)</td>
<td>kW</td>
<td>37</td>
</tr>
<tr>
<td>Max. Torque FANUC CNC (S1/S3)</td>
<td>Nm</td>
<td>2362</td>
</tr>
<tr>
<td>X Cross Travel of Column</td>
<td>mm</td>
<td>4000 - 22000</td>
</tr>
<tr>
<td>Y Vertical Travel of Headstock</td>
<td>mm</td>
<td>2000</td>
</tr>
<tr>
<td>Z Ram Travel</td>
<td>mm</td>
<td>700</td>
</tr>
<tr>
<td>W Spindle Travel</td>
<td>mm</td>
<td>800</td>
</tr>
<tr>
<td>Rapid Feed X, Y</td>
<td>mm/min</td>
<td>20000, 12000</td>
</tr>
<tr>
<td>Rapid Feed Z, W</td>
<td>mm/min</td>
<td>12000, 10000</td>
</tr>
<tr>
<td>Rotary Table – Optional Accessory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Table Load</td>
<td>kg</td>
<td>20000</td>
</tr>
<tr>
<td>Table Size</td>
<td>mm</td>
<td>1600 x 1800 / 1800 x 2200 / 1800 x 2600 / 2000 x 2400 / 2500 x 2500 / 2000 x 3000</td>
</tr>
<tr>
<td></td>
<td>in</td>
<td>62.9 x 70.8 / 70.8 x 86.6 / 70.8 x 102.3 / 78.7 x 94.4 / 98.4 x 98.4 / 78.7 x 118.1</td>
</tr>
<tr>
<td>V Longitudinal Travel of Table</td>
<td>mm</td>
<td>2000 - 3000</td>
</tr>
<tr>
<td>Rapid Feed V-Axes</td>
<td>mm/min</td>
<td>12000</td>
</tr>
<tr>
<td>Rapid Feed B-Axes</td>
<td>rpm</td>
<td>2 (optionally 5)</td>
</tr>
</tbody>
</table>

* A large number of accessories are available.
STANDARD HEADSTOCK

Rugged, powerful, precise.

- The headstock is made from cast iron GGG60 and is equipped with a digitally-controlled servomotor turning the spindle, continuously regulating its rpm.
- Spindle travel (W axis) of 800 mm | 31.5 in, driven by a servomotor and ball screw.
- Clamping spindle taper SK50 (ISO, BT, or CAT).
- Torque transferred to the spindle through a two-speed planetary gearbox. Gears change automatically according to the programmed rpm.
- Standard spindle support sleeve of 250 mm | 9.8 in.

RAM EXECUTION (OPTIONAL)

The headstock moves up to 700 mm | 27.5 in towards the workpiece.

- Combined reach of spindle travel and ram stroke maximum 1430 mm | 56.3 in (optionally 1500 mm | 59.1 in).
- Ram stroke drives deep into the heart of the workpiece while maintaining the highest rigidity and accuracy.
- Ram stroke is controlled by servomotor with gear-box and ball-screw.
- All deflections compensated through geometric features of ram and headstock.

COLUMN AND BEDS

Rigid, tough, precise, designed to absorb vibrations during machining.

- Column frame, beds, slides, base, are made of reinforced cast iron GG30.
- Maximum rigidity and firmness of column and bed achieved through annealing; guideways and box ways hardened (56 HRC).
- Servomotors and ball screws (80 mm | 3.1 in in diameter) drive the CNC rotary table along X axis, headstock on Y axis, and column along Z axis.
- Y axis servomotor is equipped with mechanical brake.
- Separate servo drives on all axes, controlled digitally, provide the means for linear, circular, and helical interpolation.

CNC ROTARY TABLE AND CLAMPING PLATES

Thanks to the simple design and excellent components, FERMAT CNC rotary tables require minimum maintenance and adjustments during their lifetime.

- The CNC rotary table consists of three main parts – bed, slide, and rotary clamping plate. The clamping plate is fit to a cross roller bearing that secures high load capacity, no stick slip, minimum friction.
- Slides and clamping plate are castings.
- 2 servomotors with pinions provide the rotary movement on B axis, master/slave, no backlash.
- The rotary positioning of the table uses an absolute angle encoder (increment of 0.001°); the table is set in position, and held in place by hydraulic brakes.
- Clamping plates can be used for machining parts.
## WRF

<table>
<thead>
<tr>
<th>Units</th>
<th>WRF 130 CNC</th>
<th>WRF 150 CNC</th>
<th>WRF 160 CNC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter of Spindle</td>
<td>mm</td>
<td>in</td>
<td>130</td>
</tr>
<tr>
<td>Taper of Spindle</td>
<td>ISO50 / BT50 / CAT50 / BIG PLUS option</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Spindle Speed</td>
<td>rpm</td>
<td>3000 (optionally 4000)</td>
<td>2800 (optionally 3500)</td>
</tr>
<tr>
<td>Main Power Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>kW</td>
<td>41 / 61.5; 53 / 77.9 (54.9 / 82.4; 71 / 104.4)</td>
<td>58 / 86; 74 / 109 (77.7 / 115; 99.2 / 146)</td>
</tr>
<tr>
<td>Max. Torque Heidenhain or SIEMENS CNC (S1/S6)</td>
<td>Nm</td>
<td>2099 / 3149; 2713 / 3989</td>
<td>3281 / 4988; 3349 / 4923</td>
</tr>
<tr>
<td>Main Power FANUC CNC (S1/S3)</td>
<td>kW</td>
<td>37 / 45; 53 / 62 (49.6 / 60.3; 71 / 104.4)</td>
<td>60 / 75</td>
</tr>
<tr>
<td>Max. Torque FANUC CNC (S1/S3)</td>
<td>Nm</td>
<td>2362 / 2873; 2713 / 3989</td>
<td>2829 / 3536</td>
</tr>
<tr>
<td>X Cross Travel of Column</td>
<td>mm</td>
<td>in</td>
<td>1800 - 27500</td>
</tr>
<tr>
<td>Y Vertical Travel of Headstock</td>
<td>mm</td>
<td>in</td>
<td>2500 / 3000 / 3500 / 4000 / 4500 / 5000 / 5500 / 6000</td>
</tr>
<tr>
<td>Z Ram Travel</td>
<td>mm</td>
<td>in</td>
<td>1000</td>
</tr>
<tr>
<td>W Spindle Travel</td>
<td>mm</td>
<td>in</td>
<td>800</td>
</tr>
<tr>
<td>Rapid Feed X, Y</td>
<td>mm/min</td>
<td>in/min</td>
<td>20000 (opt. 40000), 15000 (opt. 24000)</td>
</tr>
<tr>
<td>Rapid Feed Z, W</td>
<td>mm/min</td>
<td>in/min</td>
<td>10000, 8000</td>
</tr>
</tbody>
</table>

### Rotary Table – Optional Accessory

<table>
<thead>
<tr>
<th>Max. Table Load</th>
<th>kg</th>
<th>20000 / 25000 / 40000 / 50000 / 60000 / 80000 / 100000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb</td>
<td>44092 / 55115 / 88184 / 110231 / 132277 / 176369 / 220462</td>
</tr>
<tr>
<td>Table Size</td>
<td>mm</td>
<td>in</td>
</tr>
</tbody>
</table>

### ACCESSORIES & DETAILS

*A large number of accessories are available.*
HEADSTOCK WITH RAM STROKE
Rugged, powerful, precise.
- The headstock is made from cast iron GGG60 and is equipped with a digitally-controlled servomotor turning the spindle, continuously regulating its rpm.
- Spindle travel (W axis) of 800 mm | 31.5 in (V130) and 1000 mm | 39.4 in (V150, V160), driven by a servomotor and ball screw.
- Clamping spindle taper SK50 (ISO, BT, CAT or optionally BIG PLUS).
- Maximum ram stroke is 900 mm | 35.4 in (V130) and 1200 mm | 47.2 in (V150, V160). Ram stroke offers better access to workpiece while keeping rigidity.
- Ram stroke is controlled by servomotor with gear-box and ball-screw, on linear motion (LM) guideways.

COLUMN AND BEDS
Rigid, tough, precise, designed to absorb vibrations during machining.
- Column frame, beds, slides, base, are made of reinforced cast iron GG30.
- Column is a massively constructed weldment. Maximum stiffness is achieved through annealing which leads to rigidity and firmness in metal-working procedures. Guideways and box ways are hardened (56 HRC).
- Movement of the headstock along the Y axis is achieved by multiple ball-screws - two (for V130, Ø 100 mm | 3.9 in, 2 brakes) / three ball-screws (for V150/160, Ø 80 mm | 3.1 in, one brake) with gear-boxes and servomotors.
- Column moves by rack and pinion drive on the X axis bed using large linear ways and carriages driven by 2 servomotors in (MASTER-SLAVE) configuration.
- Two linear positioning scales are also placed on column to further increase precision of the ram.

CNC ROTARY TABLE AND CLAMPING PLATES
Thanks to the simple design and excellent components, FERMAT CNC rotary tables require minimum maintenance and adjustments during their lifetime.
- The CNC rotary table consists of three main parts – bed, slide, and rotary clamping plate. The clamping plate is fit to a cross roller bearing that secures high load capacity, no stick slip, minimum friction.
- Table carriage moves on 2 linear motion (LM) guideways.
- For tables with travel of up to 5 m | 196.9 in, the travel is controlled by servomotor with planetary gear-box and ball-screw.
- Slides and clamping plate are castings.
- 2 servomotors with pinions provide the rotary movement on B axis, master/slave, no backlash.
- The rotary positioning of the table uses an absolute angle encoder (increment of 0.001°); the table is set in position, and held in place by hydraulic brakes.
- Clamping plates can be used for machining parts.
### ACCESSORIES & DETAILS

<table>
<thead>
<tr>
<th>Units</th>
<th>WRF 2G</th>
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<tbody>
<tr>
<td>Diameter of Spindle</td>
<td>mm</td>
</tr>
<tr>
<td>Taper of Spindle</td>
<td>ISO50 / BT50 / CAT50 / BIG PLUS option</td>
</tr>
<tr>
<td>Max. Spindle Speed</td>
<td>rpm</td>
</tr>
<tr>
<td>Main Power CNC SIEMENS (S1/S6-40%)</td>
<td>kW</td>
</tr>
<tr>
<td>Max. Torque SIEMENS CNC (S1/S6-40%)</td>
<td>Nm</td>
</tr>
<tr>
<td>Main Power FANUC (S1/S3)</td>
<td>kW</td>
</tr>
<tr>
<td>Max. Torque FANUC CNC (S1/S3)</td>
<td>Nm</td>
</tr>
<tr>
<td>X Cross Travel of Column</td>
<td>mm</td>
</tr>
<tr>
<td>Y Vertical Travel of Headstock</td>
<td>mm</td>
</tr>
<tr>
<td>W Spindle Travel</td>
<td>mm</td>
</tr>
<tr>
<td>Z Ram Travel</td>
<td>mm</td>
</tr>
<tr>
<td>Rapid Feed X, Y</td>
<td>mm/min</td>
</tr>
<tr>
<td>Rapid Feed Z, W</td>
<td>mm/min</td>
</tr>
<tr>
<td>Rotary Table – Optional Accessory</td>
<td></td>
</tr>
<tr>
<td>Max. Table Load</td>
<td>kg</td>
</tr>
<tr>
<td>Table Size</td>
<td>mm</td>
</tr>
</tbody>
</table>

* A large number of accessories are available.
The new WRF series – thousands of machining hours experience for your workshop.

HIGHER DYNAMICS
- Rapid travel feed 40000 mm/min | 1574.8 in/min.
- Special telescopic way covers for high speed travels.
- Linear ways are lubricated with oil. A thin oil layer is cleaning the linear guideways which is a big advantage for machining of castings.

SPECIAL DESIGN OF COLUMN
- 2x ballscrews 100 mm | 3.9 in with two absolute scales.
- Full covers from the front and the back side.
- Low-profile design – the highest possible Y-Axis travel with the lowest machine total height.

ADVANCED TEMPERATURE STABILIZATION
- X,Y, headstock motors are water-chilled – the heat is dissipated out of the machine to maintain geometry stabilization.
- Reduction of heat accumulation in the column.
- Reduction of dust in the column.
- Better headstock chilling for longer lifetime of bearings.
- 2 recirculating chilled circuits of the headstock.
- Chilling of material surrounding the bearings from the outer diameter and prevents the heat from affecting the RAM.
- Chilling mixture of oil and air which is brought to the main bearings to lubricate them. The mixture is then sucked out of the bearings together with the unnecessary heat.
- Important prolongation of bearings lifetime since the special mixture of oil has a smaller degree of viscosity and thus creates lower temperatures.

THE BEST WE CAN BUILD FOR YOU
- Standard 3000 rpm for spindle diameter 150 / 160 mm | 5.9 / 6.3 in or optionally 3500 rpm for spindle diameter 150 / 160 mm | 5.9 / 6.3 in. 2500 rpm for spindle diameter 180 mm.
- Standard kW | 78.9 hp or optionally 72 kW | 97.9 hp water-chilled motor from Siemens.
- Moveable cabin horizontally (800 mm | 34.5 in) + vertically (according to the Y-Travel).
- 2 independent mechanisms for spindle fall compensation:
  - Y axis positioning is managed by 2 ball-screws with Heidenhain absolute linear scales.
  - Hydraulic torsion bars are used for ram stiffness stabilization.
### WRF HEAVY

#### Units | WRF 160 Heavy
---|---
Diameter of Spindle | mm | in | 160 | 6.3
Taper of Spindle | ISO50 / BT50 / CAT50 / BIG PLUS option
Max. Spindle Speed | rpm | 2500
Main Power Heidenhain or SIEMENS CNC (S1/S6) | kW | hp | 74 | 91
Max. Torque Heidenhain or SIEMENS CNC (S1/S6) | Nm | 3349 | 4120
X Cross Travel of Column | mm | in | 74 | 109 | 99.2 | 146
Y Vertical Travel of Headstock | mm | in | 2000 - 10000 | 78.7 - 393.7
Z Ram Travel | mm | in | 1600 | 62.9
W Spindle Travel | mm | in | 1000 | 39.3
Rapid Feed X, Y | mm/min | in/min | 20000, 15000 | 787.4, 590.5
Rapid Feed Z, W | mm/min | in/min | 15000, 10000 | 590.5, 393.7

### Rotary Table – Optional Accessory

| Max. Table Load | kg | lb |
| | | 20000 / 25000 / 40000 / 50000 / 60000 / 80000 / 100000 / 44092 / 55115 / 88184 / 110231 / 132277 / 176369 / 220462 |
| Table Size | mm | in | see page 24 / option tilting tables with 0 - 8° |
| V Longitudinal Travel of Table | mm | in | 2000 - 5000 / 2400 - 9500 and special 78.7 - 196.8 / 94.4 - 374 and special |
| Rapid Feed V-Axes | mm/min | in/min | 12000 / 20000 | 472.4 / 787.4 |
| Rapid Feed B-Axes | rpm | 1,7 |

### ACCESSORIES & DETAILS

* A large number of accessories are available.
HEADSTOCK WITH RAM STROKE

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.

- Iron casting GGG60 of the main carrier of the headstock (ram) is prism-shaped and has a massive square profile of 550 x 550.
- Headstock and carriage are situated between two columns for better stability.
- Maximum ram stroke is 1600 mm | 62.9 in. Ram stroke offers better access to workpiece while keeping rigidity.
- The travel of the headstock is provided by six hardox hardened slideways.
- Extra linear guideway is added for stabilization of the saddle.
- Spindle travel (W axis) of 1000 mm | 39.4 in driven by a servomotor and ball screw.

COLUMN AND BEDS

Rigid, tough, precise, designed to absorb vibrations during machining.

- Column frame, beds, slides, base, are made of reinforced cast iron GG30.
- Column is a massively constructed weldment. Maximum stiffness is achieved through annealing which leads to rigidity and firmness in metal-working procedures.
- Column moves by rack and pinion drive on the X axis bed using large linear ways and carriages driven by 2 servomotors in (MASTER-SLAVE) configuration.
- Two linear positioning scales are also placed on column to further increase precision of the ram.

CNC ROTARY TABLE AND CLAMPING PLATES

Thanks to the simple design and excellent components, FERMAT CNC rotary tables require minimum maintenance and adjustments during their lifetime.

- The CNC rotary table consists of three main parts – bed, slide, and rotary clamping plate. The clamping plate is fit to a cross roller bearing that secures high load capacity, no stick slip, minimum friction.
- Table carriage moves on 2 linear motion (LM) guideways.
- For tables with travel of up to meters | 196.9 in, the travel is controlled by servomotor with planetary gear-box and ball-screw.
- Slides and clamping plate are castings.
- 2 servomotors with pinions provide the rotary movement on B axis, master/slave, no backlash.
- The rotary positioning of the table uses an absolute angle encoder (increment of 0.001°); the table is set in position, and held in place by hydraulic brakes.
- Clamping plates can be used for machining parts.
SPECIAL ACCESSORIES

Rotary Table

All the tables have outstanding positioning precision (4 arc sec, 0.010 mm / 1000 mm 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.

The rotary table consists of bed, slide, and rotary clamping plate. The slide enables the rotary clamping plate to move in the V-axis. The clamping plate is fitted onto a cross roller bearing that secures high load capacity with minimal passive resistance. In order to achieve precision in work pieces, the rotary table is hydraulically clamped at four points (T10, T20), eight points (T25, T40, T50) or 12 points (T80, T100) to avoid rotation during the working process.

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.

### T10

| Clamping Plate Size (mm | in) | 1200 x 1200 / 1200 x 1400 / 1400 x 1600 / 1600 x 1800 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 / 62.9 x 70.8 |
|----------------------------|--------------------------------------------------|
| Max. Table Load (kg | lb) | 10000 | 22046 |
| Table Travel (mm | in) | 2000 / 3000 | 78.7 / 118.1 |
| T-Slots Size | 22H8 |
| Operation Travel V-Axis (mm/min | in/min) | 1 - 8000 | 0.039 - 314.9 |
| Operation Travel B-Axis (rpm) | 2 (optionally 10) |

### T20

| Clamping Plate Size (mm | in) | 1600 x 1800 / 1800 x 2200 / 1800 x 2600 / 2000 x 2400 / 2500 x 2500 / 2000 x 3000 62.9 x 70.8 / 70.8 x 86.6 / 70.8 x 102.3 / 78.7 x 94.4 / 98.4 x 98.4 / 78.7 x 118.1 |
|----------------------------|--------------------------------------------------|
| Max. Table Load (kg | lb) | 20000 | 44092 |
| Table Travel (mm | in) | 2000 / 3000 / 4000 / 5000 | 78.7 / 118.1 / 157.4 / 196.8 |
| T-Slots Size | 22H8 (optionally 28H8) |
| Operation Travel V-Axis (mm/min | in/min) | 1 - 8000 | 0.039 - 314.9 |
| Operation Travel B-Axis (rpm) | 2 (optionally 10) |

### T25 / T40 / T50

| Clamping Plate Size (mm | in) | 2000 x 2000 / 2000 x 2500 / 2500 x 2500 / 2500 x 3000 / 3000 x 3000 / 3000 x 3500 / 3500 x 3500 / 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 137.7 / 137.7 x 137.7 |
|-----------------------------------------------|--------------------------------------------------|
| Max. Table Load (kg | lb) | 30000, 40000, 50000 | 88184, 110231 |
| Table Travel (mm | in) | 55115, 88184, 110231 | 176369, 220462 |
| T-Slots Size | 28H8 (optionally 36H8) |
| Operation Travel V-Axis (mm/min | in/min) | 1 - 10000 | 0.039 - 393.7 |
| Operation Travel B-Axis (rpm) | 0 - 1,7 |
| Tilting Angle (degrees) | x | 0 - 10° |
Pallet Change System

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 workpiece).

ZERO POINT SYSTEM

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.

APC TYPE: AUTOMATIC SHUTTLE SYSTEM

- 2 tables installed on one bed – the X axis.
- Max. load of one table: up to 40 tons | 88185 lbs.

Tables Dimensions:
1200 x 1200 mm | 47.2 x 47.2 up to 33000 x 3000 mm | 118.1 x 118.1 in

APC TYPE: ROTARY

- Rotary system. 2 pallets installed on one additional bed.
- Max. load of one pallet: 5 tons | 11023 lbs.

Pallets Dimensions:
1200 x 1200 mm | 47.2 x 47.2
1200 x 1400 mm | 47.2 x 55.1
1400 x 1600 mm | 55.1 x 62.9

APC TYPE: AUTOMATIC PALLET CHANGER

- 2 pallets are perpendicular to the X axis, each on its own bed.
- Max. load of one pallet: 15 tons | 33069 lbs.

Pallets Dimensions:
1600 x 1800 mm | 62.9 x 70.9
1800 x 2200 mm | 70.9 x 86.6
2000 x 2400 mm | 78.7 x 94.5
All milling heads (from 30 kW | 40.8 hp up) are designed and manufactured by FERMAT and therefore it 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 serviced (whether because of crash or routine maintenance).

## Manual Milling Heads Up to 3000 RPM

**Suitable for Machines with spindle diameter 130 mm | 5.1 in and bigger.**

### UHM 30

**Universal Manual Head UHM 30**

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

- **Revolutions:** 3000 rpm
- **Maximum Power:** 30 kW | 40.8 hp
- **Maximum Torque (150 rpm):** 1600 Nm
- **Tool:** ISO 50 – DIN 69871
- **Pull Stud:** DIN 69872
- **Turning:** any degree (2.5° / 2.5° (1°/ 1°))
- **Coolant Through Spindle:** optional for machines with spindle diameter 130 / 150 / 160 mm | 5.1 / 5.9 / 6.3 in.

### PHM 37

**Right Angle Manual Head PHM 37**

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

- **Revolutions:** 3000 rpm
- **Maximum Power:** 37 kW | 50.3 hp
- **Maximum Torque (150 rpm):** 2000 Nm
- **Tool:** ISO 50 – DIN 69871
- **Pull Stud:** DIN 69872
- **Turning:** any degree, 2.5° (1°)
- **Coolant Through Spindle:** option for machines with spindle diameter 130 / 150 / 160 mm | 5.1 / 5.9 / 6.3 in.
Manual Milling Heads Up to 2000 RPM

Suitable for Machines with spindle diameter up to 130 mm | 5.1 in..

**UHM 20**
Two Axis Universal Manual Milling Head
Manually attached to the headstock, manual positioning, manual tool clamping and unclamping.
Revolutions: 2000 rpm
Maximum Power: 20 kW | 27.2 hp
Max. Torque: 1000 Nm
Tool: SK 50
Cooling Through Spindle: not possible

**PHM 20**
Right Angle Manual Milling Head
Manually attached to the headstock, manual positioning, manual tool clamping and unclamping.
Revolutions: 2000 rpm
Maximum Power: 20 kW | 27.2 hp
Max. Torque: 1000 Nm
Tool: SK 50
Cooling Through Spindle: not possible

**OHM 20**
Two Axis Orthogonal Manual Milling Head
Manually attached to the headstock, manual positioning, manual tool clamping and unclamping.
Revolutions: 2000 rpm
Maximum Power: 20 kW | 27.2 hp
Max. Torque: 1000 Nm
Tool: SK 50
Cooling Through Spindle: not possible
Automatic Universal Milling Heads

UHA 0.001°
Universal Automatic Micro-Indexing
Milling Head
Fully Automatic (attachment to the headstock, tool clamping, positioning, lubrication).
Revolutions: 10 – 3000 (option 4000) rpm
Max. Power: 53 kW | 72.1 hp
Maximum Torque: 1600 Nm
Spindle Taper: SK 50
Clamping Force of Tool (kN): 20±15%
Stall Torque in Axis A: brake 3800
Stall Torque in Axis C: brake 6500
Indexing: 0.001°
External Tool Coolant: standard
Coolant Trough Spindle: standard 80
Lubrication: automatic, grease

UHAmi SDHS
Universal Automatic Milling Head
Hight Speed
Fully Automatic (attachment to the headstock, tool clamping, positioning, lubrication).
Positioned by the means of 2 x 2 servomotors (in MASTER-SLAVE preloading), enables continuous machining.
Revolutions: 10 – 5000 rpm
Max. Power: 41 kW | 55.7 hp
Maximum Torque: 1500 Nm
Spindle Taper: SK 50
Clamping Force of Tool (kN): 20±15%
Stall Torque in Axis A: brake 3370
Stall Torque in Axis C: brake 7811
Indexing: 0.001°
External Tool Coolant: standard
Coolant Trough Spindle: standard 80
Lubrication: automatic, grease
Automatic Right Angle Milling Heads

**PHA 37**
Right Angle Automatic Milling Head
Fully Automatic (attachment to the headstock, tool clamping, positioning, lubrication).
Revolutions: 10 – 3000 rpm
Max. Power: 37 kW | 50.3 hp
Maximum Torque: 2000 Nm
Spindle Taper: SK 50
Clamping Force of Tool (kN): 20±15%
Stall Torque in Axis C: hirth
Indexing: 2.5°
External Tool Coolant: standard
Coolant Trough Spindle: standard 30
Lubrication: automatic, grease

**PHAmi 60 (0.001°)**
Right Angle Automatic Milling Head
Fully Automatic (attachment to the headstock, tool clamping, positioning, lubrication).
Revolutions: 10 – 1700 rpm
Max. Power: 74 kW | 100.6 hp
Maximum Torque: 3200 Nm
Spindle Taper: SK 50
Clamping Force of Tool (kN): 20±15%
Stall Torque in Axis C: brake 10 000
Indexing: 0.001°
External Tool Coolant: standard
Coolant Trough Spindle: standard 80
Lubrication: automatic, oil

**PHAmi 60 (1°)**
Right Angle Automatic Milling Head
Fully Automatic (attachment to the headstock, tool clamping, positioning, lubrication).
Revolutions: 10 – 1700 rpm
Max. Power: 74 kW | 100.6 hp
Maximum Torque: 3200 Nm
Spindle Taper: SK 50
Clamping Force of Tool (kN): 20±15%
Stall Torque in Axis C: hirth
Indexing: 1°
External Tool Coolant: standard
Coolant Trough Spindle: standard 80
Lubrication: automatic, grease
Special Milling Heads

OMG TA 26
Right Angle Milling Head
Manually attached to the headstock, manual positioning, manual tool clamping and unclamping.
Revolutions: 1 – 2500 rpm max.
Maximum Power: 55 kW | 74.8 hp
Maximum Torque (150 rpm): 2600 Nm
Tool: SK 40
Coolant Through Spindle: not possible

Alberti T90 – 10
Right Angle Milling Head
Manually or automatically attachment to the headstock, manual tool clamping and unclamping.
Revolutions: 10 – 3000 rpm
Maximum Torque (150 rpm): 250 Nm
Tool: SK 50
Turning: 0 – 360
Coolant Trough Spindle: option 12 (bar)
Lubrication: oil
Can be used with long adapter.

E-PHAmi
Automatically or manually attached to the headstock, automatic tool clamping and unclamping.
Revolutions: 12 – 15,000 rpm
Maximum Power: 40.5 kW | 55.1 hp (S1)
Maximum Torque: 128.9 Nm (S1)
Tool: SK 40 / SK 50
Turning: +/- 95°
Outside Coolant: standard
For machines with spindle diameter 130 / 150 / 160 mm | 5.1 / 5.9 / 6.3 in.
Facing Heads

COGSDILL FACING HEAD
ZX 200 / ZX 300
Plate Diameter: 200 / 420 mm | 7.9 / 16.5 in
Max rpm: 800 / 500
Approx. Weight: 93 / 154 kg | 205 / 340 lbs
Boring Accuracy: H7
Radial Traverse: 107 / 168 mm | 4.2 / 6.6 in
Maximum Boring Diameter: 380 / 650

D’ANDREA FACING HEAD
TA-T 200
Plate Diameter: 200 mm | 7.9 in
Max rpm: 1400
Approx. Weight: 20.5 kg | 45.2 lbs
Boring Accuracy: H7
Radial Traverse: ± 32.5 mm | 1.3 in
Maximum Boring Diameter: 400 mm | 15.7 in
(depth depending)

FERMAT FACING HEAD
FH 65 / FH 80
Plate Diameter: 650 / 800 mm | 25.6 / 31.5 in
Max rpm: 250 / 220
Approx. Weight: 290 / 360 kg | 639 / 794 lbs
Boring Accuracy: 0.05
Radial Traverse: 170 / 220 mm | 6.7 / 8.7 in
Maximum Boring Diameter: 1200 / 1400 mm | 47.2 / 55.1 in

D’ANDREA FACING HEAD UT 5-500 S (UT 5-630, UT5-800)
Plate Diameter: 500 / 630 / 800 mm | 19.7 / 24.8 / 31.5 in
Positioning: Automatic
Max rpm: 200 / 250 / 315
Approx. Weight: 230 / 310 / 530 kg
| 507 / 683 / 1168 lbs
Boring Accuracy: H7
Radial Traverse: 160 / 200 / 250 mm
| 6.3 / 7.9 / 9.8 in
Maximum Boring Diameter: 1000 / 1250 / 1400 mm | 39.4 / 49.2 / 55.1 in (depth depending)
Pick-up station

Pick-up is used for automatic change of milling heads. All automatic milling heads have sensitive sensors, so it is dangerous to change heads manually as there is a big risk of damage.

There are different design solutions. Depending on the needs of production, the customer can choose what suits him best.

1 POSITION PICK-UP (ATTACHED TO ROTARY TABLE CLAMPING PLATE)

Suitable for table-type machines for tables 1800 x 2200 mm | 70.9 x 86.6 in and bigger.
- The head holder consists of two hinged arms permanently attached to the side of R plate (when arms are folded, there is no risk of holder hitting the column during rotation).
- The head is accurately seated in portable frame.
- For this solution, as an option, we offer also cover for the milling head, which prevents its possible damage (for example caused by flying chips during machining).
- It is semi-automatic exchange of milling head, controlled and inspected by machine operator.
- Fast and accurate exchange for reasonable price.

1 POSITION PICK-UP (ATTACHED TO FLOOR PLATE)

Suitable for machines types WRF and WF 13R with floor plates.
- The head holder is placed on floor plate, in locating sockets inside T-slots.
- Head is accurately seated on the holder on cylindrical pins.
- In some situations, the holder may take space necessary for workpiece (then it is to be removed out of work area by crane).
- It is semi-automatic exchange of milling head, controlled and inspected by machine operator.

2 POSITION PICK-UP (AUTOMATIC)

Suitable for WFT 13 and WFT 15 machines.
- Automatic Exchange with CNC Control System.
- The whole pick-up is movable, to 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 (cover plate is made of plastic and is attached to headstock manually).
- Fast and accurate exchange that eliminates the danger of damaging the adapter of milling head.

2 / 3 / 4 - POSITION PICK-UP (FLOOR TYPE)

Suitable for all floor type machines.
- Attached to floor plate.
- Can be integrated into the area of robot for exchange of tools.
- Fast and accurate exchange that eliminates the danger of damaging the adapter of milling head.
AUTOMATIC TOOL CHANGING

Automatic tool change helps to save time, increase productivity and protect the operator. It is the choice for productive production.

ATC CHAIN TYPE

ATC is able to exchange tools directly into the spindle or into milling head in zero position. Two options for horizontal or horizontal and vertical exchange.

• Horizontal exchange only - into the boring spindle.
• Horizontal and vertical exchange - into the boring spindle and into automatic milling head in vertical or horizontal position.
• Hydraulically operated.
• Max. number of tools: 120.

ROBOT TOOL CHANGER

Robot is able to exchange tools virtually into any position of head, max. number of tools is 210. Tool rack with robot is an independent enclosed work space that provides possibility of manipulation with tools without safety risks for operator or risk of crash for the machine. There is a special access point for adding tools, from where robot takes tools and put them into tool rack. This mode increases time effectivity if the machine.

The advantages of the robotic solution:

• Faster tool change.
• Almost no maintenance or service interventions.
• The possibility to change tools into various accessories and attachments.
• There is no interference in the work area normally encountered by the required rail of the traditional mechanical tool changer.
• The tools can be exchanged either to working spindle or to a predefined position on automatic milling head, as a standard exchange is possible in two positions (A +0, C+0), (A +180, C+0), optionally any other position is possible.
• The exchange can be also done into working spindle with an attached spindle support sleeve from Fermat’s production.
• The robot is equipped with a hydraulic tool gripper with two holders. The first tool holder is occupied with the prepared tool and the second tool holder will be taking the tool out from the spindle. After the tool change is completed the doors will close automatically and the robot will place the tool into the defined position of the tool storage rack.
• Max. number of positions: 105 / 210 tools.
• Maximal tool weight: 25 kg | 55 lbs by using gripper no. 1 and 2, 50 kg | 110 lbs by using only one gripper.
# Heads Suitability & Usage

<table>
<thead>
<tr>
<th>MACHINE TYPE</th>
<th>WFC 10</th>
<th>WFT 11</th>
<th>WFT 13</th>
<th>WFT 15</th>
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Note: The table above lists different machine types and the availability of various heads and faceplates. The symbols represent the presence of specific features or components in the corresponding machine types.
REFERENCES

WF 13 CNC
T. BRUCE SALES, INC. | USA
Parameters: X = 8300 mm (326.7"), Y = 3500 mm (137.8"), Z = 700 mm (27.6"), Rotary Table 2000 x 2400 mm (78.7" x 94.5"), CTS 20 bar, Milling Head UHM 30

WRF 160 CNC
VALMET, INC. | USA
Parameters: X = 10500 mm (413.4"), Y = 3500 mm (137.8"), Z = 1200 mm (47.2"), W = 1000 mm (39.4"), CTS 20 bar, ATC 60 (HV)

WFT 13R CNC
RANCE INDUSTRIES INC. | USA
Parameters: X = 4000 mm (157.5"), Y = 2500 mm (98.4"), Z = 1500 mm (59.1"), V = 700 mm (27.6"), W = 730 mm (28.7"), Rotary Table 2000 x 2400 mm (78.7" x 94.5"), CTS 20 bar, ATC 40 (H)

WFT 13 CNC
PRECISION BORING COMPANY | USA
Parameters: X = 3500 mm (137.8"), Y = 2000 mm (78.7"), Z = 1700 mm (66.9"), W = 730 mm (28.7"), Rotary Table 1800 x 2200 (70.9" x 86.6"), CTS 20 bar, ATC 40
REFERENCES

WRF 160 HEAVY CNC
D & S MACHINE SERVICE INC. | USA
Parameters: X = 2700 mm (106.3"), Y = 5000 mm (196.9"), Z = 1500 mm (59.1"), W = 1000 mm (39.4"), Rotary Table 3500 x 3500 mm (137.8" x 137.8"), CTS 20 bar, ATC 60, Milling Heads UHAmi 30, PHA 37

WFT 13R CNC
LANGE GRINDING, INC. | USA
Parameters: X = 4000 mm (157.5"), Y = 2500 mm (98.4"), Z = 2000 mm (78.7"), V = 600 mm (23.6"), W = 730 mm (28.7"), Rotary table 2000x2400 mm (78.7" x 94.5"), CTS 20 bar, ATC 105, Milling Head UHM 30

WF 13R CNC
NEWELL MACHINE & REPAIR | USA
Parameters: X = 13200 mm (519.7"), Y = 3500 mm (137.8"), Z = 700 mm (27.6"), V = 1200 mm (47.2"), W = 730 mm (28.7"), Rotary Table 3000 x 3000 mm (118.1" x 118.1"), CTS 20 bar, ATC 20, Milling Head UHAmi 30, Pick up Station

WFT 15R CNC
S&S DIE CO. | USA
Parameters: X = 4200 mm (165.4"), Y = 3000 mm (118.1"), Z = 2000 mm (78.7"), W = 730 (28.7"), V = 700 (27.5"), Rotary table = 2000 x 2000 (78.7" x 78.7"), CTS 20 bar, ATC 40HV, Milling Head UHAmi 30, Automatic Pick up Station
REFERENCES

WFT 13 CNC
TIGERCAT INDUSTRIES INC. | CANADA
Parameters: X = 3000 mm (118.1"), Y = 3500 / 3000 mm (137.8" / 118.1"), Z = 1500 mm (59.1"), W = 730 mm (28.7"), Rotary Table 1600 x 1800 mm / 2000 x 2400 mm (62.9" x 70.9" / 78.7" x 94.5"), CTS 20 bar, ATC 40

WFT 13 CNC
CMI HEAVY INDUSTRIES | CANADA
Parameters: X = 4000 mm (157.5"), Y = 3000 mm (118.1"), Z = 1500 mm (59.0"), W = 730 mm (28.7"), Rotary Table 1800 x 2200 mm (70.9" x 86.6"), CTS 20 bar, ATC 40

WRF 160 CNC
FAY IND. | BRAZIL
Parameters: X = 8600 mm (338.6"), Y = 5000 mm (196.9"), Z = 1200 mm (47.2"), W = 1000 mm (39.4"), Rotary Table 3000 x 3000 mm (118.1" x 118.1"), CTS 50 bar, Milling Heads VGCI, FH 80, IFVW 1B

WFT 13R CNC
SENNEBOGEN MASCHINENFABRIK GMBH. GERMANY
Parameters: X = 4000 mm (157.5"), Y = 3000 mm (118.1"), Z = 1500 mm (59.1"), W = 730 mm (28.7"), Rotary Table 1800 x 2200 mm (70.9" x 86.6"), CTS 30 bar, ATC 60, Milling Heads UHAmi30
REFERENCES

**WFT 13 CNC**
HYMSA HYDRAULICA Y MECANICA, S.A.A DE C.V. | MEXICO
Parameters: X = 3000 / 3500 mm (118.1" / 137.8"), Y = 2000 / 2500 mm (78.7" / 98.4"), Z = 1700 mm (66.9"), W = 730 mm (28.7"), Rotary Table 1800 x 2200 mm (70.9" x 86.6"), ATC 40 (60)

**WFT 13R CNC**
BRUHIN AND DIETHELM AG | SWITZERLAND
Parameters: X = 3000 mm (118.1"), Y = 2000 mm (78.7"), Z = 3000 mm (118.1"), W = 600 mm (23.6"), Rotary Table 1600 x 1800 mm (62.9" x 70.9"), CTS 50 bar, Robotic Tool Changer 180, Milling Head UHA 30

**WFT 13 CNC**
VEEKAY ENGINEERING | INDIA
Parameters: X = 4000 mm (157.5"), Y = 2500 mm (98.4"), Z = 1700 mm (66.9"), W = 730 mm (28.7"), Rotary Table 1600 x 1800 mm, ATC 32, Milling Head UHM 30, D’Andrea UT 5-500

**WRF 160 CNC**
PROMINOX S.A. | MOROCCO
Parameters: X = 11700 mm (460.6"), Y = 6000 mm (236.2"), Z = 1200 mm (47.2"), W = 1000 mm (39.4"), Rotary Table 2500 x 3000 mm (98.4" x 118.1"), CTS 50 bar, ATC 60, Milling Head UHM 30
REFERENCES

**WFT 13 CNC**  
**TIANJIN ZHONGZHONG SCIENCE & TECHNOLOGY CO.LTD. | CHINA**  
Parameters: $X = 3000$ mm (118.1"), $Y = 2000$ mm (78.7"), $Z = 1700 / 1200$ mm (66.9" / 47.2"), $W = 730$ mm (28.7"),  
Rotary Table $1800 \times 2200$ mm (70.9" x 86.6")

**WRF 130 CNC**  
**FAURE PERE ET FILS | FRANCE**  
Parameters: $X = 6200$ mm (244.1"), $Y = 3000$ mm (118.1"), $Z = 900$ mm (35.4"), $W = 730$ mm (28.7"),  
Rotary Table $2000 \times 2400$ mm (78.7 x 94.5"), CTS 20 bar, Milling Head UHM 30 with automatic clamping

**2x WRF 160 HEAVY CNC**  
**NORDMARK, MASKINFABRIK A/S | DENMARK**  
Parameters: $X = 17000$ mm (669.3"), $Y = 8000$ mm (314.9"), $Z = 1500$ mm (59.1"), $W = 1000$ mm (39.4"),  
Rotary Table $3000 \times 4000 / 3000 \times 3000$ mm (118.1” x 157.5” / 118.1” x 118.1”) Tilting, CTS 50 bar,  
ATC 105 Robotic, Milling Heads PHAmi 60, PHA 37,  
Automatic Pick up Station

**WFT 13 CNC**  
**DOOSAN BOBCAT ENGINEERING s.r.o. | CZECHIA**  
Parameters: $X = 5000$ mm (196.9"), $Y = 2500$ mm (98.4"), $Z = 2000$ mm (78.7"), $W = 730$ mm (28.7"),  
Rotary Table $1800 \times 2600$ mm, CTS 20 bar, ATC 40
REFERENCES

WFT 13 CNC
RAVEN | SLOVAKIA
Parameters: X = 5000 mm (196.9"), Y = 2500 mm (98.4"),
Z = 2000 mm (78.7"), W = 730 mm (28.7"), Rotary Table
1800 x 2600 mm (70.9" x 102.4"), CTS 20, ATC 32,
Milling Head PHM 20

WFT 11 CNC
MOJSTROVINA, D.O.O. | SLOVENIA
Parameters: X = 5000 mm (196.9"), Y = 2000 mm (78.7")
Z = 1700 mm (66.9"), Rotary Table 1800 x 2600 mm
(70.9" x 102.4"), CTS 70 bar

WFT 15R CNC
ELZAM-ZAMECH SP. Z O.O. | POLAND
Parameters: X = 4000 mm (157.5"), Y = 2500 mm (98.4"),
Z = 1500 mm (59.1"), Rotary Table 2000 x 2400 mm
(78.7" x 94.5"), CTS 20 bar, ATC 40HV, UHAmi 0.001°
REFERENCES

WFT 15 CNC
HYDREMA A/S | GERMANY
Parameters: X = 3000 mm (118,1”), Y = 2000 mm (78,7”), Z = 2400 mm (94,5”), W = 730 mm (28,7”), Rotary Table 1800 x 2200 mm (70,9” x 86,6”), Speed Clam System, CTS 20 bar, ATC 60

WFC 10 CNC
ANJALANKOSKEN METALLINEN | FINLAND
Parameters: X = 2000 mm (78.7”), Y = 1700 mm (66.9”), Z = 1250 mm (49.2”), Rotary Table 1250 x 1800 mm (49.2” x 70.9”), CTS 70 bar, FERMAT Robotics 105, UHM 20

WFC 10 CNC
KROMET SP. Z O.O. | POLAND
Parameters: X = 2000 mm (78.7”), Y = 1700 mm (66.9”), Z = 1250 mm (49.2”), Rotary Table 1250 x 1400 mm (49.2” x 55.1”), CTS 70 bar

WFC 10HS CNC
RUPET FORMY A MODELY S.R.O. | CZECHIA
Parameters: X = 2000 mm (78.7”), Y = 1700 mm (66.9”), Z = 1250 mm (49.2”), Rotary Table 1250 x 1800 mm (49.2” x 70.9”), CTS 70 bar, ATC 40, 5500 rpm
**REFERENCES**

**WFT 13 CNC**  
**MABOTEC BV | NETHERLANDS**  
Parameters: X = 3000 mm (118.1"), Y = 2000 mm (78.7"),  
Z = 2000 mm (78.7"), Rotary Table 1400 x 1600 mm  
(55.1" x 62.9"), CTS 50 bar, FERMAT Robotics 105

**STT SERVIS S.R.O. | CZECHIA**  
Parameters: X = 5000 mm (196.9"), Y = 2500 mm (98.4"),  
Z = 2000 mm (78.7"), Rotary Table 2000 x 3000 mm  
(78.7" x 118.1"), CTS 20 bar, ATC 32H

**WRF 160 CNC**  
**EAST METAL A/S | DENMARK**  
Parameters: X = 14800 mm (582.7"), Y = 6000 mm (236.2"),  
Z = 1200 mm (47.2"), Rotary Table 3000 x 3000 mm  
(118.1" x 118.1"), CTS 50 bar, UHAmi 0,001°, ATC 90

**WF 13R CNC**  
**BENDER & HESSE FRÄS- UND BOHR-WERKTECHNIK GMBH | GERMANY**  
Parameters: X = 9000 mm (354.3"), Y = 3000 mm (118.1"),  
Z = 600 mm (23.6"), Rotary Table 1800 x 2200 mm  
(70.9" x 86.6"), PHM 37 1°, ATC 40
Parameters: X = 5000 mm (196.85") | Y = 2500 mm (98.43") | Z = 2000 mm (78.74") | W = 730 mm (28.74") |
Rotary Table = 1800 x 2600 mm (70.87 x 102.36") | CTS 4+20 | ATC 32 | PHM 20
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