



**horizontal lathes**



**RAFAMET**

## >>> RAFAMET S.A.

**Comprehensive solutions, advanced technologies and cost efficient productivity now much more than ever before are obvious requirements that the right equipment supplier is expected to meet in order to help various industries to be successful, to stay competitive in this global manufacturing market.**

For more than a century, RAFAMET has served to meet the diverse needs of the metalworking industry. Today RAFAMET SA is one of the world's leading builders of innovative and productive machine tools.

At the beginning of the twentieth century the foundry shops then existing began producing wheel lathes for machining railway wheel sets. This type of production continues up to the present day.

Since then RAFAMET has developed its products to include special purpose wheel lathes for railways and multi-purpose heavy duty single and double column vertical turning and boring mills.

Over the years the Company has become one of the largest suppliers of special purpose machine tools. It has manufactured more than 6000 heavy duty machines to date. These machine tools have been installed in more than 50 countries in the world.

Whilst maintaining its traditional production, RAFAMET continues to develop new product lines, using the Company's own, engineering task force. Such a development,

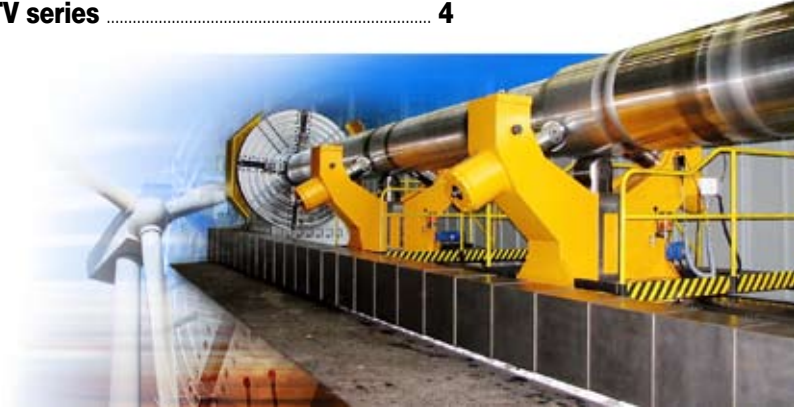
in recent years, has helped RAFAMET to be able to enter new manufacturing fields, i.e. bridge type milling machines, horizontal lathes, special machines, modular machining centres etc.

Simultaneously RAFAMET has developed the customer service and support program. It's total commitment to customer satisfaction has become a daily routine for the entire RAFAMET's staff. Moreover RAFAMET has been working in the ISO 9001 Quality Assurance/Management Standard environment since 1996.

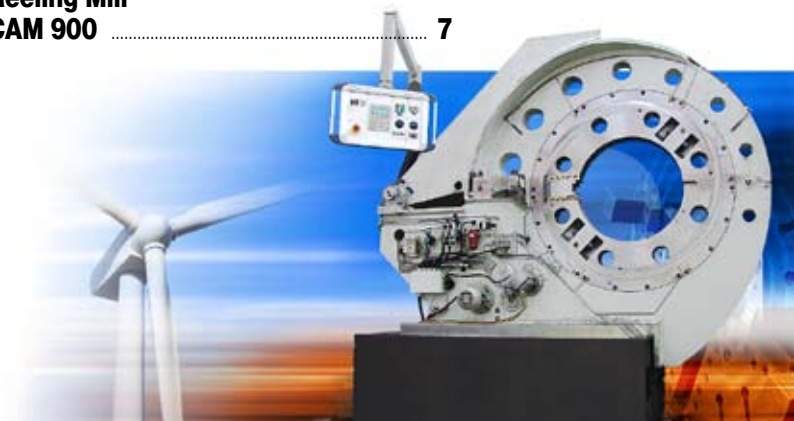


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ISO 9001

**BUREAU VERITAS**  
Certification



N° 199857

Our work is based on the ISO 9001 quality system, which is continuously being improved and our principal goal is the complete satisfaction of our Customers.

# >>>TV

## Horizontal Lathes

The TV Horizontal Lathes are the multi-purpose CNC machine tools which satisfies the requirements of a machining centre with the capabilities of turning, drilling, milling, and threading.

The lathes may machine the shafts applied in the wind power plants and/or the propeller shafts used in the vessel drives.

**The major members of the machine tools are:**

- Step bed
- Headstock
- Tailstock
- Carriage(s)
- Turning cross slide with quadrangle tool block or board-type slide
- Drilling and milling cross slide
- Steady rests (option)
- Control cabinet and control panels

▼ TV 240 CNC





▲ TV carriage with milling and turning cross slides



TV board-type turning cross slide ►

### Technical Specifications

	TV 115 CNC	TV 200 CNC	TV 240 CNC
Max. diameter of turning over bed ways [mm]	1150	2100	2400
Max. length of workpiece [mm]	4000	6000	6000
Max. weight of workpiece clamped between centres [x10 kN]	10	20	70
Outer diameter of four jaw chuck (face plate)	800	2000	2400
Range of main drive rotation rates [rpm]	21 to 750	21 to 150	21 to 120
Max. power of main driver motor [kW]	37	100	100
Carriage positioning accuracy [mm/1000 mm]	0.02	0.016	0.016
Cross slide positioning accuracy [mm/1000 mm]	0.02	0.010	0.010
Main spindle positioning accuracy [deg]	±0.005	±0.005	±0.005
Carriage positioning repeatability [mm/1000 mm]	0.012	0.010	0.010
Cross slide positioning repeatability [mm/1000 mm]	0.012	0.006	0.006
Main spindle positioning repeatability [deg]	±0.003	±0.003	±0.003
Overall dimensions of machine tool	Length [mm]	9000	22450
	Width [mm]	2500	6000
	Height [mm]	2350	4200
Weight of machine tool [x10 kN]	20	100	125



TV tailstock ►



▲ TV 240 CNC view from tailstock side  
▼ TV 200 CNC view from main drive side

The step bed is provided with four guide ways. On its I-h end, the headstock is installed. The carriage housing the cross slides travels along two bed ways. On the other two bed ways, the tailstock and steady rests are installed to enable collision free movement of the carriage along full length of the step bed.

A workpiece is clamped in the headstock and the tailstock centres as well as by a 4-jaw independent chuck. It can be also supported by the steady rests depending on its weight and length. The main control panel is located on the carriage while auxiliary one on the tailstock.



## >>> CAM 900 Reeling Mill

CAM 900 Reeling Mill is specifically designed to machine the crank-pins of the crankshafts used in the vessels engines. The swivel shackle is mounted in the slotted lever. Both units are divisible. Opening and closing of the slotted lever along with the swivel shackle is powered by a hydraulic cylinder. There is a tool holder slide with a replaceable tool installed inside the swivel shackle. Thanks to the division of the units it is possible to load the journal to be machined and, after the swivel shackle is closed, to perform rough and finish machining.

The swivel shackle rotation is powered by a drive system adjusting cutting speed. A separate drive unit makes it possible to control radial motion of a tool during the swivel shackle rotation.

The reeling mill can cooperate with a hori-

zontal lathe on which an assembled crankshaft is clamped.

Its design as a portable unit allows to install it on the different lathes.

It is provided with its own control and drive systems as well as power hydraulics.

### Technical specification

	CAM 900 CNC
Active length of cutting edge	330 mm
Range of crank-pins diameters	Ø 660-910 mm
Rotation rates of reeling mill	0.25-15 rpm
Radial travel of tool slide	30 mm
Feed of tool slide (mechanical)	0.05-25 mm/min



◀ CAM 900 Reeling Mill



## RAFAMET product lines

Besides the Horizontal Lathes RAFAMET develops the following product lines:

### Vertical Turning & Boring Mills

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### Portal Milling Machines

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### Machine Tools for Shipbuilding Industry

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### Machine Tools for Railways

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## >>> RAFAMET S.A.

RAFAMET is one of the worldwide leading companies designing and manufacturing medium- and large-size heavy-duty machine tools.

### Engineering & programming

From concept through design & analysis to final implementation, RAFAMET strong engineering & programming task force equipped with 33 Workstations with Solid Edge, AutoCAD, and Prelude CAD Software has the expertise in developing engineering solutions and software programs tailored to meet specific needs of wide variety of metal-working industries.

### Own foundry

To ensure required productivity rate and top quality of machined surfaces in the same time, major members of our machine tools are made as heavily-ribbed box-type iron castings providing excellent rigidity and vibration damping of main structures even when machining at high cutting parameters.

- Grey iron: 0.1-40 ton piece
- Ductile iron: 0.1-15 ton piece
- Overall dimensions: 10000×4000×3000 mm

- Pattern making, moulding, heat treatment, laboratory

### Contract machining

- As a machine tool builder having great metalworking experience, RAFAMET offers customers a contract machining capability.
- Our stock of machine tools can handle cast iron, forged and fabricated workpieces weighting up to 60 tons within working envelope of 14000×3600×3600 mm.

### Service & technical support

- At RAFAMET, we not only build quality machines, we also provide training, service, and support to keep them in peak operating condition.



During installation, operators and maintenance staff receive a specific training on how to use and maintain the machine in order to ensure its best performance and a fault-free operation.

The English / German / Russian speaking servicemen having great skills in CNC machine tools are ready to assist our customers in case of any need.

RAFAMET machine tools users have at their disposal dedicated ISDN-based remote diagnostics facility able to communicate with the machines' control systems for immediate fault recognition and reporting.



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