Reach for the **Shapes**
From the begining...

At the begining of the twentieth century the foundry shops then existing began producing wheel lathes for machining railway wheelsets. This type of production continues up to the present day and for more than a century, RAFAMET has served to meet the diverse needs of the metalworking industry.

Over the years, RAFAMET has become a global company and the most recognizable brand in the market of special purpose machine tools. Our company is a widely respected supplier of heavy-duty special-purpose machine tools for railway, machine-building, energy, shipbuilding, metallurgical, aerospace and arms industry.
Timeline

1846
After the start-up of the Berlin - Vienna railway line (which ran through Kuźnia Raciborska), the first steel plant called “Hope” is founded right next to the railway station. In the second half of the nineteenth century, a rolling mill and an cast iron foundry is added.

1889
Takeover of the factory by Wilhelm Hegenscheidt. During that time, the factory is manufacturing various building equipment and products for railways (such as bolts and axles for wheel sets).

1920
The first lathe for machining of heavy wheel sets is produced.

1946
After World War II, the RAFAMET comes into being. During the next few years the company acts under the name “RAFO”.

1964
As an economic experiment, RAFAMET (and three other Polish companies) acquires the right to independent export and import activities without the Foreign Trade Agencies.

1996
The company’s shares are admitted to be traded on the over the counter market CeTO S.A., making it the first company in Poland to do so.

2002
ARP S.A. (Industrial Development Agency) becomes a main shareholder of RAFAMET S.A.

2016
Acquisition of the POREBA trademark.
Now, just as back then, we are convinced that comprehensive solutions, advanced technologies and efficient productivity are obvious requirements the right equipment supplier is expected to meet in order to help various industries to be successful. That is why we are constantly adapting and continuing our efforts aimed at satisfying and serving customers’ needs.

Whilst maintaining its traditional production RAFAMET continues to develop new product lines, using 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 axle lathes, special machines, modular machining centres and wheelset measurement systems.
RAFAMET S.A.

We are located at Staszica 1, 47-420 Kuźnia Raciborska, Silesia Region, Poland

The main shareholder of the Company is ARP S.A. (Industrial Development Agency) – 47%

RAFAMET employs over 550 qualified employees
Thanks to Company’s own, highly-qualified engineering & programming task force, equipped with Solid Edge, EdgeCAM, AutoCAD and Simatic Step 7 software, as well as our extensive knowledge and hands-on experience in applications, we offer the best engineering solutions to our customers. Furthermore, for our company innovation processes are often based on close collaboration with customers.

From the concept, through production, to the maintenance phase – RAFAMET makes every effort to keep machine in peak operating condition. Therefore, we provide professional training and technical service. During installation, operators and maintenance staff receive specific training on how to use and maintain the machine in order to ensure its best performance and fault-free operations.
RAFAMET Group

RAFAMET S.A. is the parent company in the group of six organizationally separated units. Each of them has the set of clearly defined strategic goals to achieve, as well as the specified share in the RAFAMET Group overall business activities.

RAFAMET Machine Tools

is one of the worldwide leading companies in the field of designing and manufacturing medium and large size heavy-duty machine tools, including vertical turning & boring lathes.

RAFAMET Railways

is focused on machine tools for wheelset machining (wheels and axles), rail vehicle bogies. It also offers rail-road shunting vehicles, as well as measuring devices for the wheel geometry and flaw detection.

PORĘBA Machine Tools

are CNC super heavy duty, heavy duty and medium centre and floor-type horizontal lathes, as well as large horizontal drilling machines and drilling & boring machines for deep hole drilling.

RAFAMET Service & Trade

is providing after-sale services including technical support repairs and modernisations of the machine tools. Also offers the products complementary to the basic assortment of the RAFAMET Group units.

RAFAMET Foundry

is a well-known manufacture of iron castings made from grey, ductile and alloy iron, which specializes in the production of large and heavy castings in small-batch series, weighing more than 5,000 kg.

RAFAMET Foundry

is directed to a selected group of customers interested in contract machining services on the large size CNC milling machines, as well as vertical turning and milling centres.
International presence

70 Countries around the world

5300 machines for railways

700 other heavy-duty machine tools

70 years of experience, innovation and quality

80 % export share in total sales
Product line
Above Floor Wheel Lathes

The RAFAMET above wheel lathes are built on the base of extremely rigid, single-piece, heavily-ribbed, high-grade grey iron casting of the main structure, allowing operation in roll-in roll-out or roll-through systems and providing efficient chip disposal. Surface wheel lathes are able to execute operations, including turning wheel profiles according to a technological program, facing of brake-disc friction surfaces and turning of wheel centres.
UBF 112 N

**ABOVE FLOOR WHEEL LATHES**
**ROLL-IN ROLL-OUT / CHUCK TYPE**

- **Track gauge [mm]:** 1435
- **Min./Max. wheel tread diameter [mm]:** 700 or 800 / 1120 or 1250
- **Max. width of wheel rim [mm]:** 145
- **Min./Max. length of wheelset axle [mm]:** 1910 / 2360
- **Max. weight of wheelset [x10 kN]:** 3
UDA 125 N

ABOVE FLOOR WHEEL LATHES
ROLL-THROUGH / RADIAL OR AXIAL CLAMPING

- Track gauge [mm]: 1435
- Min./Max. wheel tread diameter [mm]:
  - 600 or 770 / 1250 or 1200
- Max. width of wheel rim [mm]: 145
- Min./Max. length of wheelset axle [mm]:
  - 1645 / 2370
- Max. weight of wheelset [x10 kN]: 4.5

UDA 125 N ROLL-THROUGH / RADIAL OR AXIAL CLAMPING

Above floor wheel lathes with roll-through / radial or axial clamping.
UFB 125 N

ABOVE FLOOR WHEEL LATHES
ROLL-IN ROLL-OUT / FRICTION ROLLER DRIVE

- Track gauge [mm]: 1000 to 1676
- Min./Max. wheel tread diameter [mm]: 600 / 1250
- Max. width of wheel rim [mm]: 150
- Min./Max. length of wheelset axle [mm]: 1215 / 2840
- Max. weight of wheelset [x10 kN]: 3
UFD 140 N

- Track gauge [mm]: 1435
- Min./Max. wheel tread diameter [mm]: 540 / 1400
- Max. width of wheel rim [mm]: 150
- Min./Max. length of wheelset axle [mm]: 1650 / 2600
- Max. weight of wheelset [x10 kN]: 5

ABOVE FLOOR WHEEL LATHES
ROLL-THROUGH / FRICTION ROLLER DRIVE
Underfloor Wheel Lathes

Available in both single and tandem versions, the machines are designed for turning wheel profiles and facing brake discs of one or two wheelsets at the same time. The machines are set below the rails. Permanent and retractable rails connecting with the floor rails to form a track allow the vehicle to travel over the machines. The machines can be provided with many optional elements and devices, including vehicle shunting arrangements, as well as dust extraction and swarf evacuation systems.
UGE 180 N

UNDERFLOOR WHEEL LATHE
ROLL-THROUGH / SINGLE OR TANDEM VERSION

- Track gauge [mm]: 1435
- Min./Max. wheel tread diameter [mm]: 350 / 1270
- Max. width of wheel rim [mm]: 145
- Continuously variable cutting speed for wheel profile machining [m/min]: 20 to 90
- Max. axle load [x10 kN]: 18
UGE 300 N

UNDERFLOOR WHEEL LATHE
ROLL-THROUGH / SINGLE OR TANDEM VERSION

- Track gauge [mm]: 1435
- Min./Max. wheel tread diameter [mm]: 600 / 1500
- Max. width of wheel rim [mm]: 150
- Continuously variable cutting speed for wheel profile machining [m/min]: 20 to 90
- Max. axle load [x10 kN]: 30 / 40
**3RS 350**

UNDERFLOOR WHEEL LATHE EQUIPMENT

**RAIL-ROAD SHUNTER**

- Track gauge [mm]: 1435
- Min. turning radius [m]: 30
- Tractive force [kN]: min. 17.5
- Max. speed on road and rails without load [kmph]: 6
- Max. speed on rails with load [kmph]: 2
- Max. weight to shunt [t]: 350
Wheel turning machines are designed to execute operations such as rough and finish turning, and boring of holes, on both solid railway wheels and tyres, according to a technological program. This type of lathes are equipped with a turning railhead travelling horizontally along the cross rail, allowing users to avoid the time-consuming exchange of toolbars for different hub bore sizes. The railhead cooperates directly with the automatic tool magazine.
Table diameter [mm]: 1500
Max. turning diameter [mm]: 1800
Max. wheel tread diameter [mm]: 1250
Max. weight of workpiece [x10 kN]: 6
Max. continuously variable rotation rates of table [rpm]: 250
Power of main drive [kW]: 55 or 110
Table diameter [mm]: 1450
Max. turning diameter [mm]: 2000
Max. wheel tread diameter [mm]: 1250
Max. weight of workpiece [x10 kN]: 2
Max. continuously variable rotation rates of table [rpm]: 400
Power of main drive [kW]: 362.5
Axle Lathes

A slant-bed axle lathe enables to perform turning and burnishing of outboard & inboard journals, axle, conical or curvilinear surfaces. The machine tool can also perform rough and finish turning of new and worn railway axles or even reprofile wheels and brake discs used in rail vehicles.
Swing over bed [mm]: 800
Swing over carriage [mm]: 670
Max. distance between centres [mm]: 3000
Max. weight of workpiece [x10 kN]: 6
TCG 135 N

Axle Lathes for Wheels and Axles

- Track gauge [mm]: 1435
- Min./Max. wheel tread diameter [mm]: 600 / 1250
- Max. width of wheel rim [mm]: 145
- Min./Max. length of wheelset axle [mm]: 2800
- Max. weight of wheelset [x10 kN]: 3
Measurement, Diagnostic & Database Systems

The large measuring systems like real-time track condition evaluation systems for track geometry vehicles, stationary wheel geometry control systems, and diagnostic databases for rolling stock wheels maintenance planning.
Track gauge [mm]: 1435

Min./Max. wheel tread diameter [mm]:
600 / 1250

Min./Max. length of wheelset axle [mm]:
1720 / 2600

Rapid travel [mm/min]: 5000

Max. weight of wheelset [t]: 3
The laser measurement system for wheelsets is designed for monitoring of wheel profile wear. The degree of wheel profile wear is determined on the base of a virtual picture of wheel surface created from the measured data.*

The system of wheelset ultrasonic flaw detection is based on the multi-encoder heads using the phased array ultrasonic inspection technology. It is delivered as a separate inspection station.

The system of detection of flat spots on wheel profile operates on the base of vibrations recorded by a series of vibroacoustic sensors installed in track while a vehicle is running on the length of approximately 10 meters.*

* The offer elaborated in cooperation with the GRAW company, a supplier of track and rolling stock wheel measuring systems.
All measurement data made by each measuring stand is collected and integrated in the local database, which can be accessed through the depot LAN.

All trains and wheelsets are identified and assigned to each other before the measurements take place.

The system is delivered with the diagnostic and analysis subsystems and archives all measurement data in the main database.

* The offer elaborated in cooperation with the GRAW company, a supplier of track and rolling stock wheel measuring systems.
Vertical Turning Lathes

The vertical heavy-duty lathes are intended for turning and boring of cylindrical, conic and curved surfaces, as well as complex shaped large-size workpieces up to 350 tonnes, 16,000 mm diameter and 7,000 mm height of turning. The application of the CNC system provides automatic and productive machining controlled by technological program.
KCM 150 N

- Max. table diameter [mm]: 3000
- Max. swing diameter [mm]: 3500
- Max. turning height [mm]: 2000
- Max. weight of workpiece [x10 kN]: 10
KCI 250-500 N

- Max. table diameter [mm]: 7000
- Max. swing diameter [mm]: 8000
- Max. turning height [mm]: 5000
- Max. weight of workpiece [x10 kN]: 150

VERTICAL TURNING LATHES
KDC 700 N

HEAVY DUTY VERTICAL TURNING LATHES

- Max. table diameter [mm]: 10000
- Max. swing diameter [mm]: 13000
- Max. turning height [mm]: 8000
- Max. weight of workpiece [x10 kN]: 350
We offer our clients with Special Purpose Milling Machines that can be used in various manufacturing machine shops and industries. This machines are available with a large variety of special tools and accessories, most of which are automatically changeable. This provides a machine of high flexibility for machining large, complex workpieces.
GMC 320-400 N

- Gantry with fixed or movable cross-rail (full NC W axis)
- 3D milling, drilling, reaming, boring, threading or envelope threading in all machining planes
- All movable assembly units travel along precise rolling or hydrostatic guideways
- High energy electro permanent magnetic system for rails
Heavy-duty milling of webs of crank-throws used in vessel engines crankshafts.

Rough and fine milling of inner surfaces of crank-throw webs.

Rough milling of crank-throw pins.

The entire machining process is controlled by CNC system and proprietary technological program.
Horizontal Lathes

The horizontal lathes are used for roughing and finishing of workpieces of up to 100 tonnes in weight and up to 4500 mm in diameter, made of grey iron, ductile iron, steel, custom steel and steel alloys. The machine tools are applicable in the metallurgical, mechanical, defense, power, mining, paper and shipbuilding industries.
POREBA Horizontal lathes

- Max. swing over bed [mm]: 6000
- Max. length of workpiece [mm]: 33000
- Max. weight of workpiece [t]: 120
- Model lines: TOK, TRP, TRB, TCM, TCF, TCE, TZL
TRP 63 CNC

- Swing over bed [mm]: 650
- Swing over carriage [mm]: 380
- Max. weight of workpiece [t]: 4.6
- Turning length (mm): 1000 - 8000

CENTRE LATHES
TCF 200 CNC

- Swing over bed [mm]: 2000
- Swing over carriage [mm]: 1600
- Max. weight of workpiece [t]: 40
- Distance between centres (mm): 3000 - 25000
SERIVCE & TECHNICAL SUPPORT

Warranty Services
• Full warranty support of supplied machines
• After-sales services

After-sale Services
• On-line and at-site technical support
• Delivery of spare parts
• Overhauls & upgrades of supplied machines

Large part workpiece machining
• Horizontal & vertical turning
  • Milling
  • Horizontal boring
• Grinding
• Honing
• Milling & grinding of gears
Sales of products and services to customer’s satisfaction while keeping safe work conditions and respecting natural environment is our Principal Goal.
RAFAMET FOUNDRY

CASTINGS

Grey iron
- EN-GJL 200
- EN-GJL 250
- EN-GJL 300
- EN-GJL 350
- Castings of single-piece weight up to 40000 kg

Ductile iron
- EN-GJS 400-18
- EN-GJS 400-15
- EN-GJS 400-12
- EN-GJS 500-7
- EN-GJS 600-3
- EN-GJS 700-2
- Castings of single-piece weight up to 30000 kg

Special alloy cast iron
- Ni-hard
- Ni-resist
- Castings of single-piece weight up to 20000 kg

Grey iron
- EN-GJL 200
- EN-GJL 250
- EN-GJL 300
- EN-GJL 350
- Castings of single-piece weight up to 40000 kg

Ductile iron
- EN-GJS 400-18
- EN-GJS 400-15
- EN-GJS 400-12
- EN-GJS 500-7
- EN-GJS 600-3
- EN-GJS 700-2
- Castings of single-piece weight up to 30000 kg

Special alloy cast iron
- Ni-hard
- Ni-resist
- Castings of single-piece weight up to 20000 kg
MACHINE TOOLS INDUSTRY
SHIPBUILDING INDUSTRY
LOST FOAM CASTINGS
FLOOR MOUNTING PLATES