



PROTEM
A CUT ABOVE THE REST

Excellence in the

DRÔME

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COMPANIES' EXPERTISE



ÉDITIONS DU SIGNE



PROTEM

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WORLD LEADERS
IN WELDING PREPARATION

PROTEM designs and manufactures a wide range of portable pipe machining, cutting, and welding preparation equipment for use in the Nuclear, Fossil-fuel, Hydroelectric, Renewable Energy, Oil and Gas, Petrochemical, Aerospace, Shipbuilding, Pharmaceutical, Semiconductor, Agri-food, Biotechnology, and Pipe Manufacturing and Prefabrication industries.

PROTEM's technical expertise and capability for individualized customer machinery solutions has secured its international reputation as the World Leader in welding preparation equipment.

The story of the company begins with the harsh realities confronting machining operators. Four decades ago, welding preparation work was carried out using manual disc-cutters and grinders. Not only did this manual operation limit the quality of the weld preparation, the operators were easily fatigued due to the lack of load absorption from the manual process. Operators also inadvertently inhaled the particles of metal filings which lead to injury. Desiring a more precise weld quality and a healthier ergonomic workplace, an engineer designed the first portable chamfering machine.

In the chamfering machine's design, the engineer gave priority to essential criteria including the machine's capacity, performance, quality of surface obtained, precision performance, reduced weight and encumbrance, and powerful motor. Of equal importance was the machine's flexibility to adapt to additional applications such as machining elbow-joints and surfacing flanges and its ability for improved ergonomics and work safety.

Although initially used for the engineer's own purpose, the chamfering machine quickly attracted attention and kindled a lively interest among machinists. Demand for the machine soon led to its mass manufacturing and before long PROTEM was in the machining tool manufacturing business..

> The US30CH portable beveling machine creates a quality weld preparation surface.

"Our expertise and capabilities led us to design and manufacture equipment for venture projects that were among the first in the world, specifically in the field of nuclear energy."



> Maintenance work on an oil platform using a PROTEM TT cutting machine



> PROTEM US25GL machine for stitch saddle beveling pipe cowl



> On-site machining in a constricted environment subject to ionizing rays, achievable with a SERCO TU surfacing machine



> Removing welding seams for extubation operations using the PROTEM US30CH tube beveling machine



> Machining pipelines, fitting and maintenance, oil and gas domain
> Machining units for specific applications: onshore and offshore spoolbases, undersea, barges, prefabrication etc.

"Our customers discovered a revolutionary process and wanted to implement it for numerous applications," explained Sales Director Nadia Reicher. "So, in certain cases our machines had to be adapted for specific applications and the industrial operators came to PROTEM because of our capabilities to develop special machines. Nearly three special machines per month have been designed over the last 40 years. As a result, several thousand PROTEM machine tools are in use worldwide.

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As an example, in 2002 PROTEM was commissioned for machinery for the dismantling the KNKII sodium-cooled reactor in Germany.

After reviewing the scenarios for dismantling the reactor, suggested by the German nuclear people, PROTEM proposed an alternative to developing more than 10 different pieces of equipment for dismantling the internal parts of the reactor cistern and the cistern itself. PROTEM presented a design for a single machine tool that enabled all the work to be done and was entirely remote controlled.

We "corrected" the dismantling scenario by considering the gaps that were bound to be present between the surfaces of the cistern and its internal parts, and the realities we would be confronted by in any case.

In particular, we had to very carefully consider the presumed values of sodium residue that would be present when the work was performed.

When we estimated the quantity of waste that would be produced by the dismantling operation we also had to determine the number of containers necessary to store the waste, the size of the storage space necessary for the containers, and the environmental impact of the waste. To solve these problems, PROTEM designed a 6-axis machine tool comprised of several modules and developed a cutting process that yielded compressible shavings which resulted in 30% fewer containers required.

It is worth pointing out that within the scope of dismantling works on nuclear components, 60% of the cost of the dismantling can be attributed to the packaging and treatment of waste.

This project was a world first and a showcase for French knowhow in the field of dismantling. The French SME PROTEM was engaged by the German nuclear operators to carry out this dismantling operation. To meet the demands of safety and security, tests were carried out on models in their workshops for several months, and all the associated equipment, modules and procedures were minutely tested and controlled by the German nuclear authorities, representatives of the federal state of Baden Württemberg, and the TÜV (the German body for technical oversight). The German operators were trained by PROTEM engineers.

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In 2005, the Montelimar-based company SERCO, a manufacturer of tools for machining flanges and valves, joined the PROTEM group. This enabled PROTEM to extend its product range and further assert its presence on the market as every nuclear center in the world is equipped with SERCO mobile machining units.

AN EXPORT STRATEGY

PROTEM applies a simple strategy: development abroad and becoming THE partner within the energy and especially the nuclear industries. The strategy has paid off, as shown by the example above. PROTEM manufactures 100% of its products in France and exports 80% of its production. It all began with its first subsidiary in Germany.

Germany was an important market during the 1970s, and PROTEM type of products didn't exist there. PROTEM enjoyed a striking success in Germany and it created its first subsidiary, PROTEM GmbH. This market was attractive because Germany offered very significant opportunities for development. The country was number one in the field of machine tools, so it was a challenge. The Germans are demanding customers, but very loyal. Nowadays in Germany, the term 'PROTEM' is generic for a chamfering machine.

PROTEM continued to pursue its development of exports by creating entities in Ukraine, Spain, Russia, China and Brazil. The people who work there know our products inside and out. They identify needs in their market and know our customers, with whom we have maintained strong relationships for many years."

In 2014, PROTEM set out to reinvest in a new market, the USA and created its second subsidiary, PROTEM USA. Having a presence across the Atlantic 20 years ago solely through a distribution network, PROTEM returned to the USA with a direct presence. The USA constitutes an enormous potential for the French SME. This market is difficult, but it's attractive. Since creating the subsidiary, our customer portfolio has expanded and we are exporting French quality and innovation to the United States. The results are encouraging, despite a difficult economy and a clear tendency for USA customers to favor American made equipment. The name PROTEM is well on its way to becoming a generic term in the USA as well.

THE "MADE IN FRANCE" CHOICE AND AN OFFER OF SERVICES TAILORED TO THE NEEDS OF INDUSTRIAL OPERATORS

This choice is a strategic one as well. Among all its competitors, PROTEM identifies the two most important ones as being across the Atlantic. In Europe its competitors are mainly "wholesalers who import from China or represent other companies". By contrast, PROTEM products are made in France using local suppliers. We are the only manufacturer in Europe. We have worked with our suppliers ever since the company was founded. They are selected on their competence and their responsiveness. They must be reliable, meet our demands in terms of quality, and demand high quality of themselves. Our customers can need us at any moment. In France, for example, power plant maintenance work is undertaken throughout summers as well. PROTEM also offers a diverse range of equipment. We are the only ones in the world that offer surfacing machines, tube machining tools, very high-speed chamfering machines for fitting pipelines, and specialized machines.



> Prefabrication of tubes on-site or in the workshop, with a PROTEM TNO cutting and beveling machine

PROTEM offers its customers more than a product. We offer a real service with on-site assistance and we support our customers for the whole duration of their project. This assistance consists of making PROTEM's engineers available to demonstrate the machinery on-site, to offer technical

support for machine maintenance and repair, and to train operators in the handling of equipment. "Our philosophy is friendliness and ease of use for the operator, so they won't ever want to work without PROTEM equipment," concludes Nadia Reicher.

"Always listening to its customers, PROTEM will present new products in the first trimester of 2018. The business is aiming for continual growth, and will recruit a number of commercial engineers."



> Orbital tube cutting



> PROTEM tube squaring machines enable a perfect surface with no rough edges.



> Portable machine tools for maintenance and repair of flanges and valves.



> PROTEM machines from the US Series, which allow preparation for perfect quality welding



> PROTEM BMFM mobile beveling bench, for machining high thickness tubes



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