

# ■ NUCLEAR INDUSTRIES



## ▼ Description :

Our equipment is known for its capability, quality, precision, sturdiness and ease of use. The design enables performance of varied operations including; cutting, beveling, de-tubing and inside tube cutting of tubular plates.

PROTEM equipment is used during all the stages of a nuclear power station's life; construction, maintenance, dismantling and nuclear waste processing.

PROTEM supplies equipment to nuclear facilities all over the world. Our technical expertise and experience have made us a world leader in the design and manufacture of equipment to the Nuclear Industry.

Our engineers have mastered the processes and implemented the necessary techniques to satisfy the requirements and regulations inherent in the Nuclear Industry. They are perfectly aware of the unique requirements necessary when machines are used within environments subject to ionizing radiation. The design of equipment dedicated to operations within such conditions is systematically done taking into account all essential safety requirements. Our engineers are also alert to the cost of waste processing. The machining procedures they propose reduce waste production greatly and also optimize the filling of waste drums.

## ▼ Applications :

- Cutting
- Wheel cutting
- V, X, J bevel
- Compound bevel for thick wall thicknesses
- Counterboring
- Surfacing, facing
- Heat exchangers
- Flanges resurfacing
- Valves maintenance



# EQUIPMENT FOR NUCLEAR INDUSTRIES

For more than 40 years PROTEM equipment have been used successfully by nuclear operators.



TT-NG



US 40



US 80



US 150



US 450



F9 - Sodium Reactor  
Decommissioning



US 3000 R - Cladding equip-  
ment on VVER 1100



US 480 R – Machining and  
Cladding Equipment on  
Steam Generator

# ■ OIL AND GAS INDUSTRY



## ▼ Description :

PROTEM offers integrated solutions for Prefabrication, Manufacturing, Maintenance and Repair operations to all facets of the Oil and Gas Industry.

This equipment is designed to provide essential qualities as expected by our customers

Sturdiness, reliability, ease of use, ergonomic design, wide range of capabilities, machinings that can be done within a very short time, perfect welding preparation.

Adapted to all environments, including the most restrictive ones, the equipment designed by PROTEM can be used in fabrication workshops, on the job site, onboard ships, onshore or offshore platforms, spoolbases, etc.

The proposed range of equipment includes among others:

- Very high speed beveling machines type PFM HSB and US600R
- Very high speed cutting and beveling machines type CTA
- Beveling benches type BB
- Portable cutting and beveling machines type TT and TNO
- Portable beveling machines type US
- Coating machining equipment for pipelines type US and TT

## ▼ Applications :

- Prefabrication
- Manufacture of pipelines
- Pipelines Maintenance
- Under water machining



# EQUIPMENT FOR THE OIL AND GAS INDUSTRY

SUBSEA - EXTREME TEMPERATURES - BARGES - ONSHORE - OFFSHORE - SPOOLBASE



PFM



TT-NG



BB



Elbow Beveling Machine



OHSB



MF



TNO



CTA



# ■ TUBE MANUFACTURERS



## ▼ Description :

Energy industries, in particular, have an increasing need of tubes to transport raw materials and sources of energy.

Tube and elbow manufacturers supply these industries with a large range of tubes in all diameters, materials and wall thicknesses.

Each tube or elbow to weld requires an end machining operation. This operation ranges from the simple facing of the end to the most complex bevel forms.

PROTEM equipment is integrated before and after the manufacturing process, creating very substantial gains in productivity.

PROTEM is a world leader in the manufacture of portable machining equipment for tubes, elbows and pipelines. Our machines are used daily by the largest manufacturers and installation companies all over the world.

## ▼ Applications :

- Manufacture of pipelines
- Pipelines construction



## EQUIPEMENT FOR TUBE AND PIPELINE MANUFACTURERS

Equipment designed by PROTEM are integrated into the manufacturing processes of Tube and Pipeline Manufacturers for a substantial gain in productivity.



US450



TT-NG



BB



US600-R



OHSB



MF



TNO



CTA

# ■ SHIPBUILDING INDUSTRY



## ▼ Description :

PROTEM equipment are used within the shipbuilding industry for the manufacturing as well as the repair of ships.

PROTEM offers a very large range of machines and tools to meet any application requirements for both the military (submarines, aircraft and carriers) and private sectors (cargo ships, ferries, passenger liners, etc) of the industry.

Our equipment is known for quality, ease of use, lightness, reliability and their varied capabilities. They provide great gains in productivity and ensure perfect quality of welded assemblies.

SERCO machines are used in the repair of diesel motors because of their boring stroke and the quality of the machining finish. Thus they extend the duration of the life of the motor increasing savings and profits.

## ▼ Applications :

- Tubes facing prior to welding
- Weld beam removal
- Valve and Flange repair
- Cutting of pipings damaged by corrosion
- Repair of diesel motors





## EQUIPMENT FOR THE SHIPBUILDING INDUSTRY

Equipment designed and manufactured by PROTEM can be used within tight spaces and restrictive environments.



SM8



S18



SL30



SE25



US25



US30CH



SL120



TTS-RD



# ■ HIGH PURITY INDUSTRIES



## ▼ Description :

Most of these industries operate in clean rooms during their manufacturing processes. In clean rooms, parameters such as temperature, humidity and relative pressure are maintained at a precise level. In addition, particular attention is paid to the concentration of particulates.

PROTEM equipment performs manufacturing or maintenance operations (tube cutting, facing, beveling, counterboring) while keeping the creation of particles resulting from machining operations to a minimum. The chips produced during machining are easy to collect and no particulates are released into the environment.

PROTEM equipment that is dedicated to high purity industries features a clamping on the outside of the tube to avoid contamination inside the tubes to be machined. Furthermore, the OD collets are manufactured in the same material as the tube, (stainless steel, aluminum, etc).

## ▼ Applications :

- Tube Facing
- Tube Cutting
- Facing for Fittings
- Facing for T Fittings
- Facing for Elbow



# MACHINING EQUIPMENT FOR HIGH PURITY INDUSTRIES

Including, but not limited to, the Pharmaceutical, Cosmetics, Semi-conductor, Biotechnology, and Food Processing industries.



SE25



SE25RA



SL30



SE-NG Series



SE65



SE65RA



SL120



SE219

# ■ RENEWABLE ENERGIES



## ▼ Description :

The energy transition switching from fossil fuels to renewable energies, is creating ever greater investments in these new energy industries for construction as well as maintenance.

PROTEM is a key partner in this transition offering a large choice of machines and tools designed for wind power, hydraulic, solar, biofuels, biogas and for cogeneration.

PROTEM machines and tools are used for on-site machining needs necessary during construction, maintenance or repair of these new installations.

## ▼ Applications :

- Re-machining of flanges and valves in Hydro-electric power stations
- Maintenance and construction of Biogas - Biofuel power stations and refineries
- Heat exchangers for Cogeneration and Solar energy





## EQUIPMENTS FOR THE RENEWABLE ENERGIES INDUSTRY

Machining times are reduced, while maintaining high precision and accuracy



SM8



S18



SL30



SE25



US25



US30CH



SL120



TTS-NG

# ■ BOILER MANUFACTURERS



## ▼ Description :

PROTEM was initially created to meet the needs of Boiler Manufacturers. For the past 40 years, PROTEM has been an innovator and today offers a large range of portable machines and tools specially designed for Boiler Manufacturers.

For example, PROTEM designs and manufactures specific machines and tools for heat exchangers or industrial boiler maintenance.

The GR Series machines and tools are specially designed for the simultaneous machining and beveling of membrane wall panels. The machine body is designed to fit in the gap of a membrane wall panel in order to avoid having to remove the entire panel.

The US25 TP performs any type of beveling, tube facing and removal of tubes on tubular plates.

Light, automatic, portable and easy to use, our high precision machines increase productivity in a wide variety of operations for Boilers and Heat Exchangers.

## ▼ Applications :

- Machining of boiler tubes, heat exchanger tubes, condensers etc.
- Cutting tubes to length
- Removal of wall membranes and tube heat exchanger plates
- Facing of tubes
- Machining/removal of the weld joint on tube sheets



## EQUIPMENT USED BY BOILER MANUFACTURERS

PROTEM has always been known for being innovative and is offering a large range of portable machines specially designed for Boiler Manufacturers.



SM8



US18TP



US25TP



US25CA



US30CH



US30CHCA



US25TA



US40CA



# ■ EQUIPMENT FOR CHEMICAL INDUSTRY



## ▼ Description :

Pipelines are omnipresent in the chemical, petrochemical, phytosanitary chemical, pharmaceutical, polymer or paints manufacturing and oleochemical industries.

These pipelines have to be very resistant to corrosion. The use of stainless steels and other alloys is unavoidable.

For nearly 40 years, PROTEM has offered integrated solutions for construction and maintenance of these pipelines with machines and tools adapted to the features of the tubes. They perform any machining operations that are needed; beveling, cutting, facing, etc.

Their versatility and sturdiness are a perfect match for any project; factory construction, routine maintenance or decommissioning.

In addition to solutions proposed by PROTEM equipment, SERCO also manufactures equipment for the maintenance of flanges and valves that can be found on the SERCO web site ([www.Serco-tools.com](http://www.Serco-tools.com)).

## ▼ Applications :

- Manufacturing of pipelines
- Cutting, removal or repair of parts damaged by corrosion
- Re-machining of valve seats and seal surfaces



## EQUIPMENT FOR CHEMICAL INDUSTRY

For nearly 40 years, PROTEM has been offering integrated solutions for the construction and maintenance of pipelines.



US25



US30CH



SE Series



SL Series



SE-NG Series



TTS-RD



TTS-NG



TT-NG

# ■ CRYOGENICS



## ▼ Description :

The branches of physics and engineering that study very low temperatures, lower than 150° C how to produce them, and how materials behave at those temperatures.

### Used for research purposes :

- Measures at very low temperatures
- materials, solid physics
- instrumentation development
- accelerators and particle physics
- magnets, cavities, detectors
- magnetic confinement
- astrophysics
- earth and space military sensors

### Use in the industry

- Electronics (detectors, components)
- Electrotechnical industry (storage, transport, alternators, limiters)
- Transport
- Liquefaction and cooling
- Storage of fluid
- Insulation
- Space industry
- Propellers (fuel and engine)
- Medical
- Cryosurgical, cryopreservation

## ▼ Applications :

- Tubes maintenance
- Cutting, removal or repair of parts damaged by corrosion
- Weld beam removal
- Re-machining of valve seats and seal surfaces





## EQUIPMENT FOR CRYOGENICS



US25



US30CH



US40



SL



SE-NG



TTS-RD



TTS-NG



TT-NG