



# VALVES FOR BOILER APPLICATION

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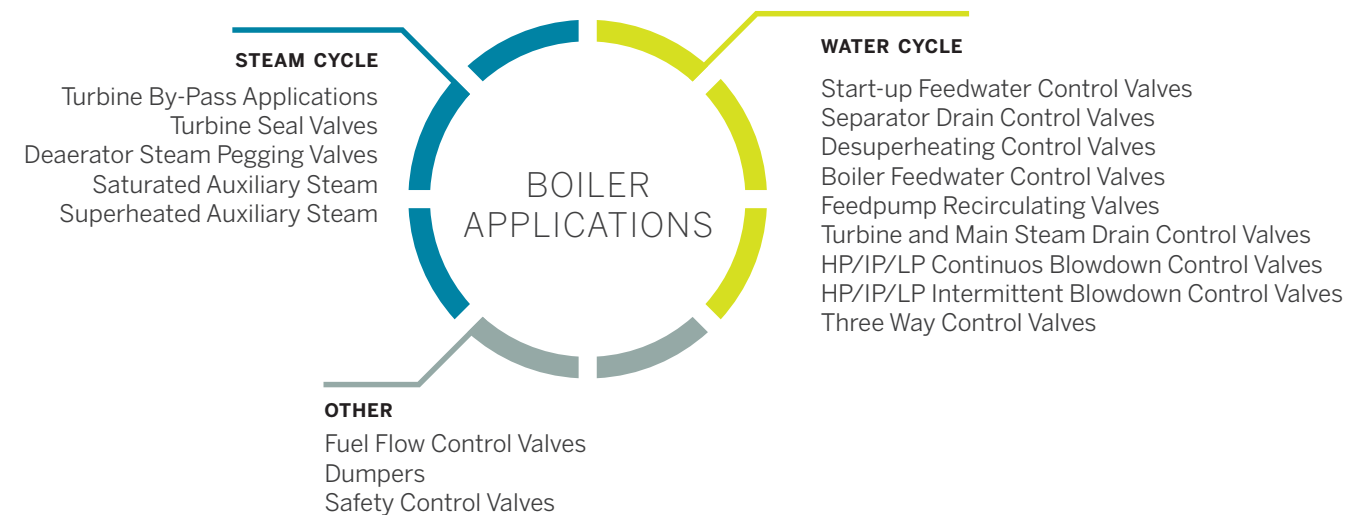
# VALVES FOR BOILER APPLICATIONS

## Product line-up and solutions

High reliable Control Valves for Boiler Applications are Parcol's specialty products. They are intended primarily for power plant installations where can be used for the most severe services such as:

- Saturated Water upstream of the Control Valve (Flashing Service)
- Saturated Water Conditions downstream of the Control Valve (Flashing Service)
- Saturated/Wet Steam Service
- High Pressure Drop and Tightness Requirements
- Cavitation
- Noise
- High Temperature

A wide range of multi-step trim combinations is available for these services with extremely conditions where perfect and reliable devices are required.



# TECHNOLOGY

## Latest design and manufacturing technology

The Technical Department addresses about 50% of its resources to customizing equipment for specific contract while 25% of resources are fully employed to the R & D to study and experience new technical solutions and to develop and optimize new standard products.

The main objectives for R&D department in the last years have been, following a VRP (Variety Reduction Program) type approach, to increase the variability of design solutions ready to be proposed to the customer while reducing the number of components to be managed at stock in order to minimize the delivery time improving customer service.

At the same time new analytical techniques to support the development of innovative products and to optimize already consolidated proprietary products were introduced.

R & D department uses, in addition to traditional tools based on many years of experience and to laboratory tests on prototypes, the most modern and advanced techniques for calculation and analysis such as FEM and CFD.

# CUSTOMER SATISFACTION

## Quality without compromise

Due to the extreme importance of these equipment, Parcol run severe campaign tests to continuously improve these products. Some tests are carried out with the collaboration of Politecnico of Milan University.

Parcol has its own Test Facility where can be tested valves with incompressible fluid up to over 600 m<sup>3</sup>/h of flow and up to over 30 bars of differential pressure.

The test circuit allows to measure valve flow capacities Cv and other characteristic coefficients. Reduced scale prototypes can be tested for of higher dimension valves.

The test facility is equipped with sophisticated and innovative instruments and software.

Beginning in the '90s have been introduced innovative test methods up to the virtual prototyping and simulation using CFD software that is always accompanied and supported by experimental tests.

# FEATURES

## Product line-up

- + Body design materials suitable for thermal shock (Cast\Forged Chrome-Moly)
- + Trim materials suitable for thermal shock and erosion
- + Noise abatement trim with controlled velocity
- + Anti-cavitation design
- + ANSI/IEC Class V shutoff
- + Multipath / multistep trim LIMIPHON® tailor made staging to adapt to fjp / Temperature
- + High rangeability specialty trim design VARISTEP®
- + Multistep Cascade Control Valves 1-44MC®
- + Tandem Plug Control Valves 1-7000 for a perfect and long term sealing

