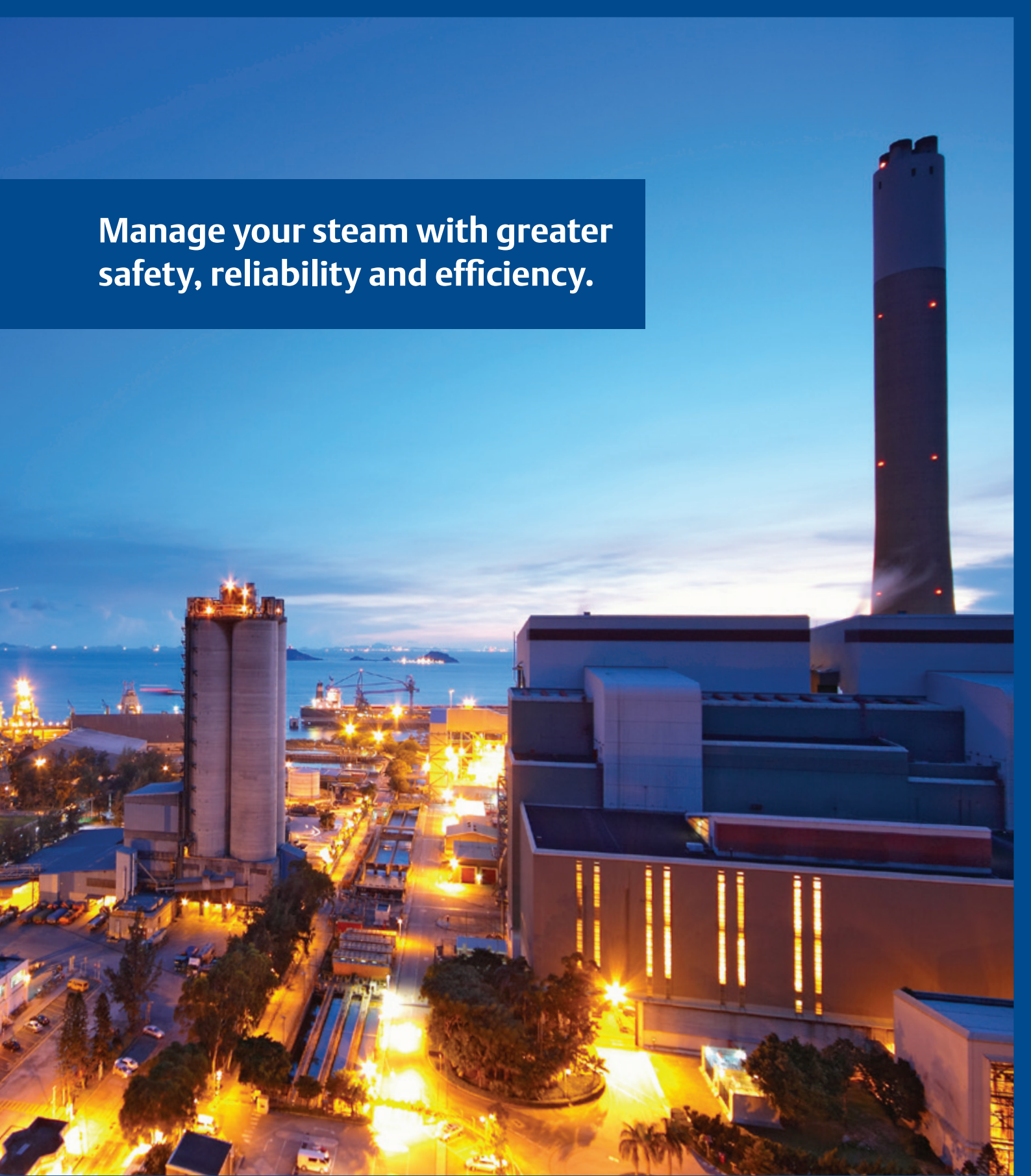


**Manage your steam with greater
safety, reliability and efficiency.**



Sempell Steam Solutions.
Control, safety and isolation valves



Engineered Valve Solutions for the most demanding steam applications.

For years, Emerson has built a reputation as an expert in control, safety relief and isolation valves for commercial and industrial power applications.

We recognize that managing steam is critical to keep a plant operating safely, effectively and economically in industries such as petrochemical, chemical, refinery, iron & steel, paper, power production and distribution as well as desalination. Therefore we are committed to providing the best engineered valve solutions for your most demanding steam applications.

Sempell products are used for water and steam control, pressure reduction, steam conditioning, pressure relief and isolation.

Specially designed for severe service and challenging environments, including ultra super-critical power plants, Sempell valve solutions offer greater reliability, accuracy and flexibility for all your steam applications.

Our engineering experts optimize valve design, selection and size using digital tools to help them evaluate stress on these valves used in severe environments. They interact regularly with production teams to ensure you can rely on the technology we deliver. Moreover, our project managers make sure your key project milestones are achieved.





Engineering and Project Management

Expert project management and product knowledge ensures complete confidence in the solution we deliver.

[Learn more ▶ P 3](#)

Manufacturing Capabilities

Advanced manufacturing facilities and world-class machining for reliability and performance.

[Learn more ▶ P 4](#)

Control Valves

Control water and steam to ensure accurate pressure and temperature no matter the operating conditions.

[Learn more ▶ P 5](#)

Safety Valves

Protect processes against over-pressure providing security for your personnel, plant and assets.

[Learn more ▶ P 9](#)

Isolation Valves

Secure leak-tight performance, absolute safety and high reliability on your high pressure and temperature applications.

[Learn more ▶ P 13](#)

Ancillary Equipment

For safe operation and testing of your water and steam products.

[Learn more ▶ P 21](#)

Actuators and Test Devices

Fast and precise control for your valves with electric, pneumatic or hydraulic actuators.

[Learn more ▶ P 23](#)

Lifecycle Services

Optimize plant performance with Emerson certified personnel providing service management support for all your control, safety and isolation valves.

[Learn more ▶ P 25](#)



Long term support with a partner you can trust.

Our experience in delivering control, safety relief and isolation valves for critical environments goes back more than a hundred years when the business was founded by Albert Sempell in Mönchengladbach, Germany. The business is now based in Korshenbroich, Germany and Rescaldina, Italy. These state-of-the-art plants are dedicated to the production of valves used in conventional and nuclear power generation, as well as power applications in all process industries.

Project management expertise

When it comes to managing the complexity of projects involving steam applications, you need a reliable partner that can achieve your key project milestones.

Delivering expert project management

- Emerson has the experienced skill base capable of providing expert project management and product knowledge dedicated to steam applications for commercial generation and industrial or process applications.
- Our project managers are involved from the early phases of a project to ensure successful execution and delivery.
- Their role is to develop individual project plans, including schedules, milestone alignment, procurement strategy, execution strategy, resources and communication.
- Responsible for leadership of the project team from project administration and order administration to engineering and plant project personnel, they use standardized global processes and tools to allocate resources where they are available, preventing delays and bottlenecks.

Experienced engineering teams use digital modelling and analysis tools

Our our Computational Fluid Dynamics (CFD) experts optimize the flow path through our valves for maximal capacity combined with minimal pressure loss. We also use numerical models to enhance the design of our atomizing steam nozzles to provide the shortest evaporation length for cooling water combined with homogeneous temperature distribution.

Transient Finite Element Analysis (FEA) is used to assess fatigue and durability of our valves for high cycling rates under severe service.

Using additive manufacturing to accelerate new product development

At Emerson we are committed to addressing our customers' engineering design challenges, while accelerating the speed to market of new and rigorously-tested products. Additive technologies allow us to broaden our design potential in order to solve more complex problems, in new ways. Design limits are pushed back; pilot production and testing are accelerated.



Products which deliver reliability and performance.

As the sector has undergone significant change, we have continued to pioneer, produce and deliver specialized valve solutions with a high focus on reliability and performance.

Where quality comes as standard

- Our facilities are regularly inspected and audited by major quality authorities including Lloyd Register, BSI, Bureau Veritas, TÜV and complies with ISO 9001:2015
- Our manufacturing capabilities include welding, hardfacing, machining and grinding to ensure extremely high-quality production

Advanced manufacturing capabilities

World class machining

- CNC machining centers, including 5-axis centers
- Lifting capabilities of up to 20 tons
- Advanced lapping machines from FLP Microfinishing

State-of-the-art connection welding and surface cladding technologies

- Laser welding
- Gas Metal-Arc welding (GMAW)
- Gas Tungsten-Arc welding (GTAW)
- Plasma Transfer-Arc welding (PTA) for the hard facing of valve seats with cobalt based and cobalt free alloys
- Submerged-Arc welding (SAW) for components up to 10 tons
- Orbital-welding equipment
- Welding robot system for hard facing
- Associated electrical and gas fired furnaces for pre- and post-weld heat treatment

Setting new testing standards

- Depending on application and customer requirement, we can perform functional testing, with or without actuation
- Non-destructive testing (NDT) including X-ray/US/MP/DP
- Steam test facility capable of 200 bar / 350°C for FAT testing



Control Valves



Control of water and steam are fundamental to the safe operation of any power application. Sempell valves ensure accurate temperature and pressure control even in the most difficult environments.

Designed for services including pressure and steam reduction, steam conditioning in addition to water and steam control, the range includes specific valves for applications in boiler startup, boiler recirculation, turbine drain, turbine bypass and heater protection.

HP/IP steam conditioning valve Flow-to-close design Model 115

Steam pressure and temperature control valves that provide greater reliability and flexibility under extreme conditions.

Features

- Pressure reduction by multi-stage cage controlled expansion
- Atomizing steam desuperheater, providing short evaporation length and protection of downstream piping against thermal shock
- Subsequent adjustment to changed operational conditions possible due to easily exchangeable trim and seat
- Spring-loaded packing for long term leak tightness
- Pressure seal bonnet
- Optional: Pre-warming and condensate drain studs
- Pressure balanced trim with pilot plug and cup springs (option)

Technical Data

Size range:

DN 150 to 1500 (NPS 6 to 60)

Pressure / Rating:

Up to 320 bar / Class 4500

Temperature range:

-29°C to 630°C (-20°F to 1150°F)

Connections:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Applications

HP, IP or Hot Reheater (HRH) turbine bypass and steam conditioning in process applications.

LP steam conditioning valve Flow-to-close design Model 111

Steam pressure and temperature control valves for medium and low-pressure conditions. They integrate atomizing steam nozzle to cool superheated steam at low pressures.

Features

- No mechanical wear parts in water injection nozzle providing long lifetime and low maintenance
- Generous straight through globe body for low pressure losses
- Atomizing steam nozzle
- Order-specific optimization of trim flow areas and desuperheater
- Leakage class FCI 70-2: up to V
- Optional safety function: in close direction

Technical Data

Size range:

DN 200 to 700 (NPS 8 to 28)

Pressure / Rating:

Up to PN 63 / Class 300

Temperature range:

-29°C to 510°C (-20°F to 950°F)

Connections:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Applications

IP or Hot Reheater (HRH) turbine bypass, turbine start-up and steam conditioning in process applications.



HP/IP steam conditioning valve
Flow-to-open design
Model 315

Steam pressure and temperature control valves for extreme and medium pressure conditions. They can integrate safety function.

Features

- Safety functions (option)
- Body, optimized against stress
- Continuous operation possible
- Excellent low load behavior
- Multi-stage trim
- Low noise and no vibration
- Internal atomizing steam extraction
- No thermal shock
- Short evaporation length

Technical Data

Size range:

DN 150 to 1500 (NPS 6 to 60)

Pressure / Rating:

Up to 320 bar / Class 4500

Temperature range:

-29°C to 630°C (-20°F to 1150°F)

Connections:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Applications

HP, IP or Hot Reheater (HRH) turbine bypass, HP turbine bypass with safety function and steam conditioning in process applications.



HP steam conditioning valve
Flow-to-open design
Model 302

Steam pressure and temperature control valves for extreme pressure conditions. They protect the cold reheat system, in particular the reheater and condenser in case of a turbine trip event.

Features

- Water injection into the turbulence zone
- Short evaporation length
- Even temperature distribution
- No thermal pipe shock and erosion optimized seat injection
- Optional pre-warming and condensate drain studs
- Body optimized against stress

Technical Data

Size range:

DN 150 to 1500 (NPS 6 to 60)

Pressure / Rating:

Up to 320 bar / Class 4500

Temperature range:

-29°C to + 630°C (-20°F to +1150°F)

Connections:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Applications

HP, IP or Hot Reheater (HRH) turbine bypass, HP turbine bypass with safety function and steam conditioning in process applications.



Hydraulically operated safety valve
Model VSH with STE6 Control Unit

A hydraulically operated safety valve designed to protect the super-heater and re-heater in a power station.

Features

- Safety function can be combined with control function
- High closing forces provide seat tightness up to set pressure
- Accurate adjustment of opening and closing pressures
- Reseating pressure widely adjustable
- Accurate and reliable operation at set pressure
- Valve function independent of any pressure losses in connected pipes
- High back pressure by silencer possible
- Opening of the safety valve possible from 0 bar system pressure
- Control function can be tested without opening of the safety valve
- One control unit can operate more than one safety valve

Technical Data

Size inlet:

DN 80 to 600 (NPS 3 to 24)

Set pressure:

40 bar to 320 bar

Temperature range:

-29°C to +630°C (-20°F to 1150°F)

Orifice diameter:

40 mm to 323 mm

Applications

Protection of the super-heater and re-heater in a power station. Ideally suitable for sliding pressure plant operation.



HP steam reducing valve
Angle design
 Model 155

Steam reducing valves controlled by multistage trims ensure high wear resistance even in extreme working conditions. The optimum-staged CV-values and a large turn-down ratio allow accurate adjustment.

Features

- Forged body with angle design
- Low-noise and low-vibration design through tailor-made multi-stage pressure reduction
- Trim can be changed for amended operational conditions
- Pressure seal bonnet
- Low maintenance gland, packing pure graphite (can be retightened)
- Hardfaced guidings and sealing surfaces
- Pressure balanced plug
- Pre-warming and drain studs
- Resistant to standard pickling process

Technical Data

Size range:

DN 150 to 500 (NPS 6 to 20)

Pressure / Rating:

320 bar / Class 4500

Temperature range:

-29°C to 630°C (-20°F to 1150°F)

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Applications

IP or Hot Reheater (HRH) turbine bypass, turbine start-up and steam conditioning in process applications.



IP/LP steam reducing valve
Straight through design
 Model 151C

A globe valve designed to control pressure, temperature, level and flow. Suitable for a medium pressure range it is ideal to control non-aggressive liquids.

Features

- Cast body
- Valve can be easily disassembled
- Exchangeable seat
- Low maintenance gland, packing pure graphite
- PTFE-collar up to 250°C (480°F)
- Burnished valve stem for low friction.
- Spacious body helps in difficult operating conditions
- Custom designs available

Technical Data

Size range:

DN 25 to 1000 (NPS 2½ to 40)

Pressure / Rating:

Up to 375 bar / Class 1200

Temperature range:

-29°C to 600°C (-20 °F to 1100 °F)

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Applications

Steam applications in boiler and turbine areas, as well as associated auxiliary systems.



Severe service feedwater valve
 Models 145 and 146

High pressure drop control valves for severe water applications with various trims for flashing and cavitation conditions or continuous control.

Features

- Forged body with angle or Z-type design
- Low-noise and low-vibration design through tailor-made multi-stage pressure reduction
- Suitable for flashing conditions
- Cavitation resistant
- Easily exchangeable trim, seat and jacket
- Different plug types available
- Minimized wear and tear through, separation of sealing and control
- Live loading packing/ safety packing (option)

Technical Data

Size range:

DN 150 to 500 (NPS 6 to 20)

Pressure / Rating:

320 bar / Class 2500

Temperature range:

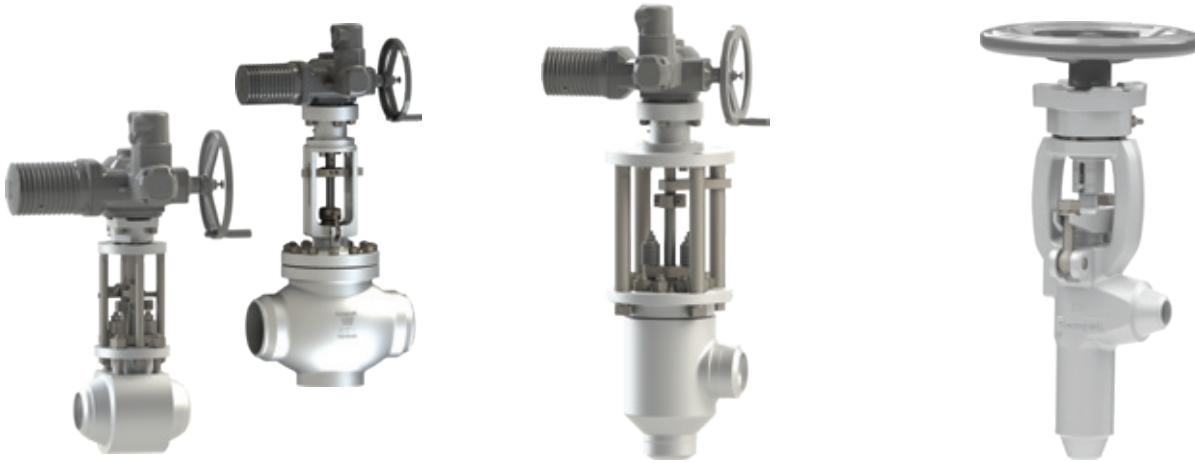
Up to 450°C (840 °F)

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Applications

Main feedwater control, level control, boiler circulation control and water separator drain control.



Water control / isolation valve Straight through design

Model 141

Water control and isolation globe valve for low to high pressure lines, made from cast and forged material.

Features

- Valve can be easily disassembled
- Exchangeable seat
- Safety or live-loading packing for long term leak tightness (option)
- Spacious body for difficult operating conditions

Technical Data

Size range:

DN 25 to 650 (NPS 1 to 26)

Pressure / Rating:

Up to 375 bar / Class 1200

Temperature range:

Up to 450°C (840°F)

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Applications

Minimum flow control, feedwater control, level control, injection control and water shut-off.

Combined water control and isolation valve. Angle design

Model 142

Specially designed low-maintenance, high pressure control valves with narrowly scaled Cv values.

Features

- Forged body with angle design
- Low-noise and low-vibration design through tailor-made multi-stage pressure reduction
- Separated control and sealing edge
- Easily changeable trims and seats
- Different plug types available
- Suitable for continuous operation
- Minimized wear and tear through separation of sealing and control area
- Resistant to standard pickling process
- Live loading packing / safety packing (option)
- Actuator: hydraulic, pneumatic, electric

Technical Data

Size range:

DN 25 to 250 (NPS 1 to 10)

Pressure / Rating:

Up to 480 bar / Class 2800

Temperature range:

Up to 450°C (840°F)

Connection:

Butt weld ends acc. To ASME B16.25 or ISO 9692-1

Applications

High pressure applications, desuperheater water injection at HP/IP turbine bypass. Feedwater start-up, feedwater pump control and boiler drum blow down.

HP Drain valve

Model 179/172

Globe valve with heavy duty trim and flow patch for steam and water turbine drain applications.

Features

- Forged body with angle design
- Stellite seat
- Guided disc
- Dust-tight enclosure of actuator head
- Position indicator
- Small driving forces
- Continuous blow down
- Easy to maintain
- 1 or 3 pressure stage(s)

Technical Data

Size range:

DN 20 to 65 (NPS ¾ to 2½)

Pressure / Rating:

PN 100 to 400 / Class 150 to 2500

Temperature range:

-28°C to 625°C (-20°F to 1150°F)

Connection:

Butt weld ends acc. To ASME B16.25
Socket weld ends acc. To ASME B16.11

Applications

Turbine start-up, turbine drainage and boiler drainage.

Safety Valves



Protecting processes against over-pressure, our range of spring loaded, pilot operated and pneumatic piloted safety valves have certifications from ASME I & VIII, PED, TÜV, CU-TR, SELO, LRS and others.

Emerson has built on more than 140 years of experience to provide the safety valve that will fit your exact requirements to reliably protect assets. From low pressure to super-critical boilers, each safety valve is supported with some of the largest testing facilities in the world.

Small safety valves Model MiniS and VSE0

Reliable and economical overpressure protection for air, gas, liquids and thermal relief applications.

Features

- Closed spring bonnet (Type SMC) and balanced bellows (Type SMB) available
- MiniS: Single trim design for steam, gas and liquids
- Pop Action
- Mechanical lift ensures functional stability
- Easy maintenance
- Soft seat options for superior seat tightness
- Type tested to German, American and Chinese codes

Technical Data

Size Inlet:

DN 15 to 25 (NPS ½ to 1)

Pressure / Rating:

MiniS: up to PN 40 / Class 300

VSE0: up to PN 400 / Class 2500

Temperature range:

-200°C to + 200°C (-300°F to +400°F)

Set pressure: 0.5 to 52 bar

Orifice Diameter: 7.5, 9 or 14 mm

Connections:

Flanges, threads and welding connections

Applications

Low capacity applications in refineries, chemical and petrochemical plants, power plant auxiliary systems, pulp and paper mills and solar thermal power systems.

Safety valve Model Series S

Direct spring-operated safety relief valve with DIN flanges, ASME flanges or welding end connections. Suitable for back pressure applications.

Features

- Single trim design for steam, gases and liquids
- Balanced bellows and open bonnet
- Rigid light weight body construction
- Cap design ensures safe and reliable assembly of valve lifting levers
- Locking for hydrostatic test without additional parts, cap top doubles up as gagging device
- Gagged status indicator
- Mechanical lift stop ensures functional stability
- Cooling spacer, position indicator and adjusting ring available

Technical Data

Size Inlet:

DN 25 to 200 (NPS 1 to 8)

Pressure / Rating:

PN 10 to 400 / Class 150 to 2500

Temperature range:

-200°C to +700°C (-300°F to +1300°F)

Set pressure:

0.2 to 427 bar

Orifice diameter:

14 to 160 mm

Design:

Acc. to EN/DIN or API 526

Applications

Type-tested for use with steam, gases and liquids (German TÜV, American NB and Chinese SELO). Available with actuator for use as pneumatic operated safety valve.



High capacity safety valve Model MaxiS

High capacity “over-T” relief valve with DIN flanges, ASME flanges or welding end connection. Reduces installation, maintenance and lifetime operational costs.

Features

- Single trim design for steam, gases and liquids
- Balanced bellows and open bonnet available
- Suitable for back pressure applications
- Hydrostatic test lock as standard, cap top doubles up as gagging device
- Mechanical lift ensures functional stability
- Type-tested for steam, gases and liquids (German TÜV, American NB and Chinese SELO)
- Cooling spacer, lifting lever, position indicator and adjusting ring available

Technical Data

Size inlet:

DN 250 to 700 (NPS 10 to 28)

Pressure / Rating:

PN 6 to 63 / Class 150 to 300

Temperature range:

-200 °C to +700 °C (-300°F to +1300°F)

Set pressure: 0.3 to 24 bar

Orifice diameter:

185 to 438 mm (T1 to Z)

Applications

High capacity performance allows lower number of valves to be installed, reducing weight, installation requirements and therefore costs. Available with actuator for use as pneumatic operated safety valve.



Safety valve Models VSE and VSR

Direct spring-operated safety relief valves with flexible design, available with DIN flanges, ASME flanges or welding end connections.

Features

- Open bonnet (VSE 1), conventional (VSE2), weight loaded for low pressures (VSE4), balanced bellows (VSE5) and adjustable blowdown (VSR) designs
- Choice of connections: DIN and ASME flanges, threaded, welding ends
- Mechanical lift stop ensures functional stability
- Suitable for back pressure applications
- Cooling spaces, balanced piston, lifting lever, test gag, position indicator and soft seat available
- Available with actuator for use as pneumatic operated safety valve

Technical Data

Size inlet:

DN 25 to 200 (NPS 1 to 8)

Pressure / Rating:

PN 10 to 500 / Class 150 to 2500

Temperature range:

-196 °C to +600 °C (-300 °F to +1100 °F)

Set pressure: 0.5 to 500 bar

Orifice diameter: 13 to 125 mm

Applications

Power industry, refineries, chemical and petrochemical plants and pulp and paper mills.



Pilot operated safety valve Model VS99 with VS66 pilot valve

Medium operated steam safety valve for extra-large capacities. Preferred solution for Russian GOST boiler applications.

Features

- Pilot operated design provides seat tightness right up to set pressure
- Accurate blow down adjustment
- Accurate and reliable operation at set pressure
- Valve function independent of any pressure losses in connected pipes
- Opening of the safety valve also possible below set pressure
- Can be tested during normal plant operation
- Control function can be tested without opening of the valve
- Position indicator and vacuum spring available

Technical Data

Size inlet:

DN 80 to 750 (NPS 3 to 30)

Temperature range:

Up to 600 °C (1100 °F)

Set pressure: 5 to 320 bar

Orifice diameter:

44 to 438 mm

Connections: Welding end

Applications

The combination of VS99 safety valve, VS66 pilot valve/ EMS solenoid pilot and STE control equipment becomes a TÜV type tested safety device. Different combinations are available with at least two control paths acting in closed circuit principle with the third path either acting in closed or open circuit principle.



High pressure safety valve Model SOH

High pressure safety valve for boiler protection typically installed as a controlled safety pressure relief system acc. To EN ISO 4126-5 in conjunction with pneumatic control unit STE5.

Features

- Seat tight up to set pressure due to supplementary load
- Smooth operation during relief cycle
- Mechanical lift stop ensures functional stability
- Hydrostatic test lock as standard
- Welding end or flanged connections
- Type-tested for steam, gases and liquids (German TÜV, American NB and Chinese SELO)
- Position indicator available

Technical Data

Size inlet:

DN 150 to 600 (NPS 6 to 24)

Set pressure: 10 to 320 bar

Temperature range:

Up to +700 °C (+1300 °F)

Orifice diameter:

17.5 to 160 mm

Design:

Open bonnet, balanced piston, pneumatically assisted

Applications

Designed for boiler protection on the drum, superheater and reheater. In reheater applications the SOH can be used as a relief valve during sliding pressure operation of the boiler.



High pressure safety valve with spring Model SOT

High pressure safety valve with disc spring design for boiler protection, typically installed as a controlled safety pressure relief system acc. To EN ISO 4126-5 in conjunction with control unit STE4.

Features

- High tightness up to set pressure due to supplementary load
- Smooth operation during relief cycle
- Open bonnet balanced piston design
- Disc spring design lowers the number of valves required reducing installation, maintenance and lifetime operational costs
- Mechanical lift stop ensures functional stability
- Locking for hydrostatic test without additional parts
- Welding end of flanged connections
- Position indicator available

Technical Data

Size inlet:

DN 100 to 600 (NPS 4 to 24)

Set pressure: 10 to 450 bar

Temperature range:

Up to +700 °C (+1300 °F)

Orifice diameter:

66 to 438 mm

Applications

Designed for boiler protection on the drum, superheater and reheater. In reheater applications the SOT can be used as relief valve during sliding pressure operation of the boiler.



Pneumatic control unit Model STE5

TÜV type tested pneumatic control unit to operate spring loaded safety valves as Controlled Safety Pressure Relief Systems, according to EN ISO 4126-5.

Features

- High tightness up to set pressure due to supplementary load
- Small opening and closing pressure differences
- High setting accuracy and reproducibility
- Opening possible even below set pressure
- Control function can be checked without operation of the safety valve
- In case of failure, the safety valve opens as direct spring valve (fail-safe function)
- No electrical energy supply necessary
- Ideally suitable for explosion protection

Technical Data

Ambient temperature: Max. 60 °C

Compressed air supply:

4 bar min.; 8 bar max

Air consumption:

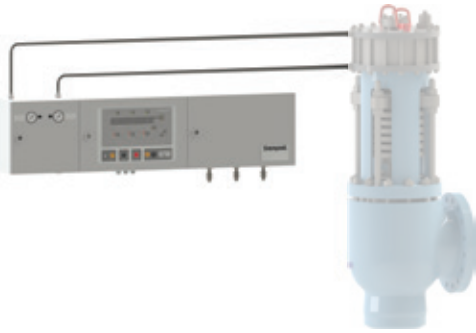
During normal operation: 0.08 mN³/h

Type of enclosure: IP 66

Applications

Controlled Safety Pressure Relief System with three times redundant control paths and fail-safe function.

Power Actuated Relief Valves



Electro-pneumatic control unit Model STE4

TÜV type tested control unit to operate spring loaded safety valves as Controlled Safety Pressure Relief Systems, according to EN ISO 4126-5. The modular design enables high flexibility.

Features

- High tightness up to set pressure due to supplementary load
- Small opening and closing pressure differences
- Blow down widely adjustable
- High setting accuracy and reproducibility
- Opening possible even below set pressure
- Pressure setting of safety valve during normal plant operation
- Control function can be checked without operation of the safety valve
- In case of failure, the safety valve opens as direct spring valve (fail-safe function)

Technical Data

Ambient temperature:

-25 °C to +60 °C

Compressed air supply:

2 bar min.; 8 bar max.

Air consumption:

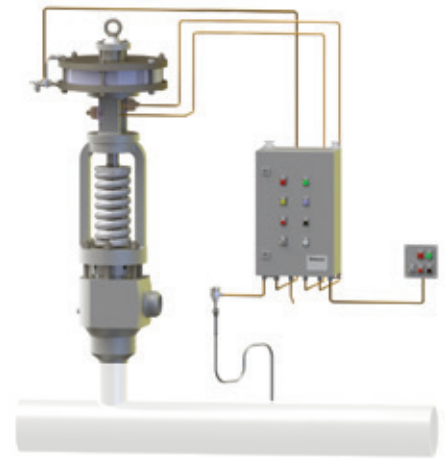
No consumption during normal operation

Applications

Controlled Safety Pressure Relief System with three times redundant control paths and fail-safe function. A single unit can operate more than one safety valve and provides pressure sensing, electrical control and pneumatic operation functions.

In ASME boilers, only direct spring safety valves are used for over pressure protection. It is also common to install “power actuated” relief valves. These valves - often ball type - open automatically below the safety valve set pressure and can also be opened at lower pressure conditions via a signal from the control room.

Leveraging the reliability of its safety valve technology and pressure control, Emerson has developed a new approach for ASME boiler systems: Electro-Pneumatic Relief Valves (EPRV). The range of EPRV combines a spring-operated valve design with pneumatic actuation to ensure smooth operation and prevent unnecessary wear. The EPRV can significantly reduce leakage, maintenance requirements and reduce operational downtime helping customers save on the valve's total costs of ownership. The range is ASME certified and can be ‘V’ stamped to allow the reduction of installed safety valve capacity.



Electro-pneumatic relief valve Model EPRV

The EPRV consists of a SEP relief valve combined with a STE8 control unit. It provides reliable protection for your main valves.

Features

- Accurate blow down adjustment
- Accurate and reliable operation at set pressure
- Lifting the valve below set pressure possible
- Valve control can be adjusted without changing the system pressure
- Control function can be tested without opening the valve
- Pressure switch provides system pressure signal
- Rugged design for high pressure and temperature
- Seat and body integrated design for highest operational conditions
- Optional removable seat insert available (seat can be replaced with valve in-situ)
- Double acting cylinder

Technical Data

Standard size (inlet x outlet):

NPS 2½ x NPS 4

Pressure rating:

Up to 350 barg (5000 psig)

Temperature range:

Up to 630°C (1150°F)

Connection:

Flanged or welded

Applications

Providing over pressure protection for steam boilers.

Isolation Valves

Globe Valves

Emerson's range of isolation valves includes gate, globe and check valves for applications in the DIN and ASME power markets applying cutting-edge material science and innovative valve designs.

Sempell isolation and non-return valves are designed for all types of power applications, where leak-tight performance, absolute safety and high reliability is vital at high pressures and temperatures including temperatures up to 720°C (1300°F).

Globe Valves

Emerson designs high quality globe valves which combine tight isolation with regulating service where required. Manufactured using carefully selected cast and forged steels and with selected face-hardened components, they are ideal for demanding applications requiring reliable performance in more extreme operating conditions.



HP forged globe valve Optimized design Model VA400

Multipurpose globe valve leverages a simplified Sempell design to provide an optimized economical solution.

Features

- T-pattern globe type
- One-piece die-forged body design
- Wear resistant stellited body seat
- Limited number of components
- Visual position indicator
- Manual or automated
- Non-rotating stem stem
- Low pressure loss
- Double bearings for low actuation forces

Technical Data

Size range:

DN 10 to 65 (NPS 3/8 to 3)

Pressure / Rating:

Up to PN 500 / Class 2680

Temperature range:

Up to +620°C (+1150°F)

Connection:

Butt weld ends acc. to ASME B16.25

Socket weld ends acc. to ASME B16.11

Design:

Acc. to ASME B16.34 and PED

Applications

Vents, drains, bypass systems, warm-up lines, wherever reliable leak tight performance is required.



HP forged globe valve High performance Model VA500

Globe valve with one-piece die-forged body designed for isolation and control of high temperature and high pressure applications. This multipurpose globe valve is suitable wherever reliable leak tight performance is required.

Features

- Stellited seat surface
- One-piece disc-stem made of corrosion resistant 17 % Cr-steel optional stellited
- Loose backseat
- Easy to maintain
- Manual or automated
- Visual position indicator
- Screw-down non-return configuration available
- Angular pattern available
- Special customized designs, features and materials on request

Technical Data

Size range:

DN 10 to 65 (NPS 3/8 to 3)

Pressure / Rating:

Up to PN 500 / Class 2680

Temperature range:

Up to +620°C (+1150°F)

Connection:

Butt weld ends acc. To ASME B16.25 or ISO 9692-1

Socket weld ends to ASME B16.11

Design:

Acc. to PED, EN/DIN or ASME

Applications

Vents, drains, bypass systems, warm-up lines, in process control industries such as power generation, hydrocarbon production, chemical processing, and refining.



HP forged globe valve
Customized design
 Model VA510

Forged steel globe valve designed for isolation and control of high temperature and high pressure applications. This multipurpose globe valve is suitable for manual or automated operation and can be customized for special applications.

Features

- Stellite seat surface
- One-piece disc-stem made of corrosion resistant 17 % Cr-steel
- Loose backseat
- Outside screw and yoke - non-rising handwheel
- Visual position indicator
- Optional high-temperature design with cooling ribs
- Special customized designs, features and materials are available on request

Technical Data

Size range:

DN 10 to 65 (NPS 3/8 to 3)

Pressure / Rating:

Up to PN 630 / Class 3600

Temperature range:

Up to +720°C (+1300°F)

Connection:

Butt weld ends acc. to DIN /ASME B16.25 or ISO 9692-1

Socket weld ends to DIN / ASME B16.11

Design:

Acc. to PED, EN/DIN or ASME

Applications

Vents, drains, bypass systems, warm-up lines, in conventional power plants.



HP forged globe valve
High performance
 Model VA250 / Raisteam 6022-6025, 6032-6035

Forged steel isolation valve with T, Y and A-pattern configuration and pressure seal cover design for high pressure applications.

Features

- Seat and disc surfaces hardfaced or stellite
- Body and stem guiding available
- Pressure seal bonnet
- Electric actuator on request
- Throttling disc on request
- Non-return or screw-down non-return configuration on request
- Special customized designs, features and materials are available

Technical Data

Size range:

DN 65 to 650 (NPS 2½ to 26)

Pressure / Rating:

Up to PN 720 /Class 4500

Temperature range:

Up to +650°C (+1200°F)

Connection:

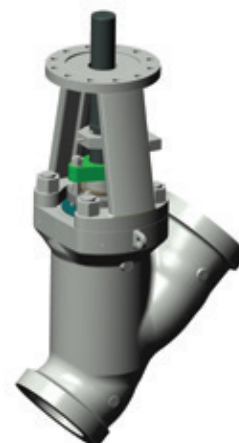
Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Design:

Acc. to PED, DIN/EN or ASME

Applications

Throughout a power plant including main steam systems and reheat steam systems as well as feedwater applications.



Pressure seal cast globe valve
 Model Fasani Style B

Y and T pattern globe valves specifically designed for high pressure and high temperature applications, where tight shutoff and low pressure loss is required.

Features

- Designed acc. to ASME B16.34 with wall thickness acc. to API 600
- Designed for maximum safety and flow efficiency
- Face to face dimensions acc. to ASME B16.10
- Seat is welded-in
- Stellite gr.6 overlay on seat and disc; Stellite gr.21 overlay on bonnet
- Position indicator is offered as standard
- Standard ISO top mounting

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)

Larger sizes available

Pressure / Rating:

Up to Class 2850

Temperature range:

-46°C to +650°C

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

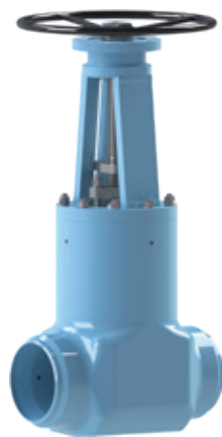
Flanged Ends (T type only) acc. to ASME B16.5

Applications

Main and reheat steam, feedwater isolation, and general service isolation and non-return.

Isolation Valves

Gate Valves



Specifically designed for isolation applications gate valves provide an open flow path with minimum pressure drop across the valve when fully open. Emerson has a full range of gate valves many of which provide excellent seat tightness against flow in either direction. These include pressure seal valves with split wedge, parallel slide and eyelet follower (conduit) designs particularly suitable for high pressures and temperatures and high seat velocities.

HP wedge forged gate valve Model GA251-GA253 / Raisteam 6012-6015

Pressure seal gate valve with split wedge made from forged steel offers excellent seat tightness in both directions, the ideal solution to harsh service conditions including high pressure and high temperature applications.

Features

- Stellite seat/wedge surface
- Split plate, elastic wedge or split wedge with spherical ring
- Fixed backseat
- Electric and hydraulic actuators on request
- Bypass-arrangements for pressure equalizing or pre-warming on request
- Drain, vent and overpressure studs on request
- Special customized designs, features and materials are available

Technical Data

Size range:

DN 65 to 750 (NPS 2½ to 30)

Pressure / Rating:

Up to PN 720 / Class 4500

Temperature range:

Up to +720°C (+1300°F)

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Design:

Acc. to PED, DIN/EN or ASME

Applications

Throughout a power plant including main steam systems and reheat steam systems as well as feedwater applications.

HP parallel slide forged gate valve Model GA254-GA255 / Raisteam 6112-6115

Pressure seal parallel slide gate valve made from forged steel offers excellent seat tightness in both directions, the ideal solution to harsh service conditions including high pressure and high temperature applications.

Features

- Stellite seat/plate surface
- Parallel slide or parallel plate with integral overpressure protection
- Fixed backseat
- Electric or hydraulic actuator on request
- Bypass-arrangements for pressure equalizing or pre-warming on request
- Drain, vent and overpressure studs on request
- Special customized designs, features and materials are available

Technical Data

Size range:

DN 65 to 750 (NPS 2½ to 30)

Pressure / Rating:

Up to PN 720 / Class 4500

Temperature range:

Up to +720°C (+1300°F)

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Design:

Acc. to PED, DIN/EN or ASME

Applications

Throughout a power plant including main steam systems and reheat steam systems as well as feedwater applications.



HP parallel slide forged gate valve Model Dewrance P91R

High pressure and temperature bonnet guided parallel slide gate valve improve resistance to thermal fatigue, reduce component failure and extend service life.

Features

- Bonnet guided stem support removes the need for in-body guiding
- Hardfaced stellite flat backseat for reliable gland sealing if required
- External anti-rotation device for seat/disc alignment, also serves a visual position indication and travel stop in the closed position
- Integral disc carrier/disc assembly ensures correct alignment and facilitates easy dismantling of internal components
- Disc designed to be the 'wear element' to allow easy refurbishment and prolong seat life
- Eyelet follower option available

Technical Data

Size range:

DN 125 to 600 (NPS 5 to 24)

Pressure / Rating:

Up to Class 2500

Temperature range:

Up to +650°C (+1200°F)

Connection:

Butt weld

Design:

Acc. to PED, DIN/EN or ASME

Applications

Specifically designed for use in high pressure water and steam applications including main steam systems and reheat steam systems.



Pressure seal cast gate valve Model Fasani Style A

Robust gate valves specifically designed for high pressure applications in the power industry.

Features

- Available in flexible gate and parallel slide configurations
- Seats are welded in
- Position indicator is offered as standard
- Stellite gr. 6 overlay on seat and wedge or disc; Stellite gr. 21 overlay on backseat
- End to end dimensions acc. to ASME B16.10 short pattern
- Standard ISO top mounting

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)

Pressure / Rating:

Up to Class 2500

Temperature range:

-46°C to +650°

Connection:

Butt weld according to ASME B16.25

Flanged ends on request

Applications

Designed for high pressure applications in the power industry, in particular feedwater, steam lines and general isolation services.



Parallel slide cast gate valve Model Dewrance P67-P95

High pressure and temperature parallel slide gate valve with eyelet follower (conduit) design for high seat velocities and long reliable service life.

Features

- Eyelet follower providing a smooth flow path and maximum performance
- Welded-in hardfaced stellite seats
- Longer seat life with eyelet follower due to reduced erosion
- Lower pressure drop characteristic than wedge gate valve
- Minimized flow turbulence
- Higher allowable seat velocity

Technical Data

Size range:

DN 125 to 600 (NPS 5 to 24)

Pressure / Rating:

Up to Class 2850

Temperature range:

Up to +650°C (+1200°F)

Connection:

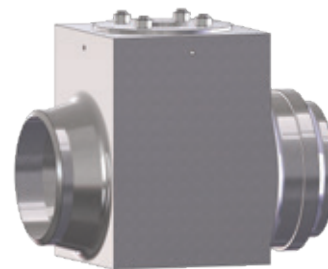
Butt weld

Applications

Specifically designed for use in high pressure water and steam applications, such as main steam isolation, boiler feed-pump isolation, feed heater isolation, spray water and general service isolation duty.

Isolation Valves

Check Valves



Designed to prevent reverse or backflow, check valves are an essential component and provide a primary safety function protecting equipment, product and people. Emerson check valves include swing, piston and tilting disc designs and are suitable for high pressure, high temperature water and steam power applications. They also provide a critical function protecting the steam turbine in power plants from the reverse flow of steam or water.

HP forged check valve Model VR500

Forged steel piston type check valve designed for high temperature and high pressure applications wherever a reverse flow has to be avoided. The return spring allows reliable function even in vertical installations.

Features

- Stellite seat surface
- Piston made of 17 % Cr-steel
- Return spring for vertical installation
- Separated guiding bush
- Optional screw-down non-return configuration

Technical Data

Size range:

DN 10 to 65 (NPS 3/8 to 3)

Pressure / Rating:

Up to PN 500 / Class 2680

Temperature range:

Up to + 600°C (+ 1100°F)

Connection:

Butt weld ends acc. to ASME B16.25

or ISO 9692-1

Socket weld ends acc. to ASME B16.11

Design:

Acc. to PED, EN/DIN or ASME

Applications

All water-steam cycle applications with flow in one direction only and to protect systems that can be affected by reverse flow.

HP forged swing check valve Model KR400 / Raisteam 6042-6045

Forged steel swing check valve with pressure seal cover, recommended to prevent flow reversal in severe applications.

Features

- One-piece block-design
- Seat and flap surfaces hardfaced or stellite
- Swing check disc
- Internal shaft without stuffing box
- Tilting disc configuration on request
- Minimum flow nozzle on request
- Special customized designs, features and materials are available

Technical Data

Size range:

DN 65 to 750 (NPS 2 1/2 to 30)

Pressure / Rating:

Up to PN 700/ Class 4500

Temperature range:

Up to +720°C (+1300°F)

Connection:

Butt weld ends acc. to ASME B16.25

or ISO 9692-1

Design:

Acc. to PED, DIN/EN or ASME

Applications

Designed to prevent a backflow in water and steam systems for all high-pressure power applications.



Pressure seal cast swing check valve

Model Fasani Style B

Swing check valve specifically designed for high pressure and high temperature applications requiring flow reversal protection.

Features

- Unidirectional valve design
- Self / quick closing with reverse flow or no flow in pipeline
- In open position disc is outside the flow path providing unrestricted flow, less turbulence and pressure loss
- Renewable seat is easily replaced
- Designed for maximum safety and flow efficiency
- Can be installed on both horizontal and vertical (upflow) piping

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)
Larger sizes available

Pressure / Rating:

Up to Class 2850

Temperature range:

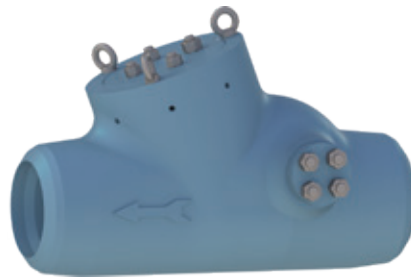
-46°C to +650°C

Connection:

Butt weld according to ASME B16.25
Flanged ends acc. to ASME B16.5

Applications

Main steam and feedwater applications. Steam and water service requiring flow reversal prevention.



Pressure seal cast tilting disc check valve

Model Dewrance F67-F95

Tilting disc check valve specifically designed for high pressure and high temperature applications requiring flow reversal protection.

Features

- Triple offset seat geometry prevents the disc slamming and provides stable disk operation with quick closing
- Inclined seat geometry to minimize pressure loss and ensure positive seating on gravity alone
- Disc seat is manufactured directly in the body with no welding to avoid any distortion of seat face
- Removeable cover for easy access and in-line maintenance
- Designed for maximum safety and flow efficiency
- Can be installed on both horizontal and vertical (upflow) piping

Technical Data

Size range:

DN 150 to 600 (NPS 6 to 24)
Larger sizes available

Pressure / Rating:

Up to Class 2850

Temperature range:

-46°C to +650°

Connection:

Butt weld according to ASME B16.25
Flanged ends acc. to ASME B16.5

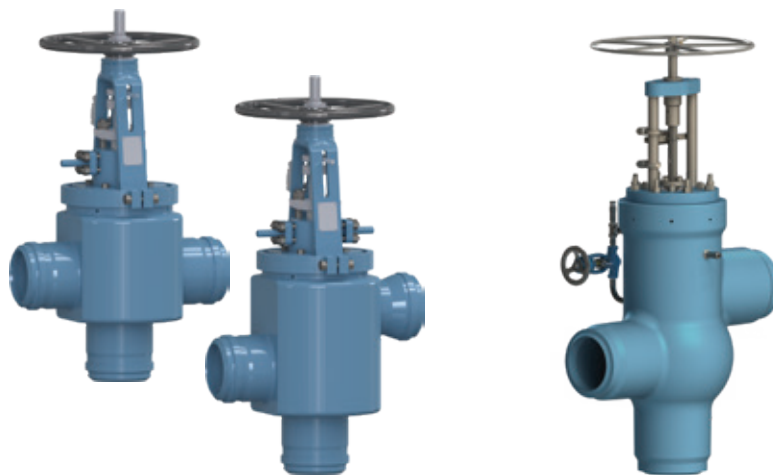
Applications

Main steam and feedwater applications. Steam and water service requiring flow reversal prevention.



Isolation Valves

Special Valves



Emerson designs and manufactures specialist valves to protect critical applications in the generation of steam including bleed steam check valves for the protection of steam turbines; and preheater protection valves, automatic bypass protection valves, feed heater isolators and feedwater heater divertors designed to control the flow of boiler feedwater providing isolation and bypass function in the event of a tube failure.

HP preheater protection valve Models AVS 4/5 / Raisteam 6052-6065, 6302-6325

Medium operated quick closing 3-way change over valve (inlet) and check valve (outlet) for preheater protection.

Features

- Simultaneous fast closing of two medium operated main valves controlled by a pilot valve
- Fail safe – if either electric or pneumatic supplies fail the valve will automatically switch over in by-pass mode
- High actuation forces due to high differential pressures on the operating piston
- Protection against unintended opening. The valves can be opened after pressure balance only
- Optional internal damping piston
- Optional external hydraulic brake

Technical Data

Size range:

AVS: DN 80 to 500 (NPS 3 to 20)
Raisteam: DN 150 to 650 (NPS 6 to 26)

Pressure / Rating:

Up to PN 500 / Class 2500

Temperature range:

Up to +360°C (+ 680°F)

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Design:

Acc. to PED, DIN/EN or ASME

Applications

Preheater change over and check valves protect the system in the event of a break in the high-pressure feedwater pipes.

Feedwater heater isolation valves Model Dewrance A, W and Y

Automatic bypass valves, feed heater isolators and feedwater heater divertors designed to protect a turbine in the event of a feedwater heater tube failure.

Features

- Variety of designs including; Automatic bypass valves (Type A), Feed heater isolators (Type W) and Feedwater heater divertor (Type Y)
- Capable of operation in approximately 5 seconds (300 mm bore pipe) with minimum hydraulic shock
- Medium operated, motor operated and spring-loaded valves available
- Pressure seal bonnet
- External spring adjustment under system pressure
- Fail safe design

Technical Data

Size range:

DN 150 to 500 (NPS 6 to 20)

Pressure / Rating:

Class 1690 to 2260

Temperature range:

-46°C to +650°C

Connections standard:

Butt weld and flanged acc. to ASME B16.34

Applications

Designed to control the flow of boiler feedwater, providing isolation and bypass function in the event of feedwater heater tube failure.



Cast swing check valve with power assist Model 802

A free-swinging design enables the valve to close by the disc weight, preventing damage in the turbine from backflow steam. A pneumatic or hydraulic actuator supports the quick-closing function.

Features

- Pressure sealing design
- Hardfaced sealing faces at disc and body seat
- Easy maintenance
- Indication of control angle directly at disc lever
- Actuator mounting possible on either left or right hand side
- Limit switches indicate valve status
- No overpressure build up in the HP turbine

Technical Data

Size range:

DN 350 to 800 (NPS 14 to NPS 32)

Pressure / Rating:

Up to PN 160 / Class 900

Temperature range:

Up to +510°C (+950°F)

Connection:

Welding ends acc. to EN/DIN & ASME

Closing time: < 2 sec

Leakage class:

Leakage Test acc. to EN 12266-1/P12 Leakage Rate B

Possible flow medium:

Steam

Applications

Cold reheat application. Protects the turbine from backflow with weight loaded disc or quick closing pneumatic/ hydraulic actuator.



Cast swing check valve Model 803 / Model Fasani BB

A free-swinging check valve design enables valve to close by disc weight in the event of reversed flow, also available with side mounted actuators and spring closing design.

Features

- Bolted bonnet design
- Vertical seat design with a large (75°) disc opening angle provides reduced pressure loss
- Hardfaced sealing faces at disc and body seat
- Easy maintenance
- Complete disc closure at no flow conditions due to offset between the seating surface and the lever
- Anti-rotation device to avoid damage due to induced flow instability
- Quarter turn actuators ensure safe conditions for operators

Technical Data

Size range:

Up to DN 1650 (NPS 66)

Pressure / Rating:

Up to Class 1500

Temperature range:

Up to +570°C (+1060°F)

Connection:

Flanged, butt or welding ends

Closing time: < 1 sec (Fasani BB)

Possible flow medium:

Steam or water

Applications

Turbine steam extraction application. Prevents backflow after sudden load reductions or turbine trip. indicates disc opening angle.



Cast tilting disc check valve Model Dewrance B07-B67

Cast tilting disc check valve designed specifically for extraction steam and cold reheat non-return applications, utilizing triple offset seating geometry providing reliable and stable operation with positive closure.

Features

- Internal counterweight to balance disc under low load conditions
- Direct deposited seats
- Tilting disc design for quick closing due to lower center of gravity
- Lightweight disc with minimum travel, quick closing in < 1 second
- Self-draining geometry
- Easy access through cover
- Automatic self-closure on flow reversal
- Low cost maintenance

Technical Data

Size range:

DN 150 to 800 (NPS 6 to 32)

Pressure / Rating:

Class 150 to 1000

Design:

Acc. to ASME B16.34

Other sizes/pressure classes available onrequest (up to NPS 48, DN 1200)

Applications

Bled steam, extraction steam and reverse current check valves; quick close and cold reheat non-return check valves, and turbine exhaust for non-return turbine protection on steam turbines.

Ancillary equipment

Designed for the safe operation and testing of your water and steam products these include high pressure test and self-sealing covers to allow testing, maintenance or servicing of pressure retaining components. They also include interlocks for pilot valves.



HP self-sealing forged cover Model V01 / Raisteam 6091-6095

Self-sealing covers will reliably ensure isolation of vessels, pipes and pressure retaining components such as strainers. They can easily be opened to grant access for maintenance, service or revision.

Features

- Forged materials of highest quality, all in compliance with ASME and DIN standards

Technical Data

Size range:

DN 40 to 600 (NPS 1½ to 24)

Pressure / Rating:

Up to PN 500 / Class 2500

Temperature:

Up to +650°C (+1200°F)

Connection:

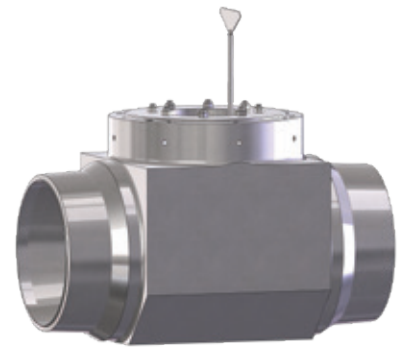
Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Design

Acc. to PED, DIN/EN or ASME

Applications

Self-sealing covers are used wherever an easy access to a pressure-retaining component is required.



HP test pressure cap Model V05 / Raisteam 6071-6075

The test cover is a temporary isolation device for hydrostatic testing. It provides an open pipeline during normal operation, and isolation / closure for testing which can be installed and removed within a short time.

Features

- Forged materials of highest quality, all in compliance with ASME and DIN standards
- Excellent reliability
- Low maintenance cost
- Improved performance
- Suitable for vertical or horizontal installation

Technical Data

Size range:

DN 200 to 800 (NPS 8 to 32)

Pressure / Rating:

Up to PN 700 / Class 4500

Temperature:

Up to +650°C (+1200°F)

Connection:

Butt weld ends acc. to ASME B16.25 or ISO 9692-1

Design

Acc. to PED, DIN/EN or ASME

Application

Provides the facility to isolate high pressure piping without the need for permanently installed isolation valve.



Reheater isolation cast device Model Dewrance R45-R61

Isolation device specifically designed to be installed in reheat lines to provide in-service low-pressure loss. Isolating internals can be manually installed as required to provide reliable isolation for hydrotest, steam blow and chemical cleaning of reheat section of boiler.

Features

- Minimal parts with full bore seat for optimum performance and low pressure drop
- Simple isolating closure with one jacking stud
- Pressure seal bonnet design gives maximum reliability with minimum maintenance
- No replacement parts required (other than pressure seal)
- Low cost isolating device
- Simple method of isolation with full bore, low pressure drop
- Ability to enter pipe system through cover for steam purge (chemical clean)

Technical Data

Size range:

DN 400 to 900 (NPS 16 to 36)

Pressure / Rating:

500 and 900 class

Temperature:

-46°C to +650°C

Connection:

Butt weld according to ASME B16.25

Applications

Provides the facility to isolate the reheat section of a boiler without the need for permanently installed isolation valve.



Excess pressure safety device with rupture disc Model A6.1 - A6.2

The excess-pressure safety device with rupture disc is designed to provide overpressure protection for gate valves. In the closed position, the body cavity of a gate valve can retain water. If the seat faces are closely sealed, an increase of the temperature will consequently increase the pressure within the cavity. To avoid any damage of the body/bonnet of the valve a pressure relief device is necessary.

To eliminate this risk three solutions are available:

- Entry side hole in the seat ring or in the wedge
- External equalizing pipe
- Excess-pressure safety device with rupture disc

The excess-pressure safety device with rupture disc is connected to the body cavity with a cooling pipe. In case of a pressure increase the rupture disc will burst at a defined pressure and relieve the pressure. This safety device has the advantage that it allows the main valve to be bi-directional while the other options allow uni-directional flow only.



Interlocking systems for safety related valve configurations Models A1 - A5 / A300

These valve locks and interlocking systems enable any interlocking solutions, even complex ones. A1-A5 series and A300 series can be used together.

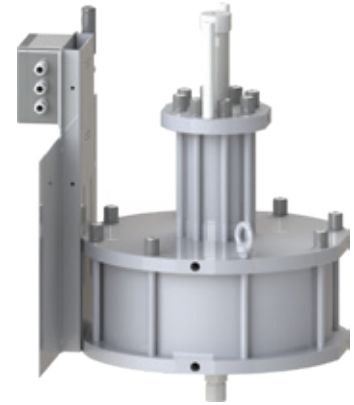
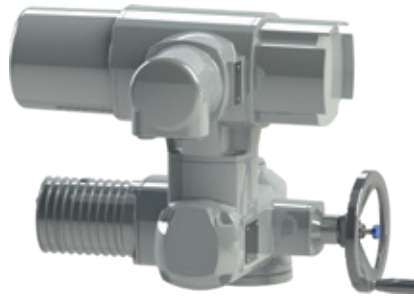
Features

- Models A1 - A5: Valve locks with one or two keys for open and/or closed locking position
- Model A 300: Adjustable interlockings with one or more keys for different locking positions. Equipped with a coupling acc. to ISO 5210 for simple mounting on valves or gearboxes

Applications

Interlock of pilot safety valves, control valves for preheater protection valves or even extensive interlocking systems in chemical plants or refineries.

Actuators and test devices



With actuators designed for on/off, modulating, multi-turn, part-turn and linear applications, Sempell valves are available as fully engineered and integrated automated valve solutions from a single source.

Using advanced and reliable actuation technology from well recognized and trusted industrial suppliers we have the applications experience you need to find the optimum valve automation solution.

We consider the specific operating conditions and individual fail-safe behaviour required to provide fast and precise control, safely.

We can also provide systems to meet the demands of a safety integrity level (SIL) according to IEC 61511 / IEC 61508.

Electric Actuators

The electric actuators are available with multi-turn and part-turn operation. To perform linear movements, the multi-turn actuators can be combined with a linear thrust unit.

Suitable for a wide range of operating conditions, these actuators are capable of delivering very high torque output by combining the actuators with gearboxes.

For local control, remote control and integration of the valve into the plant's DCS system, various options of integrated or separate control systems are available.

Features and options

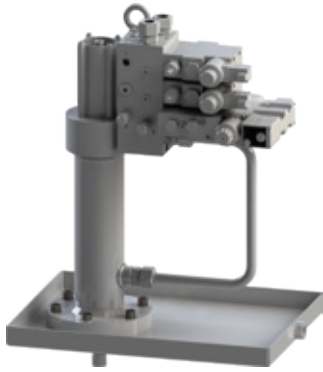
- Connections according to EN ISO 5210 / EN ISO 5211
- Communications: Fieldbus, Modbus, Industrial Ethernet, HART, etc.
- All voltage / frequency ranges (3-phase AC motor, 1-phase AC motor, DC motor)
- Speed modulation of electric actuators (AC motor) with frequency devices

Pneumatic Actuators

The spring-return or double-acting pneumatic actuators we propose provide maximum flexibility while their robust construction ensures long service life with minimal maintenance. They are suitable for both on-off and modulating control in heavy-duty service in the harshest environmental and operating conditions.

Features

- Linear actuators with either a piston or diaphragm design
- Scotch yoke pneumatic actuators have an efficient design and deliver high break-out torques making them suitable for most quarter turn valves up to the largest sizes
- Rack & pinion actuators have robust and yet compact construction, they have been engineered to provide the optimum balance of simplicity, reliability and economy



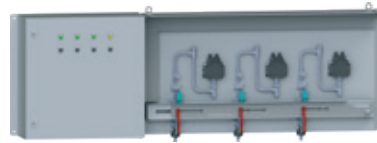
Hydraulic Actuators

The concentrated power of hydraulics allows our solutions to be very compact, accurate and efficient. Minimal energy is used to reach peak performance.

The range includes

- Compact hydraulic actuators
- Customized hydraulic systems with separate hydraulic pressure units, actuators and control cabinet
- Large range of options

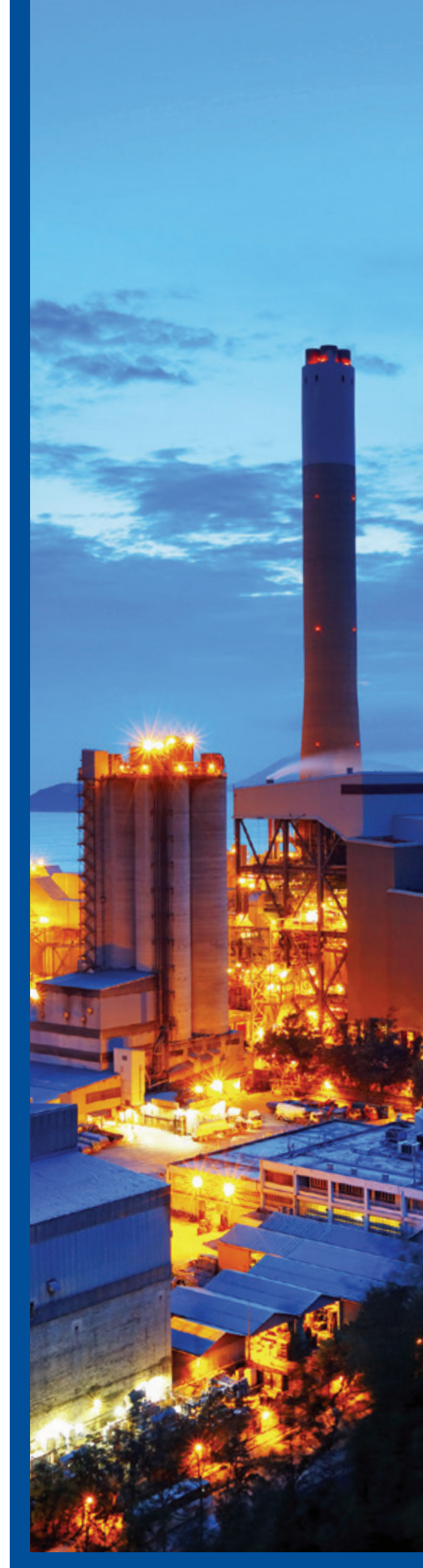
Hydraulic controls and accessories are designed and manufactured based on customer specifications and application requirements, meeting the most stringent needs for control modes and operating conditions. We are also able to complete the hydraulic systems on site.



Steam Test Device Model STE6

The STE6 TÜV tested electro-hydraulic control unit is a safety device to monitor the pressure in steam lines and to operate hydraulic actuated valves in accordance with DIN EN ISO 4126-5 (TRD421). It protects systems against overpressure by moving the valves into a safe position if the pre-adjusted pressure is exceeded.

The safety function is initiated by a 1oo3 (one out of three) logic.





Lifecycle services.

The pathway to improved operational performance starts with choosing our lifecycle support

The performance of valves used in steam applications can drastically impact on your operational and financial goals. You need service management support not only to start-up or maintain your operations, but to achieve and sustain high performance.

Emerson certified personnel have expertise in all types of control, safety and isolation valves and will help you to maintain safe operation, improve reliability, and optimize plant performance.



Maintenance

Keep your plant operating safely, consistently and economically

Reliability

Improve your asset reliability and preserve your investments

Performance

Optimize your plant performance goals

Maintenance

QuickShip

Is a world-class fulfilment program that allows for fast shipment of parts and products to maximize speed and responsiveness.

Local support

No matter where you are located, we make ourselves available to help you implement changes during normal operations or prepare for planned outages without diverting your manpower from other important duties.



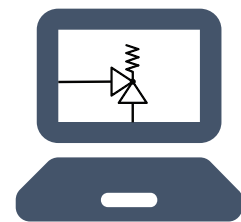
Reliability

Shutdowns, turnarounds & outages (STO)

With the usage of digital walkdown applications, we can precisely prepare, plan and execute your next STO. Our Asset Management and Risk Based Inspection tools and methodologies help to implement short and long-term reliability strategies. Moreover, our service engineers have a unique ability to carry out on-site repairs on critical assets - using mobile tools to perform machining, welding, grinding and lapping for sealing or functional surfaces.

On-line diagnostics

SESI-test diagnostic system enables our services team to perform in-situ tests on pressure relief safety valves. Under operating conditions, and without the need to dismount the valve, the tool indicates which safety valves need your attention before problems occur, helping to shorten shutdowns.



Performance

Revised operating conditions

Where you need to adapt to change in the economic environment, we can help to optimize your installation by either replacing existing valves to improve results, or offer advice for changing the unit design, in order to increase steam availability and performance.



Engineered valve solutions for your most demanding steam applications.



SEMPELL™

Emerson Automation Solutions

Sempell GmbH
Werner-von-Siemens-Straße
41352 Korschenbroich,
Germany
T +49 2161 61 50

Emerson Automation Solutions Final Control Italia S.R.L.
Via Castellanza, 47
20027 Rescaldina
Italy
T +39 0331 575111

Americas

301 South 1st Avenue
Marshalltown
Iowa 50158
United States
T +1 641 754 3011

Asia Pacific

1 Pandan Crescent
Singapore 128461
T +65 6777 8211

Middle East & Africa

Emerson FZE P.O. Box 17033,
Jebel Ali Free Zone - South 2,
Dubai, United Arab Emirates
T +971 4 8118100



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