

Isolation valve overview

**STEAM & CONDENSATE
MANAGEMENT SOLUTIONS**



First for Steam Solutions

EXPERTISE | SOLUTIONS | SUSTAINABILITY

spirax
sarco

Safe, secure isolation

Isolation is an essential requirement in any fluid system, whether to divert flow, shut down the system, allow access for maintenance or the removal/installation of equipment. When selecting an isolation valve from Spirax Sarco, you can be sure of the highest quality and performance; our valves have been developed with safety, security and sustainability in mind.

Spirax Sarco are focused on helping our customers achieve process efficiency, increased production output, energy savings and compliance to toughening legislation. We are able to do this through our extensive applications and systems knowledge and breadth of solutions.

We know that every plant and process has its own needs, which is why we manufacture isolation valves in a comprehensive range of designs, materials and sizes to suit a wide range of applications and processes. With our expertise in steam systems and other related industrial fluids, we can advise to help you select the best solutions for your requirements.



First for Steam Solutions



Bellows sealed isolation valves

Spirax Sarco BSA valve range

Our bellows sealed isolation valves are engineered to maintain plant safety and save energy by totally eliminating stem seal leaks. Zero emissions are guaranteed which ensures our BSA valves meet the most stringent worldwide emissions legislation.

The BSA_T offers a throttling plug as opposed to the standard flat disc. The throttling plug allows manual regulation to adjust line pressure and flow, making this a flexible and user-friendly isolation solution. It can also be used as a basic control valve or a substitute for 'bypass' lines. The throttling plug version also benefits from having twin ply bellows which will extend the products service life. Those valves fitted with a throttling plug have a locking screw as standard, enabling the user to lock the valve in the throttling position.

Key features and benefits:

- Bellows sealed design eliminates emissions for improved energy efficiency.
- Fully compliant with the European Pressure Equipment Directive 97/23/EC.
- Maintenance free giving long life and low cost of ownership.
- Unaffected by vibration and will operate over a wide range of pressures and temperatures.





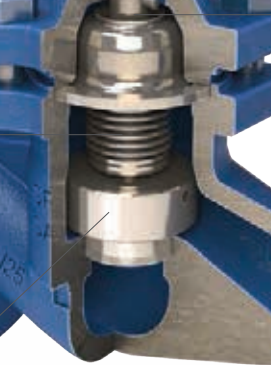
Rugged, non rising handwheel assembly for ease of use



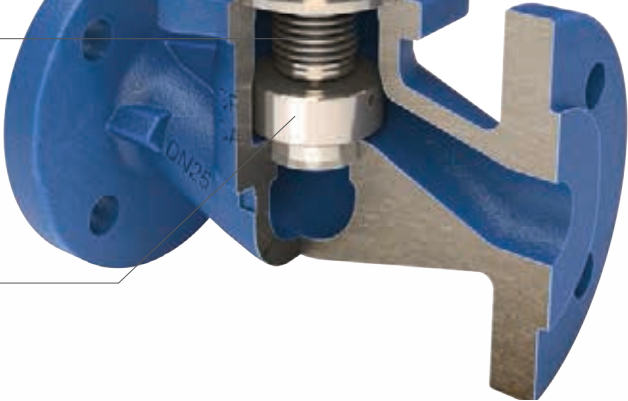
Open / closed position indicator



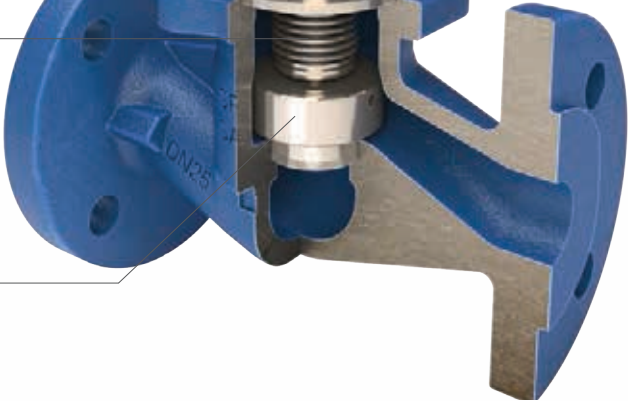
Bellows anti-torsion device prevents the bellows unit from twisting, extending bellows service life



Titanium stabilised austenitic stainless steel bellows for durability



Optional disc assemblies available:
- soft sealing discs
- balancing discs



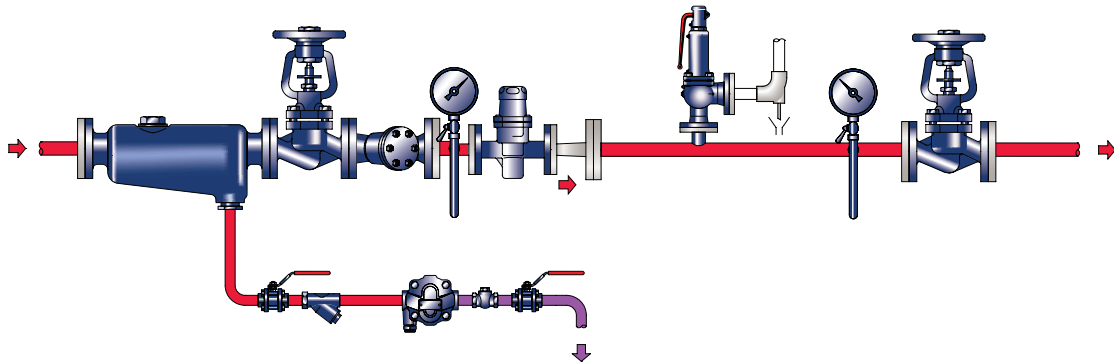
The high integrity A3S bellows sealed valve is suitable for use under higher pressure steam, gas, and liquid applications as it is designed to ASME Class 800.



BSA range

| Model | Valve trim | Material | Body design rating | Connection | Sizes | | | | | | | | | | | | | | |
|---------------------|--------------------------------|----------------------------------|-----------------------------------|-------------------------|-----------|-----------|---------|-------------|-------------|---------|-------------|---------|----------|----------|----------|----------|-----------|---|---|
| | | | | | DN15 1/2" | DN20 3/4" | DN25 1" | DN32 1.1/4" | DN40 1.1/2" | DN50 2" | DN65 2.1/2" | DN80 3" | DN100 4" | DN125 5" | DN150 6" | DN200 8" | DN250 10" | | |
| BSA1T | Throttling plug | Cast iron | 16 bar g | Flanged | • | • | • | • | • | • | • | • | • | • | • | • | | | |
| BSA1T RPTFE | Throttling plug with soft seat | | | | • | • | • | • | • | • | • | • | • | | | | | | |
| BSA1 | Flat disc | | | | | | | | | | | | | | • | • | • | | |
| BSA1 BD | Balancing disc | | | | | | | | | | | | | | | | • | | |
| BSA2T | Throttling plug | SG Iron | 16 bar g | Flanged | • | • | • | • | • | • | • | • | • | • | • | • | | | |
| BSA2T RPTFE | Throttling plug with soft seat | | | | • | • | • | • | • | • | • | • | • | | | | | | |
| BSA2 | Flat disc | | | | | | | | | | | | | | • | • | • | | |
| BSA2 BD | Balancing disc | | | | | | | | | | | | | | | | • | | |
| BSA2T | Throttling plug | SG Iron | 25 bar g | Flanged | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| BSA2T RPTFE | Throttling plug with soft seat | | | | • | • | • | • | • | • | • | • | • | | | | | | |
| BSA2 | Flat disc | | | | | | | | | | | | | | • | • | • | • | • |
| BSA2 BD | Balancing disc | | | | | | | | | | | | | | • | • | • | • | • |
| BSA3T | Throttling plug | Carbon Steel | 40 bar g (DIN) 51 bar g (ASME) | Flanged | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| BSA3T RPTFE | Throttling plug with soft seat | | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| BSA3 | Flat disc | | | | | | | | | | | | | | • | • | • | • | • |
| BSA3 BD | Balancing disc | | | | | | | | | | | | | | • | • | • | • | • |
| BSA6T | Throttling plug | Stainless Steel | 40 bar g | Flanged | • | • | • | • | • | • | • | • | • | • | • | | | | |
| BSA6T RPTFE | Throttling plug with soft seat | | | | • | • | • | • | • | • | • | • | • | • | | | | | |
| BSA64T | Throttling plug | Stainless steel/ Carbon steel | 40 bar g | Flanged | • | • | • | • | • | • | • | • | • | | | | | | |
| BSA64T RPTFE | Throttling plug with soft seat | | | | • | • | • | • | • | • | • | • | • | • | | | | | |
| A3S | - | Forged Steel | 99 bar g | Screwed, socket weld | • | • | • | • | • | • | | | | | | | | | |

Typical application for a bellows sealed valve



BSA valves are suitable for use across many industries including oil and petrochemicals, food and beverage, pulp and paper and pharmaceutical.



Double block and bleed bellows sealed isolation valve

Spirax SafeBloc™

The Spirax SafeBloc™ is a double isolation solution, with a unique space-saving design, offering reduced installation time and fewer leak paths.

Faster and easier to install than a traditional double block and bleed assembly, the Spirax SafeBloc™ has an innovative design which incorporates two bellows sealed isolation valves and a bleed port in one compact assembly. Easy to use and commission, the Spirax SafeBloc™ can be installed without pipework modifications, into the space left by an existing single isolation valve.

Developed to meet the increasing demands of health and safety requirements where traditional single isolation of plant is inadequate, the Spirax SafeBloc™ is a cost effective double isolation solution. Protecting users and maintenance personnel across a wide range of applications and industries it meets best practice requirements to comply with the most stringent risk assessments.



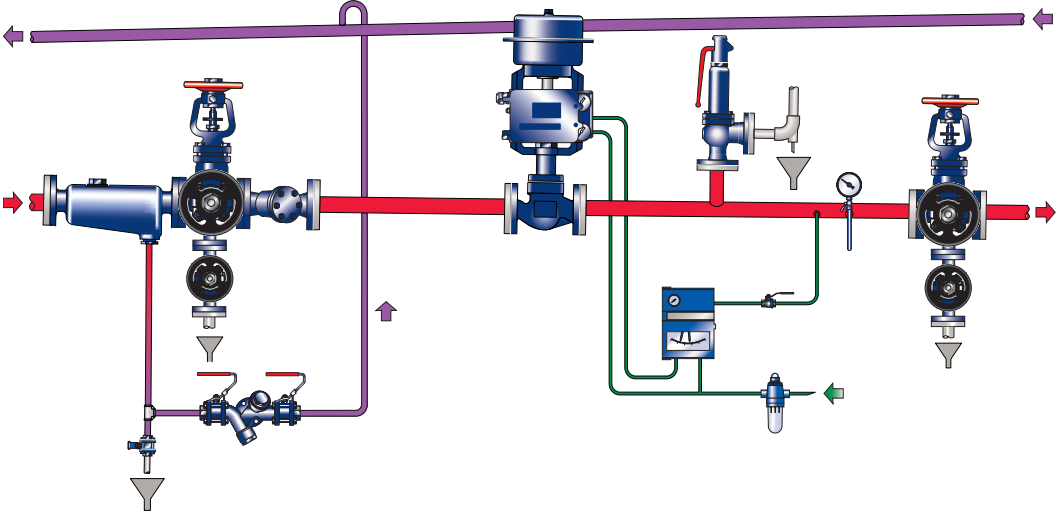
Key features and benefits:

- Double isolation in the space of one valve.
- Quick and easy installation providing lower labour costs and less plant downtime.
- Low pressure drop ensuring excellent performance across a wide range of pressures and applications.
- Zero leakage due to proven bellows sealed technology for reliability and safeguarding personnel.
- Bleed connection facility to safely bleed off downstream pressure.

SafeBloc™ range

| Model | Material | Body design rating | Connections | Bleed connection | Size |
|-------|-------------------------|------------------------|--|--|--------------|
| DBB3 | Body and Bonnet - Steel | PN40 or ASME 300 | Flanged PN40 or Flanged ASME 300 | Flanged DN15 Screwed ½" BSP/NPT Socket weld ½" | DN15 - DN100 |

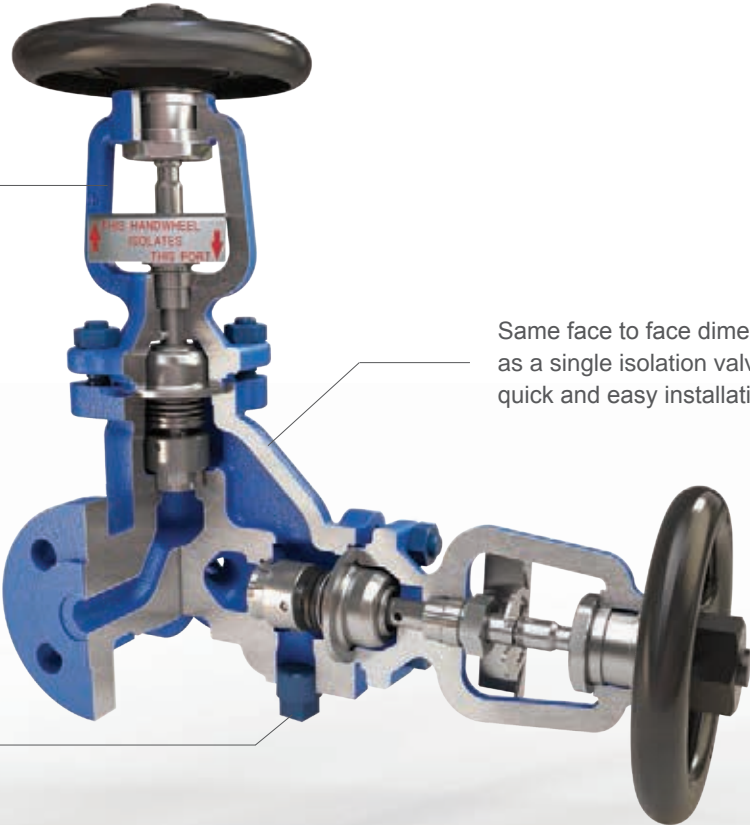
Typical application



All the benefits of a standard Spirax Sarco bellows sealed valve

Same face to face dimension as a single isolation valve for quick and easy installation.

Bleed connection facility



Ball valves

Ball valves are a cost effective, fast-acting isolation solution. Requiring only a quarter turn, operation of the valve is easy and the straightforward flow path reduces pressure drop, making ball valves ideal for steam, condensate, gas and other process media applications.

Spirax Sarco offers a comprehensive range of high performance, low cost ball valves for safe, effective shut-off. We provide a choice of body design, materials, connections, seals and options, plus specialty valves, all segmented for ease of selection to suit your requirements.

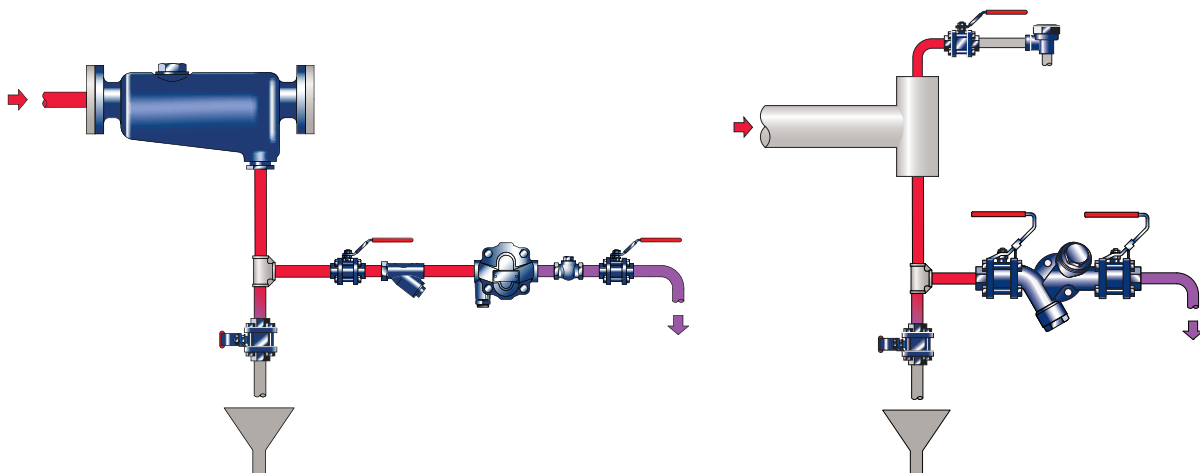
Key features and benefits:

- Manufactured to high specification providing reliable tight shut-off and less maintenance.
- Wide range of sizes, materials and body design option providing a suitable model for most applications.
- Precision design providing compact valves.
- Quarter turn on/off ensuring easy operation and maintenance.
- ISO mounting models which are quick and easy to automate.
- Low torque valves with smaller actuators for automation.
- Unrestricted flow allowing low pressure drop and high capacity.
- Corrosion resistant bodies ensuring long life.





Typical application



Actuated ball valves:

Actuated ball valves operate plant and processes remotely. This can be achieved via local control or network based systems. Spirax Sarco ball valves with ISO mounting are suitable whatever the control system.

Actuation is very easy with our ball valve range as ISO versions are made to simplify the automation process and contain the following advantages:

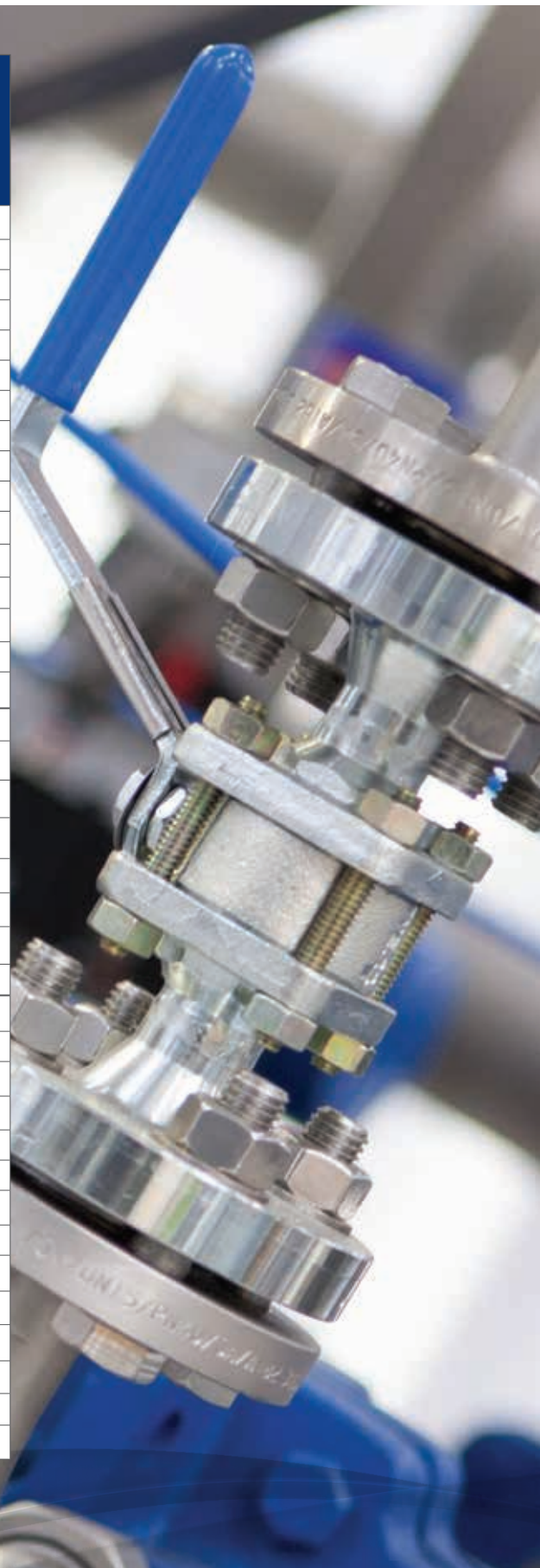
- Designed to ISO 5211 standard.
- Valves can be automated in service.
- Easy maintenance.
- Stainless steel linkage kits.

Isolation valves overview

| Ball Valves | Model | Materials | | | End connections | | | Sizes | Maximum operating pressure PMO |
|--------------|-----------------|--------------|-----------------|----------------------|------------------------------------|--------|---------|----------|--------------------------------|
| | | Carbon steel | Stainless steel | Full stainless steel | Screwed | Welded | Flanged | | |
| THREE pieces | M10V | • | • | • | • | • | • | ¼" - 2½" | 10 bar g |
| | M10S | • | • | • | • | • | • | ¼" - 2½" | 17.5 bar g |
| | M10Vi ISO | • | • | • | • | • | • | ¼" - 2½" | 10 bar g |
| | M10Si ISO | • | • | • | • | • | • | ¼" - 2½" | 17.5 bar g |
| | M10P | • | • | • | • | • | • | ¼" - 2½" | 17.5 bar g |
| | M10Pi ISO | • | • | • | • | • | • | ¼" - 2½" | 17,5 bar g |
| | M10Ti ISO | • | • | • | • | • | • | ¼" - 2½" | - |
| | M10F | • | • | • | • | • | • | ¼" - 2½" | 15 bar g |
| | M10Hi ISO | • | • | • | • | • | • | ¼" - 2½" | 39 bar g |
| | M10HTi ISO | • | • | • | • | • | • | ¼" - 2½" | 17.5 bar g |
| | M10HP | • | • | • | • | • | • | ¼" - 2" | - |
| | M10HPi ISO | • | • | • | • | • | • | ¼" - 2" | - |
| | M15i ISO | • | • | • | • | • | • | ¼" - 2½" | 21 bar g |
| | M70iV ISO | | | • | Sanitary clamp, Imperial (Tube OD) | | | ½" - 2" | 7 bar g |
| | M70i G ISO | | | • | Sanitary clamp, Imperial (Tube OD) | | | ½" - 2" | 8.5 bar g |
| | M80iV ISO | | | • | Sanitary clamp, Imperial (Tube OD) | | | 2½" - 4" | 7 bar g |
| TWO pieces | M31V ISO | • | • | | | | • | 2" - 8" | 10 bar g |
| | M31S ISO | • | • | | | | • | 2" - 8" | 12.5 bar g |
| | M33V ISO | • | • | | | | • | 2" - 8" | 10 bar g |
| | M33S ISO | • | • | | | | • | 2" - 8" | 17.5 bar g |
| | M33F ISO | • | • | | | | • | 2" - 8" | 17.5 bar g |
| | M33T ISO | • | • | | | | • | 2" - 8" | - |
| | M33 H ISO | • | • | | | | • | 2" - 8" | 39 bar g |
| | M33HT ISO | • | • | | | | • | 2" - 8" | 17.5 bar g |
| ONE piece | M21Vi ISO | • | • | | | | • | ½" - 6" | 10 bar g |
| | M21Si ISO | • | • | | | | • | ½" - 6" | 17.5 bar g |
| | M21Si ISO (BB) | • | • | | | | • | 1" - 2½" | 17.5 bar g |
| | M21Fi ISO | • | • | | | | • | ½" - 6" | 17.5 bar g |
| | M21Ti ISO | • | • | | | | • | ½" - 6" | - |
| | M21Hi ISO | • | • | | | | • | ½" - 6" | 32 bar g |
| | M21HTi ISO | • | • | | | | • | ½" - 6" | 17.5 bar g |
| | M40Vi ISO | • | • | | | | • | 1" - 6" | 10 bar g |
| | M40Si ISO | • | • | | | | • | 1" - 6" | 17.5 bar g |
| | M40 Si ISO (BB) | • | • | | | | • | 1" - 2½" | 17.5 bar g |
| | M40 Fi ISO | • | • | | | | • | 1" - 6" | 17.5 bar g |
| | M40 Ti ISO | • | • | | | | • | 1" - 6" | - |
| | M40 Hi ISO | • | • | | | | • | 1" - 6" | 39 bar g |
| | M40 HTi ISO | • | • | | | | • | 1" - 6" | 17.5 bar g |

First for Steam Solutions

| Seats | Applications / Industries |
|----------------------|--|
| Virgin PTFE | Low pressure applications, steam (<10 bar g), condensate, gases |
| Reinforced PTFE | Medium pressure applications, steam (<17.5 bar g), process fluids |
| Virgin PTFE | Low pressure applications, steam (<10 bar g), condensate, gases |
| Reinforced PTFE | Medium pressure applications, steam (<17.5 bar g), process fluids |
| PDR 0.8 | OPC industry (800 class or 2000PSI) |
| PDR 0.8 | OPC industry (800 class or 2000PSI) |
| UHMWPE | Teflon free process applications - Tobacco industry (Not suitable for steam) |
| PDR 0.8 | FIRESAFE design (API Certified) - OPC industry |
| PEEK | High pressure applications, steam (<39barg), thermal oils |
| Virgin PEEK | Teflon free steam applications - Tobacco industry |
| Acetal | High pressure applications - 300 bar g or 4500PSI (Not suitable for steam) |
| Acetal | High pressure applications - 350 bar g or 5000PSI (Not suitable for steam) |
| AISI 316 + ENP | Temperature modulating control applications |
| Virgin PTFE TFM-1600 | Clean steam and condensate |
| Mineral filled PTFE | Clean steam and condensate |
| Virgin PTFE TFM-1600 | Clean steam and condensate |
| Virgin PTFE | Low pressure applications, steam (<10 bar g), condensate, gases |
| PDR 0.8 | Medium pressure applications, steam (<12,5 bar g), process fluids |
| Virgin PTFE | Low pressure applications, steam (<10 bar g), condensate, gases |
| PDR 0.8 | Medium pressure applications, steam (<17,5 bar g), process fluids |
| PDR 0.8 | FIRESAFE design (API Certified) - OPC industry |
| UHMWPE | Teflon free process applications - Tobacco industry (Not suitable for steam) |
| PEEK | High pressure applications, steam (<39barg), thermal oils |
| Virgin PEEK | Teflon free steam applications - Tobacco industry |
| Virgin PTFE | Low pressure applications, steam (<10 bar g), condensate, gases |
| PDR 0.8 | Medium pressure applications, steam (<17,5 bar g), process fluids |
| PDR 0.8 | Bottom blowdown |
| PDR 0.8 | FIRESAFE design (API Certified) - OPC industry |
| UHMWPE | Teflon free process applications - Tobacco industry (Not suitable for steam) |
| PEEK | High pressure applications, steam (<32barg), thermal oils |
| Virgin PEEK | Teflon free steam applications - Tobacco industry |
| Virgin PTFE | Low pressure applications, steam (<10 bar g), condensate, gases |
| PDR 0.8 | Medium pressure applications, steam (<17,5 bar g), process fluids |
| PDR 0.8 | Bottom blowdown |
| PDR 0.8 | FIRESAFE design (API Certified) - OPC industry |
| UHMWPE | Teflon free process applications - Tobacco industry (Not suitable for steam) |
| PEEK | High pressure applications, steam (<39barg), thermal oils |
| Virgin PEEK | Teflon free steam applications - Tobacco industry |



Piston valves

RP31, RP32 and RP33

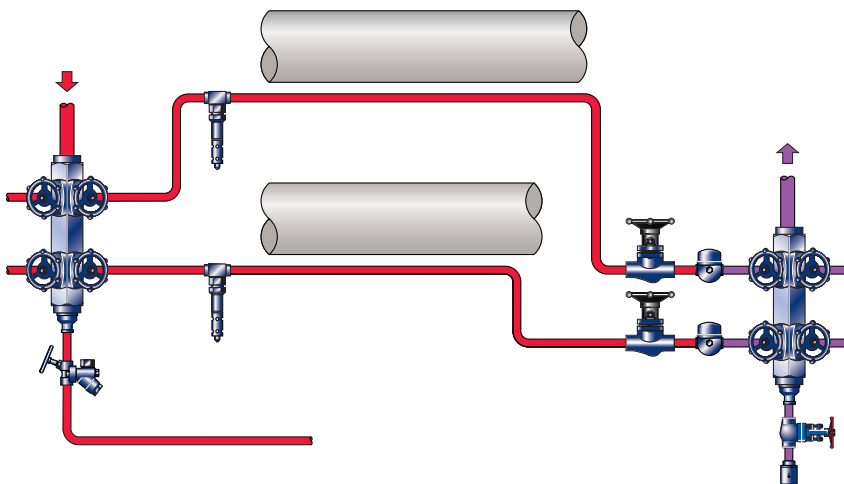
The RP piston valve is a cost effective and easily maintainable solution for the isolation of a range of media across a variety of industries. The 2 sets of sealing rings safeguard the valve against surface erosion for an effective performance without damage and the large sealing area between the piston and rings assures a high level of shut-off tightness for extra security.



Piston valve range

| Model | Material | Body design rating | Connections | Size |
|-------|--------------|--------------------|-------------|-----------|
| RP31 | Carbon steel | Class 800 | Screwed | 1/2" - 2" |
| RP32 | Carbon steel | Class 800 | Socket weld | 1/2" - 2" |
| RP33 | Carbon steel | Class 800 | Flanged | DN15 - 50 |

Typical application



Globe valve

HV3

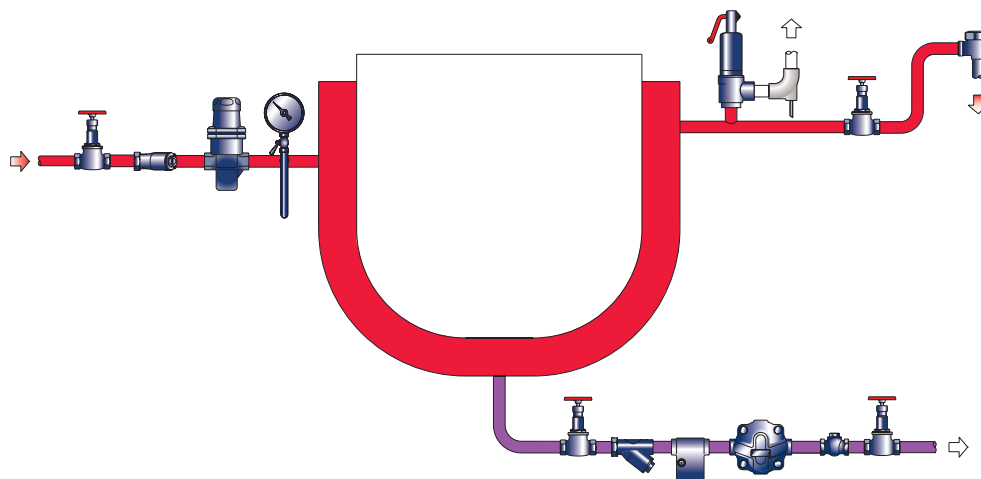
The HV3 globe valve is a cost effective general purpose isolation valve mainly used for isolation of steam trap sets across a wide range of industries, processes, fluids and applications.



Globe valve range

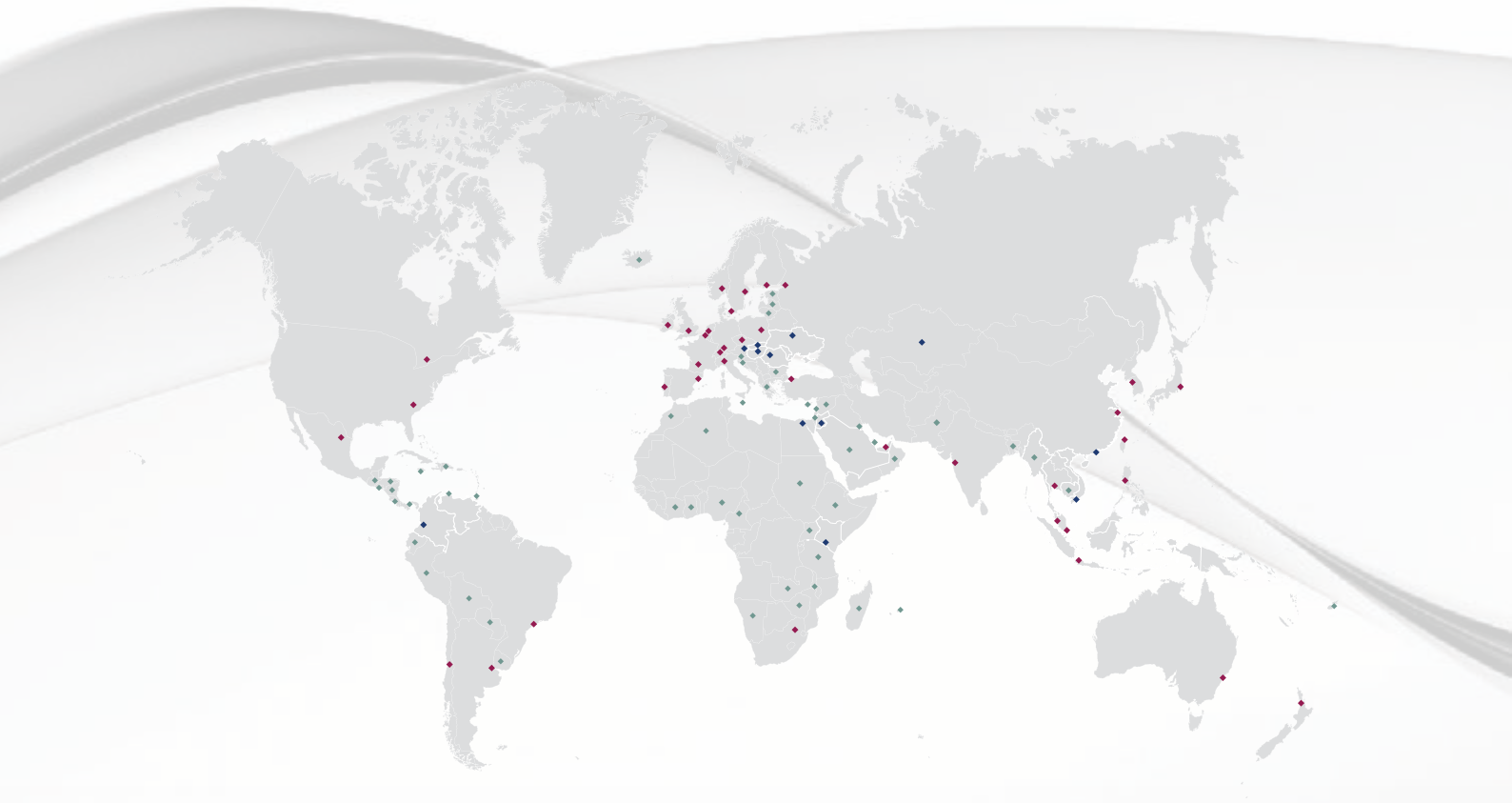
| Model | Material | Body design rating | Connections | Size |
|-------|----------|--------------------|-------------|-----------|
| HV3 | Gunmetal | PN25 | Screwed BSP | 1/2" - 2" |

Typical application



The isolation valves featured in this brochure form part of the wide range of products and services available from Spirax Sarco. We offer expert advice and sustainable steam solutions to many industries and applications, and in all areas of the steam and condensate process.

For more information about our isolation valves, or any of our other solutions and services please visit www.spiraxsarco.com.



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