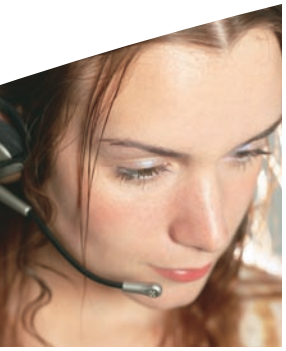
Control valves

for general and special service



spirax sarco

Spirax Sarco's multi-power, multi-service control valves

Spirax Sarco provides a comprehensive range of control valves to suit most industrial fluids including general and special service.

The hallmark of Spirax Sarco control valves:

- Choice — providing the right valve for the duty through local stocks and setting.
- Quick delivery — of control valve design and manufacture (tested to international quality assured standards).
- Quality — from attention to detail in design, manufacture and correct application of the valve.
- Reliability — through design and parts interchangeability, and local stock of spares.
- Ease of maintenance — from a worldwide network of expert controls.
- Service and knowledge — specialists and sales and service engineers.
- Value for money — by providing all of the above at a competitive price.

The range at a glance

General service valves

	Valve type	Duty	Valve size	Maximum body design rating
 **SA temperature control series**	2-port and 3-port globe	Modulating	DN15 to DN100 (½" to 4")	PN40
 **SA pressure control series**	2-port valve	Modulating	DN15 to DN150 (½" to 3")	PN40
 **PAV series**	Piston actuated 2-port valve	On/Off	DN15 to DN50 (½" to 2")	PN25
 **M series**	Ball valve	On/Off	DN8 to DN200 (¼" to 8")	PN63 and ASME (ANSI) 300
 **SPIRA-TROL**	2-port globe	Modulating On/Off	DN15 to DN200 (½" to 8")	PN40 and ASME (ANSI) 300
 **Q series**	3-port globe	Mixing Diverting Modulating On/Off	DN15 to DN200 (½" to 8")	PN40
 **C series**	2-port globe	Modulating On/Off	1" to 8" (DN25 to DN200)	ASME (ANSI) 600 (PN100)

Special service valves

	Valve type	Duty	Valve size	Maximum body design rating
 **STERI-TROL**	2-port and 3-port angle pattern or straight through configuration	Clean service Modulating On/Off	DN15 to DN100 (½" to 4")	PN16
 **Boiler house series**	Linear or rotary	Boiler blowdown Feedwater control TDS control	DN20 to DN65 (¾" to 2")	PN40 and ASME (ANSI) 300
 **Severe service series**	2-port globe angle pattern and swept angle	Modulating	DN15 to DN400 (½" to 16") other sizes available to order	ASME (ANSI) 4500 other sizes available to order

SA temperature control valve

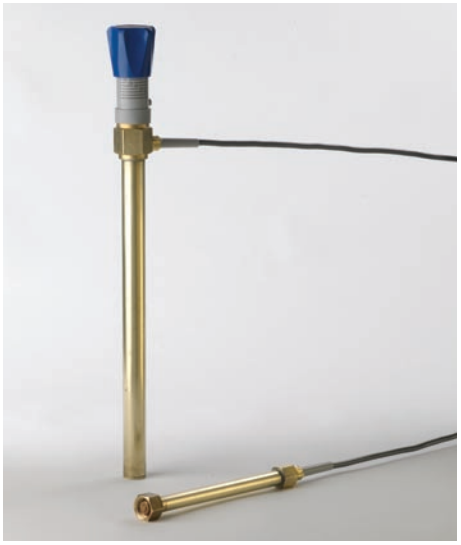
Self-actuating general service control valves for the control of a wide range of industrial fluids.

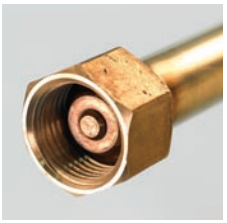
Valve specification

Sizes	Flanged DN15 to DN100 Screwed ½" to 3"
Styles	2-port and 3-port globe
End connections	Screwed BSP and NPT Flanged PN16, PN25, ASME (ANSI) 150 and 300
Body materials	Cast iron Bronze Carbon steel
Maximum temperature	232°C (450°F)
Maximum body design rating	PN40
Trim	2-port balanced or unbalanced 3-port diverting and mixing piston

Actuator specification

Types	Self-acting liquid expansion
Maximum differential pressure	17.2 bar (249 psi)
Set temperature range	-20°C to +140°C (-4°F to +338°F)
Supply	No power supply required
Options	Set temperature range Capillary length Automatic shut-off facility High temperature spacer





Key features

- Proportional control action with high rangeability.
- No power supply required.
- Intrinsically safe and explosion proof.
- Many capillary lengths and combinations to meet the needs of a wide range of applications.
- Quick and easy to install and commission.
- Supported by knowledgeable and experienced design application engineers.

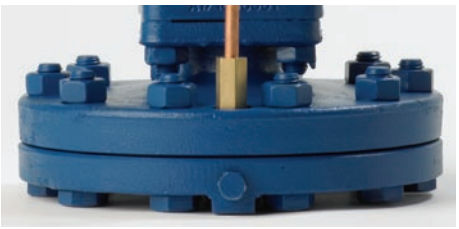
For further technical information, search our website using the following key words 'TEMPERATURE CONTROLS'

SA pressure control series

A comprehensive range of self-actuating pressure reducing valves for steam and a wide range of liquids and inert gases.

Valve specification

Sizes	Flanged DN15 to DN150 Screwed ½" to 2"
Styles	2-port valve
End connections	Screwed BSP and NPT Flanged PN16, PN25 and PN40
Body materials	Bronze SG iron Carbon steel Stainless steel
Maximum temperature	350°C (662°F)
Maximum body design rating	PN40
Control pressure range	0.1 bar to 25 bar (1.45 psi to 343 psi)
Options	Temperature and pressure control Solenoid operation Soft seal for high shut-off



Key features

- Proportional control action with high turndown.
- Close and consistent control under varying load conditions.
- Pressure and backpressure control, separate or in combination.
- Large number of sizes, material and connection options to meet the requirements of a wide range of applications.
- Quick and easy to install and commission.
- Supported by knowledgeable and experienced design application engineers.

For further technical information, search our website using the following key words 'REDUCING VALVES'

PAV series

High quality piston actuated valves for automatic isolation utility and process fluids.

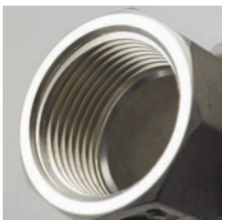
Valve specification

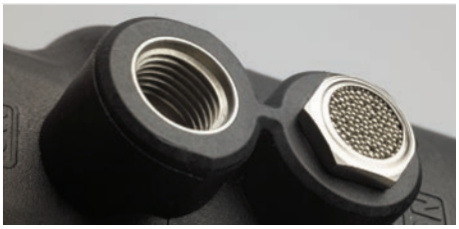
Sizes	Flanged DN15 to DN50 All other available end connections ½" to 2"
Styles	2-port, angle pattern
End connections	Screwed BSP and NPT Butt weld Socket weld Sanitary clamp Flanged ASME (ANSI) 150
Body materials	Bronze Stainless steel AISI 316L
Maximum temperature	180°C (354°F)
Maximum body design rating	PN25
Trim	Fast opening PTFE soft seal

Actuator specification

Types	Piston
Maximum differential pressure	20 bar (290 psi)
Action	Spring-to-close Spring-to-open on air failure Bi-directional (anti-waterhammer)
Supply	Compressed air: 10 bar (145 psi) maximum
Options	Solenoid valves (seperate supply) Flow regulator Travel switch

For further technical information, search our website using the following key words 'PISTON ACTUATED'





Key features

- On/Off duty.
- Stainless steel or bronze body with angle seat and high flow capacity.
- Wide range of valve body connections, including sanitary clamp to meet practically all customer needs.
- Soft seal construction providing a high degree of isolation.
- Supported by knowledgeable and experienced design application engineers.

M series

A comprehensive range of 2-port ball valves for the automated isolation of utility and process fluids.

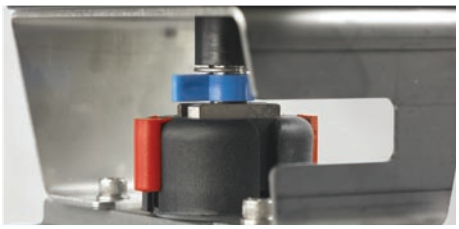
Valve specification

Sizes	Flanged DN8 to DN200 All other available end connections ¼" to 2½"
Styles	Full or reduced bore 1 piece or 3 piece construction
End connections	Screwed NPT and BSP Butt weld Socket weld Sanitary clamp Flanged PN16, PN40, ASME (ANSI) 150 and 300
Body materials	Carbon steel Stainless steel
Maximum temperature	315°C (600°F)
Maximum body design rating	PN63 and ASME (ANSI) 300
Trim	Modified equal percentage

Actuator specification

Types	Single acting and double acting
Maximum differential pressure	Standard 20 bar (290 psi) Higher pressures available on request
Action	Spring-to-close or Spring-to-open on air failure
Supply	Compressed air: 4 to 10 bar (58 to 145 psi) Electric: 24 V ac, 110 V ac and 240 V ac
Options	Solenoid operation Interface device with numerous switching options and potentiometric feedback

For further technical information, search our website using the following key words 'BALL VALVES'



Key features

- Compliant with ISO 5208, rate 3 (no visible leakage).
- Firesafe design.
- Static free design.
- ISO mounted electric and pneumatic actuators.
- Range of industry standard interface devices for remote operation and feedback.
- Supported by knowledgeable and experienced design application engineers.

SPIRA-TROL

General service, modular design, globe control valve with EN and ASME (ANSI) compatible design and materials.

Valve specification

Sizes	Flanged DN15 to DN200 (larger sizes available to order) Screwed and socket weld ½" to 2"
Styles	2-port globe
End connections	Screwed BSP and NPT Socket weld Flanged PN16, PN25 and PN40 ASME (ANSI) 125, 150 and 300 JIS 10 and JIS 20 KS 10 and KS 20
Body materials	Cast iron SG iron Carbon steel Stainless steel
Maximum temperature	400°C (752°F)
Maximum body design rating	PN40 and ASME (ANSI) 300
Trim	Balanced and unbalanced plug Equal %, linear and quick opening flow characteristics Five stages of flow reduction Low noise

Actuator specification

Types	Pneumatic Electric
Maximum differential pressure	40 bar (580 psi)
Action	Spring-to-close or spring-to-open in both electric and pneumatic
Supply	Compressed air: 4.5 bar (65 psi) Electric: 24 V ac, 110 V ac and 240 V ac
Options	Handwheel All industrial standard control interface devices

For further technical information, search our website using the following key words 'SPIRA-TROL'

Key features

- Large number of body materials, stem seal and trim options to meet the requirement of a wide range of applications.
- Modular design clamped in place internals for ease of maintenance
- Electric and pneumatic operation.
- Used across all industries in low and medium pressure applications.
- Supported by knowledgeable and experienced design application engineers.

Q series

EN standard 3-port control valve, with ASME (ANSI) flange options, suitable for use in heating and cooling liquid systems, including thermal oil and contamination control of condensate.

Valve specification

Sizes	Flanged DN15 to DN200 (½" to 8")
Styles	3-port globe
End connections	Flanged PN16, PN25 and PN40
Body materials	Cast iron SG iron Carbon steel Stainless steel
Maximum temperature	400°C (752°F)
Maximum body design rating	PN40
Trim	Linear, mixing or diverting

Actuator specification

Types	Pneumatic Electric
Maximum differential pressure	40 bar (580 psi)
Action	Spring-to-extend or spring-to-retract, in both electric and pneumatic
Supply	Compressed air: 4.5 bar (65 psi) Electric: 24 V ac, 110 V ac and 240 V ac
Options	Handwheel for manual operation All industrial standard control interface devices

Key features

- Mixing and diverting services.
- Large number of body materials and stem seal options to meet the requirements of a wide range of applications.
- Electric and pneumatic actuations.
- All industry standard interface devices.
- Supported by knowledgeable and experienced design application engineers.

For further technical information, search our website using the following key words 'QL'

C series

Rugged cage design, 2-port control valves designed to ASME (ANSI) B 16.34, for erosive, noisy and cavitating applications

Valve specification

Sizes	1" to 8" (DN25 to DN200)
Styles	2-port globe
End connections	Butt weld Socket weld Ring type joint Flanged ASME (ANSI) 150, 300 and 600 PN16, PN25, PN63 and PN100
Body materials	Carbon steel WCB Stainless steel CF8M Alloy steel WC6
Maximum temperature	1004°C (540°F)
Maximum body design rating	ASME (ANSI) 600 (PN100)
Trim	Balanced and unbalanced plug Equal %, linear and quick opening flow characteristics Three stages of flow reduction Cavitation control Noise control

Actuator specification

Types	York mounted, pneumatic, single spring
Maximum differential pressure	1 494 psi (103 bar)
Action	Spring-to-close or spring-to-open on air failure
Supply pressure	Compressed air: Spring-to-close 79.8 psi (5.5 bar) Spring-to-open 43.5 psi (3 bar)
Options	Handwheel for manual operation All industry standard control interface devices

Key features

- Designed to ASME (ANSI) B 16.34.
- Cage guided for excellent control over high differential pressure and ease of maintenance.
- Many different body materials, stem seal and trim options to meet the requirements of a wide range of applications.
- Clamped in place internals for ease of maintenance.
- Supported by knowledgeable and experienced design application engineers.

For further technical information, search our website using the following key words 'CAGE DESIGN'

STERI-TROL

2-port clean service control valves.

Valve specification

Sizes	DN15 to DN100 (½" to 4")
Styles	2-port and 3-port, angle pattern or straight through configuration
End connections	Sanitary clamp Tube weld Screwed aseptic thread BSP and NPT Flanged
Body materials	Stainless steel AISI 316L
Maximum temperature	250°C (482°F)
Maximum body design rating	PN16
Trim	Equal %, linear fast opening flow characteristics Soft seal option Reduced Kv and micro flow

Actuator specification

Types	Pneumatic
Maximum differential pressure	16 bar (232 psi)
Action	Spring-to-close on air failure Spring-to-open on air failure
Supply	Compressed air: 4.5 bar (psi)
Options	Handwheel Painted, ENP and stainless steel actuator All industrial standard control interface devices

For further technical information, search our website using the following key words 'STERI-TROL'

Key features

- Angle pattern or straight through body configuration.
- Valve and actuator in stainless steel.
- No dead corners.
- Self-draining design.
- Easy in-line maintenance.
- 0.4 micron internals finish as standard.
- EN 10204 3.1 surface roughness certification as standard.
- Supported by knowledgeable and experienced design application engineers.

Boiler house series

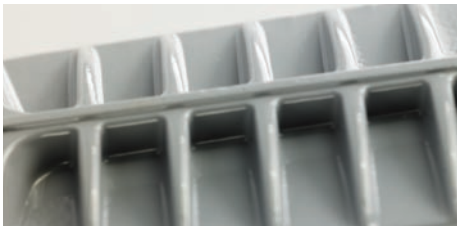
A range of control valves designed specifically for boiler control duties.

Valve specification

Sizes	Flanged DN20 to DN65 Screwed ¾" to 2"
Styles	2-port linear 2-port rotary
End connections	Flanged PN40 and ASME (ANSI) 300 Screwed BSP and NPT
Body materials	Carbon steel
Maximum temperature	239°C (462°F)
Maximum body design rating	PN40 and ASME (ANSI) 300
Trim	Cone Ball

Actuator specification

Types	Pneumatic linear Pneumatic rotary Electric linear
Maximum differential pressure	32 bar (464 psi)
Action	Fail close
Supply pressure	Compressed air: 10 bar (145 psi) Electric: 24 Vac, 110 Vac and 240 Vac 50/60 Hz
Options	Manual key operation control valve interface devices



Key features

- Feedwater control valves.
- Boiler blowdown valves.
- TDS control valves.
- Specifically developed cone and ball trim design to ensure excellent control and shut-off on suspended solid application.
- Manual key operation.
- Part of a complete boiler house system.
- Supported by knowledgeable and experienced design application engineers.

For further technical information, search our website using the following key words 'BLOWDOWN'

Severe service series

A 2-port and 3-port control valve in globe or angle pattern for use in severe service duty. Incorporating an energy-dissipating disc, each valve is designed specifically for the customers application.

Valve specification

Sizes	½" to 16" (DN15 to DN400) other sizes available to order
Styles	2-port and 3-port globe, angle or swept angle pattern
End connections	To customer order
Body materials	Carbon steel Stainless steel (other materials are available to order)
Maximum temperature	To customer order
Maximum body design rating	To ASME (ANSI) 4500, (higher available to order)
Trim	Energy-dissipating disc, ZZ, unbalanced, pressure balanced

Actuator specification

Types	Pneumatic piston
Maximum differential pressure	To customer order
Action	Double acting or single acting Fail open or fail close
Supply	Compressed air: 10 bar (150 psi) Electric: Single and three phase
Options	All industrial standard control interface devices

For further technical information, search our website using the following key words 'SEVERE SERVICE'

Key features

- Globe, angle and swept angle body design.
- Application specific energy dissipating disc stack for severe service duty.
- Clamp in place, and cleanable, disc stack for quick and easy maintenance.
- Fixed and separable flange options.
- High force piston actuator - small size and weight with precise control.
- Supported by knowledgeable and experienced design application engineers.

Our commitment to you

Manufacturing and quality

Spirax Sarco controls are designed and manufactured by Spirax Sarco in one of 15 manufacturing plants located around the world. We also have dedicated fabrication facilities so we can build compact, high performance, skid mounted solutions tailored to your specific requirements.

All Spirax Sarco facilities employ the latest in technology and production best practice, to ensure we have direct control over our product and service quality.

Product quality

Assembly is automated, testing is computerised and every controls product and system is set using skilled personnel to ensure a consistently high quality. For example every Spirax Sarco control valve receives a computerised hydraulic pressure test at 1.5 times the nominal rating of the valve, and the shut-off is tested to ensure it complies with the class specified. Over 100 separate checks are carried out on a control valve assembly before it is despatched.

Sizing and selection software

Correct product selection and system design is key to achieving good performance and long service life. Depending on the process conditions this can be a complex decision.

In order to allow our engineers to make these decisions quickly and reliably Spirax Sarco has developed its own software systems to ensure you achieve the best price performance from your investment.

Severe service applications

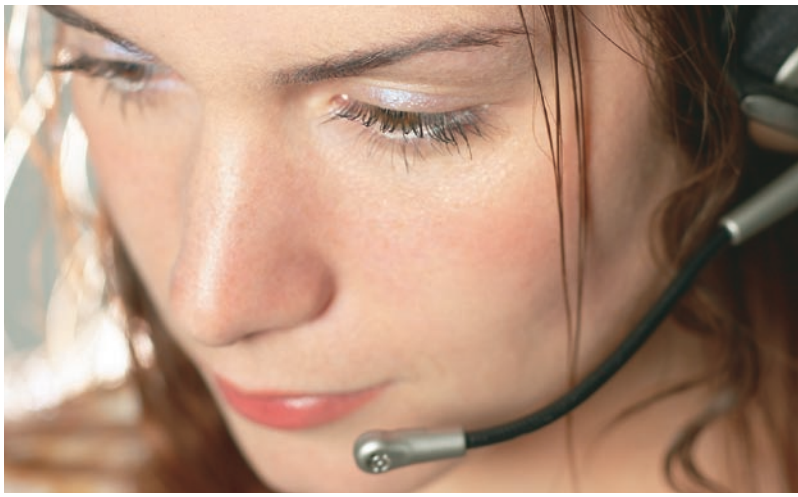
Suitable for applications that have high pressure-drop requirements, aggressive process conditions or media. These applications may require special materials of construction or use an energy dissipating disc stack system.

Documentation

Spirax Sarco has ISO accreditation and complies to all leading standards, such as PED, NACE, ATEX and Lloyds Register.

QA systems, health and safety requirements, insurance needs, environmental policies and an increasing risk of litigation, have all increased the amount of documentation needed to support our products and services.

Spirax Sarco understands this need and provides the documentation required for each customer situation, from simple certificates of conformity through to full manufacturing documentation dossiers.



Local stocks and settings

Certainty in delivery and a quick response to last minute changes are frequently the key to the successful implementation of a project. In order to meet customer's delivery requirements Spirax Sarco locally stocks and sets control products in each of its worldwide companies, and through its network of distribution and service partners.

High levels of personal service

Our dedicated and highly trained service personnel have knowledge second to none in the industry.
And with over 1,200 direct sales engineers around the world, controls specialists in 34 countries and a network of approved valve repair partners, you can be assured of receiving the highest quality of service.

Spirax Sarco, a supplier you can trust

- Spirax Sarco direct design and manufacture to international standards
- Employing the latest in technology and best practice
- 100% test and inspection before despatch
- Comprehensive documentation
- Local stocks and setting
- 1,200 direct sales engineers worldwide
- Controls specialists in 34 countries
- Highly trained worldwide network of direct service engineers and service partners

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Some products, services or solutions may not be available in certain markets

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