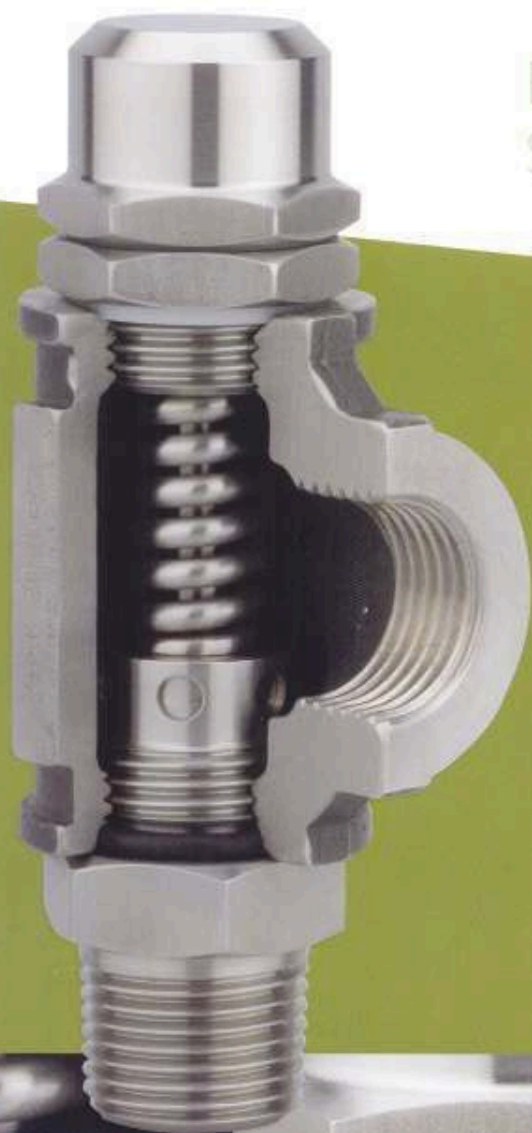


BIS Valves
Specialists in Fluid Control



PALM

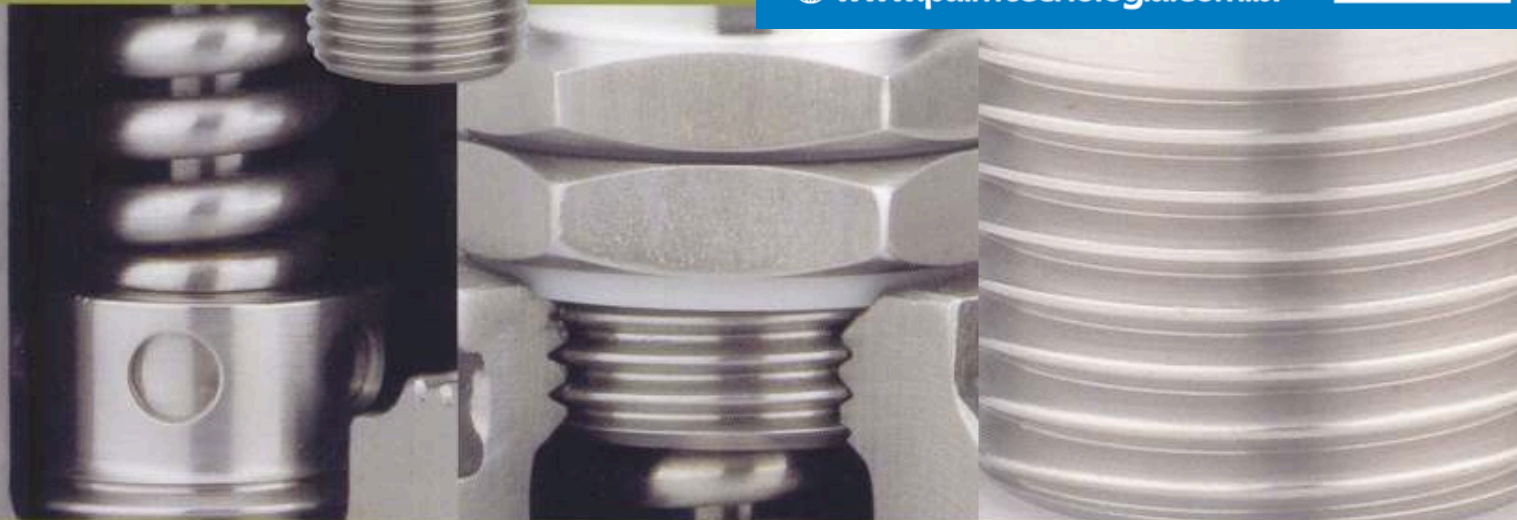
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Welcome to BiS Valves

BiS is an internationally recognised company with over 30 years experience in the design and manufacture of a wide range of small bore stainless steel pressure and flow control valves for high pressure liquid and gas.

Operating in a variety of sectors, we are a leading supplier to the Offshore Oil and Gas industry for topside, subsea and downhole applications where quality, reliability and safety are critical.

With an extensive range of standard products and a bespoke design service we aim to provide the right solutions for your applications.



Markets

BiS has a strong profile and presence in the international offshore oil and gas market in both topside and subsea applications. Products are designed mainly for the low flow, high pressure control valve market, where demands for higher pressures and total reliability in the most extreme environments constantly push design boundaries. Working with materials from stainless steel to more exotic materials such as Inconel or titanium, we pride ourselves on finding the right solution, whatever the application.

We have developed a range of subsea solenoid actuated pilot valves which are the choice of major International manufacturers of subsea wellhead control systems. In addition we have a suite of subsea suitable control products including cartridge check valves, relief valves, directional valves and filters.

As a supplier to the oil and gas topside market, our products are widely specified for use on a range of applications including hydraulic power units and chemical injection systems. As a solution provider, BiS also design, manufacture and supply complete integrated manifolds to meet our customers specific requirements.

Our standard, cartridge and manifold mounted flow and pressure control products are also suited to and specified in a wide range of industries, including water hydraulics, fuel distribution, metal manufacturing, industrial gas control and process control.

Technology

Alongside our large range of standard products, BiS has the capability to design and manufacture the special product that is the perfect fit for your system. Using our experience of fluids, materials and seals, our team of hydraulics engineers use computer aided design tools to develop the right solutions. Designs can be qualified for use via in-house test facilities, which can include flow, pressure, environmental and hyperbaric testing and special testing through external facilities when required.

Customer Care

In a competitive market place, we recognise the importance of customer care, whether your requirement is for a single valve from our standard range, or large quantities of multiple products for a specific project, or for a bespoke design. Our team constantly strive to provide customers with a prompt, efficient service, competitive lead times, on-time deliveries, and products designed, manufactured, assembled and tested in accordance with strict quality control procedures.

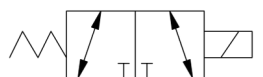
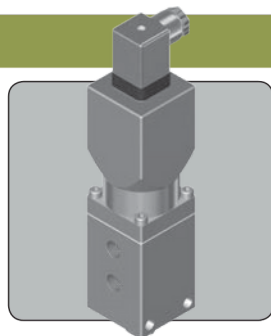
We enjoy a reputation for short lead times, and our flexible manufacturing methods give us the capability to respond to your most urgent requirements.

International Distributor Network

BiS Valves market and support their range of products through a network of international stocking distributors, based in strategic countries. Please refer to the comprehensive contact listing on the reverse of the brochure.



Solenoid

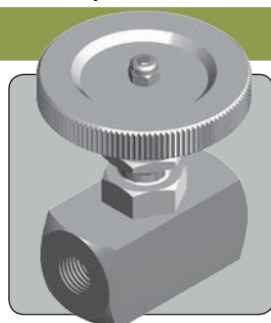


Solenoid valves

Nominal Size	Pressure	Media	Valve Type
1/4"	414 bar (6,000 psi)*	Liquids & Gases	2/3DS25
3/8"	414 bar (6,000 psi)*	Liquids & Gases	2/3DS37
1/4"	690 bar (10,000 psi)	Liquids only	2/3DS20/25
1/4"	690 bar (10,000 psi)	Liquids only	CS20

Solenoid valves, primarily stainless steel construction. Direct acting valves that incorporate balanced spool technology to enable bi-directional use. Primarily designed for topside use, but variants are available for subsea use, contact factory. Various port and seal options available. Various solenoid thrusters available. * NOTE - Pressure rating is reduced with gases

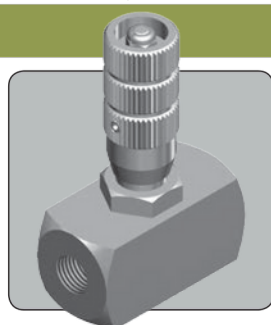
Stop and Metering



Stop(shut-off) valves

Nominal Size	Pressure	Media	Valve Type
1/4", 3/8"	690 bar (10,000 psi)	Liquids only	BNV25
1/4", 3/8"	414 bar (6,000 psi)	Liquids & Gases	BNV25-G
1/2", 3/4"	690 bar (10,000 psi)	Liquids only	BNV50
1/2", 3/4"	414 bar (6,000 psi)	Liquids & Gases	BNV50-G

Stop valves, stainless steel construction. Provides tight shut-off via coarse adjustment for rapid operation. Non-rotating stem design. Various port and seal options available.

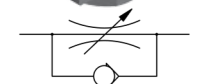
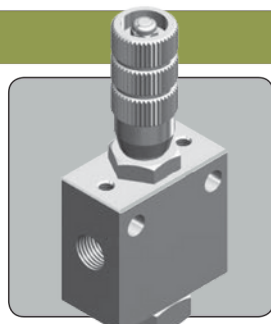


Metering valves

Nominal Size	Pressure	Media	Valve Type
1/4"		Liquids & Gases	MF25
3/8"	552 bar (8,000 psi)*	Liquids & Gases	MF37
1/2"	552 bar (8,000 psi)*	Liquids & Gases	MF50
3/4"	552 bar (8,000 psi)*	Liquids & Gases	MF75
1"	552 bar (8,000 psi)*	Liquids & Gases	MF100

Metering valves, stainless steel construction. Provides non-pressure compensated flow control, which is fully adjustable within a given range via a lockable micrometer style adjustment. Non-rotating stem design. Various port and seal options available.

*NOTE - Pressure rating is reduced with gases



Metering with check valves

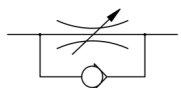
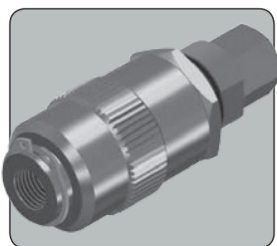
Nominal Size	Pressure	Media	Valve Type
1/4"		Liquids & Gases	CMF25
3/8"	552 bar (8,000 psi)*	Liquids & Gases	CMF37
1/2"	552 bar (8,000 psi)*	Liquids & Gases	CMF50
3/4"	414 bar (6,000 psi)*	Liquids & Gases	CMF75
1"	414 bar (6,000 psi)*	Liquids & Gases	CMF100

Metering valves with check, stainless steel construction. Provides non-pressure compensated flow control in one direction and allows free flow in the other direction via the check valve. Non-rotating stem design. Various port and seal options available. * NOTE - Pressure rating is reduced with gases



Stop and Metering

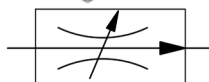
s Metering with check valves (in-line)



Nominal Size	Pressure	Media	Valve Type
1/4"	552 bar (8,000 psi)	Liquids only	IMC25
3/8"	552 bar (8,000 psi)	Liquids only	IMC37
1/2"	552 bar (8,000 psi)	Liquids only	IMC50

Metering valves with check (in-line design), stainless steel construction. Provides non-pressure compensated flow control in one direction and allows free flow in the other direction via the check valve. The valve can be tailor made to suit many types of flow metering characteristics. Various port and seal options available.

Pressure compensated flow regulator valves

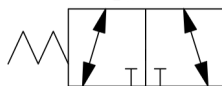
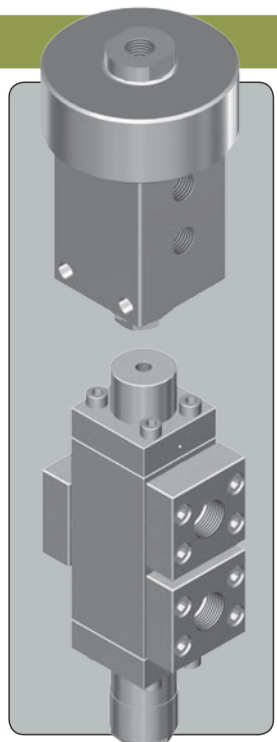


Nominal Size	Pressure	Media	Valve Type
3/8", 1/2"	690 bar (10,000 psi)	Liquids only	PCFR50

Pressure compensated flow control valves, stainless steel construction. Valve provides a relatively constant flow in one direction, regardless of the differential pressure across the valve. Suitable for use with non-corrosive fluids only. Various adjustable flow ranges, port options and seal options available.

3 Port Directional Control

3 port directional control valves



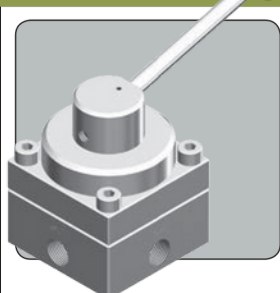
Nominal Size	Pressure	Media	Valve Type
1/4"	690 bar (10,000 psi)	Liquids only	3B25
1/4"	414 bar (6,000 psi)*	Liquids & Gases	3B25-G
3/8"	690 bar (10,000 psi)	Liquids only	S-3B37
3/8"	414 bar (6,000 psi)*	Liquids & Gases	S-3B37-G
1/2"	690 bar (10,000 psi)	Liquids only	3B50
1/2"	414 bar (6,000 psi)*	Liquids & Gases	3B50-G
1"	241 bar (3,500 psi)	Liquids & Gases	3BHF100
1"	690 bar (10,000 psi)*	Liquids & Gases	3BLF100

Three port directional control valves, stainless steel construction. Balanced spool technology. Service pressure does not affect switching pressures. Bi-directional, may also be used as a two port valve. Pneumatic, hydraulic, lever and cam actuators and various port options and seal options available. * NOTE - Pressure rating is reduced with gases



4 Port Directional Control

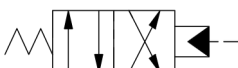
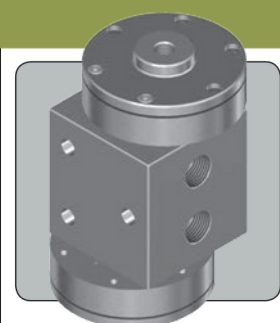
4portrotarydirectional control valves



Nominal Size	Pressure	Media	Valve Type
1/4"	690 bar (10,000 psi)	Liquids only	4R25
3/8"	414 bar (6,000 psi)	Liquids only	4R37

Four port rotary control valves, primarily stainless steel construction. Shear seal technology for good contamination resistance. Suitable for use with non-corrosive liquids only. Various flow configurations, port options and seal options available.

4 port directional control valves



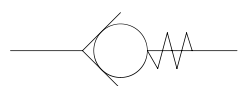
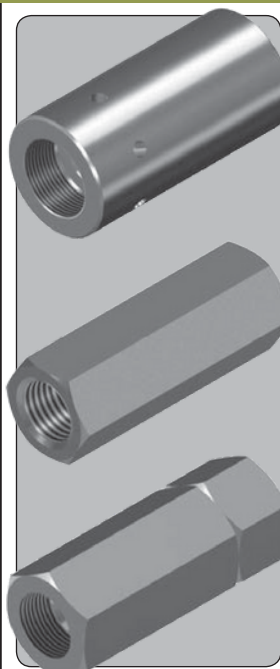
Nominal Size	Pressure	Media	Valve Type
3/8"	690 bar (10,000 psi)	Liquids only	S-6B37
3/8"	414 bar (6,000 psi)*	Liquids & Gases	S-6B37-G

Four port directional control valves, stainless steel construction. Balanced spool technology. Service pressure does not affect switching pressures. Various actuators, port options and seal options available.

*NOTE - Pressure rating is reduced with gases

Check and Shuttle

Checkvalves



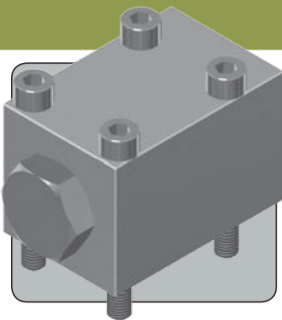
Nominal Size	Pressure	Media	Valve Type
1/4"	621 bar (9,000 psi)*	Liquids & Gases	C25
3/8"	621 bar (9,000 psi)*	Liquids & Gases	C37
1/2"	621 bar (9,000 psi)*	Liquids & Gases	C50
3/4"	621 bar (9,000 psi)*	Liquids & Gases	C75
1"	621 bar (9,000 psi)*	Liquids & Gases	C100
1 1/4"	483 bar (7,000 psi)*	Liquids & Gases	C125
1 1/2"	414 bar (6,000 psi)*	Liquids & Gases	C150
1/4"	828 bar (12,000 psi)*	Liquids & Gases	NR25
1/4"	1,379 bar (20,000 psi)*	Liquids & Gases	NR25 (20K)
3/8"	828 bar (12,000 psi)*	Liquids & Gases	NR37
1/2"	828 bar (12,000 psi)*	Liquids & Gases	NR50
1/2"	1,379 bar (20,000 psi)*	Liquids & Gases	NR50 (20K)
3/4"	828 bar (12,000 psi)*	Liquids & Gases	NR75
1"	621 bar (9,000 psi)*	Liquids & Gases	NR100
1 1/4", 1 1/2", 2"	414 bar (6,000 psi)*	Liquids & Gases	NR200

Check valves, stainless steel construction. Sealed poppet technology for virtually zero leakage performance. High cracking pressure variants available on request. Versions available for use with more corrosive fluids. Various port and seal options available. * NOTE - Pressure rating is reduced with gases



Check and Shuttle

Checkvalves(manifold mounted)



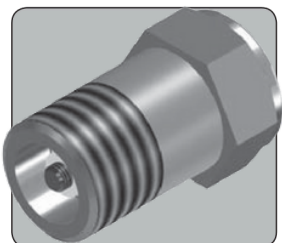
Nominal Size	Pressure	Media	Valve Type
1/2"	414 bar (6,000 psi)*	Liquids & Gases	NR50M
Manifold mounted check valves, stainless steel construction. Valve design incorporates soft-seated sealing technology for excellent leakage performance. Ideally suited for manifold applications. Various seal options available. *NOTE - Pressure rating is reduced with gases			

Cartridge check valves



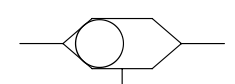
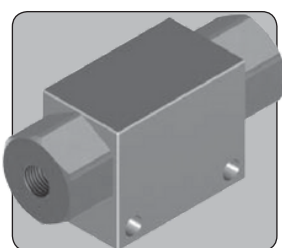
Nominal Size	Pressure	Media	Valve Type
1/4"	690 bar (10,000 psi)*	Liquids & Gases	CC25
3/8"	690 bar (10,000 psi)*	Liquids & Gases	CC37
1/2"	690 bar (10,000 psi)*	Liquids & Gases	CC50
3/4"	690 bar (10,000 psi)*	Liquids & Gases	CC75
1"	690 bar (10,000 psi)*	Liquids & Gases	CC100
Cartridge check valves, stainless steel construction. Sealed poppet technology for virtually zero leakage performance. Ideally suited for manifold applications. Various seal options available. *NOTE - Pressure rating is reduced with gases			

Venting check valves



Nominal Size	Pressure	Media	Valve Type
1/4"	250 bar (3,625 psi)*	Liquids & Gases	CV25
Venting check valves, stainless steel construction. Sealed poppet technology for virtually zero leakage performance. Small compact design that vents directly to atmosphere. Various cracking pressure variants available. Various seal options available. *NOTE - Maximum reverse pressure differential			

Shuttle valves

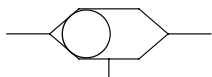
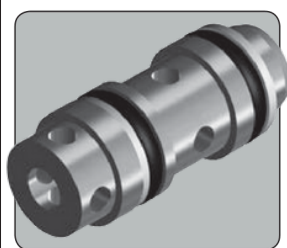


Nominal Size	Pressure	Media	Valve Type
1/4"	690 bar (10,000 psi)	Liquids only	SV25
1/4", 3/8", 1/2"	552 bar (8,000 psi)*	Liquids & Gases	SV50
Shuttle valves, stainless steel construction. Ideally suited for applications where dual redundancy of control lines is required. Non-spring biased design, valve senses the higher of two pressures. Various port and seal options available. * NOTE - Pressure rating is reduced with gases			



Check and Shuttle

Cartridge shuttle valves

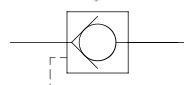
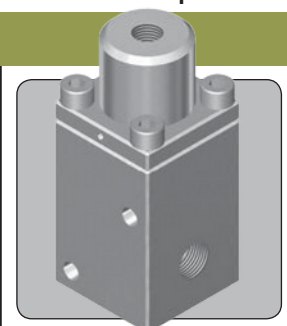


Nominal Size	Pressure	Media	Valve Type
1/4"	276 bar (4,000 psi)	Liquids only	SV25C

Cartridge shuttle valves, stainless steel construction. Ideally suited for manifold applications where dual redundancy is required. Non-spring biased hard seated design, valve senses the higher of two pressures. Various seal options available.

Pilot Operated Check

Pilot operated check valves

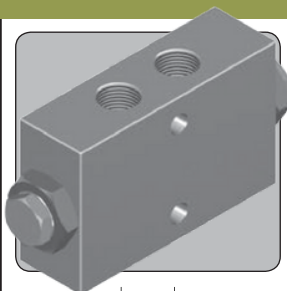


Nominal Size	Pressure	Media	Valve Type
3/8"	1,379 bar (20,000 psi)*	Liquids & Gases	V1-37
3/4"	828 bar (12,000 psi)	Liquids only	MS75
1/8"	276 bar (4,000 psi)	Liquids & Gases	SVA12
1/8"	1,379 bar (20,000 psi)	Liquids only	B1-12

Pilot operated check valves, stainless steel construction. Ball or poppet on seat design for excellent leakage performance. Soft and Hard seated variants available. Various actuation methods available including pneumatic, hydraulic and mechanical via a lever. Various pilot ratios available to suit a wide range of applications. Various port and seal options available.

*NOTE - Pressure rating is reduced with gases

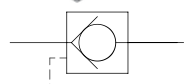
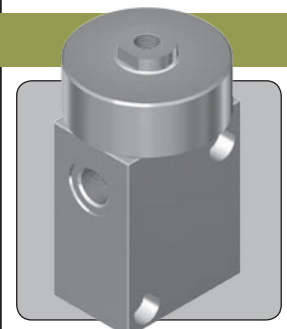
Double pilot operated check valves



Nominal Size	Pressure	Media	Valve Type
3/8", 1/2"	414 bar (6,000 psi)	Liquids only	2XPC50

Double pilot operated check valves, stainless steel construction. Hard seated ball on seat design. Ideally suited for double acting cylinder applications, where it will allow the cylinder to move when instructed, but will lock the position when the directional control valve is returned to its centre position. Various port and seal options available.

Decompression check valves



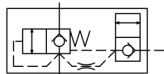
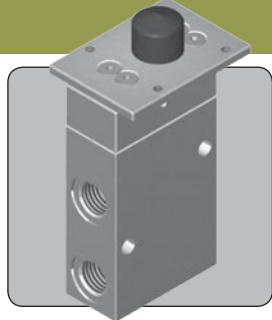
Nominal Size	Pressure	Media	Valve Type
1/2"	1,379 bar (20,000 psi)	Liquids only	M1-50

Decompression check valves, ideally suited for applications where shock is to be reduced when a high pressure trapped volume line is opened. Various actuation methods available including pneumatic, hydraulic and mechanical via a lever. Various pilot ratios and seal options available.



Pilot Operated Check

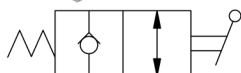
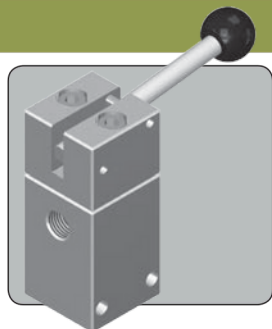
Unloadervalves



Nominal Size	Pressure	Media	Valve Type
1/2"	207 bar (3,000 psi)	Liquids only	UL75/50
3/4"	379 bar (5,500 psi)	Liquids only	UL75

Unloader valves, ideally suited for pump unloading applications. Various actuation methods available including pneumatic and mechanical via a lever or push button. Some variants may also be remotely operated. Various port and seal options available.

Lever operated check valves

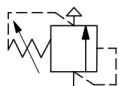
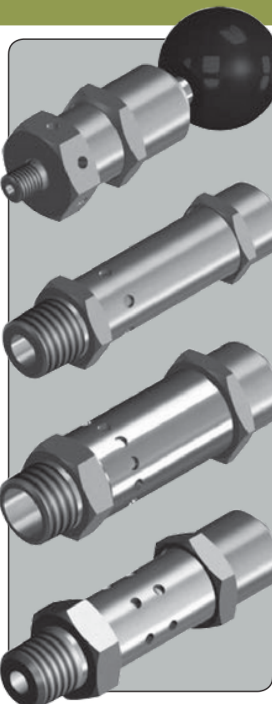


Nominal Size	Pressure	Media	Valve Type
1/8"	138 bar (2,000 psi)	Liquids & Gases	SVT12

Lever operated check valves, stainless steel construction. Valve design incorporates soft-seated sealing technology for excellent leakage performance. Ideally suited for manual override applications. Small compact design. Various seal options available.

Relief

Safety relief valves (vent to atmosphere)



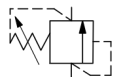
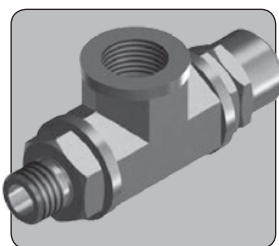
Nominal Size	Pressure	Media	Valve Type
1/4"	40 bar (580 psi)	Liquids & Gases	BS25
3/8"	40 bar (580 psi)	Liquids & Gases	BS37
1/2"	40 bar (580 psi)	Liquids & Gases	BS50
3/4"	40 bar (580 psi)	Liquids & Gases	BS75
1/4"	40 bar (580 psi)	Liquids & Gases	S25
3/8"	40 bar (580 psi)	Liquids & Gases	S37
1/2"	40 bar (580 psi)	Liquids & Gases	S50
3/4"	40 bar (580 psi)	Liquids & Gases	S75
1"	18 bar (261 psi)	Liquids & Gases	S100
1/4"	19 bar (275 psi)	Liquids & Gases	SM25UF
1/4"	138 bar (2,000 psi)	Liquids & Gases	HS25

Safety relief valves with a vent to atmosphere feature, stainless steel construction (BS variants in Brass). Valve designs mostly incorporate elastomeric sealing technology for virtually zero leakage performance. Relatively high discharge capacities are achieved via the pop-open style valve characteristic. BSP and NPT inlet port options available. Not designed for use with corrosive or hazardous media.



Relief

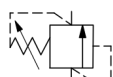
Safety relief valves



Nominal Size	Pressure	Media	Valve Type
1/4"	40 bar (580 psi)	Liquids & Gases	TS25
3/8"	40 bar (580 psi)	Liquids & Gases	TS37
1/2"	40 bar (580 psi)	Liquids & Gases	TS50
3/4"	40 bar (580 psi)	Liquids & Gases	TS75
1"	28 bar (406 psi)	Liquids & Gases	TS100
1/4"	138 bar (2,000 psi)	Liquids & Gases	HTS25

Safety relief valves, stainless steel construction. Threaded exhaust port. Valve designs mostly incorporate elastomeric sealing technology for virtually zero leakage performance. Relatively high discharge capacities are achieved via the pop-open style valve characteristic. Various port and seal options available.

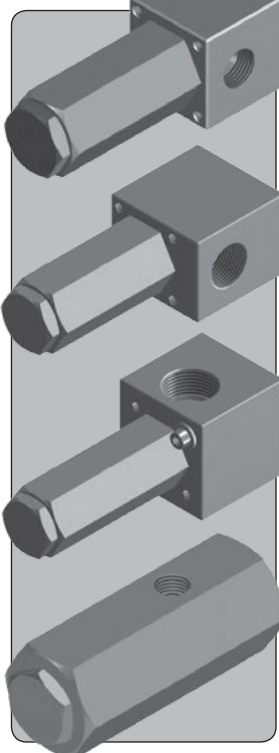
Cartridge safety relief valves



Nominal Size	Pressure	Media	Valve Type
1/4"	40 bar (580 psi)	Liquids & Gases	TS25C

Cartridge safety relief valves, stainless steel construction. Valve design incorporates elastomeric sealing technology for virtually zero leakage performance. Relatively high discharge capacities are achieved via the pop-open style valve characteristic. Ideally suited for manifold applications. Various seal options available.

Relief valves



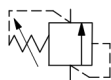
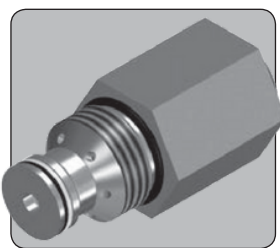
Nominal Size	Pressure	Media	Valve Type
1/4"	1,034 bar (15,000 psi)	Liquids only	RL25
1/4"	414 bar (6,000 psi)	Liquids & Gases	RL25-G
3/8"	1,034 bar (15,000 psi)	Liquids only	RL37
3/8"	414 bar (6,000 psi)	Liquids & Gases	RL37-G
1/2"	1,034 bar (15,000 psi)	Liquids only	RL50
1/2"	414 bar (6,000 psi)	Liquids & Gases	RL50-G
3/4"	1,034 bar (15,000 psi)	Liquids only	RL75
3/4"	414 bar (6,000 psi)	Liquids & Gases	RL75-G
1"	207 bar (3,000 psi)	Liquids only	RL100
1"	207 bar (3,000 psi)	Liquids & Gases	RL100-G

Relief valves, stainless steel construction. Hard seated ball on seat design for excellent leakage performance. Conventional style relief valve for high pressure relief applications. Various port, seal and build specifications available to suit a wide range of applications.



Relief

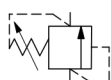
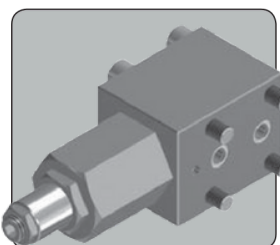
Cartridge relief valves



Nominal Size	Pressure	Media	Valve Type
1/4"	1,034 bar (15,000 psi)	Liquids only	RL25C
3/4"	414 bar (6,000 psi)	Liquids only	PRV75C

Cartridge relief valves, stainless steel construction. Hard seated ball on seat design for excellent leakage performance. Conventional style relief valve for high pressure relief applications. Ideally suited for manifold applications. Various seal and build specifications available to suit a wide range of applications.

Relief valves (manifold mounted)

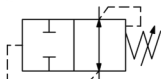
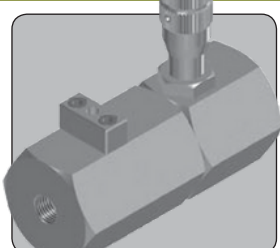


Nominal Size	Pressure	Media	Valve Type
1/4"	1,034 bar (15,000 psi)	Liquids only	RL25M
1/2"	1,034 bar (15,000 psi)	Liquids only	RL50M

Manifold mountable relief valves, stainless steel construction. Hard seated ball on seat design for excellent leakage performance. Conventional style relief valve for high pressure relief applications. Various seal and build specifications available to suit a wide range of applications.

Excess Flow

Excess flow valves (externally adjustable)

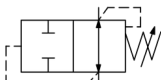
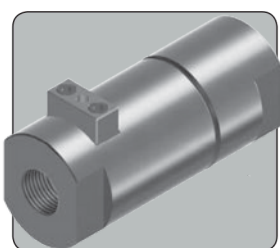


Nominal Size	Pressure	Media	Valve Type
1/4"	414 bar (6,000 psi)*	Liquids & Gases	ER25
3/8"	414 bar (6,000 psi)*	Liquids & Gases	ER37

Externally adjustable excess flow valves, stainless steel construction. Designed to close a flow line in the event of a breakage or rupture of a downstream pipe or hose. The valve may also be used on applications where excess flow must be avoided. Externally adjustable such that the valve can be set after installation. Various port, reset and seal options available.

*NOTE - Pressurating is reduced with gases

Excess flow valves (internally adjustable)



Nominal Size	Pressure	Media	Valve Type
1/4"	414 bar (6,000 psi)*	Liquids & Gases	R25
3/8"	414 bar (6,000 psi)*	Liquids & Gases	R37
1/2"	414 bar (6,000 psi)*	Liquids & Gases	R50
3/4"	414 bar (6,000 psi)*	Liquids & Gases	R75
1"	414 bar (6,000 psi)*	Liquids & Gases	R100
1 1/2"	414 bar (6,000 psi)*	Liquids & Gases	R150

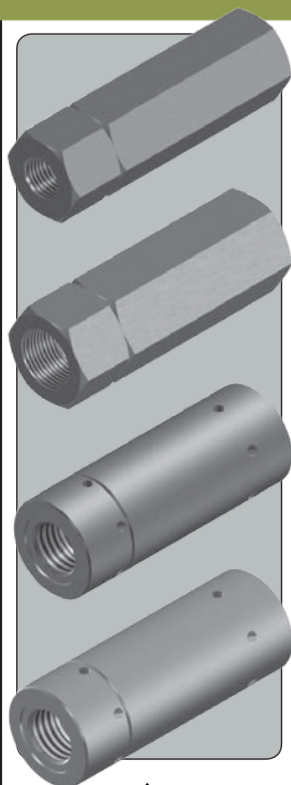
Internally adjustable excess flow valves, stainless steel construction. Designed to close a flow line in the event of a breakage or rupture of a downstream pipe or hose. The valve may also be used on applications where excess flow must be avoided. Various port, reset and seal options available.

* NOTE - Pressure rating is reduced with gases



Filters

Inline filters

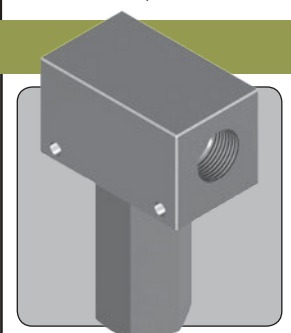


Nominal Size	Pressure	Media	Valve Type
1/4"	828 bar (12,000 psi)*	Liquids & Gases	F25
3/8"	828 bar (12,000 psi)*	Liquids & Gases	F37
1/2"	828 bar (12,000 psi)*	Liquids & Gases	F50
3/4"	828 bar (12,000 psi)*	Liquids & Gases	F75
1"	621 bar (9,000 psi)*	Liquids & Gases	F100
1 1/4"	414 bar (6,000 psi)*	Liquids & Gases	F125
1 1/2"	414 bar (6,000 psi)*	Liquids & Gases	F150
2"	414 bar (6,000 psi)*	Liquids & Gases	F200

In-line filters, stainless steel construction. These filters are intended for device protection of critical components and should be used in conjunction with the main-line filter. Rigid mesh design, suitable for use with a wide range of media. Various micron rating sizes available. Various port and seal options available.

*NOTE - Pressure ratings reduced with gases

Inline filters (easy replacement)

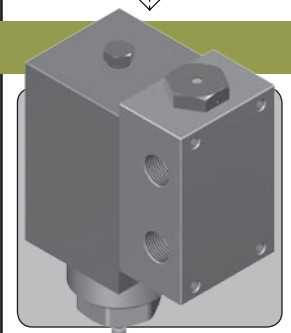


Nominal Size	Pressure	Media	Valve Type
1/4"		Liquids & Gases	EF25
3/8"	552 bar (8,000 psi)*	Liquids & Gases	EF37
1/2"	552 bar (8,000 psi)*	Liquids & Gases	EF50
1 1/2"	552 bar (8,000 psi)*	Liquids & Gases	EF50-DP
1"	552 bar (8,000 psi)*	Liquids & Gases	EF100

In-line filters, stainless steel construction. These filters are intended for device protection of critical components and should be used in conjunction with the main-line filter. Rigid mesh design, suitable for use with a wide range of media. Easy replacement filter design. Element can be cleaned or replaced without disturbing pipe work. Various micron rating sizes available. Various port and seal options available.

*NOTE - Pressure rating is reduced with gases

Simplex filters



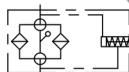
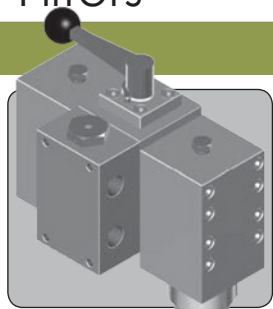
Nominal Size	Pressure	Media	Valve Type
1/2"	414 bar (6,000 psi)	Liquids only	SF50

Simplex filters, stainless steel construction. High pressure main-line filter. Filter is available with a visual pop-out indicator to show when the element is becoming blocked and is also available with a visual pop-out indicator with a by-pass facility. Various micron rating sizes available. Various port and seal options available.



Filters

Duplex filters

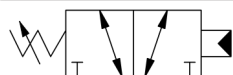


Nominal Size	Pressure	Media	Valve Type
1/2"	414 bar (6,000 psi)	Liquids only	DF50

Duplex filters, stainless steel construction. High pressure main-line filter. Filter is available with a visual pop-out indicator to show when the element is becoming blocked and is also available with a visual pop-out indicator with a by-pass facility. Filter is ideally suited to applications where a shut-down cannot be tolerated. Element can be changed in the system whilst the other filter is still in service. Various micron rating sizes available. Various port and seal options available.

Pressure Sensing

Sensing valves

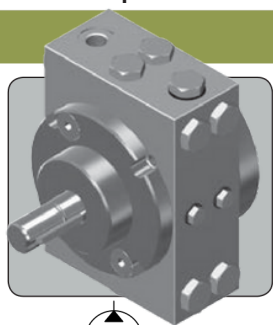


Nominal Size	Pressure	Media	Valve Type
3/8", 1/2"	414 bar (6,000 psi)	Liquids & Gases	3SV25

Pressure sensing valves, stainless steel construction. Primarily used to send a pneumatic pilot signal to actuate another valve when the state of a sensed service rises or falls beyond a pre-determined pressure. Various sensing pressures, port and seal options available.

Pumps

H.P. rotary piston pumps

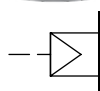
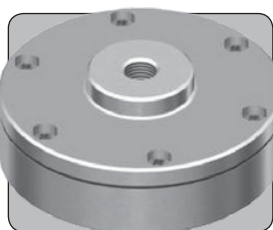


Nominal Size	Pressure	Media	Valve Type
1/4"	828 bar (12,000 psi)	Liquids only	260PR
1/4"	828 bar (12,000 psi)	Liquids only	520PR

High pressure radial piston pumps, primarily carbon steel construction. Ideally suited for high pressure low flow applications, such as maintaining pressure in accumulator banks. Suitable for use with mineral oils, but may be used with certain water glycols (contact factory).

Actuators

Diaphragm air actuators



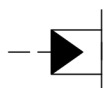
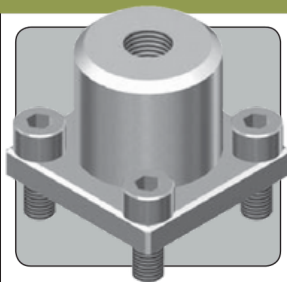
Nominal Size	Pressure	Media	Valve Type
N/A	10.3 bar (150 psi)	Liquids & Gases	A1
N/A	10.3 bar (150 psi)	Liquids & Gases	A2
N/A	10.3 bar (150 psi)	Liquids & Gases	A3
N/A	10.3 bar (150 psi)	Liquids & Gases	A4

Diaphragm air actuators, stainless steel construction. Primarily designed for use with a pneumatic pressure source, but may also be used with a hydraulic pressure source. May be used with a variety of BIS directional control valves and pilot operated check valves to achieve low actuation pressures (see full catalogue data sheets for details). Actuators not sold separately.



Actuators

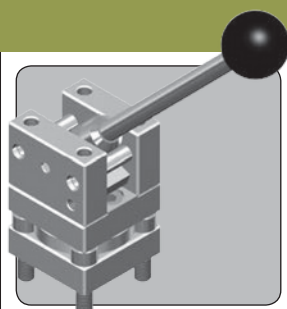
Hydraulic actuators



Nominal Size	Pressure	Media	Valve Type
N/A	690 bar (10,000 psi)	Liquids only	H0
N/A	690 bar (10,000 psi)	Liquids only	H1
N/A	34.5 bar (500 psi)	Liquids & Gases	H3

Hydraulic actuators, stainless steel construction. Designed for use with a pilot pressure source. May be used with a variety of BIS directional control valves and pilot operated check valves (see full catalogue data sheets for details). Various port and seal options available. Actuators not sold separately.

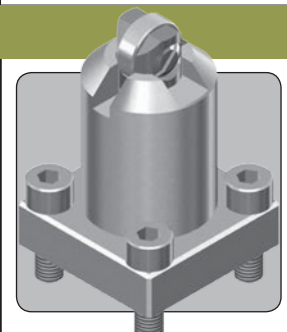
Lever actuators



Nominal Size	Pressure	Media	Valve Type
N/A	N/A	N/A	L
N/A	N/A	N/A	DL

Lever actuators, primarily stainless steel construction. May be used with a variety of BIS directional control valves and pilot operated check valves, where manual operation is required (see full catalogue data sheets for details). Detented and non-detented versions available. Actuators not sold separately.

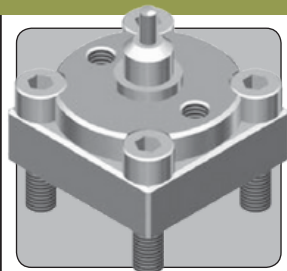
Cam roller actuators



Nominal Size	Pressure	Media	Valve Type
N/A	N/A	N/A	C0

Cam actuators, primarily stainless steel construction. May be used with a variety of BIS directional control valves and pilot operated check valves, where operation is required via a mechanical mechanism (see full catalogue data sheets for details). Actuators not sold separately.

Cam pin actuators



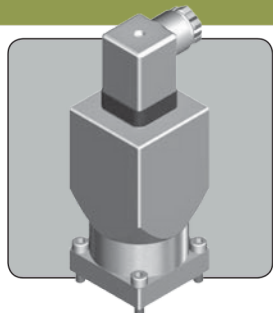
Nominal Size	Pressure	Media	Valve Type
N/A	N/A	N/A	C1

Cam pin actuators, stainless steel construction. May be used with a variety of BIS directional control valves and pilot operated check valves, where operation is required via a mechanical mechanism (see full catalogue data sheets for details). Actuators not sold separately.



Actuators

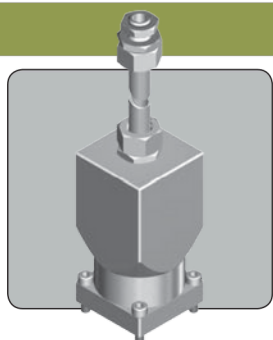
Solenoid thrusters (hirschmann)



Nominal Size	Pressure	Media	Valve Type
N/A	N/A	N/A	HC

Solenoid thruster, stainless steel externally exposed components. May be used with a variety of BiS solenoid valves (see full catalogue datasheets for details). Supplied with DIN43650 connector. Thruster not sold separately.

Solenoid thrusters (conduit)



Nominal Size	Pressure	Media	Valve Type
N/A	N/A	N/A	KC

Solenoid thruster, stainless steel exposed components. May be used with a variety of BiS solenoid valves (see full catalogue datasheets for details). Supplied with 1/2" Kopex conduit fitting. Thruster not sold separately.

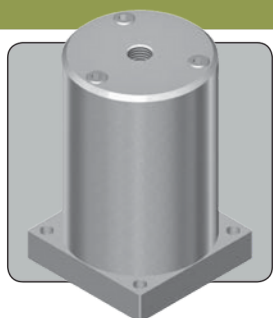
Solenoid thrusters (ATEX hazardous area)



Nominal Size	Pressure	Media	Valve Type
N/A	N/A	N/A	STEX1

Solenoid thruster, stainless steel exposed components. May be used with a variety of BiS solenoid valves (see full catalogue datasheets for details). Approved for use in potentially explosive atmospheres. EEX'D IIC rated. Thruster not sold separately.

Solenoid thrusters (subsea)



Nominal Size	Pressure	Media	Valve Type
N/A	N/A	N/A	SW

Solenoid thruster, stainless steel externally exposed components. May be used with a variety of BiS solenoid valves suitable for subsea environments. Check application with BiS technical department. Thruster not sold separately

