

Direct & Indirect Acting Solenoid Valves Models FP06P, FP10P, FP12P, BXS & SPR NAMUR Mount Available on FP06P & BXS

Solenoid Valve Range

(Up to and including 508 psi / 35 bar working pressure)



Superior Performance Throughout the Full Operational Range

- Solenoid Valve
● SIL 3 Third Party Certified
- Solenoid Free to Rotate Through 360°
- 316L Stainless Steel Solenoid Enclosure and Valve. Aluminium Options Available
- Arctic Service Options to -60°C
- Worldwide Solenoid Approvals
Ex emb, Ex d, Ex ia & Explosion Proof
- Low Power - 1.8W
- High Flow - Up to 11.1 Cv
- Up to and including 508 psi / 35 bar Working Pressure



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Accuracy of information
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When selecting a product, the applicable operating system design must be considered to ensure safe use. The product function, material compatibility, adequate ratings, correct installation, operation and maintenance are the responsibilities of the system designer and user.

Quality Assurance
All Bifold products are manufactured to a most stringent QA programme to ensure that every product will give optimum performance and reliability. We are third party certified to BS EN ISO 9001:2008. Functional test certificates, letter of conformity and copies of original mill certificates, providing total traceability are available on request, to BS EN ISO 9004:3.1 where available. We reserve the right to make changes to the specifications and design etc, without prior notice.

More leaflets are available on
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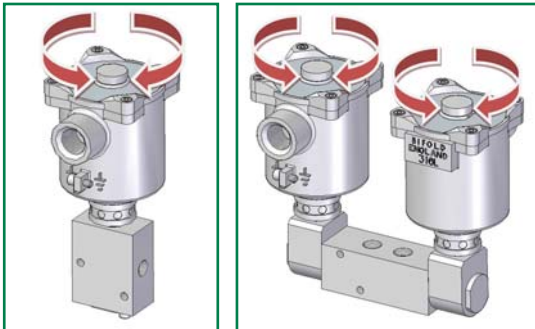
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Features & Benefits

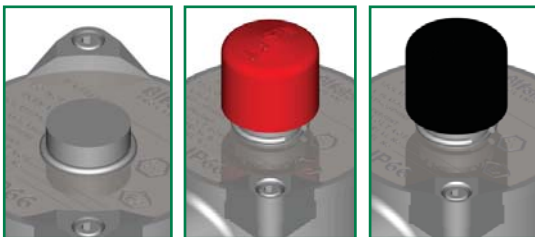
Worldwide Approvals



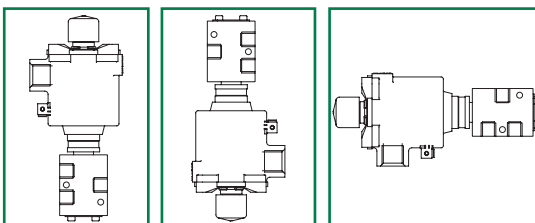
Solenoid Operator is Free to Rotate 360°



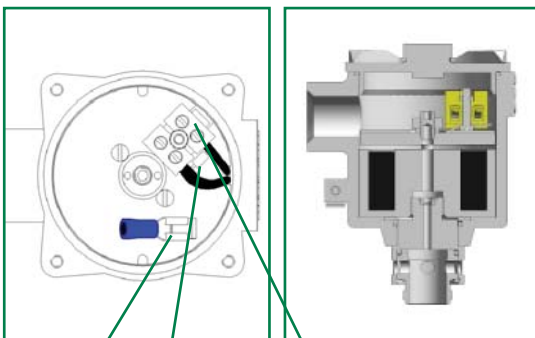
Widest Range of Override Options



Valve can be Mounted in any Orientation



Spacious Enclosure for Ease of Wiring



Internal Earth Connection Surge Suppression Diode Ex d (dc) Terminal Block Type MK3

Standard Solenoid Operator Equipment Design & Build

- Worldwide Approvals
- Solenoid operator is free to rotate 360° allowing for an easy cable layout and ease of connection wiring. Solenoid operator internals rotate with the enclosure and prevent cables being pulled out of terminal block.
- Widest range of override options (Auto Reset, Spring Return Manual Override, Stayput Manual Override, Manual Reset, Tamperproof Manual Latch, Latch Energised).
- Worldwide technical and field support.
- Standard solenoid valve can be mounted in any orientation to simplify installation due to all the components having enhanced rotational capabilities.

Commissioning and Maintenance Benefits for the Standard Solenoid Valve

- Tropicalised solenoid operator design - 316L stainless steel enclosure with aluminium options also available; stainless steel or Remko B magnetic parts (dependent upon solenoid Ex type) Fully encapsulated coil.
- Spacious solenoid enclosure for ease of wiring.
- No time penalty for heat dissipation before removing solenoid enclosure cover.
- No special high temperature cable requirements.

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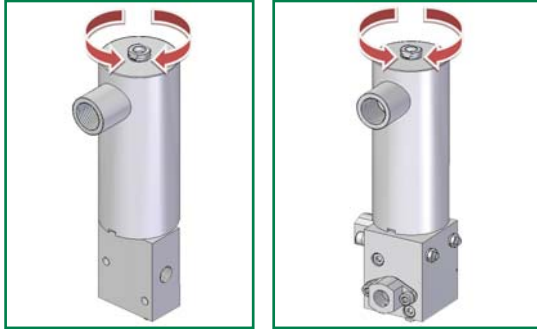
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Features & Benefits

Worldwide Approvals



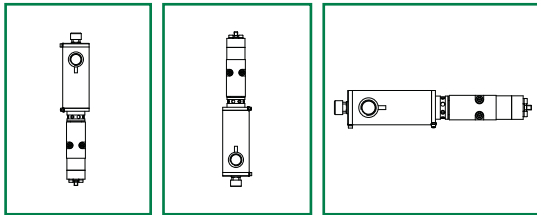
Solenoid Operator is Free to Rotate 360°



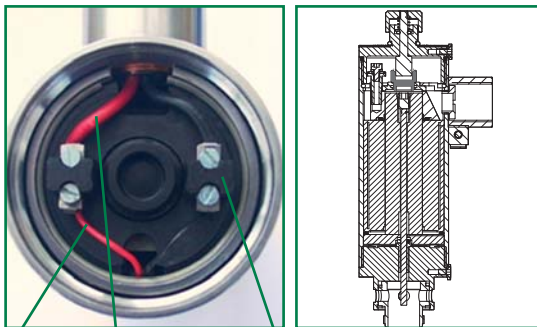
Override Options



Valve Assembly can be Mounted in any Orientation



Compact Enclosure Design



Coil Leads Incoming Supply Leads Connect +Ve To Red Coil Lead Connect -Ve To Black Coil Terminal Block Surge Suppression Diode Ex d (dc)

Slimline Solenoid Operator Equipment Design & Build

- Worldwide Approvals.
- Solenoid operator is free to rotate 360° allowing for an easy cable layout and ease of connection wiring. Solenoid operator internals rotate with the enclosure and prevent cables being pulled out of terminal block.
- 316L Stainless Steel Enclosure.
- Override Options - Auto Reset, Manual Override and Manual Reset.
- Worldwide technical and field support.
- Slimline solenoid valve can be mounted in any orientation to simplify installation.

Commissioning and Maintenance Benefits for the Slimline Solenoid Valve

- Tropicalised solenoid operator design - Fully encapsulated coil.
- No time penalty for heat dissipation before removing solenoid enclosure cover.
- No special high temperature cable requirements.
- Compact design and space envelope.

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Features & Benefits

SIL 3 Capability, FMEA, Extensive Qualification Testing Coupled with 100% Computerised Diagnostic Test Procedures.



Please refer to the Bifold website to see full range of SIL 3 capability certificates for the FP06P, FP10P, BXS & SPR.



State of the Art Testing



Simple Maintenance



Safety and Environmental Benefits

- SIL 3 capability: The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. (For the FP06P, FP10P, BXS & SPR only).
- Force balanced valve design with high safety factors to de-energise at all pressures in Normally Open and Normally Closed configurations.
- 100% computerised diagnostic testing to ensure each solenoid valve is proven along with confirmed safety factors.
- Bifold has state of the art product qualification and production equipment including flow (Cv), environment (-70°C to +180°C), function and leakage testing, and data logging.
- The standard solenoid operator is a holding magnet type which ensures the valve will operate in damp conditions. The risk of corrosion to internal components is reduced, unlike other valve types that incorporate a solenoid core tube design with a 'wetted' armature that will only operate in dry air conditions!
- Tolerant to moist air in control lines.
- The standard solenoid valve has proven arctic service and low temperature performance.
- Products are manufactured, inspected, assembled and tested in our state of the art production facilities.
- Large clearances, metal back up to seals and no knife edge sealing to prevent long term valve sticking.
- Dry solenoid armature to prevent corrosion and affecting safe shut down.
- Simple maintenance - Removable transient suppression diode on Ex d DC solenoid valve assemblies and removable solenoid coil without removing valve from the tubing.

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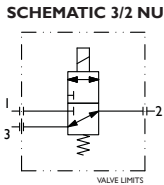

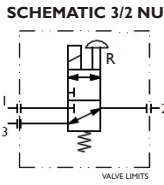
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DIRECT ACTING STANDARD SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>FP06P Auto Reset</p>	<p>SCHEMATIC 3/2 NU</p> 	24	<p>FP06P-SI-04-32-NU-V-74AT4-24D-36</p> <p>FP06P-SI-04-32-NU-V-74AT4-24D-44</p> <p>FP06P-SI-04-32-NU-V-74AT4-24D-68</p>	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, 24Vdc, Auto Reset.</p> <p> ATEX II 2 GDc, Ex emb IICT4...T3 Gb</p> <p> IECEx Ex emb IICT4...T3 Gb</p> <p>3.6 Watt, Cv 0.35, 145 psi / 10 bar.</p> <p>4.4 Watt, Cv 0.6, 145 psi / 10 bar.</p> <p>6.8 Watt, Cv 1.0, 145 psi / 10 bar.</p>
			<p>FP06P-SI-04-32-NU-V-77A-24D-35</p> <p>FP06P-SI-04-32-NU-V-77A-24D-57</p>	<p> ATEX II 2 GD, Ex d IICT4 / T5 / T6</p> <p> IECEx Ex d IICT4 / T5 / T6</p> <p>3.5 Watt, Cv 0.6, 145 psi / 10 bar.</p> <p>5.7 Watt, Cv 1.0, 145 psi / 10 bar.</p>
 <p>FP06P Manual Reset</p>	<p>SCHEMATIC 3/2 NU</p> 	24	<p>FP06P-SI-04-32-NU-V-74AT4-24D-ML-36</p>	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, 24Vdc, Manual Reset.</p> <p> ATEX II 2 GDc, Ex emb IICT4...T3 Gb</p> <p> IECEx Ex emb IIC T4...T3 Gb</p> <p>3.6 Watt, Cv 1.0, 145 psi / 10 bar.</p>
			<p>FP06P-SI-04-32-NU-V-77A-24D-ML-30</p>	<p> ATEX II 2 GD, Ex d IICT4 / T5 / T6</p> <p> IECEx Ex d IIC T4 / T5 / T6</p> <p>3.0 Watt, Cv 1.0, 145 psi / 10 bar.</p>

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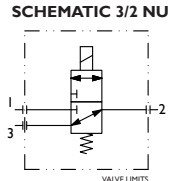

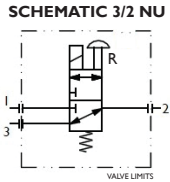

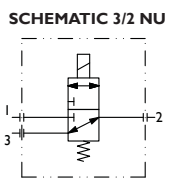

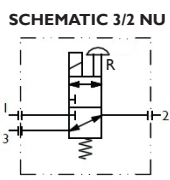
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Preferred Range

DIRECT ACTING STANDARD SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>FP06P Aluminium Enclosure & Body Auto Reset</p>	 <p>SCHEMATIC 3/2 NU</p>	24	<p>FP06P-SI-A04-32-NU-V-27A-24D-35</p> <p>FP06P-SI-A04-32-NU-V-27A-24D-57</p>	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, 24Vdc, Auto Reset.</p> <p> ATEX II 2 GD, Ex d IIC T4 / T5 / T6 IECEX Ex d IIC T4 / T5 / T6 3.5 Watt, Cv 0.6, 145 psi / 10 bar. 5.7 Watt, Cv 1.0, 145 psi / 10 bar. </p>
 <p>FP06P Aluminium Enclosure & Body Manual Reset</p>	 <p>SCHEMATIC 3/2 NU</p>	24	<p>FP06P-SI-A04-32-NU-V-27A-24D-ML-30</p>	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, 24Vdc, Manual Reset.</p> <p> ATEX II 2 GD, Ex d IIC T4 / T5 / T6 IECEX Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 1.0, 145 psi / 10 bar. </p>
 <p>FP06P Aluminium Enclosure 316L Stainless Steel Body Auto Reset</p>	 <p>SCHEMATIC 3/2 NU</p>	24	<p>FP06P-SI-04-32-NU-V-27A-24D-35</p> <p>FP06P-SI-04-32-NU-V-27A-24D-57</p>	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, 24Vdc, Auto Reset.</p> <p> ATEX II 2 GD, Ex d IIC T4 / T5 / T6 IECEX Ex d IIC T4 / T5 / T6 3.5 Watt, Cv 0.6, 145 psi / 10 bar. 5.7 Watt, Cv 1.0, 145 psi / 10 bar. </p>
 <p>FP06P Aluminium Enclosure 316L Stainless Steel Body Manual Reset</p>	 <p>SCHEMATIC 3/2 NU</p>	24	<p>FP06P-SI-04-32-NU-V-27A-24D-ML-30</p>	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, 24Vdc, Manual Reset.</p> <p> ATEX II 2 GD, Ex d IIC T4 / T5 / T6 IECEX Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 1.0, 145 psi / 10 bar. </p>

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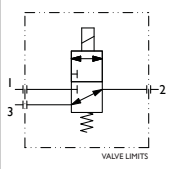



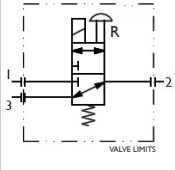


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Preferred Range


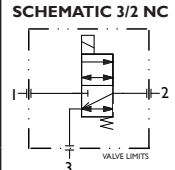



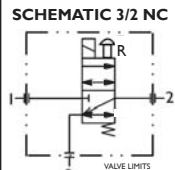






DIRECT ACTING SLIMLINE SOLENOID VALVES - PREFERRED RANGE

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 <p>FP06P Auto Reset</p>	<p>SCHEMATIC 3/2 NU</p> 	25	FP06P-SI-04-32-NU-V-58A-I35	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, Auto Reset.</p> <p>ATEX  II 1G Ex ia, IIC T4 / T6 Ga IECEx  Ex ia IIC T4 / T6 Ga 135 Ohms, Cv 0.35, 145 psi / 10 bar. †</p>
 <p>FP06P Manual Reset</p>	<p>SCHEMATIC 3/2 NU</p> 	25	FP06P-SI-04-32-NU-V-58A-ML-I35	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, Manual Reset.</p> <p>ATEX  II 1G Ex ia, IIC T4 / T6 Ga IECEx  Ex ia IIC T4 / T6 Ga 135 Ohms, Cv 0.35, 145 psi / 10 bar. †</p>

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

Preferred Range

DIRECT ACTING STANDARD SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>FP06P Namur Mount Auto Reset Left Hand Feed</p>	<p>SCHEMATIC 3/2 NC</p> 	26	FP06P-SI-NI4-32-NC-V-74AT4-24D-36	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Closed, 24Vdc, Auto Reset Left Hand Feed.</p> <p>ATEX  II 2 GDc, Ex emb IIC T4...T3 Gb IECEx  Ex emb IIC T4...T3 Gb 3.6 Watt, Cv 0.35, 145 psi / 10 bar. 4.4 Watt, Cv 0.6, 145 psi / 10 bar. 6.8 Watt, Cv 1.0, 145 psi / 10 bar.</p>
			FP06P-SI-NI4-32-NC-V-74AT4-24D-44	
			FP06P-SI-NI4-32-NC-V-74AT4-24D-68	
			FP06P-SI-NI4-32-NC-V-77A-24D-35	
 <p>FP06P Namur Mount Manual Reset Left Hand Feed</p>	<p>SCHEMATIC 3/2 NC</p> 	26	FP06P-SI-NI4-32-NC-V-77A-24D-57	<p>ATEX  II 2 GD, Ex d IIC T4 / T5 / T6 IECEx  Ex d IIC T4 / T5 / T6 3.5 Watt, Cv 0.6, 145 psi / 10 bar. 5.7 Watt, Cv 1.0, 145 psi / 10 bar.</p>
			FP06P-SI-NI4-32-NC-V-74AT4-24D-ML-36	<p>1/4" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Closed, 24Vdc, Manual Reset Left Hand Feed.</p> <p>ATEX  II 2 GDc, Ex emb IIC T4...T3 Gb IECEx  Ex emb IIC T4...T3 Gb 3.6 Watt, Cv 1.0, 145 psi / 10 bar.</p>
			FP06P-SI-NI4-32-NC-V-77A-24D-ML-30	<p>ATEX  II 2 GD, Ex d IIC T4 / T5 / T6 IECEx  Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 1.0, 145 psi / 10 bar.</p>

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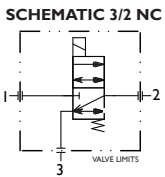

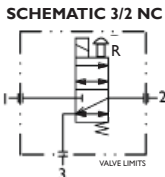

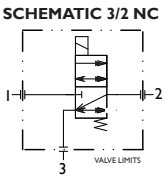

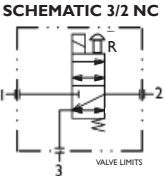
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Preferred Range

DIRECT ACTING SLIMLINE SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>FP06P NAMUR Mount Auto Reset Right Hand Feed</p>	 <p>SCHEMATIC 3/2 NC</p>	27	FP06P-SI-N4-32-NC-V-58A-135	<p>1/4" NPT Ports, 3Way 2 Position, Direct Acting, Normally Closed, Auto Reset, Right Hand Feed.</p> <p>ATEX II I G, Ex ia IIC T4 / T6 Ga IECEX Ex ia IIC T4 / T6 Ga</p> <p>135 Ohms, Cv 0.35, 145 psi / 10 bar. †</p>
 <p>FP06P NAMUR Mount Manual Reset Right Hand Feed</p>	 <p>SCHEMATIC 3/2 NC</p>	27	FP06P-SI-N4-32-NC-V-58A-ML-135	<p>1/4" NPT Ports, 3Way 2 Position, Direct Acting, Normally Closed, 24Vdc, Manual Reset, Right Hand Feed.</p> <p>ATEX II I G, Ex ia IIC T6 Ga IECEX Ex ia IIC T4 / T6 Ga</p> <p>135 Ohms, Cv 0.35, 145 psi / 10 bar. †</p>
 <p>FP06P NAMUR Mount Auto Reset Left Hand Feed</p>	 <p>SCHEMATIC 3/2 NC</p>	27	FP06P-SI-NI4-32-NC-V-58A-135	<p>1/4" NPT Ports, 3Way 2 Position, Direct Acting, Normally Closed, Auto Reset, Left Hand Feed.</p> <p>ATEX II I G, Ex ia IIC T4 / T6 Ga IECEX Ex ia IIC T4 / T6 Ga</p> <p>135 Ohms, Cv 0.35, 145 psi / 10 bar. †</p>
 <p>FP06P NAMUR Mount Manual Reset Left Hand Feed</p>	 <p>SCHEMATIC 3/2 NC</p>	27	FP06P-SI-NI4-32-NC-V-58A-ML-135	<p>1/4" NPT Ports, 3Way 2 Position, Direct Acting, Normally Closed, Manual Reset, Left Hand Feed.</p> <p>ATEX II I G, Ex ia IIC T4 / T6 Ga IECEX Ex ia IIC T4 / T6 Ga</p> <p>135 Ohms, Cv 0.35, 145 psi / 10 bar. †</p>

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

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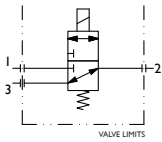



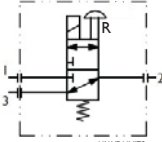


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8

Preferred Range

DIRECT ACTING STANDARD SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>FPI2P Auto Reset</p>	<p>SCHEMATIC 3/2 NU</p> 	<p>29</p>	<p>FPI2P-SI-08-32-NU-V-77A-24D-120</p>	<p>1/2" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, 24Vdc, Auto Reset.</p> <p>  ATEX Ex II 2 GD, Ex d IIC T4 / T5 / T6  IECEX Ex d IIC T4 / T5 / T6 12.0 Watt, Cv 2.5, 145 psi / 10 bar. </p>
 <p>FPI2P Manual Reset</p>	<p>SCHEMATIC 3/2 NU</p> 	<p>29</p>	<p>FPI2P-SI-08-32-NU-V-77A-24D-ML-65</p>	<p>1/2" NPT Ports, 3 Way 2 Position, Direct Acting, Normally Universal, 24Vdc, Manual Reset.</p> <p>  ATEX Ex II 2 GD, Ex d IIC T4 / T5 / T6  IECEX Ex d IIC T4 / T5 / T6 6.5 Watt, Cv 2.5, 145 psi / 10 bar. </p>

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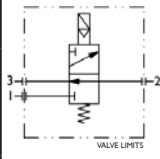

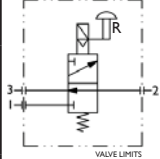

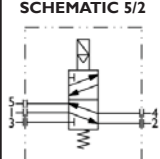

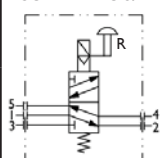
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Preferred Range

DIRECT ACTING STANDARD SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>BXS Auto Reset Internal Pilot</p>	<p>SCHEMATIC 3/2 NC</p> 	30	BXS-04-04-EI-32-NC-00-V-74AT4-24D-36	1/4" NPT Ports, 3 Way 2 Position, Pilot Operated, Direct Acting, Normally Closed, Spring Return, 24Vdc, Auto Reset Internal Pilot. ATEX Ex II 2 GDc, Ex emb IIC T4...T3 Gb IECEx Ex emb IIC T4...T3 Gb 3.6 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-EI-32-NC-00-V-77A-24D-18	ATEX Ex II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 1.8 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-EI-32-NC-00-V-78A-260	ATEX Ex II 1 GD, Ex ia IIC T4 / T6 Ga IECEx Ex ia IIC T4 / T6 Ga 260 Ohms, Cv 0.73, 145 psi / 10 bar. †
 <p>BXS Manual Reset Internal Pilot</p>	<p>SCHEMATIC 3/2 NC</p> 	30	BXS-04-04-E5-32-NC-00-V-74AT4-24D-36	1/4" NPT Ports, 3 Way 2 Position, Pilot Operated, Direct Acting, Normally Closed, Spring Return, 24Vdc, Manual Reset Internal Pilot. ATEX Ex II 2 GDc, Ex emb IIC T4...T3 Gb IECEx Ex emb IIC T4...T3 Gb 3.6 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-E5-32-NC-00-V-77A-24D-18	ATEX Ex II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 1.8 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-E5-32-NC-00-V-78A-260	ATEX Ex II 1 GD, Ex ia IIC T4 / T6 Ga IECEx Ex ia IIC T4 / T6 Ga 260 Ohms, Cv 0.73, 145 psi / 10 bar. †
 <p>BXS Auto Reset Internal Pilot</p>	<p>SCHEMATIC 5/2</p> 	31	BXS-04-04-EI-52-XX-00-V-74AT4-24D-36	1/4" NPT Ports, 5 Way 2 Position, Pilot Operated, Direct Acting, Spring Return, 24Vdc, Auto Reset Internal Pilot. ATEX Ex II 2 GDc, Ex emb IIC T4...T3 Gb IECEx Ex emb IIC T4...T3 Gb 3.6 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-EI-52-XX-00-V-77A-24D-18	ATEX Ex II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 1.8 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-EI-52-XX-00-V-78A-260	ATEX Ex II 1 GD, Ex ia IIC T4 / T6 Ga IECEx Ex ia IIC T4 / T6 Ga 260 Ohms, Cv 0.73, 145 psi / 10 bar. †
 <p>BXS Manual Reset Internal Pilot</p>	<p>SCHEMATIC 5/2</p> 	31	BXS-04-04-E5-52-XX-00-V-74AT4-24D-36	1/4" NPT Ports, 5 Way 2 Position, Pilot Operated, Direct Acting, Spring Return, 24Vdc, Manual Reset Internal Pilot. ATEX Ex II 2 GDc, Ex emb IIC T4...T3 Gb IECEx Ex emb IIC T4...T3 Gb 3.6 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-E5-52-XX-00-V-77A-24D-18	ATEX Ex II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 1.8 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-E5-52-XX-00-V-78A-260	ATEX Ex II 1 GD, Ex ia IIC T4 / T6 Ga IECEx Ex ia IIC T4 / T6 Ga 260 Ohms, Cv 0.73, 145 psi / 10 bar. †

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

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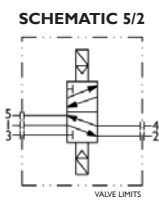

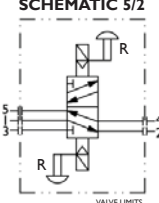
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Preferred Range

INDIRECT ACTING STANDARD SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>BXS Banjo Joint Auto Reset Internal Pilot</p>		31	BXS-04-04-EI-52-XX-EI-V-74AT4-24D-36-L142	1/4" NPT Ports, Dual Solenoid, 5Way 2 Position, Pilot Operated, Indirect Acting, Pilot Return, 24Vdc, Auto Reset Internal Pilot. ATEX Ex II 2 GDc, Ex emb IIC T4...T3 Gb IECEx Ex emb IIC T4...T3 Gb 3.6 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-EI-52-XX-EI-V-77A-24D-30-L142	ATEX Ex II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-EI-52-XX-EI-V-78A-260-L142	ATEX Ex II 1 GD, Ex ia IIC T4 / T6 Ga IECEx Ex ia IIC T4 / T6 Ga †
 <p>BXS Banjo Joint Manual Reset Internal Pilot</p>		31	BXS-04-04-E5-52-XX-E5-V-74AT4-24D-36-L142	1/4" NPT Ports, Dual Solenoid, 5Way 2 Position, Pilot Operated, Indirect Acting, Pilot Return, 24Vdc, Manual Reset Internal Pilot. ATEX Ex II 2 GDc, Ex emb IIC T4...T3 Gb IECEx Ex emb IIC T4...T3 Gb 3.6 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-E5-52-XX-E5-V-77A-24D-30-L142	ATEX Ex II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-04-E5-52-XX-E5-V-78A-260-L142	ATEX Ex II 1 GD, Ex ia IIC T4 / T6 Ga IECEx Ex ia IIC T4 / T6 Ga †

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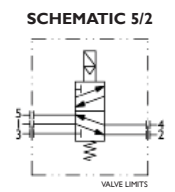

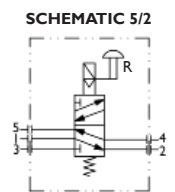

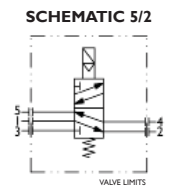

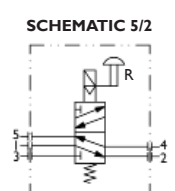
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Preferred Range

INDIRECT ACTING STANDARD SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>BXS NAMUR Mount Banjo Joint Auto Reset Internal Pilot</p>		32	BXS-04-N4-EI-52-XX-00-V74AT4-24D-36-LI42	1/4" NPT Ports, 5 Way 2 Position, Pilot Operated, Indirect Acting, Pilot Return, 24Vdc, Auto Reset Internal Pilot. ATEX II 2 GDc, Ex emb IIC T4... T3 Gb IECEx Ex emb IIC T4... T3 Gb 3.6 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-N4-EI-52-XX-00-V77A-24D-30-LI42	ATEX II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-N4-EI-52-XX-00-V78A-260-LI42	ATEX II 1 GD, Ex ia IIC T4 / T6 Ga IECEx Ex ia IIC T4 / T6 Ga 260 Ohms, Cv 0.73, 145 psi / 10 bar. †
 <p>BXS NAMUR Mount Banjo Joint Manual Reset Internal Pilot</p>		32	BXS-04-N4-E5-52-XX-00-V74AT4-24D-36-LI42	1/4" NPT Ports, 5 Way 2 Position, Pilot Operated, Indirect Acting, Pilot Return, 24Vdc, Manual Reset Internal Pilot. ATEX II 2 GDc, Ex emb IIC T4... T3 Gb IECEx Ex emb IIC T4... T3 Gb 3.6 Watt, Cv 0.73, 10 bar.
			BXS-04-N4-E5-52-XX-00-V77A-24D-30-LI42	ATEX II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 0.73, 145 psi / 10 bar.
			BXS-04-N4-E5-52-XX-00-V78A-260-LI42	ATEX II 1 GD, Ex ia IIC T4 / T6 Ga IECEx Ex ia IIC T4 / T6 Ga 260 Ohms, Cv 0.73, 145 psi / 10 bar. †
 <p>BXS Aluminium Enclosure & Body NAMUR Mount Banjo Joint Auto Reset Internal Pilot</p>		32	BXS-04-AN4-EI-52-XX-00-V27A-24D-30-LI42	1/4" NPT Ports, 5 Way 2 Position, Pilot Operated, Indirect Acting, Pilot Return, 24Vdc, Auto Reset Internal Pilot. ATEX II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 0.73, 145 psi / 10 bar.
 <p>BXS Aluminium Enclosure & Body NAMUR Mount Banjo Joint Manual Reset Internal Pilot</p>		32	BXS-04-AN4-E5-52-XX-00-V27A-24D-30-LI42	1/4" NPT Ports, 5 way 2 position, Pilot Operated, Indirect Acting, Pilot Return, 24Vdc, Manual Reset Internal Pilot. ATEX II 2 GD, Ex d IIC T4 / T5 / T6 IECEx Ex d IIC T4 / T5 / T6 3.0 Watt, Cv 0.73, 145 psi / 10 bar.

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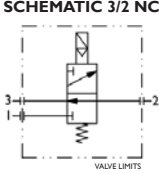







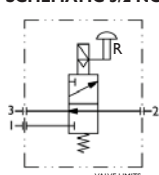







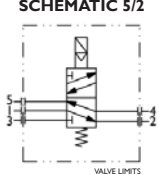







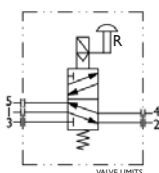






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Preferred Range

DIRECT ACTING STANDARD SOLENOID VALVES - PREFERRED RANGE

Product	Schematic Representation	Page Number	Product Code	Product Description
 <p>SPR Auto Reset Internal Pilot</p>	<p>SCHEMATIC 3/2 NC</p> 	33	<p>SPR-08-08-EI-32-NC-00-V-74AT4-24D-36</p>	<p>1/2" NPT Ports, 3Way 2 Position, Pilot Operated, Direct Acting, Normally Closed, Spring Return, 24Vdc, Auto Reset Internal Pilot.</p> <p>ATEX  II 2 GDc, Ex emb IIC T4...T3 Gb</p> <p>IECEX  Ex emb IIC T4...T3 Gb</p> <p>3.6 Watt, Cv 3.0, 145 psi / 10 bar.</p>
			<p>SPR-08-08-EI-32-NC-00-V-77A-24D-30</p>	<p>ATEX  II 2 GD, Ex d IIC T4 / T5 / T6</p> <p>IECEX  Ex d IIC T4 / T5 / T6</p> <p>3.0 Watt, Cv 3.0, 145 psi / 10 bar.</p>
			<p>SPR-08-08-EI-32-NC-00-V-78A-260</p>	<p>ATEX  II 1 GD, Ex ia IIC T4 / T6 Ga</p> <p>IECEX  Ex ia IIC T4 / T6 Ga</p> <p>260 Ohms, Cv 3.0, 145 psi / 10 bar. †</p>
 <p>SPR Manual Reset Internal Pilot</p>	<p>SCHEMATIC 3/2 NC</p> 	33	<p>SPR-08-08-E5-32-NC-00-V-74AT4-24D-36</p>	<p>1/2" NPT Ports, 3Way 2 Position, Pilot Operated, Direct Acting, Normally Closed, Spring Return, 24Vdc, Manual Reset Internal Pilot.</p> <p>ATEX  II 2 GDc, Ex emb IIC T4...T3 Gb</p> <p>IECEX  Ex emb IIC T4...T3 Gb</p> <p>3.6 Watt, Cv 3.0, 145 psi / 10 bar.</p>
			<p>SPR-08-08-E5-32-NC-00-V-77A-24D-30</p>	<p>ATEX  II 2 GD, Ex d IIC T4 / T5 / T6</p> <p>IECEX  Ex d IIC T4 / T5 / T6</p> <p>3.0 Watt, Cv 3.0, 145 psi / 10 bar.</p>
			<p>SPR-08-08-E5-32-NC-00-V-78A-260</p>	<p>ATEX  II 1 GD, Ex ia IIC T4 / T6 Ga</p> <p>IECEX  Ex ia IIC T4 / T6 Ga</p> <p>260 Ohms, Cv 3.0, 145 psi / 10 bar. †</p>
 <p>SPR Auto Reset Internal Pilot</p>	<p>SCHEMATIC 5/2</p> 	34	<p>SPR-08-08-EI-52-XX-00-V-74AT4-24D-36</p>	<p>1/2" NPT Ports, 5Way 2 Position, Pilot Operated, Direct Acting, Spring Return, 24Vdc, Auto Reset Internal Pilot.</p> <p>ATEX  II 2 GDc, Ex emb IIC T4...T3 Gb</p> <p>IECEX  Ex emb IIC T4...T3 Gb</p> <p>3.6 Watt, Cv 3.0, 145 psi / 10 bar.</p>
			<p>SPR-08-08-EI-52-XX-00-V-77A-24D-30</p>	<p>ATEX  II 2 GD, Ex d IIC T4 / T5 / T6</p> <p>IECEX  Ex d IIC T4 / T5 / T6</p> <p>3.0 Watt, Cv 3.0, 145 psi / 10 bar.</p>
			<p>SPR-08-08-EI-52-XX-00-V-78A-260</p>	<p>ATEX  II 1 GD, Ex ia IIC T4 / T6 Ga</p> <p>IECEX  Ex ia IIC T4 / T6 Ga</p> <p>260 Ohms, Cv 3.0, 145 psi / 10 bar. †</p>
 <p>SPR Manual Reset Internal Pilot</p>	<p>SCHEMATIC 5/2</p> 	34	<p>SPR-08-08-E5-52-XX-00-V-74AT4-24D-36</p>	<p>1/2" NPT Ports, 5Way 2 Position, Pilot Operated, Direct Acting Spring Return, 24Vdc, Manual Reset Internal Pilot.</p> <p>ATEX  II 2 GDc, Ex emb IIC T4...T3 Gb</p> <p>IECEX  Ex emb IIC T4...T3 Gb</p> <p>3.6 Watt, Cv 3.0, 145 psi / 10 bar.</p>
			<p>SPR-08-08-E5-52-XX-00-V-77A-24D-30</p>	<p>ATEX  II 2 GD, Ex d IIC T4 / T5 / T6</p> <p>IECEX  Ex d IIC T4 / T5 / T6</p> <p>3.0 Watt, Cv 3.0, 145 psi / 10 bar.</p>
			<p>SPR-08-08-E5-52-XX-00-V-78A-260</p>	<p>ATEX  II 1 GD, Ex ia IIC T4 / T6 Ga</p> <p>IECEX  Ex ia IIC T4 / T6 Ga</p> <p>260 Ohms, Cv 3.0, 145 psi / 10 bar. †</p>

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

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Overview



Materials of Construction

Standard and Slimline Solenoid enclosures and valves are manufactured from 316L stainless steel as standard with aluminium options also available. Valve seals are supplied in Viton as standard. Alternative elastomers available for extreme conditions and to suit media. Springs are manufactured from 302S26 & 316S42 stainless steel as standard. Fasteners are metric A4 18/10 grade stainless steel; equivalent to 316L grade stainless steel.

Technical Data

Operating Performance for FP06P, FP10P, FP12P, BXS & SPR

Duty cycle 100% continuously rated/energised.

Surge suppression diode is fitted on all Ex d DC solenoid coils as standard.

Response times - pull in <100ms, drop out <70ms.

Solenoid Insulation - Class H.

Pull-in volts to 85% of nominal. (Checked at FAT to be within specified limits to guarantee safety factors).

Maximum volts at 110% of nominal.

Drop-out volts typically 10 - 20% of nominal (higher Volt options for line monitoring). (Checked at FAT to be within specified limits to guarantee safety factors).

Temperature rating -20°C to upper limit of solenoid classification (standard). Arctic service option to -60°C.

IP66 & IP67 Ingress Protection to IEC 60529 and NEMA 4X for standard 7 series solenoid enclosures.

Bifold solenoid valves must be installed, operated and maintained in accordance with the relevant Bifold installation, operating and maintenance instructions, relevant installation rules, regulations and codes of practice.

Product Options

Certification & Approval options available for standard 2 & 7 series solenoid enclosure



Certification & Approval options available for slimline 5 series solenoid enclosure



SIL 3 capability: The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3 in accordance with IEC 61508. (For the FP06P, FP10P, BXS & SPR only).

The type 77 Ex d solenoid enclosure has been designed with 'spigot' and 'threaded' type flamepath joints, therefore the minimum spacing requirements for obstruction effects of 'flange' joints in accordance with *IEC/BS EN 60079-14 Explosive atmospheres: Electrical installations design, selection and erection* regarding the installation of the solenoid enclosure and its proximity with other objects is not applicable.

Solenoid valve assemblies can be mounted in any orientation. Solenoid enclosure can be rotated relative to the pilot stage valve body to suit cable entry.

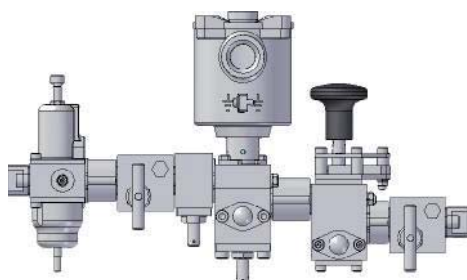
Working pressure up to 508 psi / 35 bar. Maximum working pressure according to valve model.

Operating media - Filtered lubricated or unlubricated air, inert gas, sweet (natural) and sour gas options, water, water glycol mixtures and mineral oil. Maximum viscosity 65 cSt (mm²/s).

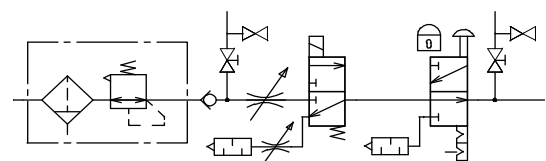
For operating temperature range, please see solenoid valve type and seal options.

Higher voltage options available for line monitoring.

Manual Reset, Manual Override and Manual Latch operator options.



Typical 'AXIS' valve actuator control modular system



These products can be incorporated within our 'AXIS' valve actuator control modular systems.

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Certification Details

Certification & Approval Details

Type 74AT4 Standard Solenoid Enclosure

ATEX, Certificate Number Baseefa 09ATEX0040X.
 II 2 GD c Ex emb IIC T3 Gb Tamb -25°C to +40°C. *
 II 2 GD c Ex emb IIC T4 Gb Tamb -25°C to +50°C. **
 II 2 GD c Ex emb IIC T3 Gb Tamb -25°C to +55°C. ***

Dual Labelled/Marked

IECEx, Certificate Number IECEx Bas 09.0012X.
 Ex emb IIC T3 Gb Tamb -25°C to +40°C. *
 Ex emb IIC T4 Gb Tamb -25°C to +50°C. **
 Ex emb IIC T3 Gb Tamb -25°C to +55°C. ***

Type 27 Standard Solenoid - Aluminium Enclosure

ATEX, Certificate Number Baseefa 10ATEX0026.
 II 2 GD Ex d IIC T6 (Tamb -40°C to +40°C).
 II 2 GD Ex d IIC T5 (Tamb -40°C to +55°C).
 II 2 GD Ex d IIC T4 (Tamb -40°C to +90°C).

Dual Labelled/Marked

IECEx, Certificate Number IECEx Bas 09.0012X.
 Ex d IIC T6 (Tamb -40°C to +40°C).
 Ex d IIC T5 (Tamb -40°C to +55°C).
 Ex d IIC T4 (Tamb -40°C to +90°C).

Type 77 Standard Solenoid Enclosure

ATEX, Certificate Number Baseefa 10ATEX0026.
 II 2 GD Ex d IIC T6 (Tamb -60°C to +40°C).
 II 2 GD Ex d IIC T5 (Tamb -60°C to +55°C).
 II 2 GD Ex d IIC T4 (Tamb -60°C to +90°C).

Dual Labelled/Marked

IECEx, Certificate Number IECEx Bas 10.0008.
 Ex d IIC T6 (Tamb -60°C to +40°C).
 Ex d IIC T5 (Tamb -60°C to +55°C).
 Ex d IIC T4 (Tamb -60°C to +90°C).

Type 77 Standard Solenoid Enclosure

CSA (US), Certificate Number 1398692
 Class I, Division I, Groups B, C & D for both
 Canada & USA.
 Ex d IIC for Canada, AEx d IIC for USA.
 T85°C -60°C to +40°C ambient.
 T100°C -60°C to +55°C ambient.
 T135°C -60°C to +90°C ambient.

Dual Labelled/Marked

Type 77 Standard Solenoid Enclosure

ATEX, Certificate Number Baseefa 10ATEX0026.
 II 2 GD Ex d IIC T6 (Tamb -60°C to +40°C).
 II 2 GD Ex d IIC T5 (Tamb -60°C to +55°C).
 II 2 GD Ex d IIC T4 (Tamb -60°C to +90°C).

Type 27 Standard Solenoid - Aluminium Enclosure

NEPSI, Certificate Number GYJ14.1042X
 Ex d IIC T6 up to 40°C ambient.
 Ex d IIC T5 up to 55°C ambient.
 Ex d IIC T4 up to 95°C ambient.

Dual Labelled/Marked

IECEx, Certificate Number IECEx Bas 09.0012X.
 Ex d IIC T6 (Tamb -40°C to +40°C).
 Ex d IIC T5 (Tamb -40°C to +55°C).
 Ex d IIC T4 (Tamb -40°C to +90°C).

Type 77 Standard Solenoid Enclosure

NEPSI, Certificate Number GYJ14.1042X
 Ex d IIC T6 up to 40°C ambient.
 Ex d IIC T5 up to 55°C ambient.
 Ex d IIC T4 up to 95°C ambient.

Dual Labelled/Marked

IECEx, Certificate Number IECEx Bas 10.0008.
 Ex d IIC T6 (Tamb -60°C to +40°C).
 Ex d IIC T5 (Tamb -60°C to +55°C).
 Ex d IIC T4 (Tamb -60°C to +90°C).

Type 77 Standard Solenoid Enclosure

INMETRO, Certificate Number CEPEL-EX-097/2003X.
 BR-Ex d IIC T6 -60°C to +40°C ambient.
 BR-Ex d IIC T5 -60°C to +55°C ambient.
 BR-Ex d IIC T4 -60°C to +90°C ambient.

Dual Labelled/Marked

IECEx, Certificate Number IECEx Bas 10.0008.
 Ex d IIC T6 (Tamb -60°C to +40°C).
 Ex d IIC T5 (Tamb -60°C to +55°C).
 Ex d IIC T4 (Tamb -60°C to +90°C).

Type 77 Standard Solenoid Enclosure

GOST, Certificate Number B00763, RTN.
 IEx d IIC T6 -60°C to +40°C ambient.
 IEx d IIC T5 -60°C to +55°C ambient.
 IEx d IIC T4 -60°C to +90°C ambient.

Dual Labelled/Marked

IECEx, Certificate Number IECEx Bas 10.0008.
 Ex d IIC T6 (Tamb -60°C to +40°C).
 Ex d IIC T5 (Tamb -60°C to +55°C).
 Ex d IIC T4 (Tamb -60°C to +90°C).

Type 77 Standard Solenoid Enclosure

KTL, Certificate Number 12-KB4BO-0213
 Ex d IIC T6 -60°C to +40°C ambient.
 Ex d IIC T5 -60°C to +55°C ambient.
 Ex d IIC T4 -60°C to +90°C ambient.

Dual Labelled/Marked

IECEx, Certificate Number IECEx Bas 10.0008.
 Ex d IIC T6 (Tamb -60°C to +40°C).
 Ex d IIC T5 (Tamb -60°C to +55°C).
 Ex d IIC T4 (Tamb -60°C to +90°C).

Please note that operation ambients are dependent upon seal types.
 For solenoid type 74AT4, the maximum permissible ambient temperature is subject to the coil wattage. Please see page 19.

* Powers up to 6.8W
 ** Powers up to 4.0W
 *** Powers up to 1.8W

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Certification Details

Certification & Approval Details

Type 28 Standard Solenoid - Aluminium Enclosure

ATEX, Certificate Number Baseefa 02ATEX0124X.
 Ⓢ II I GD Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
 Ⓢ II I GD Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

IECEx, Certificate Number IECEx Bas 09.0092X.
 Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
 Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

Dual Labelled/Marked

Type 58 Slimline Solenoid Enclosure

ATEX, Certificate Number Baseefa 08ATEX0292X.
 Ⓢ II IG Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C).

IECEx, Certificate Number IECEx Bas 08.0095X.
 Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C).

Dual Labelled/Marked

Type 78 Standard Solenoid Enclosure

ATEX, Certificate Number Baseefa 02ATEX0124X.
 Ⓢ II I GD Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
 Ⓢ II I GD Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

IECEx, Certificate Number IECEx Bas 09.0092X.
 Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
 Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

Dual Labelled/Marked

Type 28 Standard Solenoid Enclosure - Aluminium Enclosure

EAC, Certificate Number B00293, RTN.
 0Ex ia IIC T6 -60°C to +60°C ambient.
 0Ex ia IIC T4 -60°C to +95°C ambient.

IECEx, Certificate Number IECEx Bas 09.0092X.
 Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
 Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

Dual Labelled/Marked

Type 58 Slimline Solenoid Enclosure

EAC, Certificate Number B00315, RTN Permit
 Number PPC 00-0481 I2
 0Ex ia IIC T6 -40°C to +40°C ambient.
 0Ex ia IIC T5 -40°C to +55°C ambient.
 0Ex ia IIC T4 -40°C to +60°C ambient.

IECEx, Certificate Number IECEx Bas 08.0095X.
 Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C).

Dual Labelled/Marked

Type 78 Standard Solenoid Enclosure

EAC, Certificate Number B00293, RTN.
 0Ex ia IIC T6 -60°C to +60°C ambient.
 0Ex ia IIC T4 -60°C to +95°C ambient.

IECEx, Certificate Number IECEx Bas 09.0092X.
 Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
 Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

Dual Labelled/Marked

Type 58 Slimline Solenoid Enclosure

INMETRO, Certificate Number CEPEL 12.2125X.
 BR-Ex ia IIB T6 -40°C to +60°C ambient.

IECEx, Certificate Number IECEx Bas 08.0095X.
 Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C).

Dual Labelled/Marked

Type 78 Standard Solenoid Enclosure

INMETRO, Certificate Number CEPEL-EX-532/05.
 BR-Ex ia IIC T6 -60°C to + 40°C ambient.
 BR-Ex ia IIC T4 -60°C to + 95°C ambient.

IECEx, Certificate Number IECEx Bas 09.0092X.
 Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
 Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

Dual Labelled/Marked

Type 28 Standard Solenoid - Aluminium Enclosure

NEPSI, Certificate Number GYJ14.1042X
 0Ex ia IIC T6 -60°C to +60°C ambient.
 0Ex ia IIC T4 -60°C to +95°C ambient.

IECEx, Certificate Number IECEx Bas 09.0092X.
 Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
 Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

Dual Labelled/Marked

Type 58 Slimline Solenoid Enclosure

NEPSI, Certificate Number GYJ14.1314X.
 BR-Ex ia IIB T6 -40°C to +60°C ambient.

IECEx, Certificate Number IECEx Bas 08.0095X.
 Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C).

Dual Labelled/Marked

Please note that operation ambients are dependent upon seal types.

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Certification Details

Certification & Approval Details

Type 78 Standard Solenoid Enclosure

  NEPSI, Certificate Number GYJ14.1043.
Ex ia IIC T6 -60°C to + 40°C ambient.
Ex ia IIC T4 -60°C to + 95°C ambient.

 IECEx, Certificate Number IECEx Bas 09.0092X.
Ex ia IIC T6 Ga (Tamb = -60°C to +60°C).
Ex ia IIC T4 Ga (Tamb = -60°C to +95°C).

Dual Labelled/Marked

Label Rationalisation

The temperature details on our solenoid valve labels have, to date, been laid out with a single ambient range and 'T' rating, as follows :-

77A3 - T4 (-60°C ≤ Tamb ≤ +90°C)
or 77A6 - T5 (-60°C ≤ Tamb ≤ +55°C)
or 77A9 - T6 (-60°C ≤ Tamb ≤ +40°C)

The labels are in the process of being replaced with a single label which covers all potential temperature parameters. Therefore, the label will for example, read as follows :-

77A { T4 (-60°C ≤ Tamb ≤ +90°C)
T5 (-60°C ≤ Tamb ≤ +55°C)
T6 (-60°C ≤ Tamb ≤ +40°C) }

Please note that operation ambients are dependent upon seal types.

Port Connections

Port Connections for 3/2 (FP06P, FP10P, FP12P, BXS & SPR)

PORT CONNECTIONS TABLE			
Configuration	Pressure	Service	Vent
Normally Closed	1	2	3
Normally Open	3	2	1

For port connections, please refer to selection chart ordering example on pages 24, 25, 26, 27, 28, 29, 30, 33 & 35.

Solenoid Coil Spare

Solenoid Coil Spare Selection Chart Ordering Example Type 74AT4, 27 & 77

109		Coil Type
XXX Voltage	74AT4 (Ex emb)	24 & 48 Vdc
	27 (Ex d)	12, 24, 48 & 110 Vdc
	27 (Ex d)	110 & 240Vac
	27 (Ex d)	50 & 60 Hz
	77 (Ex d)	12, 24, 48 & 110 Vdc
XX Power (W)	74AT4 (Ex emb)	1.8, 3.6, 4.4 & 6.8Watts
	27 (Ex d)	1.8, 3.0, 3.5, 5.7 & 6.5Watts
	77 (Ex d)	1.8, 3.0, 3.5, 5.7, 6.5 & 12Watts
109-XXX-XX		Ordering Example

For solenoid operator Type 27 & 77 (Ex d) Vdc & Vac, the coil spare ordering examples are shown below:-

109-110DC-57
109-110AC-57

Type MK3

Type MK3 Terminal Block

The type MK3 terminal block can accommodate solid conductors between the range of 0.5mm² to 2.5mm² and flexible conductors between the range of 0.5mm² to 1.5mm².

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Port Connections



Port Connections for 5/2 & 5/3 (BXS), & 5/2 (SPR)

PORT CONNECTIONS TABLE			
Configuration	Pressure	Service	Vent
XX	1	2 & 4	3 & 5
YY	1	2 & 4	3 & 5
ZZ	1	2 & 4	3 & 5

For port connections, please refer to selection chart ordering example on pages 31, 32, 34 & 36.

Solenoid Coil Spare

Solenoid Coil Spare Selection Chart Ordering Example Type 58

58		Coil Type
135 Resistance (Ω)	58 (Ex ia)	135 Ohms
		Resistance †
58 - 135		Ordering Example

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

Solenoid Coil Spare

Solenoid Coil Spare Selection Chart Ordering Example Type 28 & 78

109		Coil Type
12 Nominal Voltage	28 & 78 (Ex ia)	12 V
		Nominal Voltage
260 Resistance (Ω)	28 & 78 (Ex ia)	260 Ohms
		Resistance †
109-12-260		Ordering Example











† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

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Ex emb Options

Options Table I 74AT4 (Ex emb)

SOLENOID OPTIONS TABLE I 74AT4 (Ex emb)									
Product Type	Solenoid Order Code	Typical Apparatus Code	Standard Voltage	Power Consumption (W)	CV Rate	Temperature Range (°C)	Ingress Protection	Cable Entry Connection	Certification Options
 FP06P	74AT4	Ex emb II T3 / T4	24 Vdc 48 Vdc	3.6 4.4 6.8 1.8 (Manual Latch) 3.6 (Manual Latch)	0.35 0.6 1.0 1.0 1.0	Media # -20°C to +90°C -55°C to +90°C Ambient -25°C to +55°C (T3) (3.0W & Below) -25°C to +50°C (T3 & T4) (4.0W & Below) -25°C to +40°C (T3) (6.8W & Below)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 FP10P	74AT4	Ex emb II T3 / T4	24 Vdc 48 Vdc	3.6 4.4 6.8	0.35 0.6 1.0	Media # -20°C to +90°C -55°C to +90°C Ambient -25°C to +55°C (T3) (3.0W & Below) -25°C to +50°C (T3 & T4) (4.0W & Below) -25°C to +40°C (T3) (6.8W & Below)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 BXS	74AT4	Ex emb II T3 / T4	24 Vdc 48 Vdc	3.6	0.73	Media # -15°C to +130°C -55°C to +130°C Ambient -25°C to +55°C (T3) (3.0W & Below) -25°C to +50°C (T3 & T4) (4.0W & Below) -25°C to +40°C (T3) (6.8W & Below)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 SPR-08	74AT4	Ex emb II T3 / T4	24 Vdc 48 Vdc	3.6	3.0	Media # -20°C to +100°C -60°C to +100°C Ambient -25°C to +55°C (T3) (3.0W & Below) -25°C to +50°C (T3 & T4) (4.0W & Below) -25°C to +40°C (T3) (6.8W & Below)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 SPR-16	74AT4	Ex emb II T3 / T4	24 Vdc 48 Vdc	3.6	11.1	Media # -20°C to +120°C -60°C to +90°C Ambient -25°C to +55°C (T3) (3.0W & Below) -25°C to +50°C (T3 & T4) (4.0W & Below) -25°C to +40°C (T3) (6.8W & Below)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	

For detailed information on certification, please see page 16.

Other Wattages available upon request.

Permissible media operating temperatures are dependent upon the selected O-Ring material. Please refer to the product selection charts on pages 24, 26, 28 & 30 to 36.

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Ex d Options

Options Table 2 27 (Ex d)

STANDARD SOLENOID OPTIONS TABLE 2 27 (Ex d)									
Product Type	Solenoid Order Code	Typical Apparatus Code	Standard Voltage	Power Consumption (W)	CV Rate	Temperature Range (°C)	Ingress Protection	Cable Entry Connection	Certification Options
 <p>FP06P Aluminium Enclosure 316L Stainless Steel Body</p>	27	Ex d IIC T6, T5 or T4	12 Vdc 24 Vdc 48 Vdc 110 Vdc 110 Vac 240 Vac 50 or 60 Hz	3.5 (Manual Stayput) 5.7 6.5 3.0 (Manual Latch)	0.6 1.0 1.0 1.0	Media # -20°C to +90°C -55°C to +90°C Ambient -60°C to +40°C (T6) -60°C to +55°C (T5) -60°C to +90°C (T4)	IP66 IP67 NEMA 4X	M20 x 1.5 (½" NPT Option)	
 <p>BXS Aluminium Enclosure 316L Stainless Steel Body</p>	27	Ex d IIC T6, T5 or T4	12 Vdc 24 Vdc 48 Vdc 110 Vdc 110 Vac 240 Vac 50 or 60 Hz	1.8 3.0	0.73	Media # -15°C to +130°C -55°C to +130°C Ambient -60°C to +40°C (T6) -60°C to +55°C (T5) -60°C to +90°C (T4)	IP66 IP67 NEMA 4X	M20 x 1.5 (½" NPT Option)	

For detailed information on certification please see page 16.

Other wattages available upon request.

Permissible media operating temperatures are dependent upon the selected O-Ring material. Please refer to the product selection charts on pages 24, 26 & 30 to 32.

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Ex d Options

Options Table 3 77 (Ex d)

STANDARD SOLENOID OPTIONS TABLE 3 77 (Ex d)

Product Type	Solenoid Order Code	Typical Apparatus Code	Standard Voltage	Power Consumption (W)	CV Rate	Temperature Range (°C)	Ingress Protection	Cable Entry Connection	Certification Options
 FP06P	77	Ex d IIC T6, T5 or T4	12 Vdc 24 Vdc 48 Vdc 110 Vdc 110 Vac 240 Vac 50 or 60 Hz	3.5 (Manual Stayput) 5.7 6.5 3.0 (Manual Latch)	0.6 1.0 1.0 1.0	Media # -20°C to +90°C -55°C to +90°C Ambient -60°C to +40°C (T6) -60°C to +55°C (T5) -60°C to +90°C (T4)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 FP10P	77	Ex d IIC T6, T5 or T4	12 Vdc 24 Vdc 48 Vdc 110 Vdc 110 Vac 240 Vac 50 or 60 Hz	3.5 (Manual Stayput) 5.7 6.5 3.0 (Manual Latch)	0.6 1.0 1.0 1.0	Media # -20°C to +90°C -55°C to +90°C Ambient -60°C to +40°C (T6) -60°C to +55°C (T5) -60°C to +90°C (T4)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 FP12P	77	Ex d IIC T6, T5 or T4	12 Vdc 24 Vdc 48 Vdc 110 Vdc 110 Vac 240 Vac 50 or 60 Hz	6.5 (Manual Latch) 12.0	2.5	Media # -15°C to +90°C -30°C to +90°C Ambient -60°C to +40°C (T6) -60°C to +55°C (T5) -60°C to +90°C (T4)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 BXS	77	Ex d IIC T6, T5 or T4	12 Vdc 24 Vdc 48 Vdc 110 Vdc 110 Vac 240 Vac 50 or 60 Hz	1.8 3.0	0.73	Media # -15°C to +130°C -55°C to +130°C Ambient -60°C to +40°C (T6) -60°C to +55°C (T5) -60°C to +90°C (T4)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 SPR-08	77	Ex d IIC T6, T5 or T4	12 Vdc 24 Vdc 48 Vdc 110 Vdc 110 Vac 240 Vac 50 or 60 Hz	1.8 3.0	3.0	Media # -20°C to +100°C -60°C to +100°C Ambient -60°C to +40°C (T6) -60°C to +55°C (T5) -60°C to +90°C (T4)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	
 SPR-16	77	Ex d IIC T6, T5 or T4	12 Vdc 24 Vdc 48 Vdc 110 Vdc 110 Vac 240 Vac 50 or 60 Hz	1.8 3.0	11.1	Media # -20°C to +120°C -60°C to +90°C Ambient -60°C to +40°C (T6) -60°C to +55°C (T5) -60°C to +90°C (T4)	IP66 IP67 NEMA 4X	M20 x 1.5 (1/2" NPT Option)	

For detailed information on certification please see page 16.

Other wattages available upon request.

Permissible media operating temperatures are dependent upon the selected O-Ring material. Please refer to the product selection charts on pages 24, 26 & 28 to 36.

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Ex ia Options

Options Table 4 58 (Ex ia)

SLIMLINE SOLENOID OPTIONS TABLE 4 58 (Ex ia)								
Product Type	Solenoid Order Code	Typical Apparatus Code	Resistance (Ohms)	CV Rate	Temperature Range (°C)	Ingress Protection	Cable Entry Connection	Certification Options
 FP06P	58 †	Ex ia IIC T6	135	0.35	Media # -20°C to +90°C -55°C to +90°C Ambient -40°C to +60°C (T6)	IP66	M20 x 1.5	









For detailed information on certification, please see page 17.

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

Permissible media operating temperatures are dependent upon the selected O-Ring material. Please refer to the product selection chart on pages 25 & 27.

Ex ia Options

Options Table 5 28 & 78 (Ex ia)

STANDARD SOLENOID OPTIONS TABLE 5 28 & 78 (Ex ia)								
Product Type	Solenoid Order Code	Typical Apparatus Code	Resistance (Ohms)	CV Rate	Temperature Range (°C)	Ingress Protection	Cable Entry Connection	Certification Options
 BXS Aluminium Enclosure 316L Stainless Steel Body	28 †	Ex ia IIC T6 or T4	260	0.73	Media # -15°C to +130°C -55°C to +130°C Ambient -60°C to +60°C (T6) -60°C to +95°C (T4)	IP66	M20 x 1.5	
 BXS	78 †	Ex ia IIC T6 or T4	260	0.73	Media # -15°C to +130°C -55°C to +130°C Ambient -60°C to +60°C (T6) -60°C to +95°C (T4)	IP66	M20 x 1.5	
 SPR-08	78 †	Ex ia IIC T6 or T4	260	3.0	Media # -20°C to +95°C -60°C to +95°C Ambient -60°C to +60°C (T6) -60°C to +95°C (T4)	IP66	M20 x 1.5	
 SPR-16	78 †	Ex ia IIC T6 or T4	260	11.1	Media # -20°C to +120°C -60°C to +90°C Ambient -60°C to +60°C (T6) -60°C to +95°C (T4)	IP66	M20 x 1.5	

For detailed information on certification, please see pages 17 & 18.

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

Permissible media operating temperatures are dependent upon the selected O-Ring material. Please refer to the product selection charts on pages 30 to 36.

Safety Parameters: Type 58

U_i = 35V dc, I_i = 600 mA, P_i = 3W, C_i = 0 µF, L_i = 0 mH
Coil Resistance : 135 Ohm ± 5%
Minimum Current @ solenoid coil = 80 mA

Safety parameters applicable to table 4.

Safety Parameters: Type 28 & 78

U_i = 31V, I_i = 210 mA, P_i = 1.5W, C_i = 0 µF, L_i = 0 mH
Coil Resistance : 260 Ohm ± 5%
Minimum Current @ solenoid coil = 45 mA

Safety parameters applicable to table 5.

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FP06P 3/2 Standard Solenoid Valve Range Selection Chart

FP06P 3/2

For a dimensional drawing of this product please see page 38.



FP06P Selection Chart - Ordering Example

FP06P			Model Code
S1	145 psi / 10 bar Maximum Valve Pressure		Operator
S2	232 psi / 16 bar Maximum Valve Pressure (For AC Coils = 6.5 Watts)		
04	1/4" Body Ported (Stainless Steel)		Connections
A04	1/4" Body Ported (Aluminium) (Option only available with the type 27 Ex d solenoid)		
32	3 Way 2 Position		Valve Configuration
NU	Normally Universal (for the port connections table, please refer to page 19)		Valve Configuration
S	Nitrile	(-20°C to +130°C)	O-ring Material
SA	Nitrile (Low Temperature)	(-25°C to +130°C)	
V	Viton (standard)	(-20°C to +90°C)	
AL	Fluorosilicone	(-55°C to +90°C)	
XX	Refer to Solenoid options tables	74AT4 (Ex emb) Page 20 - Table 1 27 & 77 (Ex d) Pages 21 & 22 - Tables 2 & 3	Solenoid**
A	ATEX/IECEX	Dual Certified/Labelled	Solenoid Approval
G	GOST/IECEX	Dual Certified/Labelled	
I	INMETRO/IECEX	Dual Certified/Labelled	
N	NEPSI/IECEX	Dual Certified/Labelled	
U	CSA (US)/ATEX	Dual Certified/Labelled	
K	KTL/IECEX	Dual Certified/Labelled	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) Page 20 - Table 1 27 & 77 (Ex d) Pages 21 & 22 - Tables 2 & 3	Voltage
M	Electrical to switch or temporary manual override		Options
ML	Electrical and manual required to switch or temporary manual override (3.0 Watts Ex d only)		
MLT	Electrical and manual required to latch - tamperproof		
MOR	Electrical to switch or stayput manual override		
LE	Latched Energised (Only available as NU on S1 option, LE only available as NO, 6.5 Watts, Ex d (77) on S2 option)		
XX	Power (W)	74AT4 (Ex emb) 1.8, 3.6, 4.4 & 6.8 Watts Page 20 - Table 1 27 & 77 (Ex d) 3.0, 3.5, 5.7 & 6.5 Watts Pages 21 & 22 - Tables 2 & 3	Power
NO LETTER	M20 x 1.5 Cable Entry		Cable Entry
K85	1/2" NPT Cable Entry		
NO LETTER	NPT Ports		Option
K6	BSPP Ports		

FP06P-S1-04-32-NU - V - 77 A-24D-ML - 30-K85 - K6 Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.

For the shaded block sections, please refer to the same shaded sections on pages 20, 21 & 22.

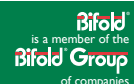
** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with Special Conditions for Safe Use as defined in EC Type Examination Certificate Sira01ATEX3248U.

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FP06P 3/2

For a dimensional drawing of this product please see page 38.



FP06P Selection Chart - Ordering Example

FP06P				Model Code
SI	145 psi / 10 bar Maximum Valve Pressure			Operator
04	1/4" Body Ported (Stainless Steel)			Connections
32	3 Way 2 Position			Valve Configuration
NU	Normally Universal (for the port connections table, please refer to page 19)			Valve Configuration
S	Nitrile	(-20°C to +130°C)	For maximum operating temperatures see 'T' Rating Limitations for Ex ia on page 23	O-ring Material
SA	Nitrile (Low Temperature)	(-25°C to +130°C)		
V	Viton (standard)	(-20°C to +90°C)		
AL	Flourosilicone	(-55°C to +90°C)		
XX	Refer to Solenoid options tables		58 (Ex ia) Page 23 - Table 4	Solenoid
A	ATEX/IECEX Dual Certified/Labelled		58 (Ex ia)	Solenoid Approval
G	EAC/IECEX Dual Certified/Labelled		✓	
I	INMETRO/IECEX Dual Certified/Labelled		✓	
N	NEPSI/IECEX Dual Certified/Labelled		✓	
U	CSA (US)/ATEX Dual Certified/Labelled		X	
K	KTL/IECEX Dual Certified/Labelled		X	
M	Electrical to switch or temporary manual override			Options
ML	Electrical and manual required to switch or temporary manual override			
XX	Resistance (Ω)	58 (Ex ia) - 135 Ohms	Page 23 - Table 4	Resistance †
NO LETTER	M20 x 1.5 Cable Entry			Cable Entry
K85	1/2" NPT Cable Entry			
NO LETTER	NPT Ports			Option
K6	BSPP Ports			

FP06P-SI-04-32-NU - V - 58 A - M - I35-K85 - K6 Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.

For the shaded block section, please refer to the same shaded section on page 23.

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

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FP06P 3/2 NAMUR

For a dimensional drawing of this product please see page 38.



FP06P NAMUR Selection Chart - Ordering Example

FP06P			Model Code
SI	145 psi / 10 bar Maximum Valve Pressure		Operator
N4	1/4" Body Ported Right Hand Feed (Stainless Steel)		Connections
AN4	1/4" Body Ported Right Hand Feed (Aluminium) (Option only available with the type 27 Ex d solenoid)		
NI4	1/4" Body Ported Left Hand Feed (Stainless Steel)		
ANI4	1/4" Body Ported Left Hand Feed (Aluminium) (Option only available with the type 27 Ex d solenoid)		
32	3 Way 2 Position		Valve Configuration
NC	Normally Closed (for the port connections table, please refer to page 19)		Valve Configuration
S	Nitrile	(-20°C to +130°C)	O-ring Material
SA	Nitrile (Low Temperature)	(-25°C to +130°C)	
V	Viton (standard)	(-20°C to +90°C)	
AL	Flourosilicone	(-55°C to +90°C)	
XX	Refer to Solenoid options tables	74AT4 (Ex emb) Page 20 - Table 1 (For the 74AT4 option only please go straight to voltage) 27 & 77 (Ex d) Pages 21 & 22 - Tables 2 & 3	Solenoid **
A	ATEX/IECEX Dual Certified/Labelled	74AT4 (Ex emb) ✓	Solenoid Approval
G	GOST/IECEX Dual Certified/Labelled	27 & 77 (Ex d) ✓ (77 Only)	
I	INMETRO/IECEX Dual Certified/Labelled	27 & 77 (Ex d) ✓ (77 Only)	
N	NEPSI/IECEX Dual Certified/Labelled	27 & 77 (Ex d) ✓	
U	CSA (US)/ATEX Dual Certified/Labelled	27 & 77 (Ex d) ✓ (77 Only)	
K	KTL/IECEX Dual Certified/Labelled	27 & 77 (Ex d) ✓ (77 Only)	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) Page 20 - Table 1 27 & 77 (Ex d) Pages 21 & 22 - Tables 2 & 3	Voltage
M	Electrical to switch or temporary manual override		Options
ML	Electrical and manual required to switch or temporary manual override (3.0 Watts Ex d only)		
MLT	Electrical and manual required to latch - tamperproof		
MOR	Electrical to switch or stayput manual override		
XX	Power (W)	74AT4 (Ex emb) 1.8, 3.6, 4.4 & 6.8 Watts Page 20 - Table 1 27 & 77 (Ex d) 3.0, 3.5, 5.7 & 6.5 Watts Pages 21 & 22 - Tables 2 & 3	Power
NO LETTER	M20 x 1.5 Cable Entry		Cable Entry
K85	1/2" NPT Cable Entry		
NO LETTER	NPT Ports		Option
K6	BSPP Ports		

FP06P-SI-NI4-32-NC - V - 77 A-24D-ML - 30-K85 - K6 Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.

For the shaded block sections, please refer to the same shaded sections on pages 20, 21 & 22.

** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with Special Conditions for Safe Use as defined in EC Type Examination Certificate Sira01ATEX3248U.

Note:

All valves are supplied with a full set of mounting option and 3/2 configuration option interface blocks as standard, please see page 45.

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FP06P 3/2 NAMUR

For a dimensional drawing of this product please see page 39.



FP06P NAMUR Selection Chart - Ordering Example

FP06P		Model Code
SI	145 psi / 10 bar Maximum Valve Pressure	Operator
N4	1/4" Body Ported Right Hand Feed (Stainless Steel)	Connections
NI4	1/4" Body Ported Left Hand Feed (Stainless Steel)	
32	3 Way 2 Position	Valve Configuration
NC	Normally Closed (for the port connections table, please refer to page 19)	Valve Configuration
S	Nitrile (-20°C to +130°C)	O-ring Material
SA	Nitrile (Low Temperature) (-25°C to +130°C)	
V	Viton (standard) (-20°C to +90°C)	
AL	Flourosilicone (-55°C to +90°C)	
XX Refer to Solenoid options tables 58 (Ex ia) Page 23 - Table 4		Solenoid
		58 (Ex ia)
A	ATEX/IECEX Dual Certified/Labelled	✓
G	EAC/IECEX Dual Certified/Labelled	✓
I	INMETRO/IECEX Dual Certified/Labelled	✓
N	NEPSI/IECEX Dual Certified/Labelled	✓
U	CSA (US)/ATEX Dual Certified/Labelled	X
K	KTL/IECEX Dual Certified/Labelled	X
M	Electrical to switch or temporary manual override	Options
ML	Electrical and manual required to switch or temporary manual override	
XX Resistance (Ω) 58 (Ex ia) - 135 Ohms Page 23 - Table 4		Resistance †
NO LETTER M20 x 1.5 Cable Entry		Cable Entry
K85 1/2" NPT Cable Entry		
NO LETTER NPT Ports		Option
K6 BSPP Ports		

FP06P-SI-NI4-32-NC - V - 58 A - ML-135-K85 - K6 Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.

For the shaded block section, please refer to the same shaded section on page 23.

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

Note:

All valves are supplied with a full set of mounting option and 3/2 configuration option interface blocks as standard, please see page 45.

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FPI0P 3/2 Standard Solenoid Valve Range Selection Chart

FPI0P 3/2

For a dimensional drawing of this product please see page 39.



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FPI0P Selection Chart - Ordering Example

FPI0P				Model Code
S1	145 psi / 10 bar Maximum Valve Pressure			Operator
S2	232 psi / 16 bar Maximum Valve Pressure (For AC Coils = 6.5 Watts)			
S3	508 psi / 35 bar Maximum Valve Pressure - 1/4" Body Ported option only, 'V' Viton seal option only, typically 0.4 CV			
04	1/4" Body Ported (Stainless Steel)			Connections
06	3/8" Body Ported (Stainless Steel)			
08	1/2" Body Ported (Stainless Steel)			
32	3 Way 2 Position			Valve Configuration
NU	Normally Universal	(for the port connections table, please refer to page 19)		Valve Configuration
S	Nitrile	(-20°C to +90°C)	For maximum operating	O-ring Material
SA	Nitrile (Low Temperature)	(-25°C to +130°C)	temperatures see 'T' Rating	
V	Viton (Standard)	(-20°C to +90°C)	Limitations for Ex emb	
AL	Fluorosilicone	(-55°C to +90°C)	& Ex d on pages 20 & 22	
XX	Refer to Solenoid options tables	74AT4 (Ex emb) 77 (Ex d)	Page 20 - Table 1 Page 22 - Table 3	Solenoid **
A	ATEX/IECEX	Dual Certified/Labelled	74AT4 (Ex emb) ✓ 77 (Ex d) ✓	Solenoid Approval
G	GOST/IECEX	Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓	
I	INMETRO/IECEX	Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓	
N	NEPSI/IECEX	Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓	
U	CSA (US)/ATEX	Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓	
K	KTL/IECEX	Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) 77 (Ex d)	Page 20 - Table 1 Page 22 - Table 3	Voltage
M	Electrical to switch or temporary manual override			Options
ML	Electrical and manual required to switch or temporary manual override (3.0 Watts Ex d only)			
MLT	Electrical and manual required to latch - tamperproof			
MOR	Electrical to switch or stayput manual override			
LE	Latched Energised (Only available as NU on S1 option, LE only available as NO, 6.5 Watts, Ex d (77) on S2 option)			
XX	Power (W)	74AT4(Ex emb) 77 (Ex d)	3.6, 4.4 & 6.8 Watts Page 20 - Table 1 3.0, 3.5, 5.7 & 6.5 Watts Page 22 - Table 3	Power
NO LETTER	M20 x 1.5 Cable Entry			Cable Entry
K85	1/2" NPT Cable Entry			
NO LETTER	NPT Ports			Option
K6	BSPF Ports			

FPI0P-S1-04-32-NU - V - 77 A - 24D-ML - 30-K85 - K6

Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information. For the shaded block sections, please refer to the same shaded sections on pages 20 & 22.

** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with special conditions for safe use as defined in EC Type Examination Certificate Sira01ATEX3248U.

Accuracy of information
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FPI2P 3/2

For a dimensional drawing of this product please see page 39.



FPI2P Selection Chart - Ordering Example

FPI2P		Model Code
SI	145 psi / 10 bar Maximum Valve Pressure	Operator
08	1/2" Body Ported (Stainless Steel)	Connections
32	3 Way 2 Position	Valve Configuration
NU	Normally Universal (for the port connections table, please refer to page 19)	Valve Configuration
S	Nitrile (-15°C to +90°C)	O-ring Material
SA	Nitrile (Low Temperature) (-25°C to +130°C)	
V	Viton (Standard) (-15°C to +90°C)	
AL	Fluorosilicone (-30°C to +90°C)	
XX	Refer to Solenoid options tables 77 (Ex d) Page 22 - Table 3	Solenoid
A	ATEX/IECEX Dual Certified/Labelled	Solenoid Approval
G	GOST/IECEX Dual Certified/Labelled	
I	INMETRO/IECEX Dual Certified/Labelled	
N	NEPSI/IECEX Dual Certified/Labelled	
U	CSA (US)/ATEX Dual Certified/Labelled	
K	KTL/IECEX Dual Certified/Labelled	
XXX	Voltage, refer to Solenoid option tables 77 (Ex d) Page 22 - Table 3	Voltage
M	Electrical to switch or temporary manual override	Options
ML	Electrical and manual required to switch or temporary manual override (6.5 Watts Ex d only)	
MLT	Electrical and manual required to latch - tamperproof	
MOR	Electrical to switch or stayput manual override	
XX	Power (W) 77 (Ex d) 6.5 & 12.0 Watts Page 22 - Table 3	Power
NO LETTER	M20 x 1.5 Cable Entry	Cable Entry
K85	1/2" NPT Cable Entry	
NO LETTER	NPT Ports	Option
K6	BSPP Ports	

FPI2P-SI-08-32-NU - V - 77 A - 24D-ML - I20-K85 - K6

Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information. For the shaded block sections, please refer to the same shaded sections on page 22.

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BXS 3/2 Standard Solenoid Valve Range Selection Chart

BXS-04 3/2

For a dimensional drawing of this product please see page 40.



BXS-04 Selection Chart - Ordering Example

BXS-04	1/4"		Model Code		
04	1/4" Body Ported (Stainless Steel)		Connections		
A04	1/4" Body Ported (Aluminium) (Option only available with the type 27 Ex d and type 28 Ex ia solenoids)				
E1	Auto Reset Internal Pilot		Primary Operator		
E3	Manual Override Internal Pilot (M)				
E5	Manual Reset Internal Pilot (ML)				
E13	Manual Reset Tamperproof Internal Pilot (MLT)				
E15	Manual Override Rotary Internal Pilot (MOR)				
22	2 Way 2 Position		Configuration		
32	3 Way 2 Position				
NC	Normally Closed	(for the port connections table, please refer to page 19)	Configuration		
NO	Normally Open				
00	Spring Return		Secondary Operator		
02	Spring Return + Plunger				
E1	Auto Reset Internal Pilot				
E3	Manual Override Internal Pilot (M)				
E5	Manual Reset Internal Pilot (ML)				
E13	Manual Reset Tamperproof Internal Pilot (MLT)				
E15	Manual Override Rotary Internal Pilot (MOR)				
SA	Nitrile (Low Temperature)	(-25°C to +130°C)	O-ring Material		
V	Viton (Standard)	(-15°C to +130°C)			
AL	Fluorosilicone	(-55°C to +130°C)			
XX	Refer to Solenoid options tables	74AT4 (Ex emb) 27 & 77 (Ex d) 28 & 78 (Ex ia)	Page 20 - Table 1 Pages 21 & 22 - Tables 2 & 3 Page 23 - Table 5		
A	ATEX/IECEX Dual Certified/Labelled	74AT4 (Ex emb)	27 & 77 (Ex d)	28 & 78 (Ex ia)	Solenoid Approval *
G	*GOST/EAC/IECEX Dual Certified/Labelled	x	✓ (77 Only)	✓	
I	INMETRO/IECEX Dual Certified/Labelled	x	✓ (77 Only)	✓ (78 Only)	
N	NEPSI/IECEX Dual Certified/Labelled	x	✓	✓	
U	CSA (US)/ATEX Dual Certified/Labelled	x	✓ (77 Only)	x	
K	KTL IECEX Dual Certified/Labelled	x	✓ (77 Only)	x	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) 27 & 77 (Ex d)	Page 20 - Table 1 Pages 21 & 22 - Tables 2 & 3	Voltage	
XX	Resistance (Ω)	28 & 78 (Ex ia) - 260 Ohms	Page 23 - Table 5	Resistance †	
XX	Power (W)	74AT4 (Ex emb) 27 & 77 (Ex d)	3.6 Watts Page 20 - Table 1 1.8 & 3.0 Watts Pages 21 & 22 - Tables 2 & 3	Power	
NO LETTER	M20 x 1.5 Cable Entry			Cable Entry	
K85	1/2" NPT Cable Entry				
LI42	Banjo Assembly			Option	
NO LETTER	NPT Ports - Block Before Bleed (BBB)			Options	
K6	BSPP Ports				
K54	Block After Bleed (BAB)				

BXS-04-04-E1-32-NC-00 - V - 77 A-24D - 18-K85-LI42-K54 Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.
 For the shaded block sections, please refer to the same shaded sections on pages 20, 21, 22 & 23.
 † Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.
 For further product options, please contact Bifold.
 * For details on specific approvals for Russian territories, please contact Bifold for more information.
 ** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with special conditions for safe use as defined in EC Type Examination Certificate Sira01ATEX3248U.

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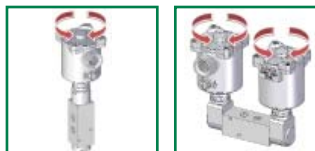
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BXS-04 5/2

For dimensional drawings of these products please see page 40.



BXS-04 Selection Chart - Ordering Example

BXS-04	1/4"			Model Code
04	1/4" Body Ported (Stainless Steel)			Connections
A04	1/4" Body Ported (Aluminium) (Option only available with the type 27 Ex d and type 28 Ex ia solenoids)			Connections
E1	Auto Reset Internal Pilot			Primary Operator
E3	Manual Override Internal Pilot (M)			
E5	Manual Reset Internal Pilot (ML)			
E13	Manual Reset Tamperproof Internal Pilot (MLT)			
E15	Manual Override Rotary Internal Pilot (MOR)			
52	5 Way 2 Position			Configuration
53	5 Way 3 Position			Configuration
XX	5/2 Valve			Configuration
YY	5/3 Valve All Ports Blocked	(for the port connections table,		
ZZ	5/3 Valve Cylinder Ports Vented	please refer to page 19)		
00	Spring Return			Secondary Operator
02	Spring Return + Plunger			
E1	Auto Reset Internal Pilot			Secondary Operator
E3	Manual Override Internal Pilot (M)			
E5	Manual Reset Internal Pilot (ML)			
E13	Manual Reset Tamperproof Internal Pilot (MLT)			
E15	Manual Override Rotary Internal Pilot (MOR)			
SA	Nitrile (Low Temperature)	(-25°C to +130°C)	For maximum operating temperatures see 'T' Rating Limitations for Ex emb, Ex d & Ex ia on pages 20, 21, 22 & 23	O-ring Material
V	Viton (Standard)	(-15°C to +130°C)		
AL	Fluorosilicone	(-55°C to +130°C)		
XX	Refer to Solenoid options table	74AT4 (Ex emb) 27 & 77 (Ex d) 28 & 78 (Ex ia)	Page 20 - Table 1 Pages 21 & 22 - Tables 2 & 3 Page 23 - Table 5	Solenoid **
A	ATEX/IECEx Dual Certified/Labelled		74AT4 (Ex emb) ✓ 27 & 77 (Ex d) ✓ 28 & 78 (Ex ia) ✓	Solenoid Approval *
G	*GOST/EAC/IECEx Dual Certified/Labelled		74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ (77 Only) 28 & 78 (Ex ia) ✓	
I	INMETRO/IECEx Dual Certified/Labelled		74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ (77 Only) 28 & 78 (Ex ia) ✓ (78 Only)	
N	NEPSI/IECEx Dual Certified/Labelled		74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ 28 & 78 (Ex ia) ✓	
U	CSA (US)/ATEX Dual Certified/Labelled		74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ (77 Only) 28 & 78 (Ex ia) x	
K	KTL IECEx Dual Certified/Labelled		74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ (77 Only) 28 & 78 (Ex ia) x	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) 27 & 77 (Ex d)	Page 20 - Table 1 Pages 21 & 22 - Tables 2 & 3	Voltage
XX	Resistance (Ω)	28 & 78 (Ex ia) - 260 Ohms	Page 23 - Table 5	Resistance †
XX	Power (W)	74AT4 (Ex emb) 27 & 77 (Ex d)	3.6 Watts Page 20 - Table 1 1.8 & 3.0 Watts Pages 21 & 22 - Tables 2 & 3	Power
NO LETTER	M20 x 1.5 Cable Entry			Cable Entry
K85	1/2" NPT Cable Entry			
L142	Banjo Assembly			Option
NO LETTER	NPT Ports - Block Before Bleed (BBB)			Options
K6	BSPP Ports			
K54	Block After Bleed (BAB)			

BXS-04-04-E1-52-XX-00-V - 77 A-24D-18 - K85-L142-K54 Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.
 For the shaded block sections, please refer to the same shaded sections on pages 20, 21, 22 & 23.
 † Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system. For further product options, please contact Bifold.
 * For details on specific approvals for Russian territories, please contact Bifold for more information.
 ** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with special conditions for safe use as defined in EC Type Examination Certificate Sira01ATEX3248U.

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BXS 5/2 Standard Solenoid Valve Range with NAMUR Mount Selection Chart

BXS-04 5/2 NAMUR

For a dimensional drawing of this product please see page 41.



BXS-04 Selection Chart - Ordering Example

BXS-04	1/4"		Model Code
N4	1/4" Body Ported NAMUR Mount (Stainless Steel)		Connections
AN4	1/4" Body Ported NAMUR Mount (Aluminium)(Option only available with the type 27 Ex d and type 28 Ex ia solenoids)		
E1	Auto Reset Internal Pilot		Primary Operator
E3	Manual Override Internal Pilot (M)		
E5	Manual Reset Internal Pilot (ML)		
E13	Manual Reset Tamperproof Internal Pilot (MLT)		
E15	Manual Override Rotary Internal Pilot (MOR)		
52	5 Way 2 Position		Configuration
53	5 Way 3 Position		
XX	5/2 Valve		Configuration
YY	5/3 Valve All Ports Blocked	(for the port connections table, please refer to page 19)	
ZZ	5/3 Valve Cylinder Ports Vented		
00	Spring Return		Secondary Operator
02	Spring Return + Plunger		
E1	Auto Reset Internal Pilot		
E3	Manual Override Internal Pilot (M)		
E5	Manual Reset Internal Pilot (ML)		
E13	Manual Reset Tamperproof Internal Pilot (MLT)		O-ring Material
E15	Manual Override Rotary Internal Pilot (MOR)		
SA	Nitrile (Low Temperature) (-25°C to +130°C)	For maximum operating temperatures see 'T' Rating Limitations for Ex emb, Ex d & Ex ia on pages 20, 21, 22 & 23	
V	Viton (Standard) (-15°C to +130°C)		
AL	Fluorosilicone (-55°C to +130°C)		
XX	Refer to Solenoid options tables	74AT4 (Ex emb) Page 20 - Table 1 27 & 77 (Ex d) Pages 21 & 22 - Tables 2 & 3 28 & 78 (Ex ia) Page 23 - Table 5	Solenoid **
A	ATEX/IECEX Dual Certified/Labelled	74AT4 (Ex emb) ✓ 27 & 77 (Ex d) ✓ 28 & 78 (Ex ia) ✓	Solenoid Approval *
G	*GOST/EAC/IECEX Dual Certified/Labelled	74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ (77 Only) 28 & 78 (Ex ia) ✓	
I	INMETRO/IECEX Dual Certified/Labelled	74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ (77 Only) 28 & 78 (Ex ia) ✓ (78 Only)	
N	NEPS/IECEX Dual Certified/Labelled	74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ 28 & 78 (Ex ia) ✓	
U	CSA (US)/ATEX Dual Certified/Labelled	74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ (77 Only) 28 & 78 (Ex ia) x	
K	KTL IECEX Dual Certified/Labelled	74AT4 (Ex emb) x 27 & 77 (Ex d) ✓ (77 Only) 28 & 78 (Ex ia) x	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) Page 20 - Table 1 27 & 77 (Ex d) Pages 21 & 22 - Tables 2 & 3	Voltage
XX	Resistance (Ω)	28 & 78 (Ex ia) - 260 Ohms Page 23- Table 5	Resistance †
XX	Power (W)	74AT4 (Ex emb) 3.6 Watts Page 20 - Table 1 27 & 77 (Ex d) 1.8 & 3.0 Watts Pages 21 & 22 - Tables 2 & 3	Power
NO LETTER	M20 x 1.5 Cable Entry		Cable Entry
K85	1/2" NPT Cable Entry		
L142	Banjo Assembly		Option
NO LETTER	NPT Ports - Block Before Bleed (BBB)		Options
K6	BSPF Ports		
K54	Block After Bleed (BAB)		

BXS-04- N4-E1-52-XX-00-V - 77 A - 24D-18-K85-L142-K54 Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.

For the shaded block sections, please refer to the same shaded sections on pages 20, 21, 22 & 23.

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.

For further product options, please contact Bifold.

* For details on specific approvals for Russian territories, please contact Bifold for more information.

** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with special conditions for safe use as defined in EC Type Examination Certificate Sira01ATEX3248U.

Note:

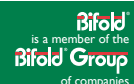
All valves are supplied with a full set of mounting option and 3/2 configuration option interface blocks as standard, please see page 45.

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SPR-08 3/2

For dimensional drawing of this product please see page 41.



SPR-08 Selection Chart - Ordering Example

SPR-08	1/2"		Model Code
04	1/4" Body Ported (Stainless Steel)		Ports
06	3/8" Body Ported (Stainless Steel)		
08	1/2" Body Ported (Stainless Steel)		
E1	Auto Reset Internal Pilot		Primary Operator
E3	Manual Override Internal Pilot (M)		
E5	Manual Reset Internal Pilot (ML)		
E13	Manual Reset Tamperproof Internal Pilot (MLT)		
E15	Manual Override Rotary Internal Pilot (MOR)		
32	3 Way 2 Position		Configuration
NC	Normally Closed	(for the port connections table, please refer to page 19)	Configuration
NO	Normally Open		
00	Spring Return		Secondary Operator
02	Spring Return + Plunger		
E1	Auto Reset Internal Pilot		
E3	Manual Override Internal Pilot (M)		
E5	Manual Reset Internal Pilot (ML)		
E13	Manual Reset Tamperproof Internal Pilot (MLT)		O-ring Material
E15	Manual Override Rotary Internal Pilot (MOR)		
SA	Nitrile (Low Temperature) (-25°C to +130°C)	For maximum operating temperatures see 'T' Rating Limitations for Ex emb, Ex d & Ex ia on pages 20, 22 & 23	
V	Viton (Standard) (-20°C to +100°C)		
AL	Fluorosilicone (-60°C to +100°C)		
XX	Refer to Solenoid options tables	74AT4 (Ex emb) Page 20 - Table 1 77 (Ex d) Page 22 - Table 3 78 (Ex ia) Page 23 - Table 5	Solenoid **
A	ATEX/IECEX Dual Certified/Labelled	74AT4 (Ex emb) ✓ 77 (Ex d) ✓ 78 (Ex ia) ✓	Solenoid Approval *
G	*GOST/EAC/IECEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) ✓	
I	INMETRO/IECEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) ✓	
N	NEPSI/IECEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) ✓	
U	CSA (US)/ATEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) X	
K	KTL IECEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) X	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) Page 20 - Table 1 77 (Ex d) Page 22 - Table 3	Voltage
XX	Resistance (Ω)	78 (Ex ia) - 260 Ohms Page 23 - Table 5	Resistance †
XX	Power (W)	74AT4 (Ex emb) 3.6 Watts Page 20 - Table 1 77 (Ex d) 1.8 & 3.0 Watts Page 22 - Table 3	Power
NO LETTER	M20 x 1.5 Cable Entry		Cable Entry
K85	1/2" NPT Cable Entry		
NO LETTER	NPT Ports - Block Before Bleed (BBB)		Option
K6	BSPF Ports		

SPR-08-08-E1-32-NC-00 - V - 77 A - 24D-18-K85 - K6

Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.

For the shaded block sections, please refer to the same shaded sections on pages 20, 22 & 23.

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system. For further product options, please contact Bifold.

* For details on specific approvals for Russian territories, please contact Bifold for more information.

** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with special conditions for safe use as defined in EC Type Examination Certificate Sira01ATEX3248U.

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SPR 5/2 Standard Solenoid Valve Range Selection Chart

SPR-08 5/2

For a dimensional drawing of this product please see page 41.



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SPR-08 Selection Chart - Ordering Example

SPR-08	1/2"		Model Code
04	1/4" Body Ported (Stainless Steel)		Ports
06	3/8" Body Ported (Stainless Steel)		
08	1/2" Body Ported (Stainless Steel)		
E1	Auto Reset Internal Pilot		Primary Operator
E3	Manual Override Internal Pilot (M)		
E5	Manual Reset Internal Pilot (ML)		
E13	Manual Reset Tamperproof Internal Pilot (MLT)		
E15	Manual Override Rotary Internal Pilot (MOR)		
52	5 Way 2 Position		Configuration
XX	5/2 Valve	(for the port connections table, please refer to page 19)	Configuration
00	Spring Return		Secondary Operator
02	Spring Return + Plunger		
E1	Auto Reset Internal Pilot		
E3	Manual Override Internal Pilot (M)		
E5	Manual Reset Internal Pilot (ML)		
E13	Manual Reset Tamperproof Internal Pilot (MLT)		
E15	Manual Override Rotary Internal Pilot (MOR)		
SA	Nitrile (Low Temperature)	(-25°C to +130°C)	O-ring Material
V	Viton (Standard)	(-20°C to +100°C)	
AL	Fluorosilicone	(-60°C to +100°C)	
XX	Refer to	74AT4 (Ex emb) Page 20 - Table 1	Solenoid **
	Solenoid options tables	(For the 74AT4 option only please go straight to voltage) Page 22 - Table 3	
		77 (Ex d) Page 22 - Table 3	
		78 (Ex ia) Page 23 - Table 5	
A	ATEX/IECEX Dual Certified/Labelled	74AT4 (Ex emb) ✓	Solenoid Approval *
G	*GOST/EAC/IECEX Dual Certified/Labelled	77 (Ex d) ✓	
I	INMETRO/IECEX Dual Certified/Labelled	78 (Ex ia) ✓	
N	NEPSI/IECEX Dual Certified/Labelled	74AT4 (Ex emb) X	
U	CSA (US)/ATEX Dual Certified/Labelled	77 (Ex d) X	
K	KTL IECEx Dual Certified/Labelled	78 (Ex ia) X	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) Page 20 - Table 1	Voltage
		77 (Ex d) Page 22 - Table 3	
XX	Resistance (Ω)	78 (Ex ia) - 260 Ohms Page 23 - Table 5	Resistance †
XX	Power (W)	74AT4 (Ex emb) 3.6 Watts Page 20 - Table 1	Power
		77 (Ex d) 1.8 & 3.0 Watts Page 22 - Table 3	
NO LETTER	M20 x 1.5 Cable Entry		Cable Entry
K85	1/2" NPT Cable Entry		
NO LETTER	NPT Ports - Block Before Bleed (BBB)		Option
K6	BSPF Ports		
SPR-08-08-E1-52-XX-00 - V - 77 A-24D - 18-K85 - K6			Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.

For the shaded block sections, please refer to the same shaded sections on pages 20, 22 & 23.

† Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system. For further product options, please contact Bifold.

* For details on specific approvals for Russian territories, please contact Bifold for more information.

** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with special conditions for safe use as defined in EC Type Examination Certificate Sira01ATEX3248U.

Accuracy of information
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SPR-16 3/2

For a dimensional drawing of this product please see page 42.



SPR-16 Selection Chart - Ordering Example

SPR-16		1"	Model Code
12	16	3/4" Body Ported (Stainless Steel) 1" Body Ported (Stainless Steel)	Ports
E2	Auto Reset External Pilot		Primary Operator
E4	Manual Override External Pilot (M)		
E6	Manual Reset External Pilot (ML)		
E14	Manual Reset Tamperproof External Pilot (MLT)		
E16	Manual Override Rotary External Pilot (MOR)		
32	3 Way 2 Position		Configuration
NU	Normally Universal (for the port connections table, please refer to page 19)		Configuration
00	Spring Return		Secondary Operator
E2	Auto Reset External Pilot		
E4	Manual Override External Pilot (M)		
E6	Manual Reset External Pilot (ML)		
E14	Manual Reset Tamperproof External Pilot (MLT)		
E16	Manual Override Rotary External Pilot (MOR)		
SA	Nitrile (Low Temperature)	(-25°C to +130°C)	O-ring Material
V	Viton (Standard)	(-20°C to +120°C)	
AL	Fluorosilicone	(-60°C to +90°C)	
XX	Refer to Solenoid options tables	74AT4 (Ex emb) Page 20 - Table 1 77 (Ex d) Page 22 - Table 3 78 (Ex ia) Page 23 - Table 5	Solenoid **
A	ATEX/IECEX Dual Certified/Labelled	74AT4 (Ex emb) ✓ 77 (Ex d) ✓ 78 (Ex ia) ✓	Solenoid Approval *
G	*GOST/EAC/IECEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) ✓	
I	INMETRO/IECEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) ✓	
N	NEPSI/IECEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) ✓	
U	CSA (US)/ATEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) X	
K	KTL IECEX Dual Certified/Labelled	74AT4 (Ex emb) X 77 (Ex d) ✓ 78 (Ex ia) X	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) Page 20 - Table 1 77 (Ex d) Page 22 - Table 3	Voltage
XX	Resistance (Ω)	78 (Ex ia) - 260 Ohms Page 23 - Table 5	Resistance †
XX	Power (W)	74AT4 (Ex emb) 3.6 Watts Page 20 - Table 1 77 (Ex d) 1.8 & 3.0 Watts Page 22 - Table 3	Power
NO LETTER	M20 x 1.5 Cable Entry		Cable Entry
K85	1/2" NPT Cable Entry		
NO LETTER	NPT Ports - Block Before Bleed (BBB)		Option
K6	BSPF Ports		

SPR-16-16-E2-32-NU-00 - V - 77 A - 24D-18-K85 - K6 Ordering Example

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.
 For the shaded block sections, please refer to the same shaded sections on pages 20, 22 & 23.
 † Solenoid must be used in conjunction with a correctly matched Intrinsically Safe (IS) solenoid driver. The valve installer is responsible for a correct and safe IS system.
 For further product options, please contact Bifold.
 * For details on specific approvals for Russian territories, please contact Bifold for more information.
 ** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with special conditions for safe use as defined in EC Type Examination Certificate Sira01ATEX3248U.

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SPR 5/2 Standard Solenoid Valve Range Selection Chart

SPR-16 5/2

For a dimensional drawing of this product please see page 42.



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SPR-16 Selection Chart - Ordering Example

SPR-16	1"		Model Code		
12	3/4" Body Ported (Stainless Steel)		Ports		
16	1" Body Ported (Stainless Steel)				
E2	Auto Reset External Pilot		Primary Operator		
E4	Manual Override External Pilot (M)				
E6	Manual Reset External Pilot (ML)				
E14	Manual Reset Tamperproof External Pilot (MLT)				
E16	Manual Override Rotary External Pilot (MOR)				
P1	Air Pilot (Standard)		Configuration		
P6	Low Pressure Pilot				
P16	Pilot (No Equaliser)				
52	5 Way 2 Position		Configuration		
XX	5/2 Valve	(for the port connections table, please refer to page 19)	Configuration		
00	Spring Return		Secondary Operator		
E2	Auto Reset External Pilot				
E4	Manual Override External Pilot (M)				
E6	Manual Reset External Pilot (ML)				
E14	Manual Reset Tamperproof External Pilot (MLT)				
E16	Manual Override Rotary External Pilot (MOR)				
P1	Air Pilot (Standard)		O-ring Material		
P6	Low Pressure Pilot				
P16	Pilot (No Equaliser)				
SA	Nitrile (Low Temperature)	(-25°C to +130°C)	For maximum operating temperatures see 'T' Rating Limitations for Ex emb, Ex d & Ex ia on pages 20, 22 & 23		
V	Viton (Standard)	(-20°C to +120°C)			
AL	Fluorosilicone	(-60°C to +90°C)			
XX	Refer to Solenoid options tables	74AT4 (Ex emb) Page 20 - Table 1 77 (Ex d) Page 22 - Table 3 78 (Ex ia) Page 23 - Table 5	Solenoid **		
A	ATEX/IECEX Dual Certified/Labelled	✓	✓	✓	Solenoid Approval *
G	*GOST/EAC/IECEX Dual Certified/Labelled	X	✓	✓	
I	INMETRO/IECEX Dual Certified/Labelled	X	✓	✓	
N	NEPSI/IECEX Dual Certified/Labelled	X	✓	✓	
U	CSA (US)/ATEX Dual Certified/Labelled	X	✓	X	
K	KTL IECEX Dual Certified/Labelled	X	✓	X	
XXX	Voltage, refer to Solenoid option tables	74AT4 (Ex emb) Page 20 - Table 1 77 (Ex d) Page 22 - Table 3	Voltage		
XX	Resistance (Ω)	78 (Ex ia) - 260 Ohms Page 23 - Table 5	Resistance †		
XX	Power (W)	74AT4 (Ex emb) 3.6 Watts Page 20 - Table 1 77 (Ex d) 1.8 & 3.0 Watts Page 22 - Table 3	Power		
NO LETTER	M20 x 1.5 Cable Entry	Cable Entry			
K85	1/2" NPT Cable Entry	Cable Entry			
NO LETTER	NPT Ports - Block Before Bleed (BBB)	Option			
K6	BSPF Ports	Option			
SPR-16-16-E2-52-XX-00 - V - 77 A - 24D-18-K85-K6				Ordering Example	

Bespoke configured datasheets are available for specific model numbers, please contact Bifold for more information.

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For further product options, please contact Bifold.

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** Special conditions for safe use Type 74AT4 - The supply circuit shall be fitted with a fuse capable of meeting a 1500 Amp short circuit current. Must be compliant with special conditions for safe use as defined in EC Type Examination Certificate Sira01ATEX3248U.

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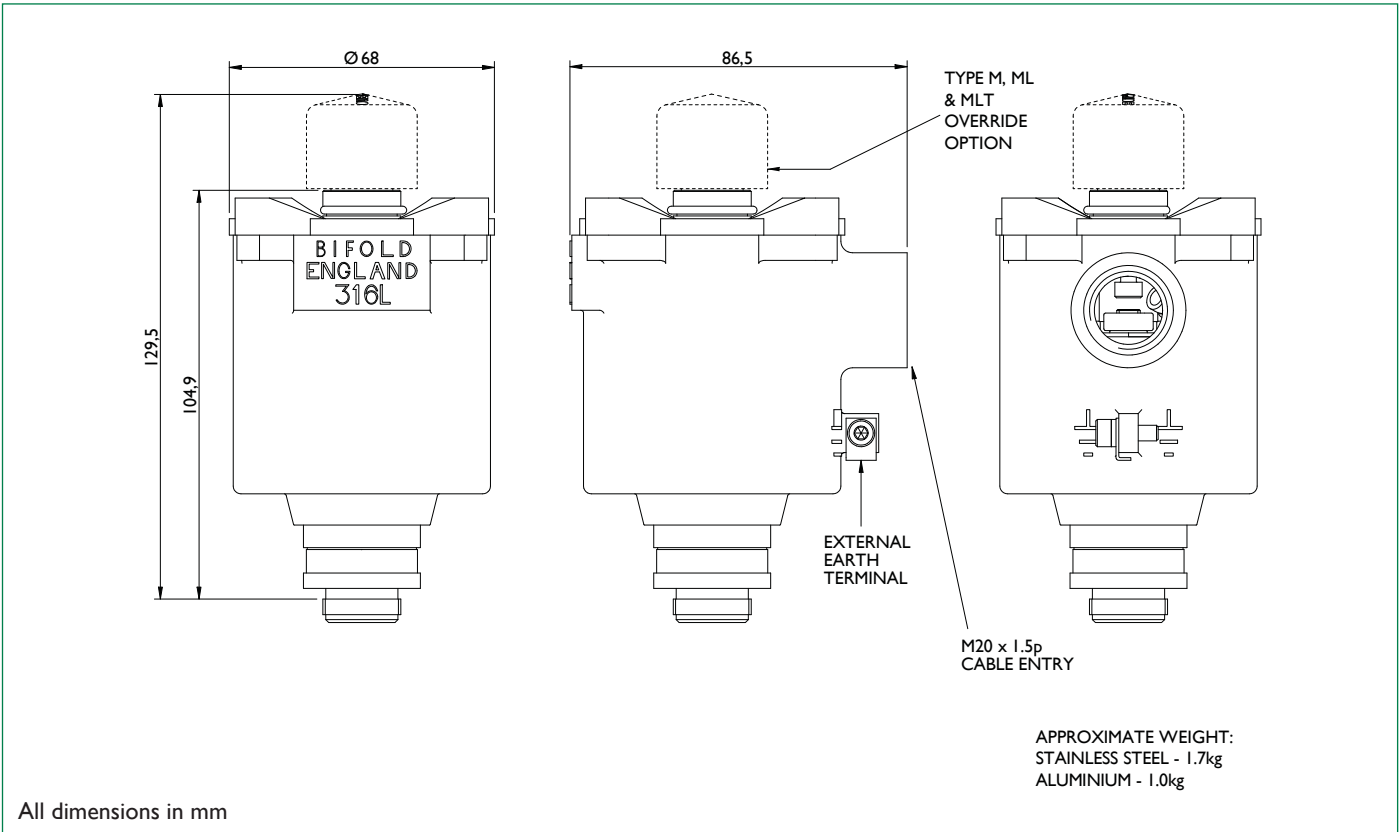
Quality Assurance
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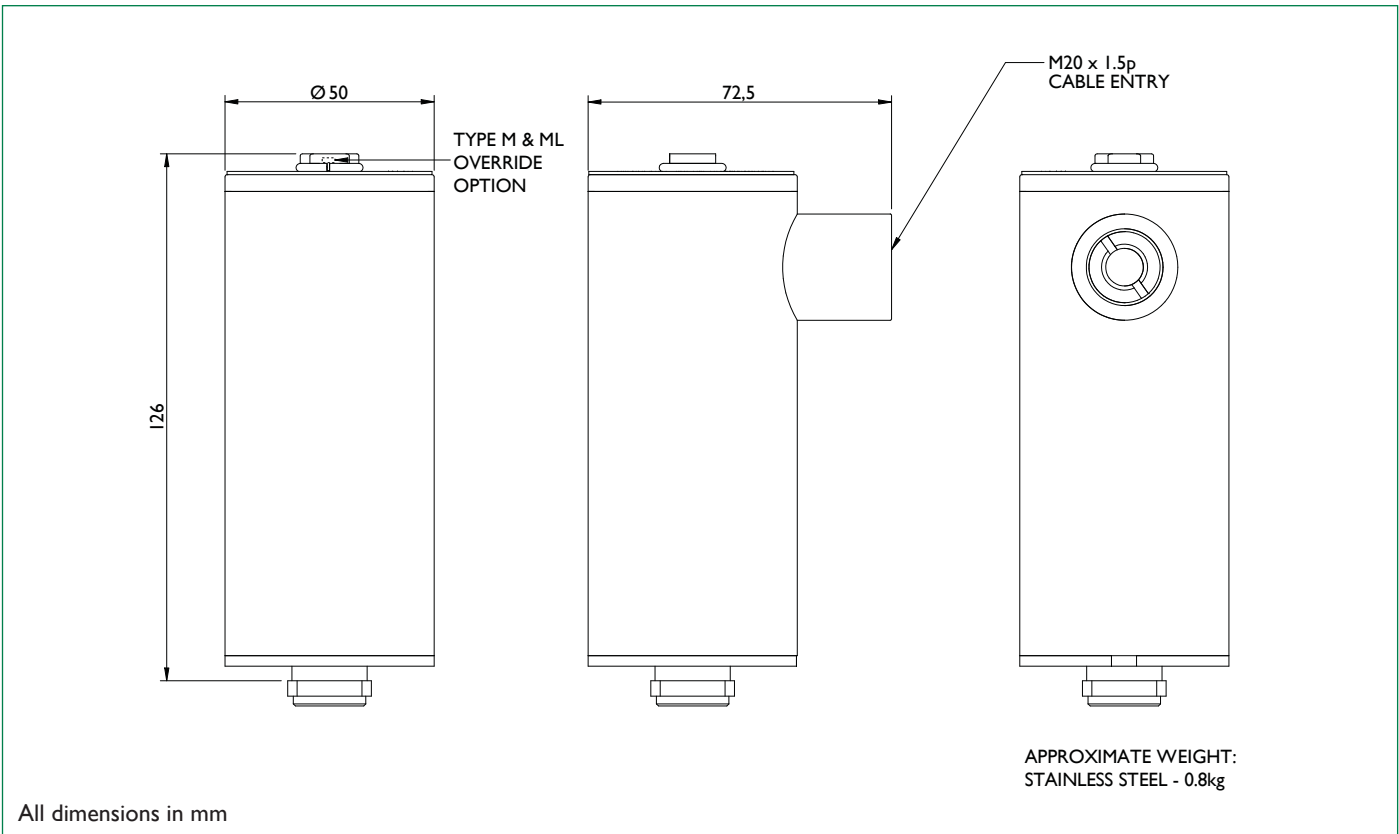
Dimensional Drawings

2 & 7 Series Standard Solenoid Enclosure (Ex emb & Ex d)



All dimensions in mm

5 Series Slimline solenoid Enclosure (Ex ia)



All dimensions in mm

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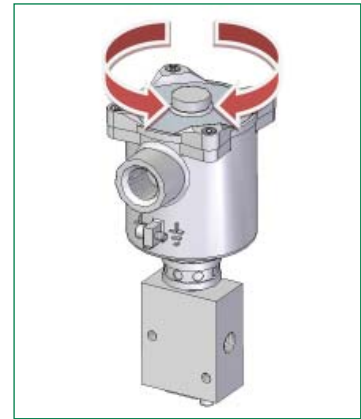
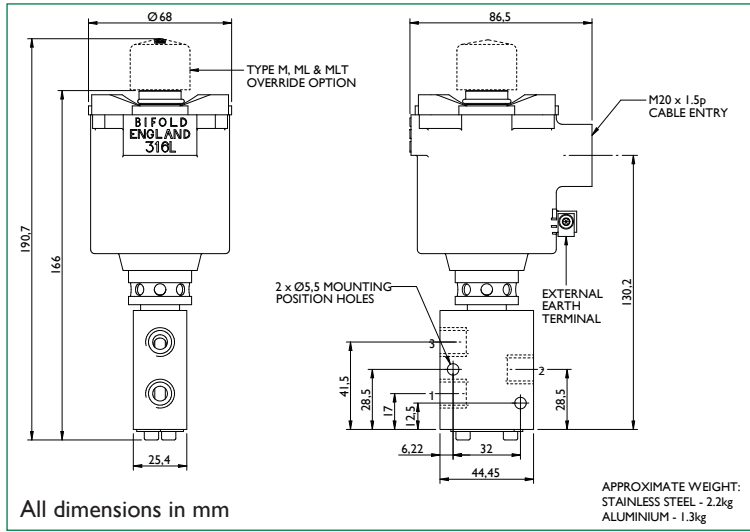
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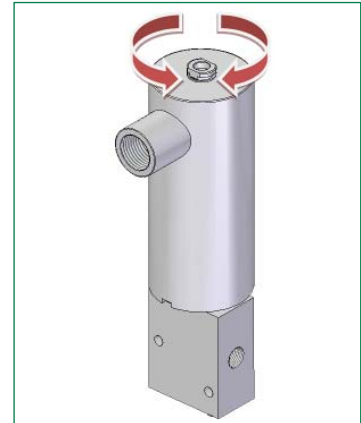
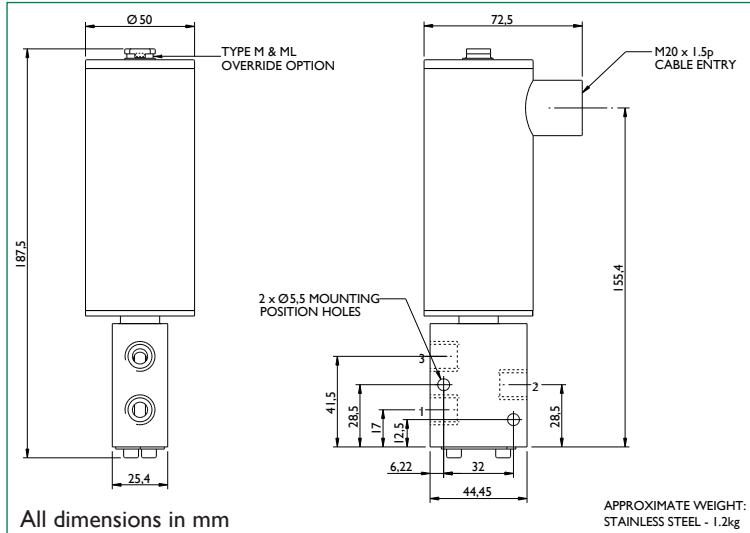
Dimensional Drawings

Example Code - FP06P-SI-04-32-NU-V-74AT4-24D-36



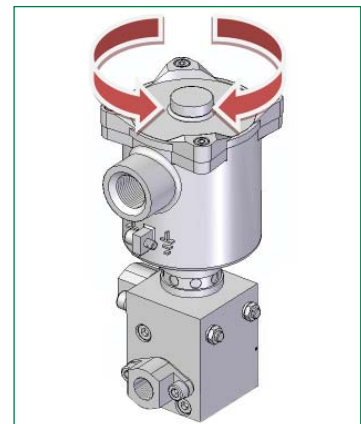
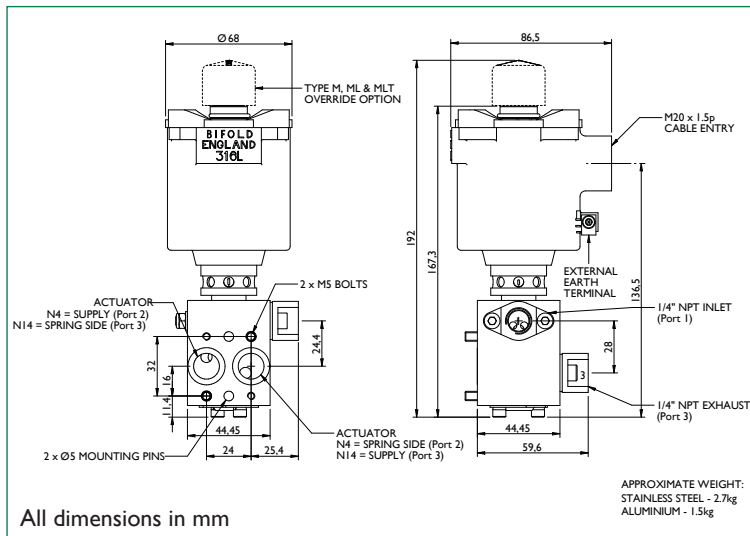
FP06P
Auto Reset

Example Code - FP06P-SI-04-32-NU-V-58A-135



FP06P
Auto Reset

Example Code - FP06P-SI-NI4-32-NC-V-74AT4-24D-36



FP06P
Namur Mount Auto Reset
Left Hand Feed

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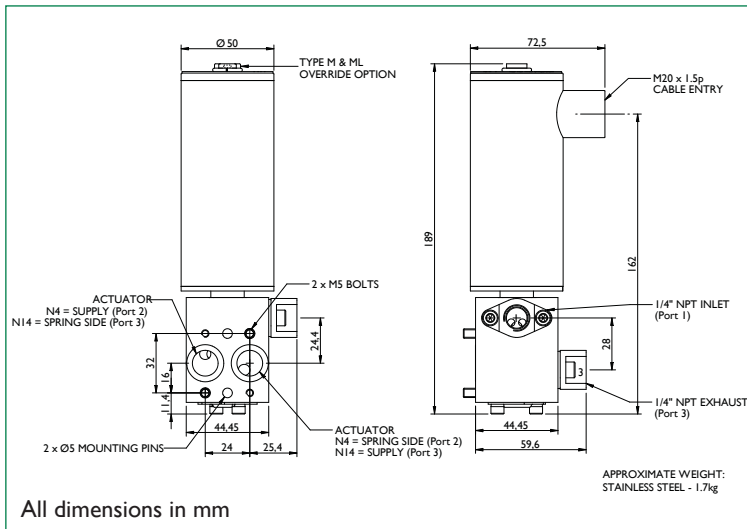
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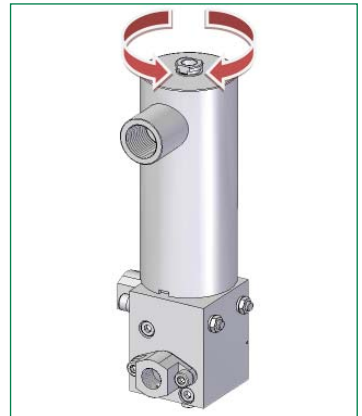
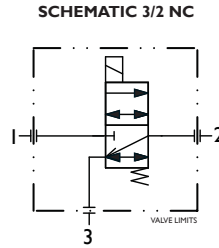
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Dimensional Drawings

Example Code - FP06P-SI-N4-32-NC-V-58A-I35

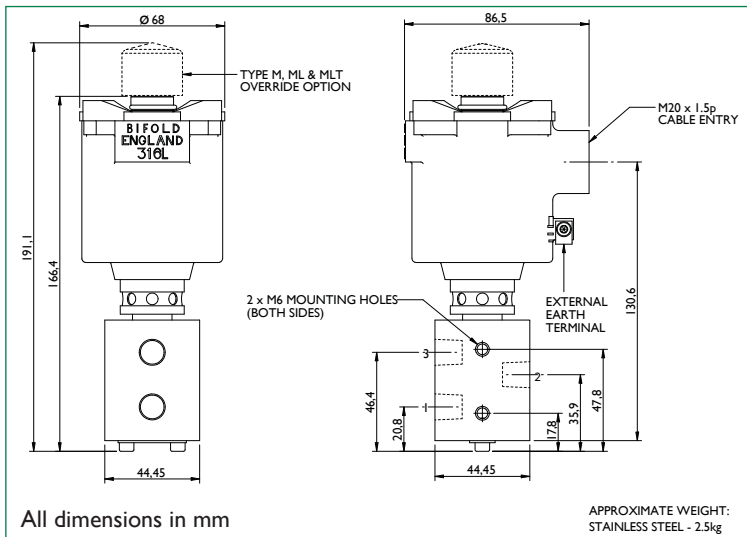


All dimensions in mm

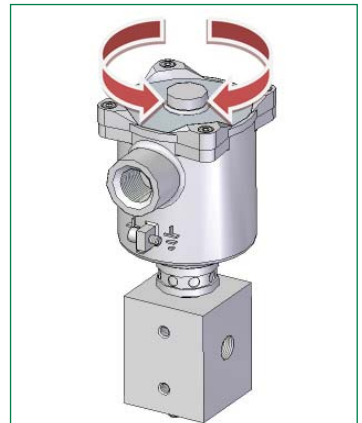
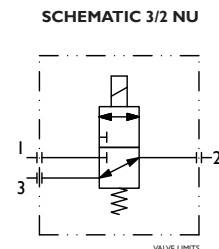


FP06P
NAMUR Mount Auto Reset
Right Hand Feed

Example Code - FPI0P-SI-04-32-NU-V-74AT4-24D-36

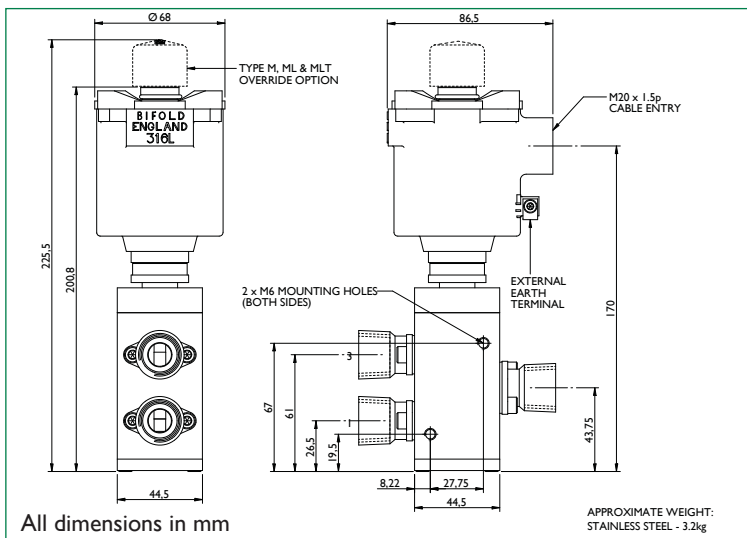


All dimensions in mm

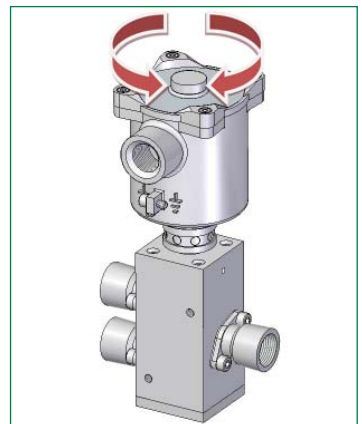
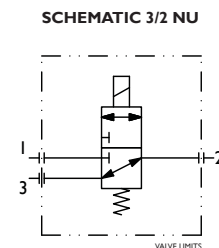


FPI0P
Auto Reset

Example Code - FPI2P-SI-08-32-NU-V-77A-24D-120



All dimensions in mm



FPI2P
Auto Reset

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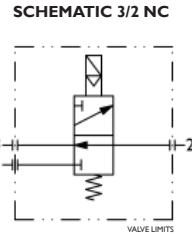
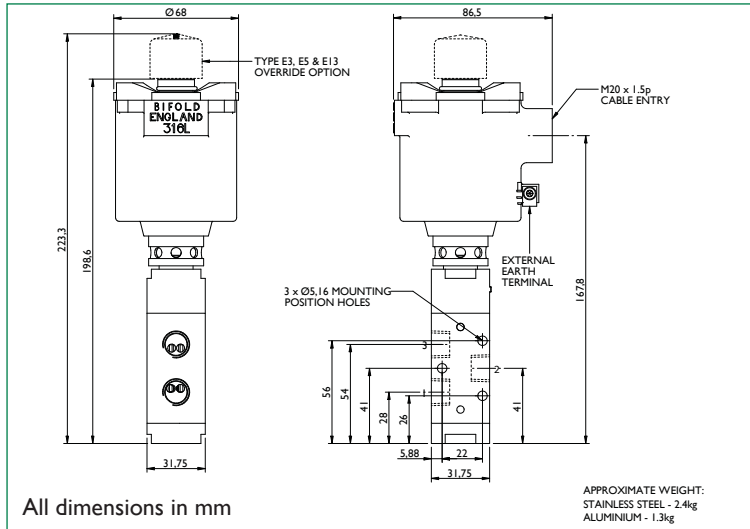
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Dimensional Drawings

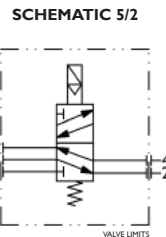
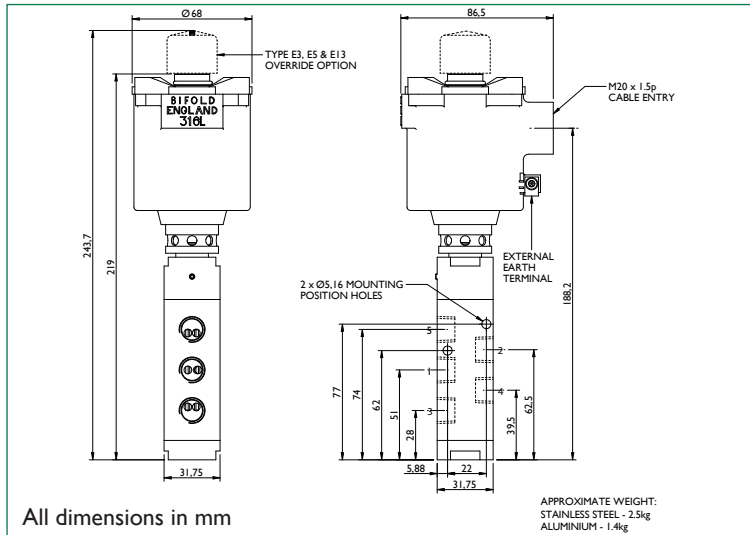


Example Code - BXS-04-04-EI-32-NC-00-V-74AT4-24D-36



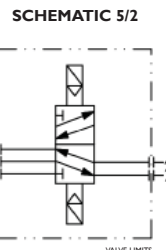
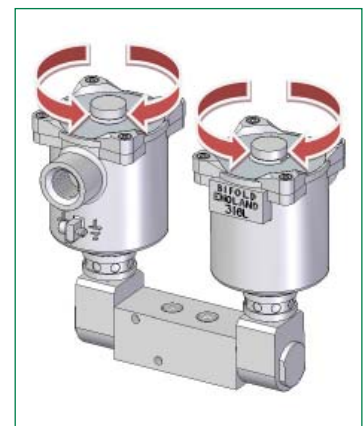
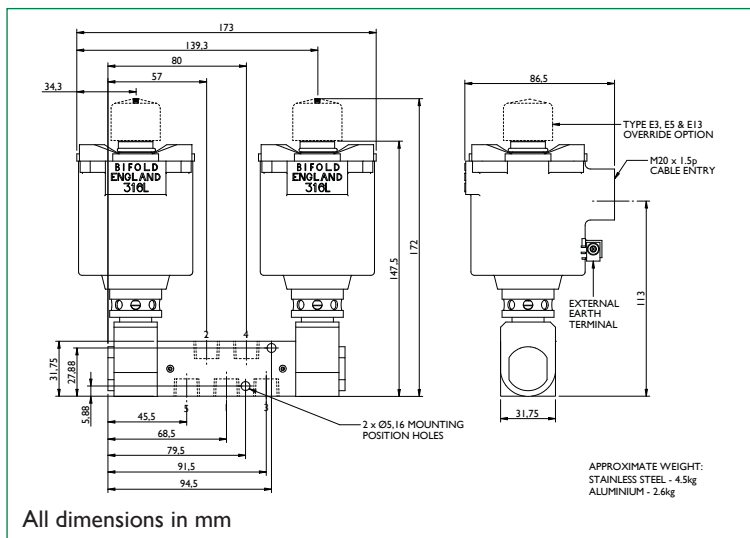
BXS
Auto Reset Internal Pilot

Example Code - BXS-04-04-EI-52-XX-00-V-74AT4-24D-36



BXS
Auto Reset Internal Pilot

Example Code - BXS-04-04-EI-52-XX-EI-V-74AT4-24D-36-LI42



BXS
Banjo Joint Auto Reset Internal Pilot

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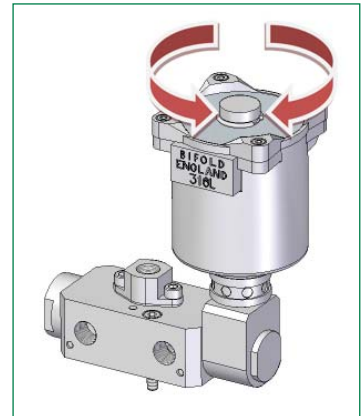
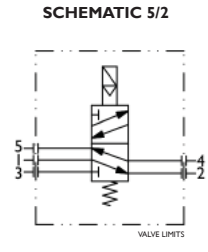
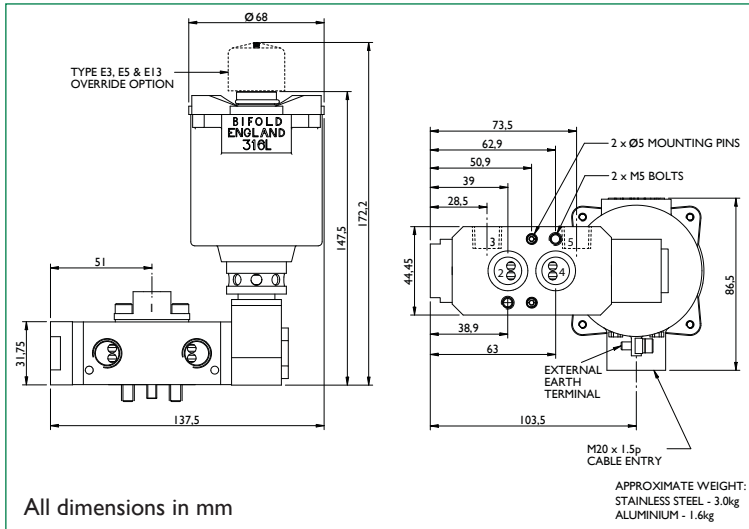
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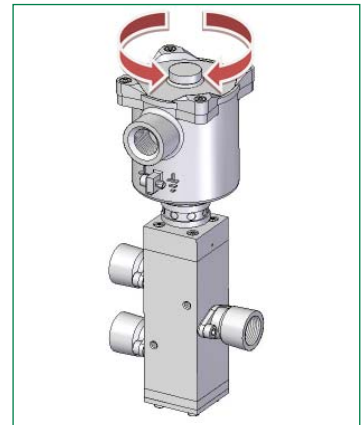
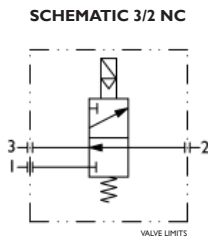
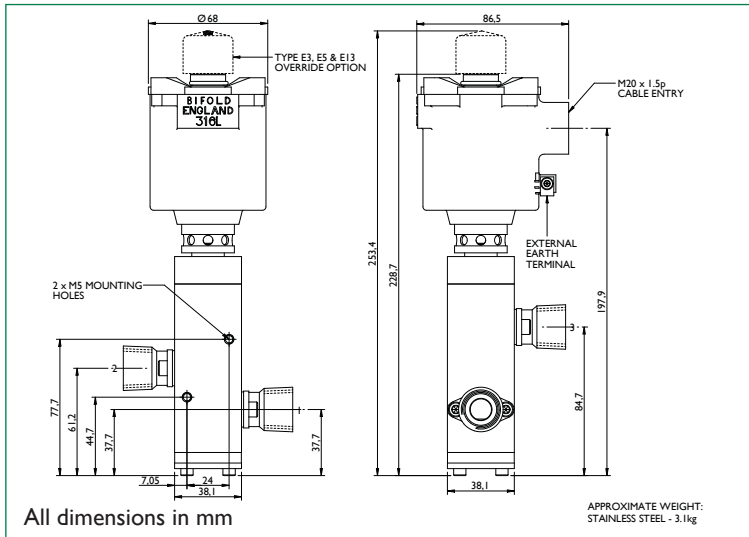
Dimensional Drawings

Example Code - BXS-04-N4-EI-52-XX-00-V-74AT4-24D-36-LI42



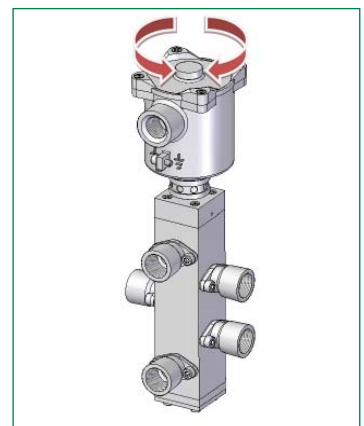
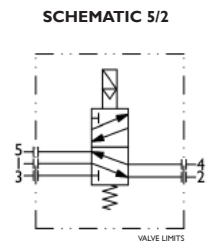
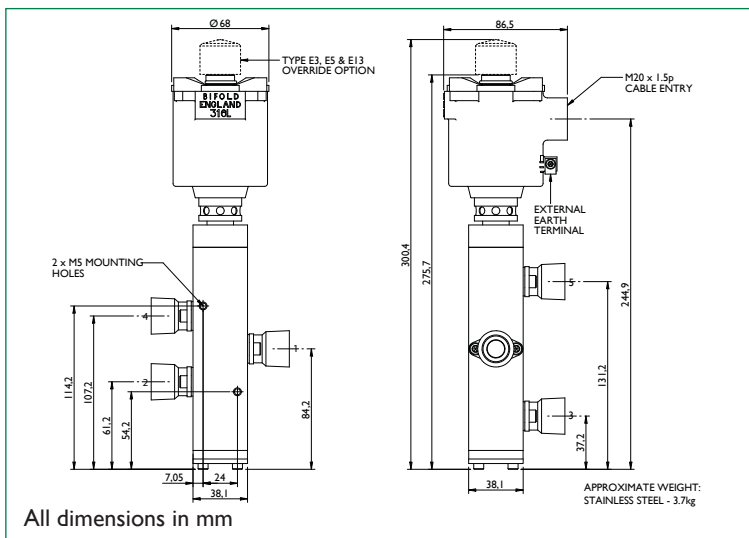
BXS
NAMUR Mount Banjo Joint
Auto Reset Internal Pilot

Example Code - SPR-08-08-EI-32-NC-00-V-74AT4-24D-36



SPR
Auto Reset Internal Pilot

Example Code - SPR-08-08-EI-52-XX-00-V-74AT4-24D-36



SPR
Auto Reset Internal Pilot

Accuracy of information
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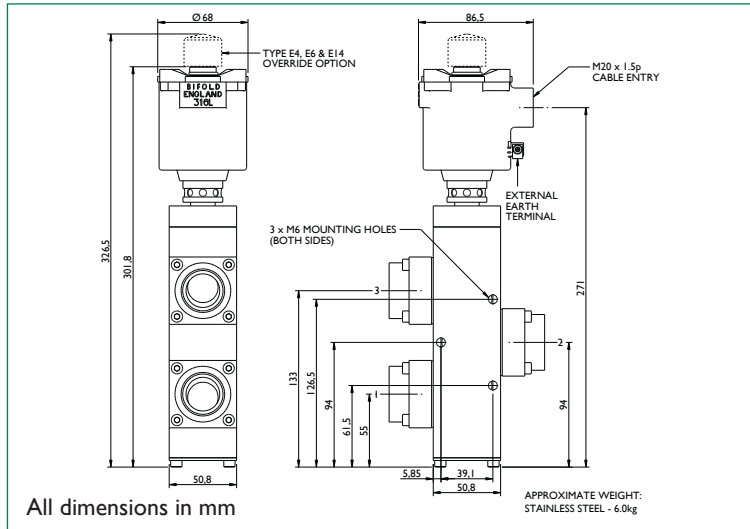
When selecting a product, the applicable operating system design must be considered to ensure safe use. The products function, material compatibility, adequate ratings, correct installation, operation and maintenance are the responsibilities of the system designer and user.

Quality Assurance
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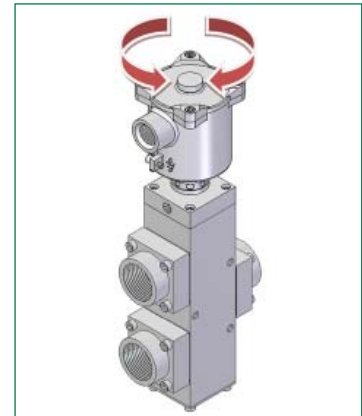
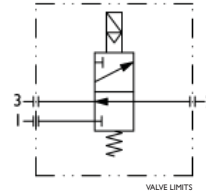
More leaflets are available on <http://www.keansy.com>

Dimensional Drawings

Example Code - SPR-16-16-E2-32-NU-00-V-77A-24D-18

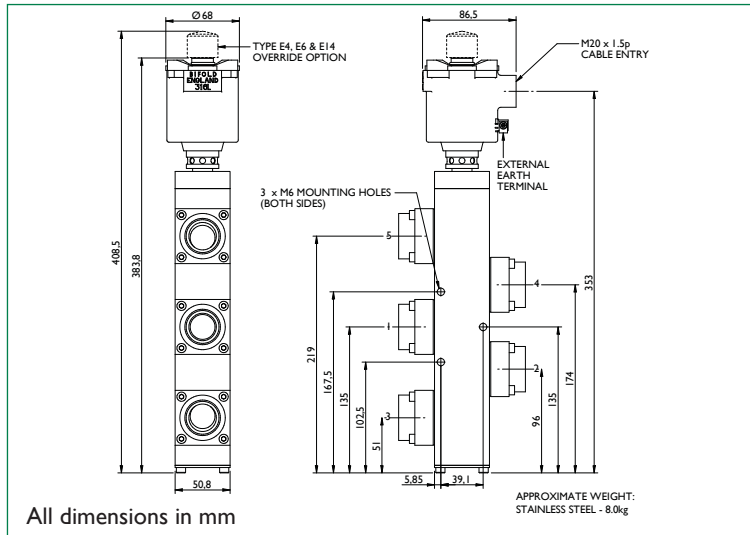


SCHEMATIC 3/2 NU

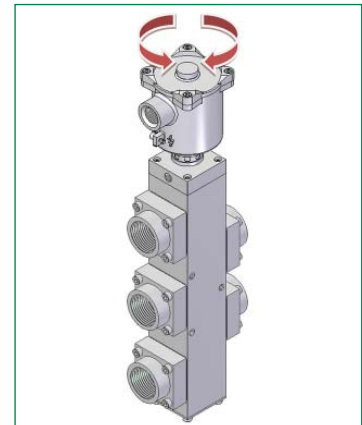
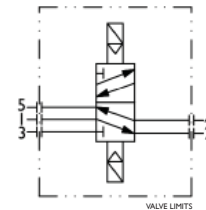


SPR
Auto Reset External Pilot

Example Code - SPR-16-16-E2-52-XX-00-V-77A-24D-18



SCHEMATIC 5/2



SPR
Auto Reset External Pilot

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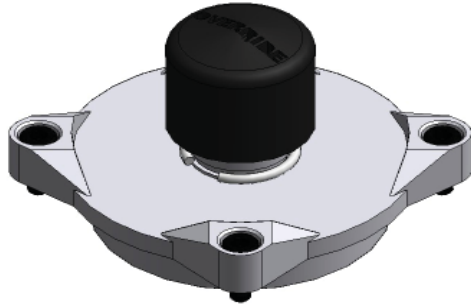
4 | More leaflets are available on <http://www.keansy.com>

Bifold
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Options

Product Options for Type 74, 27, 77, 28 & 78

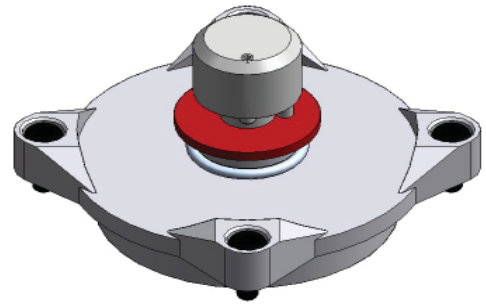
The range of products displayed in this brochure, are designed to accommodate all the options shown below. If the style or arrangement required for your application is not shown, please contact our office with full description and specification details.



Type M - Electrical to Switch or Temporary Manual Override

Manual Override Type M (E3 & E4)

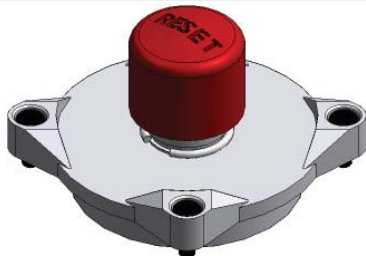
The solenoid valve switches on and off with the electrical supply. The manual override button can be pressed to operate the valve when the solenoid is in the electrically de-energised position. The manual override is non-detented, i.e. does not latch in position. When the button is released, the valve spring returns.



Type MOR - Electrical to Switch or Stayput Manual Override

Manual Rotary Override Type MOR (E15 & E16)

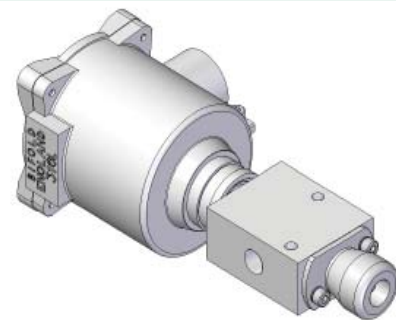
The solenoid valve switches on and off with the electrical supply. The manual override button is rotated through 3/4 turn to operate the valve when the solenoid is in the electrically de-energised position. The manual override is detented, i.e. remains in position until rotated back to its original position when the valve spring returns.



Type ML - Electrical and Manual Required to Switch or Temporary Manual Override
Type MLT - Electrical and Manual Required to Latch - Tamperproof

Manual Reset Type ML (E5 & E6) & MLT (E13 & E14)

For Types ML and MLT, apply the electrical signal and press the reset button. With type ML, the valve moves to the energised position and will not de-energise until the electrical supply is removed. The manual reset button also acts as a manual override, when the valve is in the de-energised position and the electrical supply is off. The manual reset is non-detented, spring return, i.e. does not latch in position. With type MLT, the valve cannot be moved to the energised position by pressing the button if there is no electrical supply to the solenoid.



Type LE - Latched Energised

Latch Energised Type LE

Designed specifically for Deluge systems. The solenoid valve can be used in the electrically de-energised condition. When an electrical signal is applied to the valve, the valve shifts to the energised position and stays in this position, even if the electrical signal is removed, and until the valve is manually moved back to the de-energised position by pressing the reset button. The valve can only be manually reset after the electrical signal is removed. The reset button is fitted at the base of the valve.

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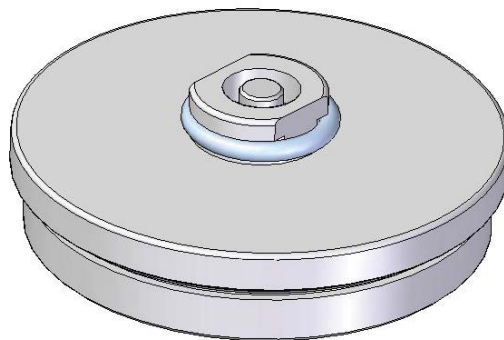
Quality Assurance
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Options



Product Options for Type 58

The range of products displayed in this brochure, are designed to accommodate the options shown below. If the style or arrangement required for your application is not shown, please contact our office with full description and specification details.



Type M - Electrical to Switch or Temporary Manual Override
Type ML - Electrical and Manual Required to Switch or Temporary Manual Override
(Slimline 58 - Series)

Manual Override Type M & Manual Reset Type ML

The solenoid valve switches on and off with the electrical supply. The manual override button can be pressed to operate the valve when the solenoid is in the electrically de-energised position. The manual override is non-detented, i.e. does not latch in position. When the button is released, the valve spring returns.

For Type ML, apply the electrical signal and press the reset button. The valve moves to the energised position and will not de-energise until the electrical supply is removed. The manual reset button also acts as a manual override, when the valve is in the de-energised position and the electrical supply is off. The manual reset is non-detented, spring return, i.e. does not latch in position.

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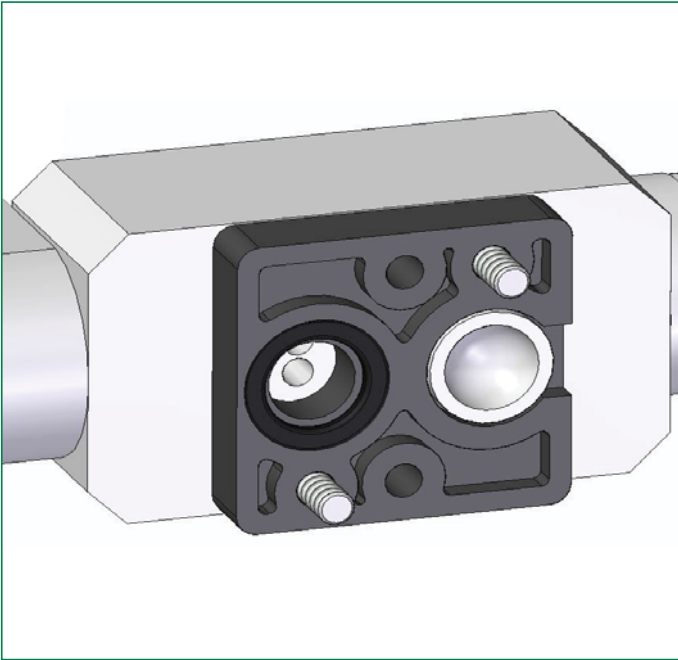
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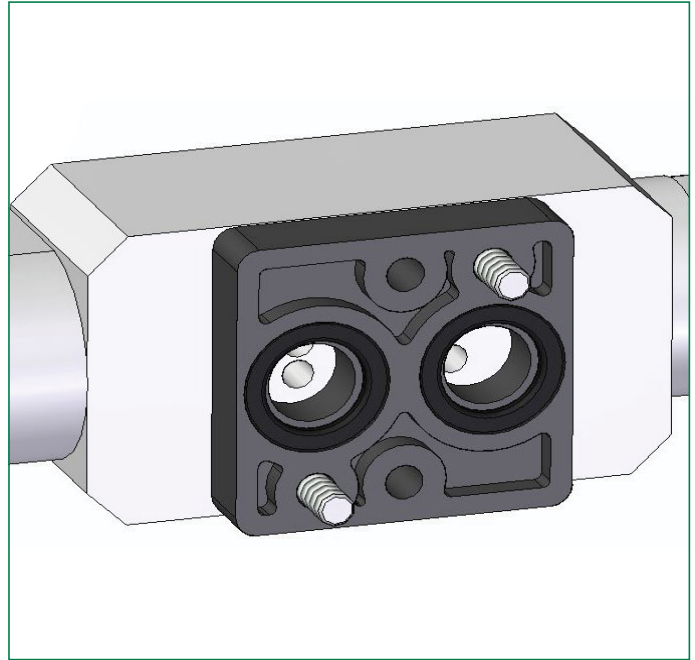
Options

Supplied as Standard for use with: **BXS-04-N4..**, & **BXS-04-AN4..** Solenoid Valves



Mounting Configuration:

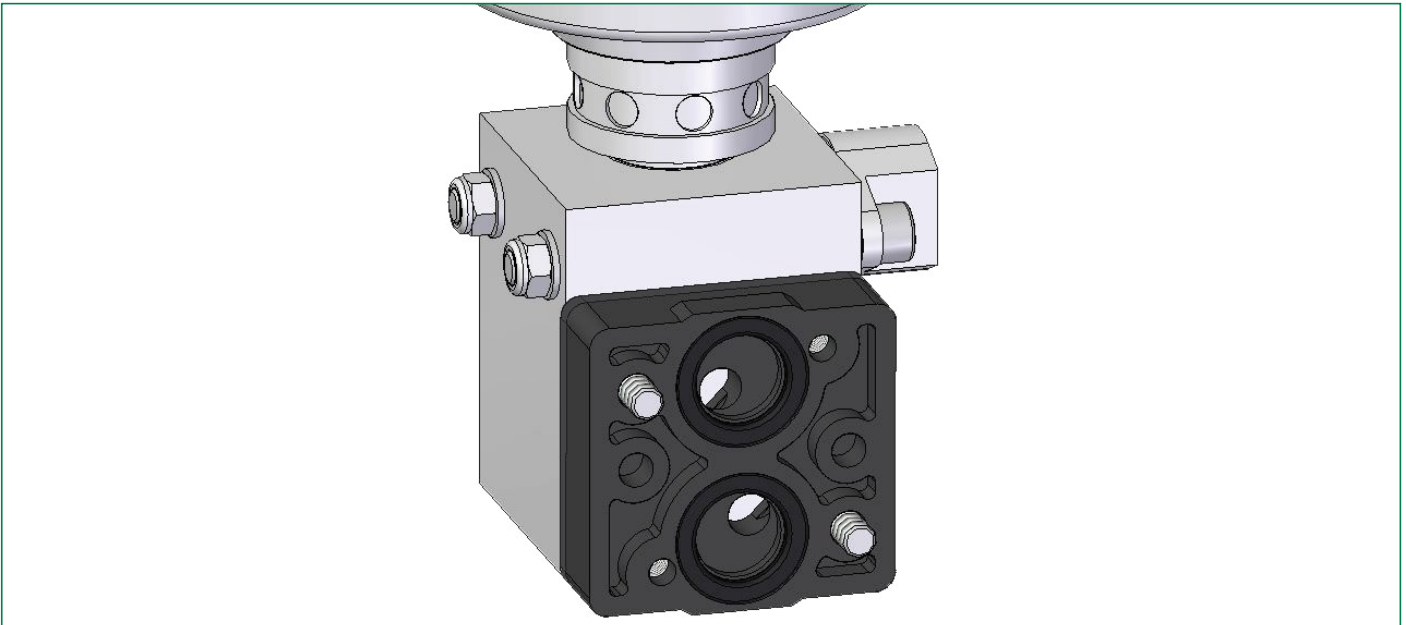
3 Way 2 Position



Mounting Configuration:

5 Way 2 Position & 5 Way 3 Position

Standard for use with: **FP06P-SI-N4..**, & **FP06P-SI-NI4..**, & **FP06P-SI-AN4..**, & **FP06P-SI-ANI4..** Solenoid Valves



Mounting Configuration:

FP06P 3 Way 2 Position with 90° Rotation

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**Pneumatic and
Instrumentation Valves**

Hydraulic Valves

Subsea Valves

**Hydraulic Pumps,
Intensifiers and Valves**

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Bifold®

Bifold FluidPower®

Bifold® Subsea

Bifold®  Marshalsea

Bifold® Orange™

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