


HighSpeed Exhaust Valve Range Model HIPEX Series



Superior Performance Throughout the Full Operational Range

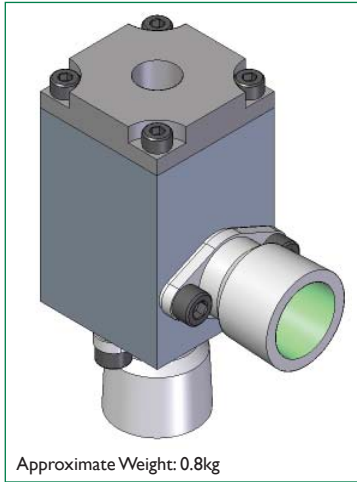
-  SIL 3 Third Party Certified
- High Flow
- Additionally, Functions as a Pressure Relief Valve
- Arctic Service Options
- Sensing Pilot / Valve Seat Assembly: Patented
- Compact Modular Design
- 316L Stainless Steel or Aluminium



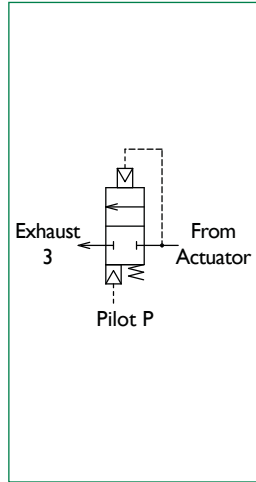
Product Features

Product

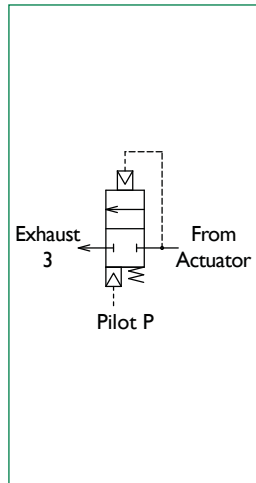
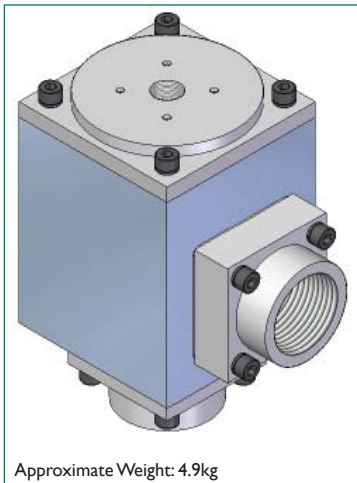
½" HIPEX Valve



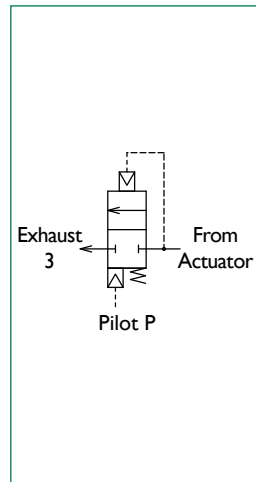
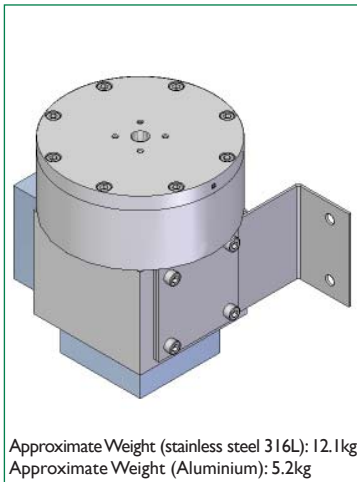
Schematic



1" HIPEX Valve



2" HIPEX Valve



- Very high controlled exhaust flow, up to twice the equivalent Quick Exhaust Valve.
- High flow pilot operated Quick Exhaust Valve with automatic pressure sensing and pressure relief capability.
- Exhaust flow is proportional to the differential between inlet and pilot pressures.
- The valve is automatic in operation and requires no adjustment.
- The valve operates on a 1:1 pilot pressure to valve pressure ratio at pressures between 2 and 10 bar g.
- Specifically designed for high flow valve actuator exhausting when accurate partial close testing is required.
- For very fast valve actuator closing, multiple HIPEX units can be fitted to the system.
- Extremely compact modular design.
- Sensing pilot /valve seat assembly : Patent Pending.
- SIL 3 third party certified to IEC 61508 Parts 1 & 2. Consult Bifold.
- Additionally functions as a pressure relief valve.
- Soft seat design.
- Finely balanced design to minimise the impact of both downstream and upstream pressure variations.
- Service (without pressure applied) can be carried out without removal from the large diameter piping.

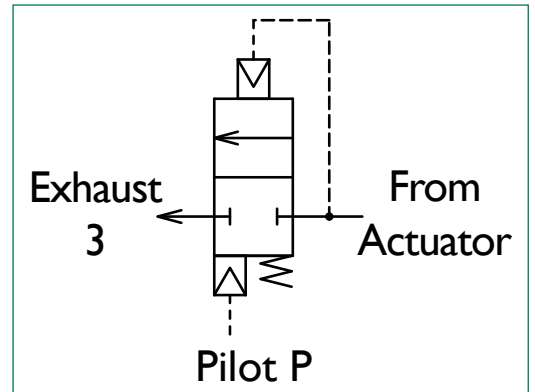
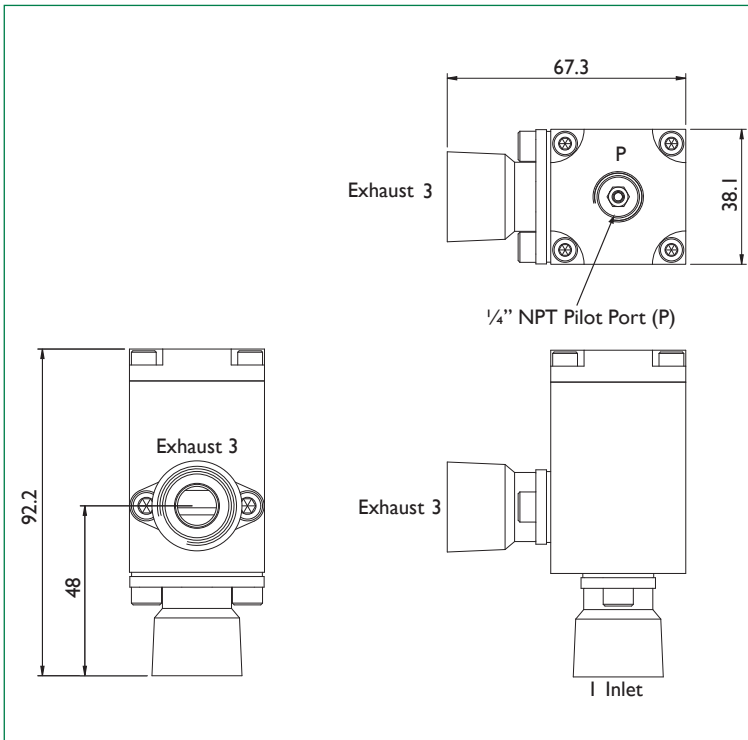
Accuracy of information
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When selecting a product, the applicable operating system design must be considered to ensure safe use. The products function, material compatibility, adequate ratings, correct installation, operation and maintenance are the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

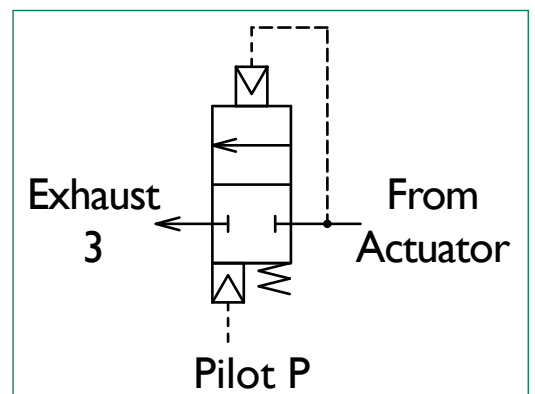
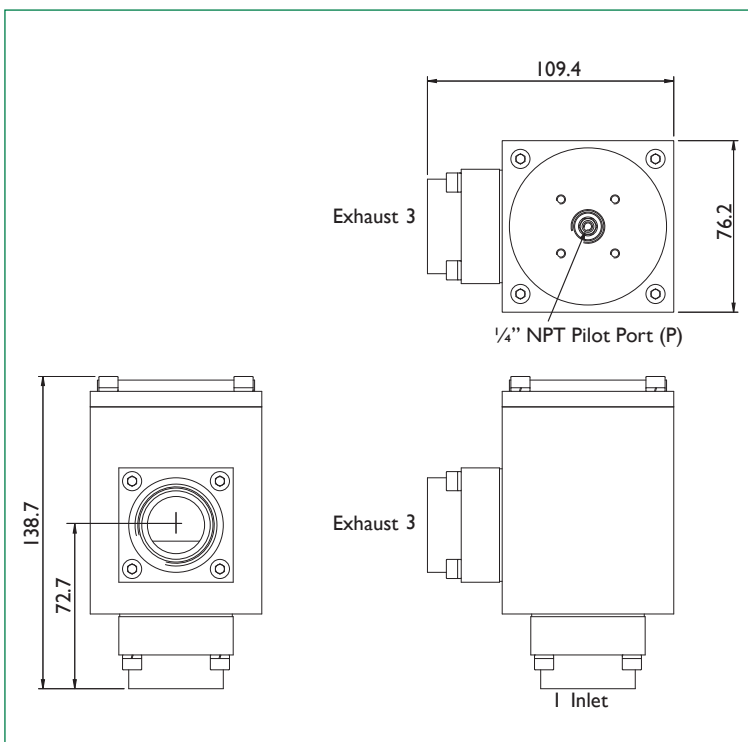
Quality Assurance
All Bifold products are manufactured to a most stringent QA programme to ensure that every product will give optimum performance and reliability. We are third party certified to EN ISO 9001:2008. Functional test certificates, letter of conformity and copies of original mill certificates, providing total traceability are available on request, to BSEN 10204.3.1.B where available. We reserve the right to make changes to the specifications and design, etc., without prior notice.

Dimension Drawings

1/2" HIPEX Valve



1" HIPEX Valve



Overview

Product Description

The Bifold HIPEX Valve is a 2-way, normally closed directional control valve with a venting flow rate proportional to the differential pressure between the inlet and the pilot signal pressures. It is specifically designed for both modulating and "on-off" pilot pressure signals.

Operating Principles

When the pilot pressure signal is equal to or above the main valve inlet pressure, the valve exhaust port remains closed.

Partial close testing function

When the pilot pressure falls below the main valve inlet pressure, the valve quickly exhausts the excess pressure until both the valve and pilot pressures are again equal, then the exhaust port closes.

Pressure Relief Function

If the main valve inlet pressure increases above the pilot pressure, the valve automatically exhausts the excess valve actuator pressure.

Optional

The HIPEX valve can be supplied with two exhaust ports. This provides an additional advantage that one exhaust port can be connected to the valve actuator for "closed loop" systems that reduce the need for additional valves, fittings and labour time. The HIPEX can also be supplied with exhaust speed controls fitted as a complete solution. Ideal for operation in conjunction with the " Bifold Volume Booster" and 'AXIS'® valve actuator manifold ranges.

Technical Data

Material grades - stainless steel 316L body as standard.
 Standard springs are manufactured from 302S26 stainless steel to BS2056 (alternatively from Elgiloy for sour gas service).
 The pilot port $\text{\textcircled{P}}$ is 1/4" NPT.
 Main ports are available as 1/4", 3/8" & 1/2" NPT sizes (1/2" HIPEX Valve) and 3/4" & 1" NPT sizes (1" HIPEX Valve).
 2" HIPEX Valve is supplied with 2" or 1 1/2" NPT port sizes.
 Main valve seals are supplied in Viton as standard. Fluorosilicone seals are available for arctic service.
 Sensing head seals are supplied in PTFE encapsulated silicone as standard.
 Fasteners are 18/10 grade stainless steel; equivalent to 316 grade steels.
 Accuracy is within 5% (valve to pilot pressure).
 Operating medias are air, natural gas, inert gases and sweet and sour gases.
 Maximum valve inlet pressure is 20 bar g.
 Operating temperature range -20°C to +180°C with viton seals as standard.
 Operating temperature range -60°C to +40°C with fluorosilicone seals.
 Pilot pressure and outlet pressure range from 2 to 10 bar g.

Flow Capacity Cv Table

HIPEX FLOW CAPACITY Cv	
HIPEX Valve	
HIPEX Size	Exhaust
1/2"	3.2
1"	11.0
2"	50.0

With 2 exhaust ports, flow is increased by approximately 30%.

Please see closing time table on page 5.

Product Options Available

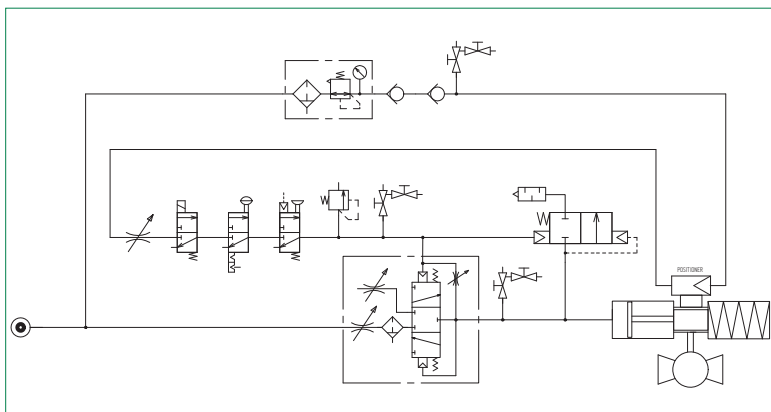
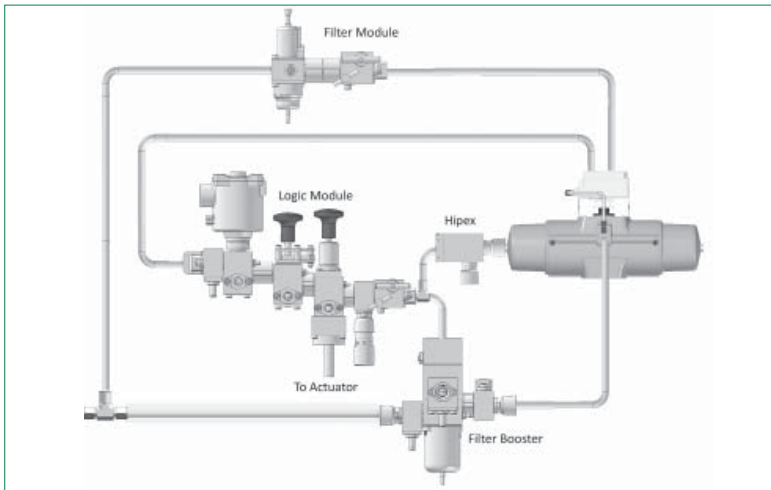
Pilot port available as BSPP and BSPT options.
 Main ports available as BSPP & BSPT options.



Selection Chart

1/2", 3/4", 1" & 2" HIPEX Valve Closing Times

50 litre actuator - where stroke completes at between 1.9 bar and 2.3 bar. Set pressure 5 bar. Upstream pressure greater than 10 bar.



HIPEX SCHEMATIC (HiPEX Valve fitted directly onto the actuator)

HIPEX Valve Size	Pressure (Bar)	ESD Closing Time (secs)
1/2"	5	4.2
3/4"	5	2.0
1"	5	1.3
2"	5	0.7*

Table shows results for the HIPEX Valve fitted onto a 50 litre actuator.

* Full 2" exhaust path (time limited by actuator damping).

Alternatively, 3 x 1" HIPEX Valves fitted onto a 178 litre actuator resulted in a closing time of 1.7 secs.

See Catalogue 03:- AXIS® Manifold System.

See Catalogue 13:- Volume Booster Model VBP Series.

HIPEX Selection Chart - Ordering Example

HIPEX Valve	Standard service stainless steel	Model Code
04	1/4" NPT	Port Sizes
06	3/8" NPT	
08	1/2" NPT	
12	3/4" NPT	
16	1" NPT	
24	1 1/2" NPT	
32	2" NPT	
II	Ratio pilot pressure to valve pressure (1:1)	Ratio
V	Viton (standard)	Seal Materials
AL	Fluorosilicone (arctic service)	
E	Single Exhaust	Exhaust Configuration
EE	Double Exhaust	
EN	Double Exhaust with one needle flow control for closed loop application	
XX	Revision number (current revision to be advised on receipt of order).	Revision Number
HIPEX - 08 - II - V - E - XX		Ordering Example

**Pneumatic and
Instrumentation Valves
Hydraulic Valves
Subsea Valves
Hydraulic Pumps,
Intensifiers and Valves
Actuator Electronic
Control and Positioning**

Bifold®

Bifold FluidPower®

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Bifold, Bifold Fluidpower, Bifold Subsea, Marshalsea Hydraulics and Bifold Orange are all members of the Bifold Group.

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