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climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



B Series Valves

High Flow Inline, Manifold Mounted,
Solenoid & Pilot Operated

G1/8 and G1/4 Body ported

Catalogue PDE2582TCUK-ca. Edition July 09



ENGINEERING YOUR SUCCESS.

Directional Control Valves

B Series

Compact installation dimensions - flexible installation



Compact dimensions, direct body porting and integral mounting holes are all features of the B series valve range. Valves may be mounted singly or on compact modular manifolds that can be extended to accommodate changes in the machine control system.

High reliability

Valves easily comply with the requirements for component reliability in accordance with EU Machinery Directive standards EN292-2 and EN983.

A wide range of solenoid valves

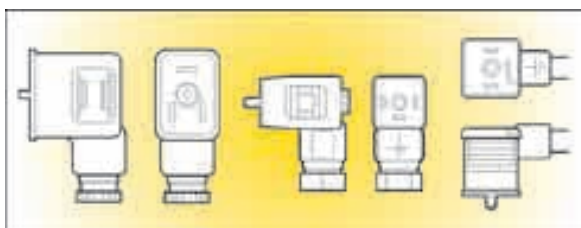
Solenoid operated versions of the B3 & B4 valves are fitted with interface to accept the 15mm wide solenoid and Form C / ISO 15217 connector. The valve has small installation dimensions, low energy consumption. The B5 is also available with the 22mm wide solenoid suitable for (EN175301-803 form B) connector. The solenoid operators are available with or without manual overrides.

Manifold mounting



IEM stackable manifold system is designed to give maximum flexibility to system designers. Individual manifold bases stack together to form lightweight custom length manifold that can easily be modified to accommodate changes to system requirements.

Different solenoid connector options



A large range of solenoid connectors are available with or without suppression, LED and rectifier and complete with moulded lead.

Maintenance

All B series valves have reliable function and long service life. Spare solenoid and repair kits are available.



WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

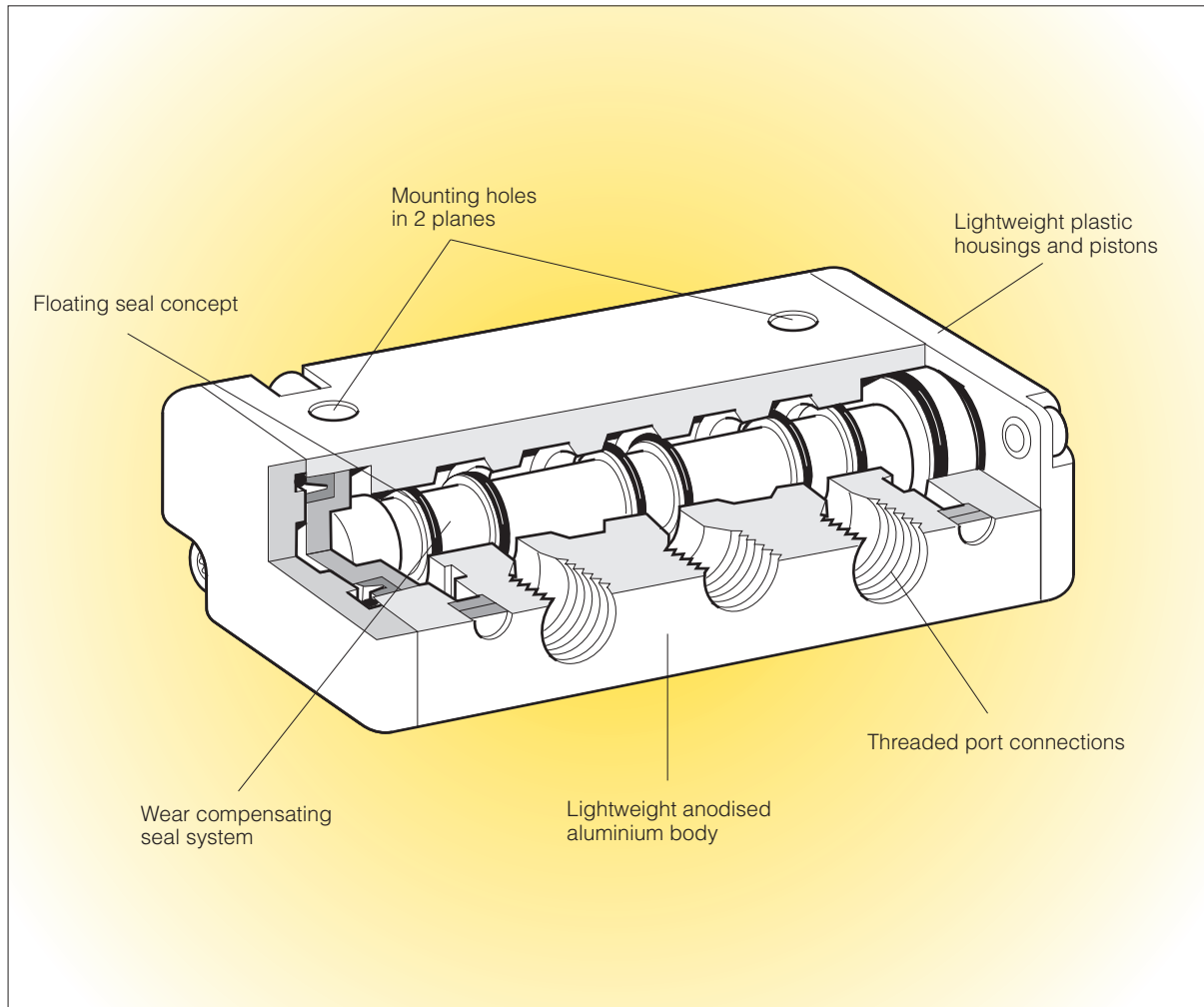
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Directional Control Valves

B Series



“Wear Compensating System”

The B series valves are fitted with dynamic bi-directional spool seals suitable for vacuum or pressures up to 10 bar. Under pressure radial expansion of the seal occurs to maintain sealing contact with the valve bore.

This sealing method reduces friction gives lower pilot pressures, fast response and less wear. Valves do not require lubrication in operation but they can also be installed in systems that are lubricated.

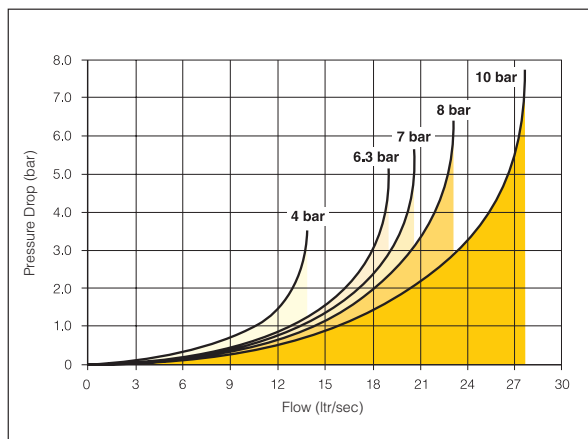
Flow Characteristics

B Series

Flow characteristics

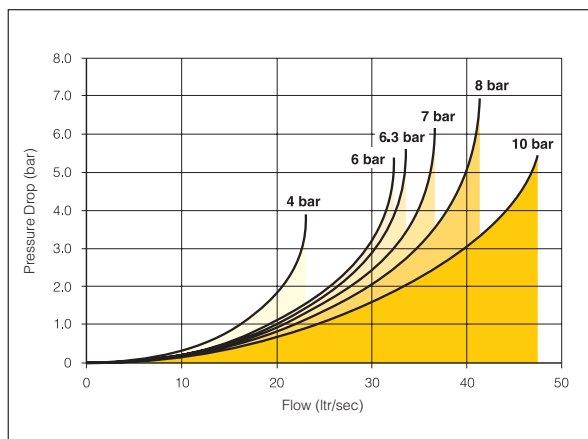
Flow capacities in accordance with ISO6358
 All pressures = effective pressure
 The curves in the diagram below are typical only

Technical Data B3



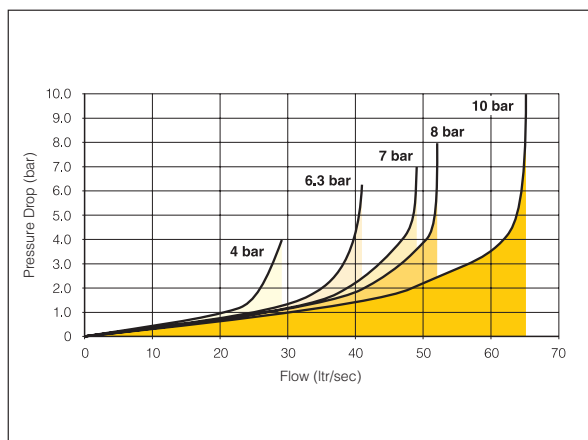
Port size	G1/8
Operating pressure.	Vacuum - 10 bar
Working temperature.	
Pneumatically operated valves.	-10°C to + 50°C
Solenoid operated valves.	-10°C to + 50°C
Response times:	
Single sol spring return	24/26ms
Single sol air spring return	13/15ms
Double solenoid operated	
Flow (acc. to ISO 6358)	c = 2.3 b = 0.45 Qn = 13 l/s Qmax = 16 l/s Cv = 0.75

Technical Data B4



Port size	G1/4
Operating pressure.	Vacuum - 10 bar
Working temperature.	
Pneumatically operated valves.	-10°C to + 50°C
Solenoid operated valves.	-10°C to + 50°C
Response times:	
Single sol spring return	38/38ms
Single sol air spring return	23/24ms
Double solenoid operated	
Flow (acc. to ISO 6358)	c = 4.56 b = 0.30 Qn = 19.5 l/s Qmax = 32 l/s Cv = 1.2

Technical Data B5



Port size	G1/4
Operating pressure.	Vacuum - 10 bar
Working temperature.	
Pneumatically operated valves.	-10°C to + 50°C
Solenoid operated valves.	-10°C to + 50°C
Response times:	
Single sol spring return	38/40ms
Single sol air spring return	16/18ms
Double solenoid operated	
Flow (acc. to ISO 6358)	Qn = 24 l/s Qmax = 37 l/s Cv = 1.4



Directional Control Valves

B Series

B3 valve

Valve body	Anodised aluminium
End covers	Anodised aluminium or Reinforced thermoplastic
Spool	Aluminium + nitrile rubber
Piston	Acetal plastic/ Anodised aluminium
U-rings, O-rings	Nitrile rubber
End cover sealings	Nitrile rubber
End cover screws	Stainless steel
Springs	Dacromet® - processed steel, Stainless steel
Mounting screws for solenoid	Stainless steel

B3 Accessories

IEM manifold	Glass filled nylon
End plates	Anodised aluminium
Manifold connecting screws	Zinc plated steel

B5 valve

Valve body	Anodised aluminium
Spool	Aluminium + nitrile rubber
Piston	Brass
Lining	Brass
End covers	Anodised aluminium
Sliding seals	Thermoplastic
U-rings, O-rings	Nitrile rubber
End cover sealings	Nitrile rubber
End cover screws	Stainless steel
Springs	Stainless steel
Mounting screws for solenoid	Zinc plated steel

B5 Accessories

IEM manifold	Glass filled nylon
End plates	Anodised aluminium
Manifold connecting screws	Zinc plated steel

B4 valve

Valve body	Anodised aluminium
Spool	Acetal plastic/ Anodised aluminium
Piston	Acetal plastic /Anodised aluminium
Lining	Reinforced thermoplastic
End covers	Anodised aluminium
Sliding seals	Thermoplastic
U-rings, O-rings	Nitrile rubber
End cover sealings	Nitrile rubber
Push button for manual changeover	Acetal plastic
End cover screws	Stainless steel
Springs	Stainless steel
Mounting screws for solenoid	Zinc-plated steel

B4 Accessories

IEM manifold	Glass filled nylon
End plates	Anodised aluminium
Manifold connecting screws	Zinc plated steel

Metal Spool Valves

B3

- G1/8 ports, 3/2, 5/2 and 5/3 functions
- Inlet-exhaust manifold facility
- DIN rail mounting
- Integral mounting holes
- 1.2 watt solenoid actuators
- FormC/ISO15217 connector



Operating information

Working pressure	Vacuum - 10 bar	Flow (3/2) and (5/2) (acc. to ISO 6358)	C = 2,3 b = 0,45 Qn = 13 l/s Qmax = 16 l/s Cv = 0,6
Working temperature; Pneumatically actuated	-10°C to +60°C		
Electrically actuated	-10°C to +50°C		





























B	3	2	5	B	B	5	49	H
Basic series		Port size		Pilot source / Exh / Pilot exhaust				
B3	Ported valve	5	G1/8	0	None (Air pilot only)			
				B	Port 1 / Vented / Side			
Operator function								
3 Port								
G		3/2 N/C Single sol - air differential return						
J		3/2 Double solenoid						
K		3/2 N/C Remote air pilot - air differential return						
M		3/2 Double remote air pilot						
R		3/2 N/C Single sol - spring return						
S		3/2 N/C Single sol - remote air pilot return						
U		3/2 N/C Remote air pilot - spring return						
5 Port								
1		5/2 Single sol - air differential return						
2		5/2 Double solenoid						
3		5/2 Remote air pilot - air differential return						
4		5/2 Double remote air pilot						
5		5/3 Double solenoid - all ports blocked (APB)						
6		5/3 Double solenoid - cyl to exhaust ports (CE)						
7		5/3 Double solenoid - press to cylinder ports (PC)						
8		5/3 Double remote operated - all ports blocked (APB)						
9		5/3 Double remote operated - (CE) ①						
0		5/3 Double remote operated - (PC) ②						
A		5/2 Single sol - remote air pilot return						
P		5/2 Remote air pilot - spring return						
T		5/2 Single sol - spring return						
Shaded part numbers are standard								
Solenoid overrides / Lights					Solenoid Enclosures			
0	None (Air pilot only)				0	None (Air pilot only)		
B	Spring return, flush without light				5	15mm connector		
C	Locking, flush without light				X	None		
X	None (Solenoid valve less solenoid)				Pilot operator / Coil voltage¹			
				39	12V 50Hz			
				43	24V 50Hz			
				44	48V 50Hz			
				45	12V DC			
				49	24V DC			
				53	110V 50Hz			
				57	220V 50Hz			
				XX	Valve less solenoid operator			
Engineering level H								
					① Cyl to exhaust ports (CE)			
					② Press to cylinder ports (PC)			

¹ Shaded part numbers are standard
Unshaded part numbers are available on request but will be subject to minimum order quantities
Otherwise order XX version and order solenoid separately.

Metal Spool Valves

B3

Main data for Directional control valves, B3 Series

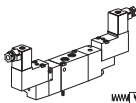
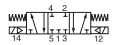

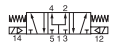
Symbol	Actuator	Return	Signal pressure min, bar at 6 bar actua./return	Changeover time, ms at 6 bar actua./return	Weight Kg	Voltage	Order code	Qty
Pneumatically actuated 3/2 valves								
	Air	Differential air	1,4/-	16/17	0,07		B3K5000XXH	1
	Air	Spring return	3,0/-	20/18	0,07		B3U5000XXH	1
	Air	Air	1,4/-	2/2	0,08		B3M5000XXH	1
Pneumatically actuated 5/2 and 5/3 valves								
	Air	Differential air	1,4/-	16/17	0,09		B335000XXH	1
	Air	Spring return	3,0/-	20/18	0,09		B3P5000XXH	1
	Air	Air	1,4/1,4	2/2	0,10		B345000XXH	1
	Air	Air	3,0/3,0	12/12	0,10		B385000XXH	1
	Closed centre	Self centring position						
	Air	Air	3,0/3,0	12/12	0,10		B395000XXH	1
	Vented centre	Self centring position						
	Air	Air	3,0/3,0	12/12	0,10		B305000XXH	1
	Pressurised centre	Self centring position						
Electrically actuated 3/2 valves								
	Electric	Differential air	1,4/-	12/14	0,12	24 VDC	B3G5BB549H	1
	Electric	Spring return	3,0/-	22/28	0,08	Less solenoid	B3G5BXXXXH	1
	Electric	Spring return	3,0/-	22/28	0,12	24 VDC	B3R5BB549H	1
	Electric	Spring return	3,0/-	22/28	0,08	Less solenoid	B3R5BXXXXH	1
	Electric	Air	1,4/1/4	9/3	0,13	24 VDC	B3S5BB549H	1
	Electric	Air	1,4/1/4	9/3	0,09	Less solenoid	B3S5BXXXXH	1
	Electric	Electric	1,4/1/4	8/8	0,13	24 VDC	B3J5BB549H	1
	Electric	Electric	1,4/1/4	8/8	0,09	Less solenoid	B3J5BXXXXH	1
Electrically actuated 5/2 valves								
	Electric	Differential	1,4/-	12/14	0,12	24 VDC	B315BB549H	1
	Air	Air			0,09	Less solenoid	B315BXXXXH	1
	Electric	Spring return	3,0/-	22/28	0,12	24 VDC	B3T5BB549H	1
	Electric	Spring return	3,0/-	22/28	0,09	Less solenoid	B3T5BXXXXH	1
	Electric	Air	1,4/1/4	9/3	0,14	24 VDC	B3A5BB549H	1
	Electric	Air	1,4/1/4	9/3	0,10	Less solenoid	B3A5BXXXXH	1
	Electric	Electric	1,4/1/4	8/8	0,19	24 VDC	B325BB549H	1
	Electric	Electric	1,4/1/4	8/8	0,10	Less solenoid	B325BXXXXH	1



Metal Spool Valves

B3

Main data for Directional control valves, B3 Series

Symbol	Actuator	Return	Signal pressure min, bar at 6 bar actua./return	Changeover time, ms at 6 bar actua./return	Weight Kg	Voltage	Order code	Qty
Electrically actuated 5/3 valves								
 	Electric	Electric	3,0/3,0	12/12	0,18	24 VDC	B355BB549H	1
	Closed centre position	Self centring			0,09	Less solenoid	B355BXXXXH	1
	Electric	Electric	3,0/3,0	12/12	0,18	24 VDC	B365BB549H	1
	Vented centre position	Self centring			0,09	Less solenoid	B365BXXXXH	1
	Electric	Electric	3,0/3,0	12/12	0,10	24 VDC	B375BB549H	1
	Pressurised centre position	Self centring			0,09	Less solenoid	B375BXXXXH	1

Internal air supply to differential pilots and solenoids via port 1

Silencers and push-in fittings are shown on page 27.

Valves supplied with solenoid operators include standard P8C-D connector

Metal Spool Valves

B3

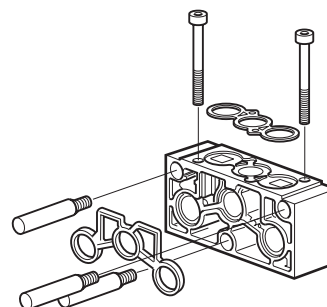
Inlet Exhaust Manifolds for B3 series valves

Standard Base without Flow Controls

Each kit contains:

- 1 pcs Manifold Base
- 2 pcs Mounting screws and nuts
- 3 pcs Tie Rods
- 1 pcs Body-to-base Gasket and
- 1 pcs Base-to-Base Gasket

		Order code	Qty
Manifold Base	3/2 =	PS2948F	1
Kit	5/2 =	PS2917F	1



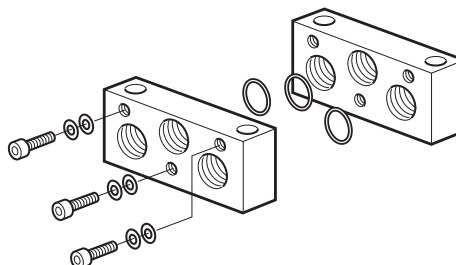
End plates

Standard End Plates may be used with either of above Manifold Bases

Each kit contains:

- 1 right and 1 left End Plate
- 3 pcs O-Rings
- 3 pcs Blanking Plugs
- 3 pcs Socket Head Cap Screws
- 3 pcs Flat Washers
- 3 pcs Lockwashers

		Order code	Qty
Manifold End	3/2 =	PS2951F	1
plate kit	5/2 =	PS2916F	1



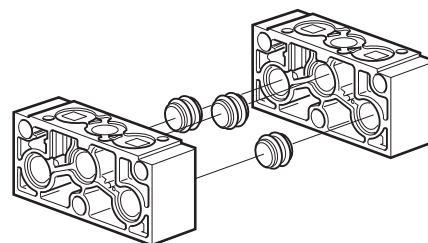
Isolator Plug Kit

Used to isolate the 1, 3 or 5 gallery between two Manifold Bases

Each kit contains:

- 3 pcs Isolator Plugs complete with O-rings.

		Order code	Qty
Isolator Plug Kit		PS2919F	1



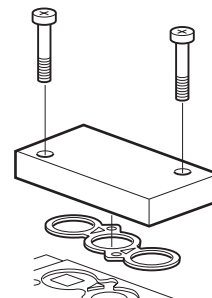
Manifold Blanking Plate

Each kit contains:

- 1 pcs Cover Plate
- 2 pcs Mounting Screws
- 1 pcs Gasket

Used to blank off unused stations.

		Order code	Qty
Manifold	3/2 =	PS2968F	1
Blanking Plate	5/2 =	PS2969F	1



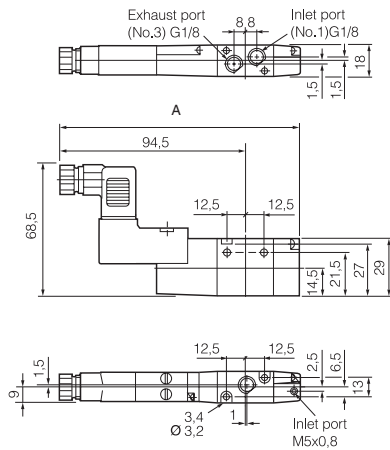
Metal Spool Valves

B3

Dimensions, B3 Valve Series

3/2 Body ported

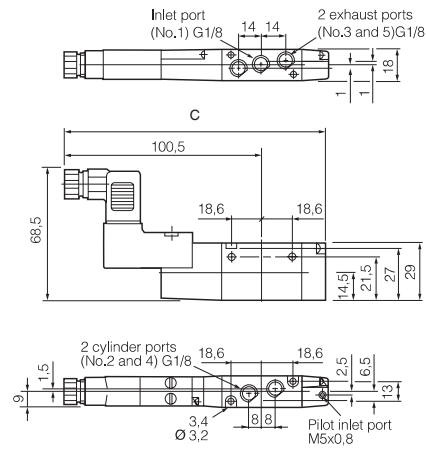
Single solenoid operated air spring return / spring return



	Air differential return	Spring return
A	130,5	136,7

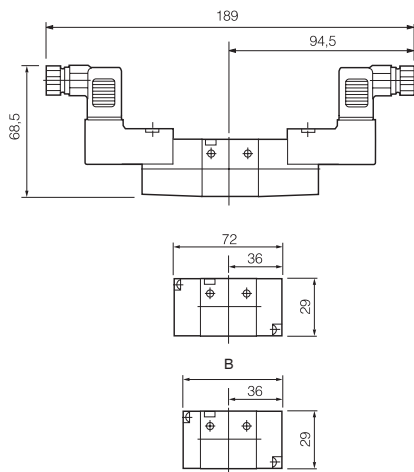
5/2 Body ported

Single solenoid operated air spring return / spring return



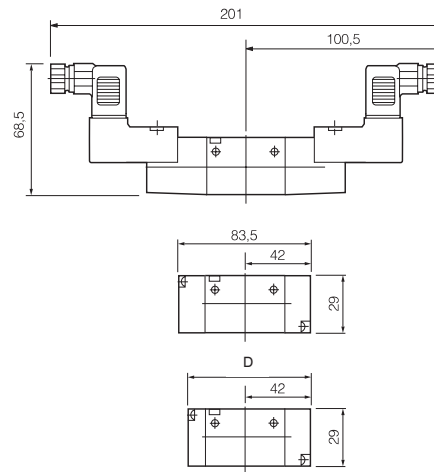
	Air differential return	Spring return
C	137,5	143,7

Double solenoid operated



	Air differential return	Spring return
B	67,0	73,2

Double solenoid operated



	Air differential return	Spring return
D	79,0	85,2

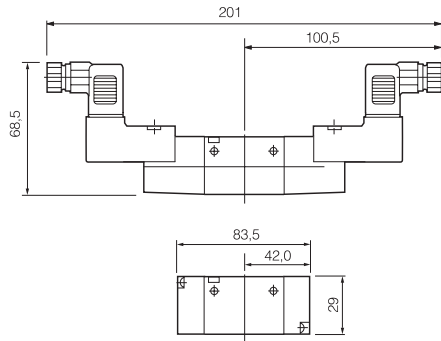
All dimensions in mm unless otherwise stated

Metal Spool Valves

B3

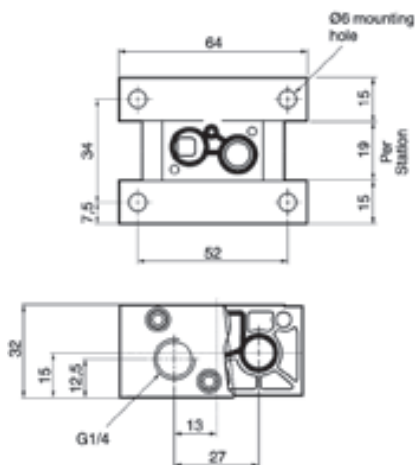
Dimensions, B3 Valve Series

5/3 Body ported

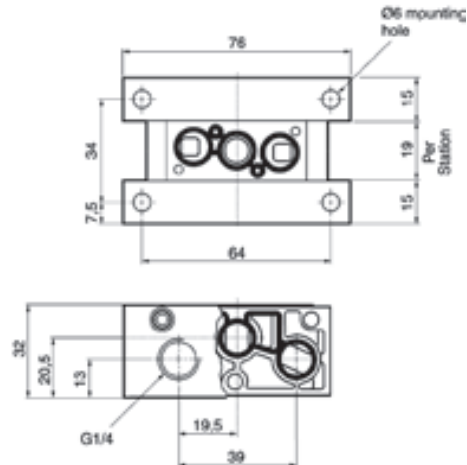


Manifolds - IEM Inlet Exhaust Manifold System

3/2 Inlet Exhaust Manifold For B3 Body Ported Valves



5/2 Inlet Exhaust Manifold For B3 Body Ported Valves



All dimensions in mm unless otherwise stated

Metal Spool Valves

B4

- G1/4 ports, 3/2, 5/2 and 5/3 functions
- Inlet-exhaust manifold facility
- DIN rail mounting
- Integral mounting holes
- 1.2 watt solenoid actuators
- Form C / ISO 15217 connector



Operating information

Working pressure	Max 10 bar	Flow (3/2) and (5/2) (acc. to ISO 6358)	C = 4,56
Working temperature;			b = 0,30
Pneumatically actuated	-10°C to +60°C		Qn = 19,5 l/s
Electrically actuated	-10°C to +50°C		Cv = 1,2

B 4	2	6	A	B	5	49	F
Basic series		Port size	Pilot source / Exh / Pilot exhaust				
B4 Ported valve		6 G1/4	0 None (Air pilot only)				
			A Port 1 / Tapped / Side				
Operator function			Solenoid overrides / Lights				
3 Port			0 None (Air pilot only)				
G		3/2 N/C Single sol - air differential return	B Spring return, flush without light				
J		3/2 Double solenoid	C Locking, flush without light				
K		3/2 N/C Remote air pilot - air differential return	X None (Solenoid valve less solenoid)				
M		3/2 Double remote air pilot					
R		3/2 N/C Single sol - spring return					
S		3/2 N/C Single sol - remote air pilot return					
U		3/2 N/C Remote air pilot - spring return					
5 Port			Solenoid Enclosures				
1		5/2 Single sol - air differential return	0 None (Air pilot only)				
2		5/2 Double solenoid	5 15mm connector				
3		5/2 Remote air pilot - air differential return	X None (Valve less 15mm solenoid)				
4		5/2 Double remote air pilot					
5		5/3 Double solenoid - all ports blocked (APB)					
6		5/3 Double solenoid - cyl to exhaust ports (CE)					
7		5/3 Double solenoid - press to cylinder ports (PC)					
8		5/3 Double remote operated - all ports blocked (APB)					
9		5/3 Double remote operated - (CE) ①					
0		5/3 Double remote operated - (PC) ②					
A		5/2 Single sol - remote air pilot return	Pilot operator / Coil voltage¹				
P		5/2 Remote air pilot - spring return	39 12V 50Hz				
T		5/2 Single sol - spring return	43 24V 50Hz				
			44 48V 50Hz				
			45 12V DC				
			49 24V DC				
			53 110V 50Hz				
			57 220V 50Hz				
			XX Valve less solenoid operator				
Shaded part numbers are standard			Engineering level F				
			① Cyl to exhaust ports (CE)				
			② Press to cylinder ports (PC)				

¹ Shaded part numbers are standard
Unshaded part numbers are available on request but will be subject to minimum order quantities
Otherwise order XX version and order solenoid separately.

Metal Spool Valves

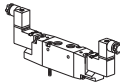

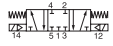

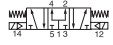
B4

Main data for Directional control valves, B4 Series

Symbol	Actuator	Return	Signal pressure min, bar at 6 bar actua./return	Changeover time, ms at 6 bar actua./return	Weight Kg	Voltage	Order code	Qty	
Pneumatically actuated 3/2 valves									
		Air	Differential air	1,5/-	34/45	0,163	B4K6000XXF	1	
		Air	Spring return	3,0/-	32/48	0,16	B4U6000XXF	1	
		Air	Air	1,5/1,5	15/17	0,177	B4M6000XXF	1	
Pneumatically actuated 5/2 and 5/3 valves									
		Air	Differential air	1,5/-	34/45	0,184	B436000XXF	1	
		Air	Spring return	3,0/-	32/48	0,19	B4P6000XXF	1	
		Air	Air	1,5/1,5	15/17	0,198	B446000XXF	1	
		Air	Self centring position	3,0/3,0	16/19	0,204	B486000XXF	1	
		Air	Self centring position	3,0/3,0	16/19	0,204	B496000XXF	1	
		Air	Self centring position	3,0/3,0	16/19	0,204	B406000XXF	1	
Electrically actuated 3/2 valves									
		Electric	Differential air	1,5/-	34/45	0,206 0,157	24 VDC Less solenoid	B4G6AB549F B4G6AXXXXF	1 1
		Electric	Spring return	3,0/-	36/40	0,210 0,161	24 VDC Less solenoid	B4R6AB549F B4R6AXXXXF	1 1
		Electric	Air	1,5/1,5	15/17	0,220 0,170	24 VDC Less solenoid	B4S6AB549F B4S6AXXXXF	1 1
		Electric	Electric	1,5/1/5	15/17	0,262 0,164	24 VDC Less solenoid	B4J6AB549F B4J6AXXXXF	1 1
	Electrically actuated 5/2 valves								
		Electric	Differential	1,5/-	34/45	0,227	24 VDC	B416AB549F	1
		Air	Air	1,5/-	34/45	0,178	Less solenoid	B416AXXXXF	1
		Electric	Spring return	3,0/-	36/40	0,227	24 VDC	B4T6AB549F	1
	Air	Air	1,5/-	36/40	0,178	Less solenoid	B4T6AXXXXF	1	
		Electric	Air	1,5/1/5	15/17	0,241	24 VDC	B4A6AB549F	1
		Air	Air	1,5/1/5	15/17	0,192	Less solenoid	B4A6AXXXXF	1

Metal Spool Valves

B4

Symbol	Actuator	Return	Signal pressure min, bar at 6 bar actua./return	Changeover time, ms at 6 bar actua./return	Weight Kg	Voltage	Order code	Qty
Electrically actuated 5/2 and 5/3 valves								
 	Electric	Electric	1,5/1,5	15/15	0,283	24 VDC	B426AB549F	1
						0,185	Less solenoid	B426AXXXF
	Electric	Electric	3,0/3,0	16/18	0,289	24 VDC	B456AB549F	1
	Closed centre	Self centring position			0,191	Less solenoid	B456AXXXF	1
	Electric	Electric	3,0/3,0	16/18	0,289	24 VDC	B466AB549F	1
	Vented centre	Self centring position			0,191	Less solenoid	B466AXXXF	1
	Electric	Electric	3,0/3,0	16/18	0,289	24 VDC	B476AB549F	1
	Pressurised	Self centring centre position			0,191	Less solenoid	B476AXXXF	1

Internal air supply to differential pilots and solenoids via port 1
Silencers and push-in fittings are shown on page 27.

Valves supplied with solenoid operators include standard P8C-D connector

Metal Spool Valves

B4

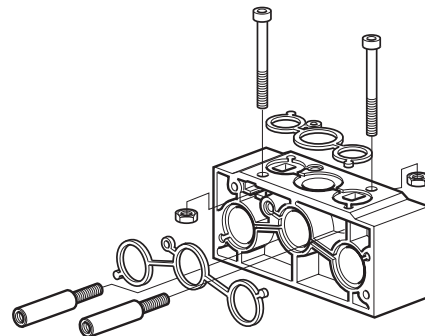
Inlet Exhaust Manifolds for B4 series valves

Standard Base without Flow Controls

Each kit contains:

- 1 pcs Manifold Base
- 2 pcs Mounting screws and nuts
- 2 pcs Tie Rods
- 1 pcs Body-to-base Gasket and
- 1 pcs Base-to-Base Gasket

	Order code	Qty
Manifold Base Kit 3/2 =	PS4548F	1
5/2 =	PS4517F	1



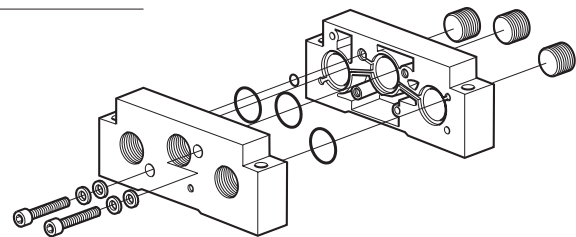
End plates

Standard End Plates may be used with either of above Manifold Bases

Each kit contains:

- 1 right and 1 left End Plate
- 3 pcs O-Rings
- 3 pcs Blanking Plugs
- 2 pcs Socket Head Cap Screws
- 2 pcs Flat Washers
- 2 pcs Lockwashers

	Port Size	Order code	Qty
Manifold End plate kit 3/8 BSP	3/2 =	PS4551F	1
3/8 BSP	5/2 =	PS4516F	1



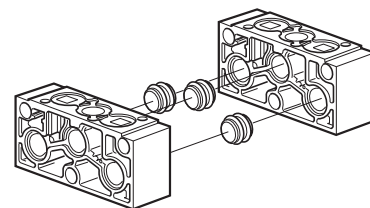
Isolator Plug Kit

Used to isolate the 1, 3 or 5 gallery between two Manifold Bases

Each kit contains:

- 3 pcs Isolator Plugs complete with O-rings

	Order code	Qty
Isolator Plug kit	PS4519F	1

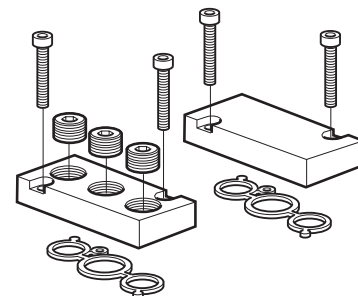


Manifold Blanking plate

Each kit contains:

- 1 pcs Cover Plate
 - 2 pcs Mounting Screws
 - 1 pcs Gasket
- Used to blank off unused stations.

	Order code	Qty
Manifold Blanking plate 3/2 =	PS4568F	1
5/2 =	PS4569F	1

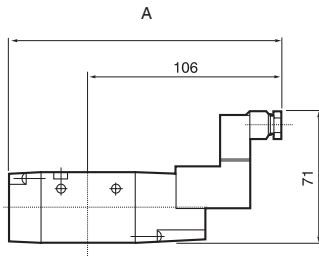


Metal Spool Valves

B4

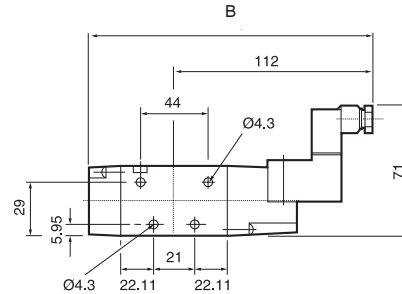
Dimensions, B4 Valve Series

3/2 Body ported
Single solenoid operated air spring return / spring return



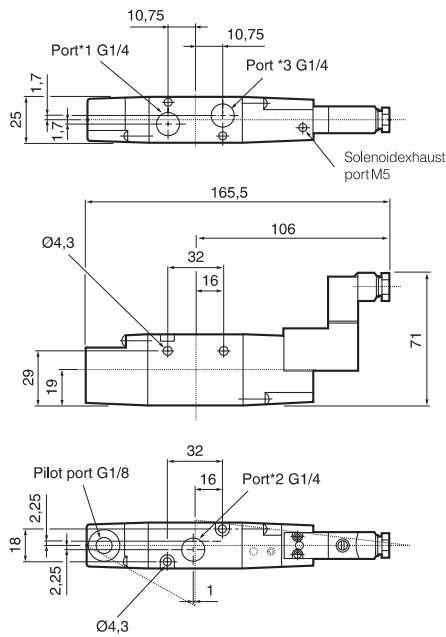
	Air differential return	Spring return
A	154,0	156,0

5/2 Body ported
Single solenoid operated air spring return / spring return

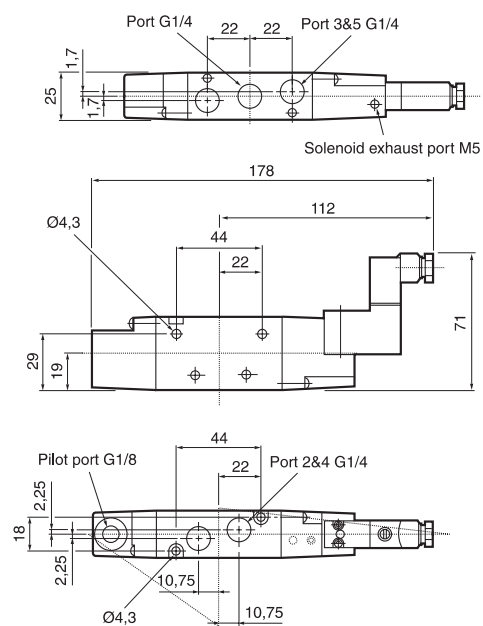


	Air differential return	Spring return
B	166,0	168,0

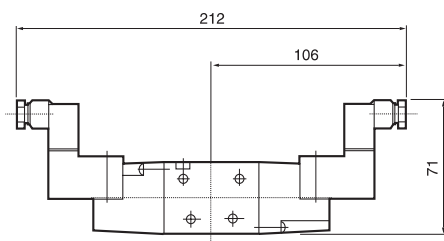
Single solenoid operated air pilot return



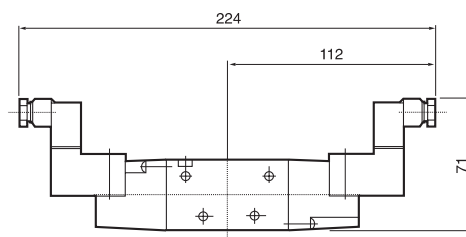
Single solenoid operated air pilot return



Double solenoid operated



Double solenoid operated



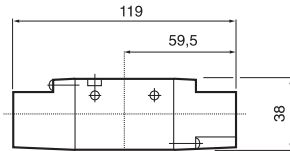
All dimensions in mm unless otherwise stated

Metal Spool Valves

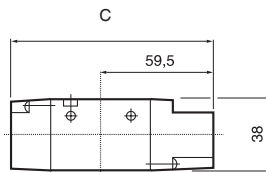
B4

Dimensions, B4 Valve Series

3/2 Body ported
Double air pilot operated

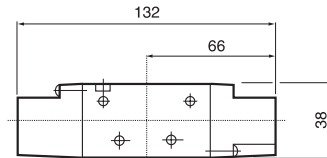


Air pilot operated air spring return / spring return

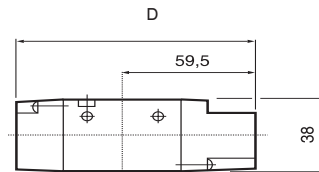


	Air differential return	Spring return
C	107,5	109,5

5/2 Body ported
Double air pilot operated

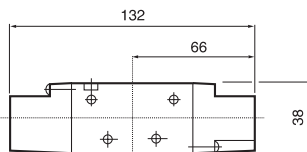


Air pilot operated air spring return / spring return

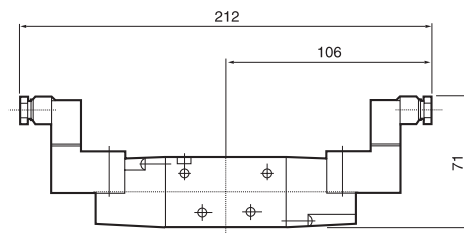


	Air differential return	Spring return
D	120,0	122,0

5/3 Body ported
Double air pilot return

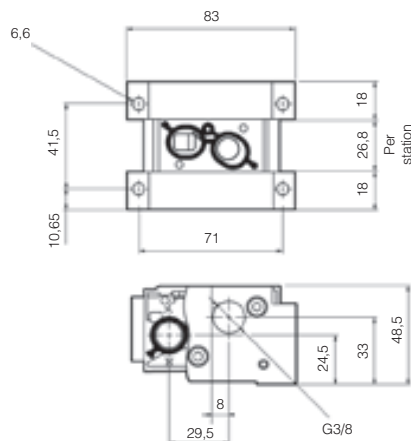


5/3 Body ported
Double solenoid operated

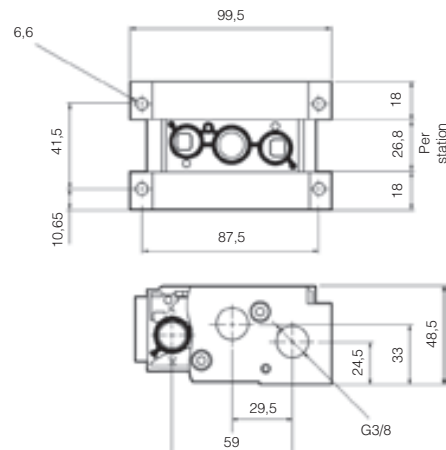


Manifolds - IEM Inlet Exhaust Manifold System

3/2 Inlet Exhaust Manifold
For B4 Body Ported Valves



5/2 Inlet Exhaust Manifold
For B4 Body Ported Valves



All dimensions in mm unless otherwise stated

Metal Spool Valves

B5

- G1/4 ports, 3/2, 5/2 and 5/3 functions
- Inlet-exhaust manifold facility
- Integral mounting holes
- 5 watt solenoid actuators
- EN175301-803 Industrial Form B connector



Operating information

Working pressure	Max 10 bar	Flow (3/2) and (5/2) (acc. to ISO 6358)	Qn = 24 l/s Q max = 37 l/s Cv = 1,4
Working temperature;			
Pneumatically actuated	-10°C to +60°C		
Electrically actuated	-10°C to +50°C		








B 5	2	6	B	C	B	49	C
Basic series		Port size	Pilot source / Pilot exhaust	Solenoid overrides / Lights	Solenoid Enclosures	Pilot operator / Coil voltage¹	
B5 Ported valve		6 G1/4	B Port 1 / Vented / Side	C Locking, flush without light X None	B 22mm Industrial Form B N Valve less 22mm solenoid coil X None	43 24V 50Hz 45 12V DC 49 24V DC 53 110V 50Hz 57 220V 50Hz XX Valve less solenoid operator	
Operator function							
3 Port							
J		3/2 Double solenoid					
V		3/2 N/C Single solenoid - air return / spring assist					
5 Port							
2		5/2 Double solenoid					
5		5/3 Double solenoid - all ports blocked (APB)					
6		5/3 Double solenoid - cyl to exhaust ports (CE)					
7		5/3 Double solenoid - press to cylinder ports (PC)					
E		5/2 Single solenoid - air return / spring assist					
Shaded part numbers are standard							
Engineering level C							

¹ Shaded part numbers are standard
Unshaded part numbers are available on request but will be subject to minimum order quantities
Otherwise order XX version and order solenoid coil separately.

Metal Spool Valves

B5

Main data for Directional control valves, B5 Series (G1/4 threaded ports)

Symbol	Actuator	Return	Signal pressure min, bar at 6 bar actua./return	Changeover time, ms at 6 bar actua./return	Weight Kg	Voltage	Order code	Qty
Electrically actuated 3/2 valves								
	Electric	Air/Spring Assisted	2,4/2,4	24/26		24 VDC Less solenoid coil	B5V6BCB49C B5V6BCNXXC	1 1
	Electric	Electric	1,5/1/5	15/17		24 VDC Less solenoid coil	B5J6BCB49C B5J6BCNXXC	1 1
Electrically actuated 5/2 valves								
	Electric	Air/Spring Assisted	2,4/2,4	24/26		24 VDC Less solenoid coil	B5E6BCB49C B5E6BCNXXC	1 1
Electrically actuated 5/2 valves								
	Electric	Electric	1,5/1,5	15/15	0,283 0,185	24 VDC Less solenoid	B526BCB49C B526BCNXXC	1 1
	Electric	Electric	3,0/3,0	16/18	0,289 0,191	24 VDC Less solenoid	B556BCB49C B556BCNXXC	1 1
	Electric	Electric	3,0/3,0	16/18	0,289 0,191	24 VDC Less solenoid	B566BCB49C B566BCNXXC	1 1
	Electric	Electric	3,0/3,0	16/18	0,289 0,191	24 VDC Less solenoid	B576BCB49C B576BCNXXC	1 1

Order solenoid connectors separately, see page 25 for part numbers.

Internal air supply to differential pilots and solenoids via port 1
Silencers and push-in fittings are shown on page 27.

Metal Spool Valves

B5

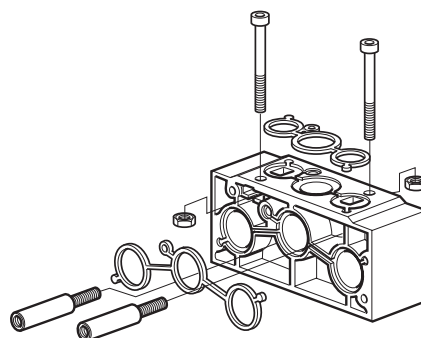
Inlet Exhaust Manifolds for B5 series valves

Standard Base without Flow Controls

Each kit contains:

- 1 pcs Manifold Base
- 2 pcs Mounting screws and nuts
- 2 pcs Tie Rods
- 1 pcs Body-to-base Gasket and
- 1 pcs Base-to-Base Gasket

	Order code	Qty
Manifold Base Kit	PS2817P	1



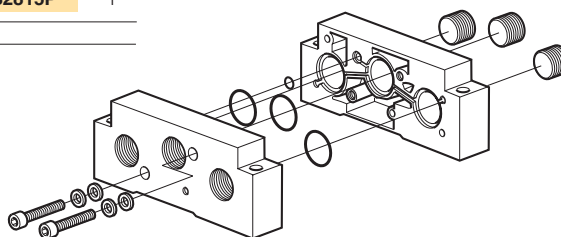
End plates

Standard End Plates may be used with either of above Manifold Bases

Each kit contains:

- 1 right and 1 left End Plate
- 3 pcs O-Rings
- 3 pcs Blanking Plugs
- 2 pcs Socket Head Cap Screws
- 2 pcs Flat Washers
- 2 pcs Lockwashers

	Port Size	Order code	Qty
Manifold End plate kit	G3/8	PS2815P	1



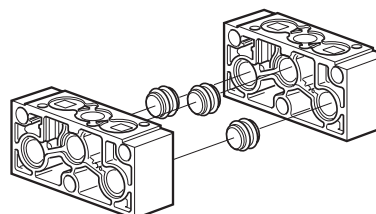
Isolator Plug Kit

Used to isolate the 1, 3 or 5 gallery between two Manifold Bases

Each kit contains:

- 3 pcs Isolator Plugs complete with O-rings

	Order code	Qty
Isolator Plug kit	PS2819P	1

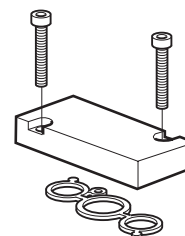


Manifold Blanking plate

Each kit contains:

- 1 pcs Cover Plate
 - 2 pcs Mounting Screws
 - 1 pcs Gasket
- Used to blank off unused stations.

	Order code	Qty
Manifold Blanking plate	PS2869P	1

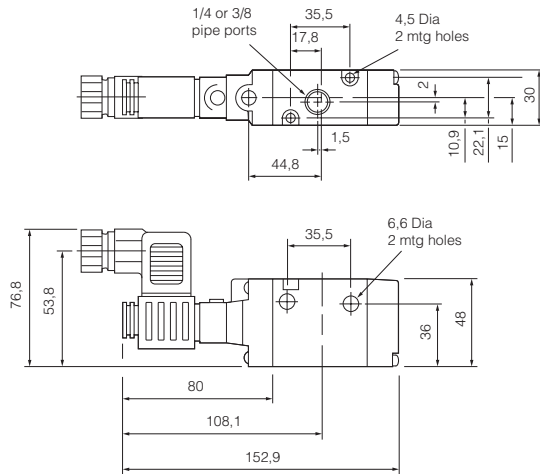


Metal Spool Valves

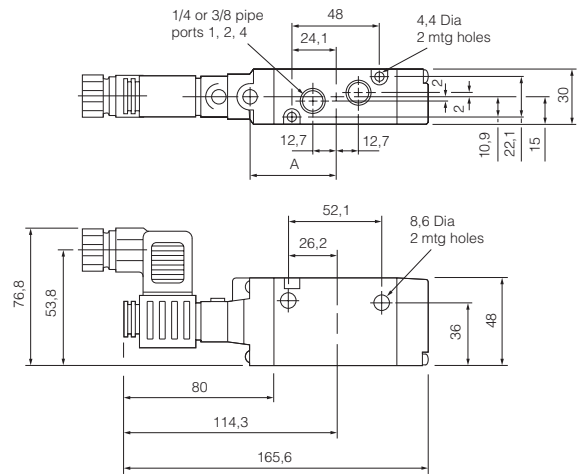
B5

Dimensions, B5 Valve Series

3/2 Body ported Single solenoid operated air spring return / spring return

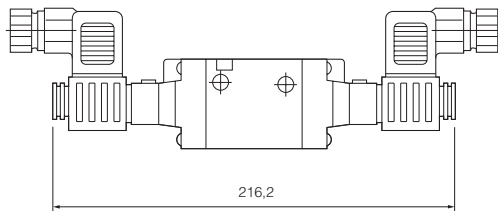


5/2 and 5/3 Body ported Single solenoid operated air spring return / spring return

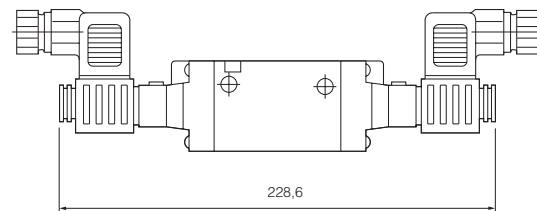


	2 Position	3 Position
A	51,1	62,7

Double solenoid operated



Double solenoid operated



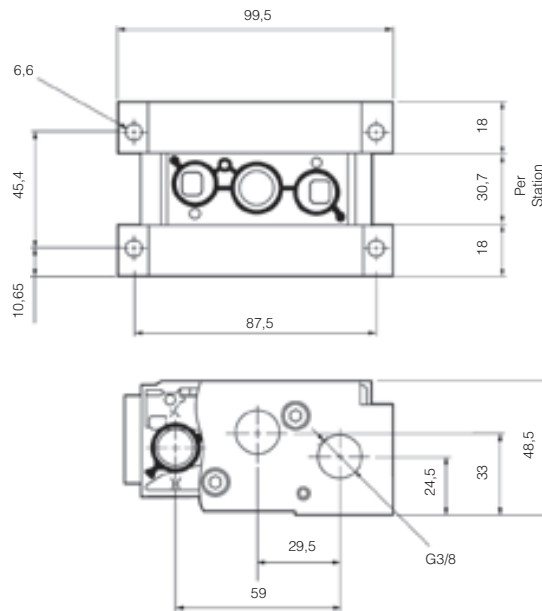
All dimensions in mm unless otherwise stated

Metal Spool Valves

B5

Manifolds - IEM Inlet Exhaust Manifold System

5/2 Inlet Exhaust Manifold For B5 Body Ported Valves



All dimensions in mm unless otherwise stated

Solenoid Valve Options

B Series

Valve supplied without solenoids

B3 and B4 valves are designed to accept 15mm solenoid operator / connector CECC/EN 175301-803 Form C/ISO 15217. Solenoid operated valves may be ordered without the solenoid operator and connector by substituting XXXX in positions 6 to 9 of the part number. Example B3T5BXXXXH is part number for 5/2 Single solenoid operated spring return valve without solenoid operator and standard connector. See Fig 1.



Fig 1.

B5 valves are designed to accept 22mm solenoid operator/connector EN175301-803 Industrial Form B. Solenoid valves may be ordered without the coil and connector and are supplied with the solenoid operator fitted to the valve. See Fig 2.
Example B5E6BCNXXC is part number for 5/2 Single solenoid operated valve fitted with the solenoid operator having flush locking M/O without coils and connectors.



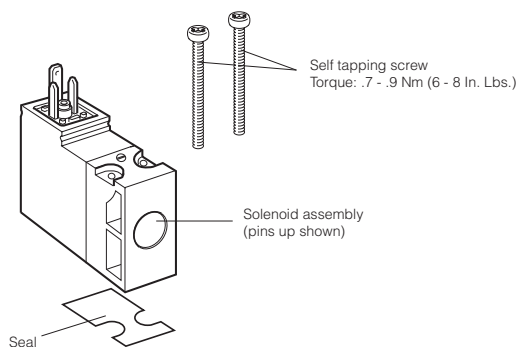
Fig 2.

Solenoid Operators

B Series

15mm Solenoid Operators for B3 and B4 Valves

Electrical connection EN 175302-803 C/ISO15217 (Ex DIN 43650C)



Solenoids 15mm NC, standard

(Note! Mounting screws included with basic valve)

	Voltage	Weight Kg	Order code Without manual override	Weight Kg	Order code Override, blue, non locking flush	Weight Kg	Order code Override, yellow, locking flush
	12 VDC	0,038	P2E-KV32B0	0,038	P2E-KV32B1	0,038	P2E-KV32B2
	24 VDC	0,038	P2E-KV32C0	0,038	P2E-KV32C1	0,038	P2E-KV32C2
	48 VDC	0,038	P2E-KV32D0	0,038	P2E-KV32D1	0,038	P2E-KV32D2
	24 VAC 50Hz	0,038	P2E-KV31C0	0,038	P2E-KV31C1	0,038	P2E-KV31C2
	48 VAC 50/60Hz	0,038	P2E-KV34D0	0,038	P2E-KV34D1	0,038	P2E-KV34D2
	115 VAC 50Hz	0,038	P2E-KV31F0	0,038	P2E-KV31F1	0,038	P2E-KV31F2
	120 VAC 60Hz						
	230 VAC 50Hz	0,038	P2E-KV31J0	0,038	P2E-KV31J1	0,038	P2E-KV31J2
	240 VAC 60Hz						

Solenoid coils for B5 valves

Solenoid coils to suit 'N' enclosure type 22mm 3-Pin EN 175301-803 Industrial Form B

Coil Voltage	Order code	Weight (kg)
24 VAC	P2FCB442	0.093
12 VDC	P2FCB445	0.093
24 VDC	P2FCB449	0.093
110 VAC	P2FCB453	0.093
230 VAC	P2FCB457	0.093

Spare solenoid nuts

Valves with vented exhaust are fitted with diffuser plastic nut

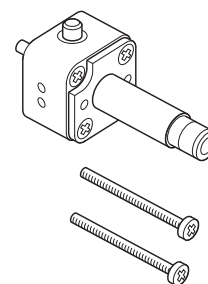
Order code

P2FND



Solenoid Operator Kit for B5 valves

Each kit contains:
1 large 'O' ring for operator base
1 small 'O' ring for operator base
2 mounting screws






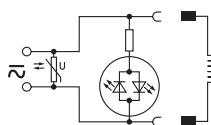
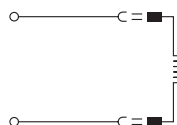
	Order code	Weight (kg)	Qty
Non locking m/o	P2FP13N4D	0.04	1
Locking m/o	P2FP13N4C	0.04	1

Solenoid Valves

B Series

Solenoid Connectors / Cable Plugs EN175301-803

	Description	Order code 15mm Form C/ISO15217 Suitable for B3 & B4 valves	Order code 22mm Industrial Form B Suitable for B5 valves
With large headed screw suitable for mounting in inaccessible or recess position 	Standard IP65	P8C-C	
	24V DC LED and protection IP65	P8C-C26C	
	110V AC LED and protection IP65	P8C-C21E	
With standard screw 	Standard IP65 without flying lead	P8C-D	3EV10V10
	With LED and protection 24V AC/DC	P8C-D26C	3EV10V20-24
	With LED and protection 110V AC	P8C-D21E	3EV10V20-110
	With LED and protection 230V AC		3EV10V20-230
With cable 	Standard with 2m cable IP65	P8L-C2	
	Standard with 5m cable IP65	P8L-C5	
	24V AC/DC, 2m cable LED and protection IP65	P8L-C226C	
	24V AC/DC, 5m cable LED and protection IP65	P8L-C526C	3EV10V20-24L5
	24V AC/DC, 10m cable LED and protection IP65	P8L-CA26C	
	110V AC/DC, 2m cable LED and protection IP65	P8L-C221E	
	110V AC/DC, 5m cable LED and protection IP65	P8L-C521E	3EV10V20-110L5
	230V AC, 5m cable LED and protection IP65		3EV10V20-230L5



P8C-C
P8C-D
P8L-C2
P8L-C5
3EV10V10
3EV290V10

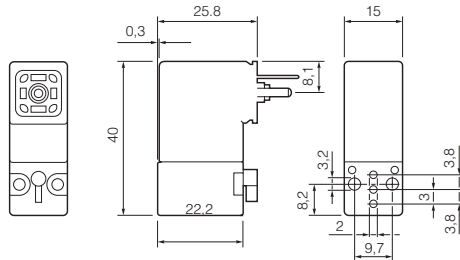
P8C-D26C	P8L-C226C
P8C-D21E	P8L-C526C
P8C-C26C	P8L-CA26C
P8C-C21E	P8L-C221E
	P8L-C521E
3EV10V20-24	3EV10V20-24L5
3EV10V20-110	3EV10V20-110L5
3EV10V20-230	3EV10V20-230L5

Solenoid Valves

B Series

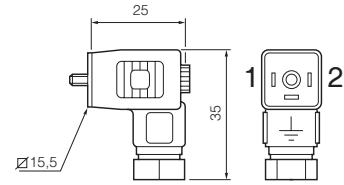
Cable Plug Dimensions (mm)

Solenoid valves P2E-•V...



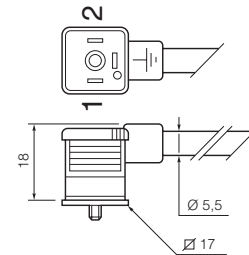
Cable plugs form C / ISO 15217 for B3 & B4 valves

- P8C-C
- P8C-C26C
- P8C-C21E
- P8C-D
- P8C-D26C
- P8C-D21E



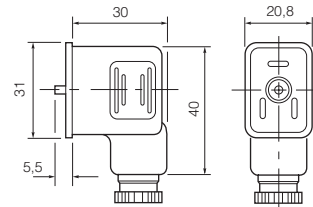
Cable plugs form C / ISO 15217 with cables for B3 & B4 valves

- P8L-C2
- P8LC5
- P8L-C226C
- P8L-C526C
- P8L-CA26C
- P8L-C221E
- P8L-C521E



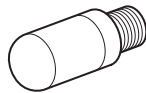
Cable plugs Form B for B5 valves

- 3EV10V10



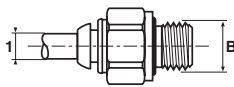
Accessories, Service and Replacement Parts

Silencers



Port	Ordercode	Pack Qty
M5	P6M-PAC5	10
G1/8	P6M-PAB1	10
G1/4	P6M-PAB2	10

Fittings



Male straight connectors - Parallel thread

Tube dia 1	Thread	Ordercode	Box Qty
B			
4	M5 x 0.8	F8PMB4M5	30
6	M5 x 0.8	F8PMB6M5	20
4	G1/8	F4PMB4-1/8	20
6	G1/8	F4PMB6-1/8	30
8	G1/8	F4PMB8-1/8	40
6	G1/4	F4PMB6-1/4	30
8	G1/4	F4PB8-1/4	30
10	G1/4	F4PB10-1/4	20
12	G1/4	F4PB12-1/4	10



Accessories, Services and Replacement Parts B Series

B3,B4 and B5 Spool/Body repair kits contain:

- Spool
- Spool seals
- Lip seal – operator pistons
- Gaskets
- Spool springs
- Grease packet

B3 series valves

3/2 solenoid and remote air pilot operated valves -Spool/Body Repair kit	PS2971F
5/2 solenoid and remote air pilot operated valves -Spool/Body Repair kit	PS2901F
5/3 APB solenoid and remote pilot operated valves - Spool/Body Repair kit	PS2902F

Manifold gasket kits

3/2 IEM Gasket kit (10 valve/manifold gaskets)	PS2980F
5/2 IEM Gasket kit (10 valve/manifold gaskets)	PS2981F

B4 series valves

3/2 solenoid and remote air pilot operated valves - Spool/Body Repair kit	PS4571F
5/2 solenoid and remote air pilot operated valves - Spool/Body Repair kit	PS4501F
5/3 solenoid and remote pilot operated valves – APB Spool/Body Repair kit	PS4502F
5/3 solenoid and remote pilot operated valves – CE Spool/Body repair kit	PS4503F
5/3 solenoid and remote pilot operated valves – PC Spool/Body repair kit	PS4504F

Manifold gasket Kits.

3/2 IEM Gasket Kit (10 valve/manifold gaskets)	PS4580F
5/2 IEM Gasket Kit (10 valve/manifold gaskets)	PS4581F

B5 series valves

3/2 solenoid and remote air pilot operated valves - Spool/Body Repair kit	PS2871P
5/2 solenoid and remote air pilot operated valves - Spool/Body Repair kit	PS2801P
5/3 solenoid and remote pilot operated valves – APB Spool/Body Repair kit	PS2802P
5/3 solenoid and remote pilot operated valves – CE Spool/Body repair kit	PS 2803P
5/3 solenoid and remote pilot operated valves – PC Spool/Body repair kit	PS2804P

Manifold gasket Kits.

3/2 & 5/2 IEM Gasket kit PS2884P (10 valve/manifold gaskets)	PS2884P
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Solenoid coils for B5 valves

Solenoid coils to suit 'N' enclosure type 22mm 3-Pin Industrial Form B

Coil Voltage	Order code	Weight (kg)
24VAC	P2FCB442	0.093
12VDC	P2FCB445	0.093
24VDC	P2FCB449	0.093
110VAC	P2FCB453	0.093
230VAC	P2FCB457	0.093

Solenoid operator kit

Each kit contains:

- 1 Large 'O'ring for operator base
- 1 Small 'O' ring for operator base

	Order code	Qty
Non locking m/o	P2FP13N4D	1
Locking m/o	P2FP13N4C	1



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