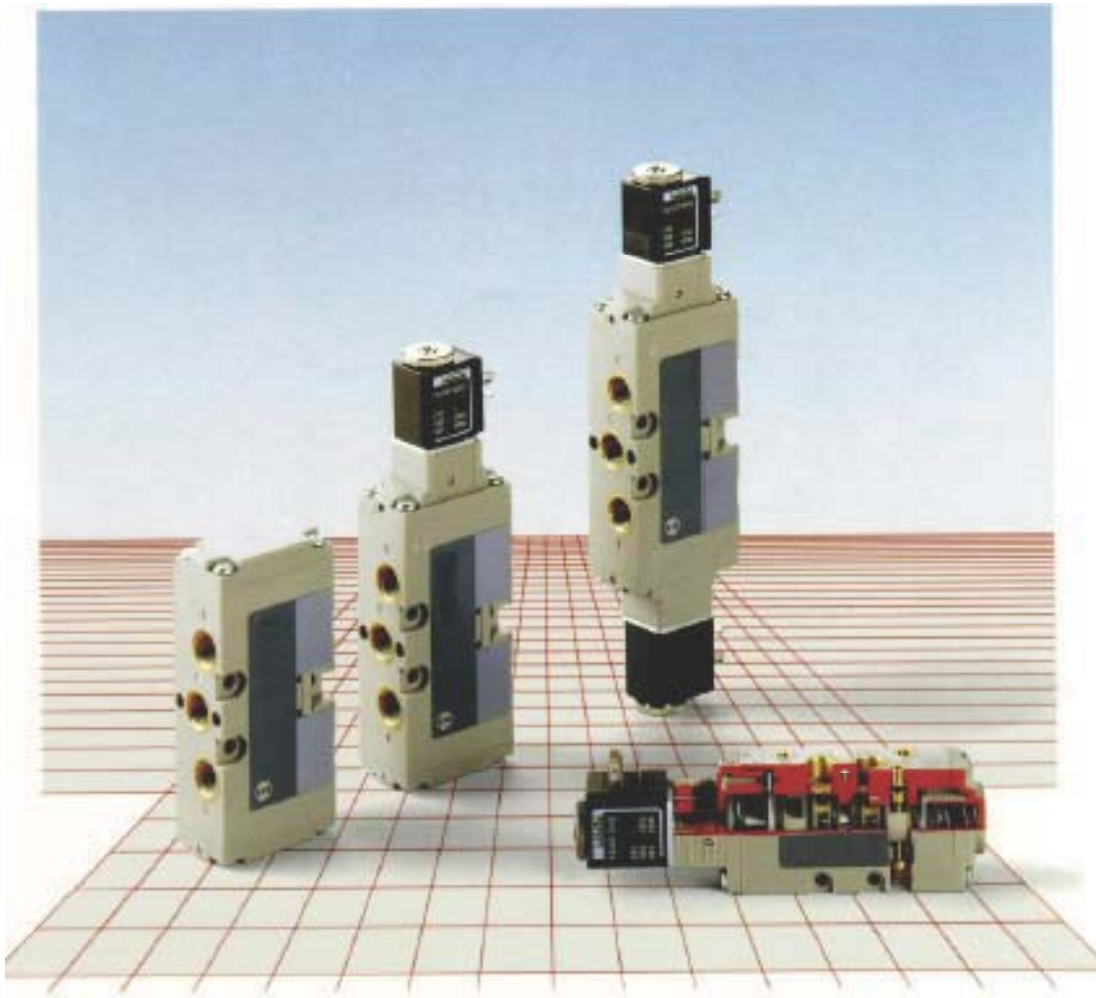
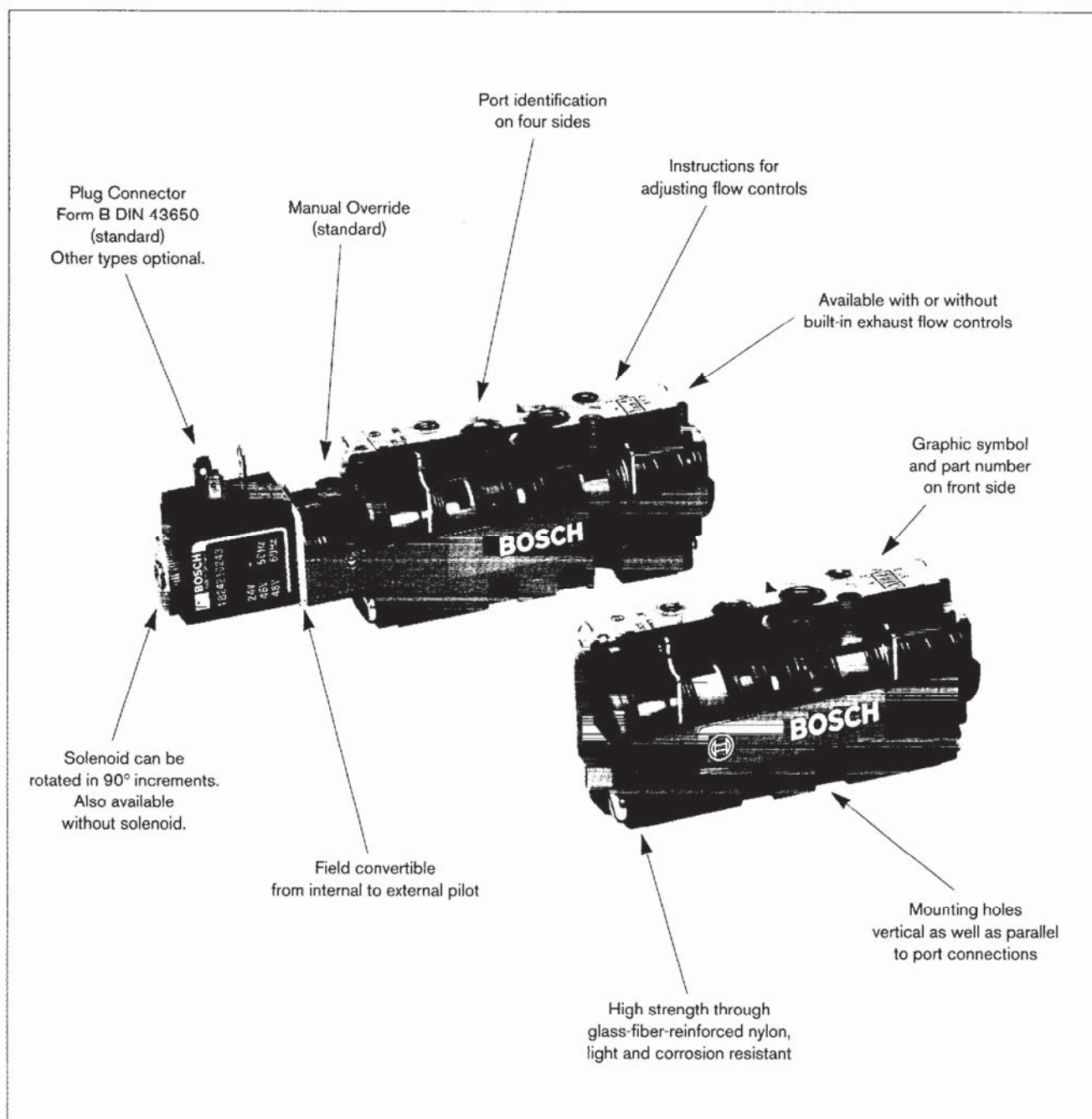


1/8" & 1/4" NPTF Body Ported Valves



Bosch Rexroth Corporation, Pneumatics
1953 Mercer Road, Lexington, KY 40511
Tel: 859-254-8031 • FAX: 859-254-4188/800-489-4188
Email: pneumatics@boschrexroth-us.com
www.boschrexroth-us.com

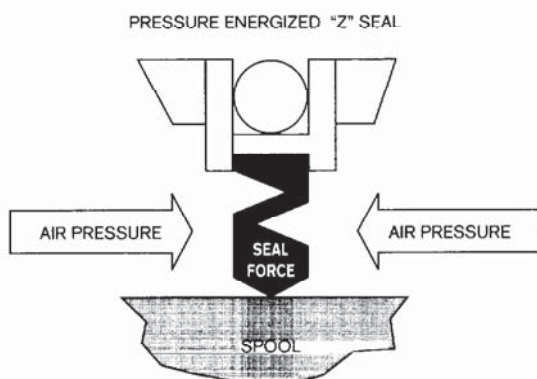
Inner values give these valves the technological advantage.



- | | |
|--|--|
| <input type="checkbox"/> High flow in a compact package.
1/8" NPTF ports = Cv of 0.7
1/4" NPTF ports = Cv of 1.8 | <input type="checkbox"/> Pressure operated elastic sealing (buna N) Z seal. |
| <input type="checkbox"/> Space efficient when mounted on manifold. | <input type="checkbox"/> Pulse valve with equal or differential pistons. |
| <input type="checkbox"/> Lightweight. | <input type="checkbox"/> Usable for vacuum with external pilot. |
| <input type="checkbox"/> Suitable for oil-free operation. | <input type="checkbox"/> Dual pressure possible with external pilot and supply at ports 3 and 5. |
| <input type="checkbox"/> Internal and external pilot supply. | <input type="checkbox"/> Reverse flow capability. |

These standard features . . .

- ☐ Unique pressure energized "Z" seal produces extremely low friction and low breakaway forces. System air pressure increases sealing force in the valve's active flow passages only. Sealing force is applied to the spool only where required. The higher the system pressure, the greater the sealing force applied to the spool.



- ☐ Lightweight 50% glass filled nylon.

- ☐ Solenoid/pilot operated design.

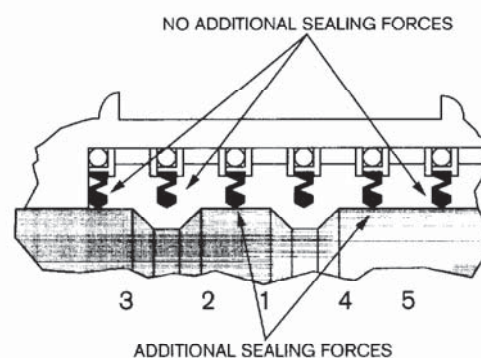
- ☐ Small size – high flow.

- ☐ Manual override on solenoids.

- ☐ Field convertible from internal to external pilot.

Yield these exceptional benefits . . .

- ☐ Lower shift pressures.
- ☐ Longer seal life.
- ☐ Faster response.



- ☐ Reduced weight.
- ☐ Increased corrosion resistance.
- ☐ Non-conductivity.
- ☐ Greater dimensional stability.
- ☐ Lower cost.

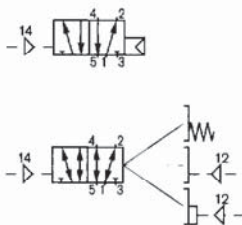
- ☐ Lower wattage coils.
- ☐ Prevents burn-out due to coil sticking.

- ☐ Same valve covers a wide variety of applications requiring less inventory and installation space.

- ☐ Reduces set-up time and helps in trouble shooting.

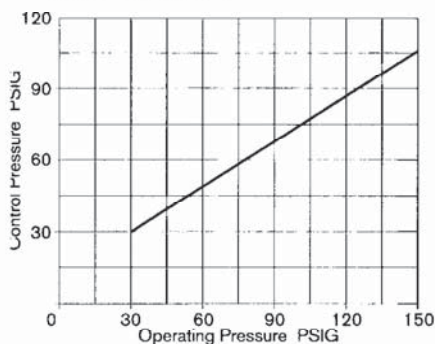
- ☐ Reduces inventory. Enables use of same valve on low pressure vacuum, dual pressures, etc.

5/2-Way Valve Pneumatic Actuation 1/8" & 1/4" NPTF

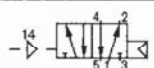





- Suitable for non-lubricated service
- May be used for vacuum service
- Glass-filled nylon body
- Zero overlap spool
- Pressure energized Z seals for low shifting pressure and optimum sealing
- Available with or without built-in exhaust flow controls
- Flow controls and mounting screws are accessible from one side
- Mounting holes vertical as well as parallel to ports for installation flexibility
- Can be inline or manifold mounted (common supply and exhaust)
- Space efficient mounted on manifold strip
- Blank station plates available for manifolds

Pilot pressure graph




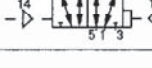


General features

Type	Spool valve with elastomeric seals	
Mounting	Inline or manifold	
Mounting position	Optional	
Ambient temperature	175°F	
Media temperature	175°F	
Pneumatic		
Maximum pressure	150 psig	
Actuation	Pneumatic pilot(s)	
Pneumatic symbol	Minimum operating pressure	Minimum pilot pressure
	30 psig	See graph
	Vacuum	35 psig
	Vacuum	15 psig
	Vacuum	15/30 psig

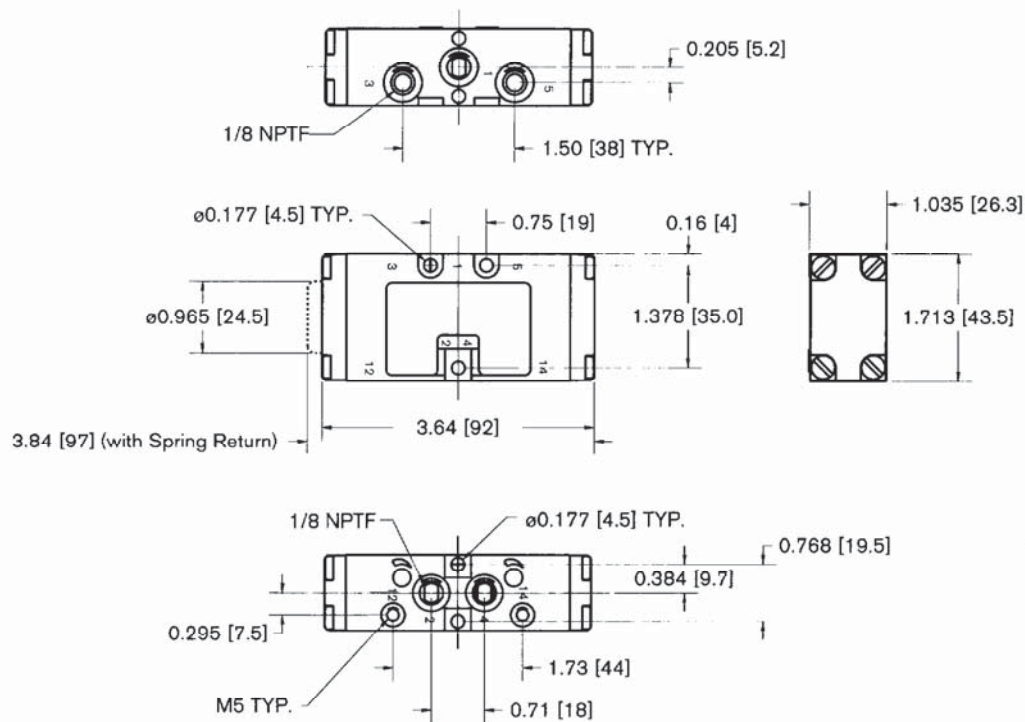
Port size	1/8" NPTF	1/4" NPTF
Nominal flow*	25 SCFM (Cv = 0.7)	63 SCFM (Cv = 1.8)
Weight	5.3 oz	8.6 oz.

* Flow from Port 1 (P) to Port 2 or 4 (A or B) supply pressure 90 psig; pressure drop 15 psi.

Description	Type	Symbol	1/8" NPTF Ports		1/4" NPTF Ports	
			without flow control	with flow control	without flow control	with flow control
5/2 directional control valve	Pilot operated with interna air return		0 820 230 005	0 820 230 105	0 820 231 005	0 820 231 105
Pneumatically operated	Pilot operated spring return		0 820 230 006	0 820 230 106	0 820 231 006	0 820 231 106
Body ported	Double pilot		0 820 230 007	0 820 230 107	0 820 231 007	0 820 231 107
	Double pilot with differential piston		0 820 230 008	0 820 230 108	0 820 231 008	0 820 231 108
Wear parts kit			1 827 009 388		1 827 009 389	

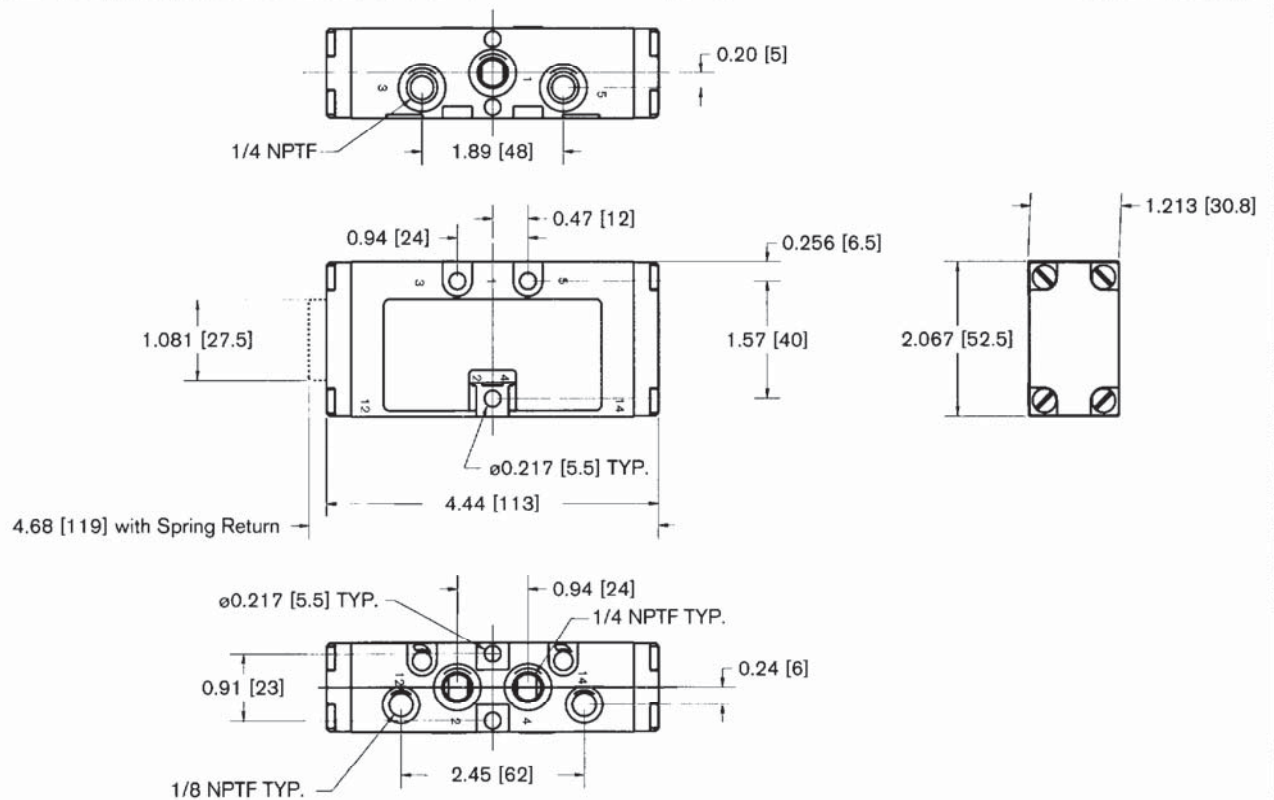
5/2-Way pneumatic actuated with 1/8" NPTF ports

Inches [Millimeters]

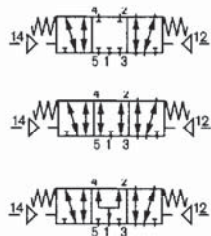


5/2-Way pneumatic actuated with 1/4" NPTF ports

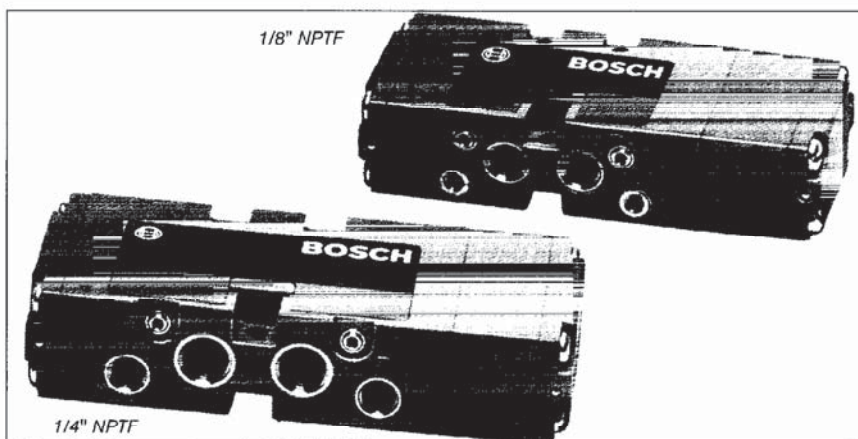
Inches [Millimeters]

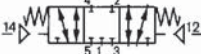




5/3-Way Valve Pneumatic Actuation 1/8" & 1/4" NPTF



- Suitable for non-lubricated service
- May be used for vacuum service
- Glass-filled nylon body
- Zero overlap spool
- Pressure energized Z seals for low shifting pressure and optimum sealing
- Available with or without built-in exhaust flow controls
- Flow controls and mounting screws are accessible from one side
- Mounting holes vertical as well as parallel to ports for installation flexibility
- Can be inline or manifold mounted (common supply and exhaust)
- Space efficient mounted on manifold strip
- Blank station plates available for manifolds



General features				
Type	Spool valve with elastomeric seals			
Mounting	Inline or manifold			
Mounting position	Optional			
Ambient temperature	175°F			
Media temperature	175°F			
Pneumatic				
Minimum pressure	Vacuum			
Minimum pilot pressure	35 psig			
Nominal pressure	150 psig			
Actuation	Pneumatic pilot(s)			
Nominal flow*	Center position		End position	
	1/8" ports	1/4" ports	1/8" ports	1/4" ports
	---	---	19 SCFM	42 SCFM
	21 SCFM	42 SCFM	23 SCFM	46 SCFM
	21 SCFM	42 SCFM	23 SCFM	46 SCFM

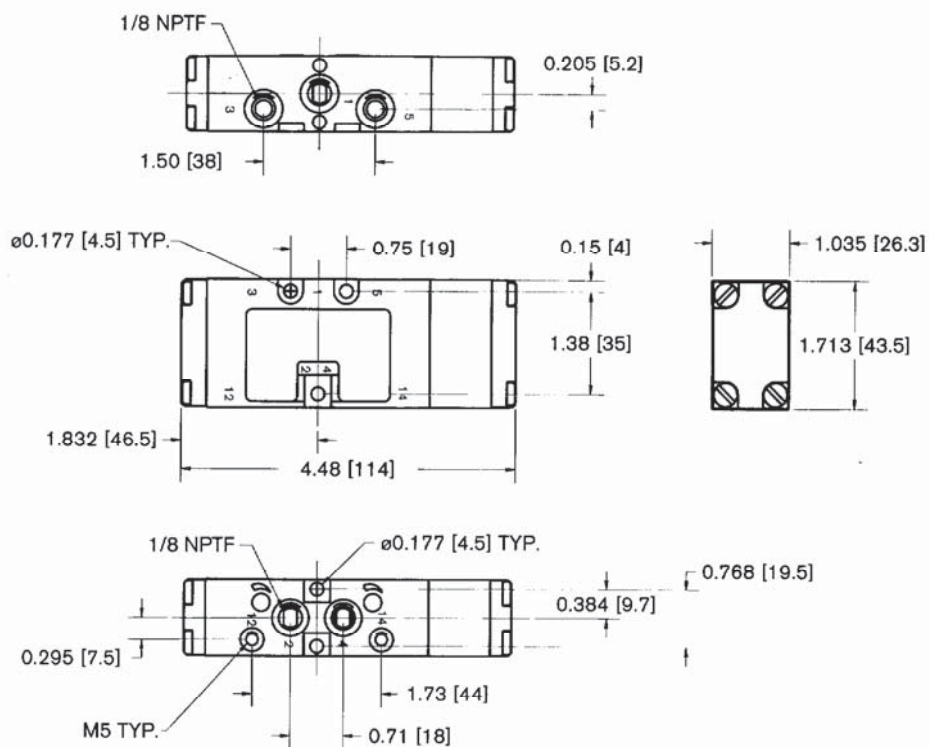
* Flow from Port 1 (P) to Port 2 or 4 (A or B) supply pressure 90 psig; pressure drop 15 psi.

Port size	1/8" NPTF	1/4" NPTF
Weight	5.3 oz	8.6 oz.

Description	Symbol	1/8" NPTF Ports		1/4" NPTF Ports	
		without flow control	with flow control	without flow control	with flow control
5/3 directional control valve		0 820 234 004	0 820 234 104	0 820 235 004	0 820 235 104
Pneumatically operated		0 820 234 005	0 820 234 105	0 820 235 005	0 820 235 105
Body ported		0 820 234 006	0 820 234 106	0 820 235 006	0 820 235 106
Wear parts kit		1 827 009 388		1 827 009 389	

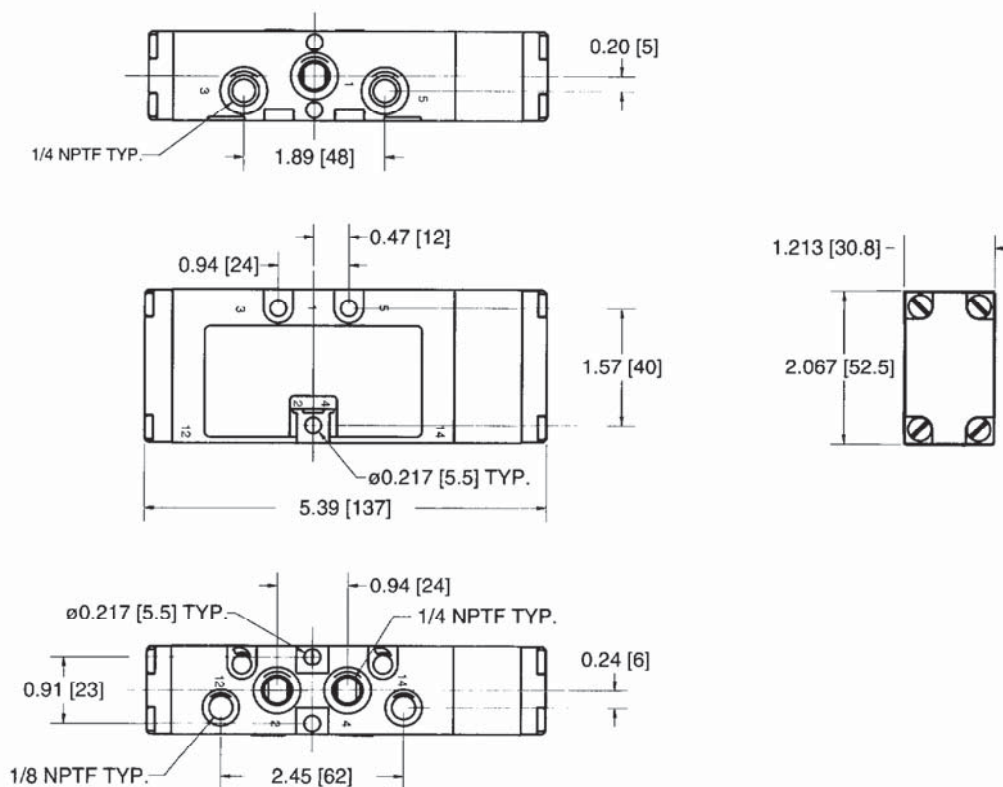
5/3-Way pneumatic actuated with 1/8" NPTF ports

Inches [Millimeters]

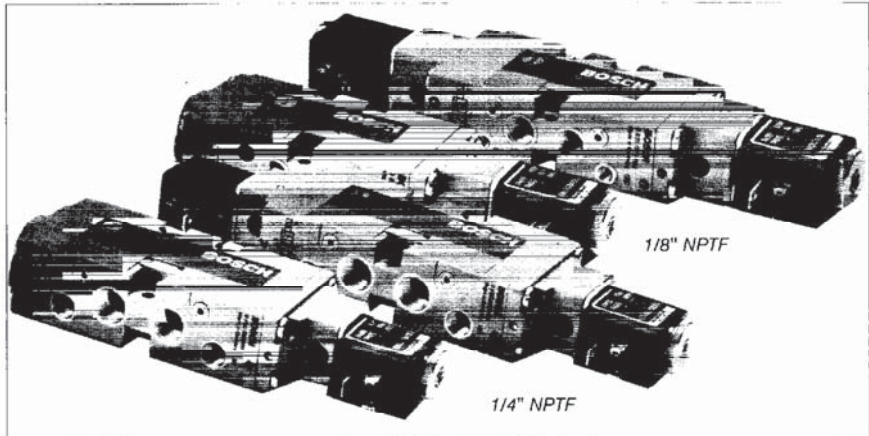


5/3-Way pneumatic actuated with 1/4" NPTF ports

Inches [Millimeters]



5/2-Way Valve Electric Actuation 1/8" & 1/4" NPTF





- Suitable for non-lubricated service
- May be used for vacuum with external pilot
- Glass-filled nylon body
- Zero overlap spool
- Pressure actuated Z seals for low shift pressures and optimum sealing
- Field convertible from internal to external pilot
- Manual override, standard
- Available with or without built-in exhaust flow controls
- Manual override, flow controls and mounting screws are accessible from one side
- Mounting holes vertical as well as parallel to ports for installation flexibility
- Can be inline or manifold mounted (common supply and exhaust)
- Space efficient mounted on manifold strip
- Blank station plates available for manifolds
- Standard coil is Form B (DIN 43650)
- Coil can be rotated in 90° increments
- DIN connector (Form B DIN 43650) can be rotated in 180° increments

General features

Type	Spool valve with elastomeric seals
Mounting	Inline or manifold
Mounting position	Optional
Ambient temperature	125°F
Media temperature	140°F
Nominal pressure	150 psig
Actuation	Pneumatic pilot(s)
Pneumatic	
-- Single solenoid	37 psig
-- Double solenoid	15 psig
-- with external pilot supply	Vacuum
Maximum pressure	150 psig
Electrical	
-- Standard coil	Form B (DIN 43650)
-- Power consumption (coil)	
-- AC energizing	11.8 VA
-- AC holding	9.0 VA
-- DC	4.8 W
Continuous duty	100%
Protection rating	IP65 with DIN connector
Connection	DIN connector Form B (DIN 43650)

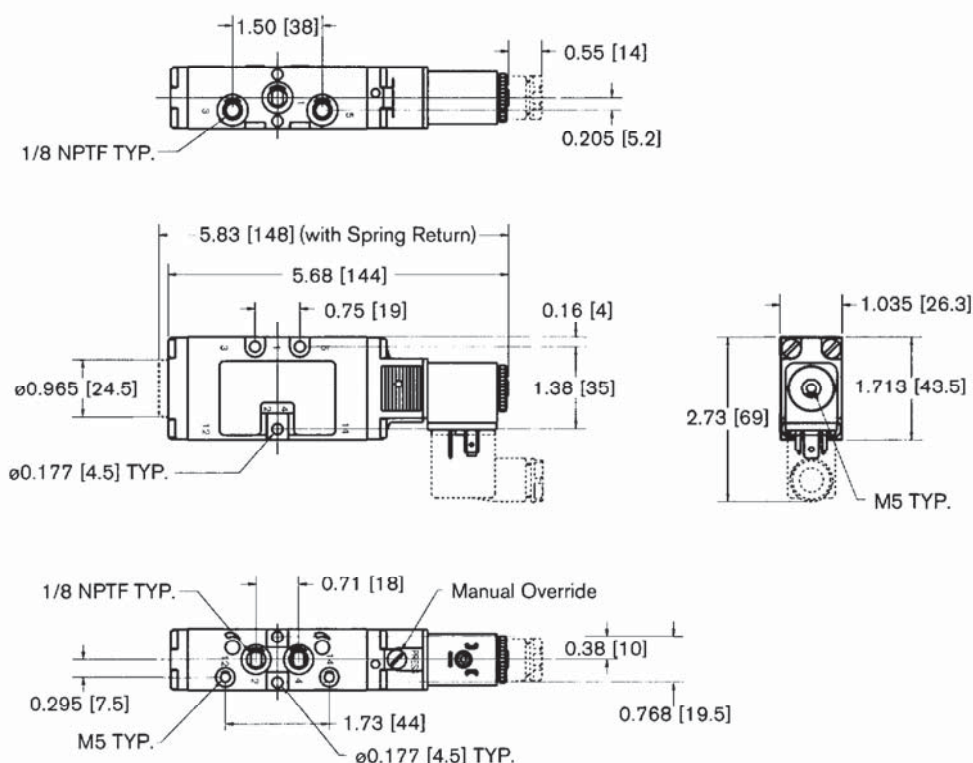
Port size	1/8" NPTF	1/4" NPTF
Nominal flow*	25 SCFM (Cv = 0.7)	63 SCFM (Cv = 1.8)
Weight		
-- Single solenoid	9.2 oz	12.7 oz.
-- Double solenoid	12.9 oz	16.2 oz

* Flow from Port 1 (P) to Port 2 or 4 (A or B) supply pressure 90 psig; pressure drop 15 psi.

Description	Type	Symbol	Voltage	1/8" NPTF Ports		1/4" NPTF Ports	
				without flow control	with flow control	without flow control	with flow control
5/2 directional control valve Electrically operated Body ported	Single solenoid spring return		24 VDC	0 820 022 046	0 820 022 146	0 820 023 046	0 820 023 146
			24/60 VAC	0 820 022 047	0 820 022 147	0 820 023 047	0 820 023 147
			110/60 VAC	0 820 022 048	0 820 022 148	0 820 023 048	0 820 023 148
			Less coil	0 820 022 970	0 820 022 968	0 820 023 972	0 820 023 970
	Double solenoid		24 VDC	0 820 022 522	0 820 022 622	0 820 023 522	0 820 023 622
			24/60 VAC	0 820 022 523	0 820 022 623	0 820 023 523	0 820 023 623
			110/60 VAC	0 820 022 524	0 820 022 624	0 820 023 524	0 820 023 624
			Less coil	0 820 022 971	0 820 022 969	0 820 023 973	0 820 023 971
Wear parts kit			1 827 009 388		1 827 009 389		

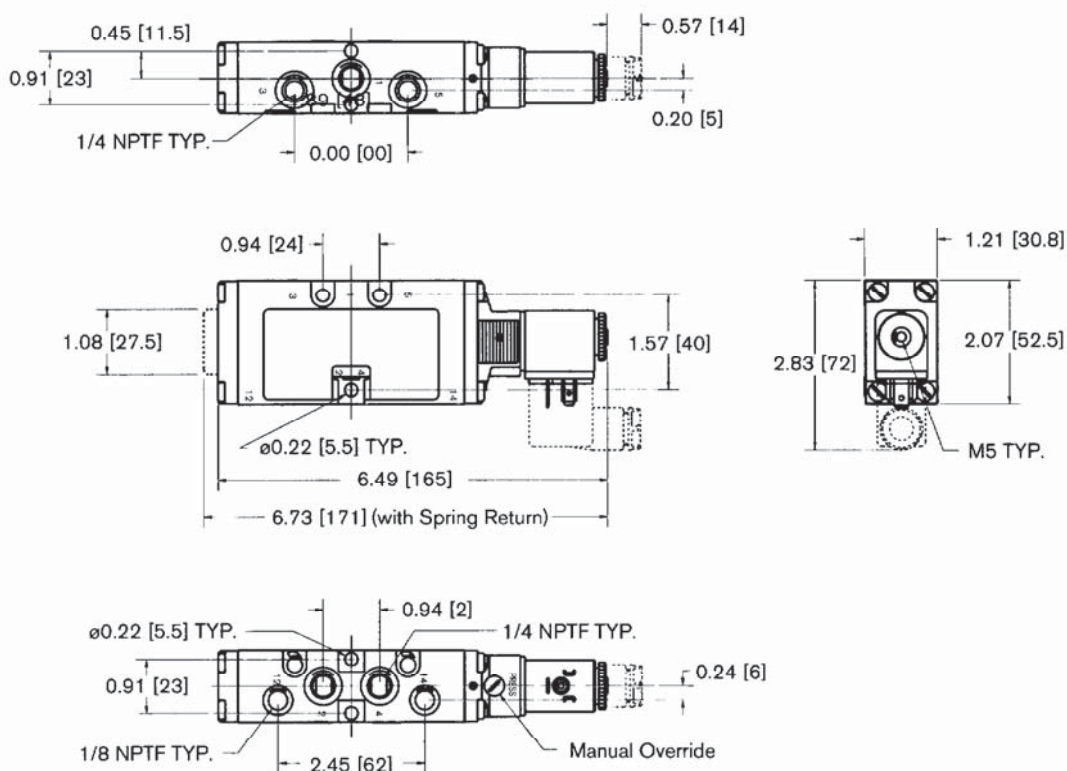
5/2-Way electrically actuated with 1/8" NPTF ports, single solenoid

Inches [Millimeters]



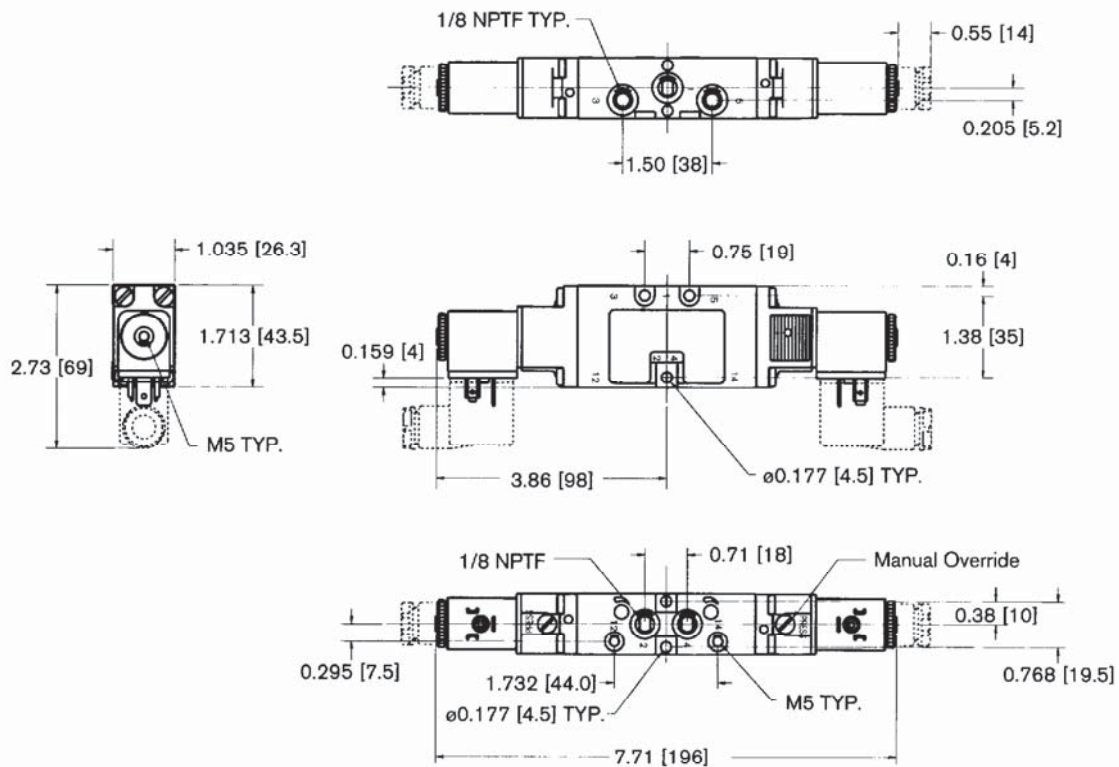
5/2-Way electrically actuated with 1/4" NPTF ports, single solenoid

Inches [Millimeters]

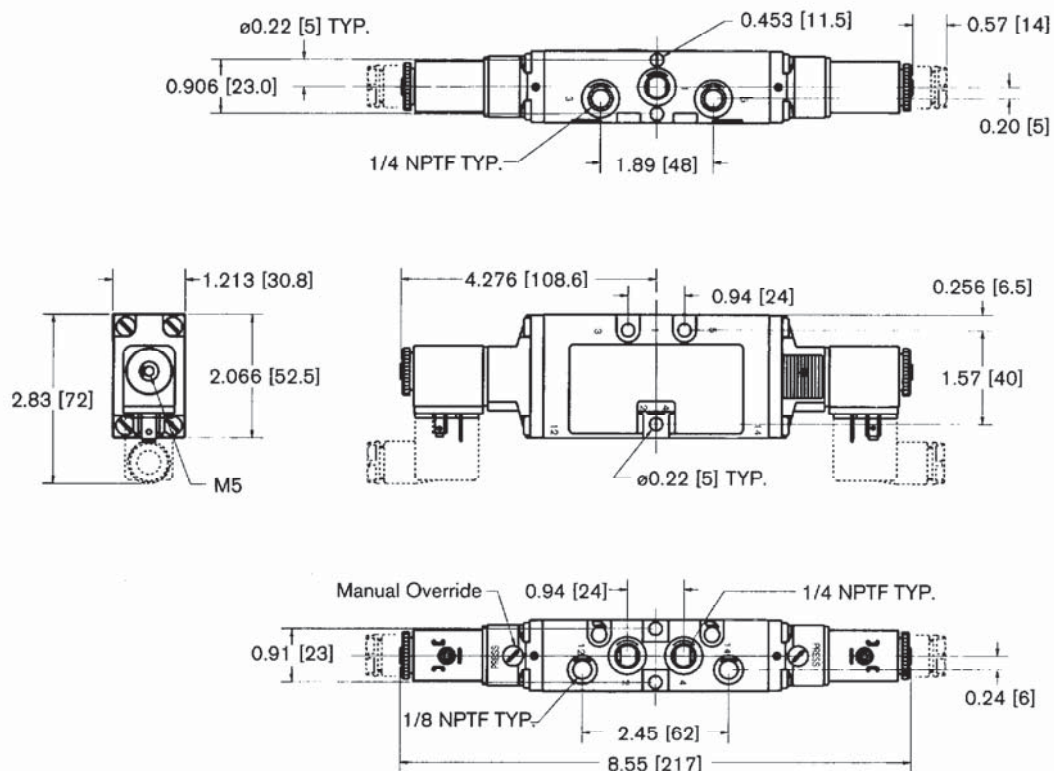


5/2-Way electrically actuated with 1/8" NPTF ports, double solenoid

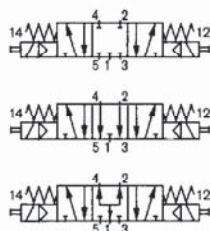
Inches [Millimeters]

**5/2-Way electrically actuated with 1/4" NPTF ports, double solenoid**

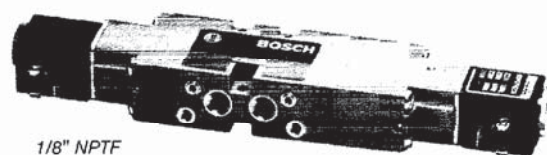
Inches [Millimeters]



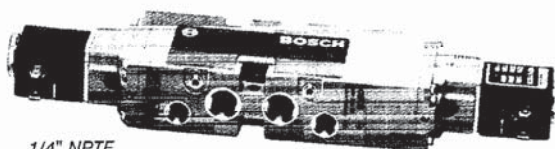
5/3-Way Valve Electric Actuation 1/8" & 1/4" NPTF



- Suitable for non-lubricated service
- May be used for vacuum with external pilot
- Glass-filled nylon body
- Zero overlap spool
- Pressure energized Z seals for low shifting pressure and optimum sealing
- Field convertible from internal to external pilot
- Manual override, standard
- Available with or without built-in exhaust flow controls
- Manual override flow controls and mounting screws are accessible from one side
- Mounting holes vertical as well as parallel to ports for installation flexibility
- Can be inline or manifold mounted (common supply and exhaust)
- Space efficient mounted on manifold strip
- Blank station plates available for manifolds
- Standard coil is Form B (DIN 43650)
- Coil can be rotated in 90° increments
- DIN connector (Form B DIN 43650) can be rotated in 180° increments


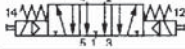



1/8" NPTF



1/4" NPTF

General features

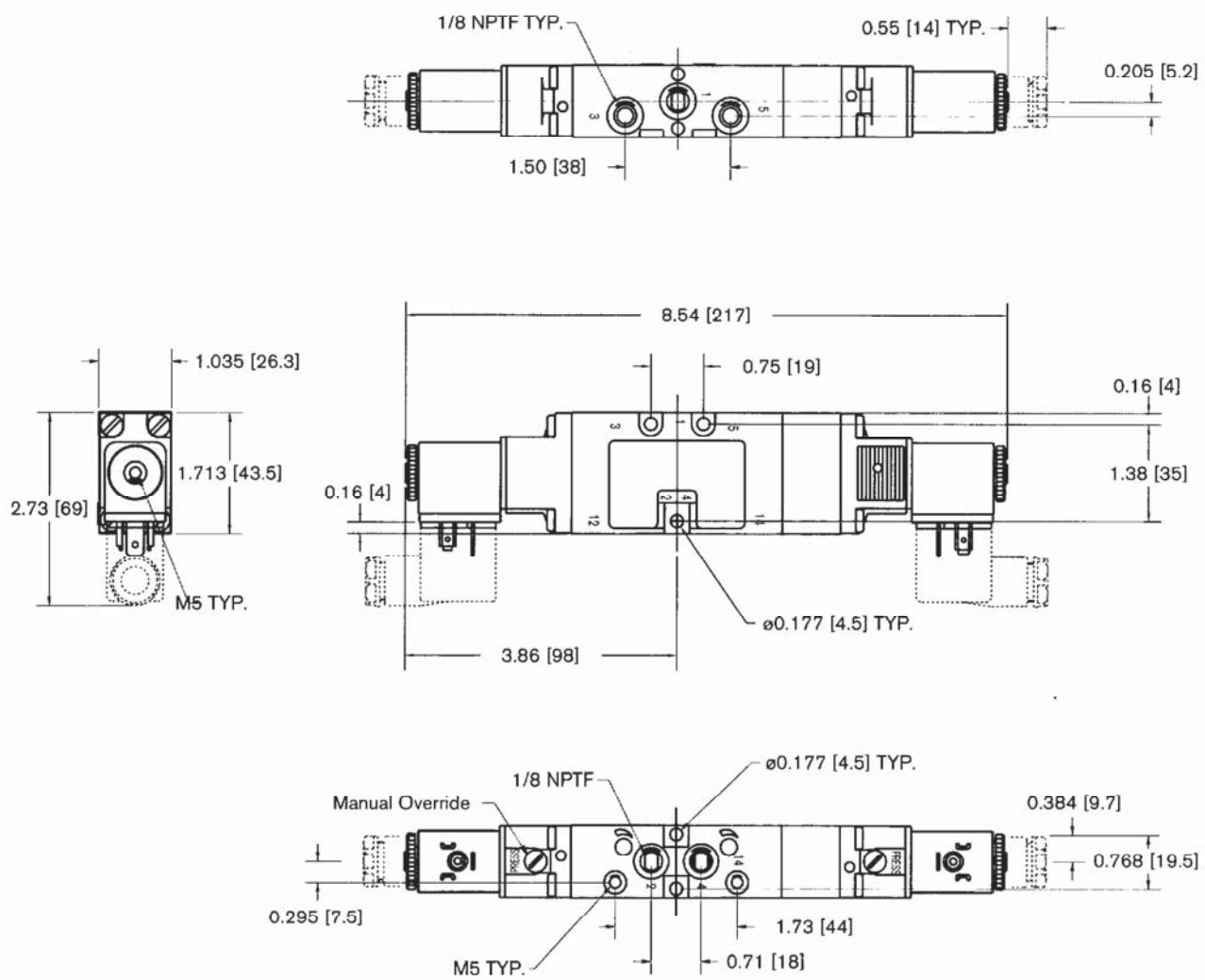
Type	Spool valve with elastomeric seals			
Mounting	Inline or manifold			
Mounting position	Optional			
Temperature	Ambient 125°F; Media 140°F			
Pneumatic				
Minimum pressure	Vacuum			
Minimum pilot pressure	35 psig single solenoid; 15 psig double solenoid			
Nominal pressure	150 psig			
Nominal flow*	Center position		End position	
Symbol	1/8" ports	1/4" ports	1/8" ports	1/4" ports
	---	---	19 SCFM	42SCFM
	21 SCFM	42 SCFM	23 SCFM	46 SCFM
	21 SCFM	42 SCFM	23 SCFM	46 SCFM
Electrical				
-- Standard coil	Form B (DIN 43650)			
-- AC	Energizing 11.8 VA; Holding 9.0 VA			
-- DC	4.8 W			
Continuous duty	100%			
Protection rating	IP65 with DIN connector			
Connection	DIN connector Form B (DIN 43650)			
Port size	1/8" NPTF		1/4" NPTF	
Weight	12.9 oz		16.3 oz	

* Flow from Port 1 (P) to Port 2 or 4 (A or B) supply pressure 90 psig; pressure drop 15 psi.

Description	Symbol	Voltage	1/8" NPTF Ports		1/4" NPTF Ports	
			w/o flow control	w/ flow control	w/o flow control	w/ flow control
5/3 directional control valve		24 VDC	0 820 034 015	0 820 034 106	0 820 035 006	0 820 035 106
		24/60 VAC	0 820 034 016	0 820 034 107	0 820 035 007	0 820 035 107
		110/60 VAC	0 820 034 017	0 820 034 108	0 820 035 008	0 820 035 108
		Less coil	0 820 034 970	0 820 034 967	0 820 035 967	0 820 035 970
Electrically operated		24 VDC	0 820 034 030	0 820 034 130	0 820 035 030	0 820 035 130
		24/60 VAC	0 820 034 031	0 820 034 131	0 820 035 031	0 820 035 131
		110/60 VAC	0 820 034 032	0 820 034 132	0 820 035 032	0 820 035 132
		Less coil	0 820 034 971	0 820 034 968	0 820 035 968	0 820 035 971
Body ported		24 VDC	0 820 034 063	0 820 034 155	0 820 035 055	0 820 035 155
		24/60 VAC	0 820 034 064	0 820 034 156	0 820 035 056	0 820 035 156
		110/60 VAC	0 820 034 065	0 820 034 157	0 820 035 057	0 820 035 157
		Less coil	0 820 034 972	0 820 034 969	0 820 035 969	0 820 035 972
Wear parts kit			1 827 009 388		1 827 009 389	

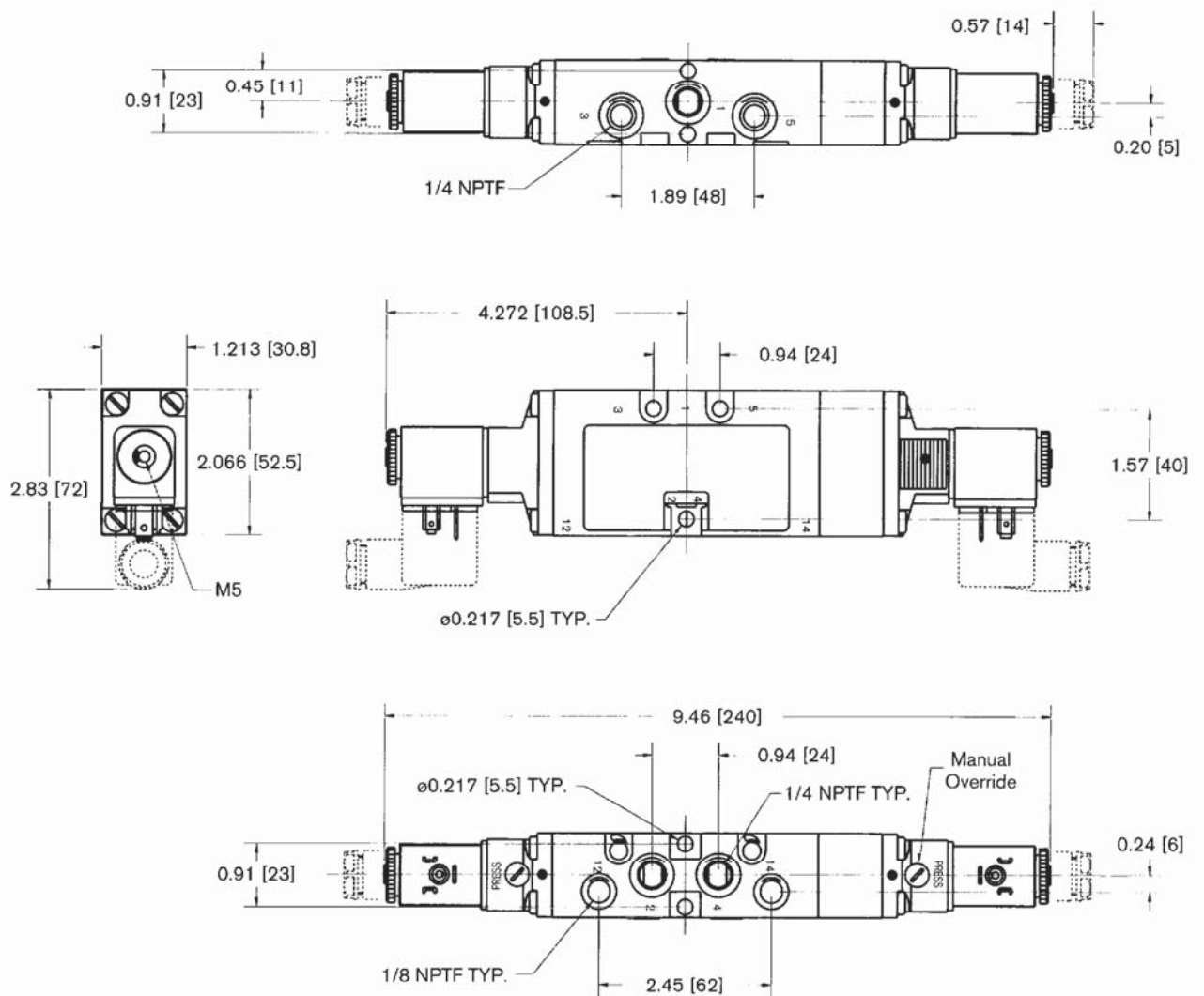
5/3-Way electrically actuated with 1/8" NPTF ports

Inches [Millimeters]



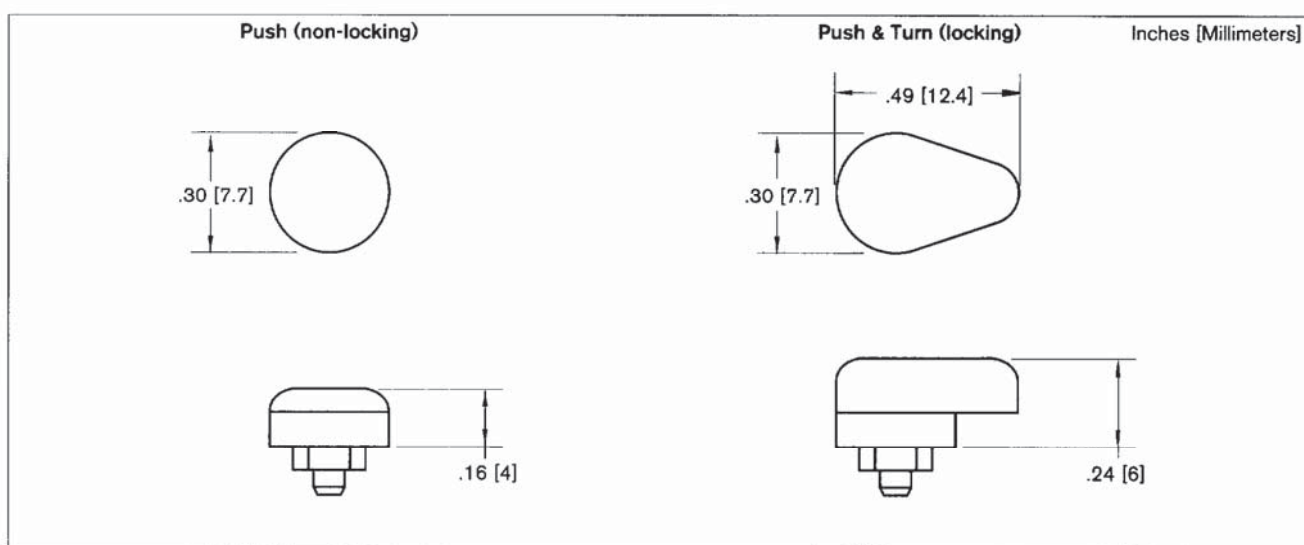
5/3-Way electrically actuated with 1/4" NPTF ports

Inches [Millimeters]



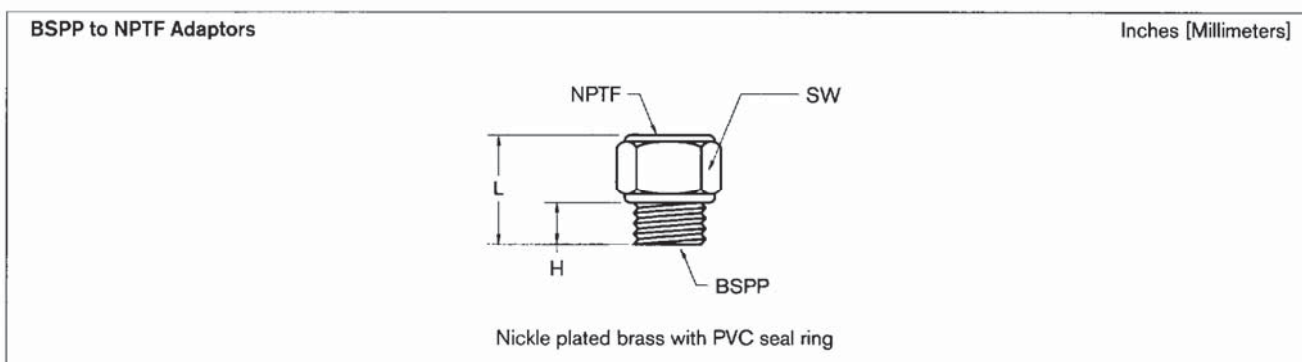
Clip-on Knobs for manual override option on valves

Push (non-locking)
Push & Turn (locking)



Clip-on manual override knob	Part Number
Push (non-locking)	1 827 010 503
Push & Turn (locking)	1 827 010 503

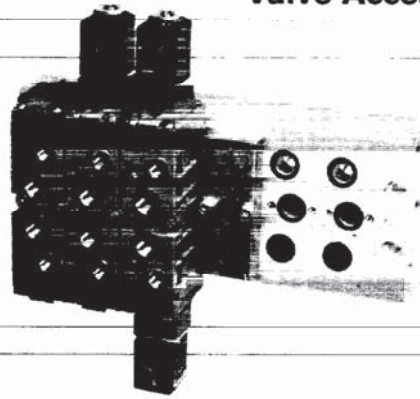
BSPP to NPTF Adaptors



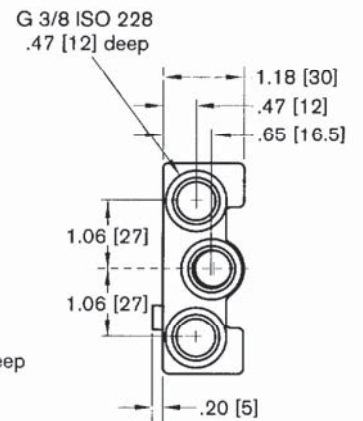
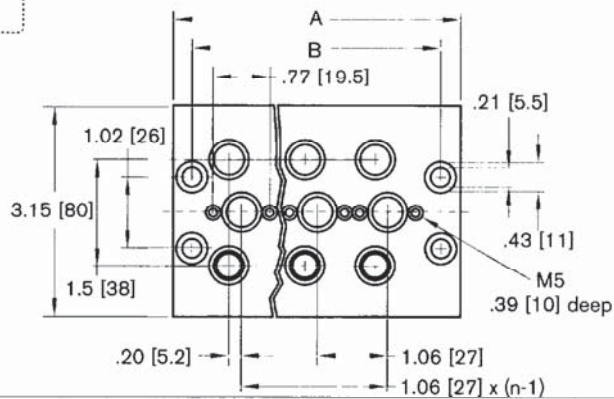
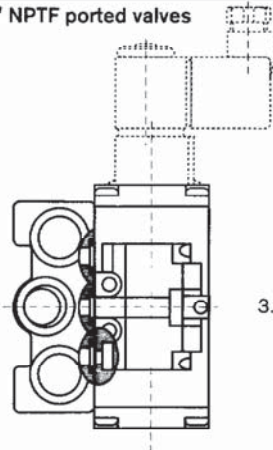
Description	Notes	SW	H	L	Part Number
BSPP/NPTF Adaptor	3/8" BSPP to 3/8" NPTF	.87 [22]	.354	.964	9 823 231 202
BSPP/NPTF Adaptor	1/2" BSPP to 1/2" NPTF	1.06 [27]	.393	1.161	9 823 231 203

**Manifold Blocks
for 5/2-way and
5/3-way valves,
1/8" & 1/4" NPTF ports**

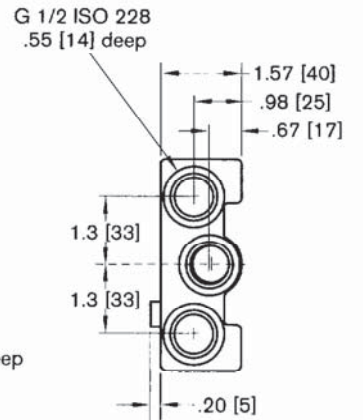
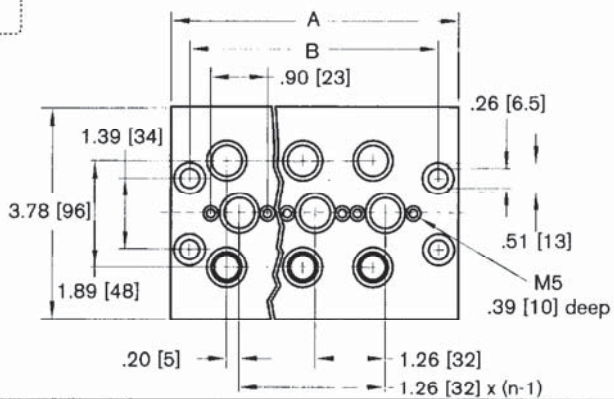
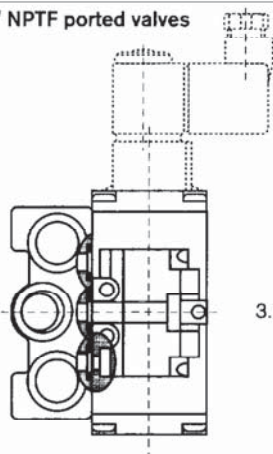
Blind Plate Accessory



For 1/8" NPTF ported valves



For 1/4" NPTF ported valves

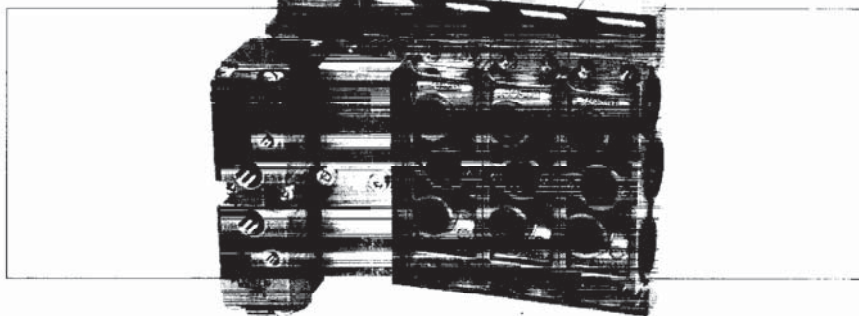


Number of Valve Places	1/8" NPTF Ports			1/4" NPTF Ports		
	A	B	Part Number	A	B	Part Number
2	3.35 [85]	2.76 [70]	1 825 503 206	3.54 [90]	3.19 [81]	1 825 503 222
3	4.41 [112]	3.82 [97]	1 825 503 207	5.12 [130]	4.45 [113]	1 825 503 223
4	5.47 [139]	4.88 [124]	1 825 503 208	6.38 [162]	5.71 [145]	1 825 503 224
5	6.53 [166]	5.94 [151]	1 825 503 209	7.64 [194]	6.97 [177]	1 825 503 225
6	7.6 [193]	7.01 [178]	1 825 503 210	8.9 [226]	8.23 [209]	1 825 503 226
7	8.66 [220]	8.07 [205]	1 825 503 211	10.16 [258]	9.49 [241]	1 825 503 227
8	9.72 [247]	9.13 [232]	1 825 503 212	11.4 [290]	10.75 [273]	1 825 503 228
9	10.79 [274]	10.2 [259]	1 825 503 213	12.68 [322]	12.01 [305]	1 825 503 229
10	11.85 [301]	11.26 [286]	1 825 503 214	13.94 [354]	13.27 [337]	1 825 503 230
11	12.91 [328]	12.32 [313]	1 825 503 215	15.2 [386]	14.53 [369]	1 825 503 231
12	13.98 [355]	13.39 [340]	1 825 503 216	16.46 [418]	15.79 [401]	1 825 503 232
Blind Plate Acc.	Order separately.		1 825 503 217	Order separately.		1 825 503 233

NOTE: Manifold pressure and exhaust ports are BSPP threaded. See bottom of page 14 for NPTF Adaptors.

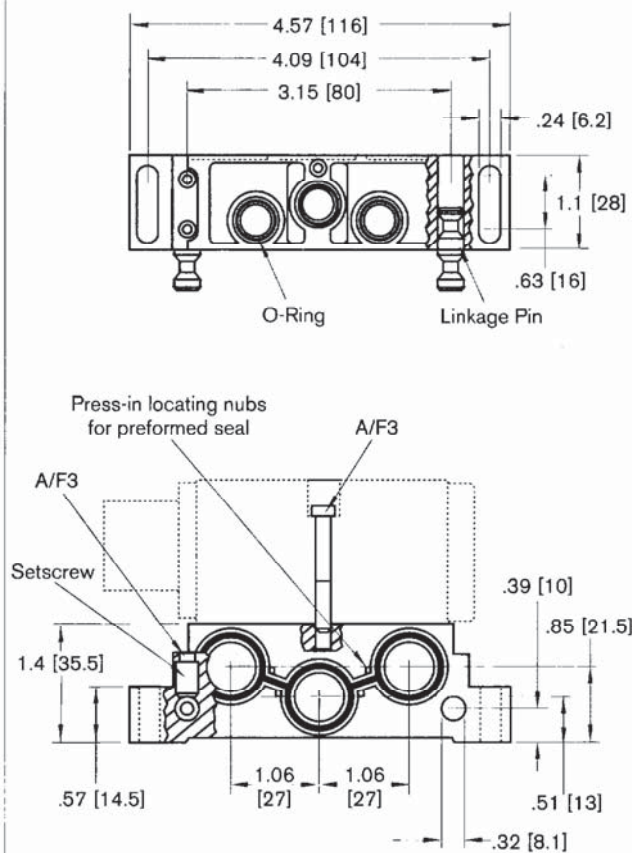
**Modular Manifold Plates
for 5/2-way and
5/3-way valves,
1/8" & 1/4" NPTF ports**

Blind Plate Accessories



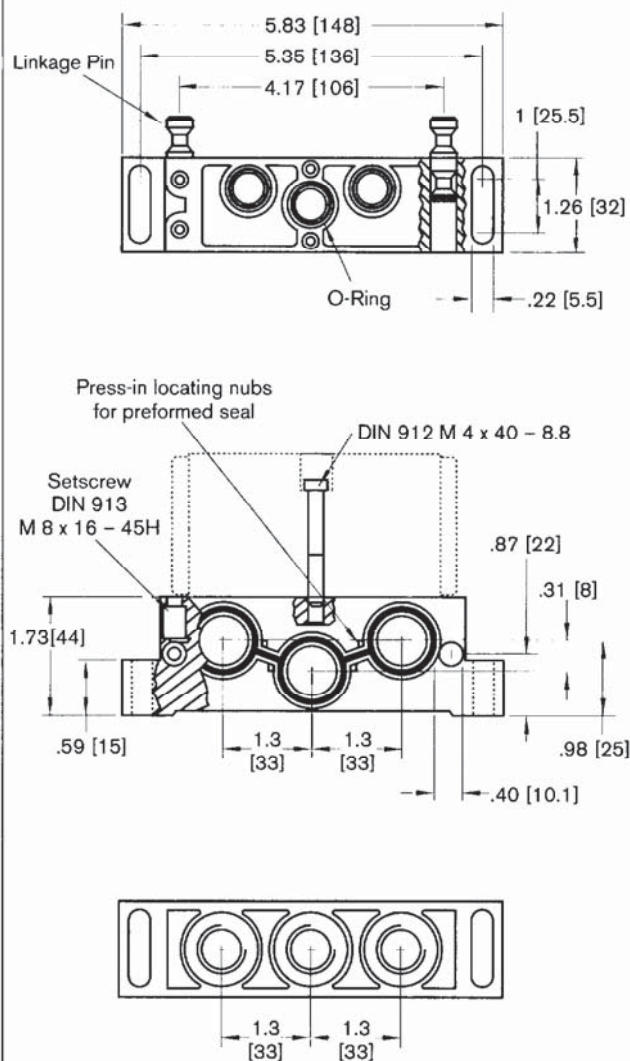
For 1/8" NPTF ported valves

Inches [Millimeters]



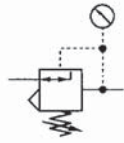
For 1/4" NPTF ported valves

Inches [Millimeters]



Description	Ports	Part Number
Modular Manifold Plate	1/8" NPTF	1 825 503 235
Blind Plate Accessory	1/8" NPTF (Order separately.)	1 825 503 217
Modular Manifold Plate	1/4" NPTF	1 825 503 268
Modular Manifold Plate	1/4" NPTF with additional bottom ports	1 825 503 269
Blind Plate Accessory	1/4" NPTF (Order separately.)	1 825 503 233

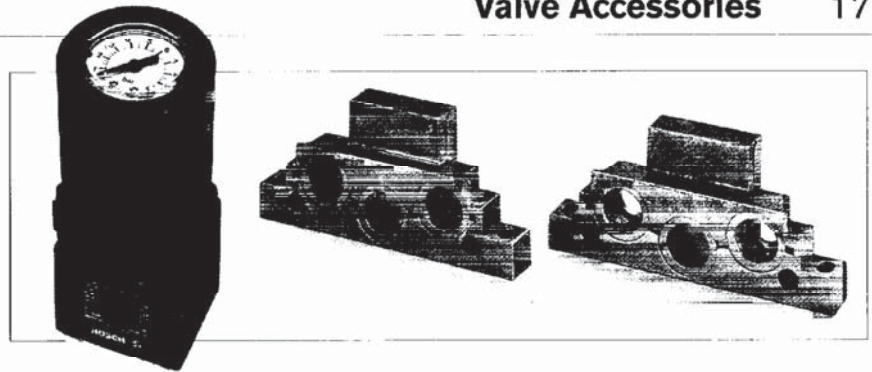
Modular Manifold Accessories



Pressure Regulator Regulator Adaptor Plates

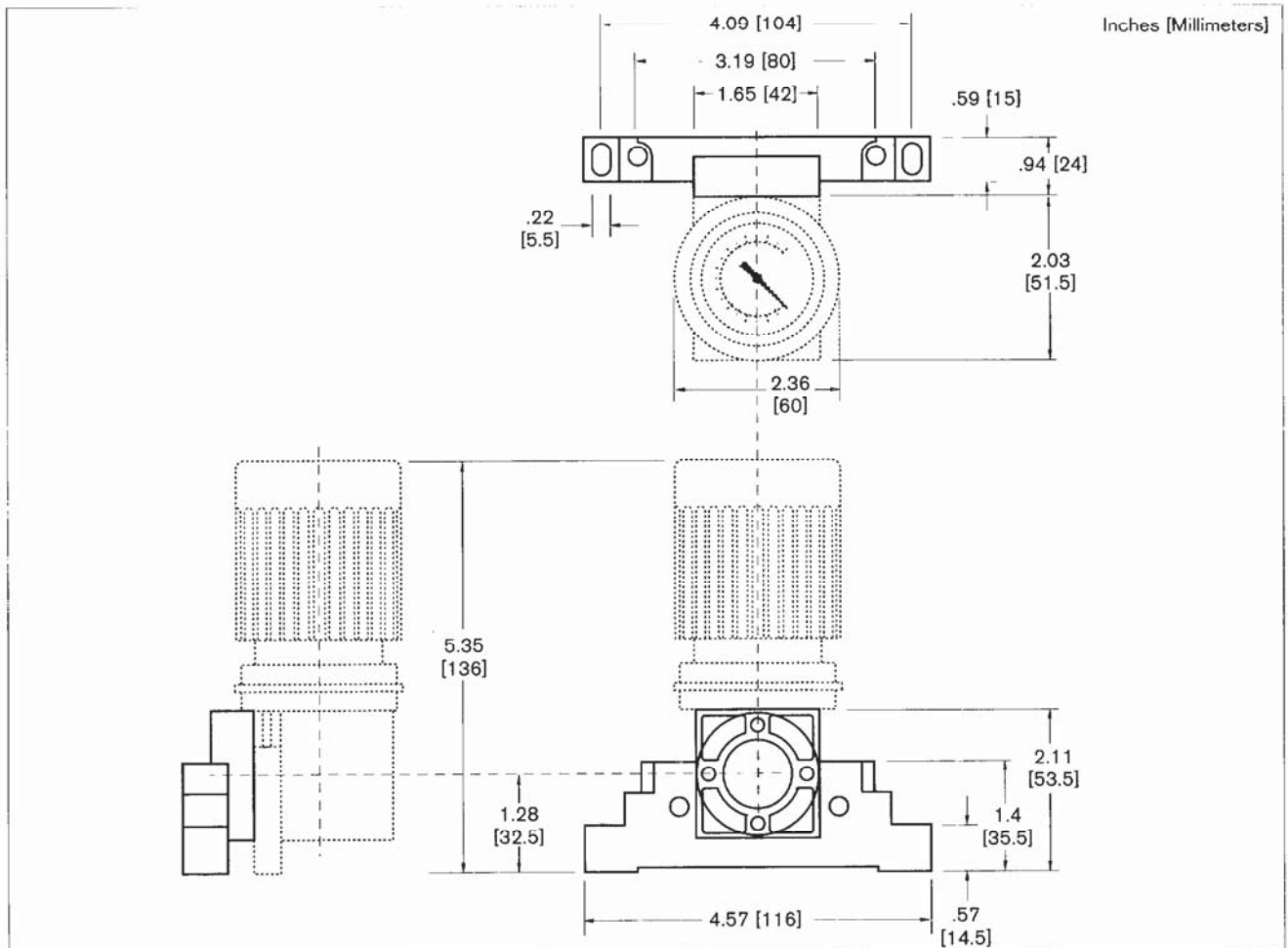
Pressure Regulator Features:

- Diaphragm regulator
- Suitable for panel mounting
- Brass body
- Gage integrated in adjustment knob
- Regulator Adaptor Plate connects Pressure Regulator with Modular Manifold for 1/8" inline valves.



General features

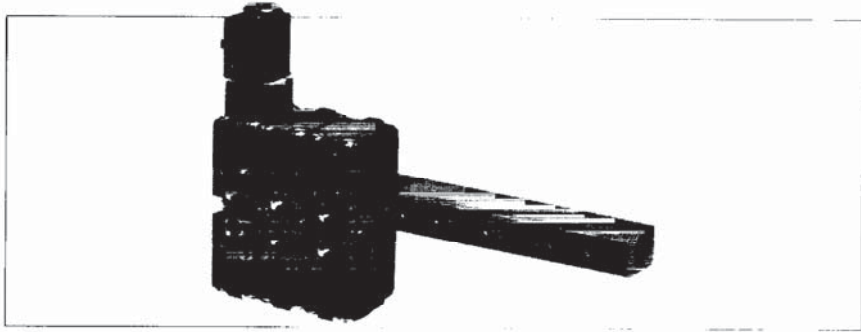
Port size	G 1/4
Maximum operating temperature	120°F (50°C)
Pneumatic	
Maximum supply pressure	235 psig (16 bar)
Pressures	7 psig (0.5 bar) to 150 psig (10 bar)
Nominal flow	42 SCFM (Cv = 1.2)



Description	Notes	Part Number
Pressure Regulator	7.5 to 150 psig (0.5 – 10 bar)	0 821 302 030
Pressure Regulator	7.5 to 90 psig (0.5 – 6 bar)	0 821 302 035
Regulator Adaptor Plate	Order separately.	1 825 503 316
Regulator Adaptor Plate with exhaust ports	Order separately.	1 825 503 362
Filter Kit	For pressure regulator. Order separately.	1 827 009 501

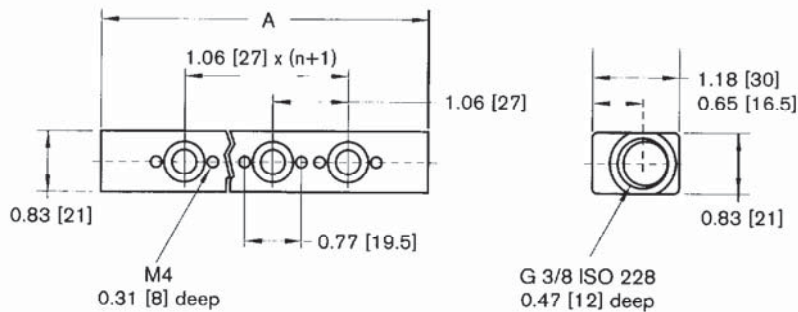
**Manifold Strips
for 5/2-way and
5/3-way valves,
1/8" & 1/4" NPTF ports**

Blind Plate Accessory



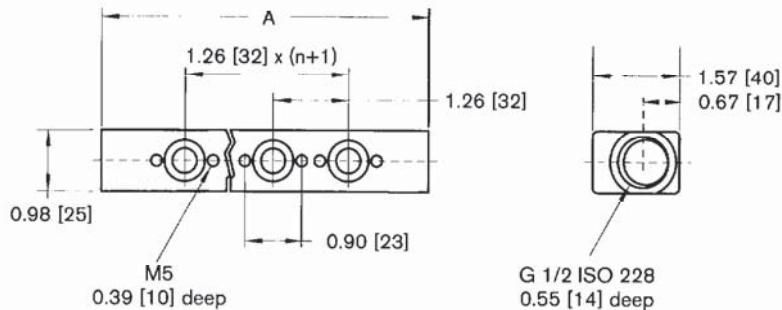
For 1/8" NPTF ported valves

Inches [Millimeters]



For 1/4" NPTF ported valves

Inches [Millimeters]

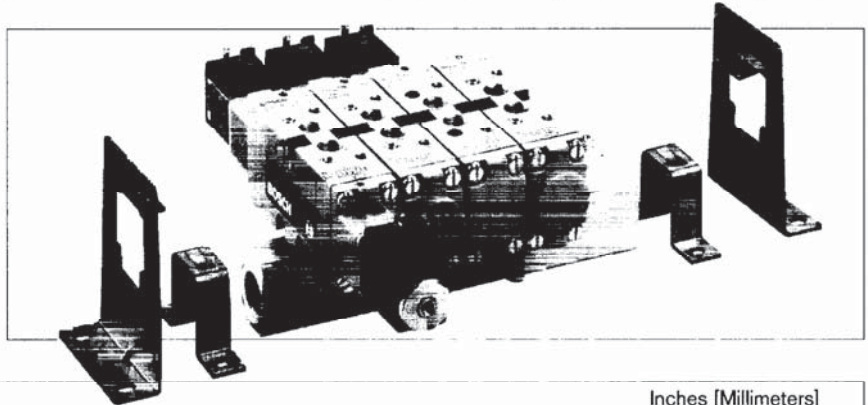


Number of Valve Places	1/8" NPTF Ports		1/4" NPTF Ports	
	A	Part Number	A	Part Number
2	3.35 [85]	1 823 390 053	3.86 [98]	1 823 390 066
3	4.41 [112]	1 823 390 054	5.19 [130]	1 823 390 067
4	5.47 [139]	1 823 390 055	6.38 [162]	1 823 390 068
5	6.53 [166]	1 823 390 056	7.64 [194]	1 823 390 069
6	7.6 [193]	1 823 390 057	8.9 [226]	1 823 390 070
7	8.66 [220]	1 823 390 058	10.16 [258]	1 823 390 071
8	9.72 [247]	1 823 390 059	11.42 [290]	1 823 390 072
9	10.79 [274]	1 823 390 060	12.68 [322]	1 823 390 073
10	11.85 [301]	1 823 390 061	13.94 [354]	1 823 390 074
11	12.91 [328]	1 823 390 062	15.2 [386]	1 823 390 075
12	13.98 [355]	1 823 390 063	16.46 [418]	1 823 390 076
Blind Plate	Order separately.	1 825 503 218	Order separately.	1 825 503 234

NOTE: Manifold pressure and exhaust ports are BSPP threaded. See bottom of page 14 for NPTF Adaptors.

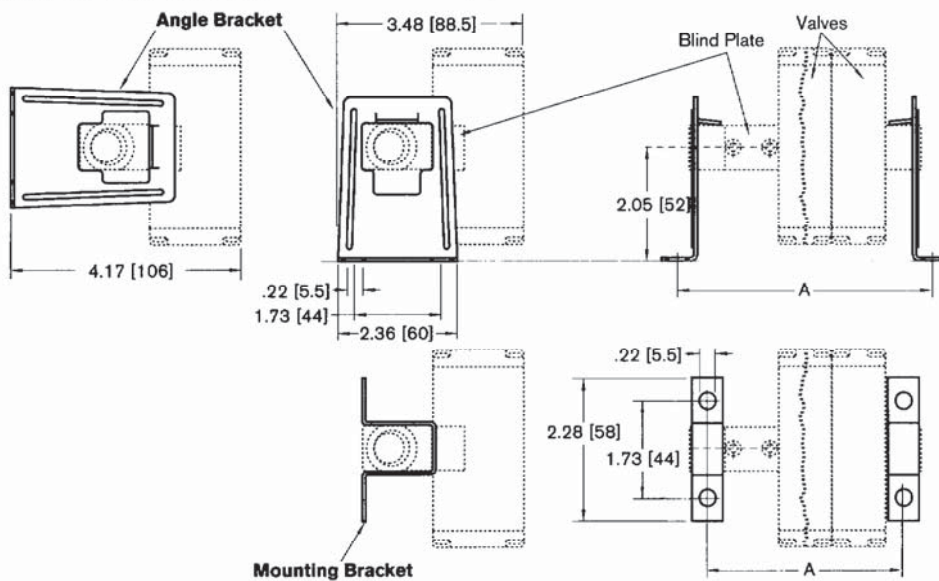
**Manifold Strip Brackets
1/8" & 1/4" NPTF ports**

**Angle Bracket
Mounting Bracket**



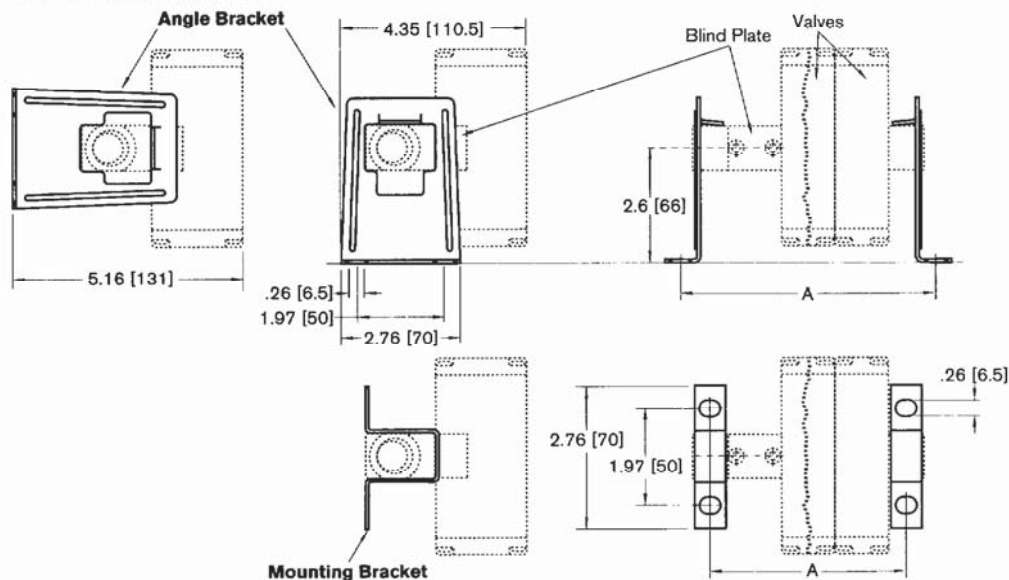
Brackets for 1/8" NPTF Manifolds

Inches [Millimeters]



Brackets for 1/4" NPTF Manifolds

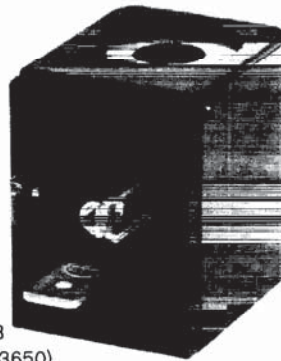
Inches [Millimeters]



Bracket	1/8" NPTF Ports		1/4" NPTF Ports	
	A	Part Number	A	Part Number
Angle	$(n^*-1) \times 1.06[27] + 2.76[70]$	1 821 332 048	$(n^*-1) \times 1.06[27] + 2.76[70]$	1 821 332 050
Mounting	$(n^*-2) \times 1.06[27] + 2.76[70]$	1 821 332 049	$(n^*-1) \times 1.06[27] + 2.76[70]$	1 821 332 051

* n = number of valve places

**Solenoid
plug type connector
Form B (DIN 43650)
Form B**



Form B
(DIN 43650)



Form B

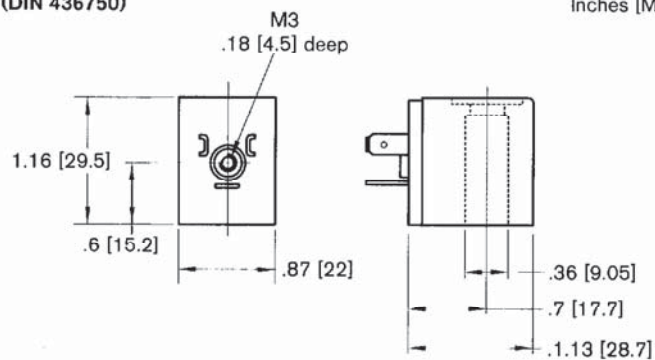
- Easily replaced
- Some versions multi-voltage rated
- Connector Form B (DIN 43650) or Form B

Electrical features

Nominal voltage	See table
Power Consumption with DC	4.8W / 2.5W*
Power Consumption with AC	Energizing: 11.8 VA Holding: 9 VA
Cyclic duration factor	100%
Insulator class VDE 0580	F
Protection rating	IP 65 DIN 40050

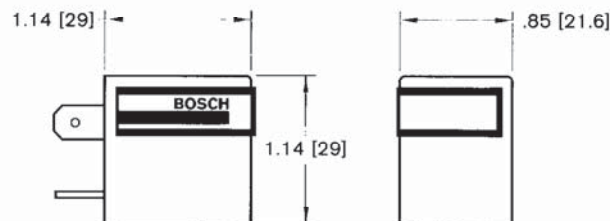
Form B (DIN 436750)

Inches [Millimeters]



Form B

Inches [Millimeters]



Rated voltage	May be used for voltages:	Form B (DIN43650) – Part No.	Form B – Part Number
240 V 50 Hz	240 V 60 Hz	1 824 210 234	1 824 210 148
220 V 50 Hz	220 V 60 Hz 230 V 60 Hz 110 V DC	1 824 210 235	1 824 210 126
110 V 50 Hz	110 V 60 Hz 115 V 60 Hz 60 V DC	1 824 210 237	1 824 210 125
42 V 50 Hz	42 V 60 Hz	1 824 210 238	1 824 210 123
24 V 50 Hz	24 V 60 Hz 12 V DC	1 824 210 239	1 824 210 122
48 V DC		1 824 210 241	1 824 210 119
36 V DC		1 824 210 242	1 824 210 179
24 V DC	48 V 50 Hz 48 V 60 Hz	1 824 210 243	1 824 210 118
24 V DC*		1 824 210 245	1 824 210 060
Weight		1.75 oz. [0.050 kg]	1.75 oz. [0.050 kg]

* Low wattage coil (2.5W)

Connectors
Form B (DIN 43650)
Form B



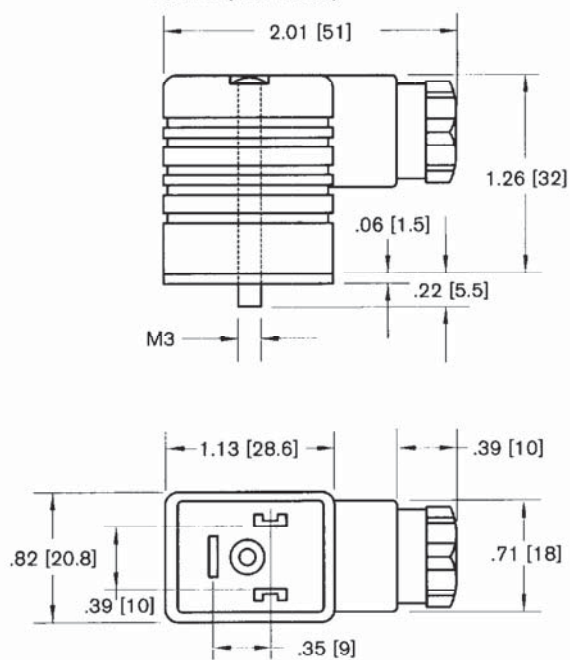
Form B
(DIN 43650)

Form B

Electrical Characteristics

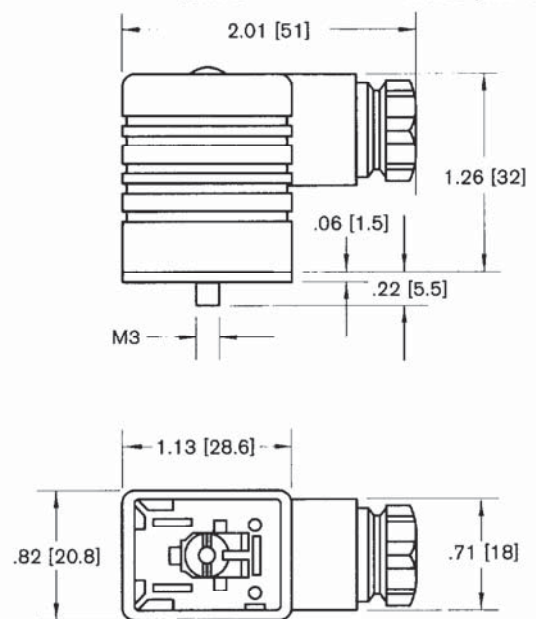
Nominal voltage 300 V DC	250 V AC
Nominal current	20 Amps
Cable diameter	.20-.30 [6-8] PG9
Protection rating	IP 65 DIN 40050
Operating temperature	-100°F to +195°F

Form B (DIN 43650)



Form B

Inches [Millimeters]



Type	No. of poles	Weight	Part Number
Form B (DIN 43650)	2 + ground	0.04 oz. [0.030 kg]	1 834 484 096
Form B	2 + ground	0.04 oz. [0.030 kg]	1 834 484 051

Connectors with lights

Form B (DIN 43650)

Form B



Form B
(DIN 43650)

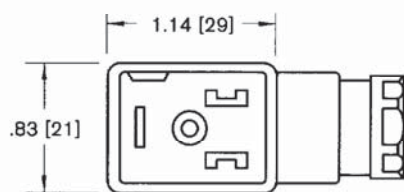
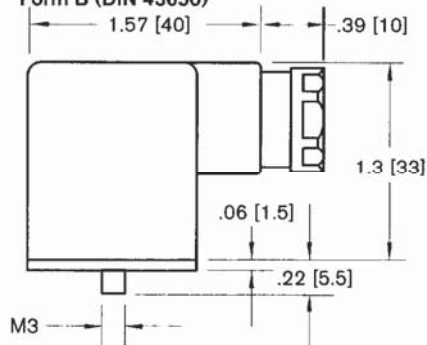


Form B

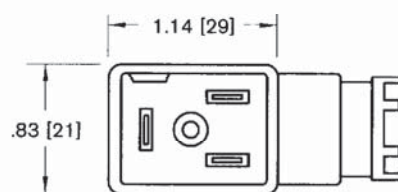
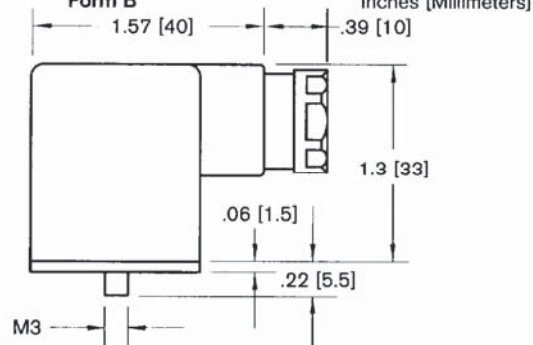
Electrical Characteristics

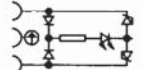
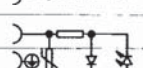
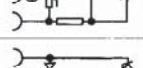





Voltage & current	See table
No. of poles	2 + ground
Cable diameter	.25-.30 [6-8] PG9
Degree of protection	IP 65 (DIN 40050)
Operating temperature	
at 15 W	13°F - 120°F
15 W - 25 W	13°F - 105°F

Form B (DIN 43650)



Form B



Type	Nominal voltage	Nominal current	Maximum inductive voltage	Response time delay*	Lens Color	Circuit	Part Number
Socket Connector Form B (DIN 43650)	24V DC	4.8 W 2.5 W	40 40	2 ms 3.5 ms	Yellow		1 834 484 104
	24V AC	8.4 VA	45	**			
	100-120V AC	8 VA	approx. 480	**	Red		1 834 484 105
	220V AC	8.5 VA	approx. 550	**			1 834 484 106
Socket Connector Form B	24V DC	4.8 W 2.5 W	40 40	2 ms 3.5 ms	Yellow		1 834 484 107
	24V AC	8.4 W	45	**			
	100-120V AC	8 VA	approx. 480	**	Red		1 834 484 108
	220V AC	8.5 VA	approx. 550	**			1 834 484 109

* Caused by protective circuit.

** Varies with phase in AC circuit.

NOTICES TO PRODUCT USERS

1. WARNING: FLUID MEDIA

Bosch Rexroth pneumatic devices are designed and tested for use with filtered, clean, dry, chemical free air at pressures and temperatures within the specified limits of the device. For use with media other than air or for human life support systems, Bosch Rexroth must be consulted. Hydraulic cylinders are designed for operation with filtered, clean, petroleum based hydraulic fluid; operation using fire-resistant or other special types of fluids may require special packing and seals. Consult the factory.

2. WARNING: MATERIAL COMPATIBILITY

Damage to product seals or other parts caused by the use of non-compatible lubricants, oil additives or synthetic lubricants in the air system compressor or line lubrication devices voids Bosch Rexroth's warranty and can result in product failure or other malfunction. See lubrication recommendations below.

AIR LINE LUBRICANTS! In service higher than 18 cycles per minute or with continuous flow of air through the device, an air line lubricator is recommended.* (Do not use line lubrication with vacuum products.) However, the lubricator must be maintained since the oil will wash out the grease, and lack of lubrication will greatly shorten the life expectancy. The oils used in the lubricator must be compatible with the elastomers in the device. The elastomers are normally BUNA-N, NEOPRENE, VITON, SILICONE and HYTREL. Bosch Rexroth recommends the use of only petroleum based oils without synthetic additives, and with an aniline point between 180° F and 210° F.

COMPRESSOR LUBRICANTS! All compressors (with the exception of special "oil free" units) pass oil mist or vapor from the internal crankcase lubricating system through to the compressed air. Since even small amounts of non-compatible lubricants can cause severe seal deterioration (which could result in component and system failure) special care should be taken in selecting compatible compressor lubricants. It is recommended that users review the National Fluid Power Association "Recommended Guide Lines For Use Of Synthetic Lubricants In Pneumatic Fluid Power Systems" (NFPA T1.9.2-1978).

3. WARNING: INSTALLATION AND MOUNTING

The user of these devices must conform to all applicable electrical, mechanical, piping and other codes in the installation, operation or repair of these devices.

INSTALLATION ! Do not attempt to install, operate or repair these

devices without proper training in the technique of working on pneumatic or hydraulic systems and devices, unless under trained supervision.

Compressed air and hydraulic systems contain high levels of stored energy. Do not attempt to connect, disconnect or repair these products when a system is under pressure. Always exhaust or drain the pressure from a system before performing any service work. Failure to do so can result in serious personal injury.

MOUNTING! Devices should be mounted and positioned in such a manner that they cannot be accidentally operated.

4. WARNING: APPLICATION AND USE OF PRODUCTS

The possibility does exist for any device or accessory to fail to operate properly through misuse, wear or malfunction. The user must consider these possibilities and should provide appropriate safe guards in the application or system design to prevent personal injury or property damage in the event of a malfunction.

5. WARNING: CONVERSION, MAINTENANCE AND REPAIR

When a device is disassembled for conversion to a different configuration, maintenance or repair, the device must be tested for leakage and proper operation after being reassembled and prior to installation.

MAINTENANCE AND REPAIR! Maintenance periods should be scheduled in accordance with frequency of use and working conditions. All Bosch Rexroth products should provide a minimum of 1,000,000 cycles of maintenance free service when used and lubricated as recommended. However, these products should be visually inspected for defects and given an "in system" operating performance and leakage test once a year. Where devices require a major repair as a result of the one million cycles, one year, or routine inspection, the device must be disassembled, cleaned, inspected, parts replaced as required, rebuilt and tested for leakage and proper operation prior to installation. See individual catalogs for specific cycle life estimates.

6. PRODUCT CHANGES

Product changes including specifications, features, designs and availability are subject to change at any time without notice. For critical dimensions or specifications, contact factory.

*Many Bosch Rexroth pneumatic valves and cylinders can operate with or without air line lubrication; see individual sales catalogs for details.

--Refer to the appropriate service catalog for parts and service information.

LIMITATIONS OF WARRANTIES & REMEDIES

Bosch Rexroth warrants its products sold by it to be free from defects in material and workmanship to the following:

For twelve months after shipment Bosch Rexroth will repair or replace (F.O.B. our works), at its option, any equipment which under normal conditions of use and service proves to be defective in material or workmanship at no charge to the purchaser. No charge will be made for labor with respect to defects covered by this Warranty, provided that the work is done by Bosch Rexroth or any of its authorized service facilities. However, this Warranty does not cover expenses incurred in the removal and reinstallation of any product, nor any downtime incurred, whether or not proved defective.

All repairs and replacement parts provided under this Warranty policy will assume the identity, for warranty purposes, of the part replaced, and the warranty on such replacement parts will expire when the warranty on the original part would have expired. Claims must be submitted within thirty days of the failure or be subject to rejection.

This Warranty is not transferable beyond the first using purchaser. Specifically, excluded from this Warranty are failures caused by misuse, neglect, abuse, improper operation or filtration, extreme temperatures, or unauthorized service or parts. This Warranty also excludes the use of lubricants, fluids or air line additives that are not compatible with seals or diaphragms used in the products. This Warranty sets out the purchaser's exclusive remedies with respect to products covered by it, whether for negligence or otherwise. Neither Bosch Rexroth nor any of its affiliates will be liable for consequential or incidental damages or other losses or expenses incurred by reason of the use or sale of such products. Our liability (except as to title) arising out of the sale, use or operation of any product or parts, whether on warranty, contract or negligence (including claims for consequential or incidental damage) shall not in any event exceed the cost of replacing the defective products and, upon expiration of the warranted period as herein provided, all such liability is terminated. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHETHER FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE. No attempt to alter, amend or extend this Warranty shall be effective unless authorized in writing by an officer of Bosch Rexroth Division.

Bosch Rexroth reserves the right to discontinue manufacture of any product, or change product materials, design or specifications without notice.

This is a Year 2000 Readiness disclosure as defined and used in the Year 2000 Information and Readiness Disclosure Act:

Notwithstanding any provision to the contrary, Seller acknowledges the potential Year 2000 problem and hereby promises to use its good faith, best efforts to attempt to be Year 2000 Compliant as soon as practicable. "Year 2000 Compliant" means that Seller's goods and services will be designed to be used prior to, during, and after calendar year 2000 A.D., and to operate during each such time period without substantive error relating to date data, specifically including any substantive error relating to, or the product of, date data which represents or references different centuries or more than one century, and will recognize the calendar year 2000 A.D. as a leap year.

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Germany	Sweden
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