

7/8 Hex



Secondary Primarv Specifications subject to change without notice or incurring obligation

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.19

.20 Dia. Clearance

for #10 Bolt

1.75

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12

2.88

10

2 1.78 -

3.13

2.09

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12

Primarv Secondary ‡ 4 Way - 5 Port May be used as either Single Inlet -. Dual Exhaust or Dual Inlet Single Exhaust

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-1.34 ->

2.53

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1.13 56

.20 Dia. Clearance

for #10 Bolt

1.75

5-3-12

12

Directional Control Valves

1/4 & 3/8 NPT 14, M14 & 34 Series 2.3 & 4 Wav

Aluminum bar body FEATURES

- Anodized black
- Honed & burnished bore
- Pressure balanced spool
- Delrin spool
- Buna-N seals
- Operation to 150 psi

Small Palm Button

 4 Way - 5 port may be used as either single inlet - dual exhaust or dual inlet - single exhaust.

- Prelubed with Magnalube®-G Grease
 - Interchangeability of Parts
 - Cv = 1.0 56.2 SCFM Free Flow to
 - Atmosphere at 80 psi Supply
 - Operating Temperature +32° to +180°F; Solenoid controlled models +150°F max. See pages 11.17, 11.19 & 11.21.

OPTIONS

- Light spring Specify Option -L
- Viton seals Specify Option -V
- Spools for bleeder pilot -Consult factory.
- Note 1: Specify Normally Open by substituting -30 for -3.

OPERATING TEMPERATURE FOOTNOTE SEE PAGE 11.1

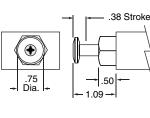
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Dia.

Un-anodized aluminum button with stainless steel rod in brass bushing. Standard 3 Way spring return is normally closed. For normally open the actuators may be exchanged end for end or specify by substituting -30 for -3.

Force to actuate: Standard spring 10.5 lb. Light spring (Option -L) 9.0 lb. Double Button 1.2 lb.



	3 Way	4 Way
gle Button - Spri		
ŇPT '	14PS-3	14PS-4
Stacking	N/A	M14PS-4
NPT	34PS-3	34PS-4
gle Button - Pilot	Return	
ŇPT	14PSP-3	14PSP-4
Stacking	N/A	M14PSP-4
NPT	34PSP-3	34PSP-4
uble Button		
NPT	14PPS-3	14PPS-4
Stacking	N/A	M14PPS-4
NPT	34PPS-3	34PPS-4
placement spool		
	1400-903	1400-904

Large Palm Button



Panel Mount Button

Hand Lever



Red anodized aluminum button with stainless steel rod in brass bushing. Standard 3 Way spring return is normally closed. For normally open the actuators may be exchanged end for end or specify by substituting -30 for -3. Force to actuate:

Standard spring 10.5 lb. Light spring (Option -L) 9.0 lb. Double Button 1.2 lb.

Phenolic button with plated steel rod in brass bushing: black button standard, red button Option -R. Standard 3 Way assemblies are normally closed with knob in the "out" position. For normally open specify by substituting -30 for -3. Force to actuate:

Standard spring 10.5 lb. Light spring (Option -L)..... 9.0 lb. Detented 3.0 lb.

Hardened & plated steel shaft with

unique connection to spool results

in positive shifting. Standard 3 Way

spring return is normally closed. For

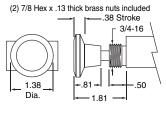
normally open specify by substituting

Standard spring . . . 10.0 lb.

Light spring 6.0 lb. (Option -L)

-30 for -3.

Force to actuate:



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	3 Way	4 Way
Single Button -	Spring Return	
1/4 NPT	14PL-3	14PL-4
3/8 NPT	34PL-3	34PL-4
Single Button -	Pilot Return	
1/4 NPT	14PLP-3	14PLP-4
3/8 NPT	34PLP-3	34PLP-4
Double Button		
1/4 NPT	14PPL-3	14PPL-4
3/8 NPT	34PPL-3	34PPL-4
Replacement s	spool & seals	
	1400-903	1400-904

	3 Way	4 Way
Spring Return		
1/4 NPT	14PMS-3	14PMS-4
3/8 NPT	34PMS-3	34PMS-4
Pilot Return		
1/4 NPT	14PMP-3	14PMP-4
3/8 NPT	34PMP-3	34PMP-4
Replacement :	spool & seals fo	r above
	1400-903	1400-904
Detented (Pus	sh Pull)	
1/4 NPT `	14PMD-3	14PMD-4
3/8 NPT	34PMD-3	34PMD-4
Replacement :	spool & seals	
	1400-943	1400-944†
† Includes fact	tory assembled	spool attach-
ments.	-	

3 Way

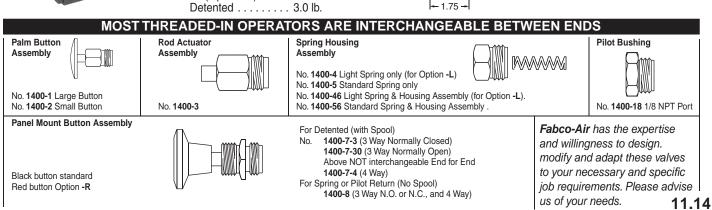
14HLS-3 34HLS-3

Spring Return 1/4 NPT 3/8 NPT

Detented

4 Way 14HLS-4 34HLS-4 14HL-4 34HL-4

1/4 NPT 3/8 NPT 14HL-3 34HL-3 Replacement spool & seals 1400-933† 1400-934† + Includes factory assembled spool attachments



1/4 1/4 3/8 Sin 1/4 1/4 3/8 Dou 1/4 1/4

3/8

Ret

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sprina returned.

position

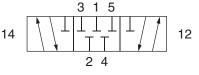
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1/4 NPT & 3/8 NPT Ported, Manual & Pilot Operated, & Solenoid Controlled Air Valves

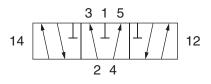
New 5 Ported, 3-Position 4-Way Operation

New Spools for 14 & 34 Series Air Valves



4-Way - 5 Ported - 3 Position - Type B "Blocked"

Center position - All ports blocked and isolated. Use on conventional block and hold circuits.



4-Way - 5 Ported - 3 Position - Type F "Float"

Center position - Inlet blocked and

Cylinders open to exhaust Used to vent both ends of cylinder to allow cylinder to float with a manual or machine movement. Flow controls or exhaust speed controls should not be used.

1/4 NPT & 3/8 NPT Ported, Pilot Operated Air Valves

5 Ported, 3-Position 4-Way Operation



Model 14-DPF Shown

Features

- Aluminum bar body
- Anodized black
- Honed and burnished bore
- Delrin spool, pressure balanced
- Buna N seals
- May be used as either single inlet-dual exhaust or dual inlet-single exhaust
- Pre-lubed with Magnalube-G® Grease

Operating Range

- Operating pressure.....0 to 150 psi
- Minimum pilot pressure50 psi
- Cv = 1.0 (56.2 SCFM free flow to atmosphere @ 80 psi supply)

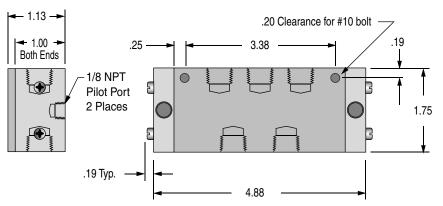
• Temperature+32° to 180°F For long-term, continuous operation in a range of +150°F to +180°F, the Viton seal option can provide the benefits of reliable leak-free operation and extended durability.

Options

Viton Seals, Specify Option -V

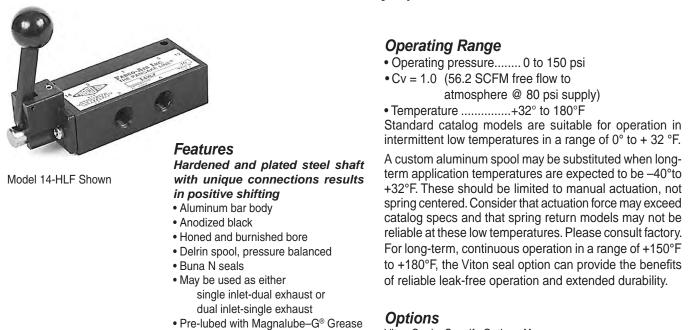
	Model Number Guide: 3-Position, Pilot Operated				
	Spring Ce	Replacement			
Spool Type	1/4 NPT Ports	3/8 NPT Ports	Spool and Seals		
B Spool	14 DPB	34DPB	1400-904B		
F Spool	14DPF	34DPF	1400-904F		

Valve Dimensions



1/4 NPT & 3/8 NPT Ported, Hand Lever Operated Air Valves

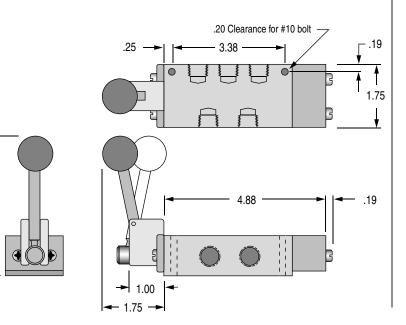
5 Ported, 3-Position 4-Way Operation



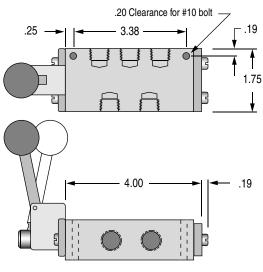
	Model Number Guide: 3-Position, Hand Lever Operated							
	Spring Cen	Spring Centered Spool Replacement Detented Spool						
Spool Type	1/4 NPT Ports	3/8 NPT Ports	Spool & Seals	1/4 NPT Ports	3/8 NPT Ports	Spool & Seals		
B Spool	14HLSB	34HLSB	1400-934SB	14HLB	34HLB	1400-934B		
F Spool	14HLSF	34HLSF	1400-934SF	14HLF	34HLF	1400-934F		

Viton Seals, Specify Option -V

Dimensions – Spring Centered Spool



Dimensions – Detented Spool



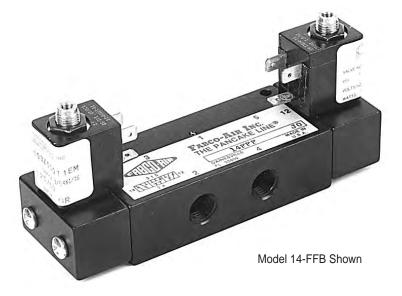
Specifications subject to change without notice or incurring obligation

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1/4 NPT & 3/8 NPT Ported, 53 Style Solenoid Controlled, Pilot Operated Air Valves

5 Ported, 3-Position 4-Way Operation



Features

- Aluminum bar body
- Anodized black
- Honed and burnished bore
- Delrin spool
- Buna N seals
- Cv = 1.0 (56.2 SCFM free flow to atmosphere @ 80 psi supply)
- Operation to 150 psi
- Operating Temperature: +32°F (0°C) to +104°F (40°C) ambient. +32°F (0°C) to +150°F (65°C) media.
- Pre-lubed with Magnalube-G[®] Grease
- Coils & Housing information see page 11.29.

Operating Range

Internal pilot supply - standard Inlet......50 to 150 psi

External pilot supply Option –X Inlet.....0 to 150 psi Pilot Supply50 to 150 psi

Ordering

Choose valve model number from table below and add option suffixes as required and specify voltage/hertz.

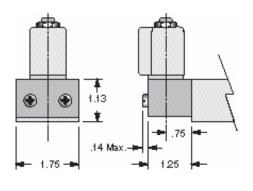
	Model Number Guide: 4-Way, 3-Position, Spring Centered Double Solenoid Valves						
	Conduit Housing "C" Grommet Housing "G" Male Mini-DIN Housing "F"						Replacement
Spool Type	1/4 NPT Ports	3/8 NPT Ports	1/4 NPT Ports	3/8 NPT Ports	1/4 NPT Ports	3/8 NPT Ports	Spool & Seals
B Spool	14-CCB	34-CCB	14-GGB	34-GGB	14-FFB	34-FFB	1400-904B
F Spool	14-CCF	34-CCF	14-GGF	34-GGF	14-FFF	34-FFF	1400-904F

1/2 NPT

Conduit Housing "C"

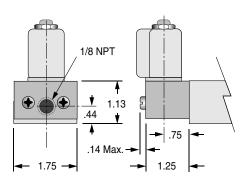
-1.25





Standard 53 Style Operator

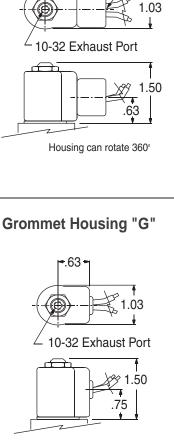
The solenoid operator is a 3-way NC valve which, upon receiving an electrical signal, directs pressure to shift the main valve spool. As standard, the operator is internally supplied with air pressure from the main valve inlet.



53 Style Operator with External Pilot Option –X

In the following listed applications, as well as many others, a proper air supply may not be available from the main valve inlet. For these applications, an external pilot supply port is available (Option –X). A proper air supply to this port then supplies the solenoid with air pressure for piloting the main valve spool. • Dual inlet, single exhaust

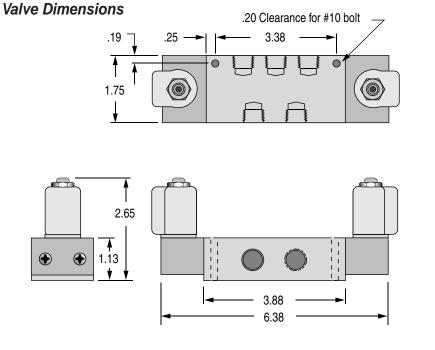
- Insufficient Pressure at main valve inlet
- Media at main valve inlet is other than air
- Extreme fast cycling

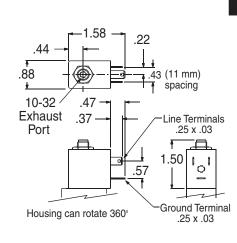




Male Mini-DIN Housing "F"

11





Features

1/4 & 3/8 NPT Ported <u>53 STYLE</u> Solenoid Controlled, Pilot Operated Air Valves 2, 3 & 4 Way - 2 Position – Operation to 150 psi Air

Buna N seals
Operation to 150 psi
Coils & housing information see page 11.29

• Prelubed with Magnalube®-G grease

peratures in a range of 0° to + 32 °F.

low temperatures. Please consult factory.

• Operating temperature:



Options

Manual override
Locking
Non-Locking
External pilot
Light springL
Viton seals for media compatibilityV
Explosion proof operatorsEP
See page 11.30
Dual Inlet - Šingle Exhaust 4 Way
See page 11.20, Note 1: Optional Flow Path.

SINGLE SOLENOID

To Order Specify: Model Number from chart Options Volts & Hertz (See page 11.29)



Operating Range

1/4 NPT PORTS 3/8 NPT PORTS [‡]2/3WAY 4 WAY [‡]2 / 3WAY 4 WAY 4 WAY Normally Normally Stacking Normally Normally Closed Open Closed Open See pg 11.20 Conduit 14CS-3 14CS-4 M14CS-4 34CS-30 34CS-4 Housing 14CS-30 34CS-3 Grommet 14GS-3 14GS-30 14GS-4 M14GS-4 34GS-3 34GS-30 34GS-4 Housing Male Mini-DIN 14FS-3 14FS-30 14FS-4 M14FS-4 34FS-3 34FS-30 34FS-4 Housing Replacement Spool & Seals 1400-913 1400-9130 1400-914 1400-904 1400-913 1400-9130 1400-914

Black anodized aluminum bar stock body
 Honed and burnished bore
 Lightweight Delrin[®] spool provides fast, positive, reliable response

Standard catalog models are suitable for operation in intermittent low tem-

A custom aluminum spool may be substituted when long-term application temperatures are expected to be 0° to +32°F. These should be limited to double solenoid actuation. Consider that actuation force may exceed catalog specs and that spring return models may not be reliable at these

• Cv = 1.0 • 56.2 SCFM free flow to atmosphere @ 80 psi

+32°F (0°C) to +104°F (40°C) ambient. +32°F (0°C) to +150°F (65°C) media.

SINGLE SOLENOID - PILOT RETURN MODELS

A pilot return can be substituted for the standard spring return.

It may be used in two manners.

1. For a pulse signal, then pilot return.

2. As a constant, adjustable force, spring.

Supply pilot port with a constant regulated pressure. This will act as a very constant spring against the solenoid controlled pilot signal. The pilot return should be a minimum of 30 psi below the solenoid controlled pressure.

To Specify, Substitute P for S in the Model Number. (Ex: 14CP-3-120/60)

To Order Specify: Model Number from chart

Options

Volts & Hertz (See page 11.29)

[‡]Plug 3-Way Valve for 2-Way Service.

[‡]Plug 3-Wav Valve

for 2-Way Service.

				for 2-Way Service.	
	1/4 NPT PORTS			3/8 NPT PORTS	
	[‡] 2 / 3 WAY	4 WAY	4 WAY Stacking See pg 11.20	[‡] 2 / 3 WAY	4 WAY
Conduit Housing	14CC-3	14CC-4	M14CC-4	34CC-3	34CC-4
Grommet Housing	14GG-3	14GG-4	M14GG-4	34GG-3	34GG-4
Male Mini-DIN Housing	14FF-3	14FF-4	M14FF-4	34FF-3	34FF-4
Replacement Spool & Seals	1400-923	1400-924	1400-904	1400-923	1400-924

DOUBLE SOLENOID



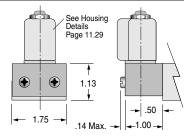
Operating Range

Specifications subject to change without notice or incurring obligation

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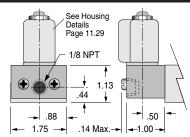
Directional Control Valves

1/4 & 3/8 NPT 14, M14 & 34 Series 2.3 & 4 Wav



Standard 53 STYLE Solenoid Operator

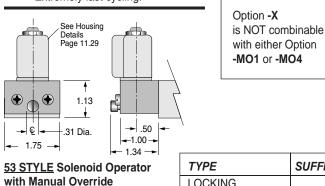
The solenoid operator is a 3-way NC valve which, upon receiving an electrical signal, directs a pilot pressure to shift the main valve spool. As standard, the operator is internally supplied with air pressure from the main valve inlet. Also see "External Pilot Supply" below.



53 STYLE Solenoid Operator with External Pilot Supply Option -X

In the following listed applications, as well as many others, a proper air supply may not be available from the main valve inlet. For these applications, an external pilot supply port is available (Option -X). A proper air supply to this port then supplies the solenoid with air pressure for piloting the main valve spool.

- Dual Inlet Single Exhaust 4 Way.
- · Insufficient pressure at main valve inlet.
- Media, at main valve inlet, other than air.
- Extremely fast cycling.

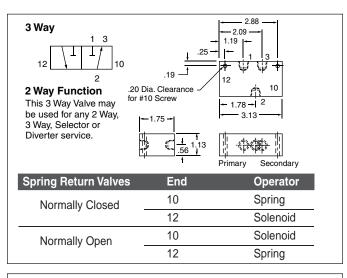


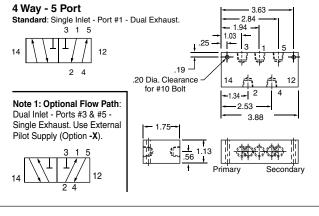
This manual override is a 3-way NC valve that when pushed, directs pilot pressure to shift the main spool. Pressure must be present at main valve inlet for this override to function.

TYPE	SUFFIX
LOCKING	
Push to override;	-MO1
Turn to lock in;	
Turn back to release.	
NON-LOCKING	
Push to override.	-MO4

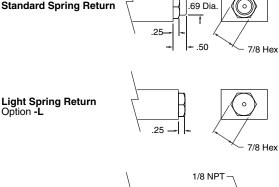
STACKING - PRESSURE MANIFOLDED

Versions of these 1400 Series 1/4 NPT solenoid valves with different adaptor blocks can be stacked and pressure manifolded for space and money savings. The valve bodies are bolted together with 4 through tie bolts and the pressure is manifolded with O-Ring seals between valves. Inlet pressure can be connected to either or both ends of the stack. Due to the fact that the pressure port, on all valve bodies, is tapped on both sides, the pressure manifold can be plugged at any point within the stack. This allows you to supply the stack with two different pressures, one from each end. Versions of the Air Pilot, Rod Actuator, Roller Cam and Small Palm Button valves may be mounted in the same stack along with these solenoid valves.

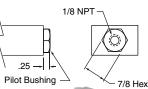




Standard Spring Return



Pilot Return Option -P 1/8 NPT Port See Page 11.13



60

TO ORDER

Specify the quantity of each model desired, the order in which they are to be assembled, and Brackets, if desired.

1/4 & 3/8 NPT Ported 58 STYLE Solenoid Controlled, Pilot Operated Air Valves 2, 3 & 4 Way - 2 Position



Features

- Black anodized aluminum bar stock body
- Honed and burnished bore
- Lightweight Delrin® spool provides fast, positive, reliable response
- Simplicity
 Reliability
- Corrosion resistant construction
- Buna N seals Operation to 150 psi
- Solenoid operator information see page 11.31
- Cv = 1.0
- 56.2 SCFM Free flow to atmosphere @ 80 psi
- Prelubed with Magnalube®-G grease
- Operating temperature:

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+32°F (0°C) to +122°F (50°C) ambient.
+32°F (0°C) to +122°F (50°C) media.
```

Standard catalog models are suitable for operation in intermittent low temperatures in a range of 0° to + 32 °F.

A custom aluminum spool may be substituted when long-term application temperatures are expected to be 0° to +32°F. These should be limited to double solenoid actuation. Consider that actuation force may exceed catalog specs and that spring return models may not be reliable at these low temperatures. Please consult factory.

Options

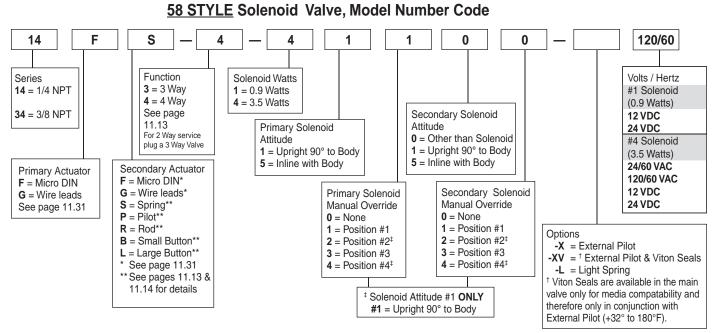
External Pilot	. -X
[†] External Pilot and Viton Seals	-XV
Light Spring	L

[†] Viton Seals are available in the main valve only, for media compatibility, and therefore only in conjunction with External Pilot: +32°F (0°C) to +122°F (50°C).



Operating Ranges, psi

	#1 Solenoid	#4 Solenoid
	0.9 Watts	3.5 Watts
Internal pilot supply (standard) inlet pressur	e	
Non Spring Return	30 to 130	30 to 145
Spring Return	50 to 130	50 to 145
Light Spring Option -L	40 to 130	40 to 145
External pilot supply, Option -X inlet pressure	<u>re</u> 0 to 150	0 to 150
External pilot supply, Option -X pilot supply		
Non Spring Return	30 to 130	30 to 145
Spring Return	50 to 130	50 to 145
Light Spring Option -L	40 to 130	40 to 145



Example: 14FS-4-41100-120/60

1/4 NPT – Primary Actuator Solenoid with Micro DIN coil; Secondary Actuator, Spring Return – 4 Way Function 3.5 Watt Solenoid; Primary Solenoid Upright position with Manual Override in Position #1; Secondary Actuator is not a Solenoid; no Manual Override on Secondary Actuator – No Options – 120 Volt/60 Hertz.

