

Valves

Smooth Start, Soft Start/Exhaust, Directional Control, Directional Control with Lockout 1/4" to 1-1/2" Port Sizes

Smooth Start Valves

- P72E (1/4", 3/8" threaded ports in valve body)ALE-18-2
- P74E Quikclamp Mounted (1/4", 3/8", 1/2", 3/4" threaded ports in Quikclamp pipe adapter)ALE-18-4

Smooth Start/Exhaust Valves

- P72F (1/4", 3/8" threaded ports in valve body)ALE-18-6
- P74F (3/8", 1/2", 3/4" threaded ports in valve body)ALE-18-8
- P64F Yoke Mounted (1/4", 3/8", 1/2", 3/4" ports in yoke)ALE-18-10
- P68F Yoke Mounted (3/4", 1", 1-1/4", 1-1/2" ports in yoke)ALE-18-12

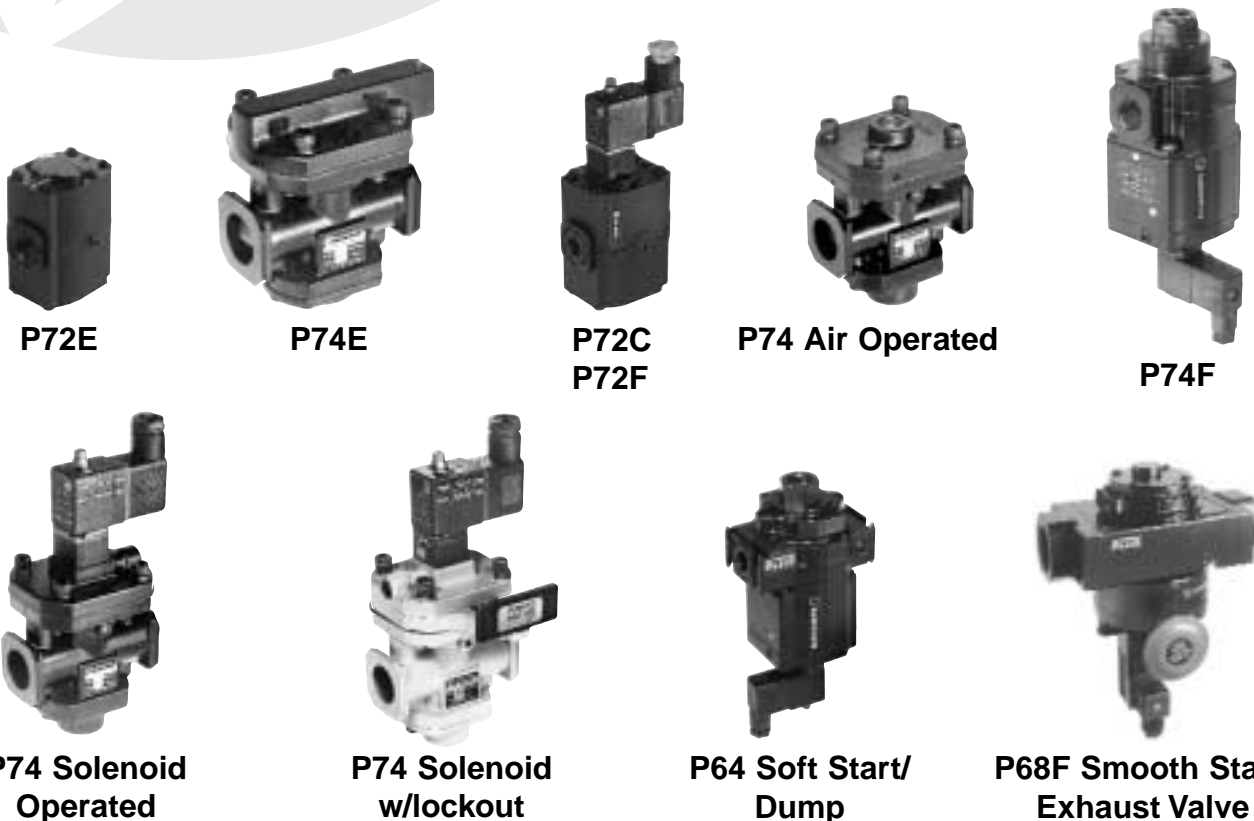
Directional Control Valves

- P72C (air and solenoid operated, 3-way valve, 1/4", 3/8" threaded ports in valve body)ALE-18-14
- P74 Quikclamp Mounted (air operated, 2 and 3-way valves, 1/4", 3/8", 1/2", 3/4" threaded ports in Quikclamp pipe adapter)ALE-18-16
- P74 Quikclamp Mounted (solenoid operated, 2 and 3-way valves, 1/4", 3/8", 1/2", 3/4" threaded ports in Quikclamp pipe adapter)ALE-18-18

Directional Control Valve with Lockout Slide

- P74 Quikclamp Mounted (solenoid operated, 3-way valves, 1/4", 3/8", 1/2", 3/4" threaded ports in Quikclamp pipe adapter)ALE-18-20

- FAQ'sALE-18-22



- Excelon design allows in-line or modular installation
- High-flow, spring return, 2 port/2 position normally closed valves
- Reduces rate of downstream air pressure buildup at system start up
- Cylinders and other air operated devices are eased into normal starting positions, reducing the possibility of equipment damage and hazards to the user.
- Adjustable rate of pressure increase
- Cushioned poppets for long service life
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications



Ordering Information. Models listed are with PTF threads.

Port Size	Model	Weight lb (kg)
1/4"	P72E-2AN-NNN	1.86 (0.84)
3/8"	P72E-3AN-NNN	1.80 (0.82)

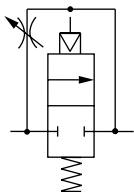
Alternative Models

P 7 2 E - ★ ★ N - N N N

Port Size	Substitute
1/4"	2
3/8"	3

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G taper	G

ISO Symbol



See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air
 Maximum pressure: 250 psig (17 bar)
 Minimum operating pressure: 44 psig (3 bar)
 Temperature range*: -0° to 150°F (-20° to 65°C)

* Air supply must be dry enough to avoid ice formaton at temperatures below 35°F (2°C).

Ports:

- PTF ports
- ISO G ports
- ISO Rc ports

Maximum flow with 90 psig (6.3 bar) inlet pressure and pressure drop of 7 psig (0.5 bar): 45 scfm (21 dm³/s)

Snap pressure:

Full flow when downstream pressure reaches 50 – 80% of inlet pressure

Charge time:

For 0.53 gallon US (2 liter) downstream volume and 90 psig (6.3 bar) inlet pressure

0.8 sec. minimum

76 sec. maximum

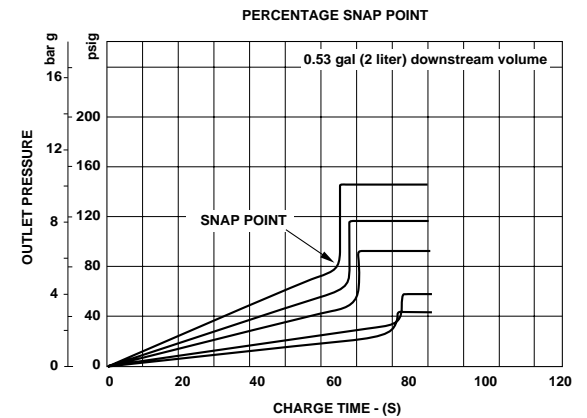
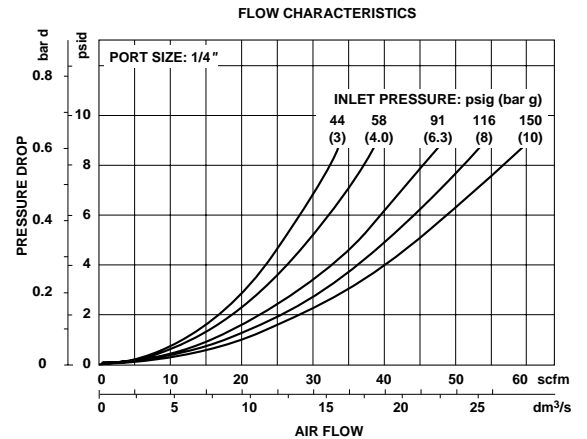
Average flow factor (Cv): 1.35

Materials

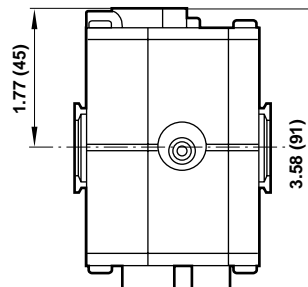
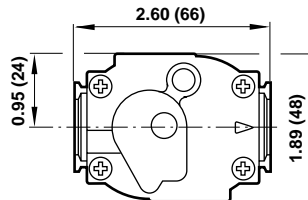
- Body: Zinc alloy
- Elastomers: Synthetic materials
- Internal components: Brass/steel

Note: Smooth start valves never shut off completely, and must be installed downstream of a directional control valve such as a Norgren Poppet or Lockout Valve.

Ordering Information



All Dimensions in Inches (mm)



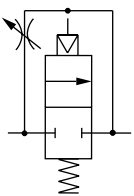
**Excelon 74 Smooth Start Valves
Unthreaded Ports, 1/2" Basic Size**

- **Modular installation only**
- **High-flow, spring return, 2-port/2-position normally closed valves.**
- **Reduces rate of downstream air pressure buildup at system start up**
- **Cylinders and other air operated devices are eased into normal starting positions, reducing the possibility of equipment damage and hazards to the user.**
- **Adjustable rate of pressure increase**
- **Cushioned poppets for long service life**


Ordering Information

Installation Type	2 Port/2 Position Normally Closed	Weight lb (kg)
Modular	P74E-NNN-NNN	1.17 (0.53)

* Valve ports are unthreaded. To install in air line use Quikclamp™ and Quikclamp pipe adapters or connect to other Excelon 74 units.

ISO Symbol


See Section ALE-25 for Accessories



Technical Data

Fluid: Filtered and lubricated compressed air
 Inlet pressure range: 30 to 250 psig (2 to 17 bar)
 Temperature range*: -20° to 175°F (-30° to 80°C)
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).
 Time delay: Application of full downstream pressure can be delayed for as long as 50 seconds, depending on the setting of the adjustable needle valve and downstream air volume.
 Average flow factor (Cv): 4.0
 Materials:
 Body: Zinc
 Pistons, poppets: Aluminum
 Elastomers: Nitrile


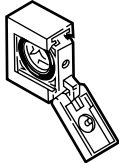
Service Kit

Item	Type	Part Number
Service kit	Seal & Gasket	53474-37
Quikclamp service kit	2 o-rings	4384-770

Service kit includes all o-rings, head gasket and seals.

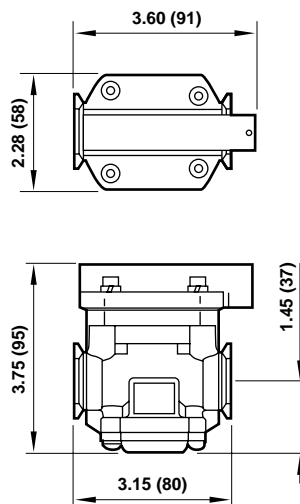
Note: Smooth start valves never shut off completely, and must be installed downstream of a directional control valve such as a Norgren Poppet or Lockout Valve.

Modular Components (necessary for using this valve)

				 Quikclamp † 4314-51
Quikmount Pipe Adapters (each kit contains one adapter) **				
Size	PTF Threads	ISO Rc Threads	ISO G Threads	
1/4"	4315-01	4315-05	4315-09	
3/8"	4315-01	4315-06	4315-10	
1/2"	4315-03	4315-07	4315-11	
3/4"	4315-04	4315-08	4315-12	

** Each pipe adapter adds 0.71" (18 mm) to the overall length of a valve.
 † Each Quikclamp adds 0.7" (13.6 mm) to the overall length of a valve.

All Dimensions in Inches (mm)



**Excelon 72 Smooth Start/Exhaust Valve
1/4", 3/8" Port Sizes**

- Excelon design allows in-line or modular installation
- Controls increase of downstream pressure on start up. Cylinders and other air operated devices are eased into normal operating positions, reducing the possibility of equipment damage and hazards to the user.
- 3 port/2 position, normally closed, soft start valve with optional manual lockout slide
- Blocks inlet air and exhausts downstream air when pilot signal is removed or when the optional manual lockout slide is closed
- Optional manual slide can be padlocked in closed position
- Solenoid pilot or air pilot operation
- Designed primarily for use in start-up and shutdown of equipment, not as a frequently cycling directional control valve. Norgren offers a wide variety of valves designed for frequent cycling and other applications. Please refer to the P72C and P74C valves, and to other Norgren valve catalogs.



Ordering Information. Models listed are with PTF threads. Solenoid operated models include 24 VDC coil and plug without indicator.

Port Size	Solenoid Operated* Model	Weight lb (kg)	Air Pilot Operated Model	Weight lb (kg)
1/4"	P72F-2AC-PFA	2.00 (0.91)	P72F-2AA-NNN	1.93 (0.88)
3/8"	P72F-3AC-PFA	1.98 (0.90)	P72F-3AA-NNN	1.91 (0.87)

* To select other solenoid type and coil voltage refer to alternative models table below.

Alternative Models

P 7 2 F - ★ ★ ★ - ★ ★ ★

Port Size	Substitute
1/4"	2
3/8"	3

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

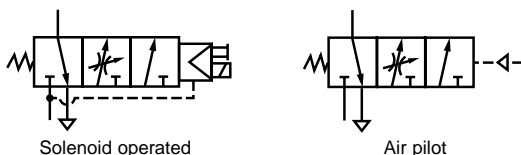
Operator	Substitute
Air pilot**	A
22 mm miniature solenoid	C
CNOMO	L

Solenoid Manual Operator	Substitute
Shrouded push button	P
None	N

Connectors	Substitute
3 pin plug with cable gland, no indicator	A
Without	N

Coil Voltage	Nominal Power Rating	Substitute
24 V d.c.	2 W	F
12 V d.c.	2 W	E
6 V d.c.	2 W	D
220/240 V 50/60 Hz	4/2.5 VA	B
110/120 V 50/60 Hz	4/2.5 VA	A
No coil	2 W	Z
No solenoid		N

** to order air pilot models also substitute 'NNN' at digits 8, 9 and 10 e.g. P72F-2GA-NNN.

ISO Symbols


See Section ALE-25 for Accessories



Technical Data

System air supply: Turn on system air supply prior to applying pilot signal to operator. Failure to do so may cause valve to continuously exhaust.

Fluid: Compressed air

Maximum pressure solenoid operated:

Dependant on solenoid rating
[must not exceed 250 psig (17 bar)]

Maximum pressure pilot operated: 250 psig (17 bar) max.

Minimum operating pressure: 44 psig (3 bar)

Operating temperature solenoid operated:

Dependant on solenoid rating
[must be within range 0°* to 150°F (-20°* to 65°C)]

Operating temperature pilot operated:

0°* to 150°F (-20°* to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Air Pilot Port:

10-32 UNF with PTF main ports

M5 with ISO main ports

Exhaust Port:

1/4" PTF with PTF main ports

1/4" ISO Rc with ISO Rc main ports

1/4" ISO Rc with ISO G main ports

Maximum flow with 90 psig (6.3 bar) inlet pressure and pressure drop of 7 psig (0.5 bar): 45 scfm (21 dm³/s) [P₁ to P₂ = Cv 1.59] [P₂ to P₃ = Cv 1.72]

Snap pressure:

Full flow when downstream pressure reaches 50 – 80% of inlet pressure

Charge time:

For 0.53 gallon US (2 liter) downstream volume and 90 psig (6.3 bar) inlet pressure

Minimum 0.8 sec.

Typical maximum 99 sec.

Materials

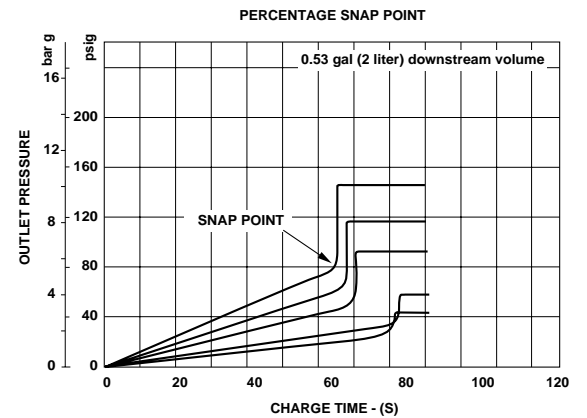
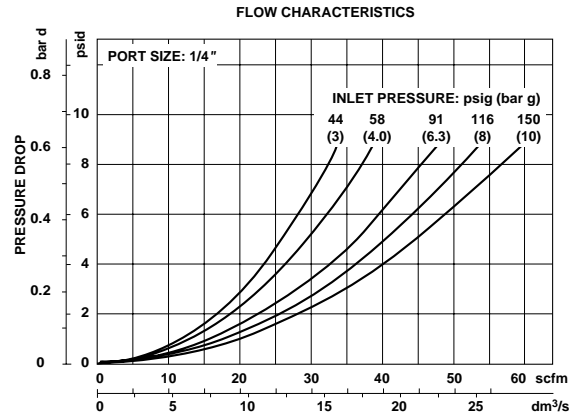
Body: Zinc alloy

Elastomers: Synthetic materials

Filter discs: Sintered plastic

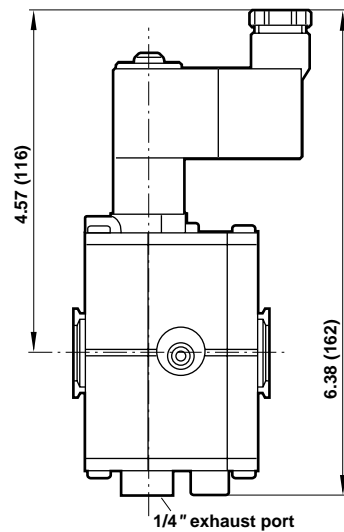
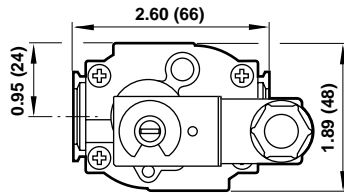
Internal components: Brass/steel

Typical Performance Characteristics

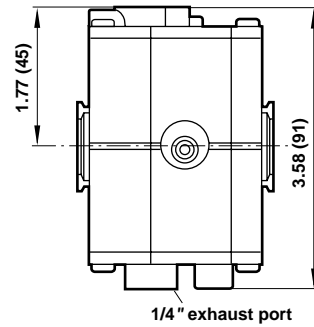
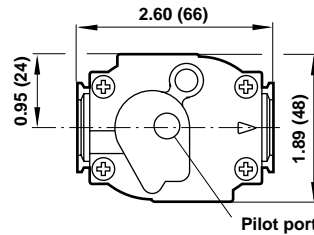


All Dimensions in Inches (mm)

Solenoid operated



Air pilot operated



Excelon 74 Smooth Start/Exhaust Valve
3/8", 1/2", 3/4" Port Size

- Excelon design allows in-line or modular installation
- Controls increase of downstream pressure on start up. Cylinders and other air operated devices are eased into normal operating positions, reducing the possibility of equipment damage and hazards to the user.
- 3 port/2 position, normally closed, soft start valve with optional manual lockout slide
- Blocks inlet air and exhausts downstream air when pilot signal is removed or when the optional manual lockout slide is closed
- Optional manual slide can be padlocked in closed position
- Solenoid pilot or air pilot operation
- Designed primarily for use in start-up and shutdown of equipment, not as a frequently cycling directional control valve. Norgren offers a wide variety of valves designed for frequent cycling and other applications. Please refer to the P72C and P74C valves, and to other Norgren valve catalogs.



Ordering Information. Models listed are with PTF ports. Solenoid operated models include 24 V d.c. coil and plug without indicator.

Port Size	Solenoid Operated* Model	Weight lb (kg)	Air Pilot Operated Model	Weight lb (kg)
3/8"	P74F-3AC-PFA	2.4 (1.08)	P74F-3AA-NNN	2.3 (1.05)
1/2"	P74F-4AC-PFA	2.3 (1.05)	P74F-4AA-NNN	2.2 (1.02)
3/4"	P74F-6AC-PFA	3.1 (1.41)	P74F-6AA-NNN	3.0 (1.35)

* To select other solenoid type and coil voltage refer to alternative models table below.

Alternative Models

P 7 4 F - ★ ★ ★ - ★ ★ ★

Port Size	Substitute
3/8"	3
1/2"	4
3/4"	6

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

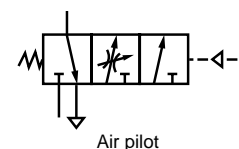
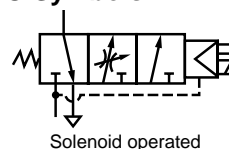
Operator	Substitute
Air pilot**	A
Air pilot with manual lockout slide**	B
22 mm miniature solenoid	C
22 mm miniature solenoid with manual lockout slide	D
CNOMO solenoid	L
CNOMO solenoid with manual lockout slide	M

Connectors	Substitute
3 pin plug with cable gland, no indicator	A
Without	N

Coil Voltage	Nominal Power Rating	Substitute
24 V d.c.	2 W	F
12 V d.c.	2 W	E
6 V d.c.	2 W	D
220/240 V 50/60 Hz	4/2.5 VA	B
110/120 V 50/60 Hz	4/2.5 VA	A
No coil	2 W	Z
No solenoid		N

Solenoid Manual Operator	Substitute
Shrouded push button	P
None	N

** To order air pilot models also substitute 'NNN' at digits 8, 9 and 10 e.g. P74F-4AA-NNN.

ISO Symbols


See Section ALE-25 for Accessories



Technical Data

System air supply: Turn on system air supply prior to applying pilot signal to operator. Failure to do so may cause valve to continuously exhaust.

Fluid: Compressed air

Maximum pressure solenoid operated:

Dependant on solenoid rating
[must not exceed 250 psig (17 bar)]

Maximum pressure pilot operated: 250 psig (17 bar) max.

Minimum operating pressure: 44 psig (3 bar)

Operating temperature solenoid operated:

Dependant on solenoid rating
[must be within range 0°* to 175°F (-20°* to 80°C)]

Operating temperature pilot operated:

0°* to 175°F (-20°* to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Air pilot port:

- ISO Rc1/4 with ISO Rc main ports
- ISO Rc1/4 with ISO G main ports
- 1/4" PTF with PTF main ports

Exhaust port:

- ISO G1/2 with ISO G main ports
- ISO G1/2 with ISO Rc main ports
- 1/2" PTF with PTF main ports

Typical flow with 90 psig (6.3 bar) inlet pressure and pressure drop of 7 psig (0.5 bar):
57 dm³/s (P₁ to P₂ = Cv 4.4) (P₂ to P₃ = Cv 5.6)

Snap pressure:

Full flow when downstream pressure reaches 50 – 80% of inlet pressure

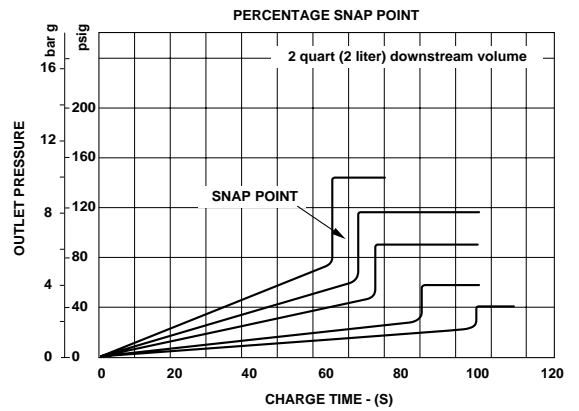
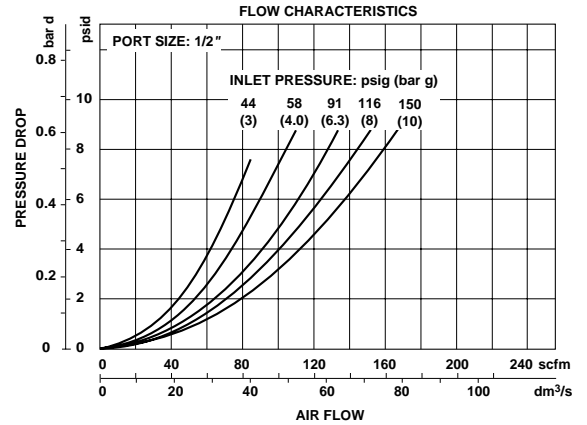
Charge time:

For 2 liter downstream volume and 90 psig (6.3 bar) inlet pressure:
0.2 sec. minimum
76 sec. maximum

Materials

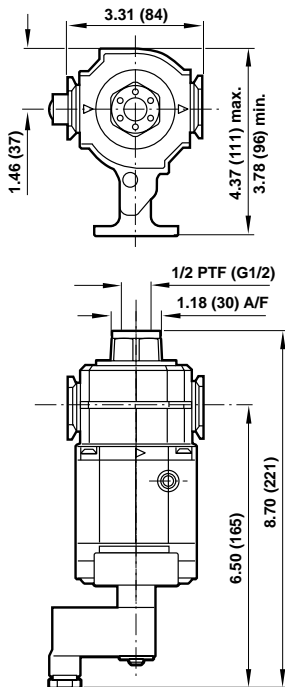
- Body: Aluminium
- Intermediate body: Aluminium
- Elastomers: Synthetic materials
- Filter discs: Sintered plastic
- Internal components: Brass/steel
- Top plate: Zinc
- Exhaust bonnet: Zinc

Typical Performance Characteristics

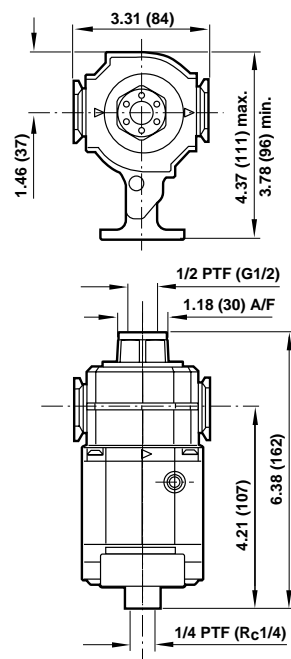


All Dimensions in Inches (mm)

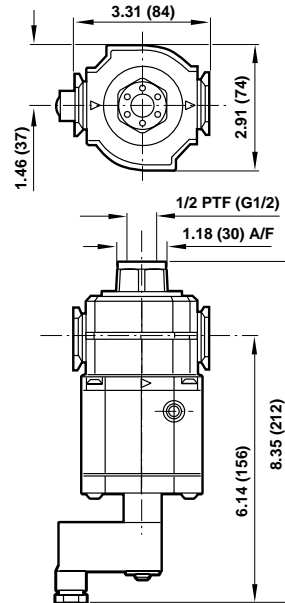
Solenoid operated plus manual shut-off with lockout



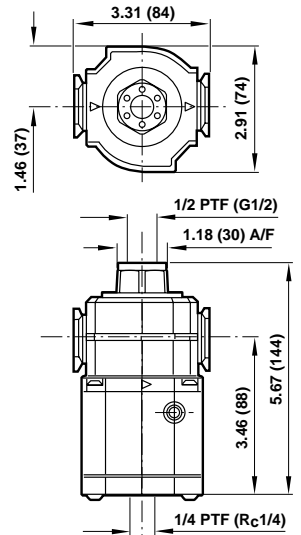
Air pilot operated plus manual shut-off with lockout



Solenoid operated



Air pilot operated



Olympian Plus 64 Smooth Start/Exhaust Valve
1/4", 3/8", 1/2", 3/4" Port Sizes

- Olympian Plus plug in design
- Controls increase of downstream pressure on start up. Cylinders and other air operated devices are eased into normal operating positions, reducing the possibility of equipment damage and hazards to the user.
- 3 port/2 position, normally closed, soft start valve with optional manual lockout slide
- Blocks inlet air and exhausts downstream air when pilot signal is removed or when the optional manual lockout slide is closed
- Optional manual slide can be padlocked in closed position
- Solenoid pilot or air pilot operation
- Designed primarily for use in start-up and shutdown of equipment, not as a frequently cycling directional control valve. Norgren offers a wide variety of valves designed for frequent cycling and other applications. Please refer to the P72C and P74C valves, and to other Norgren valve catalogs.



Ordering Information. Models listed are with PTF threads. Solenoid operated models include 24 v.d.c. coil and plug without indicator.

Port Size	Solenoid Operated* Model	Weight lb (kg)	Air Pilot Operated Model	Weight lb (kg)
1/4"	P64F-2AC-PFA	4.6 (2.07)	P64F-2AA-NNN	4.3 (1.96)
3/8"	P64F-3AC-PFA	4.5 (2.05)	P64F-3AA-NNN	4.3 (1.94)
1/2"	P64F-4AC-PFA	4.4 (2.02)	P64F-4AA-NNN	4.2 (1.91)
3/4"	P64F-6AC-PFA	5.2 (2.38)	P64F-6AA-NNN	5.0 (2.27)

* Solenoid operated models are supplied with solenoids but without solenoid coils. To select solenoid type and coil voltage refer to alternative models table below. For replacement soft start/exhaust valve, without yoke substitute 'NN' at 5th and 6th digit eg. P64F-NNC-PZN.

Alternative Models

P 6 4 F - ★ ★ ★ - ★ ★ ★

Port Size	Substitute
1/4"	2
3/8"	3
1/2"	4
3/4"	6

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

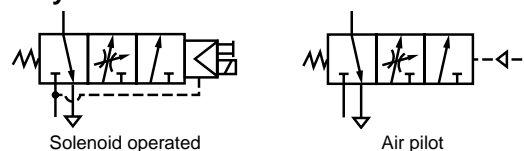
Operator	Substitute
Air pilot**	A
Air pilot with manual shut-off**	B
22 mm miniature solenoid	C
22 mm miniature solenoid with manual shut-off	D
CNOMO solenoid	L
CNOMO solenoid with manual lockout slide	M

Connectors	Substitute
3 pin plug with cable gland, no indicator	A
Without	N

Coil Voltage	Nominal Power Rating	Substitute
24 V d.c.	2 W	F
12 V d.c.	2 W	E
6 V d.c.	2 W	D
220/240 V 50/60 Hz	4/2.5 VA	B
110/120 V 50/60 Hz	4/2.5 VA	A
No coil	2 W	Z
No solenoid		N

Solenoid Manual Operator	Substitute
Shrouded push button	P
None	N

** to order air pilot models also substitute 'NNN' at digits 8, 9 and 10 e.g. P64F-2GA-NNN.

ISO Symbols


See Section ALE-25 for Accessories



Technical Data

System air supply: Turn on system air supply prior to applying pilot signal to operator. Failure to do so may cause valve to continuously exhaust.

Fluid: Compressed air

Maximum pressure solenoid operated:

Dependant on solenoid rating
[must not exceed 250 psig (17 bar)]

Maximum pressure pilot operated: 250 psig (17 bar)

Minimum operating pressure: 44 psig (3 bar)

Operating temperature solenoid operated: Dependant on solenoid rating
[must be within range 0°* to 125°F (-20°* to 50°C)]

Operating temperature pilot operated:

0°* to 175°F (-20°* to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Gauge ports: 1/8" (PTF with PTF main ports, Rc with ISO G and ISO Rc main ports)

Air pilot port: 1/4" (PTF with PTF main ports, Rc with ISO G and ISO Rc main ports)

Exhaust port: 1/2" (PTF with PTF main ports, G1/2 with ISO G and ISO Rc main ports)

Typical flow with 90 psig (6.3 bar) inlet pressure and pressure drop of 7 psig (0.5 bar): 57 dm³/s (120 scfm) (P₁ to P₂ = Cv 4.2) (P₂ to P₃ = Cv 5.6)

Snap pressure:

Full flow when downstream pressure reaches 50 – 80% of inlet pressure

Charge time:

For 2 liter downstream volume and 90 psig (6.3 bar) inlet pressure

Minimum 0.2 sec.

Typical maximum 58 sec.

Materials:

Body: Zinc alloy

Intermediate body and top plate: Aluminium

Exhaust bonnet: Zinc alloy

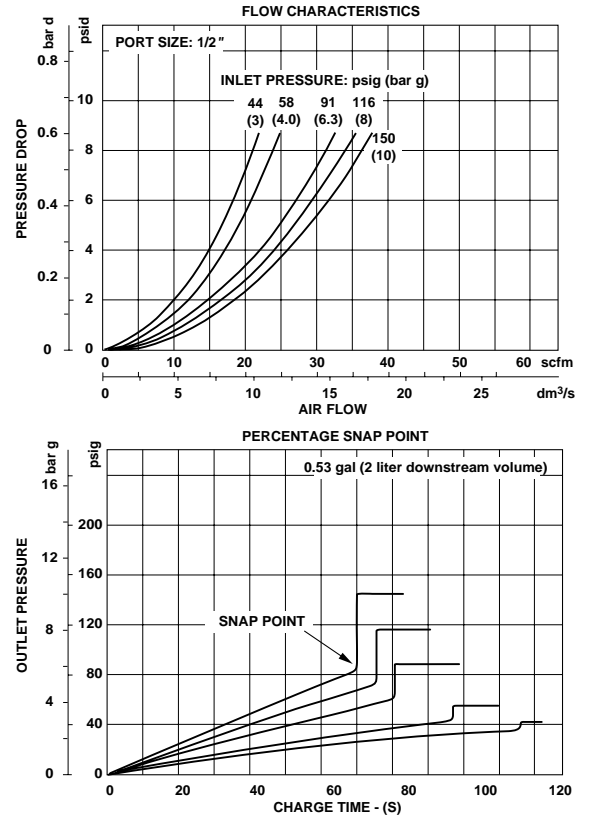
Yoke: Zinc alloy

Elastomers: Synthetic materials

Filter discs: Sintered plastic

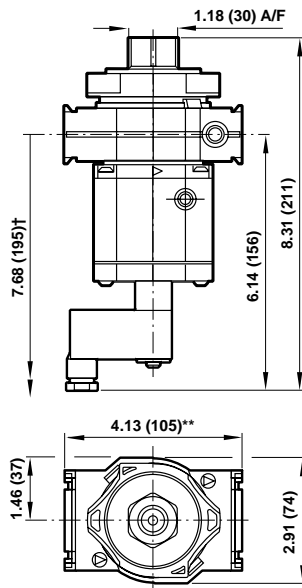
Internal components: Brass/steel

Typical Performance Characteristics

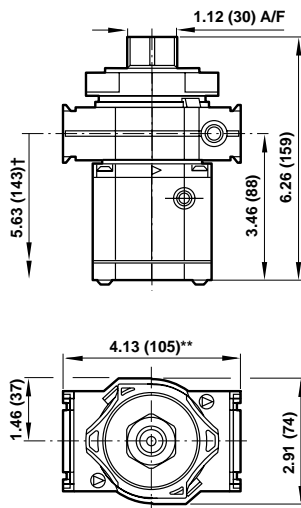


All Dimensions in Inches (mm)

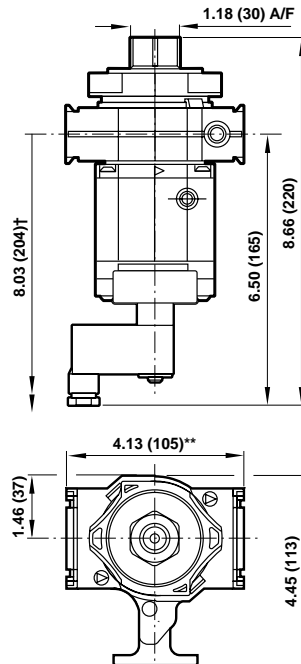
Solenoid operated



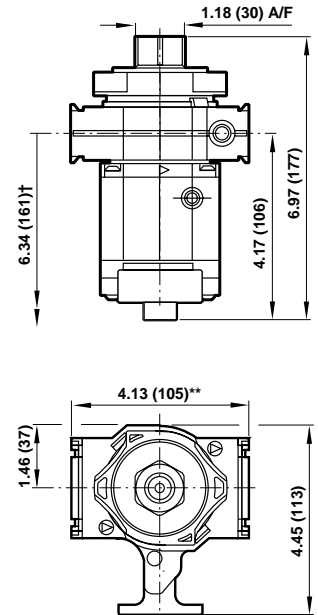
Air pilot operated



Solenoid operated plus manual shut-off with lockout



Air pilot operated plus manual shut-off with lockout



** 6.18" (157 mm) for models with 3/4" ports.
† Minimum clearance required to remove unit.

**Olympian Plus 68 Smooth Start/Exhaust Valve
3/4", 1", 1-1/4", 1-1/2" Port Sizes**

- **Olympian plug in design**
- **Controls increase of downstream pressure on start up. Cylinders and other air operated devices are eased into normal operating positions, reducing the possibility of equipment damage and hazards to the user.**
- **3 port/2 position, normally closed, soft start valve with optional manual lockout slide**
- **Blocks inlet air and exhausts downstream air when pilot signal is removed or when the optional manual lockout slide is closed**
- **Optional manual slide can be padlocked in closed position**
- **Solenoid pilot or air pilot operation**
- **Designed primarily for use in start-up and shutdown of equipment, not as a frequently cycling directional control valve. Norgren offers a wide variety of valves designed for frequent cycling and other applications. Please refer to the P72C and P74C valves, and to other Norgren valve catalogs.**



Ordering Information. Models listed include a yoke with PTF threads and an operator with manual lockout slide. Solenoid operated models include a 22 mm operator with manual override, a 24 Vdc coil, and a connector without indicator light.

Port Size	Solenoid Operated* Model	Weight lb (kg)	Air Pilot Operated Model	Weight lb (kg)
3/4	P68F-6AD-PFA	6.56 (2.95)	P68F-6AB-NNN	6.16 (2.77)
1	P68F-8AD-PFA	6.51 (2.93)	P68F-8AB-NNN	6.11 (2.75)
1-1/4	P68F-AAD-PFA	6.44 (2.90)	P68F-AAB-NNN	6.04 (2.72)
1-1/2	P68F-BAD-PFA	6.49 (2.92)	P68F-BAB-NNN	6.09 (2.74)

Alternative Models

Port Size	Substitute
3/4"	6
1"	8
1-1/4"	A
1-1/2"	B
No Yoke	N

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G
No Yoke (<i>N</i> in 5th position)	N
ISO G pilot and exhaust ports	
No Yoke (<i>N</i> in 5th position)	A
PTF pilot and exhaust ports	

Operator	Substitute	
	150 psig (10 bar) Inlet Pressure	250 psig (17 bar) Inlet Pressure
Air pilot	A	A
Air pilot with manual lockout	B	B
Low watt miniature (22 mm) solenoid	C †	S †
Low watt miniature (22 mm) solenoid with manual lockout	D †	T †
Standard watt (32 mm) solenoid	G ††	V ††
Standard watt (32 mm) solenoid with manual lockout	H ††	W ††
Low watt CNOMO solenoid	L †	X †
Low watt CNOMO solenoid with manual lockout	M †	Y †
Direct ported bottom plate	N	N

P 6 8 F - ★ ★ ★ - ★ ★ ★

Connectors	Substitute
3 pin plug with cable gland, without indicator light.	A
Without connector	N

Coil Voltage	Low Watt Coil - For use with 22mm and CNOMO solenoids.		Standard Watt Coil - For use with 32mm solenoid.	
	Nominal Power Rating	Substitute	Nominal Power Rating	Substitute
24 V d.c.	2 W *	F	4.5 W **	P
12 V d.c.	2 W *	E	4.5 W **	Q
6 V d.c.	2 W *	D	4.5 W **	M
220/240 V 50/60 Hz	4/2.5 VA *	B	14/10 VA **	K
110/120 V 50/60 Hz	4/2.5 VA *	A	14/10 VA **	J
No coil		Z		Z
No solenoid		N		N

Solenoid Operator Manual Override	Substitute
Shrouded push button	P
None	N

† Also specify desired low watt coil in 9th position.

†† Also specify desired standard watt coil in 9th position.

* Nominal power rating for the low watt coil used with the 247 psi (17 bar) solenoid is 7.5 watt or 12/8 VA.

** Nominal power rating for the standard watt coil used with the 247 psi (17 bar) solenoid is 9 watt or 27/20 VA.



Technical Data

System air supply: Turn on system air supply prior to applying pilot signal to operator. Failure to do so may cause valve to continuously exhaust.

Fluid: Compressed air

Maximum pressure solenoid operated:

- Dependent on solenoid rating
- [must not exceed 250 psig (17 bar)]

Maximum pressure pilot operated: 250 psig (17 bar) max.

Minimum operating pressure: 44 psig (3 bar)

Operating temperature solenoid operated:

- Dependent on solenoid rating
- [must be within range 0°* to 175°F (-20°* to 80°C)]

Operating temperature pilot operated:

- 0°* to +175°F (-20°* to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Air pilot port:

- ISO G1/4 with ISO Rc main ports
- ISO G1/4 with ISO G main ports
- 1/4 PTF with PTF main ports

Exhaust port:

- ISO G1 with ISO G main ports
- ISO G1 with ISO Rc main ports
- 1" PTF with PTF main ports

Typical flow with 90 psig (6.3 bar) inlet pressure and pressure drop of 7 psig (0.5 bar):

147 dm³/s (P₁ to P₂ = Cv 11.2) (P₂ to P₃ = Cv >11)

Snap pressure:

- Full flow when downstream pressure reaches
- 50 – 80% of inlet pressure

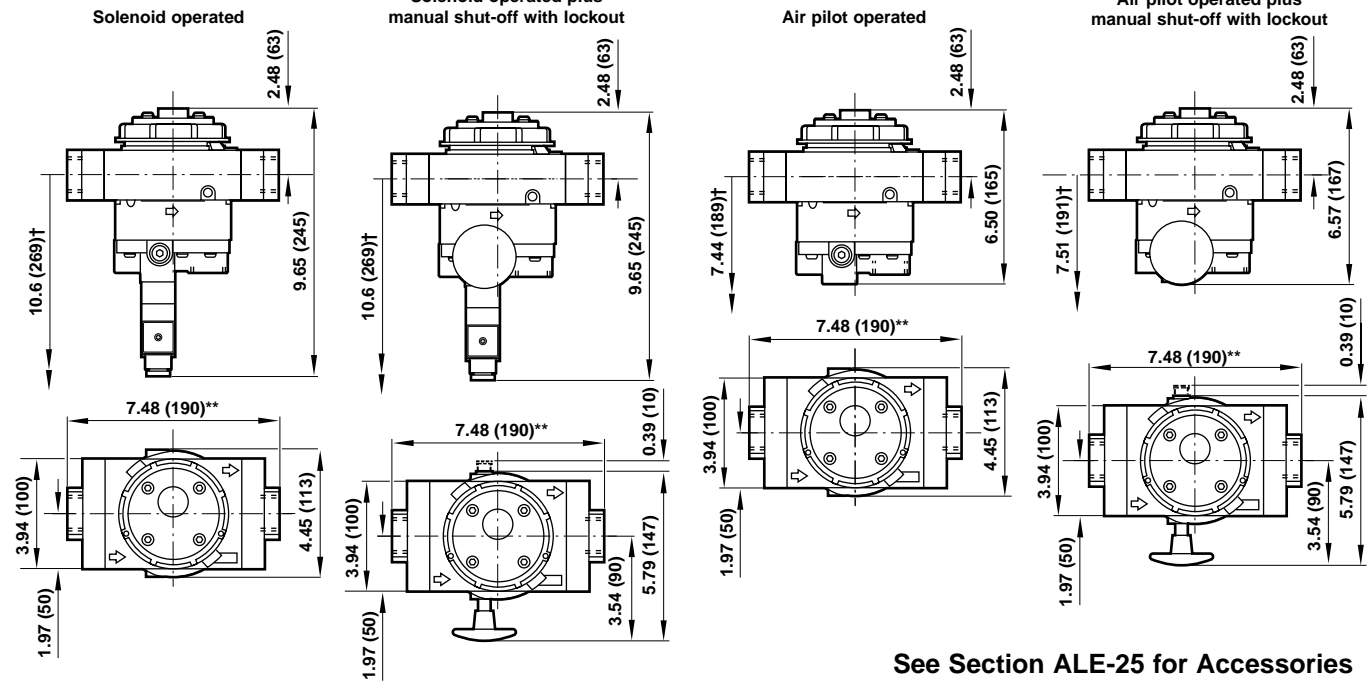
Charge time

- For 25 litre downstream volume and 90 psig (6.3 bar) inlet pressure:
- Minimum 6.4 sec.
- Typical maximum 115 sec.

Materials

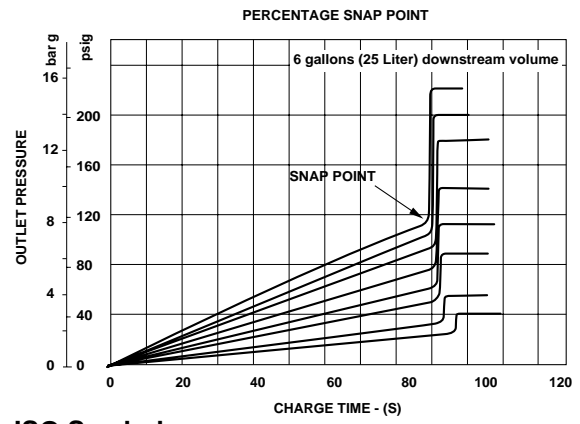
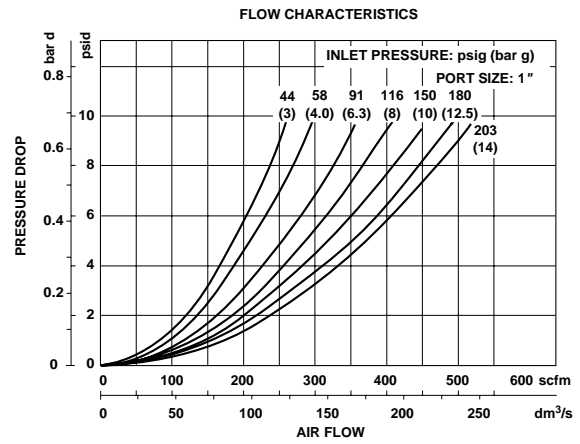
- Body: Aluminum
- Top plate: Aluminum
- Bottom plate: Aluminum
- Yoke: Aluminum
- Elastomers: Synthetic materials
- Filter discs: Sintered plastic
- Internal components: Brass/steel

All Dimensions in Inches (mm)

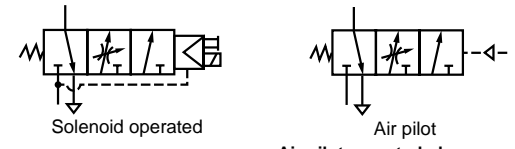


** 7.87" (200 mm) for 1-1/4, 1-1/2 models. † Minimum clearance required to remove unit.

Typical Performance Characteristics



ISO Symbols



See Section ALE-25 for Accessories

**Excelon 72 Air or Solenoid Operated Directional Control Valves
1/4", 3/8" Port Sizes**

- Excelon design allows in-line or modular installation
- 3 port/2 position valves, normally closed
- Solenoid or air pilot operated
- Customised poppets for long service life
- High flow spring return
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications



Ordering Information. Models listed are with PTF threads. Solenoid operated models include 24 V d.c. coil and plug without indicator.

Port Size	Solenoid Operated* Model	Weight lb (kg)	Air Pilot Operated Model	Weight lb (kg)
1/4"	P72C-2AC-PFA	2.11 (0.96)	P72C-2AA-NNN	1.86 (0.84)
3/8"	P72C-3AC-PFA	2.05 (0.93)	P72C-3AA-NNN	1.80 (0.82)

* To select other solenoid type and coil voltage refer to alternative models table below.

Alternative Models

P 7 2 C - ★ ★ ★ - ★ ★ ★

Port Size	Substitute
1/4"	2
3/8"	3

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

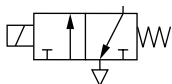
Operator	Substitute
Air pilot**	A
22 mm miniature solenoid	C
CNOMO	L

Solenoid Manual Operator	Substitute
Shrouded push button	P
None	N

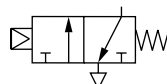
Connectors	Substitute
3 pin plug with cable gland, no indicator	A
Without	N

Coil Voltage	Nominal Power Rating	Substitute
24 V d.c.	2 W	F
12 V d.c.	2 W	E
6 V d.c.	2 W	D
220/240 V 50/60 Hz	4/2.5 VA	B
110/120 V 50/60 Hz	4/2.5 VA	A
No coil	2 W	Z
No solenoid		N

** To order air pilot models also substitute 'NNN' at digits 8, 9 and 10 e.g. P72C-2AA-NNN.

ISO Symbols


Solenoid operated



Air pilot

See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air
 Maximum pressure solenoid operated: Dependant on solenoid rating [must not exceed 150 psig (10 bar)]
 Maximum pressure pilot operated: 150 psig (10 bar)
 Minimum operating pressure: 15 psig (1 bar)
 Operating temperature solenoid operated:
 Dependant on solenoid rating [must be within range 0°* to 150°F (-20°* to 65°C)]
 Operating temperature pilot operated:
 0°* to 150°F (-20°* to 65°C)
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).
 Air Pilot Port:
 10-32 UNF with PTF main ports
 M5 with ISO main ports
 Exhaust Port:
 1/4" PTF with PTF main ports
 1/4" ISO Rc with ISO Rc main ports
 1/4" ISO Rc with ISO G main ports
 Average flow factor (Cv)
 IN to OUT ports: 1.31
 OUT to EXHAUST ports: 1.27
 Materials
 Body: Zinc alloy
 Elastomers: Synthetic materials
 Filter discs: Sintered plastic
 Internal components: Brass/steel

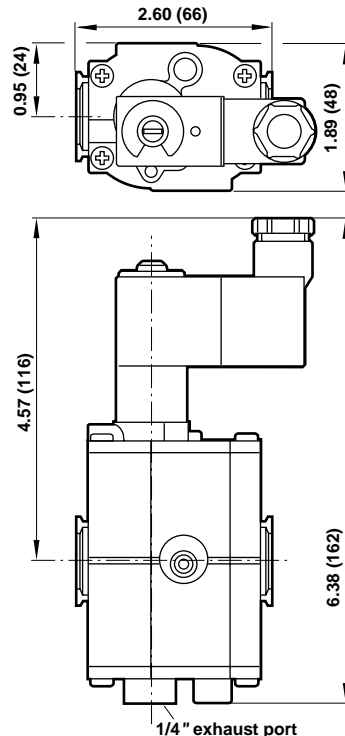
Service Kits

Item	Type	Part number
Service kit	All models	4384-520

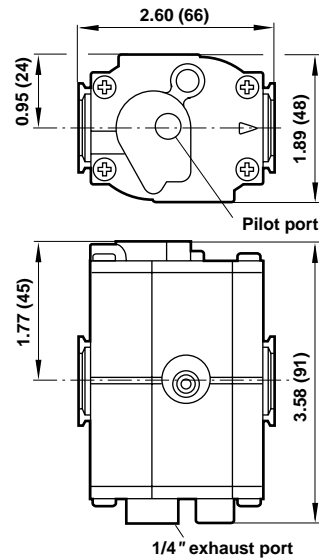
Service kit includes all seals, valve assembly and tamper resistant plug.

All Dimensions in Inches (mm)

Solenoid operated



Air pilot operated



- Modular installation only
- High-flow, spring return valves
- 2-port/2-position valves available as normally closed or normally open valves
- 3-port/2-position valves available as normally closed valves.
- Cushioned poppets for long life



Ordering Information. Models listed include PTF threads in the pilot and exhaust ports.

Installation Type	2 Port/2 Position Normally Closed	2 Port/2 Position Normally Open	3 Port/2 Position Normally Closed	Weight lb (kg)
Modular*	P74A-NAA-NNN	P74B-NAA-NNN	P74C-NAA-NNN	1.20 (0.54)

* Valve main ports are unthreaded. To install in air line use Quikclamp™ and Quikclamp pipe adapters or connect to other Excelon 74 units.

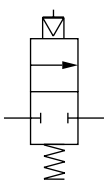
Alternative Models

Type	Substitute
2-port/2-position, NC	A
2-port/2-position, NO	B
3-port/2-position, NC	C
Main Port Threads	Substitute
No threaded ports	N
Pilot and Exhaust Port Threads	Substitute
PTF	A
ISO Rc	B
ISO G	G

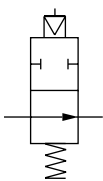
P 7 4 ★ - ★ ★ ★ - ★ ★ ★

Connector	Substitute
None	N
Coil	Substitute
None	N
Manual Override	Substitute
None	N
Operator	Substitute
Air	A

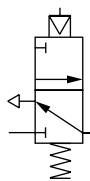
ISO Symbols



2-Port/2-Position
Normally Closed



2-Port/2-Position
Normally Open



3-Port/2-Position
Normally Closed

See Section ALE-25 for Accessories

P74 Air Operated Directional Control Valve



Technical Data

Fluid: Filtered and lubricated compressed air
 Main valve inlet pressure range: 0 to 250 psig (0 to 17 bar)
 Pilot supply inlet pressure range: Equal to or greater than main valve inlet pressure, but not less than 30 psig (2 bar) and not greater than 250 psig (17 bar).

Temperature range*: -20° to 175°F (-30° to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Average flow factor (Cv) of 2-port valves: 4.0

Average flow factor (Cv) of 3-port valves

In-out ports: 3.2

Out-exhaust ports: 5.3

Pilot port: 1/4 PTF, ISO G, or ISO Rc

Exhaust port on 3 port/2 position valves: 1/2 PTF, ISO G, or ISO Rc

Materials

Body: Zinc

Pistons, poppets: Aluminum

Elastomers: Nitrile


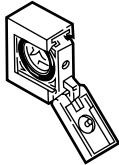
Operator: Aluminum

Service Kit

Item	Type	Part Number
Service kit	Seal & Gasket	53474-37
Quikclamp service kit	2 o-rings	4384-770

Service kit includes all o-rings, head gasket and seals.

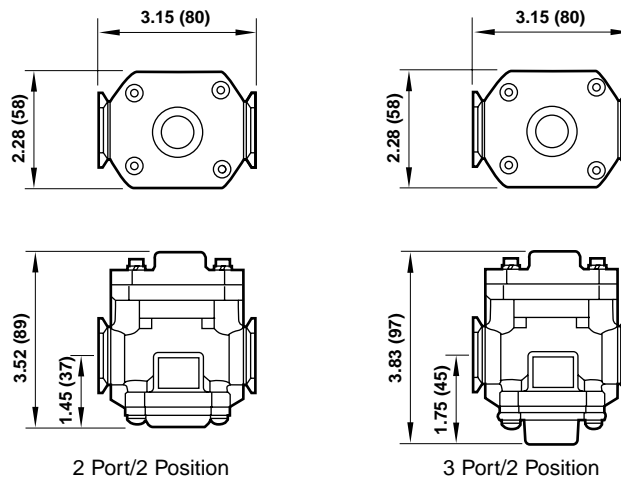
Modular Components (necessary for using this valve)

							
Quikmount Pipe Adapters (each kit contains one adapter) **							
Size	PTF Threads	ISO Rc Threads	ISO G Threads				
1/4"	4315-01	4315-05	4315-09				
3/8"	4315-01	4315-06	4315-10				
1/2"	4315-03	4315-07	4315-11				
3/4"	4315-04	4315-08	4315-12				
				Quikclamp † 4314-51			

** Each pipe adapter adds 0.71" (18 mm) to the overall length of a valve.

† Each Quikclamp adds 0.7" (13.6 mm) to the overall length of a valve.

All Dimensions in Inches (mm)



P74 Solenoid Operated Valve

Excelon 74 Solenoid Operated Directional Control Valve
Unthreaded Ports, 1/2" Basic Size

- Modular installation only
- High-flow, spring return valves
- 2-port/2-position valves available as normally closed or normally open valves
- 3-port/2-position valves available only as normally closed valves.
- Cushioned poppets for long life



Ordering Information. Models listed include ISO G exhaust port threads, non-locking override, 110/120Vac standard coil, and cable grip connector.

Installation Type	2 Port/2 Position Normally Closed	2 Port/2 Position Normally Open	3 Port/2 Position Normally Closed	Weight lb (kg)
Modular*	P74A-NAC-PJA	P74B-NAC-PJA	P74C-NAC-PJA	1.63 (0.74)

* Valve ports are unthreaded. To install in air line use Quikclamp™ and Quikclamp pipe adapters or connect to other Excelon 74 units.

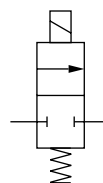
Alternative Models

Type	Substitute
2-port/2-position, NC	A
2-port/2-position, NO	B
3-port/2-position, NC	C
Main Port Threads	Substitute
No threaded ports	N
Exhaust Port Threads	Substitute
PTF	A
ISO Rc	B
ISO G	G
No exhaust port (2/2 valves)	N
Operator	Substitute
Solenoid, internal air pilot	C
Solenoid Operator Override	Substitute
Non-locking, push button	P
Locking, screwdriver slot	S
No solenoid operator	N

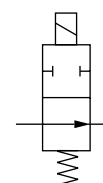
Connector	Substitute
Cable grip	A
Cable grip with indicator lights and surge protection. Use only with A, F, J and P coils.	B
No connector	N

Solenoid Operator	Substitute Standard Low Watt	
Coil Voltage	Coil	Coil
6 Vdc	—	D
12 Vdc	Q	E
24 Vdc	P	F
24 Vac	L	C
110/120 Vac	J	A
220/240 Vac	K	—
No coil	Y	Z
No solenoid operator	N	N

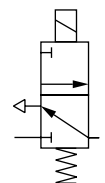
ISO Symbols



2-Port/2-Position Normally Closed



2-Port/2-Position Normally Open



3-Port/2-Position Normally Closed

See Section ALE-25 for Accessories



Technical Data

Fluid: Filtered and lubricated compressed air
 Main valve inlet pressure range: 30 to 150 psig (2 to 10 bar)
 Temperature range*: -20° to 130°F (-30° to 55°C)
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).
 Average flow factor (Cv) of 2-port valves: 4.0
 Average flow factor (Cv) of 3-port valves:
 In-out ports: 3.2
 Out-exhaust ports: 5.3
 Response times of 3 port/2 position valve (elapsed time from solenoid energized to an increase in the main valve pressure):
 Standard operator: 11 ms at 90 psig (6.3 bar) inlet pressure
 Low wattage operator: 13.5 ms at 90 psig (6.3 bar) inlet pressure
 Exhaust port on 3-port/2-position valves: 1/2 PTF, ISO G, or ISO Rc

Solenoid operator specifications

Voltage and power requirements:

Voltage	Standard Coil	Low Watt Coil
6Vdc	—	2W
12Vdc	7.5W	2W
24Vdc	7.5W	3.5W
24V 50/60Hz	7.5W	3.5W
110/120V 50/60Hz	7.5W	3.5W
220/240V 50/60Hz	7.5W	—

Duty: Continuous at 90% to 110% of rated voltage.

Coil Type: Molded with three pin plug-in connector.

Enclosure Classification: NEMA 1, NEMA 4 and IP 65.

Connector Plug: Cable grip for cables 1/4" to 5/16" (6 to 8 mm) diameter. Electrical connectors conform to *Industry Standard Form B for Three-Pin Electrical Plug Connectors, 11 mm spacing.*

Override: Manual, locking or non-locking

Materials


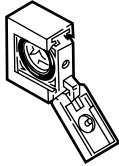
- Body: Zinc
- Pistons, poppets: Aluminum
- Elastomers: Nitrile
- Operator housing: PPS plastic
- Operator base: Aluminum
- Plunger, spring: Stainless steel

Service Kit

Item	Type	Part Number
Service kit	Seal & Gasket	53474-37
Quikclamp service kit	2 o-rings	4384-770

Service kit includes all o-rings, head gasket and seals.

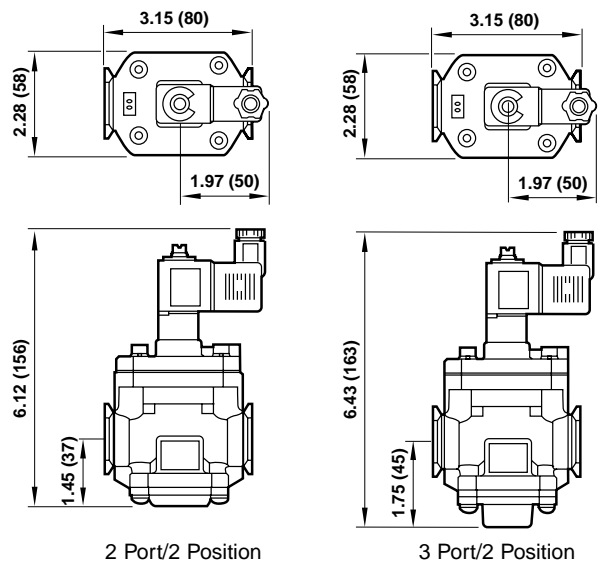
Modular Components (necessary for using this valve)

				 Quikclamp † 4314-51
Quikmount Pipe Adapters (each kit contains one adapter) **				
Size	PTF Threads	ISO Rc Threads	ISO G Threads	
1/4"	4315-01	4315-05	4315-09	
3/8"	4315-01	4315-06	4315-10	
1/2"	4315-03	4315-07	4315-11	
3/4"	4315-04	4315-08	4315-12	

** Each pipe adapter adds 0.71" (18 mm) to the overall length of a valve.

† Each Quikclamp adds 0.7" (13.6 mm) to the overall length of a valve.

All Dimensions in Inches (mm)



- Modular installation only
- High-flow, 3-port/2-position, normally closed
- Manually operated lockout slide can be locked in the closed position with a customer supplied padlock.
- Coloured yellow for easy identification as a lockout valve
- Cushioned poppets for long life



Ordering Information. Models listed include PTF exhaust port threads, non-locking override, 110/120Vac coil, and cable grip connector.

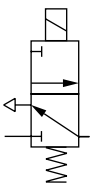
Installation Type	3 Port/2 Position Normally Closed	Weight lb (kg)
Modular*	P74C-NAD-PJA	2.03 (0.92)

* Valve ports are unthreaded. To install in air line use Quikclamp™ and Quikclamp pipe adapters or connect to other Excelon 74 units.

Alternative Models

Type	Substitute	Connector	Substitute
3-port/2-position, NC	C	Cable grip	A
Main Port Threads	Substitute	Cable grip with indicator lights and surge protection. Use only with A, F, J and P coils.	B
No threaded ports	N	No connector	N
Exhaust Port Threads	Substitute	Solenoid Operator	Substitute
PTF	A	Coil Voltage	Standard Low Watt
ISO Rc	B	6 Vdc	Coil Coil
ISO G	G	12 Vdc	— D
Operator	Substitute	24 Vdc	Q E
Solenoid, internal air pilot with lockout slide	D	24 Vac	P F
Solenoid Operator Override	Substitute	110/120 Vac	L C
Non-locking, push button	P	220/240 Vac	J A
		No coil	K —
		No solenoid operator	Y Z
			N N

ISO Symbol



3-Port/2-Position
Normally Closed

See Section ALE-25 for Accessories



Technical Data

Fluid: Filtered and lubricated compressed air
 Main valve inlet pressure range: 30 to 150 psig (2 to 10 bar)
 Temperature range*: -20° to 130°F (-30° to 55°C)
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).
 Average flow factor (Cv):
 In-out ports: 3.2
 Out-exhaust ports: 5.3
 Response times (elapsed time from solenoid energized to an increase in the main valve pressure): 11 ms at 90 psig (6.3 bar) inlet pressure
 Maximum diameter of customer supplied padlock shackle: 5/16" (8 mm)
 Exhaust port: 1/2 PTF, ISO G, or ISO Rc
 Solenoid operator specifications

Voltage and power requirements:

Voltage	Standard Coil	Low Watt Coil
6Vdc	—	2W
12Vdc	7.5W	2W
24Vdc	7.5W	3.5W
24V 50/60Hz	7.5W	3.5W
110/120V 50/60Hz	7.5W	3.5W
220/240V 50/60Hz	7.5W	—


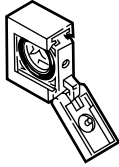
Duty: Continuous at 90% to 110% of rated voltage.
 Coil Type: Molded with three pin plug-in connector.
 Enclosure Classification: NEMA 1, NEMA 4 and IP 65.
 Connector Plug: Cable grip for cables 6 to 8 mm (1/4" to 5/16") diameter. Electrical connectors conform to *Industry Standard Form B for Three-Pin Electrical Plug Connectors, 11 mm spacing*.
 Override: Manual, non-locking
 Materials:
 Body: Zinc
 Pistons, poppets: Aluminum
 Elastomers: Nitrile
 Operator housing: PPS plastic
 Operator base: Aluminum
 Plunger, spring: Stainless steel

Service Kit

Item	Type	Part Number
Service kit	Seal & Gasket	53474-40
Quikclamp service kit	2 o-rings	4384-770

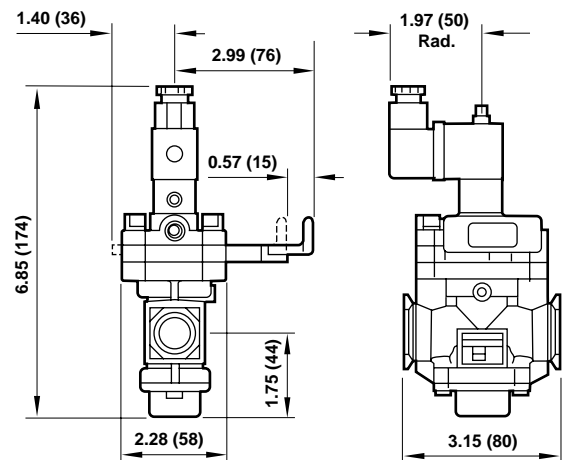
Service kit includes all o-rings, lockout slide spring, head gasket and seals.

Modular Components (necessary for using this valve)

				
Quikmount Pipe Adapters (each kit contains one adapter) **				
Size	PTF Threads	ISO Rc Threads	ISO G Threads	Quikclamp † 4314-51
1/4"	4315-01	4315-05	4315-09	
3/8"	4315-01	4315-06	4315-10	
1/2"	4315-03	4315-07	4315-11	
3/4"	4315-04	4315-08	4315-12	

** Each pipe adapter adds 0.71" (18 mm) to the overall length of a valve.
 † Each Quikclamp adds 0.7" (13.6 mm) to the overall length of a valve.

All Dimensions in Inches (mm)





1.1 SOFT START/DUMP VALVES

1.1.1 What Sizes are Available?

We can do units in 1/4" through 1 1/2" actual port size, based on Excelon 72 (1/4 - 3/8), Olympian Plus 64 (1/4 - 3/4), Excelon 74 (3/8 - 3/4) or the new P68F (3/4 - 1 1/2").

1.1.2 What Operators are Available?

All valves have air pilot, 22mm solenoid and CNOMO solenoid options. In addition the P68F can use the Webber Excel 32mm solenoid.

1.1.3 Do we have an Emergency Dump?

Yes. The P64F/P74F have an optional dump slide with a yellow handle, used to break the pilot signal and dump the downstream system. The slide can be locked out using a standard 8mm padlock or lockout hasp. The P68F has a dump handle as standard (optional without). Again this can be locked out.

1.1.4 How Fast/Slow can it go?

The snap point where full pressure kicks in is fixed for a given line pressure. You can control the time between signalling the valve and the snap by using the needle valve adjuster. Refer to catalogue sheet for minimum/maximum times, which will depend on the downstream system volume.

1.1.5 What is the Minimum Operating Pressure?

The snap action requires a minimum line pressure of 44 psig (3 bar).

1.1.6 Will the Unit Soft Start Only?

The combined function valves are not intended for use as soft start only. If you need such a valve use the Excelon 74 individual valves, or the AOY poppet valves for Olympian.

1.1.7 Will the Unit Dump Only?

The combined function valves are not intended for use as dump only. If you need such a valve use the Excelon 74 individual valves, or the DYO poppet valves for Olympian.

1.2 EXCELON VALVES

1.2.1 What Versions are Available?

The individual valves for use in Excelon 74 are 2/2 and 3/2 poppet valves P74A and P74B. There is a 2/2 soft start (P74E) and 3/2 on-off valves with solenoid or pilot operator (P74C). The 3/2 valves have optional lockout slides.

1.2.2 Are the Excelon Valves Direct Ported?

The valves in the Excelon 74 range are intended for modular installation only. If you need a threaded inlet/outlet use a Quikclamp and pipe adapter.