

# spirax/sarco®

## Type PF61G-NC (Normally Closed) Piston Actuated On/Off Valves

### Description

A 2-port normally closed pneumatically actuated on/off stainless steel valve for use on steam, water, air, oil and gases.

The valve is designed for flow over the seat (port 1 to 2).

A pneumatic signal acts below the actuator piston to open the valve.

A spring acts above the piston to close the valve. The valve plug has a PTFE soft seal to provide tight shut-off. A valve position indicator is included on standard and flow regulator models.

**Note:** For water/liquid applications, a bi-directional valve (type BD) is recommended to prevent waterhammer on valve closure.

### Available types

PF61G-1NC normally closed with 45 mm diameter actuator

PF61G-2NC normally closed with 63 mm diameter actuator

PF61G-3NC normally closed with 90 mm diameter actuator

### Sizes and pipe connections

PF61G-1NC 1/2" and 3/4" NPT

PF61G-2NC 1/2", 3/4", 1", 1-1/4", 1-1/2" and 2" NPT

PF61G-3NC 1", 1-1/4", 1-1/2" and 2" NPT

### Options

#### Travel switch

Relays an electrical signal to indicate open or closed position of the valve. Maximum rating: Voltage (V) = 500 V, Current (I) = 0.5 A, Power (P) = 30 VA. Available on 63 mm and 90 mm actuators with nomenclature suffix 'I'. i.e. PF61G-2NC-I-1" NPT

#### Stroke regulator

Limits valve lift to regulate maximum flow. Available on 63 mm and 90 mm actuators with nomenclature suffix 'R'. i.e. PF61G-2NC-R-1" NPT

#### Pilot Solenoid Valves

For direct mounting, use type "DM" Pilot Solenoid Valves. (see TI-P373-04US for details)

For remote mounting for a series of PAV's, use type "DMD" banked Pilot Solenoid Valves. (see TIS 8.500 US for details)

For remote mounting for individual PAV's, at a panel or separate location, consult SSI for options.

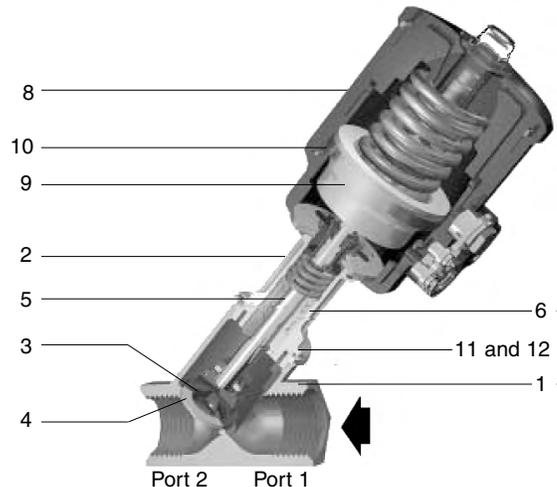
All Pilot Solenoid Valves are available in 240, 120, 24 VAC and 24 VDC voltages. (see applicable TI sheets)

### Technical details

Leakage	PTFE soft seal	ANSI class VI	
Flow characteristic	Fast opening	on /off	
Flow direction	Flow over seat	port 1 to 2	
Pilot media	Air, water or inert gas	(140°F max.)	
Actuator housing rotation	360°		
	Pilot connection	Max. pilot pressure	
Actuator size	45 mm (1-3/4") dia.	1/8" BSP	150 psig
	63 mm (2-1/2") dia.	1/4" BSP	150 psig
	90 mm (3-9/16") dia.	1/4" BSP	115 psig

### Limiting conditions

Maximum design temperature	356°F
Minimum design temperature	14°F
Maximum saturated steam pressure	130 psig
Maximum differential pressure	See table overleaf



### Materials

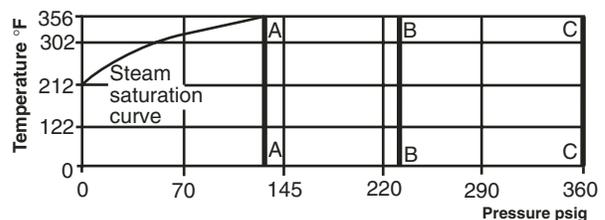
No.	Part	Material
1	Body	Stainless steel AISI 316L
2	Bonnet	Stainless steel AISI 316L
3	Plug	Stainless steel AISI 316L
4	Plug seal	PTFE
5	Valve stem	Stainless steel AISI 316
6	Stem seals	PTFE chevrons
*7	Stem 'O' ring	Viton
8	Actuator housing	Glass filled polyamide
9	Piston	Glass filled polyamide
10	Piston lip seal	Viton
11	Gasket	PTFE
12	'O' ring	Viton

\* not shown

### C<sub>v</sub> values

Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
C <sub>v</sub>	4.9	9.1	21.7	31.5	49.0	60.1

### Operating range



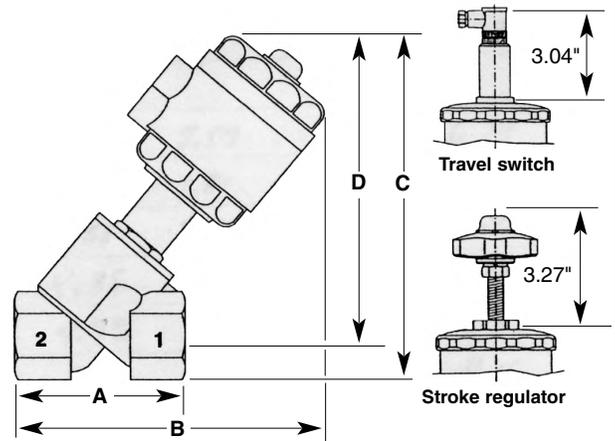
A-A	Maximum operating pressure on saturated steam	130 psig
B-B	Maximum operating pressure on gas & liquids sizes 1-1/4" to 2"	230 psig
C-C	Maximum operating pressure on gas & liquids sizes 1/2" to 1"	360 psig

# Type PF61G-NC (Normally Closed) Piston Actuated On/Off Valves

Dimensions / weight (approximate) in inches and lbs.

Port size (NPT)	Actuator Diameter inches	A inches	B inches	C inches	D inches	St. Steel Weight pounds
1/2"	1-3/4" (45mm)	2.56	5.67	5.36	4.85	2.9
3/4"	1-3/4" (45mm)	2.96	6.11	5.63	5.13	3.1
1/2"	2-1/2" (63mm)	2.56	7.57	7.25	6.74	3.1*
3/4"	2-1/2" (63mm)	2.96	7.81	7.57	6.94	3.3*
1"	2-1/2" (63mm)	3.55	8.36	8.08	7.29	4.2*
1-1/4"	2-1/2" (63mm)	4.35	8.87	8.55	7.61	5.1*
1-1/2"	2-1/2" (63mm)	4.73	9.06	8.87	7.81	6.6*
2"	2-1/2" (63mm)	5.91	9.78	9.50	8.16	8.2*
1"	3-9/16" (90mm)	3.55	8.76	8.44	7.67	5.5*
1-1/4"	3-9/16" (90mm)	4.34	9.27	8.94	7.96	6.4*
1-1/2"	3-9/16" (90mm)	4.73	9.42	9.26	8.16	8.0*
2"	3-9/16" (90mm)	5.91	10.13	9.85	8.51	9.5*

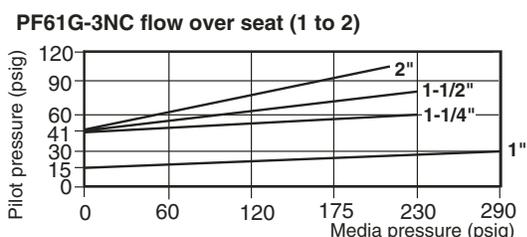
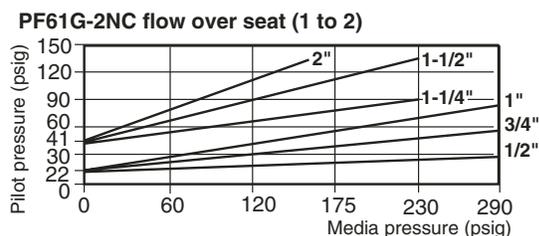
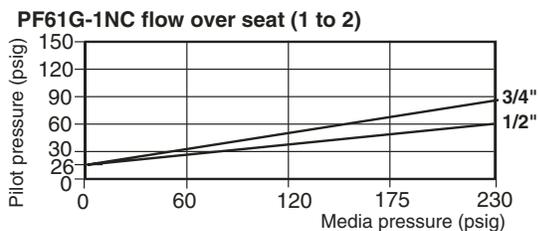
\* Plus 0.5 lbs. for travel switch or stroke regulator option



## Differential pressures for PF61G-NC (Normally closed) piston actuated valves

Model	Port size (NPT)	Actuator diameter (mm)	Flow direction (1 to 2)	Max diff. pres.(psig) gas & liquid	Max diff. pres.(psig) steam	Pilot pressure min (psig)	Pilot pressure max. (psig)
PF61G-1NC	1/2"	45	over seat	230	130	26	150
PF61G-1NC	3/4"	45	over seat	230	130	26	150
PF61G-2NC	1/2"	63	over seat	290	130	22	150
PF61G-2NC	3/4"	63	over seat	290	130	22	150
PF61G-2NC	1"	63	over seat	290	130	22	150
PF61G-2NC	1-1/4"	63	over seat	230	130	41	150
PF61G-2NC	1-1/2"	63	over seat	230	130	41	150
PF61G-2NC	2"	63	over seat	160	130	41	150
PF61G-3NC	1"	90	over seat	290	130	15	115
PF61G-3NC	1-1/4"	90	over seat	230	130	41	115
PF61G-3NC	1-1/2"	90	over seat	230	130	41	115
PF61G-3NC	2"	90	over seat	220	130	41	115

## Pilot / media pressure relationship



## Installation

The valve can be installed in any position with the direction of flow as indicated on the inlet/outlet ports by the connection numbers 1 to 2.

To simplify mounting of the pilot pressure lines or solenoid valves, the actuator can be rotated through 360°.

The pipework should be supported to prevent the valve body being stressed.

Installation and Maintenance Instructions are provided with the valve.

## How to order

Standard Valve	1 - PF61G-2NC-1" NPT
Valve with travel switch	1 - PF61G-2NC-I-1" NPT
Valve with stroke regulator	1 - PF61G-2NC-R-1" NPT

## Spare parts

A seal kit is available for all valve and actuator sizes comprising: piston lip seal, actuator stem 'O' ring, plug soft seal (PTFE), body seal and 'O' ring.

## How to order spare seal kits

Always order spares by specifying the valve size, type and date code (given on actuator label i.e. 120=week 12, year 2000).

Example: 1-seal kit for PF61G-2NC-1" NPT, date code 120

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