

# PF Series

Piston Actuated Valves



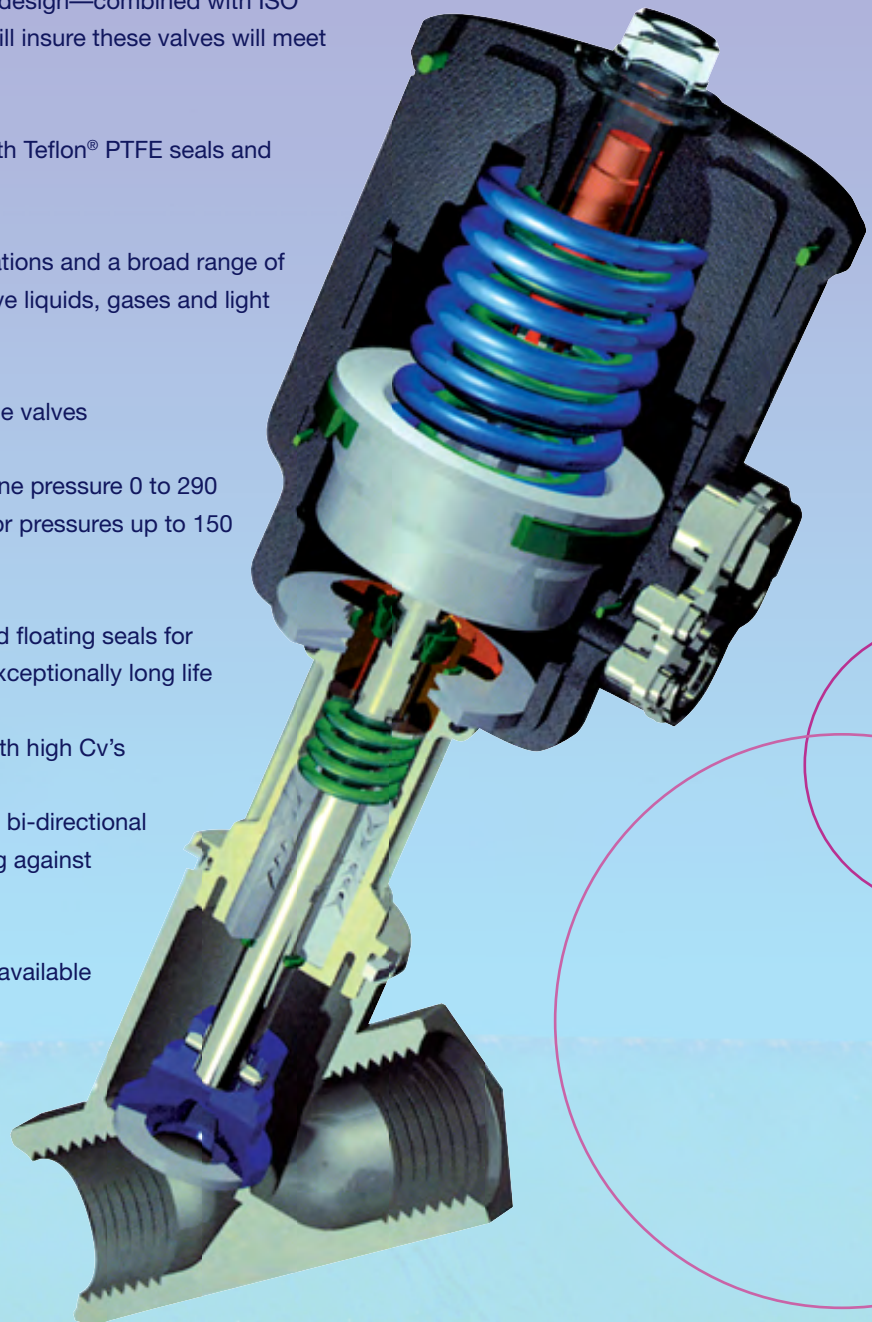
# PF Series

## Piston actuated valves

### About The PF Series

The Spirax Sarco PF Range of Piston Actuated Valves (PAVs) provides a competitive solution for on/off applications by combining many key benefits in each valve. These elements sustain a product that encompasses a wide range of industrial applications. Its simple, rock-solid design—combined with ISO 9001 manufacturing processes—will insure these valves will meet your highest expectations.

- Solid construction combined with Teflon® PTFE seals and stainless steel or bronze bodies
- Good for most industrial applications and a broad range of media, including steam, corrosive liquids, gases and light slurry material
- Air, inert gas or water operate the valves
- Broad media pressure ranges: line pressure 0 to 290 psig; vacuum to 29" Hg; actuator pressures up to 150 psig
- Special internal construction and floating seals for excellent sealing integrity and exceptionally long life
- Excellent flow characteristics with high Cv's
- Anti-waterhammer design in the bi-directional valve for safe, uneventful closing against pressurized water
- Economical, custom pilot valve available as an option
- Inexpensive and practical automation
- Field serviceable with a design that allows safe disassembly



## The range at a glance

| Function  | Material          |                              | Pipe connection  | Sizes      | Actuator sizes          | Pilot valves            |  |
|---|-------------------|------------------------------|--|------------|-------------------------|-------------------------|--|
|   | Body              | Seals                        |  |            |                         | Sizes                   | Voltages                               |
| Normally Closed<br>Normally Open<br>Bi-directional<br>(Normally Closed) | 316L SS<br>Bronze | Teflon® PTFE<br>and<br>Viton | NPT<br>Flanged ANSI 150<br>Sanitary<br>Others on request | 1/2" to 2" | 45 mm<br>63 mm<br>90 mm | 45 mm<br>63 mm<br>90 mm | 24 VDC<br>24 VAC<br>120 VAC<br>240 VAC |

## Available options

### Solenoid-operated pilot valves

Model "DM" Pilot Valves mount directly to the actuator head and provide operating pressure to the PAV. They are available in standard AC and DC voltages along with an IP65 strain relief connector. A manual override turn button is standard.



### Stroke regulator\*

The regulator provides manual control of flow through the PAV. It is adjustable throughout the flow range of the valve and provides manual shutoff on normally open valves.

\*Not available with 45 mm diameter actuators.



### Travel switch\*

The switch provides indication of an open or closed valve through a magnetic reed switch with volt free contacts.

\*Not available with 45 mm diameter actuators.



## Typical industries and applications

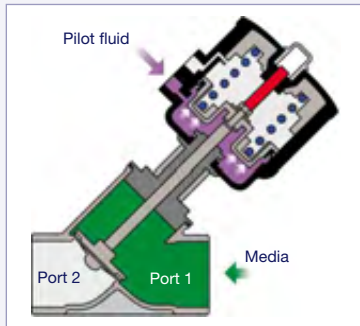
The PF Series provides the ideal solution for many OEM applications requiring on/off control, including:

| Industries         | Applications    |                   |                    |                  |                   |
|--------------------|-----------------|-------------------|--------------------|------------------|-------------------|
| Textiles           | Dyeing machines | Additive mixing   | Finishing machines | Caustic washing  | Pressing machines |
| Food & Beverages   | Cookers         | Filling machines  | Bottling machines  | Heating cabinets | Bottle washers    |
| Laundries          | Washers         | Hot water heating | Tumble dryers      | Dry cleaning     | Extractors        |
| General Industries | Foam machines   | Wood dryers       | Tire presses       | Paper dryers     | Rubber injectors  |

# Functions

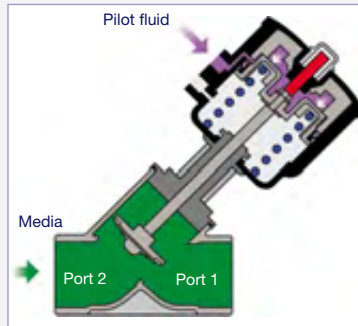
## NC (Normally Closed)

This valve is designed for flow over the seat (Port 1 to 2) and is not recommended for liquid applications.



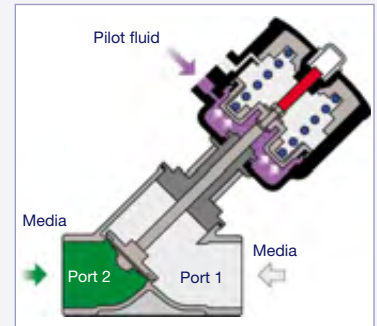
## NO (Normally Open)

This valve is designed for flow under the seat (Port 2 to 1) and will prevent waterhammer upon valve closure in liquid applications.



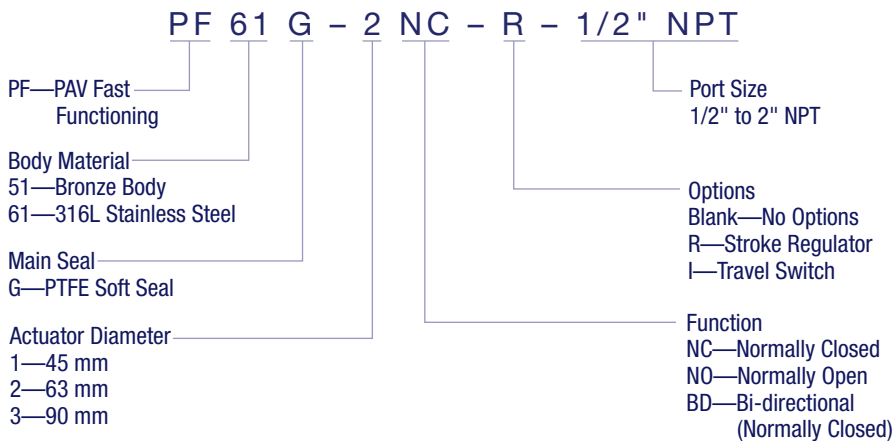
## BD (Bi-directional/ Normally Closed)

This valve is designed for special applications that require flow in both directions (Port 1 to 2 or Port 2 to 1). It incorporates an anti-waterhammer design for liquid applications flowing under the seat (Port 2 to 1).

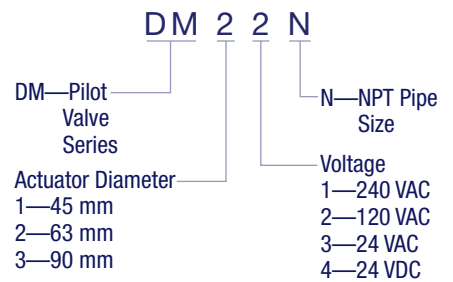


# How to order

## Piston Actuated Valve



## Pilot Valve



## Examples

|                     |  |
|---------------------|--|
| PF61G-2NC-1-1/2"NPT | Stainless steel, 63 mm actuator, normally closed, 1-1/2" NPT ports |
| PF51G-3NO-I-2"NPT   | Bronze, 90 mm actuator, normally open, travel switch, 2" NPT ports |
| PF61G-1BD-1"NPT     | Stainless steel, 45 mm actuator, bi-directional, 1" NPT ports      |
| DM22N               | 120 VAC pilot valve  |

Note: When ordering a PAV together with a pilot valve, order both part numbers separately.



# Key features and benefits

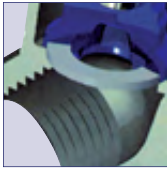
Key features    Key benefits



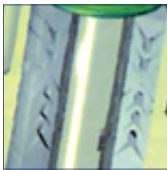
**Main seal**    The pivoting seal head allows even seal face load distribution at closing, resulting in long seal life, without leakage.



**Main stem**    The main stem is highly polished and lapped, along with a Niploy coating, for an ultra-smooth surface finish. This process reduces bonnet seal damage for extended life.



**Angle seat design**    This design characteristically permits unobstructed flow, allowing high Cv with minimal pressure drops.



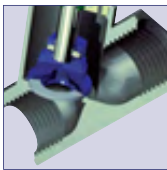
**Ribbed bonnet**    Bonnet design has excellent heat dissipation, extending bonnet seal life and providing added strength.



**Actuator filter**    Sintered filter in unused actuator port ensures against actuator head contamination.

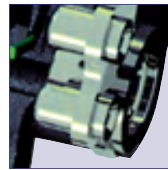


**Safe maintenance**    During disassembly, all internal spring forces will dissipate before threads disengage.

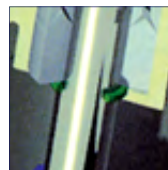


**Anti-waterhammer design**    Special bi-directional valve construction eliminates costly and dangerous waterhammer.

Key features    Key benefits



**Special pilot valves**    Custom pilot valve design allows for easy installation and is available in each actuator size and all standard voltages.



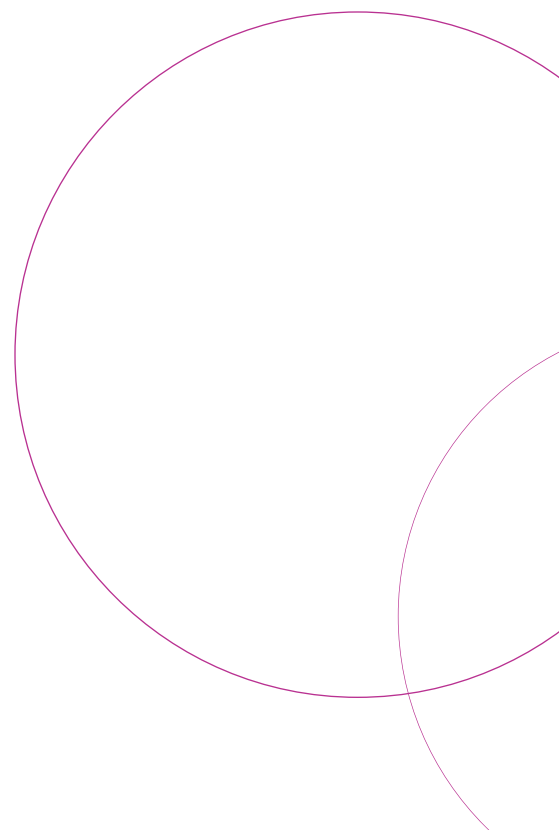
**Isolation**    PAV design does not allow media to come in contact with the internal working end of the valve, eliminating potential failure in this area.



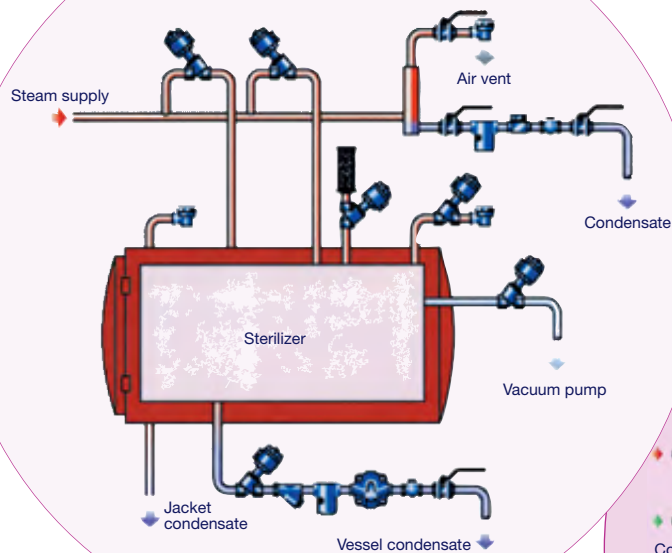
**Long life**    PAV can achieve extremely high cycle levels for the application conditions it sees.



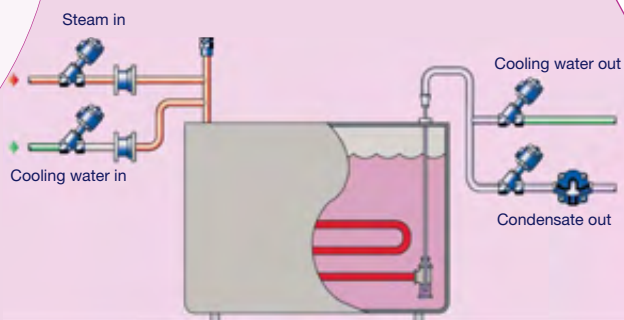
**Automation**    Simple and cost effective automation is a very reliable combination and is as easy as adding the low cost pilot valve.



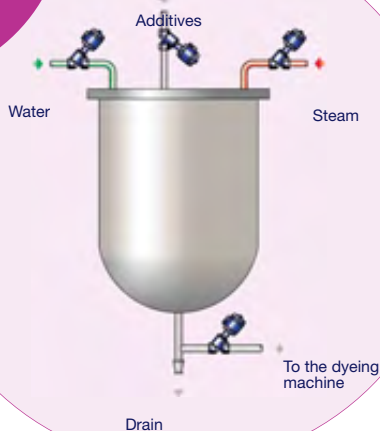
## Hospital sterilizer



## Dyeing machine



## Typical Applications



## Textile additive mixing



## Regional Hub Offices

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