

Multi-purpose, 3-way pilot-valve

The 31-310 is a 3-way, diaphragm actuated, spring-loaded pilot-valve that is designed for control of pressure-regulating hydraulic-valves. The pilot valve operates as a selector between the common port and the two other ports. The pilot valve will vent, pressurize or lock the hydraulic valve's chamber as a factor of the relation between the regulated pressure and the adjusted set-value. The 31-310 pilot-valve can be used for implementing wide range of hydraulic control-functions.

Features

- 3-way pilot valve
- Minimize pressure losses through the main valve by completely venting the control chamber
- Wide regulation range
- Accurate and easy to adjust
- Simple design and maximal dependability
- Same pilot valve can be used for various control functions by simply changing the way it is connected to the valve!
- Can be activated by hydraulic or pneumatic pressure



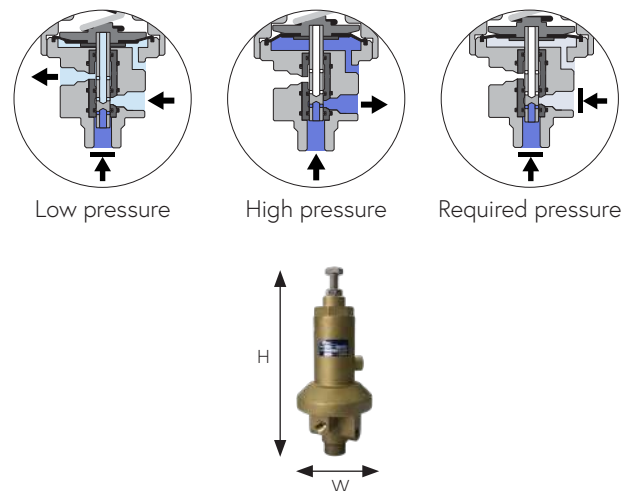
Typical applications

- Pressure reducing valves - PR
- Pressure sustaining valves - PS

Technical data

| General | | |
|---------------------------|----------------------------|-----------|
| Pressure rating | 40 bar / 580 psi | |
| Pressure adjustment range | 0.2 - 15 bar / 3 - 220 psi | |
| Fluid temperature | 80°C max. / 176°F max. | |
| Weight | 1.78 kg / 4 lbs | |
| Materials | Standard | Optional* |
| Body and bonnet | Brass | SST |
| Elastomers | NBR | EPDM |
| Internal parts | SST | |
| Spring | SST | |
| Dimensions | | |
| H (Height) max. | 221 mm / 8.70" | |
| W (Width) | 83 mm / 3.27" | |
| Port Connections | | |
| 1, 2, 3, 4 | NPT 1/4" | |

* other materials available upon demand



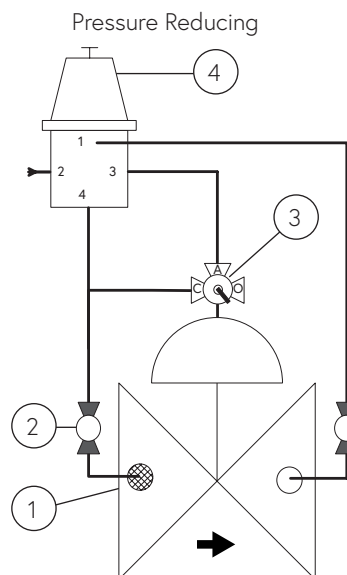
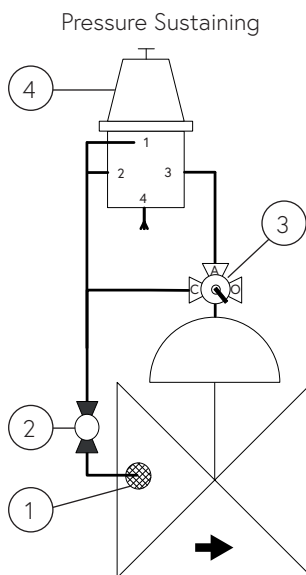
Installation

Main components

| # | Description |
|---|-----------------------------|
| 1 | Self flushing filter |
| 2 | Isolation ball valve |
| 3 | 3-way Manual selector valve |
| 4 | 31-310 Pilot valve |

Connections

| Port | Pressure Reducing | Pressure Sustaining |
|------|-----------------------|-----------------------|
| 1 | Downstream pressure | Upstream pressure |
| 2 | Vent | Upstream pressure |
| 3 | Valve control chamber | Valve control chamber |
| 4 | Upstream pressure | Vent |



Sample drawing. Consult Dorot for the assembly design to fit your needs.

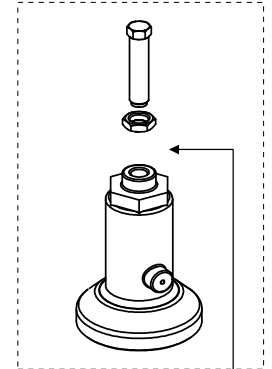
Springs adjustment range

| Spring number | Color | bar | psi |
|---------------|----------|-----------|---------|
| 47 (Std.) | Green | 0.5 - 10 | 7 - 150 |
| 42 | Yellow | 0.3 - 6 | 4 - 90 |
| 50 | Red | 0.6 - 15 | 9 - 220 |
| 70 | No color | 0.2 - 0.5 | 3 - 7 |

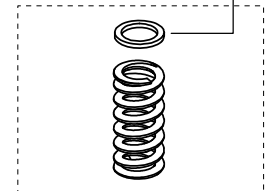
Adjustment: Turn the adjusting screw clockwise to increase the set point

Spare parts

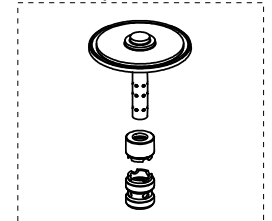
Bonnet kit



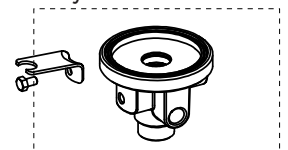
Spring



Internal parts kit



Body kit



Catalogue numbers

| Description | Catalogue number |
|----------------------|------------------|
| Bonnet kit | 661023131000000 |
| Spring 42 - Yellow | 0022042000 |
| Spring 47 - Green | 0022047000 |
| Spring 50 - Red | 0022050000 |
| Spring 70 - No color | 0022070000 |
| Internal parts kit | 661203131000000 |
| Body kit | 661013131000000 |