

Multi-purpose Metal Pilot and Relay-Valve (66-31D Differential-pressure sensing)

The 66-310 is a diaphragm actuated, spring-loaded pilot-valve that is designed for control of hydraulic-valves. The pilot valve operates either as a 2-way pilot valve or as an adjustable relay valve that is used as a selector between the common port and the two other ports. The pilot valve will vent, or pressurize or lock the hydraulic valve's chamber as a factor of the relation between the regulated pressure and the adjusted set-value. The 66-310 pilot-valve can be used for implementing a wide range of hydraulic control-functions.

Features

- Same pilot can be used for various control functions by simply changing the way it is connected to the valve!
- Differential pressure sensing - 66-31D (optional)
- Wide regulation range
- Easy to adjust
- Simple design and maximal dependability
- Can be used with any hydraulic control valve of any size
- Can be activated by hydraulic or pneumatic pressure

Typical applications

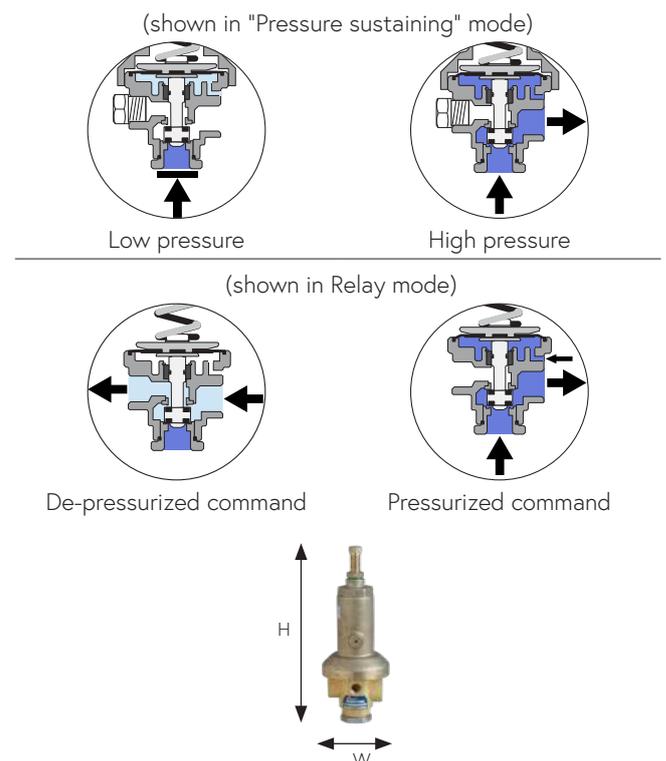
- Pressure sustaining valves - PS
- Quick pressure relief valves - QR
- Surge anticipating - RE
- Accelerator relay-valve (used for opening and closing valves quicker)
- Remote hydraulic-control with adjustable-pressure
- Pneumatically and hydraulically actuated deluge/pre-action valves - DE



Technical data

| General | | |
|---------------------------|----------------------------|-----------|
| Pressure rating | 25 bar / 360 psi | |
| Pressure adjustment range | 0.4 - 13 bar / 6 - 190 psi | |
| Fluid temperature | 80°C max. / 176°F max. | |
| Weight | 1.9 kg / 4.2 lbs | |
| Materials | Standard | Optional* |
| Body and bonnet | Brass | SST |
| Elastomers | NBR | EPDM |
| Internal parts | SST+Brass | |
| Spring | SST | |
| Dimensions | | |
| H (Height) max. | 230 mm / 9" | |
| W (Width) | 84 mm / 3.3" | |
| Port Connections | | |
| 1 | NPT 1/4" | |
| 2, 3, 4 | NPT 1/2" | |
| 5 | NPT 1/8" | |

* other materials available upon demand



Installation

Main components

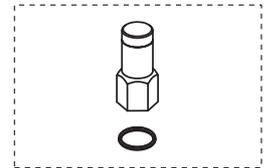
| # | Description |
|---|----------------------|
| 1 | Self flushing filter |
| 2 | Isolation ball valve |
| 3 | Needle valve |
| 4 | 66-310 Pilot valve |
| 5 | Plug |
| 6 | 2" Relay valve |

Connections

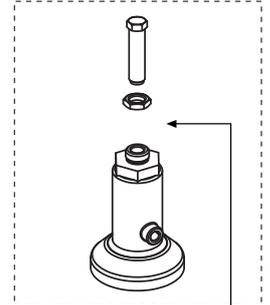
| Port | P. Sustaining / Quick relief | Quick relief (6" or bigger) | Relay N.O. | Relay N.C. |
|------|------------------------------|-----------------------------|-----------------|-----------------|
| 1 | Upstream | Upstream | P. command | P. command |
| 2 | Plug | Plug | Upstream | Vent |
| 3 | Downstream / vent | Relay cntrl. chamber | Control chamber | Control chamber |
| 4 | Control chamber | Vent | Vent | Upstream |

Spare parts

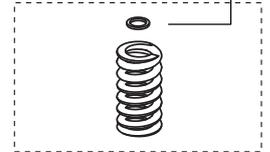
Adjustment bolt cap *



Bonnet kit



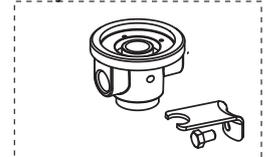
Spring



Internal parts kit

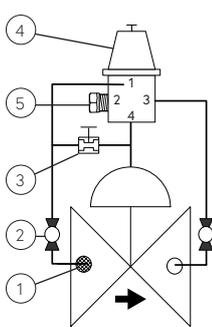


Body kit

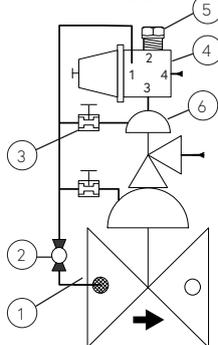


* Used in 31-66D version only

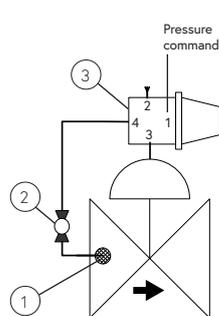
PS, PS[R] and QR (up to 4")



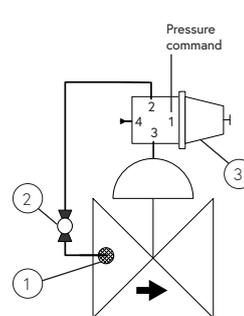
QR (6" or bigger)



Relay N.C. (Main valve N.O.)



Relay N.O. (Main valve N.C.)



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

Springs adjustment range

| Spring number | Color | bar | psi |
|---------------|--------|-----------|----------|
| 42 (Std.) | Yellow | 0.4 - 5.5 | 6 - 80 |
| 47 | Green | 0.6 - 9 | 9 - 130 |
| 50 | Red | 0.7 - 17 | 10 - 245 |

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

Catalogue numbers

| Description | Catalogue number |
|--------------------|------------------|
| Bonnet kit | 661026631000000 |
| Spring 70 | |
| Spring 42 - Yellow | 0022042000 |
| Spring 47 - Green | 0022047000 |
| Spring 50 - Red | 0022050000 |
| Internal parts kit | 661206631000000 |
| Body kit | 661016631000000 |