

✓ The pressure regulating pilot **PRAL**, is a three-way hydraulic control valve

✓ Main functions:

Adjust the pressure **downstream** from the hydraulic valve as a **pressure reducer**.

Regulate pressure **upstream** of the valve as a **pressure sustainer**.

Safety valve: **relief of pressure** on the network.

**Hydraulic remote control** of a hydraulic valve. **Anti topographical valve**

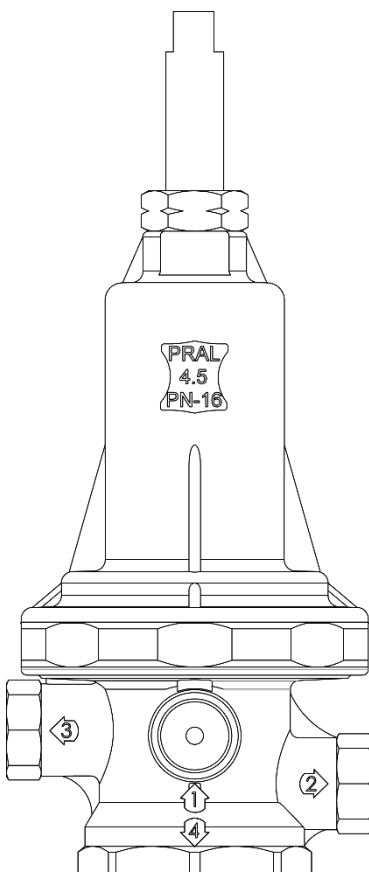


## SPECIFICATIONS

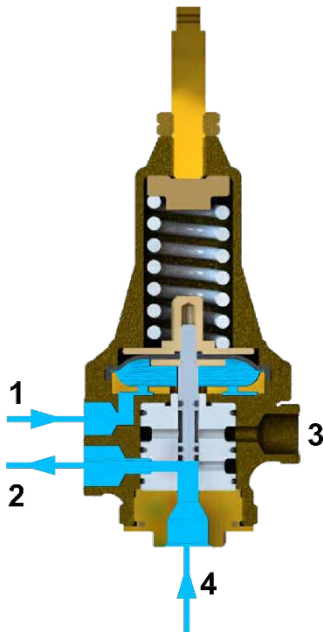
- CONNECTIONS : 1/8" threads (PRAL® 2.5 )  
1/4" threads (PRAL® 4.5).
- DESIGN : Three way regulating pilot.
- SIZES RANGE : PRAL® 2.5, PRAL® 4.5
- NOMINAL PRESSURE (bar): PN16.  
(psi): PN232.

## MATERIALS

- BODY AND COVER: Brass
- DIAPHRAGM: EPDM
- SPRING: Stainless steel.
- CLOSING ELEMENTS: Teflon and NBR joints.



COMETAL pilots comply to standard ISO 10522-93 in terms of regulating direct action pressure regulating valves

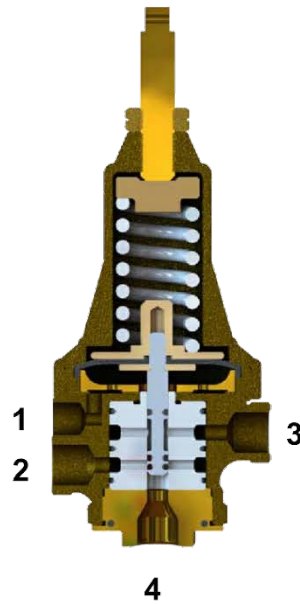


UPPER POSITION

If the force on the sensor of the pilot (port 1) is greater than the force of compression of the spring, ports 2 and 4 are communicated.

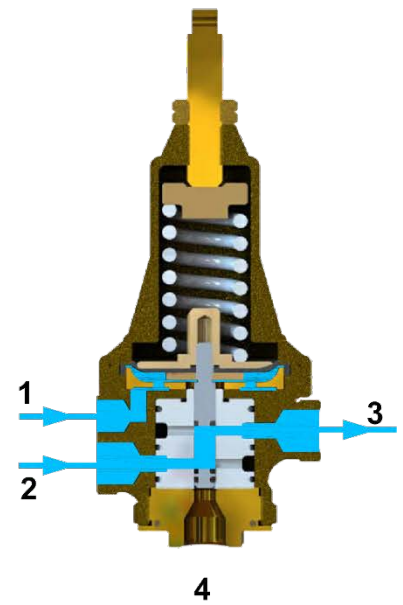
**Reducing valve:** close, reducing the pressure.

**Sustaining valve:** open, increasing the pressure



BALANCE POSITION

If the force on the sensor of the pilot (port 1) is equal to the force of compression of the spring, there is no communication between tracks.



DOWN POSITION

If the force on the driver (port 1) sensor is less than the force of compression of the spring, ports 2 and 3 are communicated.

**Reducing valve:** opens, increasing the pressure.

**Sustaining valve:** close, reducing the pressure.

## WAYS NUMBERING

WAY NUMBER	AS PRESSURE REDUCER	AS PRESSURE SUSTAINER
1	Sensor	Sensor
2	Common	Common
3	Drainage	Pressure
4	Pressure	Drainage

## SPRING SELECTION

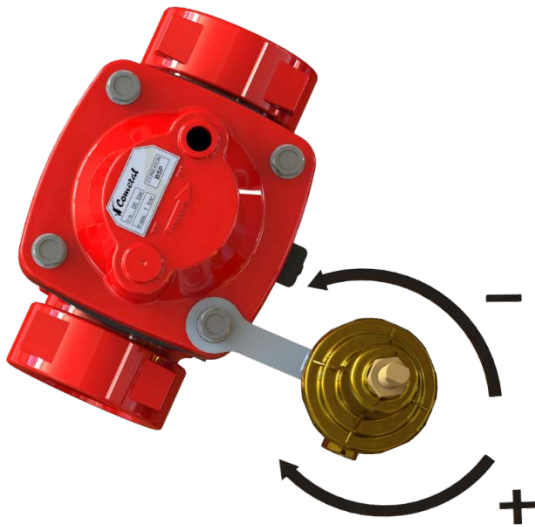
MODEL		BLUE SPRING		STANDAR SPRING		RED SPRING	
		bar	psi	bar	psi	bar	psi
WORKING RANGE (downstream pressure)	PRAL <sup>®</sup> 2.5	---	---	1,5-8,5	21.8-123.2	1-8,5	14.5-123.2
	PRAL <sup>®</sup> 4.5	0,5-2,5	7.3-36.3	1,5-5,5	21.8-79.8	2-8	29.0-116.0

## DIMENSIONS AND WEIGHTS

MODEL	NOMINAL PRESSURE		INSIDE DIAMETER		ACCURACY LEVEL	WEIGHT
	bar	psi	mm	inch		
PRAL <sup>®</sup> 2.5	16	232	2,5	0.10	CLASE B	380
PRAL <sup>®</sup> 4.5	16	232	4,5	0.18	CLASE A	750

## PRAL<sup>®</sup> ADJUSTMENT

All Cometal regulating pilots are adjustable. In addition, these can be locked with a locking nut at the top of the cover.



### a) As pressure reducer:

To reduce the downstream pressure, turn the PRAL<sup>®</sup> bolt counter clockwise (-). To increase the downstream pressure, turn the bolt clockwise (+).

*\*Recommended reduction ratio (upstream: downstream): 3:1*

### b) As pressure sustainer:

To open with more upstream pressure turn the PRAL<sup>®</sup> bolt clockwise (+). To open with less upstream pressure, turn the bolt counterclockwise (-).

## REGULATING PILOT WITH PRESSURE SCALE



Cometal has designed a few scales of pressure for each pilot in particular. These pressure scales are inserted in form of rule in the top screw of the pilot, in such a way that we are informed of the pressure that the regulating pilot pressure is pre-calibrated before even use.

The scales are defined for all pilots of design and manufacture of Cometal, including the variety according to compression springs. These scales reflect the minimum and maximum pressure range of each pilot, as well as indoor ranges where the pilot behaves better, according to the downstream pressure of the hydraulic valve.