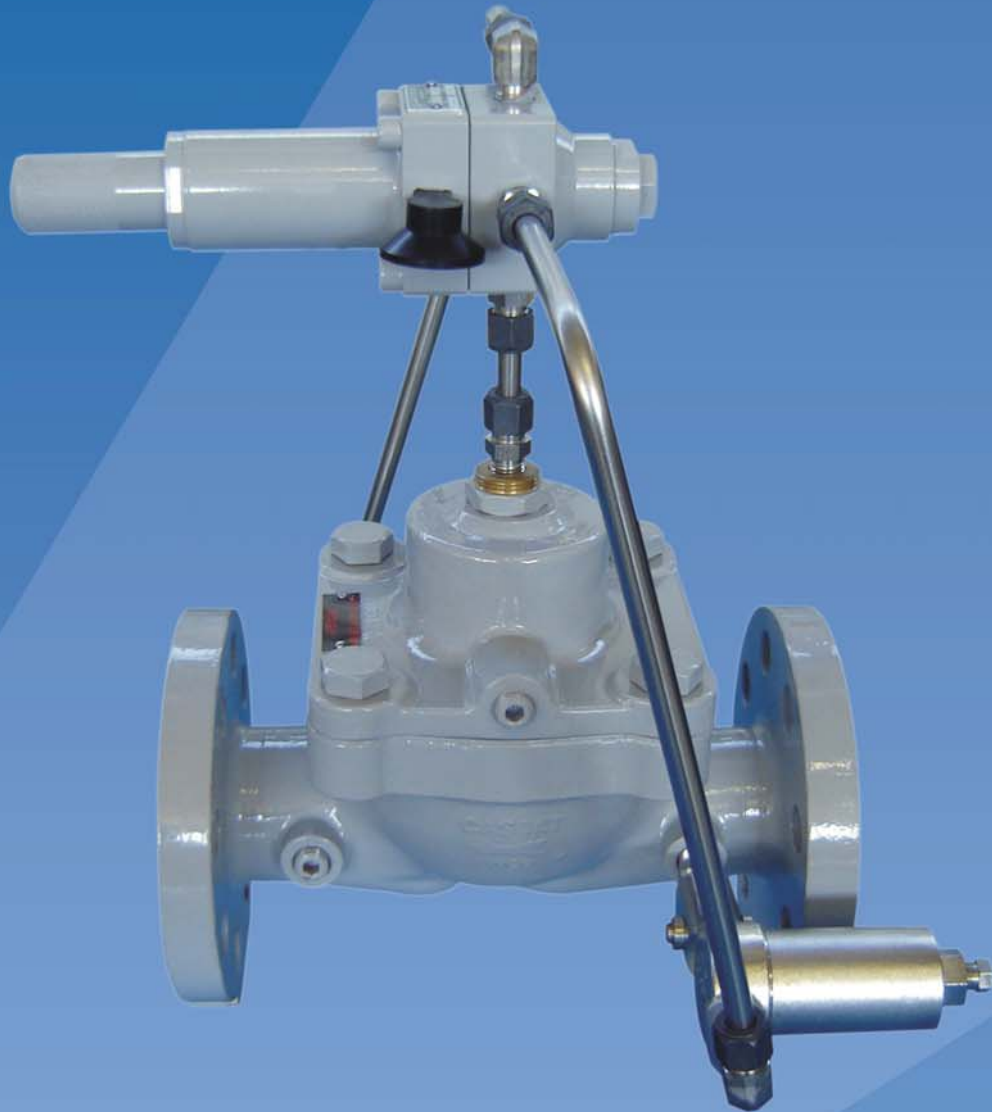


# ARGOS RELIEF VALVE

*Back Pressure*



**GASCAT**

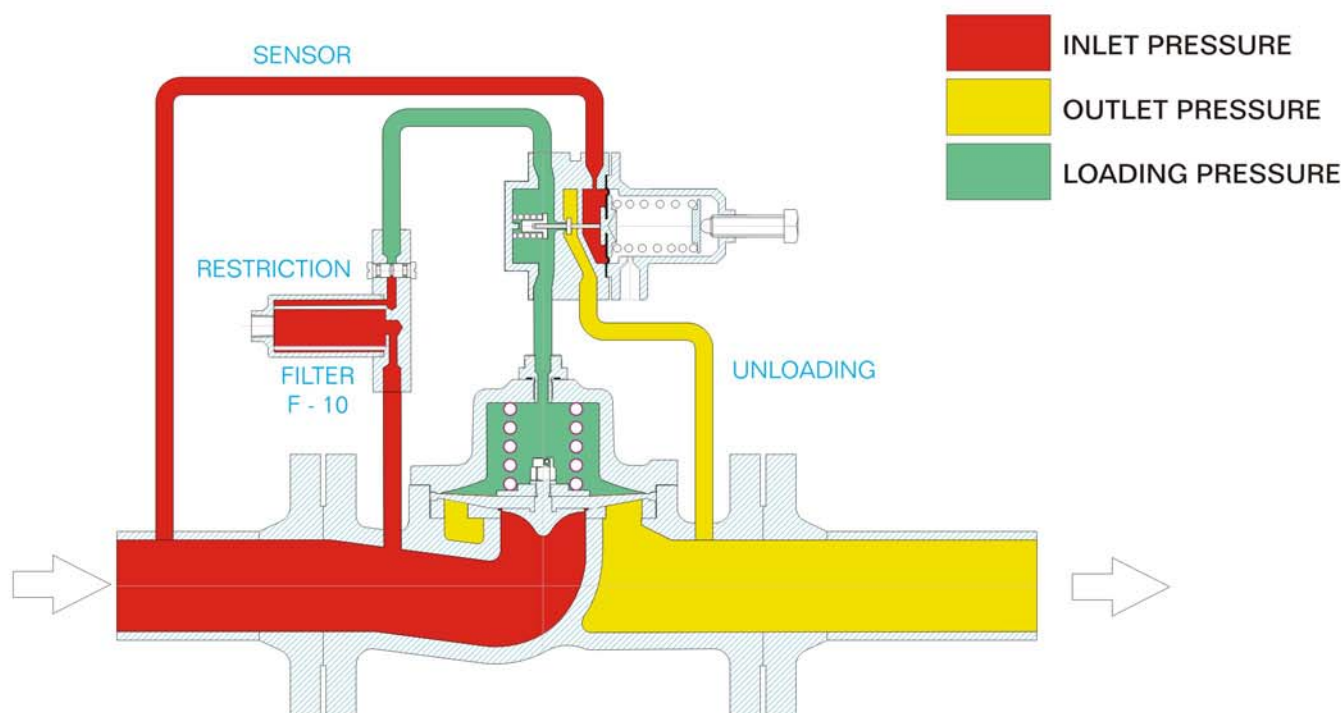
## APPLICATIONS

The back pressure regulator or relief valve, controls upstream pressure instead of downstream pressure. The control action in the pilot is the reverse of a pilot for a pressure reducing valve (increasing pressure in the sense chamber opens the pilot valve). At no flow, when the inlet pressure is less than the set point of the pilot regulator, the pilot is closed and full inlet pressure loads the spring case through the pilot loading connection. In this condition, the diaphragm is closed tightly against the throttle plate. The pressure differential across the outlet half of the diaphragm adds to the spring force in closing the valve.

As inlet pressure increases above the set point of the pilot regulator, it will open and start bleeding pressure out of the spring case faster than it can enter through the restrictor. Reducing the pressure above the diaphragm allows inlet pressure to progressively lift the throttling element off the throttle plate opening the valve and satisfying the demand for flow in the upstream system.

## MAIN CHARACTERISTICS

- Nominal diameter: 1", 2" e 3"
- Low cost and Easy maintenance.
- One-man maintenance operation, for any kind of cleaning or maintenance service.
- Any component of the main valve can be changed without removing the main body from the installation.





### Regulator Spring Range (pilots G-30 and G-32)

Code	Spring Color	Regulation Range	Application	AG
01.49.61	Silver	0.7 - 2.8 bar - (10.2 - 40.6 psi)	G-30	5
01.49.65	Green	1.7 - 6.3 bar - (24.7 - 91.4 psi)	G-30	2,5
01.49.64	Red	4.2 - 14 bar - (61 - 203 psi)	G-30	2,5
01.49.33	Brown	7.0 - 18.3 bar - (101.5 - 265.4 psi)	G-30	2,5
		14.0 - 36.6 bar - (203 - 531 psi)	G-32	2,5
01.49.59	Black	14.0 - 32 bar - (203 - 464 psi)	G-30	2,5
		28 - 63.5 bar - (406 - 921 psi)	G-32	2,5

### ACCURACY GROUP - AG (ACCORDING TO EN 14382)

Is the maximum permissible absolute value between the beginning of the opening position until the end of the closing position.

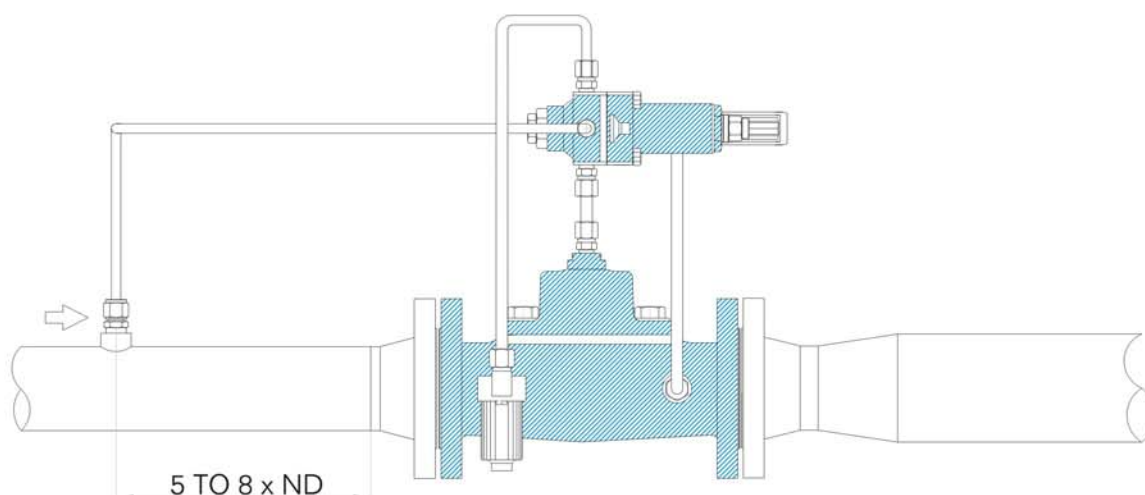
Note. AG 2,5 means + \- 2,5% of permissible deviation

### Technical Specifications

Component	Material
Body/Cover	Carbon Steel - ASTM A216 Gr. WCB
Diaphragm	Buna-N/Viton
Cage	Stainless Steel
Seat	Soft

## INSTALLATION

### BACK PRESSURE VALVE







## SIZING

Valves are selected on the basis of their ability to meet an expected relieving condition, flowing a sufficient amount of fluid to prevent excessive pressure increase.

The use of the effective orifice areas and effective nozzle discharge coefficients will always allow for the selection of a valve orifice area that will meet or exceed the required capacity.

## SIZING FORMULA

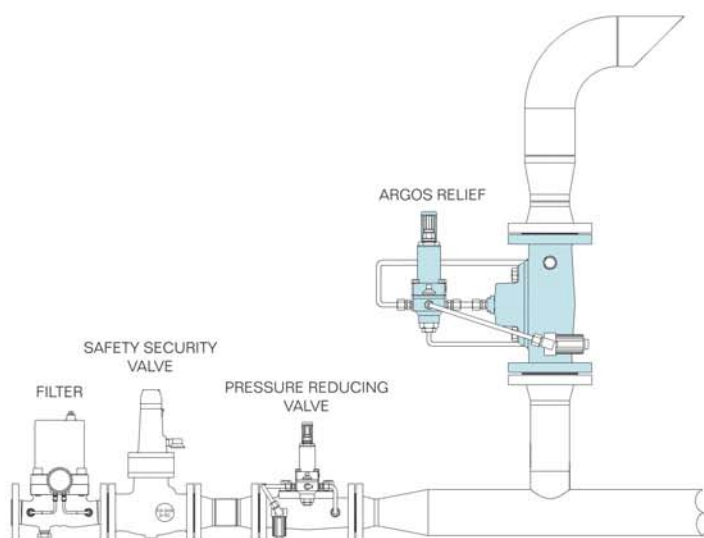
$$A = \frac{Q \times 0,002252 \times \sqrt{\left(\frac{9 \times T}{5}\right) + 492}}{0,0419 \times P \times K_b}$$

Where:

A = Calculated Orifice area (mm<sup>2</sup>)<sub>3</sub>  
Q = Maximum regulator flow (Nm<sup>3</sup>/hr)  
K<sub>b</sub> = Correction Factor  
P = Unloading Pressure (bar - abs)  
T = Operating Temperature (K)

## RELIEF VALVE APPLICATION

This back pressure regulator can also be used as a creep relief valve or partial relief valve in gas pressure reducing stations or City Gates whereas accuracy are necessary and normally direct spring relief valves cannot achieve. See example bellow.



## CERTIFICATIONS

ISO 9001



ASME - U-STAMP



NATIONAL BOARD



**GASCAT**  
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