

pressure regulator spring loaded



CE 97/23/CE

Notified Body number 1370

IPR regulators are a new line of pressure regulators – direct operating type – designed to guarantee a high regulation accuracy and an utmost easiness in use.

These devices are usually used in distribution and industrial systems and are designed to be installed in regulation units of canalized nets of natural, manufactured and lpg gas or other non corrosive gases, filtered at first.



IPR -X

The operating "trivalent" is a peculiar characteristic of these devices, which means in the same body they unit both the regulator operations and the emergency devices such the safety regulator and the shut-off devices.

The **IPR-X** pressure regulator, the first one of its type, allows to have at the same device the regulator, monitor and shut-off valve operations.

Furthermore, it's possible to add or to replace other devices without remove the body from the pipe.

The devices use solves any problem of interchangeability for the conversion of existing units out of norms and brings a significant saving about the units overall dimensions of the regulating stations.

Technical features

- **body** - spheroidal cast iron GJS 40-18U LT
- steel ASTM A352 LCB
- **covers** steel (UNI EN 10028)
- **diaphragms** synthetic rubber with cloth reinforcement
- **seats** stainless steel
- **springs** stainless steel
- **counterbalanced regulating device**
- **diaphragm shock adsorber**
- **built-in shut-off valve**
- **anti-pumping device**
- **large range of regulated pressure**
- **prompt action**

	IPR -X 300		IPR -X 600	
	DN 32	DN 40	DN 40	DN 50
Diameters				
Connections	PN 16 (UNI 2240-67) ANSI 150 RF (B 16.5)			
Maximum inlet pressure [bar]	6 e 19			
Outlet pressure range [mbar]	10 ÷ 4000			
Regulating class RG [%]	up to 5			
Closing pressure class SG [%]	up to 10			
Working temperature T [°C]	- 20 ÷ 60			
Valve Coefficient Cg	459	574	928	1160

Versions available

.BP

for an inlet pressure range of **0,5 ÷ 5** bar
for an outlet pressure range of **10 ÷ 150** mbar

.MP

for an inlet pressure range of **0,5 ÷ 5** bar
for an outlet pressure range of **150 ÷ 500** mbar

.AP

for an inlet pressure range of **0,5 ÷ 5** bar
for an outlet pressure range of **500 ÷ 4000** mbar

.APA

for an inlet pressure range of **2 ÷ 19** bar
for an outlet pressure range of **500 ÷ 4000** mbar

Dimensioning

The choice of the regulator is made using the **Cg** valve coefficient .

Cg coefficient is numerically equivalent to the value of air flow in Scfh in critical conditions with full open regulator operating with an upstream pressure of 1 psia and a temperature of 15 °C.

Flow rates with maximum opening at different operating conditions can be calculated as follows:

- a. in non critical conditions (when $Pe < 2 Pa$)

$$Q = 0,526 * Cg * Pe * \sin \left(93,5 * \sqrt{\frac{(Pe - Pa)}{Pe}} \right)^{Deg}$$

- b. in critical conditions (when $Pe \geq 2 Pa$)

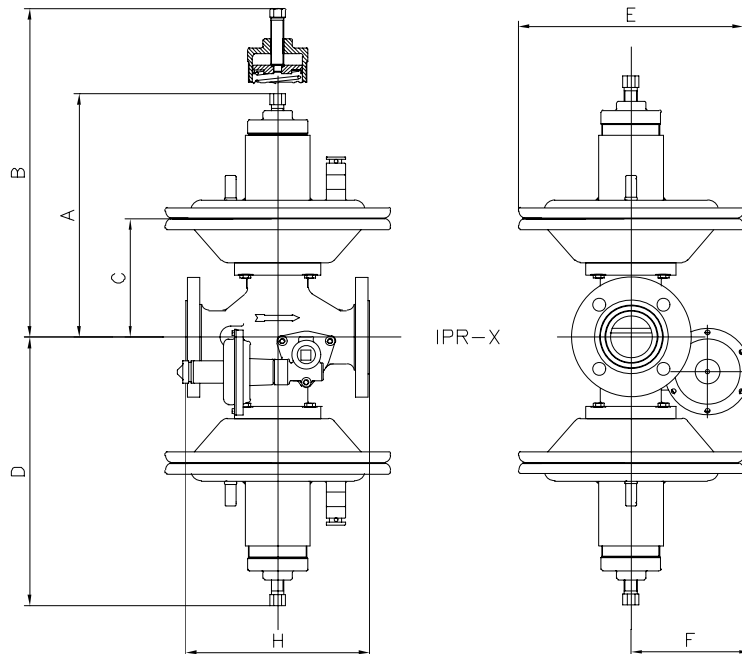
$$Q = 0,526 * Cg * Pe$$

where :

Q = capacity [Stm³/h]

Pe = absolute upstream pressure [bar]

Pa = absolute downstream pressure [bar]



	H			A	B	C	D	F	G	E			weight
	DN 32	DN 40	DN 50							version			
	[mm.]									[mm.]			[Kg.]
-X 300	183	223		400	450	151	400	130	175	310	310	232	36
										BP	MP	AP - APA	
-X 600		223	254	400	460	165	410	170	175	310	310	232	44
										BP	MP	AP - APA	