



IPR -B

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.



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IPR -B

The mod. **IPR** pressure regulators are “fail to open” type, which means that in case of malfunction due to breaking of the main diaphragm or as a result of a lack of impulse downstream, the regulator will open up completely.

The mod. **IPR** pressure regulators are “top entry” type, which allows for maintenance operations without having to remove the body from the pipes.

Modular device allows for variation in its configuration even when already installed in stream. In addition, the modules can be easily disassembled for eventual controls.

Technical features

- **body** - spheroidal cast iron GJS 40-18U LT
- steel ASTM A352 LCB
- **covers** - aluminium (EN AB 46100)
- steel (UNI EN 10028)
- **diaphragms** synthetic rubber with cloth reinforcement
- **seats** stainless steel
- **springs** stainless steel
- **counterbalanced regulating device**
- **diaphragm shock adsorber (on IPR 300 & 600)**
- **built-in shut-off valve**
- **built-in relief valve (on IPR 75 & 150)**
- **anti-pumping device**
- **large range of regulated pressure**
- **prompt action**

		IPR -B 75	IPR -B 150	IPR -B 300	IPR -B 600	
Diameters		1" x 1"	1" x 1"1/2	DN32	DN40	DN40 DN50
Connections		Rp (ISO 7/1)		PN 16 & PN 25 (UNI2240) ANSI 150 RF (B 16.5)		
Maximum inlet pressure	[bar]	5 & 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	160	281	459	574	928 1160

Versions available	Dimensioning
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.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**

.APS (non counterbalanced)
for an inlet pressure range of **2 ÷ 19 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**

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 $Pe \geq 2 Pa$)

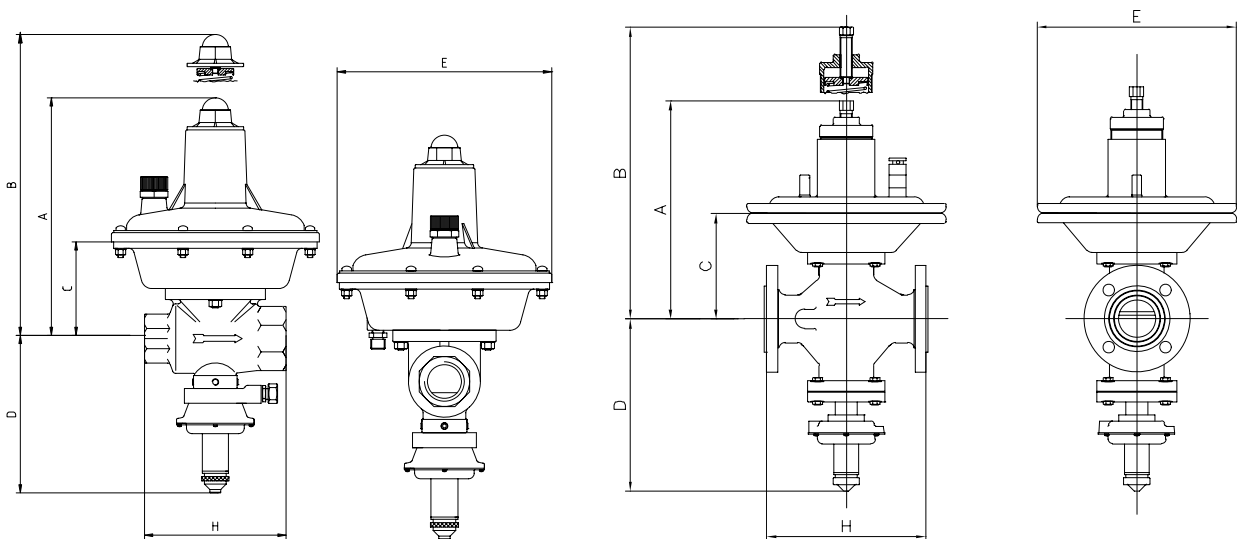
$$Q = 0,526 * Cg * Pe$$

where :

Q = capacity [Stm³/h]

Pe = absolute upstream pressure [bar]

Pa = absolute downstream pressure [bar]



	H					A	B	C	D	F	G	E			weight
	1" x 1"	1" x 1 1/2"	DN 32	DN 40	DN 50							version			
	[mm.]											[mm.]			
-B 75	100					220	385	90	135	=	=	189	189	189 TR	4,5
-B 150		130				220	385	90	135	=	=	189	189	189 TR	4,5
-B 300			183	223		400	450	151	240	=	175	310	310	232	25
-B 600				223	254	400	460	165	250	=	175	310	310	232	32