

PRESSURE REGULATOR HPR[®]I 25

In-line design DN 25

Application

These pressure regulators are used for pressure reduction of liquids and gases. The self contained pressure regulators controls pressure up to 30 bar range. Applications are typically installed in chemical, pharmaceutical, biotechnology industries, food and beverage plant, general in plant construction sites. The regulators are designed to meet requirements in the chemical, pharmaceutical and they are particularly corrosion resistant and reliable. They are suitable especially for hazardous media.

Design

The spring-loaded diaphragm actuator with directly-controlled valve seat ensures precise pressure control with low hysteresis. The regulators function without auxiliary power supply. High overpressure strength and safe regulator function is achieved by means of the supported diaphragm with long spindle guide. The regulator has a low degree of clearance volume and is self-draining, as far as is possible.

Description

The components coming in contact with the product are manufactured from CrNiMo steel 1.4435 / 1.4404. The diaphragm and seals are made of PTFE and the regulator seat is made of perfluoroelastomer (FFKM – Chemraz[®], Kalrez[®]) as standard, or fluoroelastomer (FKM: e.g. Viton[®]). These materials guarantee high corrosion resistance and excellent sealing, even at zero flow. The design has a low degree of clearance volume. On request, we can supply regulators in Hastelloy, etc. with the appropriate certification. The surface finish for the stainless-steel version is better than Ra 1.6 for housing parts in contact with the medium, better than Ra 0.8 for internal functional parts and better than Ra 3.2 for the outer housing.

Technical data

Nominal diameter: DN 25 / 1"

Adjustable pressure

range P2: M.. ... to 5 bar
H.. ... to 25 bar
D (pressure difference) to 4 bar = **P3**

Inlet pressure P1: max. 40 bar

Vacuum proof

Connections Flange ANSI, 1", 600 lbs, RF
(Special version)

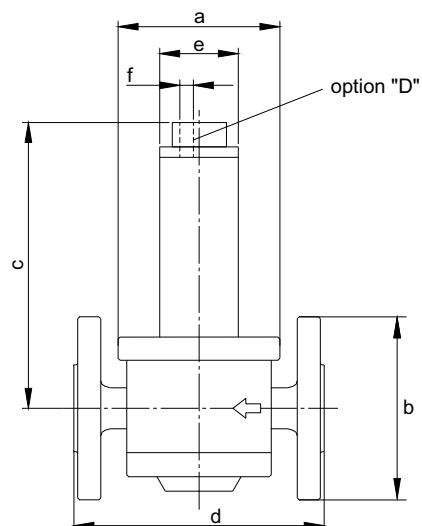
Weight: M ca. 11 kg H ca. 11 kg

Temperature: -20 ° bis +120 °C für EPDM
(Dependent on pressure conditions)
-20 ° bis +130 °C für FKM

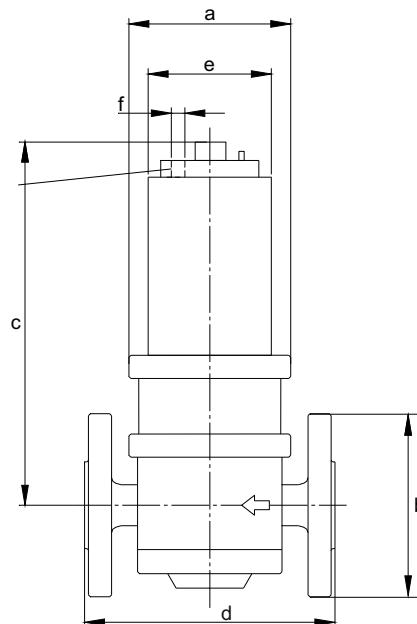
Test and inspection: According to IEC 60534-4

Pressure tightness: Sealing category V

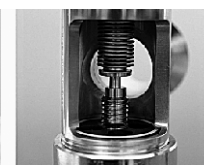
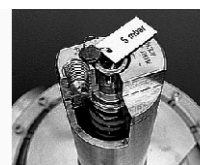
with Range **M**
(HP + 025)



with Range **H**
(HP.I-025)



Model dimensions	Process connection	a	b	c	d	e	f Option "D"
HPRI-025.-A- 17-M ..-...	ANSI 1" 600 lbs	Ø138	Ø124 (ANSI)	206	197	Ø54 (M48)	G 1/4" female thread
HPRI-025.-A- 17-H ..-...				228		Ø105 (M90)	



MODEL CODE HPR[®]I

In-line Design DN 25

1				2			3		4			5		6		7
Design				Nennweite/ Prozessanschluss			Durchfluss- kapazität		Regeldruckbereich			Material		Optionen		Specials
HP	R	I	-	025				Xn

2 Nominal diameter DN / Pressure rating

D	Flange:	DIN EN 1092-1, B1 DN 25 PN 40
A	Flange:	ANSI B 16.5, 1" 600 lbs
B	Thread:	1" BSP female
B	Thread:	1" NPTF female

3 Flow capacity

17	Seat	ø17 mm	on request
15	Seat	ø15 mm	comp kv = 4,8

4 Pressure range P2 (bar)

M01	0,1 - 1,0	H06	0,5 - 6,0
M03	0,3 - 3,0	H10	1,0 - 10
M05	0,5 - 5,0	H20	2,0 - 20, on request
		H30	3,0 - 30, on request

5 Material (only same colours can be combined)

Housing / inner parts		Seat seal		Diaphragm	
S	1.4408 (1.4404)/ 1.4435 (1.4404)	E	EPDM	E	EPDM
G	1.4408 (2.4602)/ HC 22 (2.4602)	V	FKM	V	FKM
		K	FFKM	P ¹	PTFE + FKM backup
		C	FFKM FDA- konform	H ¹	Hastelloy C 22

¹ Do not combine with seat sealing „E“ or „V“

Example: Housing/internal components with material code "G" or "H" (red) are only combined with seat of type "K" or "C" and with diaphragm type "P" or "G".

Housing/internal components with material code "S" can be combined with all seat and diaphragm materials (yellow).

6 Options

D	Differential pressure connection
G	Pressure gauge connection G¼

7 Specials

X0	If you require, for example, ATEX, PED, special connections, external control, rain hood ..., please enter an X in this field with the number of desired Specials. Each of the specials must be described in writing.
X1	
X2	
Xn	For special versions and certifications, please contact the manufacturer or the appropriate sales representative. Enter XC for customized special versions.
.	
XC	

Flow table for gases [flow quantities in Nm³/h according to DIN 1343]

P1 [bar rel.]	1	1.6	2	2.5	4	5	6.5	8	10	12	Sitzgröße	
P2 [bar]	0.5	112	166	193	225	322	387	483	580	709	840	17
	1.0	-	141	182	223	322	257	483	580	709	840	17
	2.0	-	-	-	158	316	387	483	580	709	840	17

It is recommended to design for operation at a maximum of 70% of the flow values.

In case of Hastelloy diaphragm only 50% of flow shown in the table

P1 = Supply pressure P2 = Control pressure

Flow table for liquids [flow quantities in m³/h]

P1 [bar rel.]	1	1.6	2	2.5	4	5	6.5	8	10	12	Sitzgröße	
P2 [bar]	0.5	3,4	5,0	5,9	6,8	9,0	10,2	11,8	13,1	14,8	16,3	17
	1.0	-	3,7	4,8	5,9	8,3	9,6	11,3	12,7	14,4	15,9	17
	2.0				3,4	6,8	8,3	10,2	11,8	13,6	15,2	17

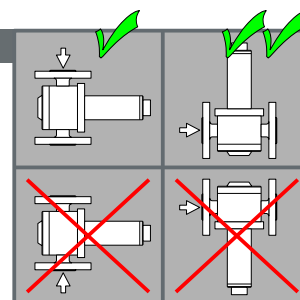
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In case of Hastelloy diaphragm only 50% of flow shown in the table

P1 = Supply pressure P2 = Control pressure

Mounting and start up for gases

Please find in the IOM (installation, operating and maintenance manual)



Mounting and start up for liquids

Please find in the IOM (installation, operating and maintenance manual)

