

BACK PRESSURE REGULATOR HPSI[®] 25 In-line design DN 25

Application

These back pressure regulators are used for control of pressure reduction of liquids and gases. The self contained back pressure regulators controls pressure up to 20 bar range. Applications are typically installed in chemical, pharmaceutical, biotechnology industries, food and beverage plant, general in plant construction sites. The back 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

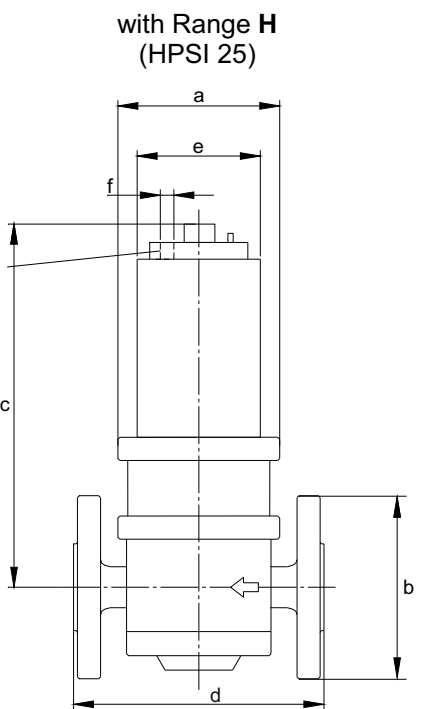
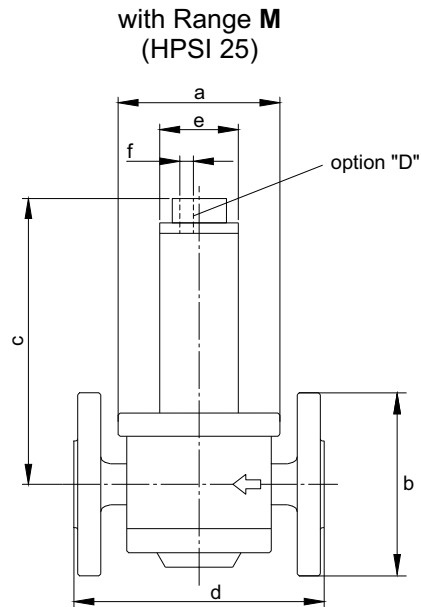
The spring-loaded diaphragm actuator with directly-controlled valve seat ensures precise pressure control with low hysteresis. The regulators function without auxiliary power supply. High overpressure strength and safe regulator function is achieved by means of the supported diaphragm with long spindle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

Description

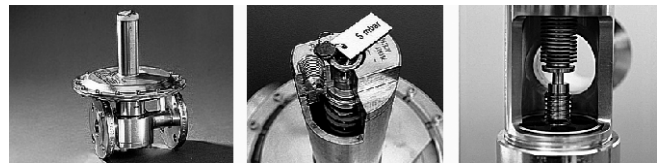
The components coming in contact with the product are manufactured from CrNiMo steel 1.4435 / 1.4404. The diaphragm and seals are made of PTFE and the regulator seat is made of perfluoroelastomer (FFKM – Chemraz[®], Kalrez[®]) as standard, or fluoroelastomer (FKM: e.g. Viton[®]). These materials guarantee 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 20 bar
	D (pressure difference) to 4 bar = P3		
Inlet pressure P1:	max. - bar		
Connections	Flange thread		
Weight:	M ca. 11 kg	H	ca. 14 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		



Model dimensions	Process connection	a	b	c	d	e	f Option "D"
HPSI-025A-17-M.-...	DIN Dn25 Pn40 ANSI 1" 300lbs BSP 1" fem. NPT 1" fem.	Ø138	Ø115 (DIN)	206	197	Ø54 (M48)	G 1/4" female thread
HPSI-025A-17-H.-...				228		Ø105 (M90)	



MODEL CODE HPS[®]1

In-line Design DN 25

1		2		3		4		5		6		7	
Design		Nominal diameter DN / pressure connection		Flow capacity		Regulating pressure range		Material		Options		Specials	
HP	S	I	-	025	-	-	...	-	...	-	.	-	-

2 Nominal diameter DN / Pressure rating

A	ANSI B 16.5, 1" 300 lbs
D	DIN EN 1092-1, DN 25, Pn40
B	Thread: 1" BSP female thread
N	Thread: 1" NPTF female thread

3 Flow capacity

17	Seat	Ø17 mm	kv = 4,8
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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

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

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

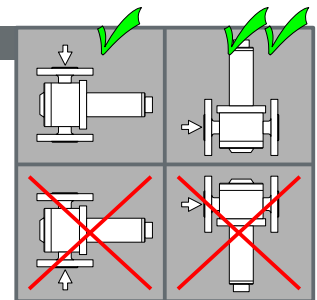
It is recommended to design for operation at a maximum of 70% of the flow values.

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

P1 = Supply pressure P2 = Control pressure

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)

