



BACK PRESSURE REGULATOR LPS® Z sterile conformity design angle design DN 25

Application

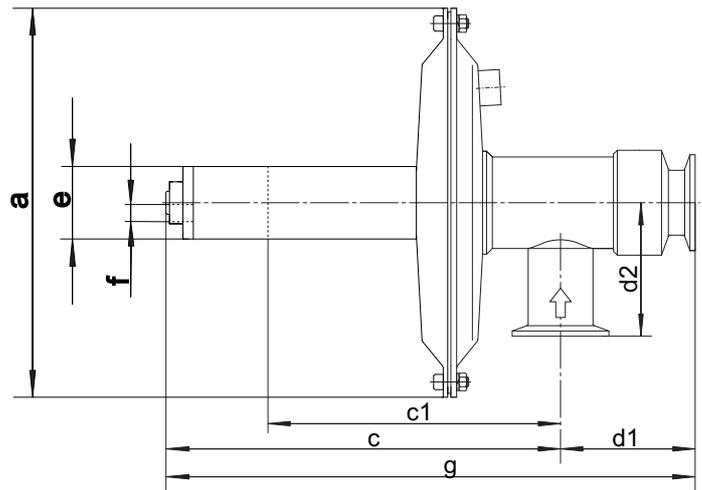
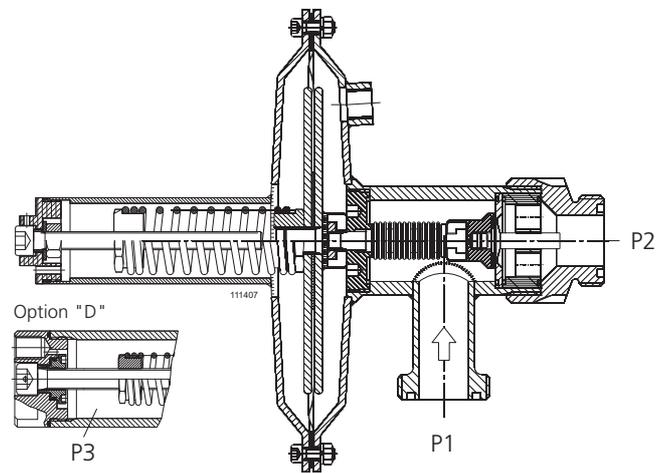
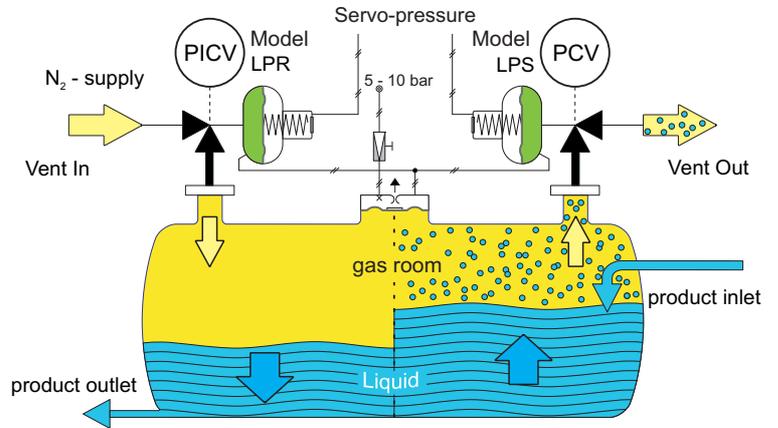
The self contained low pressure reducing regulators and back pressure regulators controls pressure in mbar range. Applications are for inert gas tank blanketing, reactors, centrifuges and agitating tubs with inert gas such as nitrogen. The regulators are designed to meet requirements in the chemical, pharmaceutical and biotechnology industries and are particularly corrosion resistant and reliable.

Design

The large proportioned, spring-loaded diaphragm actuator with directly-controlled valve seat ensures precise 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.

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 – Isolast®, Chemraz®) as standard. These materials guarantee high corrosion resistance and excellent sealing, even at zero flow. The design has a low degree of clearance volume, with a bellow separated by a rubber gaiter (suitable for CIP). On request, we can supply regulators in Hastelloy, Tantal or plastic etc. with the appropriate certification. The surface finish for the stainless-steel version is better than Ra 0.6 for housing parts in contact with the medium, better than Ra 0.6 for internal functional parts and better than Ra 3.2 for the outer housing.



Technical data

Nominal diameter:	DN 25 / 1"
Regulating range P1:	L.. to 500 mbar M.. to 1 bar D (pressure difference) to 4 bar = P3
Inlet pressure P1:	max. 10 bar
Vakuum proof	
Pressure connections:	Tri-Clamp Iso Schd. 5 Milk pipe connection (Special version available on request)
Weight:	5,3 kg to 7,9 kg
Temperature:	-20 ° to +120 °C for EPDM (Dependent on pressure conditions) -20 ° to +160 °C for PTFE
Testing and inspection:	According to IEC 60534-4
Pressure tightness:	Bubble tight sealing category VI

Model dimensions	pressure connection	a	c	g	d1 x d2	e	f Option "D"	c1 factory setting P1
LPSZ-025.-...-...-...	Tri-Clamp ISO Schd.5 SMS DN 1"	ø204	208	275	Standard 70 x 70	ø54 (M48)	G 1/4" female thread	127



MODEL CODE LPS[®]Z

sterile conformity design
angle design DN 25

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

2 Nominal diameter DN/ Pressure connection

T Tri-Clamp EN ISO 1127, NW 25
A SMS DN 1" (Rd40 x 1/6")

3 Flow capacity

07	Seat	ø7 mm	kv = 0.70
12	Seat	ø12 mm	kv = 2.60
16	Seat	ø16 mm	kv = 5.20

4 Regulating pressure range P1 (mbar)

L01	2 - 10	L10	16 - 100	M01	200 - 1000
L02	4 - 20	L20	30 - 200		
L05	8 - 50	L50	80 - 500		

5 Material (only the same colours can be combined)

Housing/ internal components	Seat seal	Diaphragm/ Regulating range
S 1.4435 (1.4404)/ 1.4435 (1.4404)	E EPDM	P PTFE L..
	C FFKM con- forms to FDA	E EPDM L.. M..
		G PTFE-glass fibre reinforced / L..

The housing/internal components/spring housing, seat and diaphragms can be combined in any order.

Special materials available on request.

6 Options

D Differential pressure connection

7 Specials

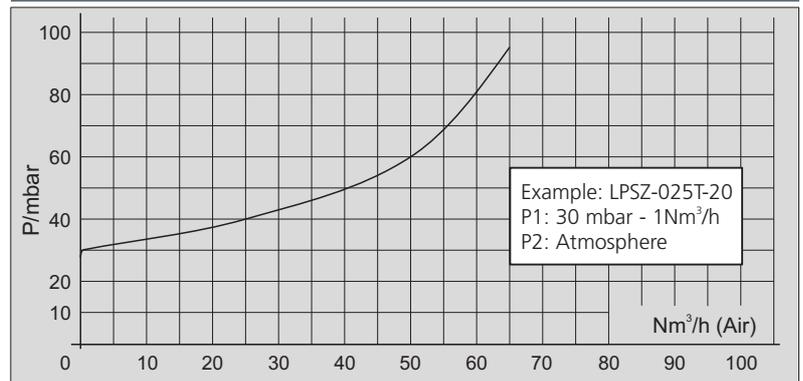
X0 If you require, for example, ATEX, PED, special
X1 connections, CIP connections on the housing,
X2 welding seams ground on the outside, a fixed setting
for P2 ..., please enter an X in this field with the
number of desired Specials. Each of the specials must
be described in writing.
•
•
Xn For special versions and certifications, please contact
the manufacturer or the appropriate sales
representative.

Flow table for seat ø20 [flow quantities in Nm³/h]

P1 [mbar rel.]	2	5	10	16	25	40	50	80	100	160	250	400
Atm.	8	12	18	22	28	35	39	50	55	70	88	110
-2	11	15	19	23	29	36	40	50	55	70	88	110
-5	15	17	21	25	30	37	41	51	56	71	88	110
-10	19	21	25	28	32	39	43	52	58	72	89	111

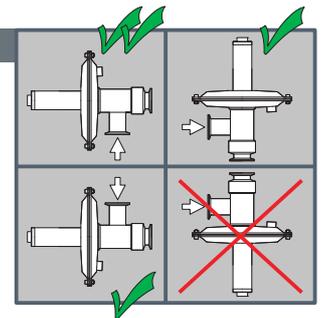
It is recommended to design for operation at a maximum of 70% of the flow values.
P1 = regulating pressure

Pressure / flow characteristic



Installation

The preferred installation position is with vertical diaphragm housing and horizontal input. Pressure fixed unit is adjusted in this position. The output pressure increases by approximately 4 mbar for installation with horizontal diaphragm housing. The installation position must be specified. A 1:1 pressure transducer is needed for sterile installation



Mounting and start up

- Before connecting the pressure regulator please make sure
 - 1.1 to compare the plant data with the name plate
 - 1.2 the values marked on the name plate are the values measured during our functional inspection
 - 1.3 to check the corrosion resistance of the material
 - 1.4 to blow out impurities in the pipes
 - 1.5 to note the flow direction – it is marked with an arrow on the housing
 - 1.6 to open inlet pipes slowly.
- LPSZ adjust reduced pressure: (Relative pressure)
 - 2.1 set a light flow (1Nm³/h). Set the pressure +/- as required using a hexagonal wrench
 - 2.2 The setting can be secured with a seal.
- Adjust the LPSZ differential pressure (-D) with the servo-regulator
 - 3.1 if the D-connection is pressurised with the servo-pressure, the working pressure is added by the servo-pressure.