TYPE SRV 12

FEATURES

The SRV 12 self-contained pressure regulator is designed for steam and compressed air applications. This device enables precise regulation of the downstream pressure in the distribution network, regardless of the upstream pressure or fluctuations in flow rate. The SRV 12 is a compact GS cast iron unit, featuring a spring (3 pressure relief ranges) and a diaphragm that makes it self-contained without the need for external power. It has a sealed pilot valve. Extended service life thanks to the valve protection filter, which is accessible from the outside.

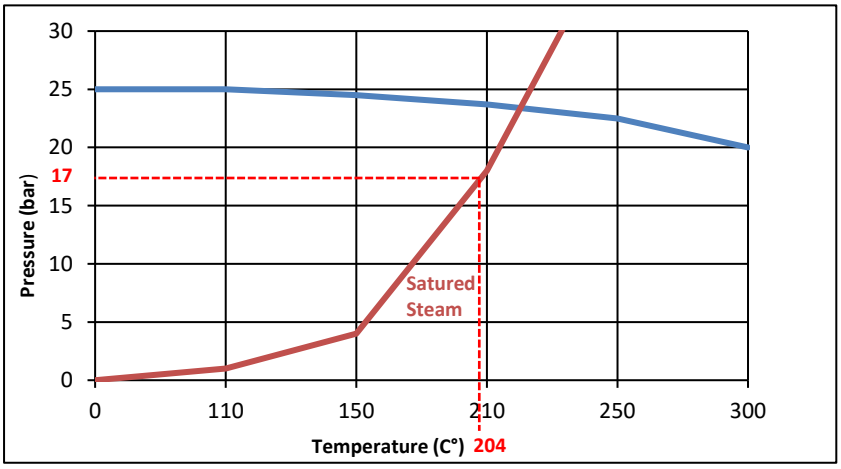


AVAILABLE MODELS

Diameters : DN15 at DN50.
ISO PN25 flanged connections.
Outlet pressure : next spring.
Spring ranges : 0,2-1,5 bar (yellow), 0,5-9 bar (blue), 1-14 bar (green).
(Supplied as standard with a pressure range of 1–14 bar (green)).

LIMITS OF USE

Fluid's pressure : PS	**ΔP max** : 17 bar
Fluid's temperature : WT°	-10°C / +220°C
Use on steam :	17 bar / 204°C
Use of compressed air	25 bar / 120°C
Rangeability :	10 : 1
CE classification according to PED	Prohibited use on gases of group I



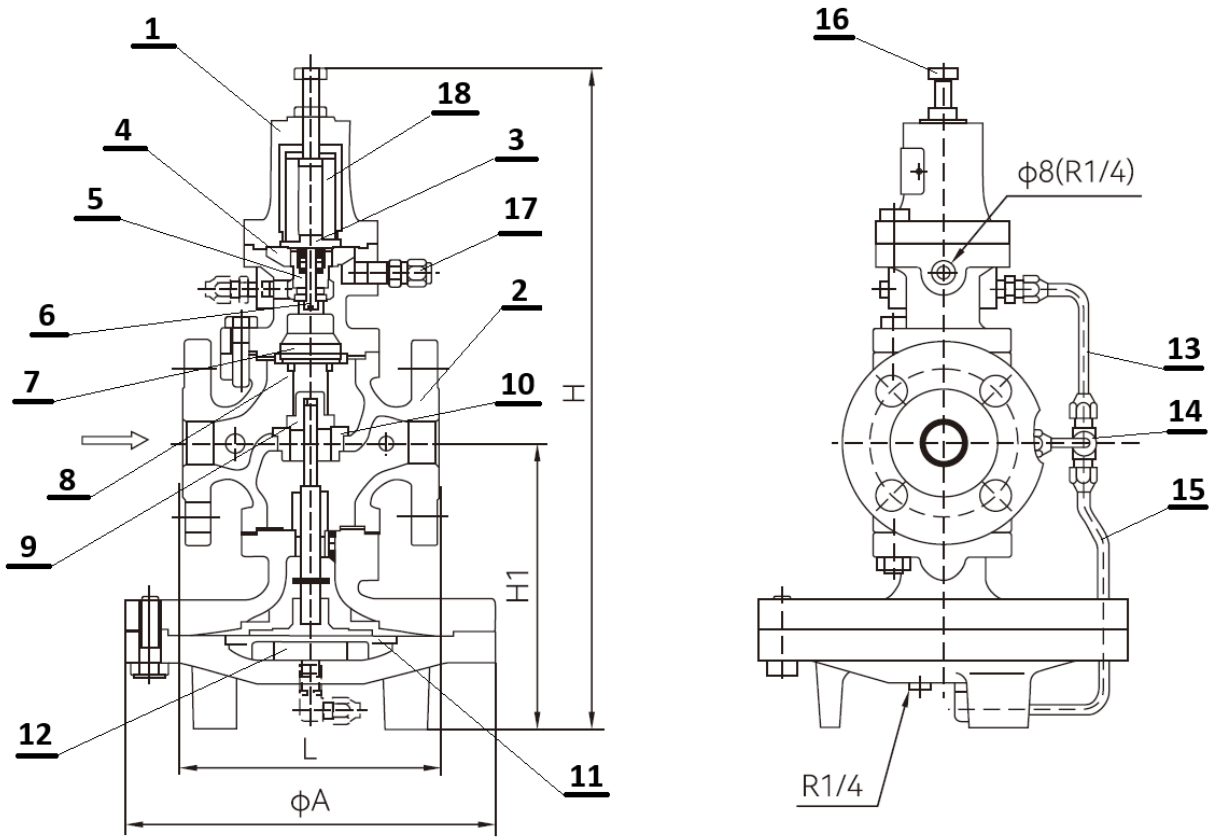
REGULATIONS AND STANDARDS OF CONSTRUCTION

OBJET	Standard	OBJET	Standard
P.E.D CE 2014/68	**DN15 to DN50** : Art. 4 § 3	Design	EN 12516-1
Cast iron grades	EN 1503-2	Final test	EN 12266-1
Flanged connection	EN 1092-1	Flange dimensions	EN 1092-1

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CONSTRUCTION

n°	Name	n°	Name
1	Cap	10	Main valve seat
2	Body	11	Main diaphragm
3	Pilot diaphragm	12	Main diaphragm chamber
4	Pilot diaphragm chamber	13	Pipe
5	Pilot valve seat	14	Tee
6	Pilot valve	15	Pipe
7	Filter (screen)	16	Adjustment screw
8	Valve spring	17	Reduced pressure sensing port
9	Main valve	18	Spring



DIMENSIONS (mm) and WEIGHT (Kg)

DN	L	H	H1	A	Weight (Kg)
15	150	398	170	200	15.5
20	160	398	170	200	16.0
25	160	404	175	226	21.0
32	180	434	192	226	24.0
40	200	434	192	226	24.5
50	230	498	216	276	36.0

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DIMENSIONING

Choosing the diameter : It is not necessary to choose a pressure regulator with a diameter that matches that of the pipework; instead, determine the diameter using the charts and calculation formulas provided below.

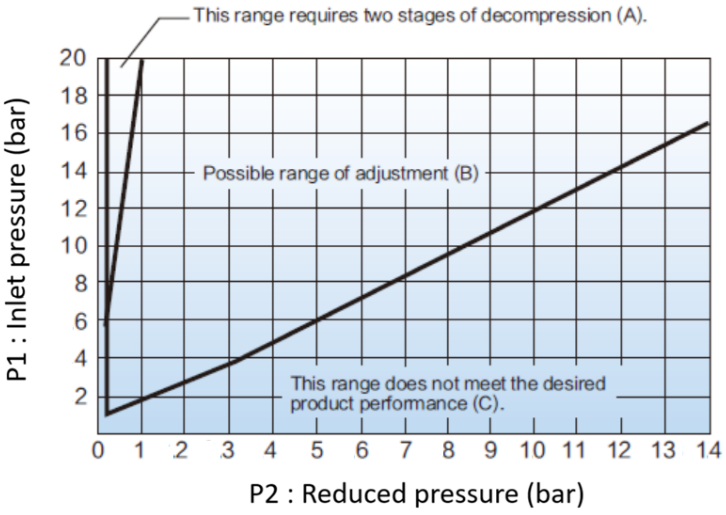
Flow coefficients (Kv) (m^3/h) for the SRV 12:

DN	15	20	25	32	40	50
Kv	4,3	6,2	9,4	12,4	16,3	27,7

Formula for calculating vapour :

$$Q = 12\ x\ Kv\ x\ P1\ x \sqrt{1 - 5,67\left(0,42 - \frac{P1 - P2}{P1}\right)^2}$$

Kv	*flow coefficient*	*m^3/h*
Q	*flow rate in*	*Kg/h*
P1	*Inlet pressure (abs)*	*bar*
P2	*Downstream pressure (abs)*	*bar*
ΔP	*Upstream-downstream difference*	*bar*



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STEAM FLOW RATE TABLE

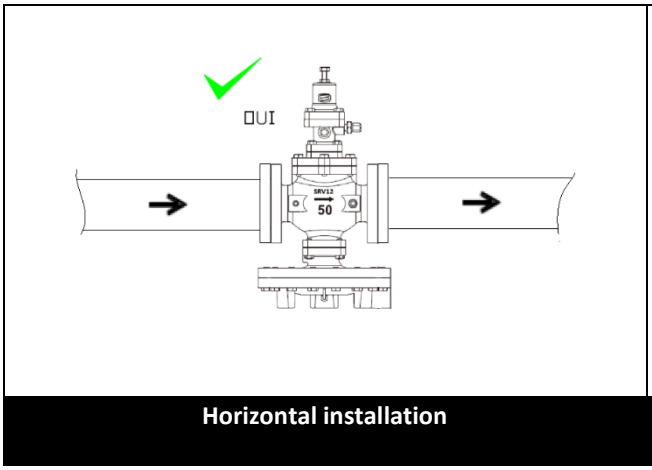
Steam flow rate (in kg/h)							
P1 (bar)	**P2 (bar)**	**15**	**20**	**25**	**32**	**40**	**50**
16	1-7	1020	1468	2223	2917	3835	6528
	10	893	1286	1947	2554	3358	5716
	13	664	956	1448	1900	2498	4253
14	1-6	900	1296	1962	2574	3384	5760
	10	702	1011	1531	2009	2642	4497
	11	620	893	1352	1773	2331	3969
12	1-5	780	1123	1700	2230	2932	4992
	10	477	687	1040	1365	1795	3055
10	1-4	660	950	1438	1887	2481	4224
	5	635	914	1385	1817	2388	4066
	8	435	627	950	1246	1638	27489
9	1-4	600	864	1308	1716	2256	3840
	5	551	793	1201	1576	2072	3528
	7	413	595	901	1182	1554	2646
8	1-3	540	777	1177	1544	2030	3456
	5	462	665	1007	1322	1738	2958
7	1-3	480	691	1046	1372	1804	3072
	5	364	525	794	1042	1371	2333
6	1-2	420	904	915	1201	1579	2688
	3	395	570	862	1132	1488	2533
	5	248	357	541	710	934	1590
5	1-2	360	518	784	1029	1353	2304
	3	308	443	671	881	1158	1972
	4	228	329	498	653	859	1462
4	0,5-1,5	300	432	654	858	1128	1920
	3	206	297	450	591	777	1323
3	0,5-1	240	345	523	686	902	1536
	2	182	262	397	521	685	1166
2	0,5	180	259	392	515	677	1152
	1	154	221	335	440	579	986
1	0,5	91	131	198	260	342	583

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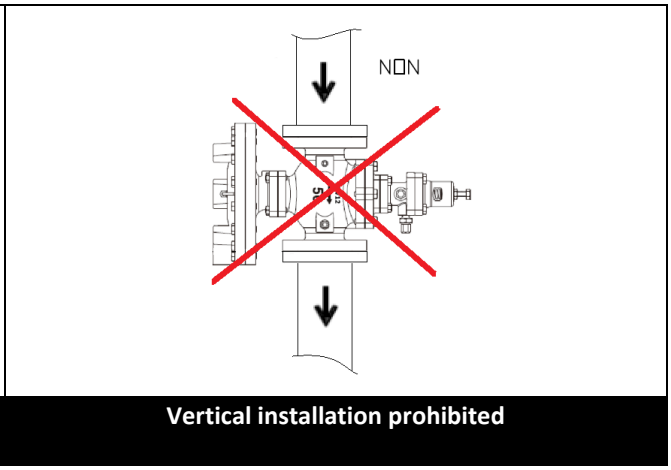
INSTALLATION

Installation position : The SRV12 pressure regulator must always be installed horizontally with the diaphragm at the bottom.

Series connection : The SRV12 has a flow ratio of 10:1. If necessary, install two pressure regulators in series, ensuring a distance of 50xDN between the two units.



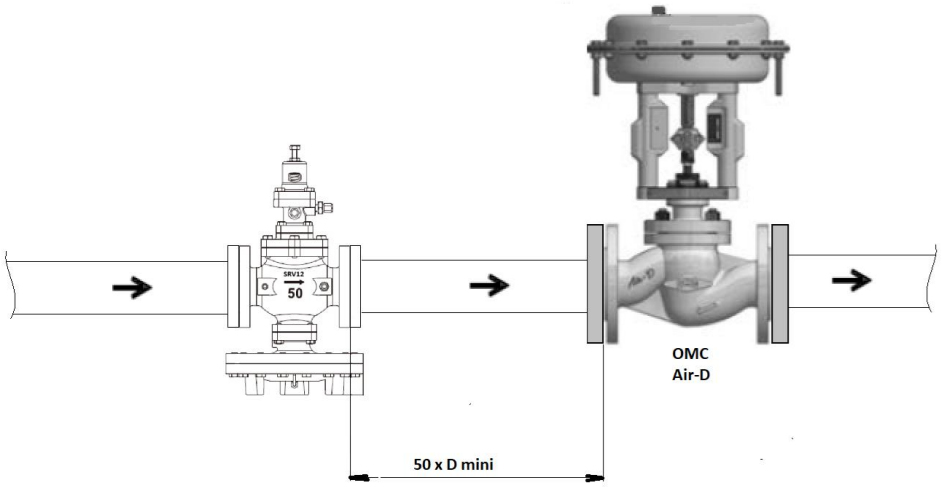
Horizontal installation



Vertical installation prohibited

Convergent and divergent : When sizing the SRV12, do not exceed a velocity of 30 m/s. (See the 'Sizing' section.) If the diameter of the SRV12 is smaller than that of the ductwork, install a convergent section upstream and a divergent section downstream. For use with gas, it is necessary to provide, at the outlet of the SRV12, a pipe with a larger diameter than that of the inlet and to connect it via a diverter, as the expanded gas requires a larger flow cross-section downstream than upstream.

Straight run before a control valve : To ensure good downstream pressure stability and reduce turbulence at the outlet of the SRV12, provide a distance of 50x DN upstream of the control valve.



Upstream isolation : Install a shut-off valve upstream of the SRV12 pressure-reducing valve, as shown in the diagram below. This valve is not necessarily leak-free at zero flow and does not act as a shut-off device.

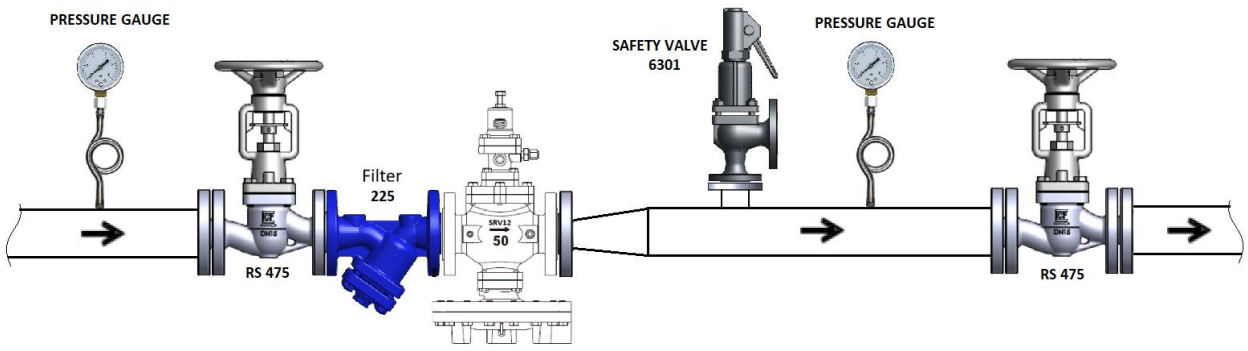
Upstream filtration : To protect the internal mechanism from contaminants, install a protective filter upstream of the SRV12 with a filtration rating of approximately 5/10 microns, as shown in the diagram below. Clean the filter screen periodically.

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Pressure gauges : In order to adjust the SRV12 accurately and monitor its correct operation, it is essential to install pressure gauges upstream and downstream of the SRV12, with a filtration rating of approximately 5–10 microns, as shown in the diagram below. Clean the strainer of this filter regularly.

Safety valve : A safety valve must be installed downstream of the SRV12 pressure regulator to protect downstream equipment in the event of a failure of the regulator, as shown in the diagram below. The set pressure of this valve must be equal to the downstream pressure of the regulator + 10%.

Example of a steam trap station using the SRV12



ASSEMBLY AND MAINTENANCE INSTRUCTIONS

1. Mounting

Check that the pressure range indicated on the SRV12 nameplate is suitable for the intended application. Before installation, isolate the upstream and downstream pipework, depressurise the system and allow the installation to reach ambient temperature. Install a filter upstream. Also install shut-off valves and pressure gauges upstream and downstream of the pressure regulator. Thoroughly clean the pipework of any particles or debris by flushing with water or blowing through with compressed air. Install the pressure regulator in accordance with the direction of the arrow indicated on the body. Open the downstream valve and then slowly open the upstream valve to ensure a gradual build-up of pressure. Use the adjustment screw (16) and the pressure reading on the downstream pressure gauge to set the desired pressure.

2. Maintenance

Before carrying out any work, isolate the upstream and downstream pipework using the shut-off valves. Depressurise the system and allow it to return to ambient temperature. Fully unscrew the adjustment screw (16). Remove the upstream filter cap and clean or replace the strainer. Do the same for the internal filter strainer (7). For a full inspection of the unit, remove the cap (1) and inspect the spring (18) and the pilot seat (5). Also remove the central cap and inspect the seat (10) and the main valve (9). Also remove the lower cap and inspect the condition of the diaphragm (11). Clean all internal parts. Reassemble all internal parts in the reverse order of disassembly. Put the unit back into service by slowly opening the downstream valve and then the upstream valve. Readjust the relief pressure using the screw marked (16).

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SPARE SPARTS

DN	Maintenance Kit	
15	- Stainless steel pipe. - Main diaphragm. - Body gaskets. - Seat. - Pilot. - Screen. - Spring : 0,2-1,5 bar (yellow) 0,5-9 bar (blue) 1-14 bar (green)	
20		
25		
32		
40		
50		