INSTALLATION AND MAINTENANCE INSTRUCTIONS
PS - PRESSURE SUSTAINING VALVES
PS47 / PS47I

GENERAL

- These instructions must be carefully read before any work involving products supplied by VALSTEAM ADCA ENGINEERING S.A. is undertaken.

- The installation procedure is a critical stage in the valve life and care should be taken to avoid damage to the valve or equipment.

- Sustaining valves are designed to give accurate control of upstream pressures. They give their maximum performance only when the equipment associated with them is correctly sized and installed in accordance with our recommendations.

Warning!
- If malfunction of any other equipment or system operation failure may result in a dangerous overpressure, over temperature or even vacuum condition, a safety device must be included in the system to prevent such situations.
- At start up, the presence of small particles in the fluid (dirt, scale, weld splatters, etc) may cause an imperfect closure of the seat. If this occurs, proceed to an accurate cleaning.
- Do not touch the equipment without appropriate protection during working operation because it may conduct heat if the used fluid is at high temperature.
- Before starting maintenance be sure that the equipment is not pressurized or hot.
- The equipments must be used within the working temperature and pressure limits laid down for them, otherwise they may fail (refer to nameplate and/or IS- Information Sheet).
- Do not remove the nameplate attached to the equipment. Serial number and other useful information stamped on it.
- The valve is not suitable for oxygen service.

INSTALLATION

ATTENTION

- Prior to install check that the product is suitable for the intended application: materials and pressure/temperature ratings.
- Before installation remove plastic covers placed on flanges or connection ends. The equipment has an arrow or Inlet/Outlet designations. Be sure that it will be installed on the appropriate direction.
- Take care with jointing material to ensure that none may be permitted to block or enter the valve.
- **Sustaining** valves are recommended to be fitted with the centre line of the valve in a vertical position to ensure that the best results are obtained.
- An ADCA pipeline strainer should be installed upstream of the valve to protect from dirt which could damage the valve or cause mal-functioning.
- The **sustaining** valve pipework should be properly supported and free from strain and it should not be subjected to undue surges of pressure. For steam installations we strongly recommend that the **sustaining** valve is positioned where condensation is unable to collect or that, alternatively, separators and steam traps are fitted so that the pipework drains correctly. The start up condition should be considered.
- A balance pipe must be connected upstream at least 1 metre from valve. See IS.PS47.20.

Installation area requirements:

- The installation area should have easy access and provide enough space for maintenance and removing operations.
- The installation area should have the necessary firing system to prevent damage of the equipment due to over temperature/pressure cause by fire.

MAINTENANCE

- We recommend that the pressure sustaining valves to be serviced as necessary. Pressure sustaining valves should be checked periodically (at least yearly), to verify that they are operating correctly and to clean the internal parts and screen (if any).
- When reassembling make sure that all gasket faces are clean and always use a new gasket. Tighten cover bolts uniformly in a diagonal sequence.
- Valves in store for long periods should have their adjusting spring relaxed.
- For further information refer to the relevant PS brochure or consult our Sales Office.

LIMITING CONDITIONS	PS47 PN 40
Maximum upstream pressure	17 bar
Minimum upstream pressure	0,7 bar
Minimum operating temperature	-10 ºC
Maximum operating temperature	260 ºC
Maximum cold hydraulic test:	60 bar

* 0,07 bar with low pressure top (limited at 7bar inlet).

PRESSURE RANGES IN bar		
Sring colour	Green W/1 Diaphragm	Black W/2 Diaphragms
Relieving Press.	0,35 to 4 bar **	2 to 17 bar **

It is preferable to select the spring range where the desired reduced pressure is at the upper end of range.

USEFUL NOTES ON VALVE AND PIPE SIZING

A special low pressure top assembly should be fitted for intlet pressures from 0,07 up to 0,5bar.
Two diaphragms must be fitted when relieved pressure range is 2 to 17 bar.
Two regulators in parallel should be used on larger systems where minimum flow is less than 10% of maximum.
If the flow is unknown it's possible to estimate it, based on pipe size or equipment heat requirement - please consult.

CE MARKING (PED - European Directive 97/23/EC)	
PN 40	Category
DN15 to DN 32	SEP - art. 3, paragraph3
DN40 to DN50	1 (CE Marked)

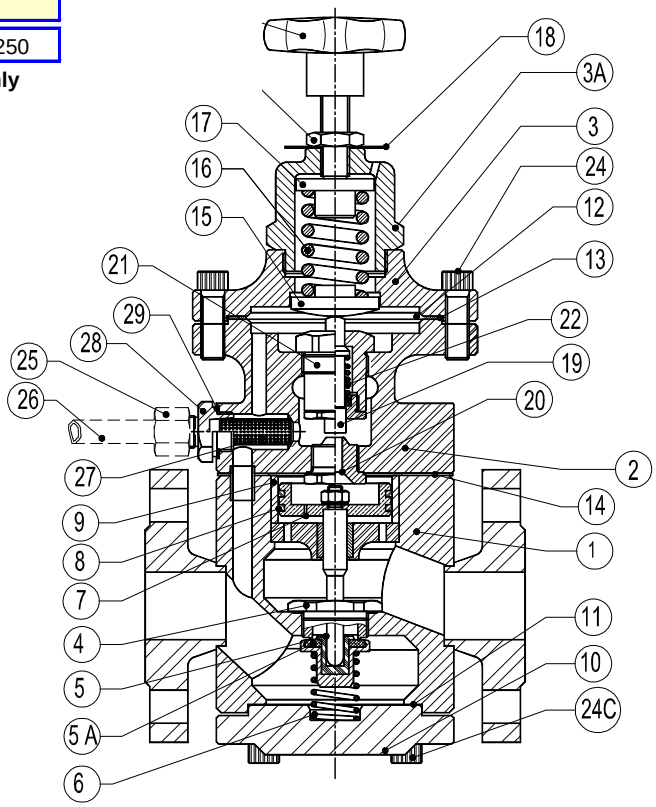
PARTS LIST FOR PS47:

CODE	DESIGNATION	VALVE SIZE DN	POS.NR.	QTY.
VR.9570.002	Regulating spring 0,35 - 4 bar	All	16	1
VR.9570.005	Regulating spring 2 - 17 bar	All	16	1
VR.9571.001	Diaphragm & gasket	All	12, 13	1 set
VR.9574.001S	Pilot valve,spring, seat & gasket	All	19, 20, 21, 22	1 set
VR.9574.005	Strainer screen & gasket	All	27	1 set
VR.9575.015	Piston rings & gasket	15	8, 14	1 set
VR.9575.025	Piston rings & gasket	20-25	8, 14	1 set
VR.9575.032	Piston rings & gasket	32	8, 14	1 set
VR.9575.040	Piston rings & gasket	40	8, 14	1 set
VR.9575.050	Piston rings & gasket	50	8, 14	1 set
VR.9576.015	Main valve, seat & gaskets	15	4, 5, 11	1 set
VR.9576.020	Main valve, seat & gaskets	20	4, 5, 11	1 set
VR.9576.025	Main valve, seat & gaskets	25	4, 5, 11	1 set
VR.9576.032	Main valve, seat & gaskets	32	4, 5, 11	1 set
VR.9576.040	Main valve, seat & gaskets	40	4, 5, 11	1 set
VR.9576.050	Main valve, seat & gaskets	50	4, 5, 11	1 set

Recommended tightening torques:

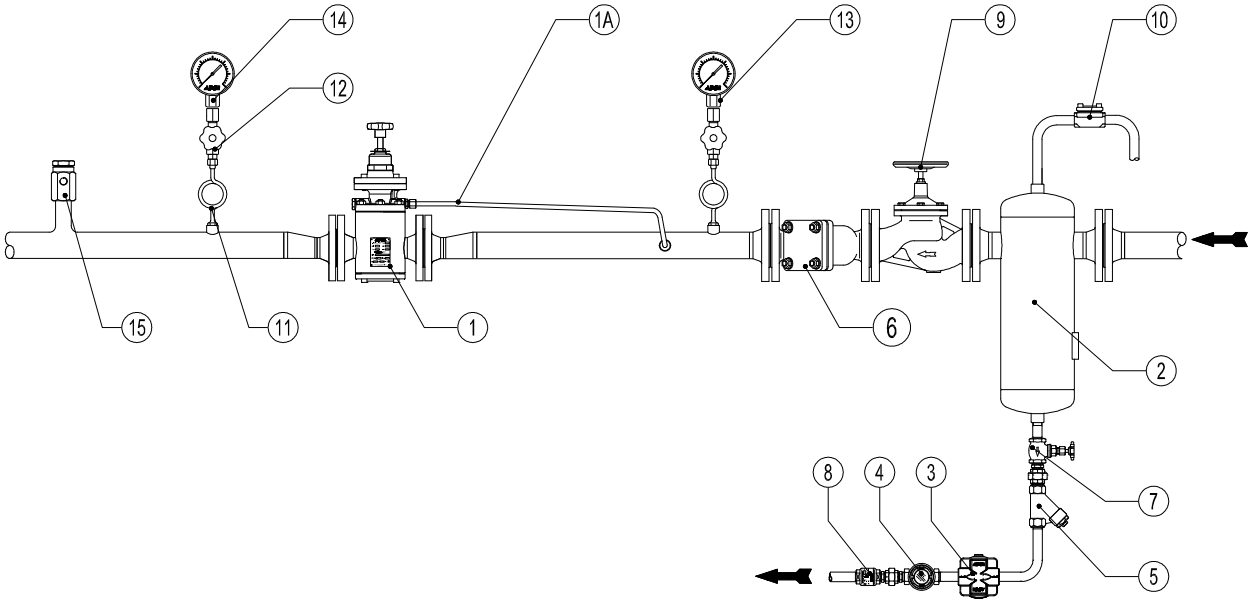
POS.NR.	VALVE SIZE DN	Nm
20	ALL	250

Remarks: tighten cover bolts uniformly



DN 15 – DN 50

TYPICAL INSTALLATION



MATERIALS PS 47		
POS.	**DESIGNATION**	**MODEL**
1	Pressure sustaining valve	PS 47
1A	Sensing pipe	COPPER
2	Humidity separator	S 25
3	Steam trap	FLT SERIES
4	Sigh glass	SW 12
5	Strainer	IS 16
6	Strainer	IS 16F
7	Stop valve	Globe Type
8	Check valve	RT 25
9	Stop valve	Globe or Gate Type
10	Thermostatic steam trap	TH21
11	Coil	GSC-40
12	Gauge cock	GC-400
13	Upstream pressure gauge	MAN-100
14	Downstream pressure gauge	MAN-100
15	Vacuum breaker	VB 21

Remarks:
PN classes and materials according to the operating pressures.
The balance pipe connection is recommended to enter upstream pipe at a minimum of 1 metre from valve.
Information sheet are available (IS – PS47) and typical assembling drawing. Special assembling designs may be produced on request.

ATTENTION

- **LOSS OF WARRANTY: Total or partial disregard of above instructions involves loss of any right to warranty.**