



INSTALLATION AND MAINTENANCE INSTRUCTIONS

PRV - PRESSURE REDUCING VALVES

PRV 47

GENERAL

1. These instructions must be carefully read before any work involving products supplied by VALSTEAM ADCA ENGINEERING S.A. is undertaken.
2. The installation procedure is a critical stage in a life of a valve and care should be taken to avoid damage to the valve or equipment.

Reducing valves are designed to give accurate control of down-stream 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 unperfected 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 is stamped on it.

-The valve is not suitable for oxygen service.

INSTALLATION

1. Prior to install check that the product is suitable for the intended application: materials and pressure/temperature ratings.
2. Before to install 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.
3. Take care with jointing material to ensure that none may be permitted to block or enter the valve.
4. Reducing 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.
5. An ADCA pipeline strainer should be installed upstream of the valve to protect from dirt which could damage the valve or cause mal-functioning.
6. The reducing 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 reducing 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.
7. A balance pipe must be connected downstream at least 1 metre from valve. See AS.PR47.02.



MAINTENANCE

1. We recommend that the pressure reducing valves to be serviced as necessary. Pressure reducing 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).
2. When reassembling make sure that all gasket faces are clean and always use a new gasket. Tighten cover bolts uniformly in a diagonal sequence.
3. Valves in store for long periods should have their adjusting spring relaxed.
4. For further information refer to the relevant PRV brochure or consult our Sales Office.

LIMITING CONDITIONS	PRV 47	
	PN 25	PN 40
Maximum upstream pressure (steam)	21 bar	25 bar
Maximum upstream pressure (air)	25 bar	31 bar
Maximum downstream pressure	17 bar	17 bar
Minimum downstream pressure	0,35 bar*	0,35 bar*
Minimum operating temperature	-10 °C	-10 °C
Maximum operating temperature	260 ° C	260 °C
Maximum cold hydraulic test:	40 bar	60 bar

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

PRESSURE RANGES IN bar		
SPRING COLOUR	GREEN W/1 Diaphragm	BLACK W/2 Diaphragms
Red. Pressure	0,07 to 0,5 bar *	2 to 17 bar **
Red. Pressure	0,35 to 4 bar **	/

* With low pressure top; **Standard diaphragm.

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

USEFUL NOTES ON VALVE AND PIPE SIZING

A special low pressure top assembly should be fitted for outlet pressures from 0,07 up to 0,5bar. Two diaphragms must be fitted when reduced 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 is possible to estimate it based on pipe size or equipment heat requirement-please consult.

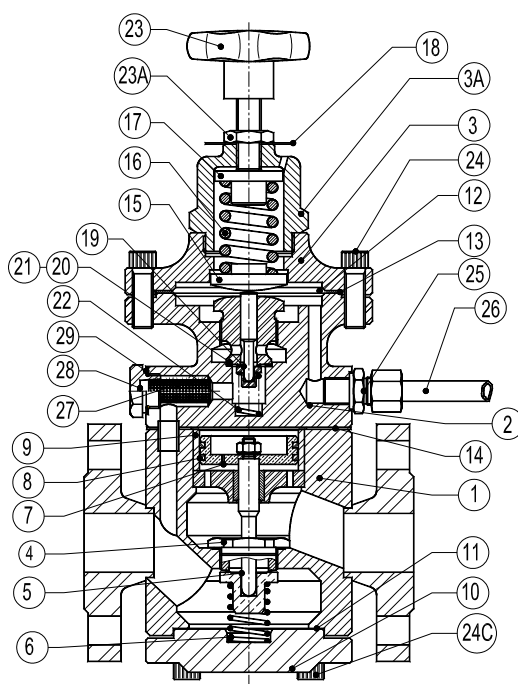
CE MARKING (PED - European Directive 97/23/EC)		
PN 25	PN 40	Category
DN15 to DN32	DN15 to DN 25	SEP - art. 3, paragraph3
DN40 to DN50	DN32 to DN50	1 (CE Marked)
DN 65 to DN80	---	1 (CE Marked)

PARTS LIST FOR PRV47:

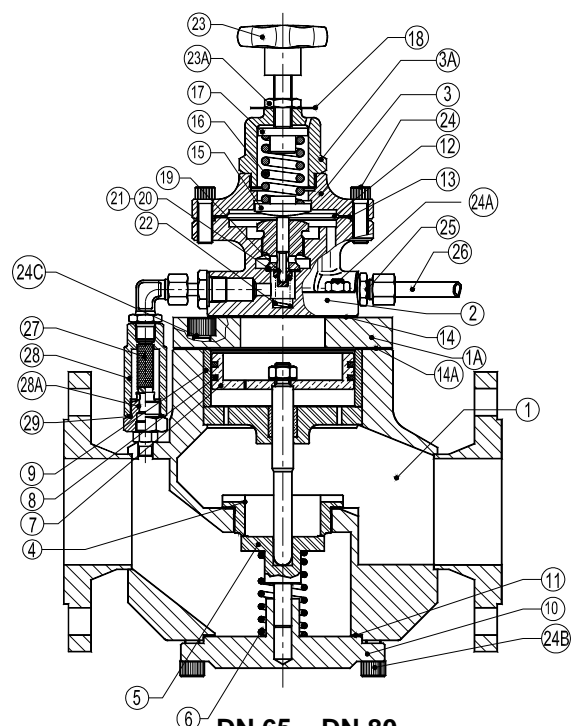
CODE	DESIGNATION	VALVE SIZE DN	POS.NR.	QTY.
VR.9570.002	Regulating spring 0,35 - 4 bar	All	16	1
VR.9570.005	Regulating spring 2 - 17 bar	All	16	1
VR.9571.001	Diaphragm & gasket	All	12, 13	1 set
VR.9574.001	Pilot valve, spring & gasket	All	19, 20, 21, 22	1 set
VR.9574.005	Strainer screen & gasket	All	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
19	ALL	250

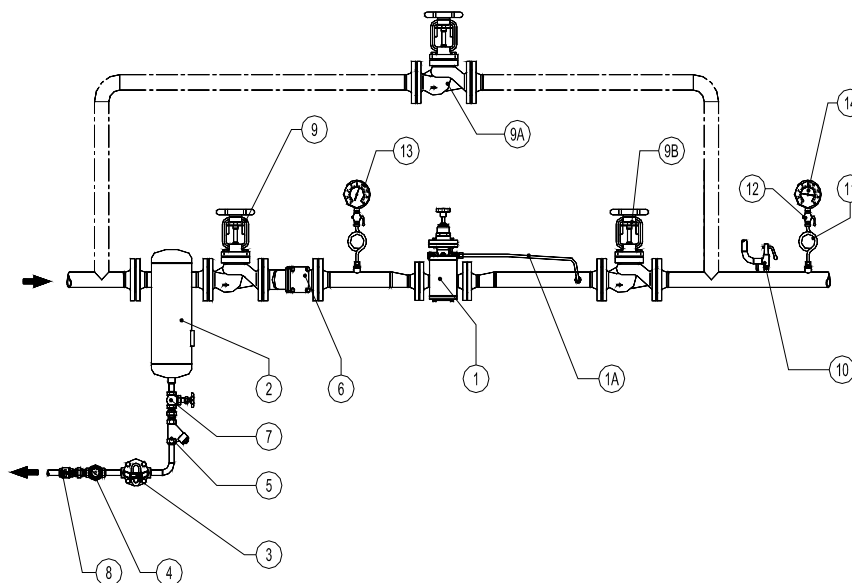


DN 15 – DN 50



DN 65 – DN 80

TYPICAL INSTALLATION



MATERIALS PRV 47		
POS.	DESIGNATION	MODEL
1	Pressure reducing valve	PRV 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	Globe Type
9	Stop valve	Globe or Gate Type
9A*	By-pass valve	Globe Type
9B	Stop valve	Globe or Gate Type
10	Safety valve	---
11	Coil	---
12	Gauge cock	GC-400
13	Upstream pressure gauge	MAN-100
14	Downstream pressure gauge	MAN-100

Remarks :

* By-pass is optional. In case the by-pass is not allowed than stop valve 9B should be placed after pressure gauge 14 allowing the isolation of safety valve.

PN classes and materials according to the operating pressures.

The balance pipe connection is recommend to enter downstream pipe at a minimum of 1 metre from valve.

Installation instructions are available (IMI – PRV47) and typical assembling drawing. Special assembling designs may be produced on request.

LOSS OF GUARANTEE: Total or partial disregard of above instructions involves loss of any right to guarantee.