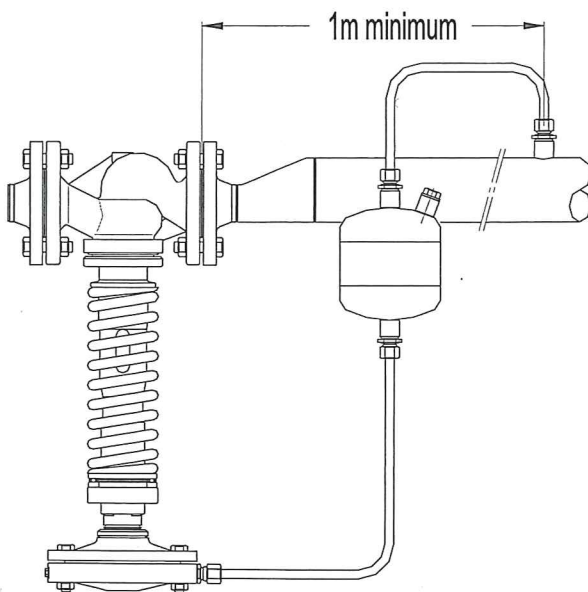
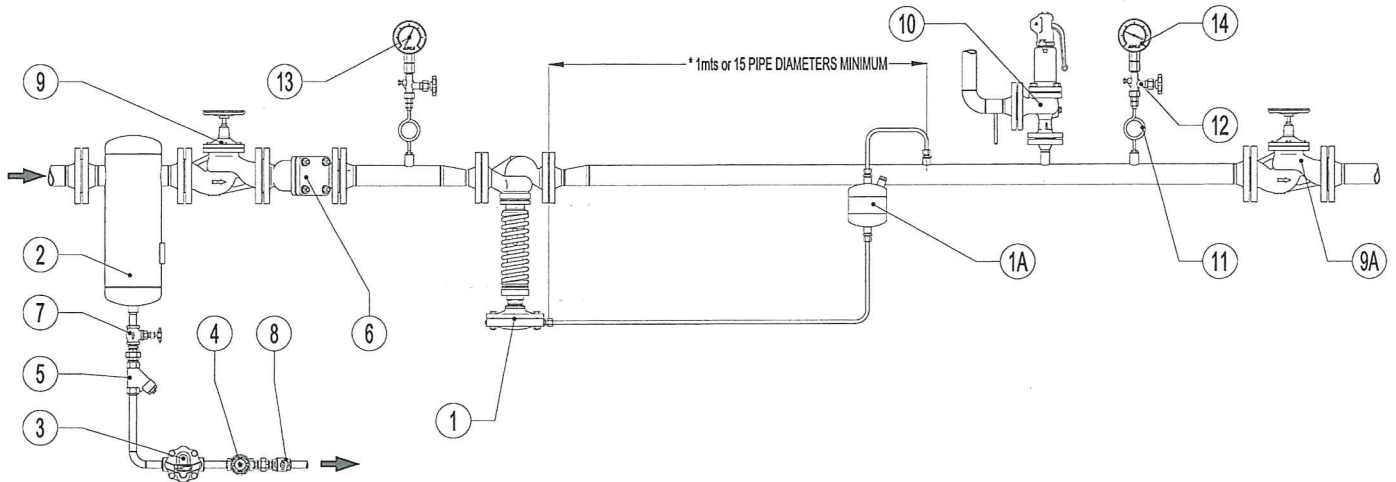


### Typical Installation



MATERIALS		
POS.	DESIGNATION	MODEL
1	Pressure reducing valve	ADCA RP45
1A	Water seal pot	POP
2	Humidity separator	ADCA S 25
3	Steam trap	ADCA FLT series
4	Sigh glass	ADCA SW 12
5	Y Strainer	ADCA IS 16
6	Y Strainer	ADCA IS16F
7	Stop valve	ADCA GV32B
8	Check valve	ADCA RT
9	Stop valve	ADCA VF16
9A	Stop valve	ADCA VF16
10	Safety valve	-
11	Coil	ADCA GSC-40
12	Gauge cock	ADCA GC-400
13	Upstream pressure gauge	ADCA MAN-100
14	Downstream pressure gauge	ADCA MAN-100

Remarks :

**By-pass** : if overpressure can not be accepted the use of by-pass is not recommended. In alternative , for critical process, two pressure reducing stations should be installed in parallel.

PN ratings and materials according to the operating pressures.

\* The balance pipe connection is recommended to enter downstream pipe at a minimum of 1 meter from valve.

Installation instructions are available (IMI-RP45) and typical assembling drawing.

Special assembling designs may be produced on request.

ACTUATOR AND SPRING SELECTION TABLE

VALVE SIZE DN	Kvs m <sup>3</sup> /h	ACTUATOR						
			A-4	A-3	A-2	A-21	A-1	A-11
15	4,8	Outlet (bar) Spring N°.	0,5 - 0,99 60	1,0 - 1,6 60	1,7 - 3,8 60	3,9 - 5,5 60	5,6 - 8,2 60	8,3 - 13 60
20	6,9	Outlet (bar) Spring N°.	0,5 - 0,99 60	1,0 - 1,6 60	1,7 - 3,8 60	3,9 - 5,5 60	5,6 - 8,2 60	8,3 - 13 60
25	9,1	Outlet (bar) Spring N°.	0,5 - 0,99 60	1,0 - 1,6 60	1,7 - 3,8 60	3,9 - 5,5 60	5,6 - 8,2 60	8,3 - 13 60
32	11,8	Outlet (bar) Spring N°.	0,5 - 0,99 60	1,0 - 1,6 60	1,7 - 3,8 60	3,9 - 5,5 60	5,6 - 8,2 60	8,3 - 13 60
40	14,4	Outlet (bar) Spring N°.	0,5 - 0,99 60	1,0 - 1,6 60	1,7 - 3,8 60	3,9 - 5,5 60	5,6 - 8,2 60	8,3 - 13 60
50	26,5	Outlet (bar) Spring N°.	0,5 - 0,99 61	1,0 - 1,9 61	2,0 - 4,2 61	4,3 - 6,9 61	7 - 8,5 64	8,6 - 13 64
65	51,5	Outlet (bar) Spring N°.	0,5 - 0,99 61	1,0 - 1,9 61	2,0 - 4,2 61	4,3 - 6,9 61	7 - 8,5 64	8,6 - 13 64
80	79,5	Outlet (bar) Spring N°.	0,46 - 0,99 62	1,0 - 1,9 62	2 - 5 62	5,1 - 8,9 62	9 - 13 65	/
100	129,5	Outlet (bar) Spring N°.	0,46 - 0,99 63	1,0 - 1,9 63	2 - 6 63	6,1 - 13 63	/	/

**Correction factors:**

The given capacities apply to the pressure reducing valves at **critical pressure drop** (downstream pressure in barg about 58% of the upstream pressure barg or lower). In case of **non-critical pressure drop** a correction factor must be used as follows:

No correction factor should be used for smaller pressure ratios than 0.7.

PRESSURE RATIO * P2 / P1	CORRECTION FACTOR f
≥ 0,7	1,25
≥ 0,8	1,6
≥ 0,9	2,25

\* Pressure ratio in bar abs (barg + 1)

**Superheated steam:**

If superheated steam is to be reduced instead of saturated steam a correction factor has to be applied as well, the required mass flow must be multiplied by the following factor :

$\frac{V_h}{V_s}$ , where  $V_h$  = specific volume of superheated steam and  $V_s$  = specific volume of saturated steam .

Remarks: maximum temperature PN16 – 200°C ; PN40 – 250°C.

**HOW TO SIZE ( using table for steam )**

**Example (valve selection) :** Saturated steam capacity: 300Kg/h; Upstream pressure: 3 bar; Downstream pressure required: 2bar.

**Solution:** First determine correction factor for pressure ratio:  $\frac{2+1}{3+1} = 0.75 \rightarrow f = 1.25$ .

Then multiply the given capacity:  $300 \times 1.25 = 375 \text{ Kg/h}$

Go to 3 bar in the column "bar" of the capacity table. By following the horizontal line you can find out the values for selection of pressure reducing valve. Looking for an equal or higher value than 300 Kg/h. In this case it will be 400 Kg/h. Now, go to the top of the table and read off the nominal size: DN32

On the actuator and spring selection table, for downstream pressure of 2 bar we may see that the recommended actuator is type A-2, considering the valve supplied with spring Nr.60.

**How to order:** RP45G DN32 PN16 valve complete with spring Nr.60, type A-2 actuator, condensate vessel and copper tube impulse line.

**HOW TO SIZE ( using Kvs ) :** please consult formulas on IS PV10.00 E or consult factory.

SATURATED STEAM CAPACITY TABLE (Kg/h) ( P2 < 0,58 P1 )									
INLET bar	VALVE SIZE								
	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
0,5	51	68	90	118	186	300	460	800	1250
0,75	63	84	112	146	230	360	580	1000	1550
1	75	100	133	175	280	430	700	1200	1850
1,5	100	133	175	240	360	590	910	1600	2500
2	126	170	230	290	450	730	1160	2000	3050
2,5	150	200	260	350	550	880	1390	2400	3600
3	175	240	310	400	640	1010	1600	2700	4300
4	220	290	390	510	800	1300	2000	3400	5400
5	260	350	480	620	1000	1600	2500	4200	6500
6	330	440	580	760	1220	1930	3000	5100	8000
7	400	520	700	910	1430	2300	3600	6100	9500
8	450	600	800	1040	1670	2700	4100	7100	11000
9	500	670	880	1180	1800	2900	4600	7800	12000
10	560	750	980	1300	2000	3200	5100	8500	13500
12	680	900	1180	1540	2500	4000	6100	10500	16300
14	800	1050	1400	1850	2900	4700	7200	12600	19000
16	920	1230	1630	2150	3400	5500	8300	14600	22000
18	1040	1400	1860	2450	3800	6200	9500	16600	25000
20	1170	1540	2100	2700	4200	7000	10800	18600	28000
22	1330	1780	2350	3050	4900	7800	12200	21000	32000
24	1500	2000	2600	3400	5400	8700	13700	23500	36000
25	1600	2150	2800	3600	5700	9200	14500	25500	38000