



COSPECT® AIR PRESSURE REDUCING VALVE

MODEL ACOS-10 DUCTILE CAST IRON
STAINLESS STEEL

SELF-ACTUATED PRESSURE REDUCING VALVE WITH SHOCK-ABSORBING PISTON

Features

Technologically advanced pressure reducing valve combined with condensate separator and air trap provides accurate control and air conditioning to maximize process system performance.

1. Space-saving unit simplifies system layout, piping and maintenance.
2. Self-aligning shock-absorbing spherical piston and advanced pilot regulator designs maintain secondary air pressure accuracy, even during adverse process conditions.
3. Built-in cyclone separator, with condensate separation efficiency as high as 98%, and self-modulating free float air trap provide dry, high-quality air supply.
4. Major internal components made of stainless steel for long service life.
5. Large surface area integral screens for pilot valve and main valve extend trouble-free service.
6. Internal secondary pressure-sensing channel makes external sensing line unnecessary.

Pressure Equipment Directive (PED)

Classification according to PED 2014/68/EU, fluid group 2

Size	Category	CE marking
DN 15 to DN 40	—*	Art. 4, Sec. 3 (sound engineering practice), CE marking not allowed
DN 50	I	With CE marking and Declaration of Conformity

* Manufactured in accordance with sound engineering practice



Specifications

Model	ACOS-10	
Body Material	Ductile Cast Iron (GGG40.3/EN 5.3103)	Cast Stainless Steel (A351/A351M Gr.CF8 or CF8M) (equiv. to 1.4312 or 1.4410)
Connection	Flanged DIN	Flanged DIN
Size	DN 15, 20, 25, 40, 50	
Maximum Operating Pressure (barg) PMO	9	
Maximum Operating Temperature (°C) TMO	100	
Primary Pressure Range (barg)	1 – 9	
Adjustable Pressure Range (barg)	0.5 – 7	
Minimum Differential Pressure (bar)	0.5	
Minimum Adjustable Flow Rate	10% of rated flow rate	
Applicable Fluid*	Air	

* Do not use for toxic, flammable or otherwise hazardous fluids.

1 bar = 0.1 MPa

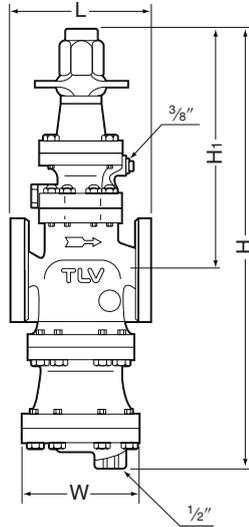
PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA: 16
Maximum Allowable Temperature (°C) TMA: 220
Minimum Allowable Temperature (°C): 0 (GGG40.3/EN 5.3103), -40 (CF8/CF8M)



To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

Dimensions

● **ACOS-10** Flanged



ACOS-10 Flanged (mm)

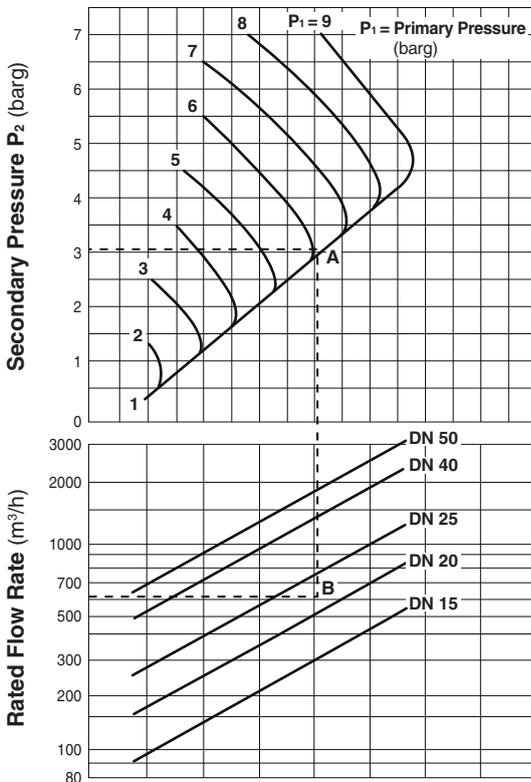
DN	L		H	H ₁	W	Weight* (kg)
	DIN2501	PN25/40				
15**	150		495	285	105	15
20						
25	160		522	282	150	20
40	200		572	302	165	27
50	230		635	315	195	44

Other standards available, but length and weight may vary

* Weight is for ductile cast iron

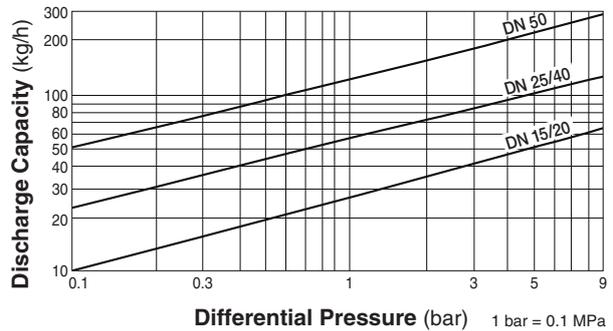
** Flange to flange dimension of DN 15 is not according to DIN standard, due to size of separator and steam trap

Sizing Chart



Rated flow rates represent equivalent flow rates of air at 20°C under atmospheric pressure.

Discharge Capacity



1. Differential pressure is the difference between the inlet pressure of the ACOS-10 and the outlet pressure of the trap.
2. Capacities are based on continuous discharge of condensate below 100°C with specific gravity of 1.

CAUTION DO NOT use this product under conditions that exceed maximum differential pressure, as condensate backup will occur!

Sizing Example (see sizing chart at left)

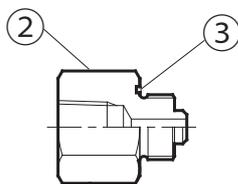
For primary pressure of 8 barg, set pressure 3 barg and air flow rate 600 m³/h select an appropriate size.

1. Locate intersecting point A of 8 barg primary pressure and 3 barg set pressure. Go to point A and down until 600 m³/h, point B, is reached.
2. Since point B is located between DN 20 and DN 25, the larger size, DN 25, should be chosen.

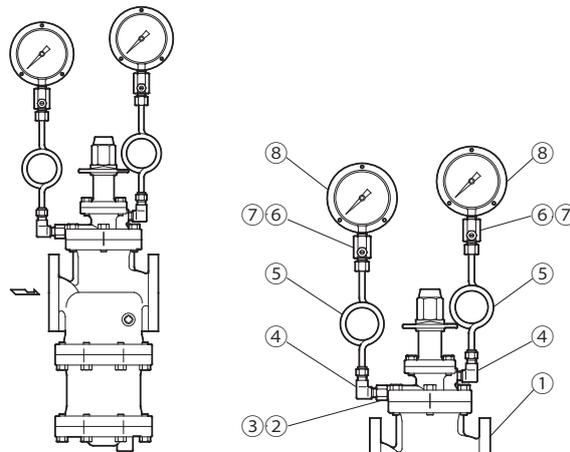
Option

Pressure Gauge Unit	Replaces the standard screen holder plug to enable installation of a pressure gauge of the user's choice. Primary side: M16 holder plug (male/female), BSP/Rc(PT)/NPT 3/8. An elbow is required for pressure gauge installation. Secondary side: Rc(PT) 3/8 mounting port for elbow and pressure gauge installation.
	Elbows, pressure gauge and connecting parts must be purchased separately.

● Configuration



● Installation Example



NOTE: For explanation purposes, a siphon tube style pressure gauge will be used. However, the instructions also apply to cooling tower-style pressure gauges.

No.	Part Name	No.	Part Name
1	Valve Body	5	Siphon Tube*
2	Holder Plug	6	Dampener*
3	Holder Plug Gasket	7	Dampener Gasket*
4	Elbow (male/female)*	8	Pressure Gauge*

* Purchase separately

Manufacturer
TLV CO., LTD.
 Kakogawa, Japan
is approved by LRQA Ltd. to ISO 9001/14001

