

SD 45 Series Annubar Flowmeter

Product Features

■ Wide range of applications

Annubar flowmeter is a new type of differential pressure flow measuring element. It can be used to measure gas, steam and liquid, and is widely used in electric power, petroleum, metallurgy, water treatment, chemical industry, environmental protection and so on.

■ Simple structure and easy installation

Annubar flowmeter have the advantage of simple structure, easy installation, disassembly and small maintenance.

■ Low press loss

Annubar flowmeter makes the pipelines more open, which reduces the permanent pressure loss.

■ Suitable for large pipe facilities

Based on low cost, light weight and easy installation, it's very suitable for large pipe facilities.

Working Principle

Annubar Flow Meter, it is a hollow metal rod inserted along the diameter of the pipe, and the pressure hole is formed in the direction of the flow direction of the flow. The multi-point pressure hole in the flow surface is measured by the total pressure, which is connected to the full pressure pipe, and the average total pressure P1 is raised, and a pressure hole is opened in the center of the back flow surface, which is connected with the static pressure tube, which leads to the static pressure P2. It is used to measure the flow rate by measuring the difference between the total pressure and static pressure of the measured fluid.

Flow formula:

$$Q_v = \frac{\pi}{4} \cdot D^2 \cdot \alpha \cdot \epsilon \cdot \sqrt{\frac{2\Delta p}{\rho_1}}$$

$$Q_m = \frac{\pi}{4} \cdot D^2 \cdot \alpha \cdot \epsilon \cdot \sqrt{2\Delta p \cdot \rho_1}$$

where: Q_m , Q_v — for mass flow (kg/s) and volume flow (m³/s)

α — flow coefficient

ϵ — expansibility factor

D — pipeline inner size (m)

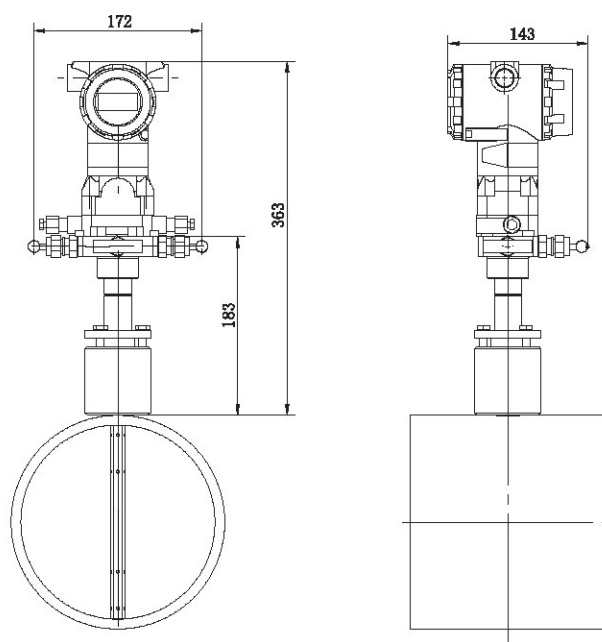
ρ_1 — density of the measuring fluid (kg/m³)

Δp — differential pressure (Pa)

Main Technical Parameters

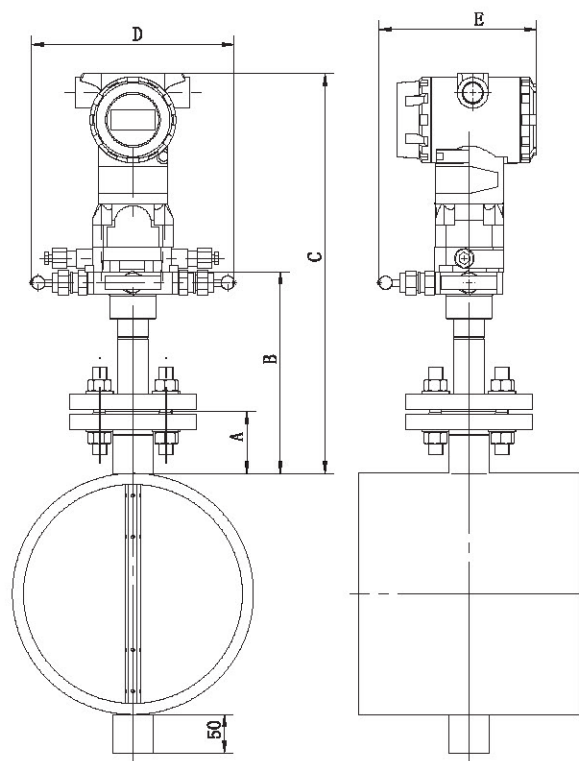
Medium	Gas/ Steam	Liquid
Accuracy	$\pm 1.5\%$	$\pm 1.0\%$
Repeatability	0.3%	0.2%
Nominal diameter	DN80~DN2000	
Range ratio	$\geq 10:1$	
Operating pressure	$\leq 42\text{MPa}$	
Medium temperature	$\leq 800^{\circ}\text{C}$	
Straight pipe requirement	Upstream pipe 7-24 D, downstream pipe 3-4 D	

Dimensions of the Annubar Flow Meters



Pak-Lok type installation diagram

Dimensions of the Annubar Flow Meters



Flange type installation diagram

Flange	Pressure	A	B	C	D	E
DN25	PN10-PN160	120	280	460	184	143
	CL150-CL600	120	280	460	184	143
	CL900-CL1500	150	300	480	184	143

Order Information

Model	SD 45																		
Installation type																			
Pak-Lok	P																		
Flanged with opposite side support	F																		
Diameter (mm)																			
XXX (DN80-DN2000)	XXX																		
Way out of factory																			
Integral	T																		
Non-integral	S																		
Match transmitter																			
No	A																		
D/P transmitter	B																		
Sensor material																			
316L SST	A																		
Others	Z																		
Rated pressure																			
PN16	3																		
PN25	4																		
PN40	5																		
PN63	6																		
PN100	7																		
PN160	8																		
PN250	9																		
CL150 (ANSI/ASME)	A1																		
CL300 (ANSI/ASME)	A2																		
CL600 (ANSI/ASME)	A3																		
CL900 (ANSI/ASME)	A4																		
CL1500 (ANSI/ASME)	A5																		
Others	Z																		
Temperature range																			
Middle-low temperature ($\leq 400^{\circ}\text{C}$)	/L																		
High temperature ($> 400^{\circ}\text{C}$)	/H																		
Mounting assembly material																			
Pak-Lok mounting base CS	/1																		
Pak-Lok mounting base 304	/2																		
Pak-Lok mounting base 316L	/3																		
Flanged mounting base CS	/4																		
Flanged mounting base 304	/5																		
Flanged mounting base 316L	/6																		
Other accessories																			
3-valve manifold 304	/E																		
3-valve manifold 316L	/F																		
Special requirement																			
NACE processing	/N																		
Others	/Z																		

Note:

1. This product can only match Rosemount Differential Pressure Transmitter.
2. This product can not choose the process of "Oil-free degreasing".