



ALBRPD

POSITIVE DISPLACEMENT FLOWMETERS

SERIES ALBRPD meters

GENERAL

Alia Bi-Rotor Positive Displacement flowmeter (ALBRPD)

The Alia Bi-Rotor PD flowmeters, has a measuring chamber which are a pair of rotators having special spiral gear teeth called helix rotators, and having interior casing, with top & bottom cover plates. These formed a cavity with known volume which is covered into a volumetric flow rate. The rotators rotates under the tiny pressure difference between the inlet and outlet and continually sends the liquid at inlet to the outlet after cavity chamber. The rotator transmits the rotating numbers to the counter by means of sealed coupling and driving system so that the total volume of the liquid passing the flow meter can be directly displayed. Our unique design allows the elimination of pulsating flows in the flow stream. The special sands proof and self-lubricant designing can measure sands content and high water contain oil.



FEATURES

- Superior Accuracy to 0.1% and over 30:1 turn-down
- Uniform rotation means low pressure loss
- No metal-to-metal contact means long service lifetime
- Self-lubrication
- Very low noise and vibration
- Reduced number of parts reduces maintenance requirements
- Double case construction avoids loss of calibration due to changes in pressure or temperature

SPECIFICATION

ALBRPD

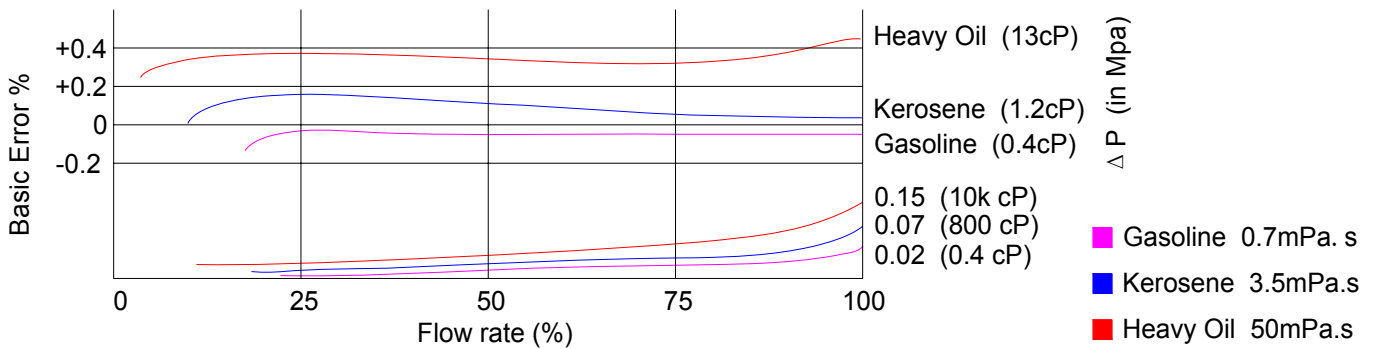
- Flow range: up to 2000 M3/hr
- Line size : 8-400mm in flanges (ANSI and DIN)
- Operating pressure: max. 64 bar
- Process temperature: -30°C~+250°C
- Body Material: Stainless Steel 304 and Carbon Steel
- Viscosity: 0~20000mPa.s
- Housing protection: IP 65 Exd II BT4
- Working Temperature: -40°C~+80°C
- Working Humidity: <90%@+25°C
- Accuracy: ±0.1%
- Repeatability: ±0.01%
- Pulse Output: (DC24V±5%, VH≥20V,) VL<1V and output load <200Ω)
- Current Output: 4-20mA, (two wire system and 0~600Ωoutput load)
- Digital output: RS485/RS232 communication with Modbus RTU (powered by DC24V±5% and <60mA)
- Display: rate, total, low flow cut-off, battery consumption,
- User parameters: K-factors, linear correction coefficient flowrate input signal section points, temperature and pressure compensation, set pulse output range, decimal adjustment, etc..
- communication baud rates: User selectable (1200 ,2400, 4800 or 9600)



ALBRPD Flow range in m3/h

Size (in mm)	viscosity (in mPa.s)							Pulse (liter/pulse)
	0.32-0.8	0.8-2	2-5	5-50	500-400	400-2k	2k-20k	
	Gasoline & liquefied gas	Kerosene	Light diesel	Crude oil,	heavy oil	Hi-viscosity Liquid	High water content & super-high viscosity	
8	0.10-0.3	0.07-0.3	0.06-0.3	0.06-0.3	0.06-0.3	0.06-0.27	0.06-0.24	0.001
15	0.33-1	0.25-1	0.2-1	0.2-1	0.2-1	0.2-0.9	0.2-0.8	
25	1.2-6	1.5-6	1.2-6	1.2-6	1.2-6	1.2-5.4	1.2-5	
40	11-22	9-22	7.5-22	7.5-22	7.5-22	4-22	3.3-10	0.01
50	18-36	14.4-36	12-36	12-36	12-36	7.5-22	6-28	
80	40-80	32-80	26.7-80	26.7-80	26.7-100	16-48	15-45	0.1
100	50-100	40-100	34-100	34-100	34-100	24-72	20-60	
150	115-220	90-220	73-220	73-220	73-220	40-120	30-90	
200	180-360	144-360	120-360	120-360	120-360	60-180	50-150	
250	270-540	216-540	180-540	180-540	180-540	100-300	60-180	
300	450-900	360-900	300-900	300-900	300-900	200-600	150-450	
400	800-1600	640-1600	530-1600	530-1600	530-1600	400-1200	300-900	

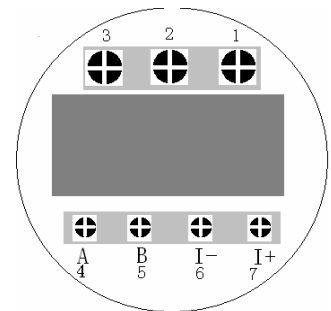
Pressure drop



Output Options



- Electronic transmitter (option D)- requiring all outputs
- Electronic Transmitter (Input/Output)
- 1 (+): DC24V+
- 2 (P): Pulse output
- 3 (-): DC24V-
- 4 (A): RS485 output A
- 5 (B): RS485 output B;
- 6 (I-): 4~20mA output "—"
- 7 (I+): 4~20mA output "+".



Mechanical counter (option J)



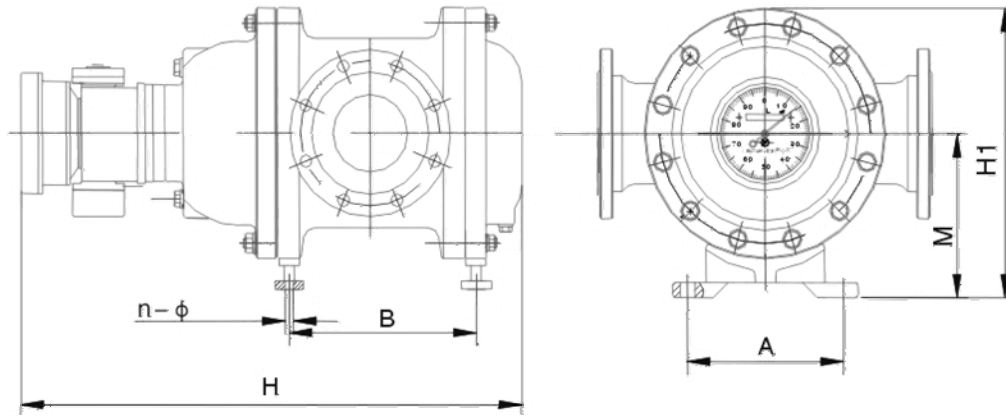
Smith meter Mechanical counter (option M)



Analog output (pulse or 4-20mA) generator (option F)



Horizontal installation dimension

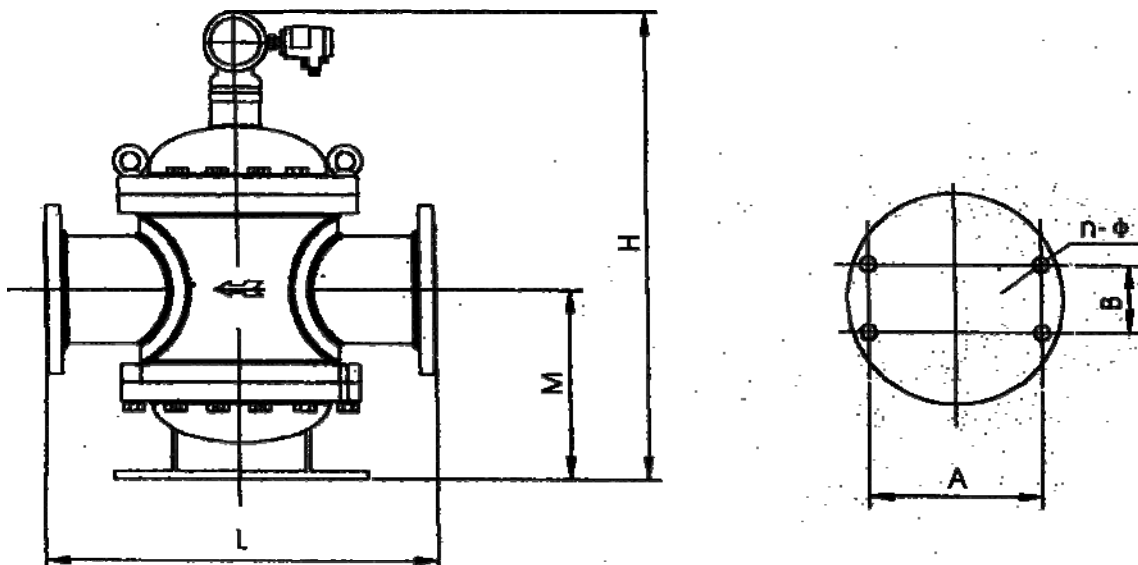


Size Dia. mm	Flange space L		Total height H	Center height M	Install hole space A × B	Bolt hole size n-Φ	Mass Kg
	STD	Special					
8	82*	180/150	260	35			5
15	180	200	300	55			10
25	200	250	350	80			15
40	250	300	500	130			40
50	360	378	580	140			70
80	400	380	700	230			140
100	450	500**	700	260	250×220	4-Φ20	180
150	560	650**	800	290	250×270	4-Φ20	320

* Connection to be conical tube thread 1/8"

** Nominal pressure is 6.4MPa.

Vertical installation dimension



Size Dia. mm	Flange space L		Total height H	Center height M	Install hole space Footing A × B	Bolt hole size n-Φ	Mass Kg
	STD	Special					
100	450	500	700	260(280)	340×215	4-Φ23	180
150	560	650	800	290(310)	450×240	4-Φ23	320
200	700		1180	450	445×200	4-Φ23	560
250	1000		1210	500	524×250	4-Φ25	1000
300	1000		1460	640	645×300	4-Φ25	1460
400	1200		1700	700	700×300	8-Φ25	2000

**** Please contact your local Alia application engineer**

You also need to provide the following information:

Name of liquid	We need the name of your liquid.
Density	Operating density
Viscosity	Operating viscosity
Pressure	Operating Pressure
Temperature	Operating Temperature
Full Scale Flow (Max/Min flow)	Indicate maximum and minimum flow rates, units must be Kg/hr, Lb/hr, LPM or gpm, etc..
Line Size	we need to know your pipe size as well connection type (flange, threaded, etc..)
Allowable pressure drop	Allowable pressure drop (see graph below) that your process can withstand
Type of Electronics	Indicate if you want integral, remote panel or remote wall mounted
Power Requirements	Specify your power requirements such as 24 VDC or 220 VAC

Model Selection Guide

ALBRPD										
Example ALBRPD-015-D-1.6-316S-B										
ALBRPD-	**	**	**	**	**	**	**	**	Description	
Nominal Dia: 8mm	008								Sizes and flow rates	
Nominal Dia: 15mm	015									
Nominal Dia: 25mm	025									
Nominal Dia: 40mm	040									
Nominal Dia: 50mm	050									
Nominal Dia: 80mm	080									
Nominal Dia: 100mm	100									
Nominal Dia: 150mm	150									
Nominal Dia: 200mm	200									
Nominal Dia: 300mm	300									
Nominal Dia: 400mm	400									
Electronic transmitter (including pulse or 4-20mA)	D								Transmitter Options	
Round Mechanical counter	J									
Square mechanical Counter (total flow only)	M									
Square mechanical Counter (from Smith meters)	M1									
Analog outputs Pulse or 4-20mA	T									
1.6 Mpa		1.6								Pressure
2.5 Mpa		2.5								
4.0 Mpa		4								
6.4 Mpa		6.4								
Rotator is cast. steel		G								Rotar & casing material
Rotator is 304 st. steel		S304								
Rotator is 316 st. steel		S316								
Casing & rotator: 304 st. steel		SS304								
Casing & rotator: 316 st. steel		SS316								
Work temp. -20°C ~ +80°C		A								Application temperature
Work temp+80°C ~ +150°C		B								
Work temp+150°C ~ +250°C		C								
Extra Analog output for mechanical counters - Pulse								FP	additional analog output to mechanical counters	
Extra Analog output for mechanical counters - 4-20mA								FI		