ALBRPD

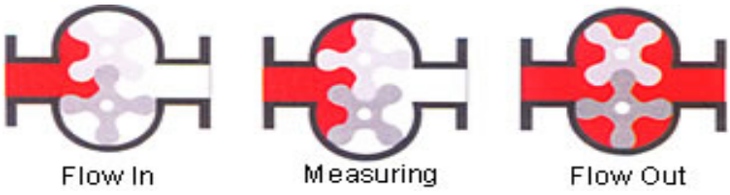
POSITIVE DISPLACEMENT FLOWMETERS

SERIES ALBRPD meters

GENERAL

SMC Bi-Rotor Positive Displacement flowmeter (ALBRPD)

The SMC Bi-Rotor PD flowmeter features two precisely machined rotating members known as helical rotors which rotate and mesh within the meter's interior housing in order to form a measuring chamber of known volume which may be used to accurately determine volumetric flow rate as a function of the rotors' velocity. The helical rotors' motion is transmitted to the display via a sealed coupling & drive system that enables the display to provide accurate data for both flow rate and total accumulated flow. The unique helical rotor design provides a number of advantages over traditional gear-type PD meters including reduced pressure drop, the virtual elimination of down-stream pulsations, enhanced particle tolerance, and reduced maintenance. The advantages provided by the helical rotor make the SMCPD an ideal choice for many applications including oil-in-water media and fluids with entrained solids.



FEATURES

- Superior accuracy of up to 0.1% of reading (standard accuracy is 0.5%)
- Uniform rotation means low pressure loss
- No metal-to-metal contact provides for long service lifetime
- Self-lubricating
- Very low noise and vibration
- Reduced number of parts reduces maintenance requirements
- Rugged double case construction prevents loss of calibration due to changes in pressure or temperature
- NIST traceable calibration certificate

SPECIFICATIONS

ALBRPD

- Flow range: up to 8800 GPM (2000 m^3/hr)
- Line size : ¼"-16" (8-400mm) ANSI or DIN Flange
- Operating pressure: max. 930 psig (64 bar)
- Process temperature: -22 ~ 480 °F (-30°～ 250°C)
- Body Material：Stainless Steel 304 and Carbon Steel
- Viscosity: 0～20,000 cP
- Enclosure rating: NEMA 4 (IP 65)
- Working Temperature: 104 ~ 176 °F (40°～80°C)
- Working Humidity: ＜90% @ 75 °F (22 C)
- Approvals: UL, CSA,Class I, Division I, Groups B, C & D Class II, Division I, Groups E, F & G
- Accuracy: Standard ±0.5% with accuracies of ±0.2% or ±0.1% available*** notes: Higher accuracies of 0.1% or 0.2% are extra charge
- Repeatability: ±0.01%
- Pulse Output: ($24V_{DC}$±5%, V_H≥20V,) V_L<1V and output load ＜200Ω)
- Current Output: 4-20mA, (two wire system w/ 600Ω max loop load)
- Digital output: RS485/RS232 communication with Modbus RTU (powered by $24V_{DC}$±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..

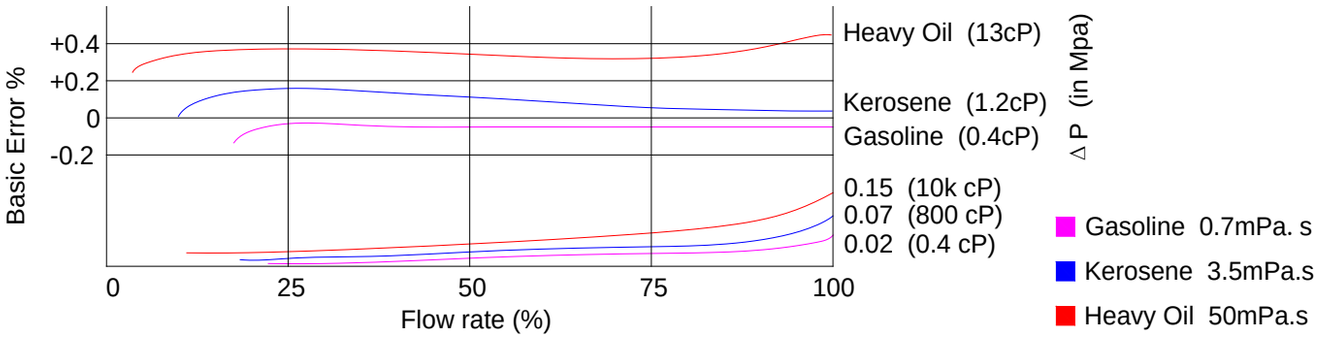
10437 Innovation Drive, Milwaukee, WI 53226 USA
TEL：+1-414-299-3896 FAX：+1-414-4331606
URL : http://www.smartmeasurement.com
E-mail : sales@smartmeasurement.com

ALBRPD Flow range in m^3/h

Size (in mm)	viscosity (in mPa.s)							Pulse (liter/pulse)
	0.32-0.8	0.8-2	2-5	5-50	50-400	400-2k	2k-20k	
	Gasoline & liquefied gas	Kerosene	Light diesel	Crude oil,	heavy oil	Hi-viscosity Liquid	High water content & super-high viscosity	
8	0.06-0.3	0.05-0.3	0.03-0.3	0.03-0.3	0.03-0.3	0.03-0.27	0.03-0.24	0.001
15	0.6-3	0.4-4	0.4-4	0.4-4	0.4-4	0.3-2.4	0.3-2.4	
25	3.0-8.0	1.5-10	1-10	1-10	1-10	1-8	1-6	
40	8-20	2.7-22	2.5-25	2.5-25	2.5-25	2.1-18	1.5-12	0.01
50	9-36	4.5-36	4-40	4-40	4-40	2.8-24	2.2-18	
80	25-100	30-90	10-90	10-100	10-100	10-90	5-50	0.1
100	30-120	15-120	15-150	15-150	15-150	10-90	8-70	
150	55-225	31-250	25-250	25-250	25-250	18-150	12-100	
200	90-360	50-400	40-400	40-400	40-400	28-240	20-160	
250	135-540	68-540	60-600	60-600	60-600	42-360	30-240	
300	220-900	112-900	100-1000	100-1000	100-1000	70-600	54-450	
400	400-1600	200-1600	180-1800	180-1800	180-1800	130-1100	90-750	

Note: flow rates are based on 0.5% accuracy, which is the highest turn-down

Pressure drop



Option -SMS-716

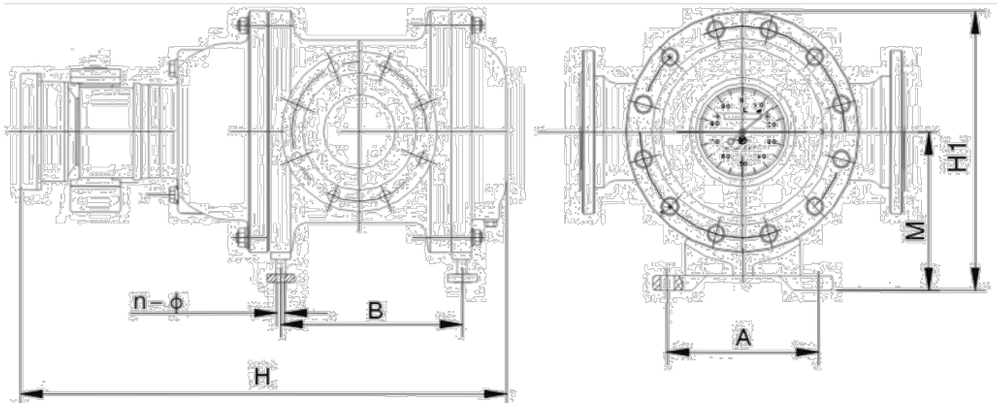
- **Vehicle Mount Enclosure; Rugged Aluminum -Construction**
- **Advanced Batching Features: Overrun Compensation, Autobatch Start, Print End of Batch, Slow Fill, 2 Stage Batching**
- **Menu Selectable Hardware & Software Features**
- **Enhanced Modem Features for Remote Metering**
- **On Board Data Logging**
- **Menu Selectable Hardware & Software Features**
- **RS-232 Port Standard, RS-485 Optional,: Modbus RTU (Half Duplex)**
- **Universal Viscosity Curve (UVC) and API Eq**
- **UL/ULC, CE ,Class I, Div II Option Available**

Mechanical counter (option J)

Smith meter Mechanical counter (option M)

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

Horizontal installation dimension

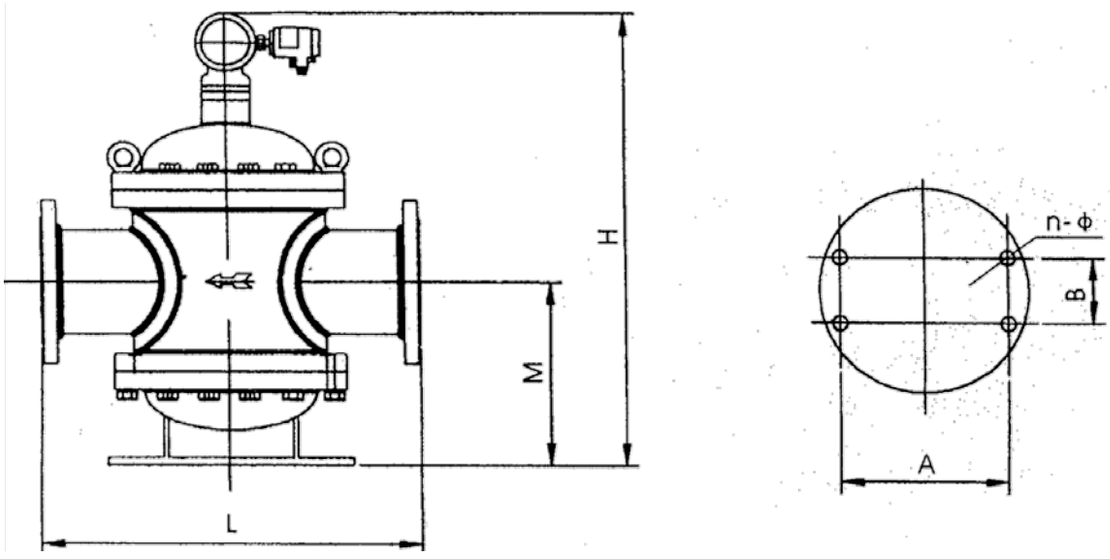


Size	Flange space L		Total height H	Center height M	Install hole space A × B	Bolt hole size n-Φ	Mass Kg
Dia. mm	STD	Special					
8	82*	180/150	260	35			5
15	180	200	300	55			10
25	200	250	350	80			15
40	250	300	500	130			40
50	360	378	580	140			70
80	400	380	700	230			140
100	450	500**	700	260	250×220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

You also need to provide the following information:

Name of liquid	Please provide the name of the liquid, density, viscosity, pressure and 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	Please provide the pipe size as well connection type (flange, threaded, etc..)
Allowable pressure drop	Please specify the maximum pressure drop that your process can withstand
Type of Electronics	Indicate if you want integral, remote panel or remote wall mounted electronics
Power Requirements	Specify your power requirements such as 24 V_{DC} or 220 V_{AC}

Model Selection Guide

ALBRPD								
Example ALBRPD-5-015-D-1.6-316S-B								
ALBRPD-	**	**	**	**	**	**	**	**Description**
Standard accuracy - 0.5% of reading	5							Accuracy
High accuracy - 0.2% of reading	2							
High accuracy - 0.1% of reading	1							
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 couter			J					
Flow Totalizer, Ratemeter and Batcher for Vehicle & Skid Mounting			SMS716					
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				4.0				
6.4 Mpa				6.4				
Rotator is cast. steel					G			Rotor & 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 mechnical counters - Pulse							FP	Options
Extra Analog output for mechnical counters - 4-20mA							FI	
NEPSI Approved, Exd II CT2~T6 - for Electronic counter							EX	
CSA Approved Class 1 Div 1 - for Electronic counter							CSA	
ATEX Approved Class 1 Div 1 - for Electronic counter							ATEX	
Special fluid: gasoline or liquid gas							SF	
Warming jacket for heat preservation (steam or oil)							HJ	