

3" BiRotor Models B070, B07CB, B071, B073, B074, B075

Description

The BiRotor Meter is a positive displacement meter utilized in the most demanding applications requiring accuracy, long life and ruggedness. The electronic "P" Series meter configuration features a sealed measuring chamber with one reluctance type electronic sensor. The sealed electronic sensor transmits amplified signals to local or remote instruments. A second optional sensor is available to allow dual channel pulses that are 90 degrees electrically out of phase.

Accuracy is attained by the unique BiRotor design which features two finely balanced rotors. An adjuster, incorporated on the meter, is used to assure maximum accuracy within the meter's flow range (Mechanical Only).

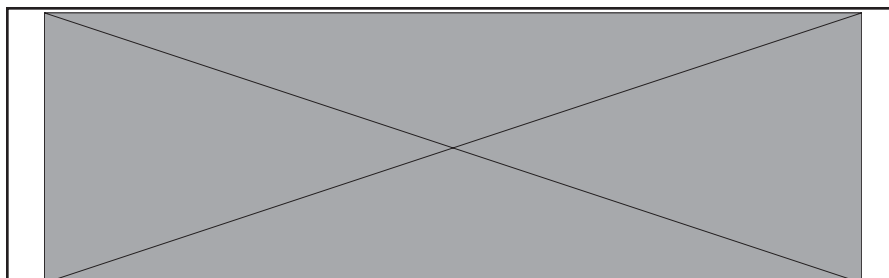
Long Life is assured because the meter does not contain any oscillating, reciprocating, sliding parts or cranks to wear or disturb the balanced rotary action. In addition, the materials incorporated within the meter assembly are selected specifically for a wide range of petroleum and industrial liquid applications.

Electrical Classification (P-Style)

Class 1, Groups C & D, Division 1, Explosion proof; Recommended connecting cables Belden 8770, 3 Conductor Shielded, 18 gauge stranded. Maximum recommended cable length 3000 feet (914 meters). Input power: 6-28 Vdc at 20 mA, Output Signal: TTL (0-5V) or voltage dependent.

Principle of Operation

Two spiral fluted rotors within the measuring unit are dynamically balanced to minimize bearing wear. (Refer to Figure 1). As the product enters the intake of the measuring unit, the two rotors divide the product into precise segments of volume momentarily and then return these segments to the outlet of the measuring unit. During this "liquid transition", the rotation of the two rotors is directly proportional to the flow rate of the liquid thruput. A gear train

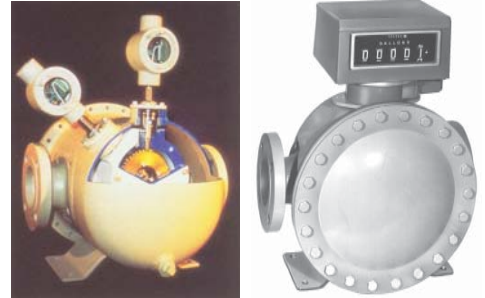


Flow Capacity

425 GPM
1,608 LPM
607 BPH

*Intermittent Flow Capacity

550 GPM
2,081 LPM
785 BPH



**5 hours or less in a 24 hour period*

WARNING

Do NOT operate this instrument in excess of the specifications listed. Failure to heed this warning could result in serious injury and/or damage to the equipment.

located outside the measuring unit chamber conveys mechanical rotation of the rotors to a mechanical or electronic register for totalization of liquid thruput. For P-Style units, a pulse verification gear located outside the measuring unit chamber conveys mechanical rotation of the rotors to the sensor and to the electronic register for totalization of liquid thruput.

Design Features

- Extremely long service life
- Economical low maintenance
- Two simple rotors with no metal-to-metal contact are the only moving parts in the measuring chamber.
- No oscillating, reciprocating or sliding parts or cranks to wear or disturb the balanced rotary action.
- Conforms with International standards of flowmeter accuracy.

Accessories (Mechanical)

- Preset Counters
- Control Valves
- Pulse Transmitters
- Ticket Printers
- Large Numerical Registers
- Strainers

Accessories (P-Style)

- Electronic Register
- Preamp
- Dual Pickoffs for "B" Level Pulse Security

Materials of Construction

Housing: Welded Steel Construction Combining Steel Castings and Drawn Steel Plate

Measuring Unit:

Rotors: Three Lobe Rotor - Cast Iron
Four Fluted Rotor - Aluminum

Rotor Shafts: E.T.D. 150

Rotor Bearings: Stainless Steel

Body and End Covers: Cast Iron

Counter Base Plate:

Body: Steel

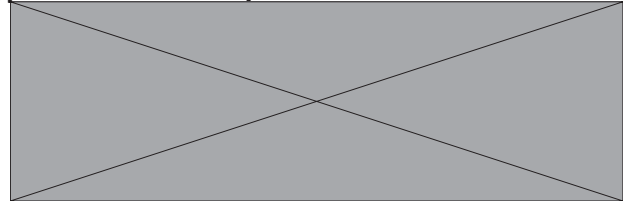
O-Ring: Viton (Standard)

Drive Shafts, Drive Gears, and Ball Bearings: Stainless Steel

Accuracy:

Capable of +/- 0.15%; Contact Factory for viscosity corrections.

Typical Pressure Drop Curve



Ordering Information

In order to accurately process an order, such information as product to be metered, product viscosity, product temperature range, ambient temperature range, rate of flow, operating pressure, units of registration, accessories required, and optional features needed must be specified by the customer.

K-Factor/Pulses (P-Style)

Electronic Pulses (K-Factor)	Gallons	Liters	BBL
	100	26.4	4,200

Flange Connections

Model	Connections	Max Working Pressure @ 100F	DIN Connections	Max Working Pressure
*B070	3" 150# ANSI	150 PSI	DN 80 PN 16	10.3 Bar
B071	3" 150# ANSI	285 PSI	DN 80 PN 16	16 Bar
			DN 80 PN 40	19.6 Bar
B073	3" 300# ANSI	300 PSI	DN 80 PN 40	20.7 Bar
B074	3" 300# ANSI	740 PSI	DN 80 PN 40	40 Bar
			DN 80 PN 64	51 Bar
B075	3" 600# ANSI	1480 PSI	DN 80 PN 64	64 Bar
			DN 80 PN 100	100 Bar
B070CB	4" 150# ANSI	150 PSI	DN 80 PN 16	10.3 Bar

Shipping Weight and Volume (Approximate)	
B070, B070CB	160# @7.3 Cu. Feet 73 kgs@ .21 Cu. Meters
B071, B073	185# @7.3 Cu. Feet 84 kgs@ .21 Cu. Meters
B074	325# @7.3 Cu. Feet 147 kgs@ .21 Cu. Meters
B075	455# @7.3 Cu. Feet 206 kgs@ .21 Cu. Meters

Temperature Range: -20 to 150F (-29 to 66C) Optional 450F (232C)

*150# meters classified as Sound Engineering Practice under Pressure Equipment Directive

Flow Capacity

Meter Models B070, B071, B073, B074, B075		
	Maximum Flow	Minimum Flow
GPM	425	42
LPM	1608	158
BPH	607	60

Meter Model B070CB		
	Maximum Flow	Minimum Flow
GPM	550	55
LPM	2080	208
BPH	785	78

Accuracy: +/-0.25% on Mineral Spirits (2 cst)

For Certified Dimensional Prints - Consult Factory

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