Birotor Meter B-70CB

POSITIVE DISPLACEMENT METERS

Description

IE BiRotor Meter is a positive displacement meter utilized in the most demanding applications requiring accuracy, long life and reggedness. The Model B-70CB retains a high accuracy over a flow range of 55 to 550 gpm. Accuracy is attained by the unique BiRotor design, which features two finely balanced rotors. An adjustor, incorporated on the meter, is calibrated at the factory for maximum accuracy within the meters flow range. 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 were selected specifically for the wide range of petroleum and industrial products to be exposed to the meter assembly. Ruggedness is provided in the double case housing fabricated from steel castings and drawn steel plates. This protects the meter from adverse forces, such as pipe strain, vibration or external damage which the meter can be exposed to.

BIROTOR METER B-70CB

Principle Of Operation

The two aluminium spiral fluted rotors within the measuring chamber are dynamically balanced, but hydraulically unbalanced. (Refer to Figure 1). As the product enters the intake of the measuring unit chamber, the two rotors divide the product into precise segments of volume momentarily and then return these segments to the outlet of the measuring unit chamber. During this “liquid transition”, the rotation of the two rotors is directly proportional to the liquid thruput. A gear train located outside the measuring unit chamber conveys

Design Features

- Mounting can be either vertically or horizontally
- Applicable to either pump or gravity flow applications
- Calibration can be easily achieved while the meter is under pressure and with no loss of liquid product
- Conforms with international standards of flowmeter accuracy

Accessories

- The wide range of accessories such as preset counters, pulse transmitters, control valves, large numerical registers, ticket printers and strainers enable the meter assembly to be adapted to a wide range of liquid measurement or control systems. SPECIFICATIONS (Standard Meters) WARNING: Do not operate this instrument in excess of the specifications listed below. Failure to heed warning may result in serious personal injury or damage to equipment

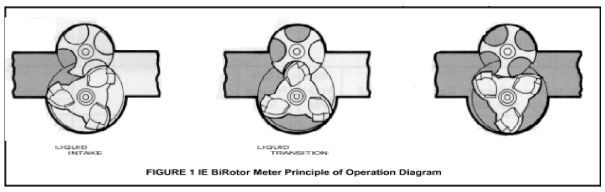
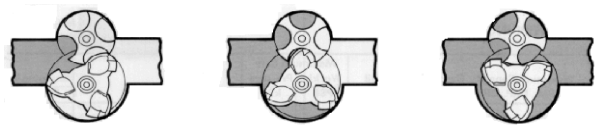


FIGURE 1 IE BiRotor Meter Principle of Operation Diagram



Materials of construction:

Housing: Welded steel construction combining steel

Castings and drawn steel plate

Measuring Unit: Rotors – heat treated Aluminum (Std.)

Rotor Shafts – ground and polished Nitralloy
Rotor Bearings – Stainless Steel
Body and End Covers – Nickel Cast Iron

Counter Base Plate: Body – Steel

O-ring – Viton (standard)
Counter Base Drive Gears – Stainless Steel
Drive Shafts – Stainless Steel
Drive Shaft Ball Bearing – Stainless Steel

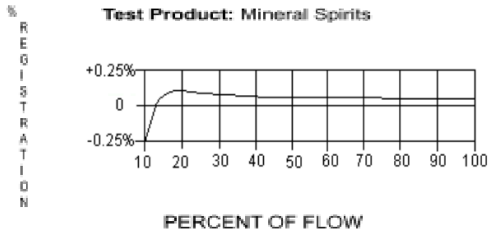
Flanges:

3” or 4” 150 lb. ANSI RF.

Pressure Rating:

150 psi (1034 kPa) maximum.

TYPICAL ACCURACY CURVE



Standard factory flow test – 20% to 100% capacity.

For extended range – consult factory.

Product temperature Range:

-20ºF to 150ºF; -29ºC to 66ºC.

Flow Capacity:

55 to 550 U.S. gpm; 46 to 458 imp. gpm; 79 to 785 Bbls. Per hour; 208 to 2,082 liters per minute

Shipping Weight and Volume (approximate)

147lb. @ 3.13 ft^3, 67 kg @ 0.09 m^3

Dimensions

See Figure 2

Optional Meter Assemblies

Optional BiRotor Meter Assemblies can be obtained with any of the following specifications:

1. All ferrous Materials of Construction.
2. Liquid product temperature ranges up to 325°F (163°C).
3. Extra rotor clearance for viscosities above 10,000 S.S.U. (2,157 Centistokes)
4. Steam jacketed meter housing up to 325°F (163°C).
5. Custom inlet and outlet connections.

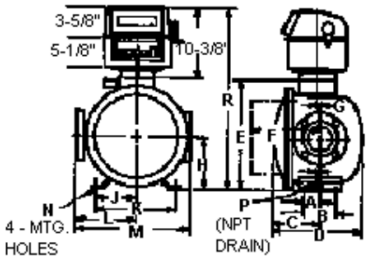
For additional optional features, contact factory.

ORDERING INFORMATION

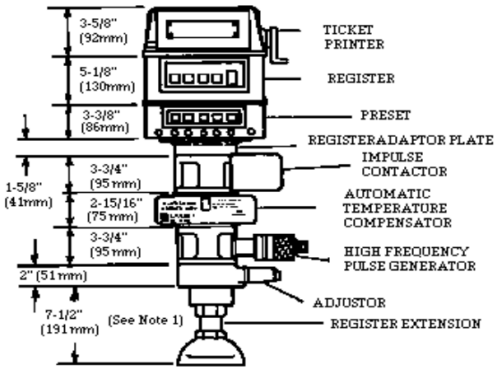
1) Liquid to be metered, specific gravity and viscosity.
2) Liquid operating temperature.
3) Maximum and minimum flowrate.
4) Operating line pressure.
5) Read-out functions and specifications.
6) Units of registration.
7) Accessories and options required.

DIMENSIONS - Typical Accessory "Stack-Up"

Figure 2 Dimensions (For Certified Dimension Prints – Consult factory



Note:
Dimension "F" – Minimum distance required to remove measuring element.
Dimension "L" – 4" 150 lb ANSI = 9-1/16" (230MM)
Dimension "M" – 4" 150lb ANSI = 18-1/8" (460mm)



Specifications Subject to Change Without Notice

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