



2" Mechanical BiRotor Models B050, B054, B055, B058

Design Specifications
DSB05X
Revision 01

Description

The BiRotor Meter is a positive displacement meter utilized in the most demanding applications requiring accuracy, long life and ruggedness.

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.

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 the wide range of petroleum and industrial liquid applications.

Principle of Operation

The two 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 flow rate of liquid thruput. A gear train located outside the measuring unit chamber conveys mechanical rotation of the rotors to a mechanical or electronic register for totalization of liquid thruput.

Flow Capacity
150 GPM
567 LPM



WARNING

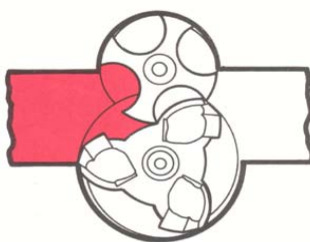
Do NOT operate this instrument in excess of the specifications listed. Failure to heed this warning could result in serious injury and/or damage to the equipment.

Design Features

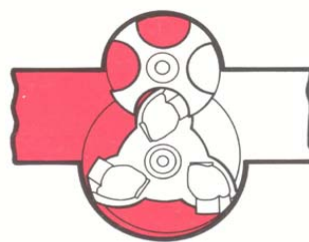
- Double case design
- Extremely long service life
- Economical low maintenance
- Two simple rotors with no metal-to-metal contact are the only moving parts in the measuring chamber.
- No oscillating, reciprocating or sliding parts or cranks to wear or disturb the balanced rotary.
- Sustained accuracy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

Accessories

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



Liquid Intake



Liquid Transition



Liquid Outlet

Figure 1: Brodie BiRotor Meter Principle of Operation

Materials of Construction

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

Measuring Unit:

Rotors: Aluminum (Standard)

Rotor Shafts: E.T.D. 150

Rotor Bearings: Stainless Steel

Body and End Covers: Cast Iron

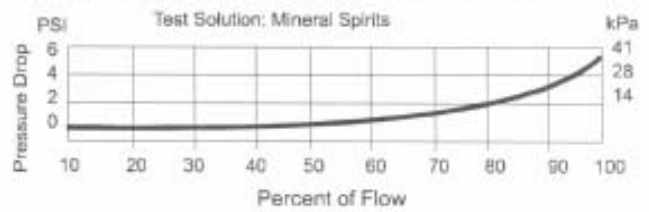
Counter Base Plate:

Body: Steel

O-Ring: Viton (Standard)

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

TYPICAL PRESSURE DROP CURVE



Accuracy:

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

Flange Connections

Model	Connections	Max Working Pressure @100F	DIN Connections	Max Working Pressure
B050	2" 150 lb. ANSI	150 PSI	DN 50 PN 16	10.3 Bar
B054	2" 300 lb. ANSI	740 PSI	DN 50 PN 40	40 Bar
			DN 50 PN 64	51 Bar
B055	2" 600 lb. ANSI	1480 PSI	DN 50 PN 64	64 Bar
			DN 50 PN 100	100 Bar
B058	2" NPT Companion	150 PSI	-	10.3 Bar

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

Flow Capacity

Meter Models B05X		
	Maximum Flow	Minimum Flow
GPM	150	30
LPM	567	113

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.

Dimensions (For Certified Dimensional Prints - Consult Factory)

Shipping Weight and Volume (Approximate)	
B050	75 lbs. @ 1.7 Cu. Feet
	34 kgs. @ .05 Cu. Meters
B054	195 lbs. @ 2.6 Cu. Feet
	88 kgs. @ .07 Cu. Meters
B055	238 lbs. @ 2.7 Cu. Feet
	97 kgs. @ .07 Cu. Meters
B058	75 lbs. @ 1.7 Cu. Feet
	34 kgs. @ .05 Cu. Meters



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