



# 1 1/2" Mechanical BiRotor Model B037

Design Specifications  
DSMB03X  
Revision 04

## 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 adjustor, 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 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 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

60 GPM  
227 LPM



## WARNING

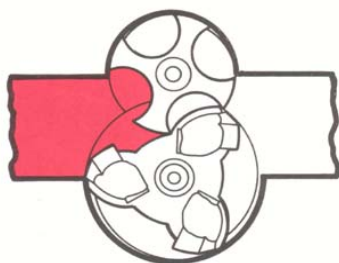
**Do NOT operate this instrument in excess of the specifications listed. Failure to heed this warning could result in serious injury and/or damage to the equipment.**

## Design Features

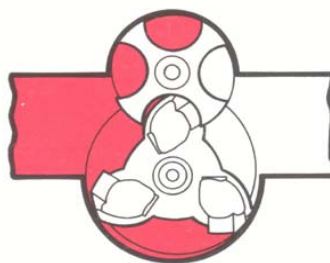
- Extremely long service life
- Economical low maintenance
- Two simple rotors with no metal-to-metal contact are the only moving parts in the measuring chamber.
- No oscillating, reciprocating or sliding parts or cranks to wear or disturb the balanced rotary.
- Conforms with International standards 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** - Ductile Iron (Model B037)
- Measuring Unit Body and End Plates** - Aluminum
- Rotors** - Aluminum with E.T.D. 150 Shaft
- Timing Gears** - Stainless Steel
- Drive Gears** - Celcon Acetal Copolymer Resin and Stainless Steel
- Bushings** - Carbon Filled Teflon - B037
- Ball Bearings** - Stainless Steel - B037

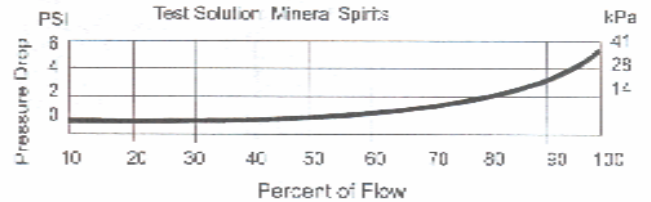
## Ordering Information

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.

### Shipping Weight and Volume (Approximate)

B037	40 lbs. @ 1.2 Cu. Feet
	18 kgs. @ .03 Cu. Meters

### TYPICAL PRESSURE DROP CURVE



## Flange Connections

Model	Connections	Max Working Pressure @100F	DIN Connections	Max Working Pressure
B037	1-1/2" NPT	350 PSI	C/F	C/F

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

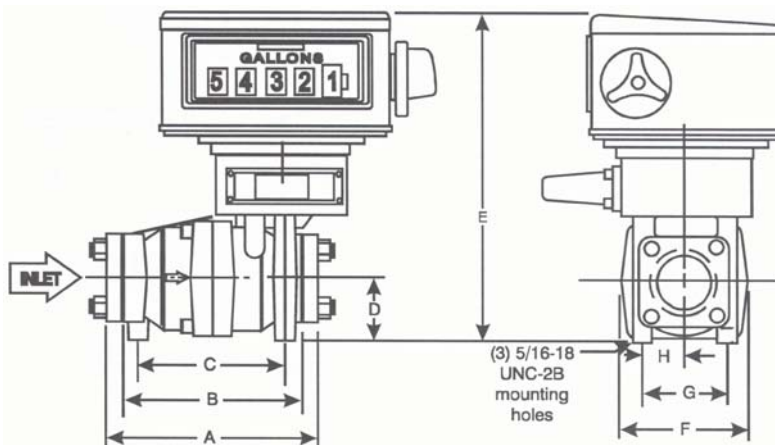
## Flow Capacity

Meter Models B037		
	Maximum Flow	Minimum Flow
GPM	60	12
LPM	227	45

## Accuracy

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

## Dimensions (For Certified Dimensional Prints - Consult Factory)



Model	mm	Dimensions							
	Inches	A	B	C	D	E	F	G	H
B037	mm	206	171	145	67	349	121	91	45
	Inches	8 1/2	6 3/4	5 11/16	2 5/8	13 3/4	4 3/4	3 9/16	1 25/32



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