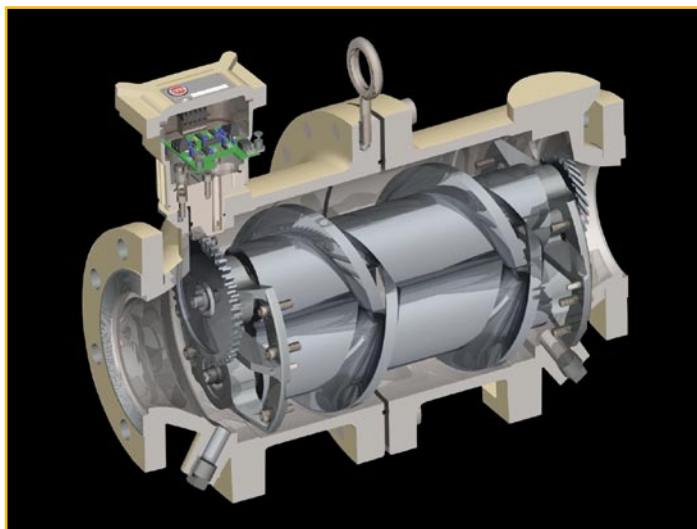


# BiRotor *Plus*

## 3" & 4"



The BiRotor *Plus* meter is a volumetric flow measuring device designed for the accurate measurement of petroleum liquids in a variety of applications. The double case meter combines the rugged durability and long service life of the traditional Brodie BiRotor meter with the improved accuracy and repeatability associated with today's most sophisticated devices.

### **SUPERIOR PERFORMANCE**

Linearity:

±0.075% or better over 30:1 flow range (4")

Repeatability: ±0.01%

±0.10% or better over 13:1 flow range (3")

Repeatability: ±0.01%

Premium Linearity of less than 0.075% available  
(4" only) (Contact Factory)

### **Pick-off Temperature**

Standard: -20 to 180°F (-29 to 82°C)

High Temperature Option: -20 to 325°F (-29 to 163°C)

### **DESIGN FEATURES**

- Double case construction avoids loss of calibration due to changes in pressure or temperature
- New rotor profile provides high resistance to air slugs and entrained solids
- No metal-to-metal contact
- Dual pulse output meets Level B pulse security described in API manual, Chapter 5.5.4.4.
- Explosion proof amplifier housing
- Single or dual pulse output - non-wetted pickoffs
- Reduced number of parts reduces maintenance requirements.
- Variety of readout instrumentation available
- Horizontal or vertical mounting
- Class I, Division 1, Group C & D, NEMA 4X, UL, cUL, ATEX, PED, SEP, NTEP, CRN (Canada) and Industry Canada (Canada)
- Bi-Directional flow capability (Consult Factory)
- Capable of operating @ 400 cst. max viscosity



# BiRotor Plus

## 3" & 4"

**Extended  
Flow Range**

### METER SPECIFICATIONS:

Model Number	Size	Flange Connections	Maximum Safe Working Pressure	Maximum Safe Working Temp. <sup>(1)</sup>	Standard Flow	Minimum	Intermittent Maximum <sup>(2)</sup>
B271	3"	3", 150 lb. ANSI DN 80 PN 16	285 psi; 1964 kPa; 16 Bar	-20° to 180° F -29° to 82° C	43 to 425 U.S. gpm 163 to 1609 lpm	40 gpm 151 lpm	550 gpm 2081 lpm
B274	3"	3", 300 lb. ANSI DN 80 PN 40	740 psi; 5099 kPa; 40 Bar				
B284	4"	4", 150 lb. ANSI DN 100 PN 16	285 psi; 1964 kPa; 16 Bar	-20° to 180° F -29° to 82° C	65 to 800 U.S. gpm 246 to 3028 lpm	40 gpm 151 lpm	1000 gpm 3785 lpm
B284	4"	4", 300 lb. ANSI DN 100 PN 40	740 psi; 5099 kPa; 40 Bar				

### CONSTRUCTION MATERIALS:

Housing: Carbon Steel

#### Measuring Unit:

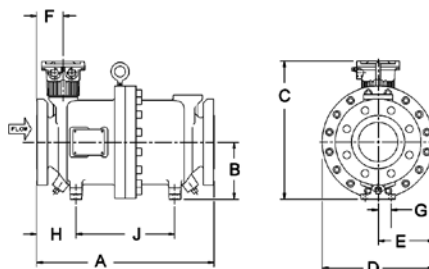
End Plates: Cast Aluminum

Rotors: Cast Aluminum, Hard Anodized

Rotor Shafts: 17-4 ph Stainless Steel

Rotor Bearings: Stainless Steel Ball Bearings

O-Rings: Viton Standard (Other elastomers available)



### DIMENSIONS: (For Certified Dimension Prints - Consult Factory)

Model	Size	A	B	C	D	E	F	G	H	J
B271	3" 150 lb. ANSI	16-3/4" 425mm	6" 152mm	13-7/8" 352mm	11-3/4" 298mm	5-7/8" 149mm	2-11/16" 68mm	1-3/8" 35mm	3-5/8" 92mm	9-19/32" 236mm
B274	3" 300 lb. ANSI	17-1/8" 435mm							3-13/16" 97mm	
B281	4" 150 lb ANSI	20" 508mm	6-5/8" 168mm	16" 406mm	13-3/4" 337mm	6-5/8" 168mm	2-3/4" 70mm	1-1/2" 38mm	4-1/4" 108mm	11-1/2" 283mm
B284	4" 300 lb ANSI	20-5/8" 524mm							4-9/16" 116mm	

### SPECIFICATIONS - Electrical

Dual channel preamplifier

Single or dual, non-wetted, reluctance pick-offs

#### Preamplifier Performance

Input Supply Voltage: 10 to 30 VDC

Sensor Type: Reluctance

Type: Sine Wave

Amplitude: 40 mV peak to peak minimum

Outputs

Powered Pulse Output

Type: Square Wave

Frequency Range: 0 to 5 kHz

Amplitude: 0 to 5 V

1 k Ohm interval pull-ups, 20 mA max.

Variable Voltage Output

Type: Square Wave

Frequency Range: 0 to 5 kHz.

Amplitude: 0 to Supply Voltage

1 kOhm internal pull-ups, 70 mA max.

Open Collector Output (Per Channel)

Type: Square Wave

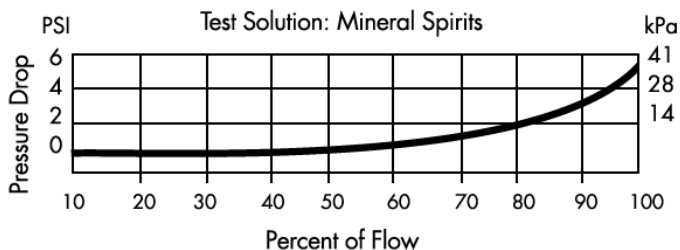
Frequency Range: 0 to 5 kHz.

Max. Voltage: 30 Vdc

Max. Current: 125 mA

Max. Power: 0.5 watts

### TYPICAL PRESSURE DROP CURVE



### Shipping Weight and Volume (Approx.)

Model B281/284 293 lb. (133 kg.), 9.5 ft<sup>3</sup> (0.27 M<sup>3</sup>)

Model B271/274 193 lb. (88 kg.), 9.3 ft<sup>3</sup> (0.27 M<sup>3</sup>)



**Brodie Meter, Co. LLC**

19267 Highway 301 North • Statesboro, GA 30461 USA Phone: 001-912-489-0200

www.brodie-svmor.com

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