

## 4" and 6" Axial Flow BiRotor Models BE81, BE83

The Model BE81 (150 lb. ANSI) and BE83 (300 lb. ANSI, 300 psi maximum working pressure) Axial Flow BiRotor™ meters are positive displacement meters designed for liquid flow measurement where accuracy and long service life are required. The unique BiRotor design features two precision balanced rotors that precisely segment and measure the flowing stream. The BiRotor meter is available in either mechanical or electronic (P-Series) output configurations.

### Mechanical Output

The mechanical output meter incorporates a sealed output shaft and a mechanical accuracy adjuster with provisions for mounting electro-mechanical accessories for control, batching, totalizing, and printing.

### Electronic Output

The electronic P-Series meter configuration features a sealed measuring chamber with one (standard) or two (optional) reluctance type electronic pulse output signals proportional to flow. The sealed electronic sensor(s) transmit amplified signals to local or remote instrumentation. The dual channel pulses are 90° electrically out-of-phase.

### FEATURES

- External calibration while meter is under pressure with no loss of liquid product.
- Double Case Construction
- Two simple Rotors with No Metal-to Metal Contact
- No oscillating, reciprocating or sliding parts to wear or disturb balanced rotary action.
- Unit Built Assembly
- Light Weight, Compact Design
- Electrical Classification (P-Series only): UL/CSA Class I, Groups C & D, Division 1, Explosion proof; CENELEC Eex d II C T6.

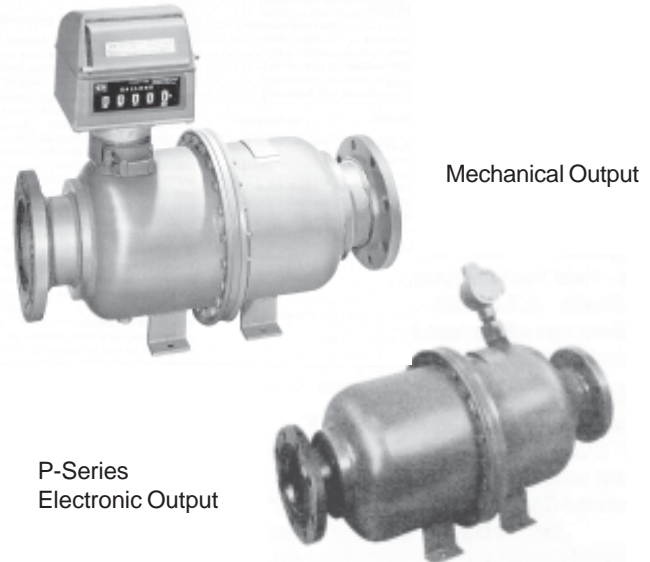
### MATERIALS OF CONSTRUCTION

#### Housing:

Welded steel construction combining steel castings and drawn steel plate

#### Measuring Unit

Rotors – Heat Treated Aluminum (Standard)  
Rotor Shafts – E.T.D. 150  
Rotor Bearings – Stainless Steel  
Body and End Covers – Nickel Cast Iron



### 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.**

### Counter Base Plate (Mechanical only)

Body - Steel

O-Rings - Viton (Standard)

Drive Gears, Shafts and Ball Bearings - Stainless Steel

### CONNECTIONS

Flanges: 4" or 6", 150lb. ANSI or 300lb. ANSI

DIN: DN 100 or DN 150, PN 16 or PN 40

### Electrical (P-Series only)

Power Required: 6 to 28 VDC at 20mA

Input Sensitivity: 5 mV Peak-to-Peak at 5 Hz

Frequency Range: 40 to 10,000 Hz.

Output Signal: 0 to 5V pulsating dc TTL logic signal or voltage dependent

Recommended Connecting Cable:

Belden 8770, 3-Conductor Shielded, 18-gauge stranded, terminated into 4.7 kOhm load

Maximum Recommended Cable Length:

3,000 feet (914 meters)

**K-Factor** (Electronic only)

Nominal K-Factor: 50 pulses/gallon; 13.2 pulses/liter;  
2,100 pulses/barrel

**CAPACITY** -Flow Capacity-All Models

Meter Models BE81		
	Maximum Flow	Minimum Flow
<b>GPM</b>	800	80
<b>LPM</b>	3028	302
<b>BPH</b>	1142	114

**RATINGS**

**Maximum Safe Working Pressure:**

Model BE81: 150 lb. ANSI, 285 psi (1964 kPa) max.  
Model BE83: 300 lb. ANSI, 300 psi (2067 kPa) max.

**Maximum Safe Working Temperature:**

-20 to 150°F (-29 to 66°C)  
Optional High Temperature Trim:  
325°F (162°C) or 450°F (232°C)

**SHIPPING WEIGHT & VOLUME**

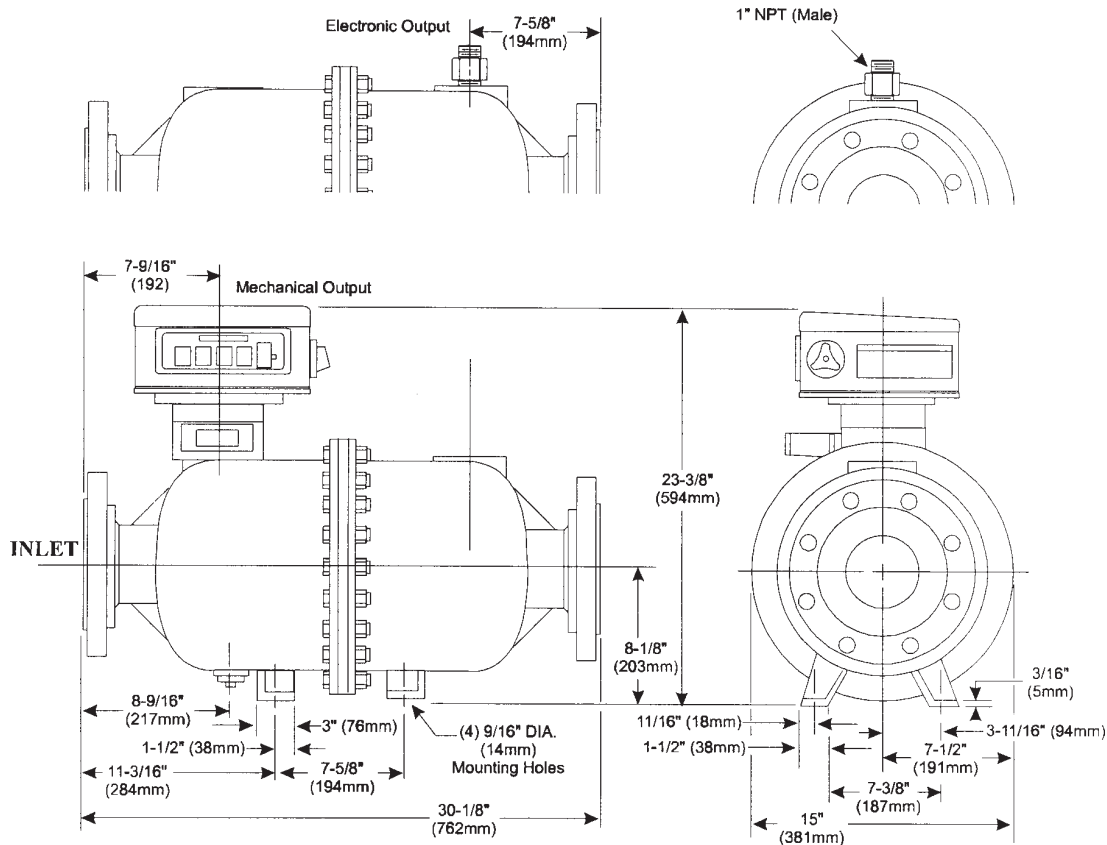
Mechanical: 265 lbs. at 8.02 Ft³ (120 kg. @ 0.23M³)  
Electronic: 250 lbs. at 6.0 Ft³ (113 kg. at 0.17M³)

**PERFORMANCE**

Accuracy: Capable of ±0.15%  
Repeatability: ±0.025%  
Output (Electronic P-Series): 15 to 20mV at minimum flow; 0.2 to 3.0 Vac at maximum flow.

**DIMENSIONS**

(For certified dimensions prints, contact factory)



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