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

Utilizing single or dual outputs, with two non-wetted pick-offs mounted 90° electrically out of phase, the BiRotor Plus complies with API Level B pulse output standards. Output signals are amplified and shaped by a preamplifier mounted directly on the meter for transmission to accessories such as totalizing counters, digital readout devices, provers and other control equipment and instrumentation.

Typical applications includes loading/unloading, batching, blending and inventory control of petroleum products where accuracy and repeatability are the deciding factors in meter selection. It is recommended for loading and unloading tankers, railcars or trucks, pipelines, aircraft refueling, and general purpose flow measurement.

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, Exex IIIBT6, NTEP, CRN (Canada) and Industry Canada (Canada), OMIL
• Bi-Directional flow capability (Consult Factory)
• Capable of operating @ 400 cst. max viscosity

SUPERIOR PERFORMANCE
Linearity:
±0.10% over 13:1 flow range (3”)
±0.075% or better over 30:1 flow range (4”)
Repeatability: ±0.01%
Premium Linearity of less than 0.075% available (4” only) (Consult Factory)

Pick-off Temperature
Standard: -20 to 180°F (-29 to 82°C)

MATERIALS OF CONSTRUCTION
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)

SPECIFICATIONS - Electrical
Dual channel preamplifier
Single or dual, non-wetted, reluctance pick-offs
Preamplifier Performance
Inputs
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 kOhm internal 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
Temperature: -20 to 180°F (-29 to 82°C)
K-Factor - Nominal
3" Model B271 & B274: 159 pulses/gallon (42 pulses/liter)
4" Model B281 & B284: 96 pulses/gallon (25 pulses/liter)
Note: K-Factor will vary for each meter

ACCESSORIES
Electronic Register
The BiRotor Plus is compatible with most electronic monitoring and measurement systems.

DIMENSIONS - (For Certified Dimension Prints - Consult Factory)

ORDERING INFORMATION
When ordering, please specify product to be metered, product viscosity, product temperature range, rate of flow, operating pressure, and other relevant information.

SHIPPING WEIGHT AND VOLUME (APPROX.)

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