

Technical Data

BiRotor Plus Positive Displacement Meter



F Series [16"] Custody Transfer Pipeline Meter

General

The Brodie F Series BiRotor Plus positive displacement flow meter, with dual helical rotors, offers unsurpassed performance in custody transfer applications.

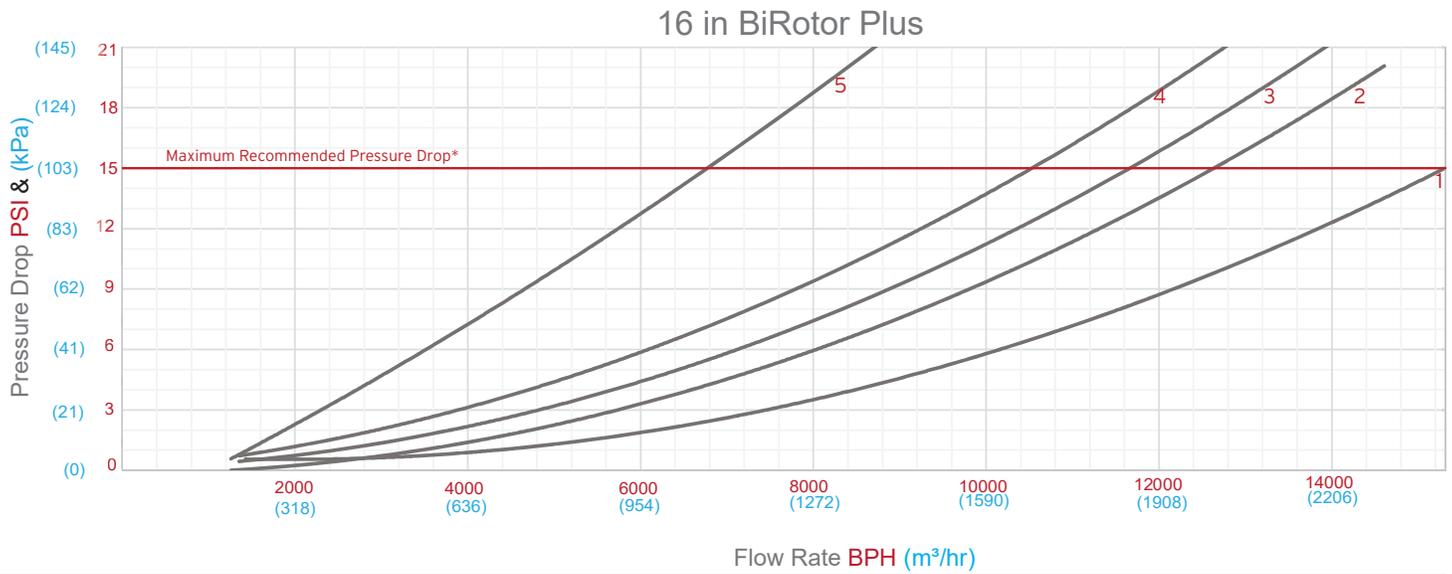
BiRotor Plus meters are the pre-eminent choice in liquid hydrocarbon service, from low viscosity liquids to heavy crude oil applications in pipeline, marine, blending, batching and leak detection with flow rates up to 13,000 BPH (2066 M3/hr).

The double-case design combines the rugged durability and long service life of traditional BiRotor meters with the enhanced accuracy and consistent pulse output demanded by today's industry requirements.

The best-in-class BiRotor Plus meter is proven in demanding applications such as paraffin-rich crude oil extraction and refined product pipelines where DRA (Drag Reducing Agents) are present, providing excellent performance while solving end-user challenges where other measurement technologies have failed to produce long-term success.

Linearity	+/- 0.15%	Approvals
Repeatability	0.02%	OIML R117-1 / MID [Class 0.3]
Viscosity Range	0.2 - 1000 cP	CE Mark
Operating Temperature	STD: -20°F to 167°F [-29°C to 75°C]	ATEX & IECEx
	Low: -40°F to 167°F [-40°C to 75°C]	CSA [United States and Canada]
	High: 14°F to 230°F [-10°C to 110°C]	NEMA 4X / IP65
Ambient Temperature	-40°F to 140°F [-40°C to 60°C]	Maximum Flow
		13,000 BPH [2066 m3/h]
		Maximum Working Pressures @ 100°F / 38°C
		ANSI 150#: 285 PSIG [1965 kPa]
		ANSI 300#: 740 PSIG [5102 kPa]
		ANSI 600#: 1480 PSIG [10204 kPa]
		Nominal K-Factor
		+/- 10%
		343 PUL/BBL [2157 PUL/M3]

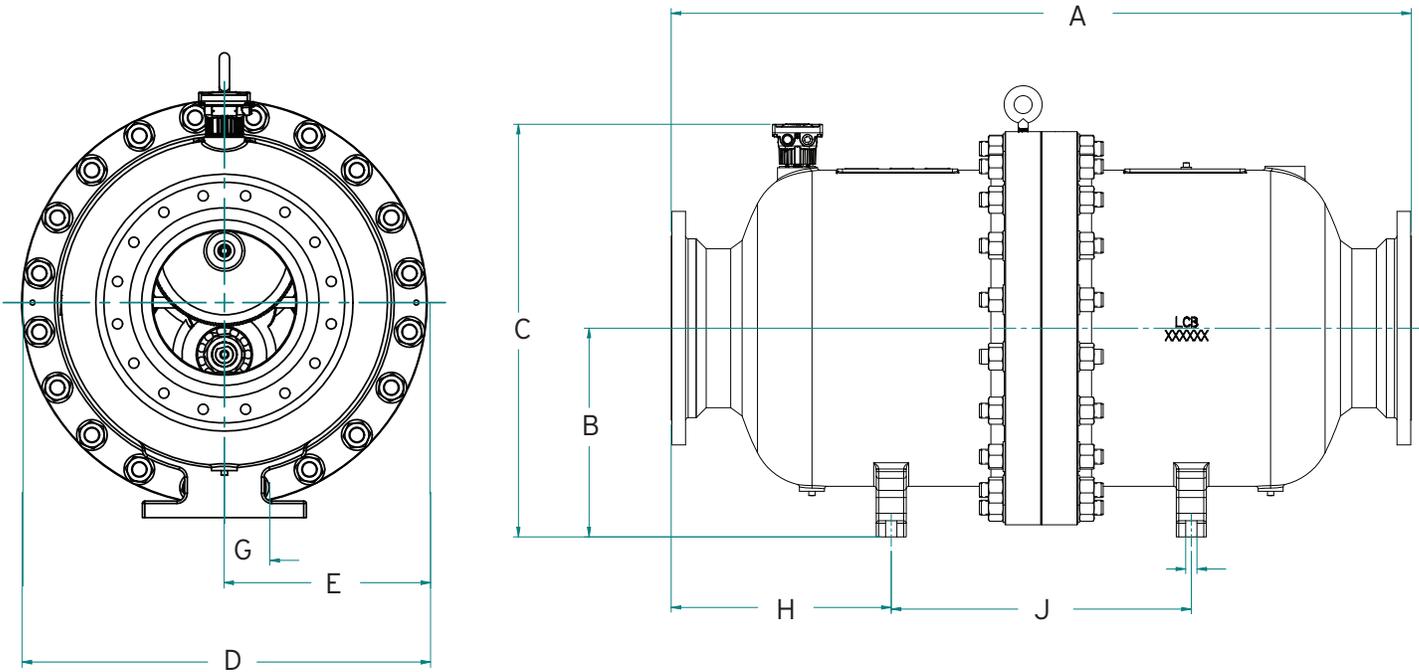
F Series Pressure Drop



*NOTE: This is based upon process conditions

	Product	Density kg/m ³	Viscosity cSt	Specific Gravity
1	Naphtha	728	0.58	0.73
2	Oural	836	7	0.84
3	Crude Oil (Arabian Heavy)	892	35	0.89
4	Fuel	921	120	0.92
5	IFO (Intermediate Fuel Oil)	957	665	0.96

Dimensions



ANSI	Flange Size	Unit	A	B	C	D	E	G	H	J	Meter Weight
150	16"	inch	74	21	41 1/2	39 9/16	19 25/32	5 3/4	22	30	5600 lbs
		mm	1880	533	1054	1005	502	146	559	762	2540 kgs
300	16"	inch	78	21	41 1/2	39 9/16	19 25/32	5 3/4	24	30	5700 lbs
		mm	1981	533	1054	1005	502	146	610	762	2585 kgs
600	16"	inch	84	23	44 7/16	43 11/16	21 27/32	6 7/8	27	30	8328 lbs
		mm	2134	584	1129	1110	555	175	686	762	3777 kgs

Materials Housing

Meter Housing: ASTM A352 LCB
 Connection Flanges: ASTM A 105 Carbon Steel or ASTM A 350 LF2
 Sensor Housing: ASTM A 479
 304 Stainless Steel

Materials Measuring Unit

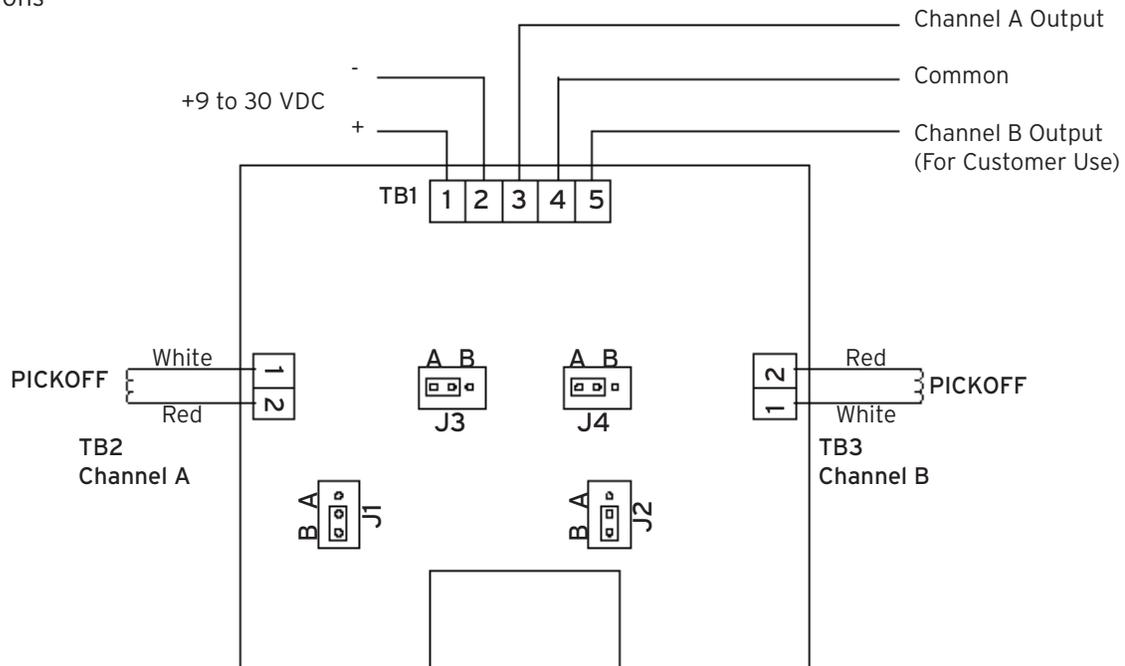
End Plates and Body: A 356 T6 Cast Aluminium
 Rotors: ALCO 319 Cast Aluminium Hard Coat anodized
 Rotor Shafts: 17-4 PH Stainless Steel
 Timing Gears: 17-4 PH Stainless Steel (Heat Treated)
 Bearings: Stainless Steel
 Elastomers: Low Swell Nitrile, Viton®, or Fluorosilicon are standard
 UMB Housing: A356 T6 Cast Aluminium [non wetted component]

Preamplifier

Supply voltage: 9 to 30 VDC
 Outputs (jumper selectable): square wave 0 to 5 KHz
 5 V powered pulse: 0 - 5 VDC, 20 mA max

Variable voltage pulses: 0 to supply voltage less 5%
 70 mA max

Wiring Connections



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