

Maximizing the efficiency of custody transfer measurement in terminals:

Brodie BiRotor Plus The best-in-class custody transfer meter

The Brodie BiRotor Plus Positive Displacement meter offers unsurpassed linearity and repeatability. It is reputed to be the highest accuracy PD meter in the industry.

Brodie continually strives to perfect custody transfer transactions in terminals. We challenge the current status quo in terminals by making our products dependable, superior in performance, simple to use, and affordable.



Maximum profitability.



The Industry Standard

The highest objective in the operation of oil terminals is to have permanent availability of its loading technology, and even more so of its Custody Transfer Measurement equipment.

Brodie's BiRotor Plus PD meter has been solely designed for this requirement. It is at home in rough loading processes from small to very large oil terminals, and it offers 24/7 availability for many years of service while requiring minimal maintenance. It is field proven in thousands of installations in a period of over 17 years of day to day operation.

The BiRotor Plus meter is insensitive to external influences from the load rack, such as vibration, pressure changes, temperature changes and harsh handling by operators. It is made for rough operation. And it offers the highest measurement accuracy of any meter in the industry.

The BiRotor Plus meter is the industry standard for Custody Transfer Measurement in oil terminals.

Design Features

Universal Mounting Box [UMB]

incorporating pre-amp and field terminations. Hazardous area compliant and fully weatherproof.

Dual Non-wetted Pickoffs

with toothed wheel pulse initialization for direct and instantaneous pulse output [no mechanical shaft].

Double Case Design [3"-6"]

The BiRotor Plus is immune to pressure and temperature changes. It complies to API MPMS Chapter 5.2.5.2.4.

Its measurement chamber is in contact with the measured liquid both on the inside and the outside of the inner case.

Hardened Timing Gears

The only metal to metal contact point in the meter, the timing gears are made of 17-4 PH heat treated Stainless Steel.

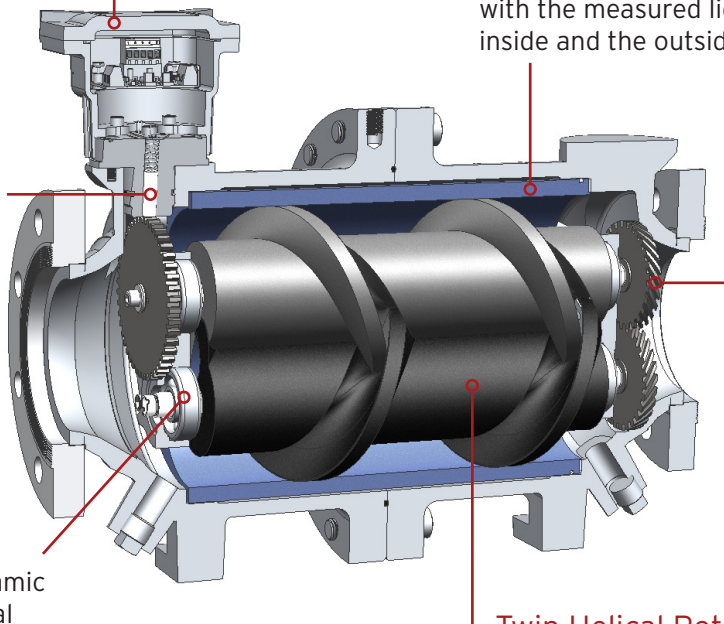
Ceramic Bearings

Extremely hard hybrid ceramic bearings guarantee minimal wear and reduced maintenance.

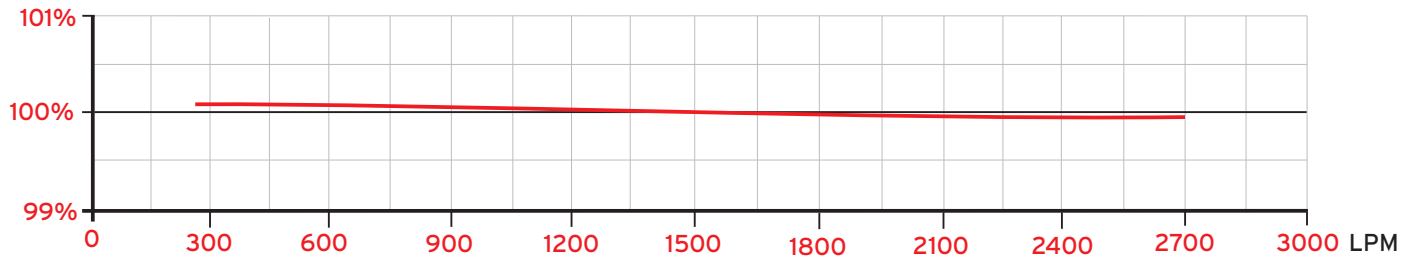
Hybrid ceramic bearings allow for the handling of sandy crude oil.

Twin Helical Rotors

The heart of the BiRotor Plus, these rotors never contact each other nor the measurement chamber's surface. There is minimal friction or wear - even after decades of operation.



Best Performance in the Industry



Accuracy

The accuracy of the BiRotor Plus under real operating conditions is unsurpassed in the industry: linearity better than $\pm 0.075\%$ and repeatability of 0.02%.

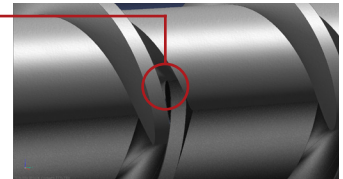
Viscosity

Viscosities from 0.5 - 400 cSt have little effect on the accuracy of the BiRotor Plus. This is why the BiRotor plus is the master meter of choice and preferred by test labs and worldwide approval authorities.

Dependable

No metal to metal contact

The timing gears are the only metal to metal contact within the BiRotor Plus. The rotors and measuring chamber are machined to very tight tolerances and have no metal to metal contact. This results in an extremely durable and mostly maintenance free positive displacement flowmeter. The BiRotor Plus will last for many years of operation.

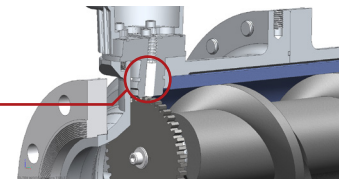


No change in Meter K-Factor

Due to its extremely rugged design, the BiRotor Plus rarely requires recalibration, or a change in meter factor. There is no other PD meter in the market that can handle the day to day rigours of a loading terminal and be unaffected by this service.

Direct electronic pulse output

Non-wetted pickoffs and a dual channel pre-amp housed in a common enclosure making servicing simple and easy. The BiRotor Plus has a higher pulser resolution than other PD meters available in the market.



Affordable, Easy to Operate, Flexible

Competitive pricing

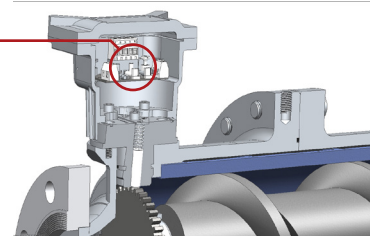
Brodie is able to provide the market with the most accurate flowmeter at a very competitive price.

Ease of operation

The BiRotor Plus design allows for very simple operation and maintenance. The BiRotor technology is field proven over many decades, in the harshest operating conditions. It does not require highly skilled operators, let alone IT experts, to handle.

Horizontal or vertical installation

The BiRotor Plus can be installed both vertically or horizontally with the same accuracy results.



Technical Specifications

		2" [Single Case]	3" [Double Case]	4" [Double Case]	6" [Double Case]	8" [Double Case]
Model Code		SB25X	B27X	B28X	B29X	B30X
Line Size and End Connections		2" ANSI 150 DN 50	3" ANSI 150 DN 80	4" ANSI 150 DN 100	6" ANSI 150 DN 150	8" ANSI 150 DN 150
Flow Range	standard	30-150 GPM 114-568 LPM	43-425 GPM 163-1609 LPM	70-700 GPM 265-2650 LPM	100-1000 GPM 379-3785 LPM	230-2300 GPM 871-8706 LPM
	extended	7.9-150 GPM 30-568 LPM	30-550 GPM 114-2082 LPM	33-1000 GPM 125-3785 LPM		230-3300 GPM 871-12491 LPM
Maximum Working Pressure	ANSI 150#	275 PSI, 10 bar	285 PSI, 19.5 bar	285 PSI, 19.5 bar	285 PSI, 19.5 bar	285 PSI, 19.5 bar
	ANSI 300#	720 PSI, 50 bar	740 PSI, 51 bar	740 PSI, 51 bar	740 PSI, 51 bar	740 PSI, 51 bar
	DIN PN16	196 PSI, 13.5 bar	232 PSI, 16 bar	232 PSI, 16 bar	232 PSI, 16 bar	232 PSI, 16 bar
	DIN PN40	490 PSI, 33.8 bar	580 PSI, 40 bar	580 PSI, 40 bar	580 PSI, 40 bar	580 PSI, 40 bar
Weight	ANSI 150	75 lb, 34 kg	193 lb, 88 kg	293 lb, 133 lb	350 lb, 159 kg	990 lb, 449 kg
	ANSI 300	76 lb, 36 kg	200 lb, 91 kg	300 lb, 136 kg		1045 lb, 474 kg
Linearity	standard	+/- 0.15%	+/- 0.1 %	+/- 0.075%	+/- 0.075%	+/- 0.075%
	extended	+/- 0.30%	+/- 0.15%	+/- 0.15 %	+/- 0.15 %	+/- 0.15 %
Repeatability		0.02%	0.02%	0.02%	0.02%	0.02%
Electrical	pulses per US gallons	950	160	96	96	39.2
	pulses per Liters	250	42	25	25	148.4
Materials	Meter Housing	Stainless Steel	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
	Flanges	Stainless Steel	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
	Sensor housing	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

Brodie also provides valves, strainers and air eliminators as well as electronic counters.



Brodie International

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