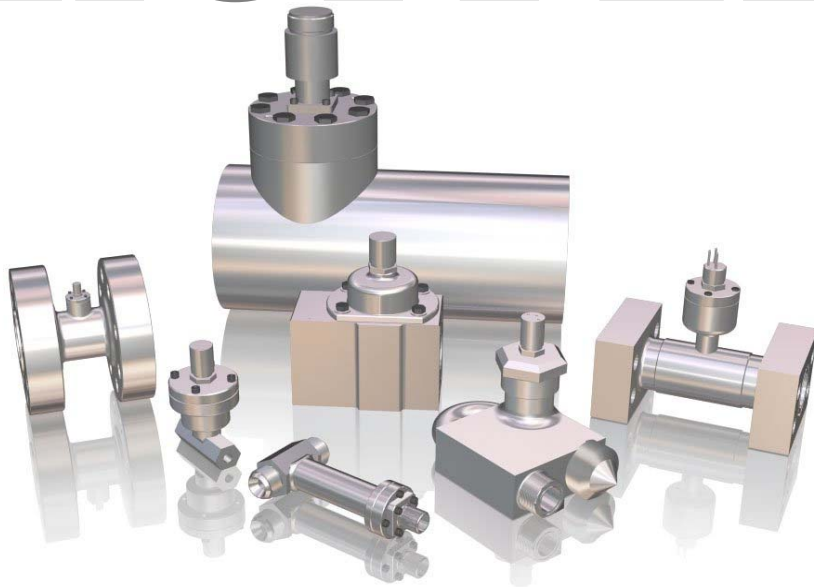


Meeting the Challenges of Subsea Flow Measurement

HOFFER



There is only one clear choice for every critical, complex flow measurement application in the offshore drilling, production and well-servicing environment: Hoffer Flow Controls. The HO Subsea Flowmeter Series provides users with multiple features and benefits that are unavailable from any other flowmeter company.

OUTSTANDING FEATURES

- Operating depths to 20,000 FT or more.
- Robust flowmeter internals built to meet Military standards for high shock (MIL-S-901D) and vibrations (MIL-STD-167-1) requirements.
- A flowmeter with a response time measured in milliseconds.
- Flowmeter "housing" is typically custom designed to fit into the customers existing footprint/space.
- Designed to withstand the temperature/pressure extremes of a subsea environment.
- Flowmeter design includes integral flow straighteners.
- Wide flow range capability is ideal for subsea applications.
- Flowmeter "housing" can be designed with a wide variety of end connections including SAE, Grayloc®, Techlok®, ANSI, NPT, MS, DIN and many others.
- Subsea connectors are installed in unique "riser" design on flowmeter housing.
- Design and construction compliance to API6A/17D when required.
- A variety of construction materials are available including 316, 316L, Nitronic 50 and 60, Duplex 2205 and others.
- ABS-CDS, DNV, Lloyd's and other certification compliance available.
- Multiple electronic outputs and interfaces available.



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TURBINE FLOWMETERS BY HOFFER

Perfecting Measurement™

HO Series Turbine Flowmeters for Subsea Applications

Product Bulletin HO-SS-101A

TECHNICAL DATA SHEET

Our flowmeter expertise has enabled us to supply flowmeter solutions for BOPs, ROVs, wellhead additives, subsea production systems and a variety of other subsea flow applications. With more than 40 years in the flowmeter business, we continue to set the standards for accuracy, reliability, durability, economy and integrity. In fact, no other company offers you more flow measurement solutions for subsea flow applications than we do. Put us to the test, and find out how Hoffer turbine flowmeters can resolve your challenging subsea flow applications.



LIQUID SIZE SELECTOR CHART FOR HO SERIES SUBSEA TURBINE FLOWMETERS

Flowmeter Size	MAGNETIC PICKUP COIL				MODULATED PICKUP COIL			
	Linear Range (US GPM)	Linear Range (LPM)	Repeatable Range (US GPM)	Repeatable Range (LPM)	Linear Range (US GPM)	Linear Range (LPM)	Repeatable Range (US GPM)	Repeatable Range (LPM)
1/4*	.35-3.5	1.3-13.2	.25-4.5	.95-17	.35-3.5	1.3-13.2	.0625-4.5	.24-17
3/8*	.75-7.5	2.8-28.4	.3-9	1.1-34	.75-7.5	2.8-28.4	.075-9	.28-34
1/2*	1.25-9.5	4.7-36	.6-12	2.3-45	1.25-9.5	4.7-36	.12-12	.45-45
5/8*	1.75-16	6.6-60.6	.9-20	3.4-75.7	1.75-16	6.6-60.6	.2-20	.75-75.7
3/4	2.5-29	9.5-110	1.5-35	5.7-132.5	2.5-29	9.5-110	.35-35	1.3-132.5
1	4-60	15-227	2-75	7.6-284	4-60	15-227	.75-75	2.8-284
1-1/4	6-93	23-352	3-115	11.4-435	6-93	23-352	1.15-115	4.35-435
1-1/2	8-130	30.3-492	5-175	19-662	8-130	30.3-492	1.75-175	6.6-662
2	15-225	56.8-852	11-275	42-1041	15-225	56.8-852	2.75-275	10.4-1041
2-1/2	25-400	95-1514	15-500	56.8-1893	25-400	95-1514	5-500	19-1893
3	40-650	151-2460	20-800	76-3028	40-650	151-2460	8-800	30.3-3028
4	75-1250	284-4731	50-1500	189-5678	MCP not recommended in 4" and larger sizes			
5	140-2000	530-7570	100-2500	379-9463				
6	200-2900	757-10977	125-3600	473-13626				
8	330-5200	1249-19682	270-6400	1022-24224				
10	650-8000	2460-30280	540-9800	2044-37093				
12	1400-12000	5299-45420	800-15000	3028-56775				

NOTE: Performance enhancement techniques are routinely applied to produce larger linear and usable flow ranges. Consult with the applications group at Hoffer with your requirements.

* The linear flow ranges on 1/4" through 5/8" may be derated depending on bearing selection. Consult applications group for additional information.

SPECIFICATIONS

Overrange: 150% of maximum flow (intermittently).

Linearity: ±0.5% of reading (±0.25% typical) over tabulated linear flow range.

Repeatability: ±0.1% (±0.05% typical) over tabulated repeatable range.

Available Temperature Range: -100° to 450°F.

Pressure Drop Characteristics: 4 to 5 PSI at maximum linear flow rate at one CSTK.

Bearing Styles: Ceramic hybrid ball bearings and sleeve bearings in tungsten carbide and hard carbon composite are available.

Calibration: 12 point NIST traceable calibration is standard. Viscosity calibrations optionally available.

Outputs: TTL/CMOS, 0-10 VDC, Open collector pulse forms. 0-10 VDC and 4-20 mA analog outputs. RS-485 serial port (for flow rate only). Others available on request.

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The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

The quality system covering the design, manufacture and testing of our products is certified to International Standard ISO 9001.

