

TURBINE FLOWMETERS BY HOFFER

Perfecting Measurement™

Wing Nut High Pressure Turbine Flowmeters For **Gas** Service

Product Bulletin HO-WG-104M

TECHNICAL DATA SHEET

Wing Nut High Pressure (15,000 PSI) Turbine Flowmeters for Gas Service (*10,000 PSIG MAWP for Sour Gas Service— consult factory)



(Typically used for Oil Well Fracturing with Nitrogen Gas)

Model Number								Technical Data		
Flowmeter Size (Inches)	(Ref. Note 1) Blade Angle	(Ref. Note 2) Bearing Type	(Ref. Note 3) Standard Magnetic Pickup Coils and Risers	Ex-proof Coil Enclosure	Wing Nut End Fittings - FMC (-F) or FMC Sour Gas (-FSG) Nuts & Segments	Nominal Pulses/ACF 'K'	Nominal Max. Freq. (Hz)	Length (inches)		
Wing Nut Size (Inches)										
Model HO 2 X 1A	-15 -20 -25 -30	-BP	-1MX	-E2 -X	-1502-F -1502-FSG	2540 3550 4450 5660	340 470 600 755	7.62		
Model HO 2 X 1½A	-15 -20 -25 -30	-CB	-1MX	-E2 -X	-1502-F -1502-FSG	950 1255 1650 2050	270 360 485 585	7.62		
Model HO 2 X 2A	-15 -20 -25 -30	-CB	-1MX	-E2 -X	-1502-F -1502-FSG	480 655 920 1055	240 330 450 530	7.62		
Model HO 3 X 3A	-15 -20 -25 -30	-CB	-1MX	-E2 -X	-1502-F -1502-FSG	285 320 365 500	480 550 625 670	10.00		

BLADE ANGLE (Note 1) Blade angle determined by density; assigned by factory. Contact Hoffer Flow Controls Engineering.

BEARING TYPE (Note 2) (—CB) Hybrid ceramic, self-lubricating shielded ball bearings for 1½" through 3".
(—BP) Hybrid, ceramic self-lubricating shielded ball bearings for 1" size.

PICKUP COILS and RISERS (Note 3)
(—1MX) One magnetic pickup coil.
Optional (—2MX180) Two magnetic pickup coils @ 180°.
(—1ISM)X Intrinsically Safe magnetic coil.
(—2ISM)X Two Intrinsically Safe magnetic coils.
(—1ISM-ATEX)X One ISM ATEX coil.
(—2ISM-ATEX)X Two ISM ATEX coils.
—(RPM___)X Redi-Pulse magnetic pickup coil providing a user specified conditioned pulse output. See Redi-Pulse Technical Data Sheet for available options.
—(DMX___)X Intrinsically Safe Redi-Pulse magnetic pickup coil. See Intrinsically Safe Redi-Pulse Technical Data Sheet for available options.

EXPLOSION-PROOF COIL ENCLOSURES
(—E2) 1" MNPT riser with E2 enclosure. (See chart)*
(—X) None

SPECIAL FEATURES (add at end of Model No.)
(—CE) CE mark required for Europe.
(—EX) Certified Explosion-Proof System ***
(—C-EX) Certified Explosion-Proof System (**Non-Canada**) with Remote electronics ***
(—SP) Any special features that are not covered in the model number, use —SP and a written description.
(SG) Sour Gas Service
(X) No special features

***E2 EXPLOSION-PROOF/FLAME-PROOF ENCLOSURE WITH 3/4" FNPT MOUNT AND 3/4" CABLE ENTRY RATINGS:**

FM: CLASS I, DIV. 1, GR. ABCD, CLASS II/III, DIV. 1, GR. EFG, TYPE 4X
CSA: CLASS I, DIV. 1, GR. ABCD, CLASS II, DIV. 1, GR. EFG, CLASS III, TYPE 4X EX D IIC, CLASS I, ZONE 1, IP 66
ATEX: EX II 2GD Ex d tD IIC, IP66/68
IEC: EX D IIC IP68

For Certified Systems, please contact factory.

GENERAL SPECIFICATIONS

- Linearity:** $\pm 1\%$ of reading over 10:1 flow range. (typically).
- Repeatability:** $\pm 0.25\%$ over tabulated useable range.
- Temperature Range:** -450° to +300°F (Standard).
- Pressure Drop Characteristics:** Request graphical data.
- Overrange:** 150% of maximum flow (intermittently).
- Construction:** Housing - A286 alloy steel.
Internals - All stainless steel. Rotor: 17.4 PH.

FLOWMETERS ARE SUPPLIED WITH A 10 POINT WATER CALIBRATION AND WITH 'K' FACTOR PAPER TAG ATTACHED TO METER.

Wing Nut Calibrated Spare Internal Kits				
Flowmeter Size (Inches)		Blade Angle	Bearing Type	
Part Number Kit	HO1	-15 -20 -25 -30	-BP	-INTERNALS-W-GAS
Part Number Kit	HO1 ½	-15 -20 -25 -30	-CB	-INTERNALS-W-GAS
Part Number Kit (Note 1)	HO2	-15 -20 -25 -30	-CB	-INTERNALS-W-GAS
Part Number Kit (Note 2)	HO3	-15 -20 -25 -30	-CB	-INTERNALS-W-GAS

Note: Internal Kits and rotors are water calibrated @1 centistoke and supplied with calculated K-Factor for gas.

Note 1: Retainer Ring RR181 supplied with 2" kit.

Note 2: Retainer Ring RR262 supplied with 3" kit.

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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.



Hoffer Flow Controls Quality Management System

