

TURBINE FLOWMETERS BY HOFFER

Perfecting Measurement™

4" Wing Nut High Pressure Turbine Flowmeters For *Liquid* Service

Product Bulletin HO-4WN-100B

TECHNICAL DATA SHEET

4 inch Wing Nut High Pressure (15,000 PSI) Turbine Flowmeters for Liquid Service

(for water, Liquid Carbon Dioxide and Cement Slurry*)



Hoffer now has available a 4" WECO 1502 turbine flow meter (15 KSI MAWP) with the full flow capacity of a conventional 4" flow meter. Other 4" WECO 1502 turbine meter designs have been limited in flow range to a few hundred GPM. The Hoffer design has a flow capacity of 75 to 1250 GPM standard and 50 to 1500 GPM over an extended range.

Made from high strength A-286 alloy steel, the meter body is rated to a full 15,000 PSIG for conventional service and 10,000 PSIG for sour service. The new size is an extension to the very successful Hoffer Wing Nut Meter Series (1" to 3" sizes) used extensively in oil and gas well servicing and reflects Hoffer's commitment to meeting new customer needs.

Model Number								Technical Data				
Flowmeter Size (Inches)				(Ref. Note 1) Linear Flow Range (US GPM)	(Ref. Note 2) Bearing Types	(Refer Note 3 for more options) Standard Magnetic Pickup Coil	Wing Nut End Fitting - FMC (-F) or FMC Sour Gas (-FSG) Nuts and Segments	Service Types	Nominal Pulses/Gallon 'K' Factor	Nominal Max. Freq. (Hz)	Length (inches)	
Wing Nut Size (Inches)												Min.
Model HO	4	X	4	-75 -50	-1250 -1500	-CB or -T	-1MX	-1502-F -1502-FSG	-H2O -CO2 -CS	20.75	435 520	12

FLOW RANGE (Note 1) Ranges are standard ranges — other ranges are available. Contact Hoffer Flow Controls Engineering.

BEARING TYPE (Note 2) (—CB) Hybrid ceramic, self-lubricating shielded ball bearings can be used on CO2 and H2O and never on Cement/Sand Slurry.
(—T) Tungsten Carbide sleeve bearings can be used on H2O and CS and never on Liquid CO2.

PICKUP COILS (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.

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

SPECIAL FEATURES (add at end of Model No.)

- (—CE) CE mark required for Europe.
- (BW) Monel 400 internals/Super duplex rotor.
- (SG) Sour Gas Service.
- (—SP) Special features that are not covered in the Model number, use —SP and a written description.
- (—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

*FLOWMETER LIFE IS LIMITED IN CEMENT/SAND SLURRY. CUSTOMER MUST SPECIFY MAXIMUM PARTICULATE SIZE ON CEMENT/SAND SLURRY APPLICATIONS.

GENERAL SPECIFICATIONS:

- Linearity:** $\pm 0.5\%$ of reading ($\pm 0.25\%$ typical) over tabulated linear flow range.
- Repeatability:** $\pm 0.1\%$ over tabulated useable range.
- Temperature Range:** -450° to $+450^{\circ}\text{F}$ (Standard).
- Pressure Drop Characteristics:** Request graphical data.
- Overrange:** 150% of maximum flow (intermittently).
- Construction:** Housing - A-286 alloy steel
Internals - All stainless steel (except "T" bearings). Rotor: 17.4 PH.

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

4" Wing Nut Calibrated Spare Internal Kits						
Flowmeter Size (Inches)		Linear Flow Range (US GPM)		Bearing Type		Service Types
		Min.	Max.			
Part Number Kit	HO4	-75 -50	-1250 -1500	-CB -T	-internals-W	-H2O -CO2 -CS
Note: Internal Kits and rotors are water calibrated and supplied with 'K' factor.						

Hoffer also offers Wing Nut flowmeters in sizes 1" through 3" for both liquid and gas applications. Please see our Wing Nut High Pressure Turbine Flowmeters for Liquid Service Technical Data Sheet HO-WF-XXX and our Wing Nut High Pressure Flowmeters for Gas Service HO-WG-XXX.



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