

HOFFER

Perfecting Measurement™



Турбинные расходомеры газа высокого давления Wing Nut

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Архангельск +7 (8182) 45-71-35	Калининград +7 (4012) 72-21-36	Новороссийск +7 (8617) 30-82-64	Сочи +7 (862) 279-22-65
Астана +7 (7172) 69-68-15	Калуга +7 (4842) 33-35-03	Новосибирск +7 (383) 235-95-48	Ставрополь +7 (8652) 57-76-63
Астрахань +7 (8512) 99-46-80	Кемерово +7 (3842) 21-56-70	Омск +7 (381) 299-16-70	Сургут +7 (3462) 77-96-35
Барнаул +7 (3852) 37-96-76	Киров +7 (8332) 20-58-70	Орел +7 (4862) 22-23-86	Сызрань +7 (8464) 33-50-64
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Владимир +7 (4922) 49-51-33	Липецк +7 (4742) 20-01-75	Пермь +7 (342) 233-81-65	Тула +7 (4872) 44-05-30
Волгоград +7 (8442) 45-94-42	Магнитогорск +7 (3519) 51-02-81	Ростов-на-Дону +7 (863) 309-14-65	Тюмень +7 (3452) 56-94-75
Воронеж +7 (4732) 12-26-70	Москва +7 (499) 404-24-72	Рязань +7 (4912) 77-61-95	Ульяновск +7 (8422) 42-51-95
Екатеринбург +7 (343) 302-14-75	Мурманск +7 (8152) 65-52-70	Самара +7 (846) 219-28-25	Уфа +7 (347) 258-82-65
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TECHNICAL DATA SHEET

**Wing Nut High Pressure (15,000 PSI)
 Turbine Flowmeters for Gas Service**

(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	(Ref. Note 4) Ex-proof Coil Enclosure	Wing Nut End Fitting- Savage (S) or FMC (F) Nuts & Segments	Nominal Pulses/ACF 'K'	Nominal Max. Freq. (Hz)	Length (inches)
Wing Nut Size (Inches)											
Model HO	2	X	1	-15 -20 -25 -30	-BP	-1MX	-E2 -X	-1502-S -1502-F	2540 3550 4450 5660	340 470 600 755	12
Model HO	2	X	1 ½	-15 -20 -25 -30	-CB	-1MX	-E2 -X	-1502-S -1502-F	950 1255 1650 2050	270 360 485 585	12
Model HO	2	X	2	-15 -20 -25 -30	-CB	-1MX	-E2 -X	-1502-S -1502-F	480 655 920 1055	240 330 450 530	12
Model HO	3	X	3	-15 -20 -25 -30	-CB	-1MX	-E2 -X	-1502-S -1502-F	285 320 365 500	480 550 625 670	11.38

- 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 1 ½" through 3".
 (–BP) Hybrid, ceramic self-lubricating shielded ball bearings for 1" size.
 (–T) Tungsten Carbide sleeve bearings can be used on H2O and CS and never on Liquid CO2.
- 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) One ISM ATEX coil.
 (–2ISM-ATEX) 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 (Note 4)**
 (–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.
 (–SP) Any 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

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 - 4130 high chrome alloy steel.
Internals - All stainless steel.

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

Wing Nut Calibrated Spare Internal Kits				
Flowmeter Size (Inches)		(Ref. Note 1) Blade Angle	(Ref. Note 2) Bearing Type	
Part Number Kit (Note 5)	1	-15 -20 -25 -30	-BP	-internals-W
Part Number Kit	1 ½	-15 -20 -25 -30	-CB	-internals-W
Part Number Kit (Note 6)	2	-15 -20 -25 -30	-CB	-internals-W
Part Number Kit (Note 7)	3	-15 -20 -25 -30	-CB	-internals-W

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

Note 5: Kit 1 internals for Model HO 2 X 1.

Note 6: Retainer Ring RR181 supplied with 2" kit.

Note 7: Retainer Ring RR262 supplied with 3" kit.



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



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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.

