

# TURBINE FLOWMETERS BY HOFFER

Perfecting Measurement™

INDUSTRIAL★STAR★SERIES  
TURBINE FLOWMETERS FOR LIQUID SERVICE  
Product Bulletin HO-STAR-105L

## INDUSTRIAL★STAR★SERIES for Liquid Flow Measurement

- ◆ Low Cost
- ◆ Reliable
- ◆ Accurate
- ◆ Rugged



## TECHNICAL DATA SHEET

Model Number										Technical Data				
Flowmeter Size (Inches) Size (Inches)				(Ref. Note 1) Linear Flow Range (US GPM)		(Ref. Note 2) Bearing Type	(Ref. Note 3) Magnetic Pickup Coils and Enclosure Option	MNPT End Fitting	IND Series	Approvals (Use "X" for no special features)	Nominal Pulses/Gallon 'K' Factor Pulses/Gallon	Nominal Max. Frequency (Hz)	Length (inches)	Working Pressure PSI
				Min.	Max.									
Model HO	1/2	X	1/4A <i>Ref. Note 1</i>	-0.35	-3.5	-C -BP	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	15000	1000	2.45	6000
Model HO	1/2	X	3/8A <i>Ref. Note 1</i>	-0.75	-7.5	-C -BP	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	9500	1200	2.45	6000
Model HO	1/2	X	1/2A <i>Ref. Note 1</i>	-1.25	-9.5	-C -BP	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	6600	1040	2.45	6000
Model HO	3/4	X	5/8A <i>Ref. Note 1</i>	-1.75	-16	-C -BP	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	5200	1500	2.75	6000
Model HO	3/4	X	3/4	-2.5	-29	-C -BP	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	2200	1000	3.25	4400
Model HO	1	X	1	-4	-60	-C -BP	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	816	816	3.50	3850
Model HO	1 1/4	X	1 1/4	-6	-93	-C -CB	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	450	670	3.88	3850
Model HO	1 1/2	X	1 1/2	-8	-130	-C -CB	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	215	500	4.38	3500
Model HO	2	X	2	-15	-225	-C -CB	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	126	500	4.75	3000
Model HO	2 1/2 A	X	2 1/2	-25	-400	-C -CB	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	80	600	6.06	1100
Model HO	3	X	3	-40	-650	-C -CB	-1M -1MX -XE2	-NPT	-IND	-PED-CE -SEP-CE -CE -EXP	45	500	7.50	1500

### FLOW RANGE (Note 1)

Ranges shown are standard ranges; other ranges are available. The linear flow ranges on 1/4" through 5/8" may be derated depending on bearing selection. Contact factory for additional information.

### BEARING TYPE (Note 2)

C = Hard Carbon Composite sleeve bearing (standard)  
BP = Shielded, self-lubricating hybrid ceramic ball bearing (optional 1" & below)  
CB = Shielded, self-lubricating hybrid ceramic ball bearing (optional 1 1/4" to 3")

### APPROVAL

PED-CE = PED-CE mark required for Europe requires the operating temperature and pressure be given and will be marked on the housing.  
SEP-CE = Sound engineering practice  
CE = CE mark required for Europe  
EXP = CSA Explosion-proof Certification (See chart)\*\*  
X = No special features

### PICKUP COILS AND ENCLOSURE OPTION (Note 3)

1M = Standard magnetic pickup coil  
1MX = Magnetic pickup coil with 1" riser on meter body for mounting of enclosures and electronics  
XE2 = 1" MNPT riser with E2 enclosure (See chart)\*

### \*E2 EXPLOSION-PROOF/FLAME-PROOF ENCLOSURE - 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

\*\* CLASS I, DIV. 1, GR. ABCD: CLASS I, DIV. 2, GR. ABCD: CLASS II, DIV. 1, GROUPS EFG  
CANADA: CLASS I, ZONE 1 & 2, Ex d II C  
USA: CLASS I, ZONE 1 & 2, AEx d II C

# PERFORMANCE SPECIFICATIONS

**\*Linearity:**  $\pm 1.0\%$  of reading or better.

**Repeatability:**  $\pm 0.1\%$  of reading or better.

**Temperature Range:**  $-20^{\circ}\text{F}$  to  $+450^{\circ}\text{F}$  (Standard).

**Signal Output:** 10 MVRMS or greater into a 10K ohm load at minimum flow rate.

*\*Based on K-Factor Calibration at 70°F.*

**Materials of Construction:**  
Type 316/316L dual rated Stainless Steel (with exceptions noted below).

**Rotor:** 17.4 PH Stainless Steel.

**Bearings:** Hard Carbon Composite (Standard).  
Shielded, Self-lubricating Hybrid Ceramic Ball Bearings (Optional).

**End Fittings:** Male NPT

## COMPANY PROFILE

HOFFER FLOW CONTROLS, INC. has been designing and manufacturing high quality turbine flowmeters since 1969.

Our ★ STAR ★ Series should be considered when cost is a primary concern.

The ★ STAR ★ Series is offered in eleven popular sizes that are readily available.

**S**implicity

★ The Hoffer Turbine Flowmeter construction is simple, allowing for rugged and dependable service at low cost.

**T**imely Deliveries

★ Delivery for ★ STAR ★ Series Industrial Turbine Flowmeters are typically around 15 days. Companion electronics are also available for use with this series.

**A**ccuracy

★ Outstanding accuracy at low cost, without compromise in design. Accuracy  $\pm 1.0\%$  of reading or better. Repeatability  $\pm 0.1\%$ .

**R**eliability

★ Hoffer Flow Controls has been supplying turbine flowmeters to industry for over 45 years. Our customers are repeat customers. Today our reputation is synonymous with high-quality, reliable flow systems.

In addition to the Industrial ★ STAR ★ Series, HOFFER offers a full line of precision turbines for liquid and gas, mini-flowmeters for low-flow liquid and gas applications, profile insertion flowmeters for liquids and gases, as well as a complete line of electronic support equipment, including flow computers and linearizers. Contact the Applications Group at HOFFER for assistance.

**NOTE:** Spare parts are available for the ★ STAR ★ Series to facilitate field repairs. The factory does not provide repair service on this series since it is generally more economical to replace the flowmeter.

Some industrial process applications for the ★ STAR ★ Series are listed below *but are not limited to:*

- |                                  |                   |
|----------------------------------|-------------------|
| ◆ Water Flood Secondary Recovery | ◆ Gasoline        |
| ◆ Fuel Metering Systems          | ◆ Well Water      |
| ◆ Chemicals                      | ◆ Glycerin        |
| ◆ Petroleum Products             | ◆ Ethylene Glycol |
| ◆ Crude Oil                      | ◆ Alcohol         |
|                                  | ◆ Benzene         |

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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

