TURBINE FLOWMETERS BY
# HOFFER
Perfecting Measurement™

# TEFLON® SERIES
## Turbine Flowmeters for Corrosive Service
Product Bulletin HO-TF-112H

# TECHNICAL DATA SHEET

## OUTSTANDING FEATURES

- Recommended for corrosive service and ultrapure water flow applications.
- Suitable for clean liquid service at one centistoke.
- Flow rate capability from 0.35 to 485 GPM, (¼" through 3" sizes).
- Provides frequency output.
- Mates with RF flanges per ANSI or DIN flanges.


## GENERAL DESCRIPTION

Our standard Teflon® turbines are supplied with PTFE for all wetted parts manufactured from blue-dyed Teflon® with the exception of the shaft which is normally manufactured from poly-ether-ether-ketone (PEEK) and the bearing and thrust washers which are a PEEK/PTFE blend. Please confirm PEEK is compatible with the intended service fluid. Other options are available.

Magnets are embedded in Teflon® blades of rotor assembly. Within the Hoffer turbine flowmeter, the flowing media engages a vaned rotor causing it to rotate at an angular velocity proportional to flow rate. The pickup coil senses the spinning motion of the rotor through the housing and converts it into a pulsing electrical signal. Summation of the pulsing electrical signal relates directly to the total flow, while the frequency is linearly related to flow rate. Available with flanged end fittings including RF per ANSI and DIN types. Size selections available are ¼" to 3". The Teflon® Series offers a linearity of ±1% of reading and a repeatability of ±0.1% of reading. The temperature rating on the Teflon® Series is 35°F minimum and 125°F maximum. Maximum pressure is 300 PSIG.

**SIZE SELECTOR CHART FOR TEFLON® SERIES**

| METER SIZE | LINEAR AND REPEATABLE RANGES | | TECHNICAL DATA | | |
|---|---|---|---|---|---|
| (IN INCHES) | GPM | LPM | Weight (lbs.) | Overall Meter Length | K-Factor (±10%) (Pulses/Gallon) |
| 1/4 | .35 - 3.5 | 1.3 -13.2 | 4.5 | 2.453" | 1200 |
| 3/8 | .75 - 7.5 | 2.8 - 28.4 | 4.5 | 2.453" | 1000 |
| 1/2 | 1.25 - 9.5 | 4.7 - 36 | 4.5 | 2.453" | 800 |
| 5/8 | 1.75 - 16 | 6.6 - 60.6 | 6 | 3.25" | 500 |
| 3/4 | 2.5 - 20 | 9.5 - 76 | 6 | 3.25" | 375 |
| 1 | 4 - 45 | 15 - 170 | 6 | 4.437" | 124 |
| 1¼ | 6 - 70 | 23 - 265 | 8 | 6" | 60 |
| 1½ | 8 - 100 | 30.3 - 378 | 8 | 6" | 40 |
| 2 | 15 - 170 | 56.8 - 643.5 | 13 | 6" | 17 |
| 2½ | 37.5 - 300 | 142 - 1135 | 22 | 7" | 6 |
| 3 | 60 - 485 | 227 - 1836 | 27 | 10" | 3.8 |

## PERFORMANCE SPECIFICATIONS

| | |
|---|---|
| Linearity: | ±1% of reading over linear flow range. |
| Repeatability: | ±0.1 of reading over repeatable flow range. |
| Temperature & Pressure Limitations: | 35°F minimum and 125°F maximum temperature range acceptable. 300 PSIG pressure limitation. |
| Pressure Drop: | Less than 4 PSI at maximum linear flow rate. |
| Output: | 20 mV RMS or greater into a 10 K ohm load at a minimum flow rate. |

NOTE: A complete line of flowmeter signal conditioners (preamplifiers) and flow computers are available. Consult with the applications group at Hoffer for additional information.

## ORDERING INFORMATION

**Basic Model Number HO** ( A ) X ( B ) - ( C ) - ( D ) - (TFE) - ( E/F/G ) - ( H ) - ( I ) - ( J )

**A. Process Connection/End Fitting Size**

**B. Flowmeter Size**

**C. Minimum Operating Flow (GPM)**

**D. Maximum Operating Flow (GPM)**

**Bearing Type**

| | |
|---|---|
| (TFE) | PEEK/Teflon® Bearings |

**E. Pickup Coils**

| | |
|---|---|
| (1M) | One Magnetic Coil |
| (2M) | Two Magnetic Coils |
| (1ISM) | Intrinsically Safe Mag Coil |
| (2ISM) | Two Intrinsically Safe Mag Coils |
| (1ISM-ATEX) | One ISM ATEX coil |
| (2ISM-ATEX) | Two ISM ATEX coils |
| (–ATEX) | Add after coil part No. when using ATEX enclosure mounted on meter. |

**F. Coil Spacing, Mechanical Degrees apart (Factory Assigned)**

**G. Riser & Explosion-Proof Coil Enclosures**

| | |
|---|---|
| (X) | 1" MNPT riser, welded to body. Required for all types of enclosures. |
| (X-ATEX) | 3/4" MNPT riser, welded to the body. |
| (XE2) | 1" MNPT riser with E2 enclosure. (See Chart)* |
| (X-ATEX)E2 | 3/4" MNPT riser with E2 enclosure. (See Chart)* |
| (X8S) | 8" Long S/S 1" MNPT riser. (For fluid temperatures below -40°F (-40°C) or above +140°F +60°C) |
| (X8S-ATEX) | 8" Long S/S 3/4" MNPT riser. (For fluid temperatures below -40°F (-40°C) or above +140°F +60°C) |

***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 |

**H. Flanged Type Process Connection (Non-wetted)**

| | |
|---|---|
| (F1SS) | 150# S/S Raised Face Flanged per ANSI |
| (F3SS) | 300# S/S Raised Face Flanged per ANSI |
| (F6SS) | 600# S/S Raised Face Flanged per ANSI |
| (DN_/PN_/SS) | DN = Metric size, PN = flange pressure rating (in DIN Std) and select material. |

**I. Housing**

| | |
|---|---|
| (TFE) | Housing is PTFE and is manufactured from blue-dyed Teflon®. The shaft is normally manufactured from poly-ether-ether-ketone (PEEK) and the bearing and thrust washers which are a PEEK/PTFE blend. |

**J. Special Features**

| | |
|---|---|
| (CE) | CE Mark required for Europe |
| (PED-CE) | PED-CE Mark required for Europe |
| (SEP-CE) | Sound engineering practice |
| (X) | No Special Features |

**NOTE:** Teflon® meters are supplied with stainless steel housings.

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