

High Accuracy Turbine Flow Meter - HA Series

Turbines, Inc. is a leader in the design and manufacture of accurate turbine flow metering solutions. Their flow meters are field-proven to deliver performance in volatile environments with unmatched reliability, greater efficiency and higher value.

Turbines' High Accuracy turbine flow meters are built with extremely tight tolerances only achievable through precision manufacturing and stringent quality control.

The HA custody transfer approved series of meters provide accurate and dependable measurement of Liquefied Petroleum Gas. The meters are suitable for both fixed and portable mounted applications (including vehicle mounted).

Specifically engineered to meet the strict standards required for custody transfer, the High Accuracy meter delivers $\pm 0.5\%$ or better accuracy and $\pm 0.1\%$ repeatability for low viscosity applications.

For every turbine flow meter manufactured by Turbines, Inc. a unique K-factor is documented. Each meter is constructed of 316/316L stainless steel with a 17-4 Stainless Steel rotor to deliver long lasting and low maintenance service, and supplied with the provision for two coils at 90 degrees (electrical) spacing.



HA Series Turbine meter

Key Features

- Australian NMI approved for use with Liquip's electronic registers (DFV series).
- Suitable for use in applications where hose reel flowrates between 15 - 500 LPM are required.
- Customers now have a choice of meter for LPG use thanks to Turbine's mounting footprint which allows for direct drop in replacement of other meters.
- Standard or IECEx (IECEx FMG 16.0003X) approved coils available.
- 1" or 1½" models available.
- All HA meters are bi-directional.
- Meters available with either 150lb or 300lb flanges.

Technical Information

Performance Data

Calibration $\pm 0.5\%$ over standard flow range.

Repeatability $\pm 0.1\%$ over standard flow range

Linearity $\pm 0.5\%$ over standard flow range

Operating temperature -268°C to +232°C

End Connection Flanged 150 or 300 lb (same mounting and overall length as many similar LPG meters on the market for direct drop in replacement).

Flow Rate
 HA0100-F150: 15 to 280 LPM
 HA0150-F150: 30 to 500 LPM

Pressure Rating 1,900 kPa (275 PSI)

Materials

Meter Body 316 stainless steel

Rotor 17-4PH stainless steel, Nickel 200

Bearings 440C stainless steel raceways and balls, self-lubricating retainer

Certifications ISO9001, NIST, CRN, AS 9100
 Aust W&M (NMI) approved for use with Liquip's electronic registers (DFV series).

Ordering Information



HA Series Meters

1" TURBINE METERS

IECEX APPROVED COILS

HA0100-F150IECEXZ: Turbine Kit 1" 150# Flanged S/S Complete with IECEX Coils & Enclosures.

HA0100-F300IECEXZ: Turbine Kit 1" 300# Flanged S/S Complete with IECEX Coils & Enclosures.

STANDARD COILS

HA0100-F150Z: Turbine Kit 1" 150# Flanged S/S Complete with STD Coils & Enclosures.

HA0100-F300Z: Turbine Kit 1" 300# Flanged S/S Complete with STD Coils & Enclosures.

1½" TURBINE METERS

IECEX APPROVED COILS

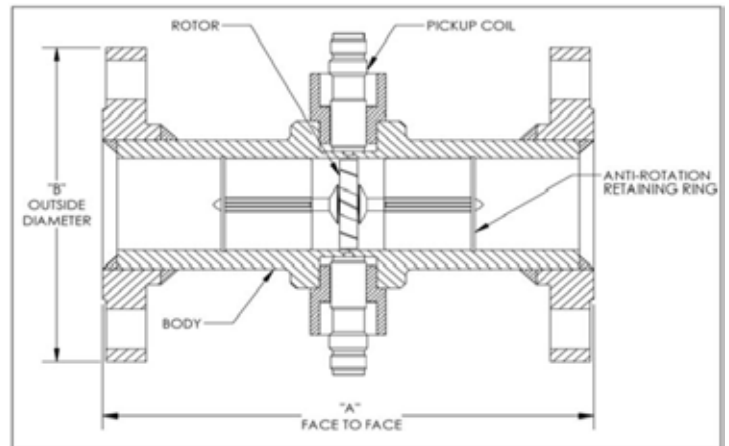
HA0150-F150IECEXZ: Turbine Kit 1½" 150# Flanged S/S Complete with IECEX Coils & Enclosures.

HA0150-F300IECEXZ: Turbine Kit 1½" 300# Flanged S/S Complete with IECEX Coils & Enclosures.

STANDARD COILS

HA0150-F150Z: Turbine Kit 1½" 150# Flanged S/S Complete with STD Coils & Enclosures.

HA0150-F300Z: Turbine Kit 1½" 300# Flanged S/S Complete with STD Coils & Enclosures.



HA Series Turbine meter - General Arrangement

SPARE PARTS

HA-901430: Standard Magnetic pickup coil for Turbine Inc HA Series (1 piece).

HA-901447: IECEX approved Magnetic pickup coil for Turbine Inc HA Series (1 piece).

HA-Y-3-EX: 1" NPT 90° Explosion-proof coil enclosure with cap for Turbinex Inc HA Series.

Installation Points

1. Magnetic pickup coils included with each turbine meter at no extra charge;
2. Turbine meter is linear and accurate over its designed operating range;
3. Minimum recommended piping installation: 10 diameters upstream and 5 diameters downstream;
4. Locate valves or chokes downstream;
5. For best meter performance and to avoid bearing wear, do not exceed maximum rated flow for long periods of time;
6. Consult Liquip for warranty details.

For additional local output, the HA Series can be combined with Liquip's reliable monitors for a complete and accurate solution.

Installation Dimensions

Nominal Meter Size	150#		300#	
	A in (mm)	B in (mm)	A in (mm)	B in (mm)
100 (1")	5.295 (134.5)	4.25 (107.9)	5.295 (134.5)	4.88 (123.9)
150 (1 ½")	6.889 (175)	5.0 (127)	6.889 (175)	6.12 (155.4)

