

# T17

## Ultrasonic Transducer for the Flare Gas Flow Meter

### Features

- High power for long paths
- Single path measures over wide range of flow rate
- Extended Range Recovery Angle built in
- Flow measurement as low as 0.1 f/s (0.03 m/s)
- Fits existing 3 in insertion mechanisms
- Measures in pipe sizes from 20 to 66 in (500 to 1650 mm) and larger. Smaller diameters on special request
- Allows cross flow immunity in large pipes
- All welded, sealed titanium construction
- Hazardous area certified: CSA/C-US, ATEX, IECEx
- Operates in pressure from -2 psig (87.6 kPa)
- Easy serviceability
- Low maintenance



### Applications

The T17 ultrasonic gas transducer is a high power transducer for accurate measurement of gas flow rate in gas flow meter systems with high sensitivity to low and high flow velocity.

- Low flow
- Flare gas
- Hydrocarbon gas flow
- Large diameter pipes
- Stack gas flow
- Emissions monitoring compliance

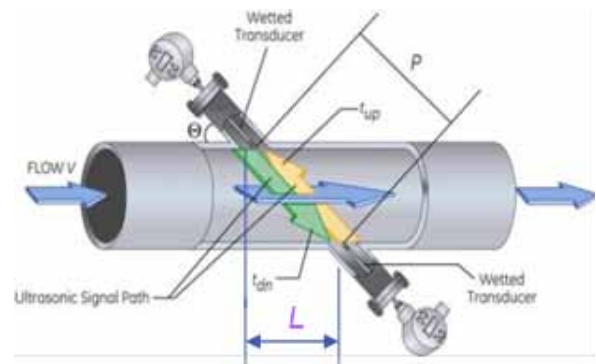


# Flare Gas Mass Flow Meter

The T17 transducer, as well as the original T5 transducer, is used with the DigitalFlow XGF868i transmitter or the DigitalFlow GF868 console ultrasonic flare gas flow meters.

Ultrasonic flow measurement remains the standard for flow measurement in demanding flare gas applications. Independent of gas properties, with no interference in the flow stream, ultrasonic measurement is the benchmark in flare flow measurement.

The all-metal T17 and original T5 ultrasonic transducers installed in a pipe send sound pulses upstream and downstream through the gas. From the difference in these transit times between the transducers, with and against the flow, the meter flow computer uses advanced signal processing and correlation detection to calculate velocity, volumetric and mass flow rate.



$$V = \frac{P^2}{2L} \frac{(t_{up} - t_{dn})}{t_{dn} \times t_{up}}$$

## T17 Specifications

### Use with

GE ultrasonic flow meters models GF868 and XGF868i (others upon request)

### Materials of Construction

All welded titanium

### Fluid Types

Flare and vent gases

### Operating Temperature

-67°F to 300°F (-55°C to 150°C)

### Storage Temperature

-67°F to 300°F (-55°C to 150°C)

### Operating Pressure

12.7 to 1500 psia (87.6 to 10300 kPa)

### Operating Frequency

100 kHz

### Head Angle

- Straight head (180 degrees)  
Part number: T17-18-10-NT-TI-...
- Recovery Angle head (174 degrees)  
Part number T17-17-10-NT-TI-...

### Electrical connector

BNC

### Certifications (with Junction Box)

- CSA/C-US: Division 1, Class I, Groups C&D  
ANSI/ISA-12.27.01 single seal
- ATEX: Flameproof II 2 GD Ex d IIC T4, T3 or T2 Gb
- IECEx: Flameproof Ex d IIC T4, T3 or T2

### Standard Junction box: Type 4X/IP66

Optional junction box: stainless steel

### Dimensions

Standard lengths : 33 to 60 in (838 to 1525 mm)

Weight: 1.5 to 3.5 lbs (0.68 to 1.6 kg)



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