

Flow Calibration Precision and Reliability with Toshiba Mount Anywhere LF664 Electromagnetic Flow Meters

Toshiba's LF664 Electromagnetic Flow Meter has set the industry standard for accuracy and dependability in flow measurement for decades. In collaboration with Utah State University's Utah Water Research Laboratory (UWRL), a premier facility for flow testing, Toshiba conducted comprehensive calibrations on a 30-inch flow meter. These tests demonstrate the exceptional capabilities of the LF664 model for both municipal and industrial applications.



LF664 Flow Meter

Key Highlights

1. Precision Calibration

- Conducted at UWRL, renowned as a leading facility in flow measurement
- To simulate real-world conditions extensive, testing included straight-line and complex pipe configurations

2. Comprehensive Testing

- Straight Line Calibration: Achieves high accuracy through extensive straight pipe setups
- Short Pipe Calibration: Tested with various bends to assess performance under different flow conditions

A. 3D Upstream

B. 1D Upstream

C. 0D Upstream

3. Robust Performance

- Meters were tested at flow rates up to 20,000 gallons per minute (GPM)
- Consistent data collection across multiple flow rates: 20,000, 15,000, 10,000, 5,000, and 0 GPM

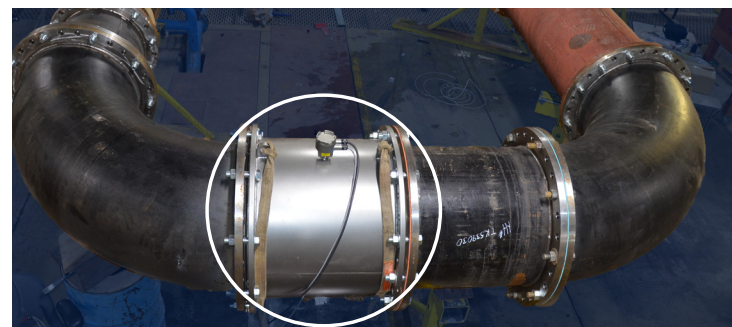
4. Reliable Results

- Key data points collected to verify test conditions support long-term reliability and measurement accuracy

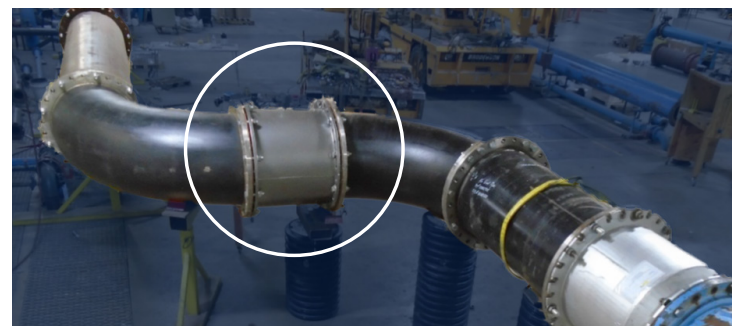
Flow Meter Upstream Configuration Tests



A. 3D Upstream Flow Right to Left



B. 1D Upstream Flow Right to Left



C. 0D Upstream Flow From Top to Bottom

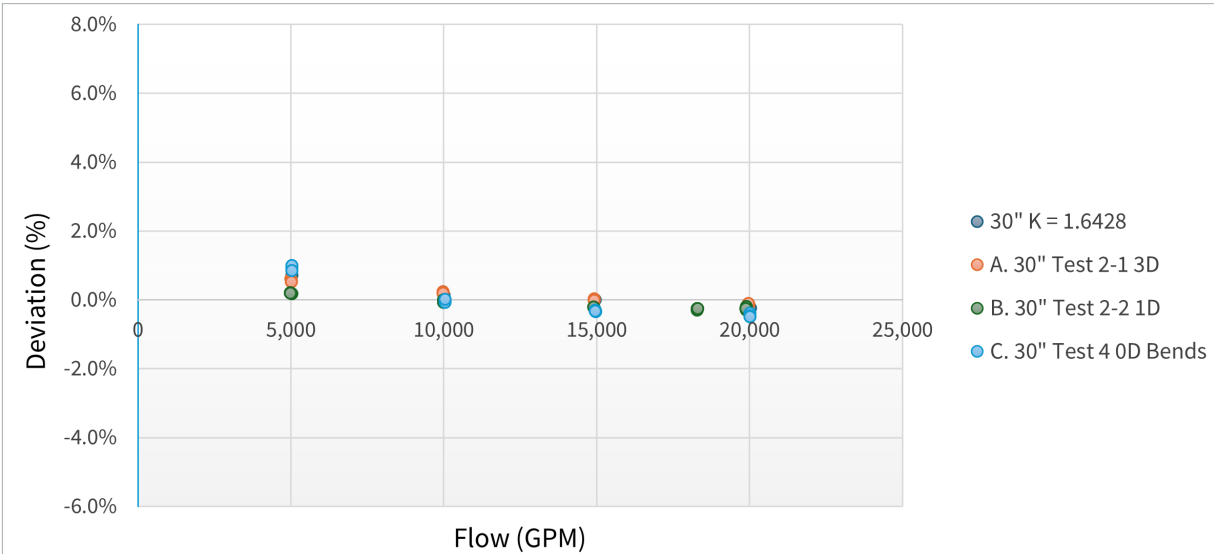
Why Choose Toshiba Flow Meters?

- **High Accuracy:** Proven precision and performance in rigorous environments
- **Versatile Applications:** Adaptable to a wide range of industrial and municipal setups and pipe configurations
- **Dependable:** Delivers accurate, repeatable, and reliable data for critical flow measurements

Utah Water Research Laboratory 30” Toshiba Flow Meter Test

Calibration Data			
Calibration Location	24” Line	Pipe Diameter (in.)	29.250
Calibration Description	30” Toshiba Magnetic Flow Meter	Pipe Area (ft2)	4.666
Converter Serial Number	176228381	Water Temp. (F)	44.0
Meter Serial Number	1666075003	Unit Weight (lb/ft3)	62.42
Nominal Pipe Diameter (in.)	30	Kin. Visc. (ft2/s)	1.55E-05

30” Toshiba Flow Meter Test Results



Toshiba Flow Meter Accuracy Statement from LF664 Data Sheet:

< 28” to 78” (700 mm to 1950 mm) > ±0.5 % of Rate*

* This pulse output error result is established under standard operating conditions at Toshiba’s admitted flow calibration facility. (NIST Traceable)

* Individual meter’s measurement error may vary up to ± 0.8 % of rate at 3.28 ft/s (1.0 m/s) or more and ± 0.4% of Rate ±0.157 inch/s (4mm/s) at 3.28 ft/s (1.0 m/s) or less

* Current output: plus ± 8µA (0.05% of span)

* Refer to individual calibration data for each individual meter’s measurement error

NOTE: All three test scenarios fall within the above Toshiba accuracy statement, it is applicable to all LF664 meters.

NOTE: All three test scenarios fall within the above Toshiba accuracy statement, this applies to all LF664 meters.

Learn more about Toshiba’s flow meters and discover how they can optimize your operations: TIC-Service@toshiba.com.