

**BELL TECHNOLOGIES LOCATIONS**

Headquartered in Houston, Texas, Bell Technologies, LLC has sales offices and projects located around the world. To find one near you, go to [www.belltechnologiesllc.com](http://www.belltechnologiesllc.com).

**ABOUT BELL TECHNOLOGIES LLC**

Bell Technologies LLC, based in Houston, TX, is a global leader in helping businesses create and utilize innovative advancements in differential pressure flow measurement. The company combines technology and innovative engineering together to provide solutions to customers in industrial, commercial and consumer markets. For more information, contact 713-465-7575 or go to [www.belltechnologiesll.com](http://www.belltechnologiesll.com)

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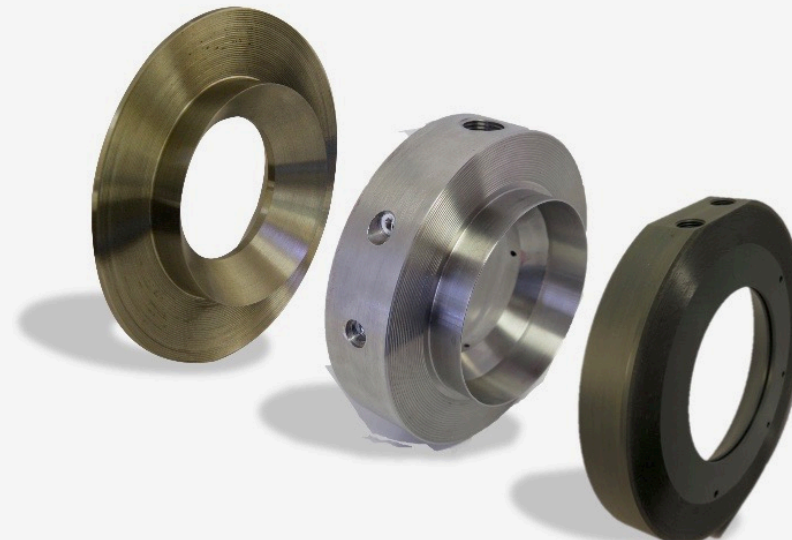
IMPOSSIBLE MEASUREMENT MADE POSSIBLE

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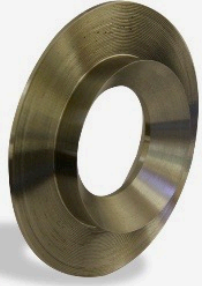


IMPOSSIBLE MEASUREMENT MADE POSSIBLE



The TORUS CENTERTAP™  
Stable Differential Pressure Device

# Torus Differential Pressure Primary Flow Element



Torus (TWP1)

Performance and durability are the trademarks of the Bell Technologies **Torus™** primary flow element. This simple yet effective differential pressure measurement solution is offered in several configurations and ensures measurement precision and improved longevity in both homogenous and non-homogeneous measurement conditions.

The patented **Torus (TWP1)** is a primary element for the measurement of fluid flows through a closed conduit. It combines several preferred attributes of various proven technologies into a single device.

The **Torus CenterTap**, the newest patented design, makes the transition from primary differential pressure to a very stable and accurate flow measurement device. It provides users with the ability to measure, sample and perform diagnostics all within one device.



Torus CenterTap

## Without Precise Measurement, You Can't Manage Your Process

### KEY FEATURES AND BENEFITS OF THE TWP1

- Inherently bi-directional
- Design withstands high differential pressure without bending
- Self-centering and insertable between two flanges
- Self-cleaning design
- Available in any material compatible with process fluid
- Low cost of ownership
- In compliance with API 22.2 standard
- Relatively low permanent pressure loss
- Unlike the orifice plate, edge sharpness and surface roughness tolerances are not critical
- Design forces flow to be well-mixed downstream of the bore
- Less frequent inspection is required
- Handles pressures of vacuum to 20,000 psig
- No critical meter alignments required
- No moving parts



Torus Water Meter Solar or AC powered electronics totalizer & flow rate indicator

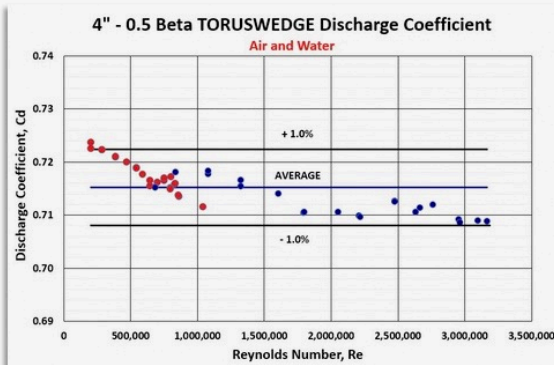
### KEY FEATURES & BENEFITS OF THE CENTERTAP

- All of the advantages of the TWP1 are applicable
- It monitors pressure at the smallest cross section of the pipe
- It is an averaging pressure port
- It offers low sensitivity to profile distortions
- Downstream obstruction in close proximity to the center port has negligible effect on measurement
- Very stable DP reading compared to an orifice plate

### FIELD TESTED LOCATIONS

- Apache land rig (drilling mud)
- Summit Casing (cementing tool certification)
- Halliburton MPD (well excitement and plug & abandonment on offshore rig)
- Weatherford cementing tool calibration testing
- Power plant (1 1/2 years in limestone slurry)
- Chemical processing plant (Canada)
- Waste treatment plant (Hydrofluoric acid)
- Natural gas distribution at city gate (Moscow, Russia)
- High viscous crude oil measurement (Houston Fuel Oil Terminal)

### IMPOSSIBLE MEASUREMENT MADE POSSIBLE



### INDUSTRIES

- Oil & Gas
  - Liquids
  - Gases / wet gas
  - Steam
- Multiphase
  - Slurries
  - Drilling Fluids
  - Produced Water
- Water Management
  - Irrigation
  - Wastewater
  - Desalination
  - Plants
  - Sanitary service
- Chemical
  - Liquids
  - Gases
  - Steam
- Pharmaceutical

