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### ABOUT BELL TECHNOLOGIES LLC

Bell Technologies LLC, based in Katy, 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.belltechnologiesllc.com](http://www.belltechnologiesllc.com)

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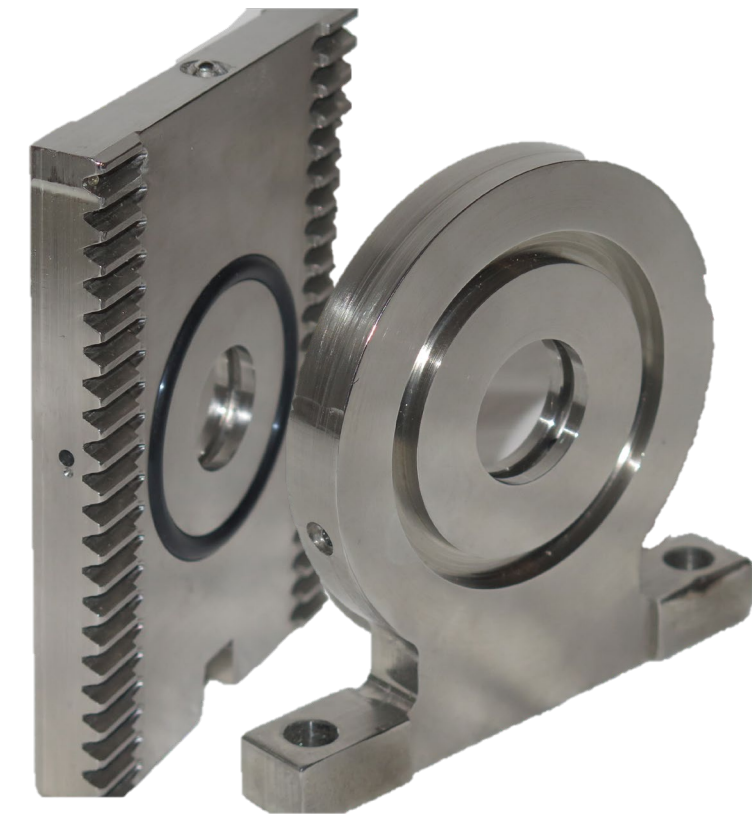
IMPOSSIBLE MEASUREMENT MADE POSSIBLE

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IMPOSSIBLE MEASUREMENT MADE POSSIBLE



## The TORUS CENTER-TAP™ Carrier Plate

Stable Differential Pressure Device



The TORUS Carrier Plate

# The TORUS CENTER-TAP Carrier Plate

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.

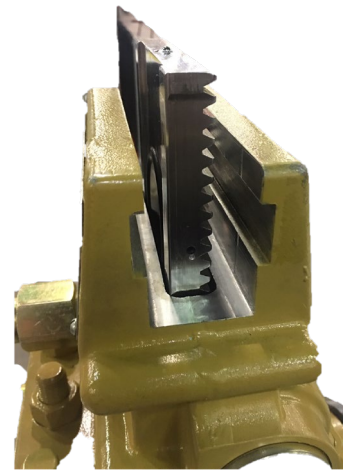
The patented **TORUS** is a primary element for the measurement of fluid flows through a closed conduit. It combines several preferred attributes of various proven technologies into a single device. This inexpensive replacement device is an effective means to minimize loss and unaccounted for measurement situations or problems. Like its parent product, the **TORUS Carrier Plate** is easily retrofitted into an existing dual or single chamber orifice meter-type differential pressure flow measurement system. It is currently available in sizes from 2-inch to 16-inch. For larger sizes, consult factory.

This new device offers end users the ability to do temperature, pressure and sampling measurement closer to the generator without disturbing the measurement.

## Overcome the Difficulties Associated with Orifice Plate Measurement

### KEY FEATURES AND BENFITS OF THE TORUS

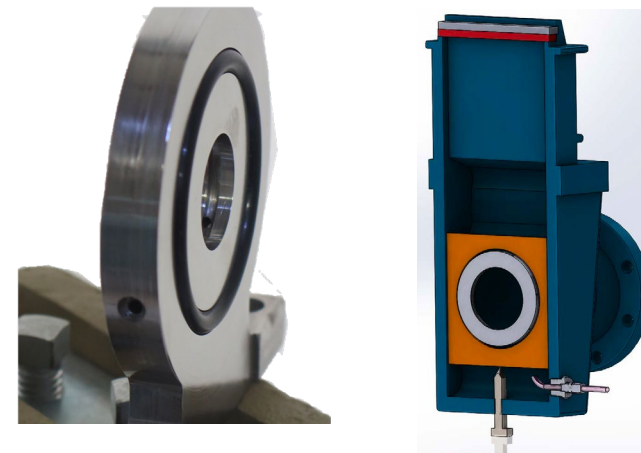
- Inherently bi-directional
- Design withstands high differential pressure without bending
- Self-centering and insertable between two flanges
- Self-cleaning design
- Available in any material compatible with process fluid
- Low cost of ownership
- In compliance with API 22.2 standard
- Relatively low 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



The TORUS Carrier Plate Dual Chamber

### KEY FEATURES & BENEFITS OF THE TORUS CENTERTAP

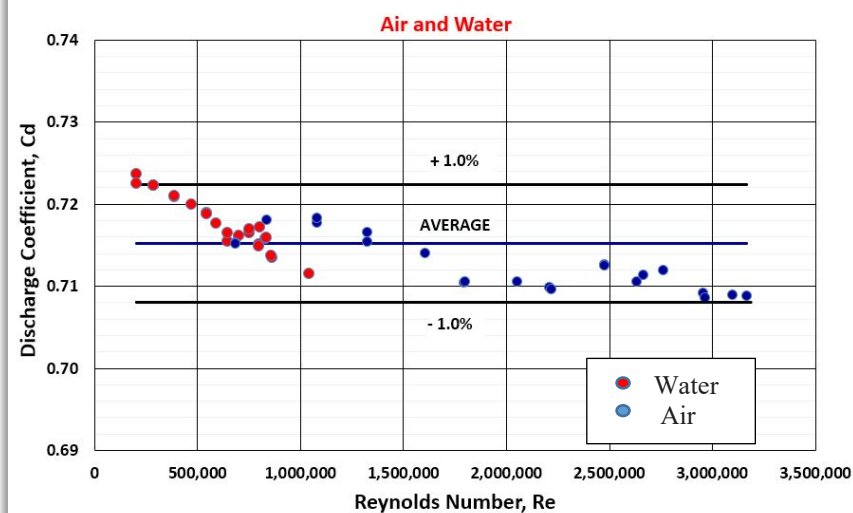
- All of the advantages of the **TORUS** are applicable
- It monitors pressure at the smallest cross section of the pipe
- It is an averaging pressure port
- It offers low sensitivity to profile distortions
- Downstream obstruction in close proximity to the center port has negligible effect on measurement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



The TORUS Carrier Plate Single Chamber

### IMPOSSIBLE MEASUREMENT MADE POSSIBLE

6" -0.54 Beta Water TORUS Discharge Coefficient  
4" - 0.3 Beta Air TORUS Discharge Coefficient



### 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**

• Patent pending

**10" TORUS 0.7 Beta Water Calibration**  
With and without 1/2" probe less than 1/2-D downstream

