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**Mag-Tek™ Sphere  
Detector Switches**

# ***Bi-Directional Provers***

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**B**y far the most commonly used Prover in the industry for many years. The Bi-Directional Displacement Type Pipe Prover has proven itself over and over again as one of the most reliable means available to verify meter readings and establish meter factors. It is still the most recommended and used Prover design in the world today.

By definition the Bi-Directional Pipe Prover is a positive displacement type prover with flow and displacer traveling in both directions by means of a 4-way diverter valve. The Bi-Directional Prover is constructed of pipe, which can be configured in many ways. Probably the most influential advantage of the Pipe Prover is its ability to allow the full flow of the stream through the meter being proved to pass through the prover. In this regard the Bi-Directional Pipe Prover offers a history of long-term reliability with minimum maintenance.





**WeamcoMetric** established itself many years ago as one of the leaders in Bi-Directional Pipe Prover design, engineering and manufacturing. With WeamcoMetric you will be working with one of the most professional staffs and highly skilled manufacturing forces in the business. This assures that your projects will run smoothly and on schedule. Our people will do everything within their power to accommodate the needs and desires of our customers.

(For more information concerning this and other types of Provers, please see our Conventional Liquid Meter Prover Design and Construction Section in this catalog.)



# ***Bi-Directional Provers***

## **Typical Prover Specifications**

### **Design and Construction:**

API Manual of Petroleum Measurement Standards, Chapter 4.2 Proving Systems, ASME/ANSI B31.4, ASME/ANSI B31.3.

### **Radiography:**

Spot or 100% in accordance with API 1104.

### **Hydrotest:**

1.5 times design pressure with chart recording.

### **Inspection Flanges:**

Match bored, dowel pinned and O-ring groove for metal to metal seat.

### **Materials:**

Pipe - ASTM A-106/53-Gr B Seamless (to 24" size)

Flanges and threaded fittings - ASTM A-105

Weld fittings - ASTM A-234 WPB

Studs - ASTM A-193-B7

Nuts - ASTM A-194-2H

Gaskets - Spiralwound, 304SS

O-Rings - Viton

### **Calibration:**

Water draw method, repeatability within 0.02 percent per API Chapter 4.2 and Chapter 12.2.4.

### **Internal Coating:**

Sandblast to white metal and 5 to 7 mils air dried epoxy or baked on phenolic.

### **External Coating:**

Sandblast to white metal and one coat zinc chromate primer.

### **Standard Equipment and Trim:**

Four way diverter valve with viton seals and differential pressure gauge

Detector switches - Mag-Tek M-6, SS construction with viton seals

Valve actuator - Electric Class I Group D Div II or manual handwheel

Sphere - Inflatable polyurethane, nitrile, or neoprene with accessories (pump and sizing ring)

Quick opening closure, hinged or davit type

Thermometers - mercury in glass with 0.20°F divisions and SS thermowells

Pressure gauges with isolation valves

Pressure relief valve

Vent valves

Drain valves

Semi-skid beam supports

*All materials and equipment selected for WeamcoMetric provers are of the highest quality and consistency. Selection is based on proven industry standards. We accept no substitute.*

***Other materials and options available.***

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