# Bidirectional Provers

The bidirectional 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 one of the most recommended and used prover designs in the world today.

Weamco is a trusted veteran in the industry for bidirectional pipe prover design and manufacturing. With hundreds of provers in service throughout the industry you can rest assured you are working with the best at Weamco.








# Bidirectional Provers

## Typical Prover Specifications

### Design and Construction:

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

### Radiography:

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 – ASME, ASTM, API

Flanges and threaded fittings – ASME, ASTM, MSS

Weld fittings – ASME, ASTM, MSS

Studs – ASME, ASTM

Nuts – ASME, ASTM

Gaskets – Spiral Wound

O-Rings – Viton

### Calibration:

Water draw method, repeatability within 0.02 percent per API Chapter 4.9 and Chapter 12.2.4.

### Internal Coating:

Crude, refined products – SP-5 and air dried epoxy

Condensate – SP-5 and baked on phenolic

LNG's - SP-5 and baked on phenolic

### External Coating:

SP-6 with epoxy / urethane

### Standard Equipment and Trim:

Four way diverter valve with Viton seals and differential pressure device

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 and SS thermowells

Pressure device with isolation valves

Pressure relief valve

Drain valves

Semi-skid beam supports

See Prover Bulletins MPD-112 and PDS-118 for assistance.

**All materials and equipment selected for Weamco provers are of the highest quality and consistency. Selection is based on proven industry standards.**

# Meter Prover Data Sheet

WEAMCO

Customer _____ Date _____

Contact _____ RFQ/PO _____

Email _____ Project _____

Phone _____ Location _____

Address _____ End User _____

## FOR RFQ – PLEASE PROVIDE ALL AVAILABLE INFORMATION

**TYPE:** ☐ Bidirectional ☐ Unidirectional ☐ Volumetric

☐ Launch Chambers Type (Describe) _____ ☐ Horizontal ☐ Vertical ☐ Inclined

☐ Stationary ☐ Portable (Describe) _____

**SERVICE:** Fluid Type _____ Specific Gravity _____ API / SPEC@ _____

Viscosity _____ SSU / CST@ _____

Flow Rate – Max. _____ Min. _____ GPM / BPH _____

Fluid Temp. – Max. _____ Min. _____ °F Ambient Temperature _____ °F

Fluid pressure – Max. _____ Min. _____ PSIG _____

**METER(S) TO BE PROVED:**

Make _____ Model _____ Type _____ Size _____

Pressure Rating _____ Pulses per GAL / BBL U.S. _____

**CONSTRUCTION:** Design Code: Standard is API Chapter 4 & ASME B31.4 _____

Elec. Classification: Standard is NEC Class 1/div 2/group D. _____

ASME Pressure Rating: _____

Insulation Required: ☐ Yes ☐ No If Yes - Type _____ Thk. _____

If Bi-Di, 4-Way Diverter Valve Mfg.: Cameron/General is Std. _____

Actuator/Operator: Type Preferred: _____ Power Required: _____ Operator: ☐ Local ☐ Remote

Internal Coating: ☐ Yes ☐ No If Yes - ☐ Air Dried Epoxy ☐ Baked-On Type _____

External Coating: _____

Sphere Detector Switches Type (Mag-Tek M-6 is Standard) _____

AML Required: ☐ Yes ☐ No If Yes, please provide _____

Vents: Qty _____ Size _____ Valves _____

Drains: Qty _____ Size _____ Valves _____

Pressure Taps: Qty _____ Size _____ Gauge valve _____

Thermometers: Qty _____ Type _____ Thermowells size _____

Pressure Relief Valve: Size _____ Type _____

Field Calibration Nozzles: _____ Electronic instrumentation: _____

## FACTORY TEST & CALIBRATIONS

Witness _____ ☐ Yes ☐ No

Hydrostatic Test _____ ☐ Yes ☐ No

Water Draw Calibration _____ ☐ Yes ☐ No

Radiography, ☐ 100 % ☐ Spot _____ % ☐ No

## NOTES:

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