Uni-Flo Conventional Ball Provers

Weamco's Uni-Flo reduced volume unidirectional ball prover is one of the most reliable prover designs on the market today. With an interchange design unique and superior to old problematic designs from the past, it's user friendly, seamless operation and low maintenance requirements, make it a smart choice for all your meter prover requirements.

Designed to meet all API Chapter 4, Section 2 requirements, Weamco's Uni-Flo reduced volume prover is the best combination of conventional ball prover design matched to today's advanced flow computers using double chronometry.





STANDARD RATINGS AND SIZES				
MODEL NUMBER	PROVER BBL DIA.	PROVER VOLUME	NORMAL FLOW RANGE	OVERALL DIMS (APPROX.)
UFM-8	8″	100 gallons	Min. 200 BPH Max. 2,000 BPH	5′ wide 25′ long, 9′ high
UFM-10	10″	160 gallons	Min. 350 BPH Max. 3,500 BPH	6′ wide 30′ long, 10′ high
UFM-12	12″	200 gallons	Min. 500 BPH Max. 5,000 BPH	6′ wide 35′ long, 12′ high

Larger units are available on request.

Design Features & Benefits:

User friendly reliable automated operation for both local or remote

Differential pressure switch with automatic seal indication adjustable to operation requirements with optional time delay

Interchange designed for safe, easy access for sphere and seal maintenance

Heavy-duty long lasting high quality components and construction

Low minimal maintenance costs

Ease of water-draw calibration

Low pressure drop

Smaller footprint

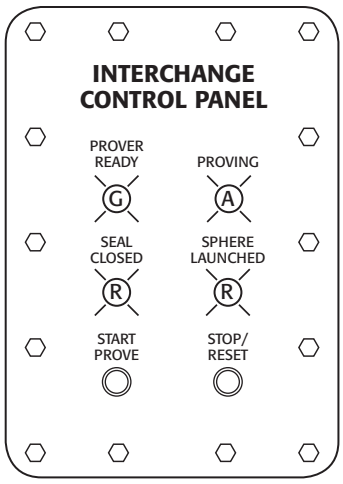
Uni-Flo Conventional Ball Provers

The system is completely interlocked and automated

Interchange seal must be indicated before sphere will launch

Launch valve must be closed before seal cylinder retracts

The effortless operation of Weamco's Uni-Flo design, assures you of years of consistent reliable meter proving.



Proving Cycle & Control Sequence:

A. Power On – Prover is automatically set to the "ready" position

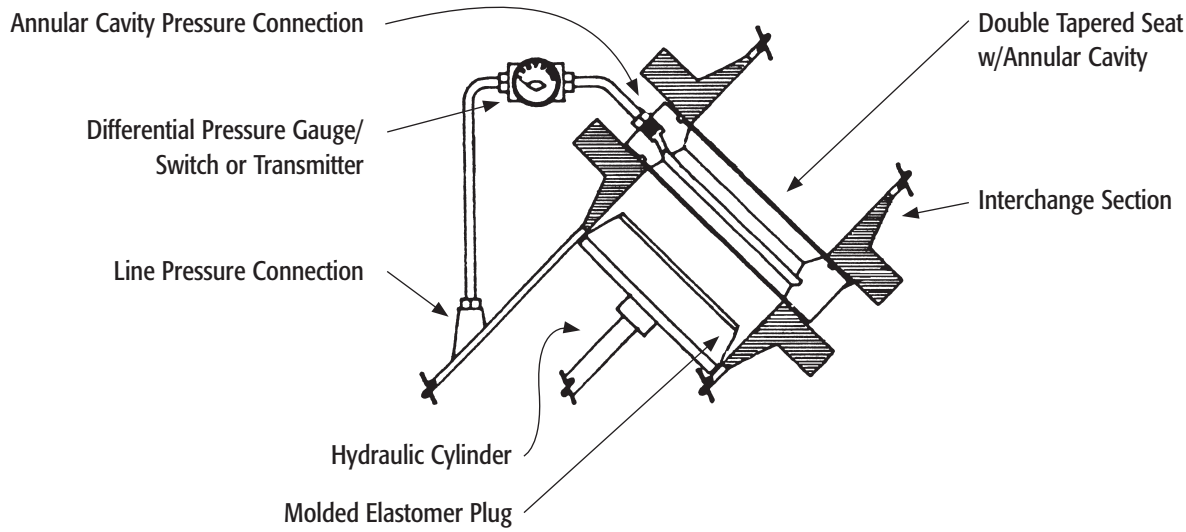
B. "Start" – The seal cylinder is activated. When seal is determined by the differential pressure switch indication the launch valve is opened and the sphere enters the prover barrel flow

C. "Proving" light or signal appears when sphere is "in-flight"

D. Cycle completes after last detector switch is made, prover is set to "ready" position again

"All functions above are completed automatically"

Seal Verification Design:



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Typical Prover Specifications

Design and Construction:

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

NEC Class:

Class I, Div. 1, 220/440 volt/3 phase 50 or 60 cycle

Radiography:

100% in accordance with API 1104

Hydrotest:

1.5 times design pressure with chart recording

Section Flanges:

Match bored, dowel pinned with O-ring groove for metal to metal seat for smooth un-interrupted sphere travel

Standard seal: Buna-N - molded

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:

Uni-Flo Interchange with PLC controls and hydraulic power unit

Detector switches – Mag-Tek® M-6D, SS construction with Viton seals

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

Quick opening closure, hinged or davit type

Thermometer and SS thermowell

Pressure device with isolation valve

Pressure relief valve

Vent valve

Drain valve

Skid mounted

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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