Flow MD Small Volume Prover Data Sheet

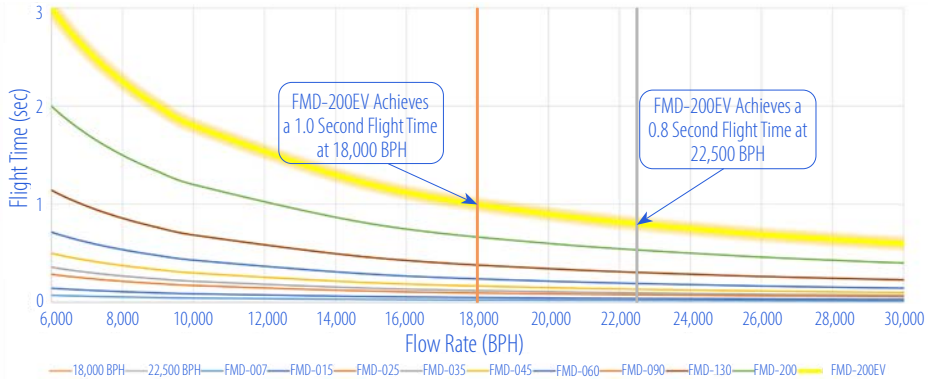
FMD-200EV

The World's Largest Proven Small Volume Prover Just Got Bigger

The FMD-200EV prover showcases our innovative design enhancements to the FMD-200 model. With 50% greater volume capacity at 210 gallons (versus 140 for the standard FMD-200), the EV allows for larger sample sizes and extended flight times, ideal for proving manufactured pulse meters such as ultrasonic, Coriolis, and helical turbine meters. Like the rest of the FMD prover line, the FMD-200EV conforms to API MPMS Chapter 4 standards and provides superior performance. This meter prover has 20" ANSI flanges, 2" drains/vents, and ports for verifying pressure and temperature.

Improving Prover Performance:

When proving ultrasonic, Coriolis, or helical turbine meters one of the primary meter-proving sizing characteristics is "Flight Time" or the sample time between the detector switches. The FMD-200EV takes the already successful design of the FMD-200 and stretches it in order to achieve longer flight times. Typically with ultrasonic and Coriolis meters at least 0.8 to 1.0 second flight times are desired and the FMD-200EV can achieve the results as shown in the graph below.



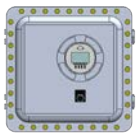
Flow Rates & Displaced Volumes:

FMD-200EV Max Flow Rates*				
FMD-200-EV	BPH	GPM	M³H	*We want to ensure that you get the proper FMD Meter Prover for your application. Please contact us to discuss your specific application and the optimal FMD Prover for your application. Meter type, brand, operating conditions, and fluid characteristics will affect prover sizing.
	28,500	20,000	4,500	

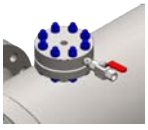
Displaced Volumes**					
	Gallons		Liters*		**Please Note: Standard prover volume is in gallons, liters are optional. Prover requires non-standard switchbar for liters. Alternate displaced volumes are available for liters, please contact factory for additional information. * Liters are a direct conversion and not indicative of Seraphin can sizes.
	Primary	Secondary	Primary	Secondary	
FMD-200EV	210	170	800	635	
FMD-200	140	100	520	400	

Included with Standard Prover Package:

Electrical Connections



PIM Electronics Module



Vent Manifolds (2)

*Please Note: Proving calculations require switch bar temperature, tube temperature, and tube pressure. FMD quotes these as standard options with the prover package.

FMD Prover - Meter Compatibility

Coriolis - Turbine & Helical Turbine - Positive Displacement - Ultrasonic

FMD Prover Performance Specifications

Repeatability	< 0.02% - Exceeds API Standard
Performance	Exceeds 0.02% (ISO17025 Calibration Lab)
Uncertainty	Typically 0.005% (Water Draw)
Pressure Drop	5 psi at max flow rate of each prover (calculated with water)
Turndown	1200:1*

*1200:1 Turndown is typical of normal operations. Turndown ratio can vary significantly depending on installation and process conditions. Actual turndown may be much greater than 1200:1 in some conditions such as water draw, or much less in high pressure, dry product applications such as NGL service.

FMD Prover Available Options

Prover Flange Configuration Options
Electrical Panel Placement Options
Transmitter Type Options

FMD Prover Spare Parts & Accessory Kits

Seal Kits & Spare Parts	Drain Kit
Pressure Relief Valves	Internal Leak Detector Kit
Insulation Jacketing	External Leak Detector Kit
Shaft Seal Monitor Kit	Thermal Relief Kit
Mass Proving/Density Kit	Spectacle Blind Kit
PDAQ Kit	Prover Validation Kit
Spring Assist Kit	

Approvals & Certifications

ISO	9001:2015, 17025:2017
CE	Mach Dir:2006/42/EC, EN 12100-2:2003
ATEX	2014/34/EU II 2(1)G Ex db mb [ia Ga] IIB T3 Gb -20 °C to + 40 °C Cert#: CSANe 25ATEX1007X
CSA (US & Canada)	Class I, Division 1, Groups C and D; Class I Division 2, Groups C and D; Maximum Operation Ambient 60°C Class I, Division 1, Group D; Class I, Division 2, Group D; Maximum Operation Ambient 40°C Cert#: 213767
IECEx	Ex db mb [ia Ga] IIB T3 Gb -20 °C to + 40 °C Cert#: IECEx CSA 25.0009X
ABSA	CRN: OF1072.2

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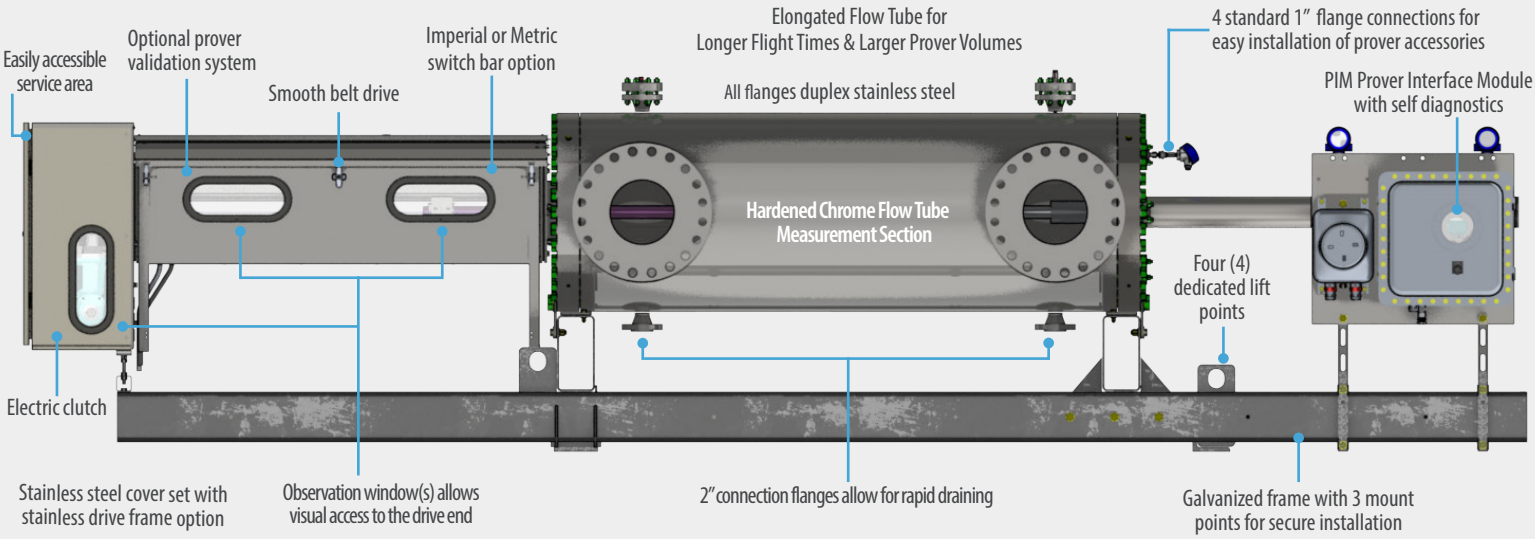
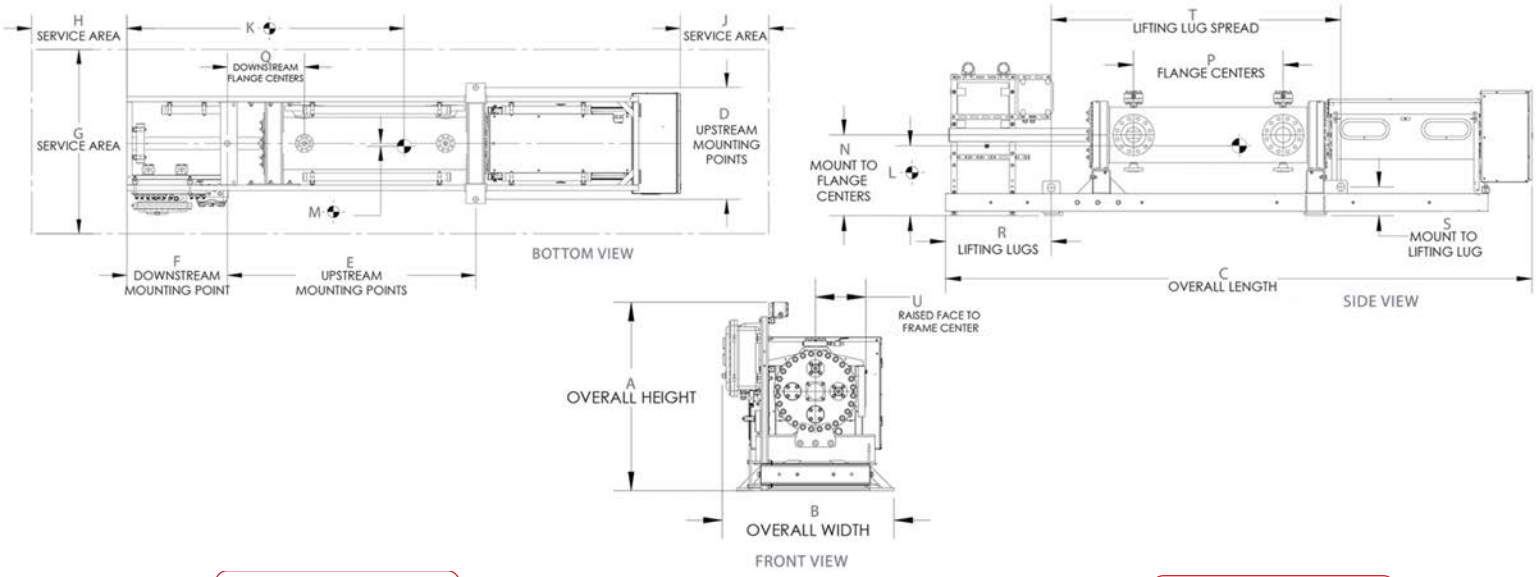
FMD Prover Features:



FMD-200EV Prover Dimensions:



Note:
Overall length stretched to accommodate additional volume.

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FMD-200EV Dimensions	A	B	C	D	E	F	G	H		J	K	L	M	N	P	Q	R	S	T	U
								Min	Max											
Pressure Rating																				
150#	73.59	71.98	309.00	64	121	76.75	132	42	138	30	163	39	1	45.38	93	13.75	69.75	17.25	135	25.75
300#	73.84	71.98	337	64	128	71.25	132	42	137	30	173	39	2	45.50	93	18.50	69.63	17.25	140	26.38
600# & 900#	Please Consult Factory for Dimensions																			

Drawing Notes: All dimensions are shown in inches. 1. Dimensions "K" and "L" are for center of gravity within 6 inches. 2.Spacial dimensions have a tolerance of 1.00 inches. 3. Dimension "P" is inlet-to-outlet flange distance, drains and vents may vary. 4. All FMD-130 600# and FMD-200 models have 8 lifting lugs. Table gives dimensions to outermost lugs. 5. All dimensions are subject to change without notice. 6. For TT configurations see specific outline. 7. Dimension "H" max is the distance required to remove fully assembled piston assembly from the prover. Complete seal change may be done with piston not completely removed which requires 42".

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