

SERVICE, EXPERIENCE, INNOVATION & EXCELLENCE



Flow MD is the leader in compact meter prover technology. With an innovative and patented design, the FMD line of meter provers provides superior performance, design, and functionality. All FMD small volume provers conform to API MPMS Chapter 4 Standards. The FMD-090 includes 12" ANSI B16.5 flanges on both the inlet and outlet, 2" drain flanges, and 2" vents with thermowell and ports for temperature and pressure verification. The FMD-090 is an excellent choice for your meter proving application.

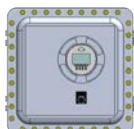
Flow Rates & Displaced Volumes:

FMD-090 Max Flow Rates*				
FMD-090	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.
	12,850	9,000	2,000	
Displaced Volumes**				
	Gallons		Liters*	
	Primary	Secondary	Primary	Secondary
FMD-090	80	60	300	225
**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.				

Included with Standard Prover Package:



Electrical Connections



P.I.M 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.

Field Installation Pictures:



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 0.008% (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 or External Leak Detector Kit
Insulation Jacketing	Thermal Relief Kit
Shaft Seal Monitor Kit	Spectacle Blind Kit
Mass Proving/Density Kit	PDAQ Kit
Kit Prover Validation Kit	
Spring Assist Kit	

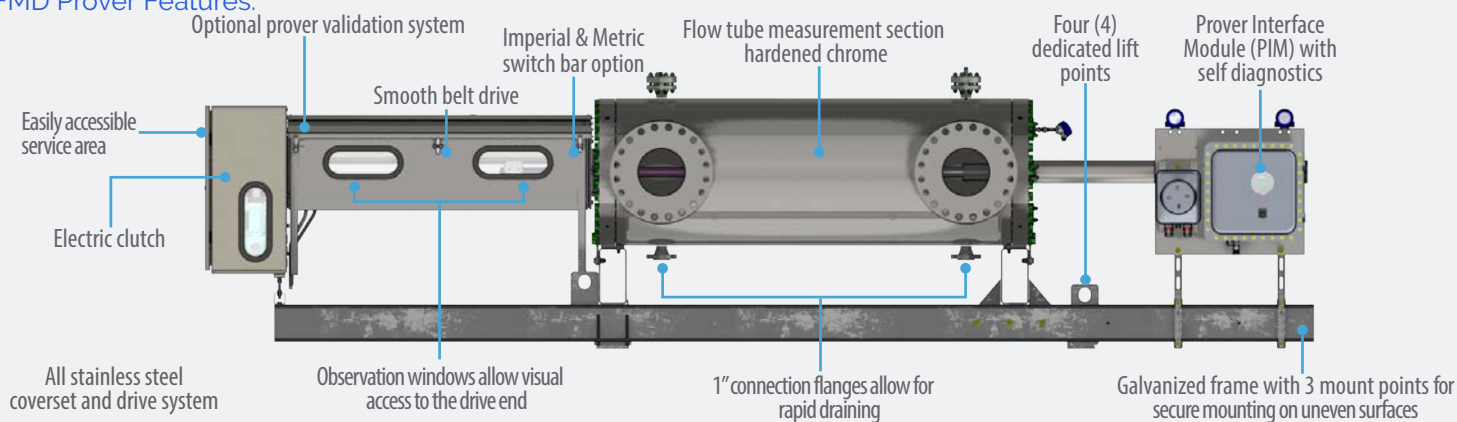
Approvals & Certifications

ISO	9001:2015, 17025:2005
EC	Mach Dir:2006/42/EC, EN 12100-2:2003, ATEX Directive 94/9/EC, EN 13463-1:2009, EN 13463-5:2003, EN 60079-0, EN 60079-7, EN 60079-11
CSA (US & Canada)	Class 3218 06, Class 1 Div 1 Group D; Class 1 Div 2 Group D / Clutch & Brake Assembly - EX m IIC T5
IECEX	USA /ETL/QAR 15.0014/00, 101653329CRT-002
ABSA	CRN: OF1072.2

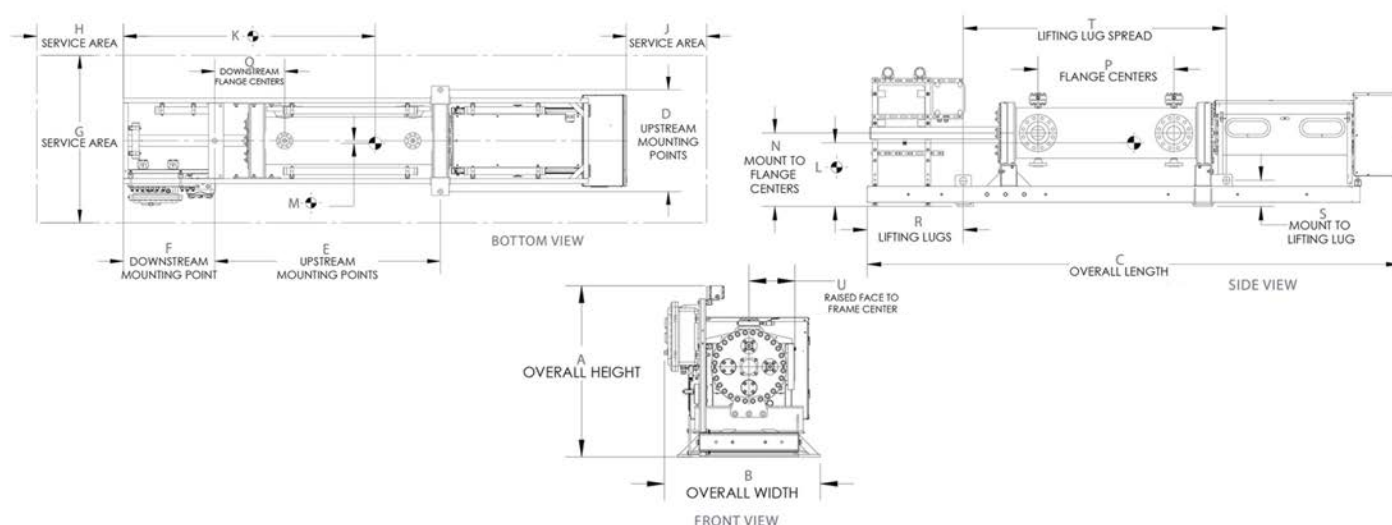
Contact us today to discuss the benefits provided by FMD Small Volume Provers

FMD-090 Features & Technical Specifications

FMD Prover Features:



FMD-090 Prover Dimensions:



FMD-090 Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
Pressure Rating																			
150#	59.62	58.21	236.75	51.50	100.50	49.25	120	30	30	114	34	2	37.75	65	25.13	49	14.50	106.78	19.13
300#	59.62	58.21	236.75	51.50	100.50	49.25	120	30	30	114	34	2	37.75	65	25.13	49	14.50	106.78	19.75
600#	59.62	58.21	236.75	51.50	100.50	49.25	120	30	30	114	34	2	37.75	65	25.13	49	14.50	106.78	21.25
900#	63.13	63.21	240.25	56.50	93.63	58.57	124	30	30	155	34	2	39.13	63.75	18.57	51.19	12.50	108	24.00

Drawing Notes: 1. Dimensions "K" and "L" are for center of gravity within 6 inches. 2. Spatial 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" 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 32" (FMD-007 thru FMD-130) and 42" (FMD-200 & FMD-200 EV50).

FMD-090 Weights	Weight (+/- 5%)		Weight with Crate (+/- 5%)		Weight Filled w/ Water (+/- 5%)		Energy Consumption Motor Voltage / Phase Availability & Amperage Draw					
	Lbs	Kgs	Lbs	Kgs	Lbs	Kgs						
ANSI Pressure - 150#	10,975	4,990	12,230	5,550	12,630	5,730	FMD-090 Motor Horsepower	120 VAC 1 Phase 50-60 Hz	220 VAC 1 Phase 50-60 Hz	208-240 VAC 3 Phase 50-60 Hz	380-400 VAC 3 Phase 50-60 Hz	440-480 VAC 3 Phase 50-60 Hz
ANSI Pressure - 300#	11,165	5,075	12,420	5,640	12,820	5,815	2.0	22	11.6	8.6	5.2	2.9
ANSI Pressure - 600#	11,360	5,165	12,615	5,730	13,015	5,910						
ANSI Pressure - 900#	14,750	6,690	16,005	7,260	16,405	7,445						