

MD1

CHEM-FEED® Multi-Diaphragm Metering Pump



Features

- > Multi-diaphragm technology for smooth, nearly pulseless chemical feed
- > Leak detection (DFD) senses diaphragm failure and shuts off the pump
- > Exclusive DiaFlex® Diaphragm guaranteed to last the life of the pump
- > Display shield protects pump controls in harsh environments
- > SCADA Inputs include: 4-20mA, Remote Start/Stop
- > Relay outputs: single 250V/3A (DFD) and single solid state (Motor On)

Video link:



NEMA 4X

Highlights

Flow range

.0007 – 7.70 GPH
.0029 – 29.2 LPH

Pressures

Up to 150 PSI
(10.3 bar)

Turndown ratio

10,000 : 1

Suction lift

20 ft.
(at 0 PSI)

Motor

Brushless
DC

Warranty

5 Years

Control Methods

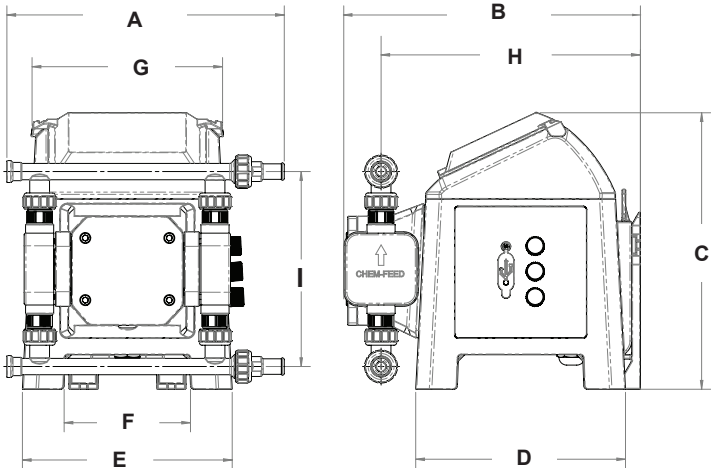
Control Methods	Manual Control	4-20mA Input	Remote Start/Stop	Alarm Output	FVS	Motor Status Output
MD1	•	•	•	•	•	•



Maximum Working Pressure	Up to 150 psig (10.3 bar)
Maximum Fluid Temperature	Up to 185 °F (85 °C)
Maximum Ambient Temperature	14 to 115 °F/ -10 to 46 °C
Maximum Viscosity	1,000 Centipoise
Maximum Suction Lift	20 ft. at 0 PSI
Operating Voltage	115V60Hz 1 PH (0.6A max.)
	220V50Hz 1 PH (0.3A max.)
	230V60Hz 1 PH (0.3A max.)
	230V50Hz 1 PH (0.3A max.)
	240V50Hz 1 PH (0.3A max.)
Power Cord Options	115V/60Hz = NEMA 5/15 (USA)
	230V/60Hz = NEMA 6/15 (USA)
	220V/60Hz = CEE 7/VII (EU)
	240V/60Hz = AS 3112 (Australia/New Zealand)
	230V 50/60Hz = BS 1363/A (United Kingdom)
Motor	Brushless DC, 50W
Duty Cycle	Continuous
Motor Speed Adjustment Range	10,000:1 (0.01% – 100%) Max. rpm = 100
Maximum Overall Dimensions	9.5"W x 9.5"H x 10.4"D (24.1 W x 24.1 H x 26.4 D cm)
Product Weight	8.5 lb. (3.8 Kg)
Approximate Shipping Dimensions	10.5" W x 11.75" H x 13" D (26.7 W x 29.8 H x 33 D cm)
Approximate Shipping Weight	15.5 lb. (7.0 Kg)
Enclosure	NEMA 4X (IP66), Valox® (PBT)
RoHS Compliant	Yes
Standards	NSF 61, cETLus, CE

Dimensions

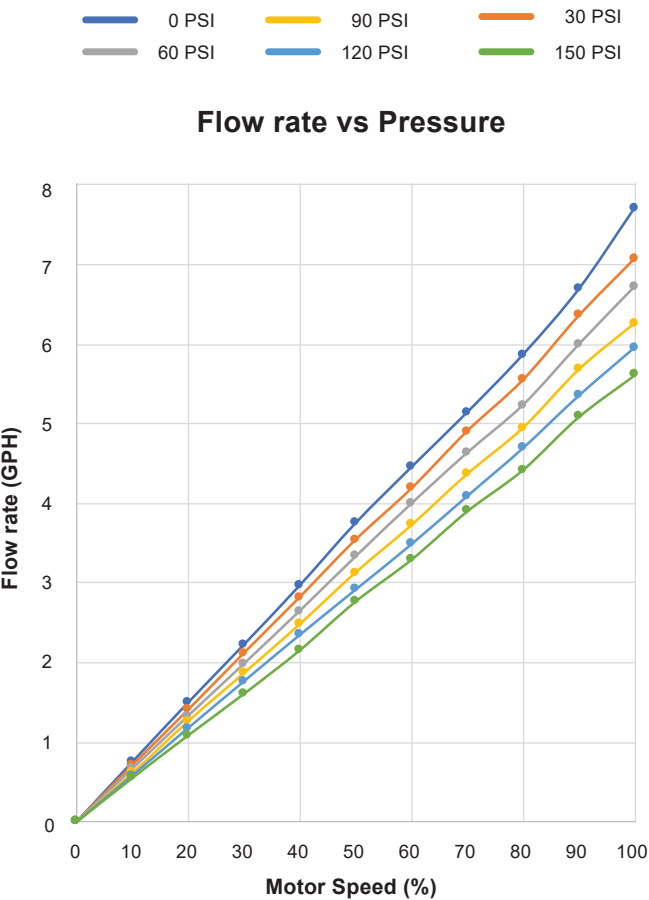
Dim	Inch	cm	Dim	Inch	cm
A	9.49"	24.10	F	4.32"	10.98
B	10.40"	26.41	G	6.52"	16.55
C	9.46"	24.02	H	8.87"	22.54
D	7.18"	18.23	I	6.67"	16.94
E	7.18"	18.23			



Non-wetted Components:
Enclosure: Valox® (PBT)
Drive Enclosure: PA12
Control Panel Cover: Polycarbonate
Pump Head Cover: Polycarbonate
Cover Screws: Stainless steel, polypropylene cap
DFD System Sensor Pins: Hastelloy C-276
Power Cord: 3 Conductor, SJTW-A water-resistant
Hardware: 316 Stainless steel screws
Mounting Brackets: Nylon

Performance

CHEM-FEED® MD1 Metering Pump



Wetted Components:
Pump Head Assembly:
Pump Head : PVDF
Adapter Connections : PVDF
Valve Cartridge : PVDF
Valve Balls : Ceramic
O-Ring Seals : TFE/P (optional EP)
Diaphragm : DiaFlex® (optional Flex-A-Prene®)
Injection/Back-Flow Check Valve:
Body & Insert : PVDF
Check Ball : Ceramic
Spring : Hastelloy C-276
Ball Seat O-Ring : TFE/P (optional EP)
Static Seal O-Ring : TFE/P (optional EP)
Foot Valve / Strainer:
Body & Adapter : PVDF
Check Ball : Ceramic
Spring : Hastelloy C-276
O-Ring Seal TFE/P (optional EP)
Filter Screen : PVDF

Motor Speed	Flow Rate GPH Pressure					
	0 PSI	30 PSI	60 PSI	90 PSI	120 PSI	150 PSI
0%	0	0	0	0	0	0
10%	0.75	0.71	0.67	0.61	0.58	0.55
20%	1.50	1.41	1.33	1.26	1.18	1.09
30%	2.22	2.12	1.98	1.87	1.76	1.61
40%	2.97	2.82	2.65	2.48	2.35	2.16
50%	3.75	3.54	3.33	3.13	2.91	2.77
60%	4.45	4.18	3.99	3.72	3.48	3.29
70%	5.14	4.90	4.63	4.37	4.09	3.90
80%	5.86	5.55	5.23	4.95	4.69	4.42
90%	6.68	6.35	5.99	5.68	5.35	5.08
100%	7.70	7.07	6.71	6.26	5.95	5.61

Model Number Matrix

MD1

CHEM-FEED® Model Number

MD1	CHEM-FEED® Diaphragm Metering Pump (includes 1/4" x 3/8" compression tubing connection for suction/discharge - see accessories for other options)
------------	---

Diaphragm and O-Rings Material

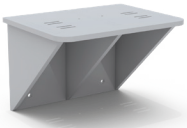
V	DiaFlex® Diaphragms and TFE/P O-Rings (For all chemicals excluding caustic soda and aqueous ammonia)
E	Flex-A-Prene® Diaphragms and EP O-Rings (For caustic soda and aqueous ammonia)

Power Cord - Removable (Operating voltage requirement 96VAC to 264VAC)

4	115V 50/60Hz, power cord NEMA 5/15 plug (US)
6	220V 50/60Hz, power cord CEE 7/V11 plug (EU)
X	No Power Cord Provided (Power cord is required - See accessories for power cord options)

MD1	V	1	4	Sample Model Number
------------	----------	----------	----------	----------------------------

Accessories

 KIT-S07 KIT-S15 KIT-S30 * Includes cover and foot valve KIT-S07 (7 Gallon), KIT-S15 (15 Gallon), KIT-S30 (30 Gallon) STAR III TANKS, PP	 KIT-PSM WALL MOUNT BRACKET, HDPE	 KIT-MB FLOOR MOUNTING BRACKETS	
Teflon Ball Check Cartridge Valve Kit (PVDF body, TFE/P O-rings, PTFE balls) 4 cartridges included. 20000-177 PTFE Ball Checks	 KIT-C5M 1/2" MNPT Connector Kit	 KIT-C5B 1/2" HOSE BARB Connector Kit	 KIT-CQA (Aflas) / KIT-CQE (EP) QUICK CONNECT KIT MD1
POWER CABLES - 6 ft 90010-663 115V/60Hz NEMA 5/15 90010-664 220V/50Hz CEE 7/V11 90010-665 230V/50Hz BS 1363/A 90010-666 240V/50Hz AS 3112 90010-696 230V/60Hz NEMA 6/15 USB Cable CABLE-UAC USB A-C 3 ft POWER / USB CABLES	 KIT-M12 TWO M12 CABLES - 9.8 ft	 71000-577 PVDF INJECTOR, 1/2" MNPT	 71000-849 PVDF FOOT VALVE, 1/2" MNPT