

MD3

CHEM-FEED® Multi-Diaphragm Metering Pump



Features

- > 5" touchscreen color LCD display
- > Exclusive DiaFlex® Diaphragm guaranteed to last the life of the pump
- > Smooth chemical dosing, no pulsation dampener needed
- > Multi-diaphragm technology eliminates vapor locking
- > Diaphragm Failure Detection (DFD) system senses diaphragm failure
- > Signal inputs: 4-20mA, Pulse inputs, Industrial Protocols, Remote Start/Stop, Auto-Prime

Video link: 



NEMA 4X

Highlights

Flow range

.03 - 52.6 GPH
.10 - 199 LPH

Pressures

up to 145 PSI*
(10 bar)

Turndown ratio

2,000 : 1

Exclusive

Diaphragm Failure Detection
(DFD)

Motor

1/4 HP Brushless
DC Motor

Warranty

5 Years

* Refer to pump curve for specific pressure and flow information

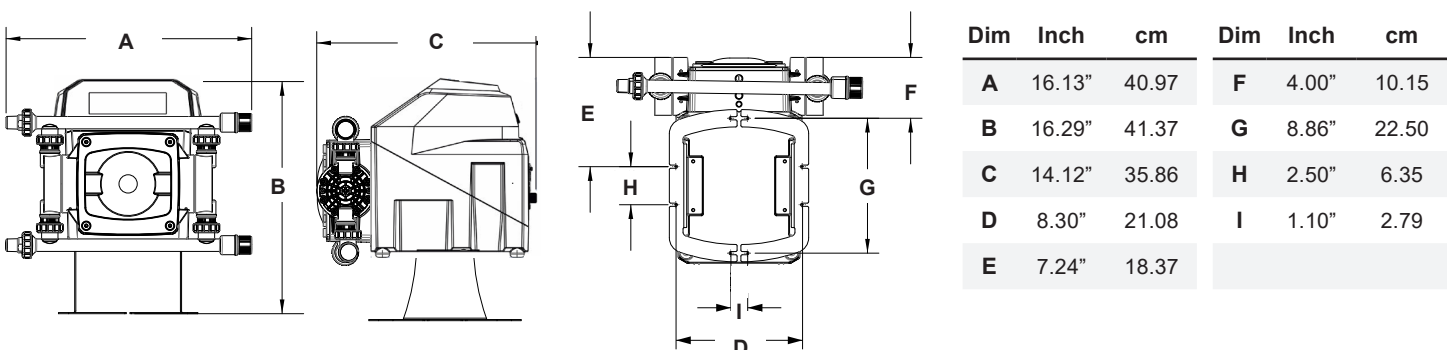
Control Methods

Control Methods	Manual Control	4-20mA Input	Remote Start/Stop	Pulse Input	Frequency Input	Ethernet/IP	Modbus TCP/IP	Profibus	4-20mA Output	(4) Alarm Outputs
MD3	•	•	•	•	•	•	•	•	•	•



Maximum Working Pressure	145 psig (10 bar)
Maximum Fluid Temperature	PVDF connections: 185 °F (85 °C)
Maximum Ambient Temperature	14 °F to 115 °F (-10 °C to 46 °C)
Maximum Storage Temperature	-40 °F to 158 °F (-40 °C to 70 °C)
Maximum Viscosity	1,000 Centipoise
Maximum Suction Lift	19 ft. Water, 0 psig (6 m, 0 bar)
Operating Voltage	115VAC/60Hz, 1ph (2.0 Amp Maximum)
	230VAC/60Hz, 1ph (1.0 Amp Maximum)
	220VAC/50Hz, 1ph (1.0 Amp Maximum)
	240VAC/50Hz, 1ph (1.0 Amp Maximum)
	230VAC/50Hz, 1ph (2.0 Amp Maximum)
Power Cord Options	115V60Hz = NEMA 5/15 (USA)
	230V60Hz = NEMA 6/15 (USA)
	220V50Hz = CEE 7/VII (EU)
	240V50Hz = AS 3112 (Australia/New Zealand)
	230V50Hz = BS 1363/A plug (United Kingdom)
Motor	1/4 HP Brushless DC motor
Motor Speed Adjustment Range	2,000:1 (0.05% - 100% motor speed) Max. rpm = 190
Motor Speed Adjustment Resolution	0.1% increments > 10% motor speed
	0.01% increments > 1% motor speed and < 10%
	0.001% increments < 1% motor speed
Display / User Interface	5" touchscreen color LCD, UV resistant.
Display Languages	English, Spanish, French, German, and Portuguese selectable
Security	Programmable 6-digit password
Maximum Overall Dimensions	16-1/8"W x 15-1/4"H x 15-5/16"D (40.9W x 38.7H x 38.9D cm)
Approximate Shipping Weight	50lb. (22.7 Kg)
Enclosure	NEMA 4X (IP66), Polyester powder coated aluminum & Noryl
RoHS Compliant	Yes
Standards	cETLus, CE, NSF61

Dimensions



Non-wetted Components:

Enclosure: 413 Aluminum (Polyester powder coated) & Noryl

Drive Enclosure: Valox (PBT) thermoplastic

Permanently lubricated sealed motor shaft support ball bearing.

Drive Enclosure Cover: Polycarbonate

Cover Screws: 300 Series stainless steel

Pump Head Cover: 316 Stainless Steel

Motor Shaft: Chrome plated steel

DFD System Sensor pins: Hastelloy C-276

Power Cord: 3 conductor, SJTW-A water-resistant

Mounting Brackets and Hardware: 316 Stainless steel

Wetted Components:

Pump Head: PVDF

Adapter Connections: PVDF

Valve Cartridges: PVDF

Pump Head Assembly: Valve Balls: Ceramic

Elastomers: TFE/P

Static Seals: TFE/P (optional EP)

Diaphragm: DiaFlex® (optional Flex-A-Prene®) *

Body & Adapter: PVDF

Check Ball: Ceramic

Foot Valve / Strainer: Spring: Hastelloy C-276, 6 lbs.

O-Ring Seals: TFE/P (optional EP)

Filter Screen: PVDF

Recommended Ancillary Items Sold Separately

Body & Insert: PVDF

Injection / Back-Flow Check Valve:

Check Ball: Ceramic

Spring: Hastelloy C-276, 6 lbs.

O-Ring Seals: TFE/P (optional EP)

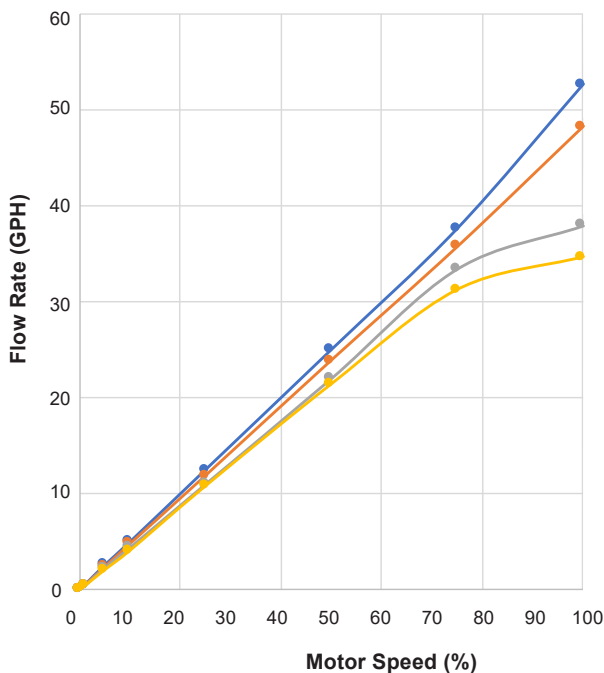
* Consult factory for chemical compatibility

Performance

CHEM-FEED® MD3 Multi-Diaphragm Metering Pump

0 PSI 40 PSI 90 PSI 140 PSI

MD3 Flow Rate vs Pressure



Motor Speed 380 Strokes/min	Flow Rate GPH Pressure				
	RPM	0 PSig	40 PSig	90 PSig	140 PSig
0%	0	0	0	0	0
1%	1.3	0.5	0.5	0.4	0.4
5%	10	2.6	2.4	2.3	2.1
10%	19	5.0	4.8	4.4	4.1
25%	48	12.5	11.9	11.0	10.8
50%	95	25.0	23.9	22.0	21.4
75%	142	37.6	35.7	33.4	31.2
100%	190	52.6	48.2	37.9	34.6


Model Number Matrix

CHEM-FEED® Model Number

MD3

MD3S	CHEM-FEED® Multi-Diaphragm Metering Pump						
Maximum Strokes per Minute							
2	380 SPM (190 RPM)						
Input Voltage / Power Cord							
4	115V / 60Hz, power cord NEMA 5/15 plug (US)						
5	230V / 60Hz, power cord NEMA 6/15 plug (US)						
6	220V / 50HZ, power cord CEE 7/VII plug (EU)						
8	240V / 50HZ, power cord AS 3112 plug (Australia/New Zealand)						
9	230V / 50HZ, power cord BS 1363/A plug (United Kingdom)						
X	No Power Cord (Pump requires power cord. See accessories for other power cord options)						
Stroke Length / Diaphragm Size							
4	.090" Stroke - Large Diaphragm						
Electrical							
X	Standard Equipment - C13 power cord connector, six M12 signal connectors, Ethernet/Modbus port & Profibus M12 connector.						
Elastomer Material (O-Rings)							
V	DiaFlex Diaphragms and TFE/P O-rings (For most chemicals, not compatible with Sodium Hydroxide and Aqueous Ammonia)						
E	Flex-A-Prene Diaphragms and EPDM O-rings (for Sodium Hydroxide and Aqueous Ammonia)						
Pump Head Fittings and Foot Valve							
X	1/2" M/NPT Elbow Fittings & 1/2" M/NPT Footvalve						
M	1/2" M/NPT Straight Fittings & 1/2" M/NPT Footvalve						
B	1/2" Barb Straight Fittings & 1/2" Barb Footvalve						
C	1/2" Barb Elbow Fittings & 1/2" Barb Footvalve						
MD3S	2	4	4	X	V	X	Sample Model Number

Accessories

 <p>KIT-PSM Wall Mount Bracket, HDPE</p>	 <p>71000-579 PVDF INJECTOR, 1/2" Hose Barb 71000-577 PVDF INJECTOR, 1/2" MNPT</p>	 <p>76001-361 Suction Tubing, Clear PVC, 1/2" ID, 8ft 90008-437 Discharge Tubing, Braided PVC, 1/2" ID</p>	<p>Ball Check Cartridge Options</p> <p>20000-229 (2 req.) Ball Check Cart. PTFE Balls 20000-228 (2 req.) Ball Check Cart. Hastelloy Balls 70001-409 (4 req.) Ball Check Cart., Single Ceramic Ball with Hastelloy Spring</p>
 <p>KIT-M12 Two M12 Cables - 9.8 ft.</p>	 <p>KIT-DP3 Profibus Cable, 3 ft</p>	<p>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 90010-711 115V Lockable</p> <p>POWER CABLES - 6 ft</p>	