



MD3

CHEM-FEED® Multi-Diaphragm Metering Pump



Features

- > Diaphragm Failure Detection (DFD) system senses diaphragm failure
- > Patented DiaFlex® diaphragm offers zero breakdown
- > Smooth chemical dosing, no pulsation dampener needed
- > Multi-diaphragm technology eliminates vapor locking
- > Signal inputs include: 4-20mA, Pulse Inputs, and Remote Start/Stop

Video link:



NEMA 4X

Highlights

Flow range

.03 - 52.6 GPH
.10 - 199 LPH

Pressures

145 PSI
(10 bar)

Turndown ratio

2,000 : 1

Exclusive

Diaphragm Failure Detection
(DFD)

Motor

1/4 HP Brushless
DC Motor

Warranty

5 Years

Control Methods

Control Methods	Manual Control	4-20mA Input	Remote Start/Stop	Pulse Input	Frequency Input	FVS	0-10VDC
MD3	•	•	•	•	•	•	•

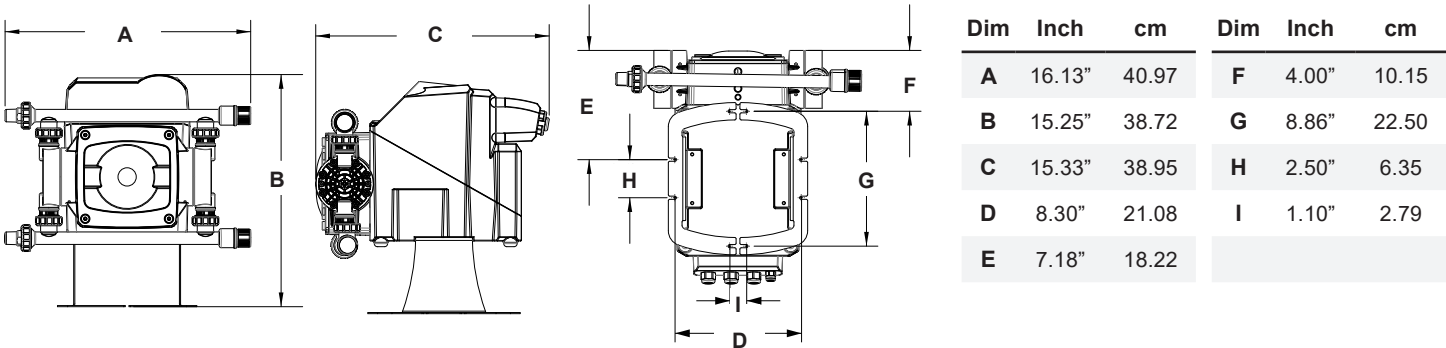


Engineering Specifications

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	23 ft. Water, 0 psig (7 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	3 color VGA backlit LCD, UV resistant
Display Languages	English, Spanish, French or German selectable
Keypad	Eleven button positive action tactile switch keypad
Security	Programmable 4-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	53lb. (24.04 Kg)
Enclosure	NEMA 4X (IP66), Polyester powder coated aluminum
RoHS Compliant	Yes
Standards	cETLus, CE, NSF61

Dimensions



Materials of Construction

MD3

Non-wetted Components:

Enclosure: 413 Aluminum (Polyester powder coated)

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: PVDF (optional Flex-A-Prene®)

Recommended Ancillary Items Sold Separately

Body & Insert: PVDF

Check Ball: Ceramic

Spring: Hastelloy C-276, 6 lbs.

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

Body & Adapter: PVDF

Check Ball: Ceramic

Spring: Hastelloy C-276, 6 lbs.

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

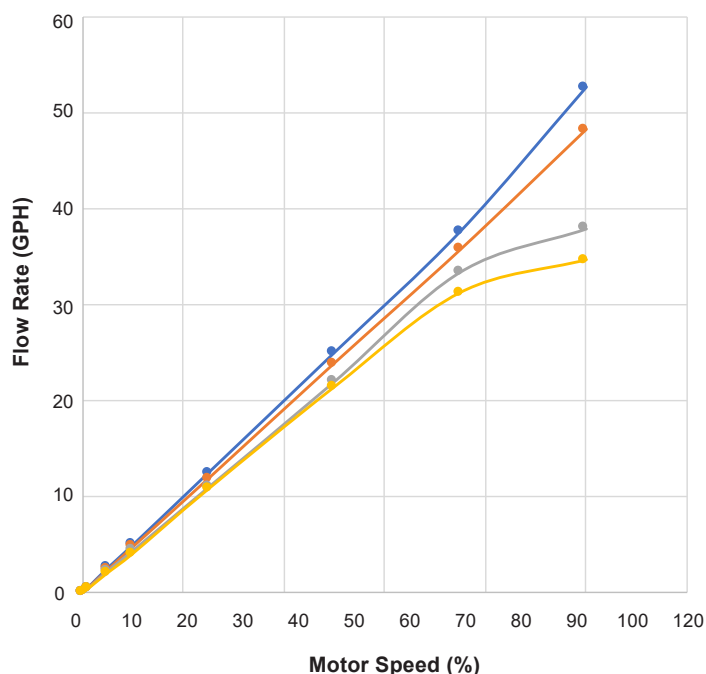
Filter Screen: PVDF

Performance

CHEM-FEED® MD3 Multi-Diaphragm Metering Pump

0 PSI 40 PSI 90 PSI 140 PSI

MD3 Flow Rate vs Pressure



Motor Speed 190 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

NOTE: All tests performed after approximately 30 minutes tube break-in period.

Model Number Matrix

MD3

Multi-Diaphragm Model Number

MD3 CHEM-FEED® Multi-Diaphragm Metering Pump									
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								
Elastomer Material (O-Rings)									
V	TFE/P								
E	EP								
Miscellaneous Options (leave blank for standard model)									
A	Hastelloy C check valve balls, standard injection fittings								
H	PTFE balls (double ball check valve, prime valve, injection fitting) low viscosity/density fluids only								
S	Flex-A-Prene® Diaphragms (Caustic Soda resistant diaphragms)								
MD3	2	4	4	X	V	X	-	S	Sample Model Number