

# MD3

## CHEM-FEED® Multi-Diaphragm Metering Pump



### Features

- > Diaphragm Failure Detection (DFD) system senses diaphragm failure
- > Exclusive DiaFlex® Diaphragm guaranteed to last the life of the pump
- > Smooth chemical dosing, no pulsation dampener needed
- > Multi-diaphragm technology eliminates vapor locking
- > Signal inputs: 4-20mA, Pulse inputs, and Remote Start/Stop
- > Signal outs: 4-20mA, Pulse, and 4 programmable relay outputs

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

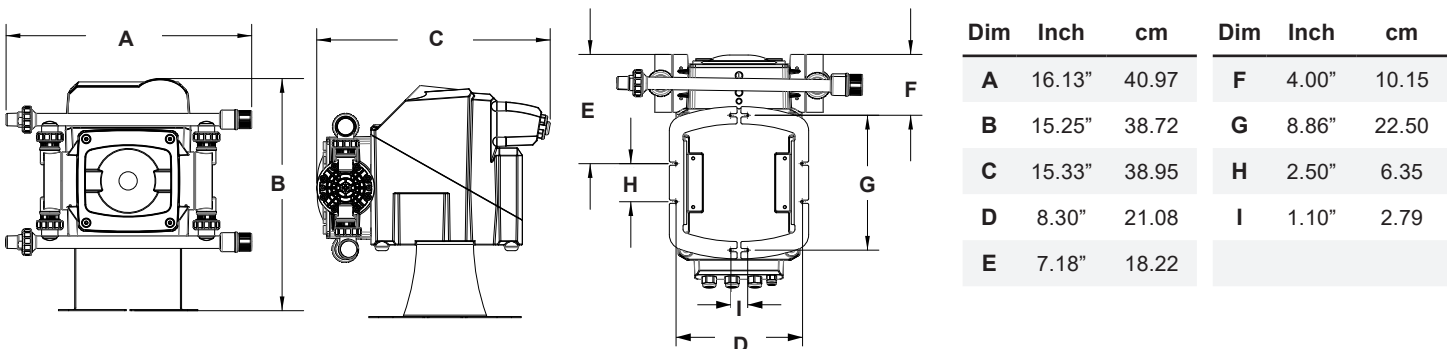
### Control Methods

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



<b>Maximum Working Pressure</b>	145 psig (10 bar)
<b>Maximum Fluid Temperature</b>	PVDF connections: 185 °F (85 °C)
<b>Maximum Ambient Temperature</b>	14 °F to 115 °F (-10 °C to 46 °C)
<b>Maximum Storage Temperature</b>	-40 °F to 158 °F (-40 °C to 70 °C)
<b>Maximum Viscosity</b>	1,000 Centipoise
<b>Maximum Suction Lift</b>	23 ft. Water, 0 psig (7 m, 0 bar)
<b>Operating Voltage</b>	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)
<b>Power Cord Options</b>	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)
<b>Motor</b>	1/4 HP Brushless DC motor
<b>Motor Speed Adjustment Range</b>	2,000:1 (0.05% - 100% motor speed) Max. rpm = 190
<b>Motor Speed Adjustment Resolution</b>	0.1% increments > 10% motor speed
	0.01% increments > 1% motor speed and < 10%
	0.001% increments < 1% motor speed
<b>Display</b>	3 color VGA backlit LCD, UV resistant
<b>Display Languages</b>	English, Spanish, French or German selectable
<b>Keypad</b>	Eleven button positive action tactile switch keypad
<b>Security</b>	Programmable 4-digit password
<b>Maximum Overall Dimensions</b>	16-1/8"W x 15-1/4"H x 15-5/16"D (40.9W x 38.7H x 38.9D cm)
<b>Approximate Shipping Weight</b>	53lb. (24.04 Kg)
<b>Enclosure</b>	NEMA 4X (IP66), Polyester powder coated aluminum
<b>RoHS Compliant</b>	Yes
<b>Standards</b>	cETLus, CE, NSF61

## Dimensions



## 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: DiaFlex® (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

## Injection / Back-Flow Check Valve:

Spring: Hastelloy C-276, 6 lbs.

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

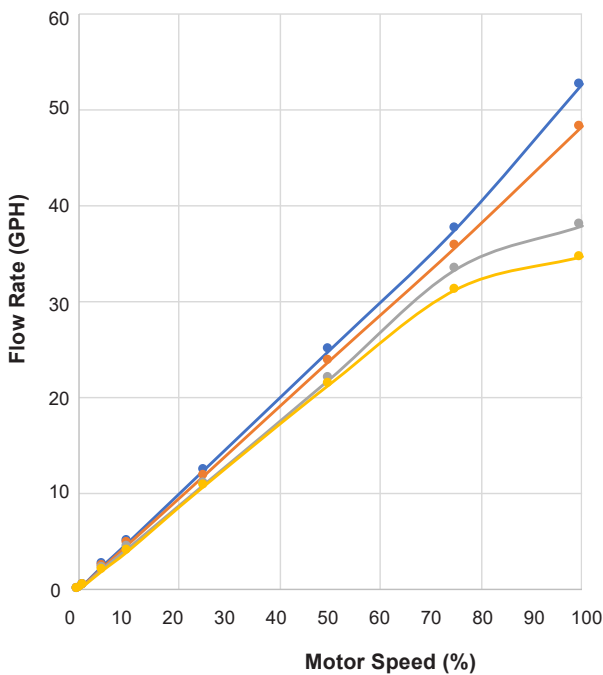
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## Performance

### CHEM-FEED® MD3 Multi-Diaphragm Metering Pump

0 PSI    40 PSI    90 PSI    140 PSI

**MD3 Flow Rate vs Pressure**



\* Consult factory for chemical compatibility

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

# Model Number Matrix

MD3

## CHEM-FEED® Model Number

<b>MD3</b>	CHEM-FEED® Multi-Diaphragm Metering Pump								
<b>Input Voltage / Power Cord</b>									
<b>4</b>	115V / 60Hz, power cord NEMA 5/15 plug (US)								
<b>5</b>	230V / 60Hz, power cord NEMA 6/15 plug (US)								
<b>6</b>	220V / 50HZ, power cord CEE 7/VII plug (EU)								
<b>8</b>	240V / 50HZ, power cord AS 3112 plug (Australia/New Zealand)								
<b>9</b>	230V / 50HZ, power cord BS 1363/A plug (United Kingdom)								
<b>X</b>	No Power Cord								
<b>Elastomer Material (O-Rings)</b>									
<b>V</b>	TFE/P								
<b>E</b>	EP								
<b>Miscellaneous Options</b> (leave blank for standard model)									
<b>S</b>	Flex-A-Prene® Diaphragms (Caustic Soda resistant diaphragms)								
<b>MD3</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>X</b>	<b>V</b>	<b>X</b>	<b>-</b>	<b>S</b>	<b>Sample Model Number</b>

## Accessories

 <p><b>KIT-PSM</b> Wall Mount Bracket, HDPE</p>	 <p><b>71000-579</b> PVDF INJECTOR, 1/2" Hose Barb <b>71000-577</b> PVDF INJECTOR, 1/2" MNPT</p>	 <p><b>76001-361</b> Suction Tubing, Clear PVC, 1/2" ID, 8ft <b>90008-437</b> Discharge Tubing, Braided PVC, 1/2" ID</p>	<p><b>Ball Check Cartridge Options</b></p> <p><b>20000-228 (2 req.)</b> Ball Check Cart. Hastelloy Balls <b>20000-229 (2 req.)</b> Ball Check Cart. PTFE Balls <b>70001-409 (4 req.)</b> Ball Check Cart., Single Ceramic Ball with Hastelloy Spring</p>
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Visit Accessory Pages for More Options