



CD1

Multi-Diaphragm Metering Pump



Video link:

Features

- > Smooth chemical dosing, no pulsation dampener needed
- > Diaphragm Failure Detection (DFD) system senses diaphragm failure
- > Remote Start/Stop
- > Relay outputs include a single 250V/3A and a single solid state
- > SCADA Inputs include: 4-20mA



Highlights

Flow range .004 - 7.70 GPH .015 - 29.2 LPH	Pressures 150 PSI (10.3 bar)	Turndown ratio 2,000 : 1
Exclusive Diaphragm Failure Detection (DFD)	Motor Brushless DC Motor	Warranty 3 Years

Control Methods

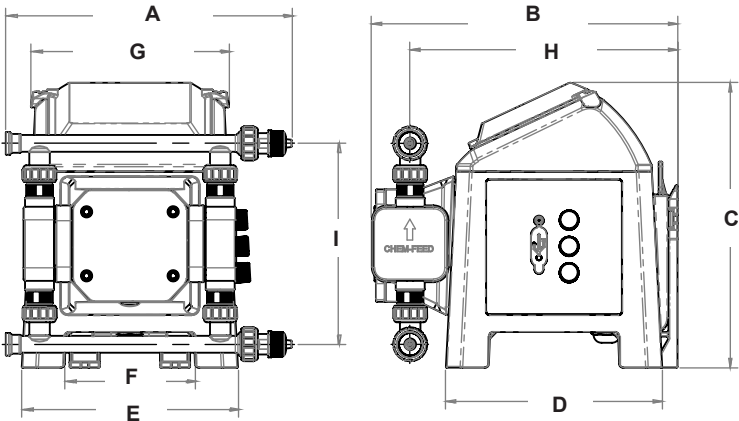
Control Methods	Manual Control	4-20mA Input	Remote Start/Stop	Alarm Output	FVS	Motor Status Output
CD1F	•		•	•	•	•
CD1V	•	•	•	•	•	•



Maximum Working Pressure	150 psig (10.3 bar)
Maximum Fluid Temperature	185 °F (85 °C)
Maximum Ambient Temperature	14 °F to 115 °F / -10 °C to 46 °C
Maximum Viscosity	1,000 Centipoise
Maximum Suction Lift	20 ft. at 0 PSI
Operating Voltage Range	100 to 240VAC-50/60Hz
Power Cord Options	115V50/60Hz = NEMA 5/15 (USA)
	230V50/60Hz = NEMA 6/15 (USA)
	220V50/60Hz = CEE 7/VII (EU)
	240V50/60Hz = AS 3112 (Australia/New Zealand)
	230V50/60Hz = BS 1363/A (UK)
Motor	Brushless DC, 50W
Duty Cycle	Continuous
Turndown Ratio	2,000:1, (0.05% – 100%) Max rpm = 100
Maximum Overall Dimensions	7-1/4" W x 9" H x 10" D (18.5 W x 22.9 H x 25.2 D cm)
Product Weight	8.5 lb. (3.8 Kg)
Approximate Shipping Dimensions	10-1/2" W x 13 3/4" H x 11" D
Approximate Shipping Weight	15.5 lb. (7.0 Kg)
Enclosure	NEMA 4X (IP66), Valox® (PBT) & PA12
RoHS Compliant	Yes
Standards	cETLus, CE

Dimensions

Dim	Inch	cm	Dim	Inch	cm
A	9.49"	24.10	F	4.32"	10.98
B	10.15"	25.78	G	6.57"	16.69
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			



Materials of Construction

CD1

Non-wetted Components:

Enclosure: Valox® (PBT) & PA12

Control Panel Cover: Polycarbonate

Drive Enclosure: Valox® (PBT) & PA12

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

Wetted Components:

Pump Head : PVDF

Adapter Connections: PVDF

Pump Head Assembly:

Valve Cartridges : PVDF

Valve Balls : Ceramic

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

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

Ancillary Items Provided:

Suction Tubing : 3/8" OD x 1/4" ID x 5' Clear PVC

Discharge Tubing : 3/8" OD x 1/4" ID x 5' Polyethylene

Body & Insert : PVDF

Injection / Back-Flow Check Valve:

Check Ball : Ceramic

Spring : Hastelloy C-276, 6 lbs.

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

Body & Adapter : PVDF

Check Ball : Ceramic

Foot Valve / Strainer:

Spring : Hastelloy C-276, 6 lbs.

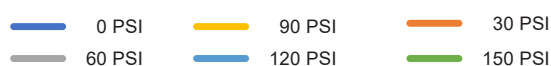
O-Ring Seals : TFE/P (optional EP)

Filter Screen : PVDF

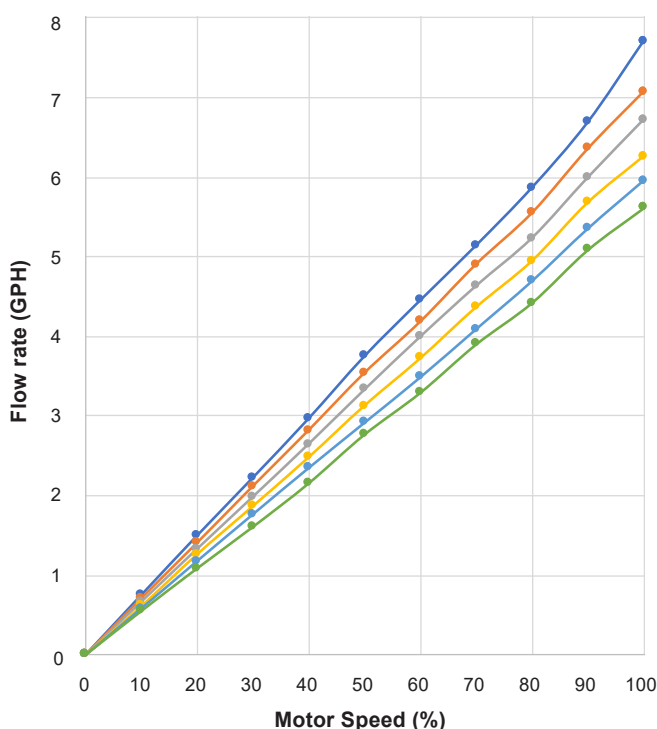
Performance

CHEM-FEED® CD1 Metering Pump

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



Flow rate vs Pressure



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

CD1

CHEM-FEED® Model Number

CD1					CHEM-FEED® Multi-Diaphragm Metering Pump				
Series									
F		Standard Control Methods (Manual, Remote, FVS)							
V		4-20mA Input, In Addition to Standard Control Methods (Manual, Remote, FVS)							
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 (Operating voltage requirement 96VAC to 264VAC)									
4		115V 50/60Hz, power cord NEMA 5/15 plug (US)							
5		230V 50/60Hz, power cord NEMA 6/15 plug (US)							
6		220V 50/60Hz, power cord CEE 7/V11 plug (EU)							
8		240V 50/60Hz, power cord AS 3112 plug (Australia/New Zealand)							
9		230V 50/60Hz, power cord BS 1363/A plug (UK)							
CD1	F	V	1	4	Sample Model Number				

Accessories

 KIT-S07 STAR III 7 GALLON TANK	 KIT-S15 STAR III 15 GALLON TANK	 KIT-S30 STAR III 30 GALLON TANK	 KIT-C5B CD 1/2" HOSE BARB
 KIT-MB FLOOR MOUNTING BRACKETS	 CABLE-UAC USB A-C CABLE	 KIT-M12 TWO M12 CABLES	 KIT-CQA QUICK CONNECT CD1 AFLAS

NOTE: Accessories sold separately.

P.N. #85000-154 CD1 Rev. 3 20210820

*KIT-123 FOR 3 M12 CABLES

*KIT-CQE FOR EP O-RINGS