

ProMinent® Sigma/1 Control

Motor Driven Type Metering Pump

Programmable - Reliable - Flexible

Flow rates up to 31.7 gph (120 L/h) and Pressures up to 174 psi (12 bar)

Description

The ProMinent Sigma/1 series pumps are motor driven metering pumps with a mechanically actuated diaphragm-type liquid end (Sigma HM). It is constructed of a rugged metal inner casing for components subjected to mechanical stress, and a corrosion resistant plastic outer housing. The standard materials for the liquid end are PVDF or 316 stainless steel, both with PTFE seals.

Sigma/1 HM pumps are designed with a convex DEVELOPAN diaphragm which seals to a concave curve in the liquid end. This allows for precise metering of media with various viscosities and reduces stress for long diaphragm life. Three gear ratios and two liquid end sizes provide maximum capacities ranging from 4.5 to 31.7 gph (17 to 120 L/h) at maximum backpressures of 174 to 58 psig (12 to 4 bar). The capacity can be infinitely varied in steps of 0.5% by adjustment of the self-locking stroke length adjusting knob or via an optional stroke positioning motor. Maximum stroke length is 0.16 (4mm). Under defined conditions and with correct installation, the repeatability is better than + 2% in the stroke length range of between 30 - 100%



ProMinent® Sigma 1

Benefits

- Two liquid end sizes and two liquid end materials (PVDF, SS) for **versatility**
- Rugged, corrosion resistant plastic housing for **durability**
- Microprocessor based technology for **flexible control**
- New optional flow monitor for constant **flow and feed verification**
- Integrated calibration and displays for **accurate chemical usage** and **simplified adjustments**
- Problem free connection to complex process control systems with **PROFIBUS®-DP**

Liquid End Materials of Construction

Material Code	Dosing Head	Suction/Discharge Connectors	Seals	Valve Balls	Valve Seat
PVT	PVDF (Polyvinylidene Fluoride)	PVDF	PTFE	Ceramic	PTFE
SST	Stainless Steel	Stainless Steel	PTFE	Stainless Steel	PTFE

DEVELOPAN® diaphragm with PTFE coating in all models

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Technical Data

Sigma/1 Control Version

Technical data:	60 Hz operation* Capacity at Maximum Pressure				Max. Stroke Rate	Output per Stroke	Max. Suction Lift	Max. Suction Pressure	Suction/ Discharge Connector		Shipping Weight w/Motor
Pump Version Sigma/1C HM	psig	(bar)	U.S. GPH	(L/h)	Stroke/ min.	mL/ stroke	(water) ft. (m)	psig	(bar)	DN in.	(approx.) lbs. (kg)
12017 PVT	174	(12)	5.2	(20)	88	4	23 (7)	15	(1)	10 3/4 MNPT	19.8 (9)
12017 SST	174	(12)	5.2	(20)	88	4	23 (7)	15	(1)	10 3/4 FNPT	26.5 (12)
12035 PVT	174	(12)	11.1	(42)	172	4	23 (7)	15	(1)	10 3/4 MNPT	19.8 (9)
12035 SST	174	(12)	11.1	(42)	172	4	23 (7)	15	(1)	10 3/4 FNPT	26.5 (12)
10050 PVT	145	(10)	13.2	(50)	200	4	23 (7)	15	(1)	10 3/4 MNPT	19.8 (9)
10050 SST	145	(10)	13.2	(50)	200	4	23 (7)	15	(1)	10 3/4 FNPT	26.5 (12)
10022 PVT	145	(10)	6.8	(26)	88	5.1	19.6 (6)	15	(1)	10 3/4 MNPT	19.8 (9)
10022 SST	145	(10)	6.8	(26)	88	5.1	19.6 (6)	15	(1)	10 3/4 MNPT	26.5 (12)
10044 PVT	145	(10)	14	(53)	172	5.1	19.6 (6)	15	(1)	10 3/4 MNPT	19.8 (9)
10044 SST	145	(10)	14	(53)	172	5.1	19.6 (6)	15	(1)	10 3/4 MNPT	26.5 (12)
07065 PVT	100	(7)	17.2	(65)	200	5.1	19.6 (6)	15	(1)	10 3/4 MNPT	19.8 (9)
07065 SST	100	(7)	17.2	(65)	200	5.1	19.6 (6)	15	(1)	10 3/4 MNPT	26.5 (12)
07042 PVT	100	(7)	13.2	(50)	88	9.7	9.8 (3)	15	(1)	15 1 MNPT	21 (9.5)
07042 SST	100	(7)	13.2	(50)	88	9.7	9.8 (3)	15	(1)	15 1 MNPT	29.8(13.5)
04084 PVT	58	(4)	26.7	(101)	172	9.7	9.8 (3)	15	(1)	15 1 MNPT	21 (9.5)
04084 SST	58	(4)	26.7	(101)	172	9.7	9.8 (3)	15	(1)	15 1 MNPT	29.8(13.5)
04120 PVT	58	(4)	31.7	(120)	200	9.7	9.8 (3)	15	(1)	15 1 MNPT	21 (9.5)
04120 SST	58	(4)	31.7	(120)	200	9.7	9.8 (3)	15	(1)	15 1 MNPT	29.8 (13.5)

Flow Verification: with optional flow monitor

Adjustable metering monitor “Flow Control”

For S1Ca HM with connection cable for assembly directly to liquid end. Monitors individual strokes according to the float and orifice principle. The partial quantity of chemical flowing past the float is adjusted from the total stroke volume via the adjusting screw so that an alarm is actuated if there is no pump flow. The user can select the number of incomplete strokes permitted (between 1 and 125) in accordance with the actual process requirements



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