ProMinent® Sigma/1 Basic

Motor Driven Type Metering Pump

Simple - Cost effective - Reliable

Flow rates up to 38 gph (144 L/h) and Pressures up to 174 psi (12 bar)

Technical Description

ProMinent® Sigma 1

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 38 gph (17 to 144 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%

Benefits

- Two liquid end sizes and two liquid end materials (PVDF, SS) for ***versatility***
- Rugged, corrosion resistant plastic housing for ***durability***
- Ideal for ***simple metering pump applications***
- Optional servomotor available for ***automatic control of displacement per stroke*** (via a 4-20 mA analog or 3P signal)
- Control Version also available for ***rapid and reliable adjustments to changing metering conditions.***

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

ProMinent®

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Technical Data

Sigma/1 Basic Version

Technical data:	60 Hz (1750 RPM) 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 S1Ba HM	psig	(bar)	U.S. GPH	(L/h)	Stroke/ min.	mL/ stroke	(water) ft.	(m)	psig	(bar)	DN	in.	(approx.) lbs.	(kg)
12017 PVT	145	(10)	5.2	(20)	88	4	23	(7)	14.5	(1)	10	1/2 MNPT	19.8	(9)
12017 SST	174	(12)	5.2	(20)	88	4	23	(7)	14.5	(1)	10	3/8 FNPT	26.5	(12)
12035 PVT	145	(10)	11.1	(42)	172	4	23	(7)	14.5	(1)	10	1/2 MNPT	19.8	(9)
12035 SST	174	(12)	11.1	(42)	172	4	23	(7)	14.5	(1)	10	3/8 FNPT	26.5	(12)
10050 PVT	145	(10)	15.8	(60)	240	4	23	(7)	14.5	(1)	10	1/2 MNPT	19.8	(9)
10050 SST	145	(10)	15.8	(60)	240	4	23	(7)	14.5	(1)	10	3/8 FNPT	26.5	(12)
10022 PVT	145	(10)	6.8	(26)	88	5.1	19.6	(6)	14.5	(1)	10	1/2 MNPT	19.8	(9)
10022 SST	145	(10)	6.8	(26)	88	5.1	19.6	(6)	14.5	(1)	10	3/8 FNPT	26.5	(12)
10044 PVT	145	(10)	14	(53)	172	5.1	19.6	(6)	14.5	(1)	10	1/2 MNPT	19.8	(9)
10044 SST	145	(10)	14	(53)	172	5.1	19.6	(6)	14.5	(1)	10	3/8 FNPT	26.5	(12)
07065 PVT	102	(7)	20.6	(78)	240	5.1	19.6	(6)	14.5	(1)	10	1/2 MNPT	19.8	(9)
07065 SST	102	(7)	20.6	(78)	240	5.1	19.6	(6)	14.5	(1)	10	3/8 FNPT	26.5	(12)
07042 PVT	102	(7)	13.2	(50)	88	9.7	9.8	(3)	14.5	(1)	15	3/4 MNPT	21	(9.5)
07042 SST	102	(7)	13.2	(50)	88	9.7	9.8	(3)	14.5	(1)	15	1/2 FNPT	29.8	(13.5)
04084 PVT	58	(4)	26.7	(101)	172	9.7	9.8	(3)	14.5	(1)	15	3/4 MNPT	21	(9.5)
04084 SST	58	(4)	26.7	(101)	172	9.7	9.8	(3)	14.5	(1)	15	1/2 FNPT	29.8	(13.5)
04120 PVT	58	(4)	38	(144)	240	9.7	9.8	(3)	14.5	(1)	15	3/4 MNPT	21	(9.5)
04120 SST	58	(4)	38	(144)	240	9.7	9.8	(3)	14.5	(1)	15	1/2 FNPT	29.8	(13.5

Sigma/1 Motors

The Sigma/1 microprocessor controlled metering pump (S1Ca) is supplied with an integral TEFC motor. The Sigma basic version (S1Ba) is suitable for simple metering pump applications. The pump may be operated manually by adjusting the stroke length knob (displacement per stroke). Automatic control of displacement per stroke via a 4-20 mA analog or 3P signal is possible with an optional servomotor. See identity code for motor options.

Optional servomotor available for automatic control of displacement per stroke (via a 4-20 mA analog or 3P signal)

Sigma/1 Metering Pumps are also available in microprocessor based control versions.

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