ProMinent® Sigma/3

Motor Driven Type Metering Pump

Programmable - Reliable - Flexible

Flow rates up to 264 gph (1000 L/h) and Pressures up to 174 psi (12 bar)

Technical Description

The ProMinent Sigma/3 series is a motor driven, mechanically actuated diaphragm type (HM) metering pump available in a ***basic version or with microprocessor control.*** It is constructed of a rugged metal inner casing for components subjected to mechanical stress, and a corrosion resistant plastic outer housing.
Sigma/3 diaphragm 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. Liquid ends are available in PVDF or SS.

ProMinent® Sigma/2

Three gear ratios and two liquid end sizes provide maximum capacities ranging from 46 to 264 gph (174 to 1000 L/h) with maximum backpressures of 174 to 58 psi (12 to 4 bar). The capacity can be 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 0.24" (6 mm). Under defined conditions and with correct installation, the repeatability is better than +/-2% in a stroke length range of between 30 and 100%.

Benefits

- Double diaphragm design with optional failure detection for ***safety***
- Automatic bleeding capability for ***reliability***
- Control versions ideal for ***rapid and reliable adjustments to flexible metering conditions***
- Also available in basic versions for ***simplicity and cost savings***
- Problem free connection to complex process control systems with ***PROFIBUS®-DP*** (Control)
- Easy operation and control via the ***large, illuminated interface display***

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/3 HM Basic and Control Versions

Capacity at Maximum Backpressure					Max. Stroke Rate	Output per Stroke	Recomm. Motor HP	Max Suction Lift (water)		Max. Suction Pressure		Suction/ Discharge Connector		Approximate Shipping Weight w/ Motor	
Pump type S3Ba/S3Ca	psig	(bar)	U.S. GPH	(l/h)	Stroke/min. (S3B/S3C)	mL/ stroke	HP	ft.	(m)	psig	(bar)	in. MNPT	DN	lbs.	(kg)
120145 PVT	145	(10)	46	(174)	86/90	31.5	3/4	16	(5)	29	(2)	1	25	49	(22)
120145 SST	174	(12)	46	(174)	86/90	31.5	3/4	16	(5)	29	(2)	1	25	57	(26)
120190 PVT	145	(10)	60.2	(228)	124/120	31.5	3/4	16	(5)	29	(2)	1	25	49	(22)
120190 SST	174	(12)	60.2	(228)	124/120	31.5	3/4	16	(5)	29	(2)	1	25	57	(26)
120270 PVT	145	(10)	85.6	(324)	173/180	31.5	3/4	16	(5)	29	(2)	1	25	49	(22)
120270 SST	174	(12)	85.6	(324)	173/180	31.5	3/4	16	(5)	29	(2)	1	25	57	(26)
070410 PVT	100	(7)	130	(492)	86/90	95.1	3/4	13	(4)	14.5	(1)	1 1/2	32	53	(24)
070410 SST	100	(7)	130	(492)	86/90	95.1	3/4	13	(4)	14.5	(1)	1 1/2	32	64	(29)
070580 PVT	100	(7)	184	(696)	124/120	95.1	3/4	13	(4)	14.5	(1)	1 1/2	32	53	(24)
070580 SST	100	(7)	184	(696)	124/120	95.1	3/4	13	(4)	14.5	(1)	1 1/2	32	64	(29)
040830 PVT	58	(4)	264	(1000)	173/180	95.1	3/4	10	(3)	14.5	(1)	1 1/2	32	53	(24)
040830 SST	58	(4)	264	(1000)	173 /180	95.1	3/4	10	(3)	14.5	(1)	1 1/2	32	64	(29)

Motors

Basic type

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 optional servomotor. Control of stroke frequency via analog signal is possible with variable speed drives (DC/SCR or AC inverter).

Control type

Pump settings are programmable and viewed on an illuminated LCD. Functions include stroke frequency, batch delivery and external control by pulse or analog signal.
The Sigma/3 control version features information displays for flow rate (in gph or l/h) and totalized flow (gallons or litres); accumulative stroke count with clear/reset capabilities; and stroke length adjustment displayed in increments of 1%. Three LED lights indicate operating status. Options include a programmable access code, flow monitoring, fault and pacing relays, calibration, timer and 4-20 mA output.

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