

2.2 ProMinent® Sigma/ 2 Diaphragm Metering Pumps

2.2.2 Technical Data for Sigma Sigma/ 2

at 50 Hz					S2CbH at 60 Hz							
Pump Capacity at Max. Back Pressure		Max. Stroke Freq.	Pump Capacity Max. Back Pressure	Stroking rate at at max. back pressure	Suction Lift	Adm. Priming Pressure Suction Side	Connector Suction/ Discharge Side	Shipping Weight				
Pump type	bar	l/h	ml/ stroke	strokes/ min.	bar S2CbH	l/h	strokes/ min.	mWG	bar	DN	Optional BSPM/Hosetail	kg
16050 PVT	10	50	11.4	73	10	61	90	7	3	15	3/4" / 20mm	15
16050 SST	16	47	11.4	73	16	56	90	7	3	15	3/4" / 20mm	20
16090 PVT	10	88	11.4	132	10	109	160	7	3	15	3/4" / 20mm	15
16090 SST	16	82	11.4	132	16	99	160	7	3	15	3/4" / 20mm	20
16130 PVT	10	135	10.9	198	10	131	200	7	3	15	3/4" / 20mm	15
16130 SST	16	124	10.9	198	16	129	200	7	3	15	3/4" / 20mm	20
07120 PVT	7	126	27.4	73	7	150	90	5	1	25	1" / 25mm	16
07120 SST	7	126	27.4	73	7	150	90	5	1	25	1" / 25mm	24
07220 PVT	7	220	27.7	132	7	271	160	5	1	25	1" / 25mm	16
07220 SST	7	220	27.7	132	7	271	160	5	1	25	1" / 25mm	24
04350 PVT	4	350	29.4	198	4	353	200	5	1	25	1" / 25mm	16
04350 SST	4	350	29.4	198	4	353	200	5	1	25	1" / 25mm	24

NOTE: The valves in the liquid end of the Sigma types 07120, 07220 and 04350 are dimensioned DN25 (R1-1/2"). Since a piping size of DN20 is generally sufficient for these types (see Technical Date, connection intake/delivery side), the connection parts (eg inserts) which can be ordered in the identity code are reduced to DN 20, ie. piping and accessories can be sized to DN 20.

NOTE: All pumps that are fitted with integral PRV must have the outlet piped to an appropriate place.

● DN15
● DN25

Materials in contact with Dosing Medium

Liquid End	Suction/Discharge connector	Valve	Seals	Balls	Integrated Pressure Bleed Valve
PVT	PVDF (Polyvinylidene fluoride)	PVDF (Polyvinylidene fluoride)	PTFE	ceramic	PVDF/Viton® or EPDM
SST	stainless steel no. 1.4571/1.4404	stainless steel no. 1.4581	PTFE	stainless steel no. 1.4404	stainless steel/Viton®

Viton® is a registered trademark of DuPont Dow Elastomers.

Motor Data S2Ba

Identity code specifications	Power supply	Δ/Y	Remarks		
S	3-phase, IP 55	220 - 240 V/380 - 420 V	50 Hz	0.25 kW	
		220 - 280 V/440 - 480 V	60 Hz	0.25 kW	
T	3-phase, IP 55	220 - 240 V/380 - 420 V	50 Hz	0.25 kW	with PTC, speed control range 1:5
		220 - 280 V/440 - 480 V	60 Hz		
R	3-phase, IP 55	220 - 240 V/380 - 420 V	50 Hz	0.37 kW	with PTC, speed adjustment range 1:20 with external fan (1-phase 230 V; 50/60Hz, 134W)
M	1-phase AC, IP 55	230 V ± 5 %	50 Hz/ 60 Hz	0.18 kW	
L1	3-phase, II2GEEexII T3	220 - 240 V/380 - 420 V	50 Hz	0.18 kW	
L2	3-phase, II2GE-ExdII CT4	220 - 240 V/380 - 420 V	50 Hz	0.18 kW	with PTC, speed control range 1:5
P1	3-phase, II2GEEexII T3	250 - 280 V/440 - 480 V	60 Hz	0.18 kW	
P2	3-phase, II2GE-ExdII CT4	250 - 280 V/440 - 480 V	60 Hz	0.21 kW	with PTC, speed control range 1:5

Sigma Basic Type Control Functions (S2Ba)

Actuator for automatic stroke length adjustment, actuating period approx. 1 sec for 1% stroke length, 1k Ohm response signal potentiometer, enclosure rating IP 54. Controller consists of actuator with servomotor and integrated servo control for stroke length adjustment via a standard signal. Standard signal input 0/4-20 mA, corresponds to stroke length 0 - 100 %. Automatic/manual operation selection key for manual stroke adjustment. Mechanical status display of actual stroke length value output 0/4-20 mA for remote display.



2.2 ProMinent® Sigma/ 2 Diaphragm Metering Pumps

2.2.4 Identity Code Ordering System for Sigma (S2Cb)

S2Cb Sigma Control Type (S2Cb)

H Main power end, diaphragm

Pump type: (Figures 1 + 2 = back pressure [bar], figures 3 - 5 = feed rate [l/h]):

● 16050*	16 bar; 61 l/h PVT 10 bar 56 l/h SS	PVDF
● 16090*	16 bar; 109 l/h PVT 10 bar 99 l/h SS	SS
● 16130*	16 bar; 131 l/h PVT 10 bar 129 l/h SS	
● 07120	7 bar; 150 l/h	PVDF
● 07220	7 bar; 271 l/h	SS
● 04350	4 bar; 353 l/h * for PVDF max. 10 bar	

Liquid end material with PTFE Seal:

PVT	PVDF (max 10 bar)
SST	Stainless steel

Diaphragm:

S	Multilayer safety diaphragm with visual rupture indicator
A	Multilayer safety diaphragm with rupture signalling; pump stops

Liquid end version:

PVDF

0	No valve springs
1	With 2 valve springs, Hastelloy C 4: 0.1 bar
4	With relief valve, Viton® seal, no valve springs
5	With relief valve, Viton® seal and valve springs
H	Hygienic head with tri-clamp connection (maximum 10 bar), contact Sydney

Hydraulic connector:

1	Union nut and PVC Solvent Weld
2	Union nut and PVC male BSP
3	Union nut and PVDF male BSP
4	Union nut & stainless steel insert <i>inc. w/SS pump</i>
5	Union nut and PVC Hosetail
7	Union nut and PVDF Hosetail

Version:

0	With ProMinent® logo (standard)
F	Physiologically harmless (FDA)
M	Modified

Electrical Power supply:

U	1 ph 100 - 230 V ±10% 50 Hz
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Cable and plug:

C	2 m Australian
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Relays:

0	No relay (Standard)
1	Fault relay (230V - 8A)
3	Fault + pacing relay (24V - 100mA)
8	0/4-20 mA analogue output + fault indicating relay / pacing relay (24V - 100mA)

Control Variant:

0	Manual + External Control + Pulse Control
1	Manual + External Control + Pulse Control + analog + metering profiles
6	As 1 + PROFIBUS DP M12
7	Dulcomarin A Module

Overload switch-off

0	Without overload switch-off
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Operating Unit (HMI):

0	Operating unit with Click Wheel 0.5 m cable
4	Operating unit with Click Wheel 2 m cable
5	Operating unit with Click Wheel 5 m cable
6	Operating unit with Click Wheel 10 m cable
X	with out operating unit (HMI)

Dosing Monitor:

0	Without access code
1	With access code

Language:

EN	English
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Prepack Option

P*	See options
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Note: PRV/Bleed valve available on request. The preferred option is relief valve in-line.

Note: If PROFIBUS® is specified refer to page 3.19 to determine which PROFIBUS® cables, adaptors and terminators are required. Also if PROFIBUS® option is selected NO relays can be fitted.

Prepack option P* for PVDF

P0 - 16050 - 16090 - 16130

4 EPDM flat gaskets & CANbus cable if required.
Refer page 2.36 for fitting sizes

07120 - 07220 - 04350

4 EPDM flat gaskets & CANBUS cable if required.
Refer page 2.36 for fitting sizes

P1	as P0 but with Viton® Flat Gaskets
P2	As P0 but with a 2.0m control cable
P5	As P2 but with a 5.0m control cable
PX	As P2 but with a 10.0m control cable
PA	As P1 but with a 2.0m control cable
PB	As P1 but with a 5.0m control cable
PC	As P1 but with a 10.0m control cable

Note: for SS pumps as per P2, P5 & P7 but only require control cables ... prices also as above.

** For manual operating HMI Required 1042550

S2Cb H 12050 PVT S 0 1 0 U C 0 1 0 1 0 EN P2

● DN15
● DN25



2.2 ProMinent® Sigma/ 2 Diaphragm Metering Pumps

2.2.5 ProMinent® Sigma Pumps Spare Parts Sigma/ 2

Spare Parts Kits for versions with multilayer safety diaphragm Types PVTS, PVTA, SSTS, SSTA

Type 16050, 16090, 16130		Part No.
Liquid end FM 130 - DN 15	PVT	1035951
	PVT - FDA	1046472
	SST	1035957
	SST - FDA	1046473
	SST (with 2 valve sets)	1035954
Type 07120, 07220, 04350		Part No.
Liquid end FM 350 - DN 25	PVT	1035953
	PVT - FDA	1046475
	SST	1035960
	SST - FDA	1046476
	SST (with 2 valve sets)	1035959

The spare parts kit contains all components required for maintenance of liquid ends.

PVT version

1 x pump diaphragm
1 x suction valve
1 x discharge valve

SST version

1 x pump diaphragm
2 x valve balls
1 x seal set
(4 x composite Gaskets,
2 x ball seats, 2 x ball seat housings)

Spare Parts Kits for versions with [ORIGINAL diaphragm] Types PVT0/1/2, SST0/1/2

Type 16050, 16090, 16130		Part No.
Liquid end FM 130 - DN 15	PVT	740324
	SST	740326
	SST (with 2 valve sets)	740328
Type 07120, 07220, 04350		Part No.
Liquid end FM 350 - DN 25	PVT	740325
	SST	740327
	SST (with 2 valve sets)	740329
Diaphragms [ORIGINAL] Types PVT0/1/2, SST0/1/2		Part No.
FM 130 (Type 12050, 12090, 12130)		792495
FM 350 (Type 07120, 07220, 04350)		792496
Multilayer Safety Diaphragms Type PVTS, PVTA, SSTS, SSTA		Part No.
FM 130 (Type 16050, 16090, 16130)		1029771
FM 350 (Type 07120, 07220, 04350)		1033422
Suction - Discharge Valves PVT		Part No.
Type 16050, 16090, 16130	DN15	792517
Type 07120, 07220, 04350	DN25	740615
PTFE Moulding Gasket		Part No.
Type 16050, 16090, 16130	DN15	1019365
Type 07120, 07220, 04350	DN25	1019367
		Part No.
Visual Diaphragm Failure Indicator		1033323
Retrofit rupture signalling switch & cable		1034312

IN ALL CASES CHECK
PUMP MODEL CODE

