

1.1 Solenoid-Driven Metering Pumps

1.1.4

Solenoid-Driven Metering Pump gamma/ XL

gamma/ XL – large output, great features

Feed rate of product range 4 ml/h – 80 l/h; 25 – 2 bar



The gamma/ XL is a smart, connectible solenoid-driven metering pump that is setting new standards in terms of productivity, reliability and cost-effectiveness.



The new solenoid-driven metering pump gamma/ XL extends the capacity range of the proven gamma/ X to 80 l/h. In addition to the familiar relays and bus interfaces, the gamma/ XL provides a socket with 3 more configurable inputs and outputs. This allows the gamma/ XL to network with all common systems, devices and platforms. Like the gamma/ X, the gamma/ XL has an intuitive operating concept. The pump is adjusted using a click wheel and 4 additional operating keys. Pressure detection without wetted parts ensures maximum operational safety. Hydraulic error statuses, like “Gas in the dosing head”, “Overpressure” and “No pressure” can be detected.

Pressure fluctuations in the system are detected and compensated for, achieving a high level of dosing precision and reducing chemical consumption to the required level.

The last 300 events are retrospectively saved in the integral logbook, which permits rapid analysis of the cause and troubleshooting if required.

Deviations from the metering volume or hydraulic fault statuses are immediately detected and corrected by the gamma/ XL. The pump's operating menu includes ordering information for the wear parts required.

Designed as a smart product, it can also be connected to our web-based IIoT platform. The user can use this to monitor his metering process in real-time, avoid downtimes and generate reports fully automatically.

Your Benefits

- Simple adjustment of the metering rate directly in l/h
- Integrated pressure measurement and display for greater safety during commissioning and in the process
- Control range for metering rate 1:40,000
- Direct input of the required and desired concentration in concentration mode with volume-proportional metering tasks
- Virtually wear-free solenoid drive, overload-proof and economical
- Suitable for continuous micro-metering from approx. 4 ml/h, thanks to the regulated solenoid drive
- Detection of hydraulic malfunctions, such as gas in the dosing head, and no or too high a back pressure, ensures smooth processes
- External control via potential-free contacts with pulse step-up and step-down
- External control via 0/4-20 mA standard signal, scalable
- Integrated 1-week/1-month timer
- Guaranteed metering by means of automatic bleeding
- Connection to process control systems via fieldbus interfaces, such as PROFIBUS®, PROFINET, Modbus RTU and CANopen

Technical Details

- Illuminated 3" LCD and 3-LED display for operating, warning and error messages, visible from all sides
- In non-automatic mode, stroke rate setting 1 stroke/h – 12,000 strokes/h, stroke length electronically continuously variable 0 – 100%, recommended 30 – 100%
- Factor with external contact control 99:1 – 1:99
- In automatic mode, an even finer setting in ml
- Batch operation with max. 99.99 l or 99,999 strokes/start pulse
- Connector for 2-stage level switch
- 3 additional ports, switched as digital inputs or outputs
- Optional 0/4 – 20 mA output for remote transmission of actual dosing rate and error messages
- Optional relay module with 1 x switch-over contact, 230 V – 8 A
- Optional relay module with 2 x On, 24 V – 100 mA



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Field of Application

- Chemical distributors
- Systems engineering
- Food and beverage industry
- Potable water
- Wastewater
- Chemical industry
- Electroplating
- Bottling processes, e.g. ink cartridges or highlighter pens
- With an integrated process timer, suitable as a control unit for simple processes, e.g. biocide metering in cooling water
- All industrial applications, either as a stand-alone unit or integrated in a complete system

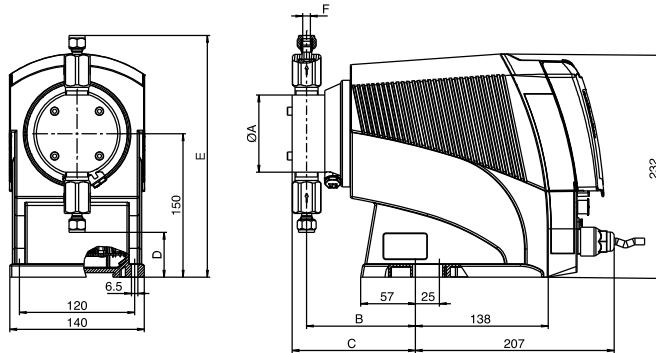


1.1 Solenoid-Driven Metering Pumps

Dimensional drawing of gamma/ XL, material version SST

Type	Ø A	B
2508, 1608	90	108
1612	90	110
1020	90	110
0730	90	112
0450, 0280	100	115

Type	C	D	E
2508, 1608	128	63	240
1612	130	63	240
1020	130	63	240
0730	132	63	240
0450, 0280	135	29	281

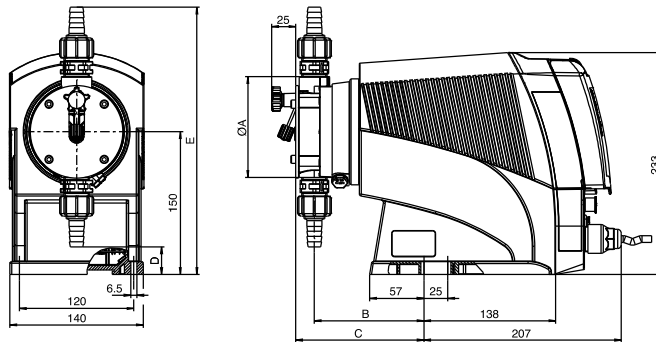


Dimensional drawing of gamma/ XL, material version SST – dimensions in mm

Dimensional drawing of gamma/ XL, material version PV DN 10

Type	Ø A	B
0450, 0280	100	115

Type	C	D	E
0450, 0280	135	29	281



Dimensional drawing of gamma/ XL, material version PV DN 10 – dimensions in mm



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Technical Data

Pump type	Pump capacity at max. back pressure	Theor. stroke volume	Max. stroke rate	Nominal diameter	Suction lift*	Shipping weight	
	bar	l/h	ml/stroke	Strokes/min	m WC	NPE, NPB, PVT kg	SS kg
Metering pumps with non-self-bleeding dosing head							
GXL 2508	25 **	7.5	0.63	200 8 x 4 mm ***	5	10	11
GXL 1608	16	7.8	0.65	200 8 x 5 mm ***	5	10	11
GXL 1612	16	12	1	200 8 x 5 mm	6	10	11
GXL 1020	10	19.6	1.63	200 12 x 9 mm	5	10	11
GXL 0730	7	29.4	2.4	200 12 x 9 mm	5	10	11
GXL 0450	4	49	4.08	200 G 3/4 - DN 10	3	10	11
GXL 0280	2	78.5	6.54	200 G 3/4 - DN 10	2	10	11
Metering pumps with self-degassing dosing head (dosing head design 7)							
GXL 1608	10	7	0.6	200 8 x 5 mm	1.8	10	-
GXL 1612	10	10	0.8	200 8 x 5 mm	1.8	10	-
GXL 1020	10	15	1.25	200 12 x 9 mm	1.8	10	-
GXL 0730	7	27.5	2.3	200 12 x 9 mm	1.8	10	-

* Suction lift with a filled dosing head and filled suction line, with a self-bleeding dosing head with air in the suction line.

** 25 bar variant only available with dosing head material NP or SS

*** With stainless steel design, 6 mm connector width.



gamma/ XL metering pumps with dosing heads for higher-viscosity media have a 10 – 20 % lower capacity and are not self-priming with all feed chemicals. G 3/4 - DN 10 connector with d 16 - DN 10 hose nozzle.



The vPTFE diaphragm is limited to a maximum operating pressure of 10 bar. The pump capacities of the metering pumps with vPTFE diaphragm may be 10-20 % lower than those with a standard diaphragm.

All data calculated with water at 20 °C.

Materials in Contact with the Medium

Identity code of material	Dosing head	Connection on suction/dis-charge side	Ball seat	Seals	Balls
PVT	PVDF	PVDF	PVDF	PTFE	Ceramic
NPT	Clear acrylic	PVDF	PVDF	PTFE	Ceramic
NPE	Clear acrylic	PVC	EPDM	EPDM	Ceramic
NPB	Clear acrylic	PVC	FKM A	FKM A	Ceramic
SST (8 - 12 mm)	Stainless steel 1.4404	Stainless steel 1.4404	Ceramic	PTFE	Ceramic
SST (DN 10)	Stainless steel 1.4404	Stainless steel 1.4404	Carbon-filled PTFE	PTFE	Ceramic

Connectors

Plastic	8 – 12 mm	Hose squeeze connector
	DN 10	d16 DN 10 hose sleeve
Stainless steel	6 – 12 mm	Swagelok system
	DN 10	Rp 3/8 insert

Metering diaphragm with PTFE coating.

Repeatability of metering $\pm 1\%$ when used in accordance with the operating instructions.

Permissible ambient temperature -10 °C to 45 °C .

Mean power consumption 78 W.

Degree of protection IP 66, insulation class F.



Scope of supply

Metering pump with mains cable, connector kit for hose/tube connector as per table.

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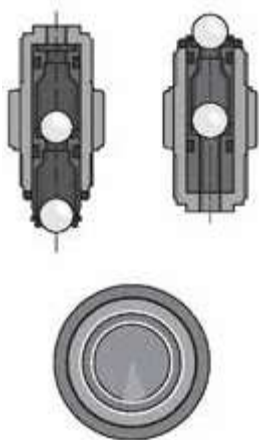
Identity Code Ordering System for Product Range gamma/ XL

GXLa	Regional design	
	EU	USA
	Europe	USA
	Type	Capacity
	2508	25 bar 7.5 l/h
	1608	16 bar 7.8 l/h
	1612	16 bar 12 l/h
	1020	10 bar 19.6 l/h
	0730	7 bar 29.4 l/h
	0450	4 bar 49 l/h
	0280	2 bar 78.5 l/h
	Liquid end/valve material	
	PV	PVDF/PVDF, not for pump type 2508
	NP	Acrylic/PVC, Only for pump types 2508, 1608, 1612, 1020 and 0730
	SS	Stainless steel/stainless steel
	Material of seals/diaphragm	
	T	PTFE/EPDM, PTFE coated
	F	FDA-compliant design, only for PV and SS
	M	With vPTFE diaphragm + PTFE valve seats. Design for PV heads only
	E	EPDM, diaphragm PTFE coated. EPDM ball seats, only for NP heads
	B	FKM, diaphragm PTFE coated. FKM ball seats, only for NP heads
	Liquid end version	
	0	Non-bleed, without valve spring, only with TT and SS materials
	1	Non-bleed, with valve spring, only with TT and SS materials
	2	With bleed valve, without valve spring, only with NP and PV materials
	3	Bleed version, with valve spring, only with NP and PV materials
	4	HV version for higher-viscosity media, only for PV types 1608, 1612, 1020 and 0730
	7	Self-bleeding without bypass, only for types 1608, 1612, 1020 and 0730, only for material NP and PV
	Hydraulic connections	
	0	Standard according to technical data
	5	Connector on discharge side for 12/6 hose, standard on suction side, only with NP and PV materials
	F	Connector on discharge side for 8/4 hose, standard on suction side, Only with NP material
	Diaphragm Rupture Indicator	
	0	Without diaphragm rupture indicator
	1	With diaphragm rupture indicator
	Version	
	0	Housing RAL 5003, cover RAL 2003
	Logo	
	0	With ProMinent logo
	Electrical Connection	
	U	100 - 230 V ±10%, 50/60 Hz
	Cable and plug	
	A	2 m European
	B	2 m Swiss
	C	2 m Australian
	D	2 m USA / 115 V
	1	2 m, open-ended
	Relay, pre-set to	
	0	No relay
	1	Fault indicating relay (230 V, 8 A)
	4	Fault indicating relay (24 V, 100 mA) + pacing relay (24 V, 100 mA)
	C	0/4 – 20 mA analogue output + fault indicating / pacing relay (24 V - 100 mA)
	F	With automatic bleed valve, 230 V , not for pump type 2508
	G	With automatic bleed valve, 24 V DC and relay output, not for pump type 2508
	Accessories	
	0	No accessories
	1	With foot and metering valve, 2m suction line and 5 m discharge line
	5	1+ universal control cable
	Control Variants	
	0	Manual + external contact with pulse control
	3	Manual + external contact with pulse control + analogue 0/4-20 mA
	C *	As 3 + CANopen
	P *	As 3 + PROFINET® interface
	R *	As 3 + PROFIBUS® interface, M12
	M *	As 3 + Modbus RTU
	Communication	
	0	Without interface
	B	With Bluetooth
	Operating menu language	

* A relay cannot be used with these options.



1.1 Solenoid-Driven Metering Pumps



Spare Parts Kits for Solenoid-Driven Metering Pump gamma/ XL

Spare parts kits for gamma/ XL, consisting of:

- 1 metering diaphragm
- 1 suction valve assembly
- 1 discharge valve assembly
- 1 connector kit

Stainless steel design without suction valve assembly and without discharge valve assembly, with valve seats, seals and valve balls

Type	Materials in Contact With the Medium	Order no.
Type 2508	NPT2	1095912
	NPE	1033172
	NPB	1033171
	SSF0	1107362
Type 2508/1608	SST0	1030226
Type 1608	PVT2/NPT2	1030225
	PVF2	1083565
	NPE	1030620
	NPB	1030611
Type 1612	PVT7	1047831
	PVT2/NPT2	1027081
	PVT4	1019067
	PVF2	1083569
	SST0	1027086
	NPE	1030536
	NPB	1030525
	SSF0	1107471
	PVT7	1047832
	PVT2/NPT2	1027082
	PVT4	1019069
	PVF2	1083570
	SST0	1027087
	NPE	1030537
	PVT7	1047833
	NPB	1030526
	SSF0	1107484
	PVT2/NPT2	1095626
	PVF2	1096089
	PVT4	1095499
	SST0	1095501
	NPE	1095701
	NPB	1095700
	SSF0	1107473
	PVT7	1095503
	PVT2	1095502
	PVF2	1096090
	SST0	1095625
	SSF0	1098651
	PVT2	1095500
	PVF2	1096088
	SST0	1095624
Type 0280	SSF0	1098648

Spare Diaphragms for Solenoid-Driven Metering Pump gamma/ XL

	Materials in Contact With the Medium	Order no.
Type 2508/1608	all materials	1030353
Type 1612	all materials	1000248
Type 1020	all materials	1000249
Type 0730	all materials	1045456
Type 0450	all materials	1045443
Type 0280	all materials	1059691

