

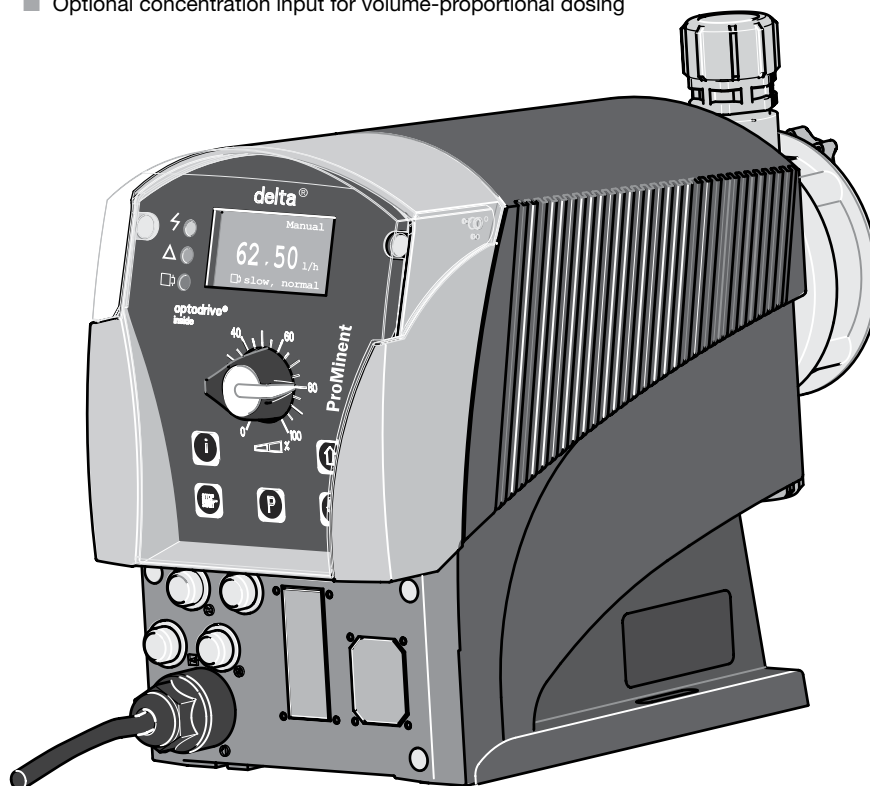
ProMinent® delta® Solenoid Diaphragm Metering Pumps

Overview: delta®

Ideal for applications requiring metering pump accuracy with minimal pulsation

(see [page 131](#) for spare parts, [page 138](#) for accessory kits and [page 138](#) for control cables)

- Continuous or pulsating dosing
- Configurable suction and delivery stroke duration
- Pump can be adapted to the dosing media
- Integrated optoGuard monitoring detects blocked dosing points, broken dosing lines and air or gas bubbles trapped in the dosing head
- Capacities: 2.0 gph (7.5 lph) to 19.8 gph (75.0 lph)
- Stroke length continuously adjustable from 0 - 100% (recommended range 30 - 100%)
- Acrylic, PVDF and stainless steel material versions
- Patented coarse/fine ventilation
- Optional detection and indication of diaphragm failure
- Adjustment and display of pump delivery from the keypad with choice of display in l/h or strokes/min
- Optional external auto-degassing solenoid kit available for outgassing media
- Large backlit graphic display
- External control options via voltage-free contacts with optional increase/reduce speed pulse
- Optional external control via standard 0/4-20 mA signal
- Interfaces for PROFIBUS® DP ([see page 138](#)) or CAN bus system
- 14-day process timer option for time and event-dependent dosing duties
- Connections for 2 stage level switch and flow monitor
- 3 LED displays for operation and warning and error message in plain text
- Optional concentration input for volume-proportional dosing



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ProMinent® delta® Solenoid Diaphragm Metering Pumps

Capacity Data

Capacity at Maximum Backpressure

delta® Pump Type	gph (l/h)	psig (bar)	strokes/ min.	Pre-primed suct. lift ft. (m)	Suction/Discharge connectors in.	lbs.	Shipping weights** (kg)
2508	2.0 (7.5)	363 (25)	200	19.6 (6)	3/8" x 1/2" (1/2" MNPT dis. only)	22-24	(10-11)
1608	2.1 (7.8)	232 (16)	200	16.4 (5)	3/8" x 1/4"	22-24	(10-11)
1612	3.0 (11.3)	232 (16)	200	19.6 (6)	3/8" x 1/4"	22-24	(10-11)
1020	5.0 (19.1)	145 (10)	200	16.4 (5)	1/2" x 3/8"	22-24	(10-11)
0730	7.7 (29.2)	102 (7)	200	16.4 (5)	1/2" x 3/8"	22-24	(10-11)
0450	12.9 (49.0)	58 (4)	200	9.8 (3)	5/8" ID hose barb standard*	22-24	(10-11)
0280	19.8 (75.0)	29 (2)	200	6.7 (2)	5/8" ID hose barb standard*	22-24	(10-11)

* (1/2" MNPT optional)

** Higher values are for SS

Note: Universal control cable necessary for external delta control. (see [page 138](#))

Materials In Contact With Chemicals

Version	Dosing head	Suction/discharge connector	O-rings	Ball valves
PVT	PVDF	PVDF	PTFE	Ceramic
SST	Stainless steel	Stainless steel	PTFE	Ceramic
NPE	Acrylic	PVC	EPDM	Ceramic
NPB	Acrylic	PVC	Viton®	Ceramic

PTFE-coated dosing diaphragm

Dosing repeatability ± 2% when used in accordance with the operating instructions

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

Viton® is a registered trademark of DuPont Dow Elastomers.

ProMinent® delta® Solenoid Diaphragm Metering Pumps

Identcode Ordering System

DLTA ProMinent® delta® series

Version:	Capacity:	Version:	Capacity:
2508	2.0 gph (7.5 l/h), 232 psi (16 bar)	0730	7.7 gph (29.2 l/h), 102 psi (7 bar)
1608	2.1 gph (7.8 l/h), 363 psi (25 bar)	0450	12.9 (49.0 l/h), 58 psi (4 bar)
1612	3.0 gph (11.3 l/h), 232 psi (16 bar)	0280	19.8 (75.0 l/h), 29 psi (2 bar)
1020	5.0 gph (19.1 l/h), 145 psi (10 bar)		

Liquid end materials:
 PV PVDF (for models 1608, 1612, 1020, and 0730)
 SS SS
 NP Acrylic glass/PVC (for pump type 2508, 1608, 1612, 1020 & 0730)

Seals:
 T PTFE seals
 E EPDM o-rings (NP only)
 B Viton® o-rings (NP only)

Liquid end version:
 0 W/o bleed valve, w/o springs (for SS liquid ends)
 1 W/o bleed valve, with springs (for SS liquid ends)
 2 With bleed valve, w/o springs
 3 With bleed valve, with springs
 4 W/o bleed valve, with springs (for high viscosity only)

Connection:
 0 1/2" x 3/8" tubing (for models 1020 & 0730); 5/8" hose barb (for models 0450 & 0280);
 3/8" x 1/4" tubing (for models 1608 and 1612)
 6 1/2" MNPT Connections (for models 0450 & 0280 and 2508)

Diaphragm failure indicator:
 0 Without diaphragm failure indicator
 1 With diaphragm failure indicator

Labeling:
 0 Standard, with ProMinent logo

Electrical connection (± 10%):
 U 115-230 V, 50/60 Hz

Cable and plug with 6 ft (2 m) power cord, single phase:
 A European plug
 D N. American plug, 115 V
 U N. American plug, 230 V

Relay:
 0 Without relay (Required with Profibus)
 1 Fault annunciating relay, drops out
 3 Fault annunciating relay, pulls in
 4 Option 1 + pacing relay
 5 Option 3 + pacing relay
 A Alarm indication + pump shut off
 C Option 1 + 4-20 mA analog output + fault output (24V 100 mA max.)
 F Auto-degassing valve (not available for version 2508)*
 G Auto-degassing valve + fault relay (not available for version 2508)*

Accessory kit:
 0 Not included
 1 FV, IV, 15' Tubing (3/8" x 1/4") PVC (for model 1608)
 1 FV, IV, 15' Tubing (3/8" x 1/4") PVDF (for model 1612)
 1 FV, IV, 15' Tubing (1/2" x 3/8") PVC (for model 1020)
 1 FV, IV, 15' Tubing (1/2" x 3/8") PVDF (for model 0730)
 1 FV, IV, 5' Suction Tubing (1/2" x 3/8")
 PVC (1/2" MNPT on Discharge) (for model 2508)
 1 FV, IV, 15' Hose (5/8" ID) PVDF (for models 0450 & 0280)

Control Versions:
 0 Manual + External contact (multiplier/divider)
 3 Manual + External with pulse control & analog control
 4 Option 0 + 14 day Timer*
 5 Option 3 + 14 day Timer*
 P Option 3 + Profibus d Sub 9 (Relay must be 0)*
 R Option 3 + Profibus M12 (Relay must be 0)*
 C CANopen

Security:
 0 No Access Code
 1 Access Code

Language:
 EN English

Pause/Float:
 0 Standard

* Available April 2008

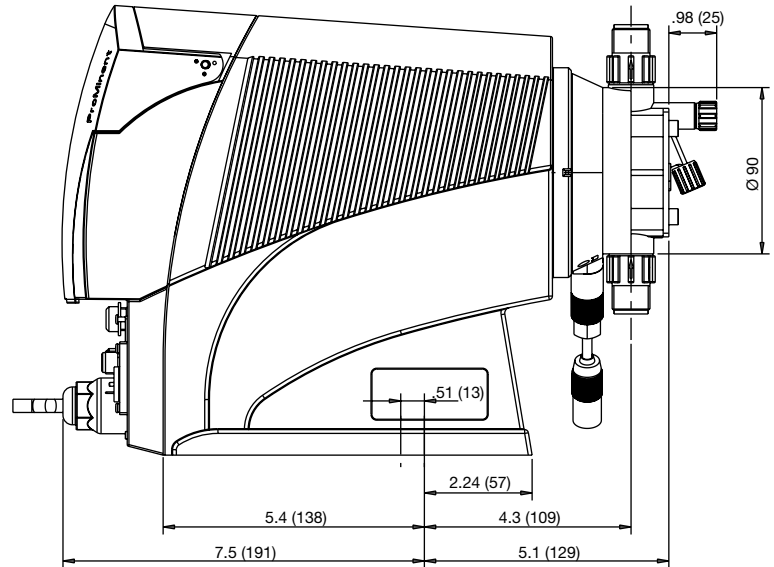
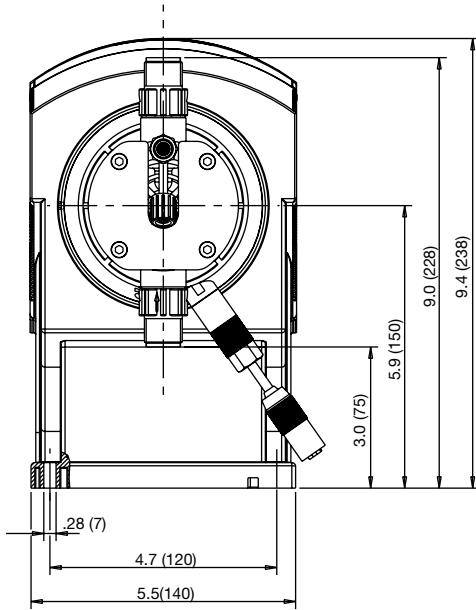
DLTA 1612 PV T 2 0 0 0 U D 0 0 0 1 EN 0

ProMinent® delta® Solenoid Diaphragm Metering Pumps

Dimensional Drawings

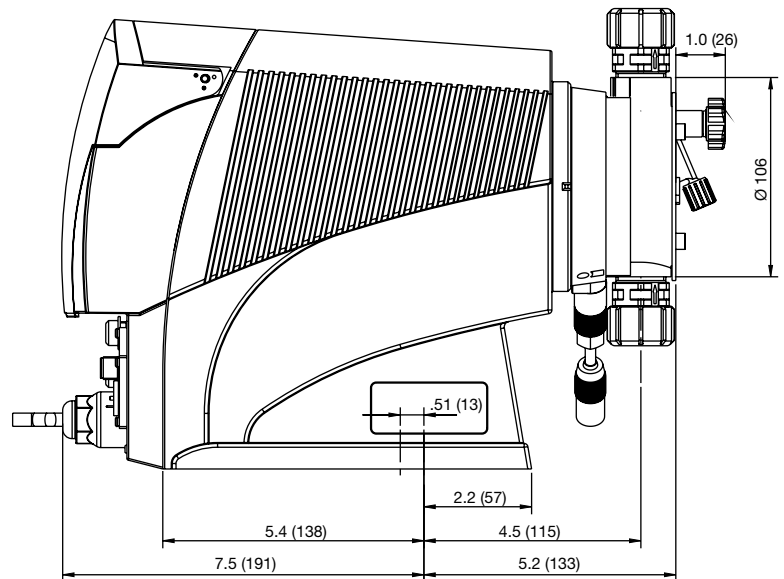
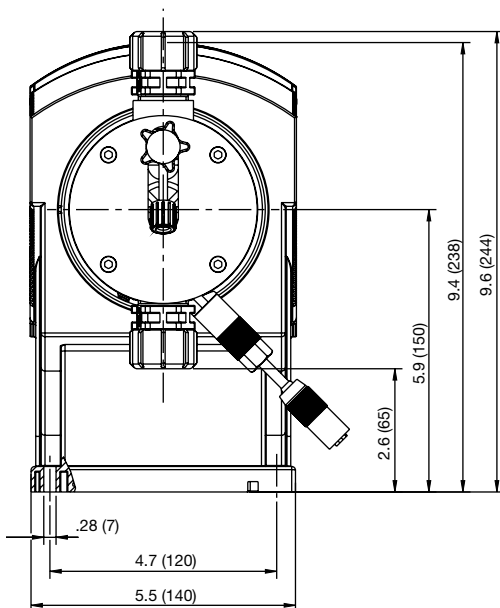
Dimensions in inches (mm).
 Ranges given, actual dimension dependant on liquid end material.

Dimensions of delta® type 1612 - 0730 PVT



dimensions in inches (mm)

Dimensions of delta® type 0450 - 0280 PVT

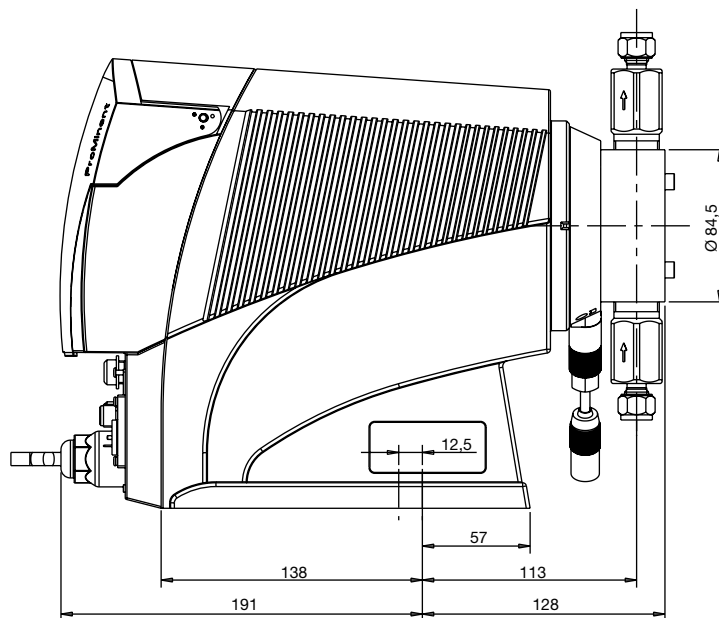
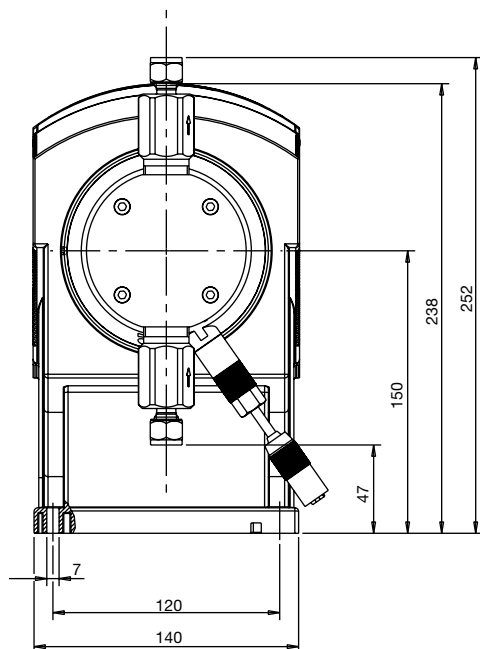


dimensions in inches (mm)

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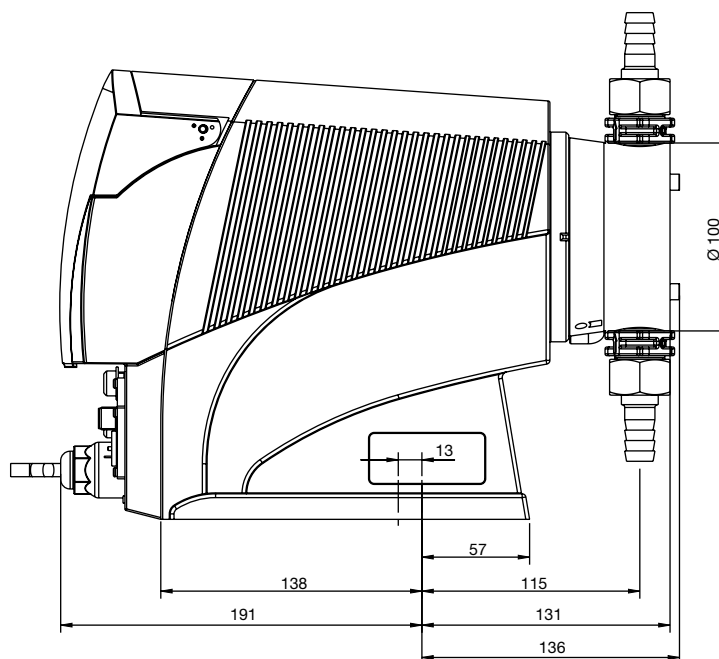
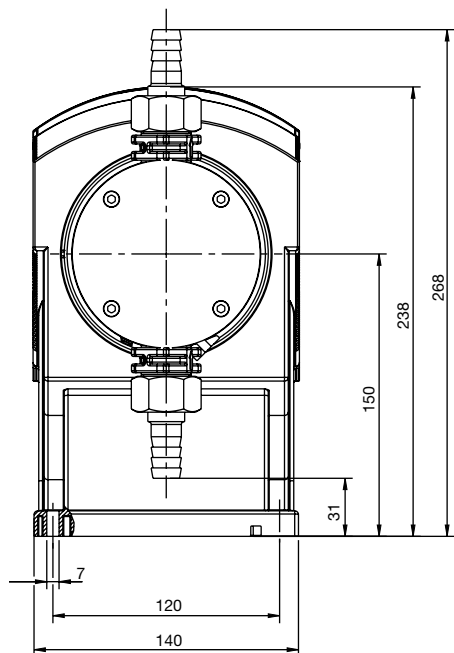
Dimensional Drawings

Dimensions of delta® type 1612 - 0730 SST



dimensions in inches (mm)

Dimensions of delta® type 0450 - 0280 SST



dimensions in inches (mm)

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