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
## ProMinent® delta®
### Solenoid Diaphragm Metering Pumps

#### Capacity Data

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

* (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

<table>
<thead>
<tr>
<th>Version</th>
<th>Dosing head</th>
<th>Suction/discharge connector</th>
<th>O-rings</th>
<th>Ball valves</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVT</td>
<td>PVDF</td>
<td>PVDF</td>
<td>PTFE</td>
<td>Ceramic</td>
</tr>
<tr>
<td>SST</td>
<td>Stainless steel</td>
<td>Stainless steel</td>
<td>PTFE</td>
<td>Ceramic</td>
</tr>
<tr>
<td>NPE</td>
<td>Acrylic</td>
<td>PVC</td>
<td>EPDM</td>
<td>Ceramic</td>
</tr>
<tr>
<td>NPB</td>
<td>Acrylic</td>
<td>PVC</td>
<td>Viton®</td>
<td>Ceramic</td>
</tr>
</tbody>
</table>

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.
### Identcode Ordering System

#### DLTA  ProMinent® delta® series

<table>
<thead>
<tr>
<th>Version</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2508</td>
<td>2.0 gph (7.5 l/h), 232 psi (16 bar)</td>
</tr>
<tr>
<td>1608</td>
<td>2.1 gph (7.8 l/h), 363 psi (25 bar)</td>
</tr>
<tr>
<td>1612</td>
<td>3.0 gph (11.3 l/h), 232 psi (16 bar)</td>
</tr>
<tr>
<td>1020</td>
<td>5.0 gph (19.1 l/h), 145 psi (10 bar)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Version</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0730</td>
<td>7.7 gph (29.2 l/h), 102 psi (7 bar)</td>
</tr>
<tr>
<td>0450</td>
<td>12.9 gph (49.0 l/h), 58 psi (4 bar)</td>
</tr>
<tr>
<td>0280</td>
<td>19.8 gph (75.0 l/h), 29 psi (2 bar)</td>
</tr>
</tbody>
</table>

#### 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
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)
Dimensions of delta® type 1612 - 0730 SST

Dimensions of delta® type 0450 - 0280 SST

dimensions in inches (mm)