The SmartPump™ is a positive pressure pump with a patented high-precision computer actuated valve coupled with a patented precision nozzle. SmartPump™ technology was developed to produce flow rates that can be more precisely controlled than any other high-speed dispensing pump of its kind featuring discrete volumetric control down to 100 picoliters. By maintaining constant material pressure and running a customizable computer-controlled valve open and close routine, the SmartPump™ can generate precise starts and stops, maintain a consistent material flow rate, and handle an extreme range of material viscosities.

**Size:**
H 219.4 x W 19.8 x D 31.5MM (H 8.64 x W 0.78 x D 1.24 in)

**Weight:**
0.50 kg (1.0 lb)

**Material Inlet:**
Leur Lock, 10-32

**Air Pressure:**
0-1000 kPa (0-150 psi)

**Valve Resolution:**
0.1 µm

**Dead Volume:**
0.2315 ML

**Viscosity Range:**
0.001-1000 Pa·s (1-1,000,000 cps)

**Wetted Parts Materials:**
(Depending on material being dispensed and compatibilities)

**Features:**
- Tight volumetric control as low as 100 pl respectively
- Reduced line widths (as small as 20µm)
- Broad material compatibility, including high-viscosity materials
- Precise starts and stops with no material tailing
- Customizable actuation routines per material

**Variations:**
- Leur lock valve set for needle dispensing
- Heated SmartPump™ 100

**Standard Ceramic nTip Size Chart**
(Contact us for custom sizes)

<table>
<thead>
<tr>
<th>nTip Part#</th>
<th>I.D. (µm)</th>
<th>O.D. (µm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>900-4000-001</td>
<td>12.5</td>
<td>25</td>
</tr>
<tr>
<td>900-4000-002</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>900-4000-003</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>900-4000-004</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>900-4000-005</td>
<td>75</td>
<td>125</td>
</tr>
<tr>
<td>900-4000-006</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>900-4000-007</td>
<td>125</td>
<td>175</td>
</tr>
</tbody>
</table>

50 µm wide conductive lines with high aspect ratio

100µm diameter adhesive dot