ProtoCath™ Online Prototyping Tools

Fast Prototypes
ProtoCath™ Online Prototyping Tool can get a balloon catheter prototype built to your specifications and in your hands in as little as two weeks, dramatically shrinking project timelines, reducing project costs, and ultimately, speeding time to market.

Industry-Standard Platforms with Outstanding Options
ProtoCath is based on industry-standard catheter platforms. Start by selecting your balloon or catheter type, then choose from a range of technically compatible options. ProtoCath offers more than 200 balloon options in Nylon, PET, or Polyurethane.

New rapid exchange (RX) catheters complement Nordson MEDICAL’s over the wire (OTW) catheter designs, giving you more options to meet your design needs and user preferences.

Nordson MEDICAL is continually adding modular options for complete balloon catheters, including:
- Catheter type (RX, OTW)
- Balloon material (PET, Nylon, Polyurethane)
- Balloon size
- Catheter working length (up to 140 cm)
- Distal tip geometry and length (3 mm – 7 mm)
- Number and spacing of radiopaque markers and visual shaft markers
- Number of balloon folds
- Coaxial & dual lumen shaft configurations
- Packaging (straight or coiled)
- Lubricious coating to reduce friction

Time and Cost Savings
ProtoCath helps you make design iterations faster, speeding initial evaluation of prototypes for proof of concept. If your project needs further customization, leveraging components from your ProtoCath design can minimize costs and give you a head start on production.
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Online Prototyping Tool

Quality Catheters
ProtoCath's high-quality prototype catheters are designed to be competitive with commercially available balloon catheters:
• Extremely low-profile balloons
• High-rated burst pressure (non-compliant/semi-compliant balloons)
• Reliable occlusion (compliant balloons)
• Ultra-low profile tip
• Excellent trackability

Rapid Exchange (RX) Balloon Catheters

<table>
<thead>
<tr>
<th>Shaft Option</th>
<th>0.014” Hypotube Shaft</th>
<th>0.018” Polymer Main Shaft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1.9Fr PTFE coated hypotube designed for superior kink resistance. 2.7 Fr Pebax® distal shaft. Overmolded hub and strain relief.</td>
<td>4.3 Fr Pebax® polymer main shaft for extra push and kink resistance and easy guidance through tortuous vessels.</td>
</tr>
<tr>
<td>Advantages</td>
<td>• Optimal balance of push, kink resistance, trackability, and deflation times • Shorter guidewire for fast device exchanges and/or balloon placement for single operator</td>
<td></td>
</tr>
<tr>
<td>Balloon Material</td>
<td>Nylon</td>
<td></td>
</tr>
<tr>
<td>Guidewire Platforms</td>
<td>0.014”</td>
<td>0.018”</td>
</tr>
</tbody>
</table>

Over the Wire (OTW) Balloon Catheters

<table>
<thead>
<tr>
<th>Shaft Option</th>
<th>Coaxial</th>
<th>Dual Lumen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Two extrusions (tube within a tube) for guidewire and inflation lumens</td>
<td>Multi-lumen extrusion with guidewire and inflation lumens</td>
</tr>
<tr>
<td>Advantage(s)</td>
<td>• Proprietary tri-layer inner shaft with lubricious HDPE inner diameter for ease in guidewire tracking</td>
<td>• Increased stiffness over coaxial design • Decreased inflation/deflation times due to larger inflation lumen</td>
</tr>
<tr>
<td>Balloon Material</td>
<td>PET, Nylon, Polyurethane</td>
<td>PET</td>
</tr>
<tr>
<td>Guidewire Platform(s)</td>
<td>0.014”, 0.018”, 0.035”</td>
<td>0.035”</td>
</tr>
</tbody>
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