Conventional Adult Cannulae

Comprehensive portfolio of aortic, venous and cardioplegia cannulae, vents, suction wands and sumps
Conventional Adult Cannulae

A comprehensive portfolio of conventional cannulae in a wide range of tips and sizes to meet diverse procedural requirements and needs.

- Broad offering of aortic arch cannulae available in a variety of tips and configurations
- Can meet diverse procedural needs
- Tailored offering of antegrade and retrograde cardioplegia, vents and suckers
- Complete portfolio of high drainage venous cannulae
The Optiflow Arterial cannula is available with straight and bent tips, both of which feature an innovative and unique 3-dimensional dispersion tip that allows a more physiological flow. The tip reduces the pressure of the inlet jet stream on the aorta, thus mitigating arterial embolization of atherosclerotic plaques that are the potential cause of stroke or ischemia of other organs.¹

**Reduced aortic wall shear stress**

"Optiflow reduced the maximum and average aortic wall shear stress values to approximately 50% compared to control cannulas. Optiflow have the potential to reduce ECC-related complications such as stroke, endothelial damage and hemolysis."³

**Pressure Drop**

![Pressure Drop Graph](image)

**Optiflow Arterial Cannulae**
21 and 24 Fr sizes available

**Available Configurations**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A282</td>
<td>Curved Tip, Wire-reinforced Tubing</td>
</tr>
<tr>
<td>A281</td>
<td>Curved Tip, Non-reinforced Tubing</td>
</tr>
<tr>
<td>A292</td>
<td>Straight Tip, Wire-reinforced Tubing</td>
</tr>
<tr>
<td>A291</td>
<td>Straight Tip, Non-reinforced Tubing</td>
</tr>
</tbody>
</table>
Curved and Straight Tip Aortic Arch Cannulae

The Aortic Arch Cannulae are available with different tip configurations to meet diverse clinical needs. The tips are available in white or transparent plastic, curved or straight, with two different lengths to suit all types of insertion. Suture flange, collar or double collar help cannula fixation.

Optional luer lock for better de-airing

Straight Tip with Suture Collar and Wire-reinforced Tubing
14, 16, 20, 22 Fr sizes available

Different tip configurations to meet diverse clinical needs

Curved Tip with Suture Flange and Wire-reinforced Tubing
18, 21, 24 Fr sizes available

Pressure Drop

Available Configurations

- **A212**
  - Curved Tip, Suture Flange, Wire-reinforced Tubing

- **RA-11**
  - Curved Tip, Suture Flange, Wire-reinforced Tubing

- **RA-12**
  - Curved Tip, Suture Flange, Flexible Wire-reinforced Tubing

- **A222**
  - Curved Tip, Suture Collar, Wire-reinforced Tubing

- **NA-11**
  - Curved Tip, Suture Flange, Non-reinforced Tubing

- **NA-13**
  - Curved Tip, Suture Flange, Flexible Non-reinforced Tubing

- **NA-12**
  - Curved Tip, Suture Flange, Flexible Non-reinforced Tubing

- **A232**
  - Straight Tip, Suture Collar, Wire-reinforced Tubing

- **RA-21**
  - Straight Tip with Suture Collar, Wire-reinforced tubing

- **NA-34**
  - Flexible Straight Tip, Suture Ring, Non-reinforced tubing

- **A262**
  - Straight Tip, Double Suture Collar, Wire-reinforced Tubing

- **NA-55**
  - Flexible Curved Tip, Suture Ring, Non-reinforced tubing

- **NA-45**
  - Flexible Straight Tip, Suture Ring, Non-reinforced tubing

**Pressure Drop Chart**

- 18 Fr Non-reinforced Tubing
- 20 Fr Wire-reinforced Tubing
- 24 Fr Wire-reinforced Tubing
- 24 Fr Non-reinforced Tubing

**Legend**

- 24 Fr RA = 30 mmHg at 5 L/min
Optiflow Venous Cannula

The Optiflow Venous cannula features a special swirled tip design with multiple side holes that facilitate active and physiological venous drainage regardless of the position of the heart. This cannula is more compact than a standard cannula which makes it easier to insert and remove while improving the surgical view, especially in minimally invasive procedures. The special tip can help reduce patient complications often associated with femoral venous cannulation, such as deep wounds and high bleeding.¹

![Optiflow Venous Cannula](image)

- Compact size for improved view in narrow spaces
- Unique 13 cm swirled and grooved tip with multiple side holes
- Distal central opening
- Di-ethylhexyl phthalate plasticizer free tubing with or without wire-reinforcement

**Pressure Drop**

29 Fr Optiflow = 48 mmHg at 5L/min

V182-29
Optiflow Venous Cannula
29 Fr size available

High Venous Drainage in Minimally Invasive Procedures

“In our experience, the innovative small-sized, 29–Fr Optiflow cannula provides high-flow drainage across the entire cannula inserted into the right atrium without the need for double cannulation and with no increase in central venous pressure.”²
Triple Stage Venous Cannulae

The Triple Stage Venous Cannulae feature an open lighthouse tip for atraumatic insertion and three points of drainage for improved hemodynamics. The small, compact design guarantees optimal surgical view particularly in minimally invasive procedures.

RTS - 11029/11129/13029/13129
Triple Stage Venous Return Cannulae
29/29/29 and 29/37/37 Fr sizes available

Pressure Drop

All data extracted from relevant Instructions For Use
FlexFlow Venous Cannula

FlexFlow is a compact cannula with integrated obturator and malleable stylet designed for direct atrial cannulation. The 6 cm holed area and thin wire-reinforced tubing wall design provide high flow rates when using vacuum assisted venous drainage.

200–200
FlexFlow Venous Cannulae
23 Fr size available

Pressure Drop

All data extracted from relevant Instructions For Use
Venous Return Cannulae

Venous Return Cannulae are available with open lighthouse tip and a one piece construction for atraumatic insertion and optimal venous drainage. Bullet tip versions are also available for improved venous return. The minimal wall thickness of the cannula provides excellent dynamics with a low pressure drop across the entire cannula. Available in dual or single stage configurations to meet diverse venous insertion practices.

Available with and without connector

Single and Dual Stage Venous Return Cannulae with Wire-reinforced Tubing
From 12 to 38 Fr sizes available (with steps of 2 Fr)

Pressure Drop

Available Configurations

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDS</td>
<td>Dual Stage, Lighthouse Tip, Wire-reinforced Tubing</td>
</tr>
<tr>
<td>LRD</td>
<td>Dual Stage, Lighthouse tip, Low Profile, Wire-reinforced Tubing</td>
</tr>
<tr>
<td>NV-200</td>
<td>Single Stage, Straight Bullet Tip, Non-reinforced Tubing</td>
</tr>
<tr>
<td>V112</td>
<td>Dual Stage, Bullet Tip, Wire-reinforced Tubing</td>
</tr>
<tr>
<td>V900</td>
<td>Dual Stage, Bullet Tip, Wire-reinforced Tubing with Obturator and with Connector</td>
</tr>
<tr>
<td>V122</td>
<td>Single Stage, Straight Bullet Tip, Wire-reinforced Tubing</td>
</tr>
<tr>
<td>NDS</td>
<td>Dual Stage, Bullet Tip, Non-reinforced Tubing</td>
</tr>
<tr>
<td>V900</td>
<td>Single Stage, Right Angle Lighthouse Tip, Wire-reinforced Tubing</td>
</tr>
<tr>
<td>V900</td>
<td>Single Stage, Right Angle Bullet Tip, Wire-reinforced Tubing</td>
</tr>
<tr>
<td>NV-210</td>
<td>Single Stage, Right Angle Bullet Tip, Non-reinforced Tubing</td>
</tr>
</tbody>
</table>

VENOUS • CONVENTIONAL ADULT CANNULAE
Aortic Root cardioplegia

Aortic Root Cannulae are available with and without vent line to ensure cardioplegia delivery while venting the heart. Available with different tip sizes and stainless steel introducer needles.

Aortic Root Cannulae with & without Vent Line
12, 14, 16, 17, 18, 20 Ga Insertion Needles

Pressure Drop

Available Configurations
Coronary Ostia Perfusion Cannulae with 3D Tip

Coronary Ostia Perfusion Cannulae with 3D tip and stainless steel shaft. The unique 3D tip is angled at 45° or 90° to easily reach the right and left ostia and ensures homogeneous perfusion of the cardioplegia solution in the coronary path. Also available with female luer connector and with conical or basket tips.

Pressure Drop

![Pressure Drop Graph]

Coronary Ostia Perfusion Cannulae with 3D Tip
12,15 Fr sizes available

Available Configurations

- **CP-11**
  - Basket Tip, Stainless Steel Shaft, Female Luer Lock Connector
  - Tip 45°

- **CP-12**
  - Basket Tip, Stainless Steel Shaft, Female Luer Lock Connector
  - Tip 90°

- **P608**
  - Conical Tip, Stainless Steel Shaft, 1/4" Tubing Connector
  - Tip 45°

- **P606**
  - Conical Tip, Stainless Steel Shaft, 1/4" Tubing Connector
  - Tip 90°

- **P617**
  - Conical Tip, Plastic Tubing, Female Luer Lock Connector
  - Tip 45°

- **P618**
  - Conical Tip, Stainless Steel Shaft, Female Luer Lock Connector
  - Tip 45°

- **P614**
  - Conical Tip, Stainless Steel Shaft, Female Luer Lock Connector
  - Tip 90°

- **P612**
  - 3D Tip, Stainless Steel Shaft, Female Luer Lock Connector
  - Tip 90°

- **P616**
  - 3D Tip, Stainless Steel Shaft, Female Luer Lock Connector
  - Tip 45°
Coronary Ostia Perfusion Cannulae with Balloon Tip

Coronary Ostia Perfusion Cannulae with balloon tip, plastic tubing and female luer lock connector. The flexible, plastic tubing terminates with a self-inflating PVC balloon designed to occlude the coronary ostia and prevent any back flow of cardioplegia solution.

Coronary Ostia Perfusion Cannulae with Balloon Tip
Distal tip size 2.1, 3.0, 3.5 mm
Balloon size 4.0, 5.0, 6.0, 7.0, 8.0 mm

Pressure Drop

Available Configurations

CP-21
Straight Tip Plastic Tubing and Female Luer Lock Connector

CP-22
Bent Tip Plastic Tubing and Female Luer Lock Connector
Retrograde Cardioplegia Cannulae

Retrograde Cardioplegia Cannulae are available with either a self-inflating PVC balloon, or a manual-inflating silicone balloon. Balloons are bonded with a unique method that provides a smooth transition to the body of the cannula. Both cannulae are available with either a guidewire or solid malleable stylet and a choice between a standard or low-profile stylet handle.

**RCS Family**
Retrograde Cardioplegia Cannulae with Self-Inflating PVC Balloon
14 Fr size available

**RCM Family**
Retrograde Cardioplegia Cannulae with Manual-Inflating Silicone Balloon
15 Fr size available

Pressure Drop

![Pressure Drop Graph](image)
Silicone Vents

Silicone Vents for direct venting of the left ventricle. The biocompatible silicone material is less susceptible to cold environments. A soft, shapeable guidewire stylet helps vent insertion.

Silicone Bullet Tip, with Guidewire Stylet
16 and 20 Fr sizes available
PVC Malleable Vent

The PVC Malleable Vent allows pre-shaping of the catheter before insertion. The catheter maintains its shape during surgery. It may also be bent and tucked away from the surgical site.

Malleable Open Blunt Tip, with Internal Stylet
18 Fr size available

PVC Vent with Removable Stylet

The two-position latch on the stylet provides safe catheter insertion. Once inserted, the stylet can be retracted in order to reduce trauma to the surgical site and allow the catheter to conform to the anatomy.

PVC Open Blunt Tip with removable Stylet and Two-Position Latching Device
12 and 18 Fr sizes available

Available Configurations
Low Profile Suction Wand

Low Profile Suction Wands have a malleable low-profile metal suction tube, plastic handle and pre-attached tubing with clamp and 1/4” slip connections.

Available Configurations

**SU-22702**

- Connector
- Soft Tip
- Soft Tip Low Profile Suction Wand

**SU-26702**

- Connector
- Frazier Tip
- Frazier Tip Low Profile Suction Wand
Suction Wand

The Suction Wand features a rounded, less traumatic tip and a non-block suction system that prevents damage to the cardiac wall tissue. The rigid, ergonomic grip allows fatigueless handling and can be color coded with colored rings to easily associate pumps. Also available with flexible tubing.

Rigid Suction Wand with No Block System
24 Fr size available

Available Configurations

- **SU-10101/SU-12202**
  - Rigid Fluted Tip with Metal Tube and Plastic Handle

- **S351-70**
  - Rigid Fluted Tip with Plastic Handle

- **S352-80**
  - Rigid Tip with No Block System with Plastic Handle

- **SU-14101/SU-18202**
  - Flexible Tip with Metal Tube and Plastic Handle

- **SU-12402/SU-12502**
  - Flexible and Malleable Sucker with Fluted Tip
ATRASump is a new generation, flexible tubing sump with a unique, atraumatic weighted-tip specifically designed to provide enhanced patient safety. The special, flexible metal spring tip is encapsulated within a flexible, fluted plastic covering that avoids the risk of tissue entanglement and damage. The flutes provide smooth flow of fluids and the embedded perforations uninterrupted drainage.

Available Configurations

**SU-29602**
- Connector
- ATRASump

**SU-20**
- Connector
- Flexible and Malleable Sump with Wire-wound Tip

Easy-to-grip connector

Flexible metal spring encapsulated in flexible fluted plastic cover
Blower/Mister II

The Blower/Mister II flushes the surgical site to provide better visualization of the surgical field together with efficient humidification of the tissue. It is easy-to-use and comes with pre-assembled administration sets.

Available with soft or Frazier tip

Roller clamp for proper misting through precise adjustment of saline

Blower/Mister II
Connecting Tubing Length 300 cm

Available Configurations

<table>
<thead>
<tr>
<th>MT-22210</th>
<th>MT-11210</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blower/Mister II</td>
<td>Blower/Mister</td>
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