

ThruPort  
Systems

Edwards  
Cardiac Cannulae

Product Guides



Edwards

ThruPort Systems and Edwards Cardiac Cannulae

ThruPort Systems ..... 1

Edwards Cardiac Cannulae

Arterial Cannulae .....11

Venous Cannulae.....15

Femoral Cannulae .....27

Cardioplegia Catheters .....33

Blood Management .....39

Index

ThruPort Systems .....40

Edwards Cardiac Cannulae .....42

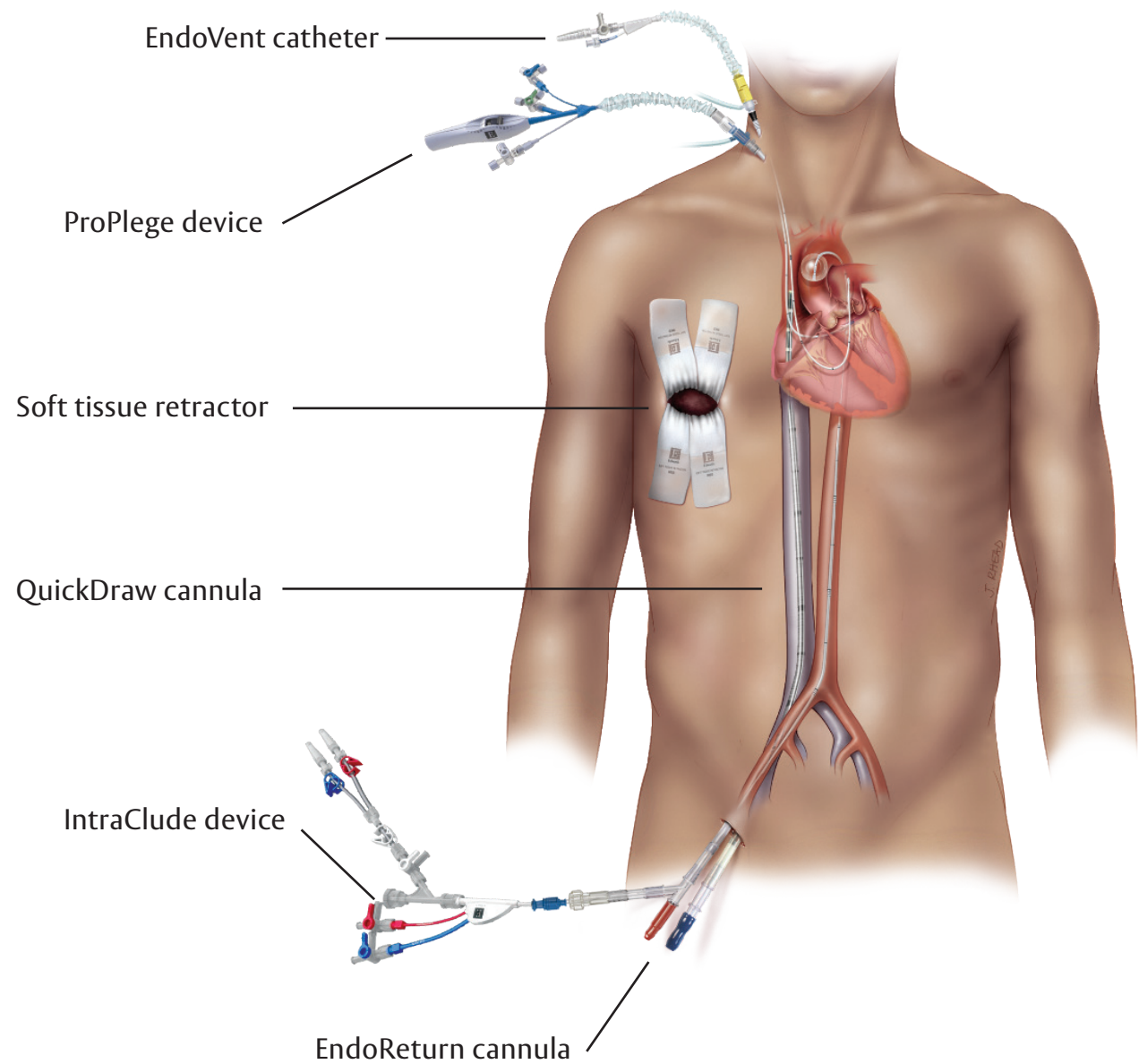
Customer Service .....45



# ThruPort Systems

Disposable Products for  
Minimal Incision Surgery

## Edwards ThruPort Systems



## ProPlege Peripheral Retrograde Cardioplegia Device

The ProPlege device is indicated for occlusion of the coronary sinus, delivery of cardioplegia solution, and monitoring of coronary sinus pressure during cardiopulmonary bypass.

- 9 Fr (3.1 mm), 59 cm long, triple-lumen, articulating device
- Designed for occluding the coronary sinus for retrograde perfusion of the coronary circulation
- Balloon expands to occlude a range of coronary sinus diameters
- The large central lumen of the ProPlege device delivers cardioplegic solution to the coronary sinus
- The two remaining lumens serve as conduits for balloon inflation and coronary sinus pressure monitoring distal to the balloon
- The shaft features an articulation mechanism which changes the curvature of the distal end when the positioning dial is manipulated
- The ProPlege device is provided with a contamination guard, which connects to the introducer sheath

**1 unit per case**

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**23.2 inch (59 cm) effective length**  
**32.3 inch (82 cm) overall length**

PR9

9 Fr (3.1 mm) catheter  
11 Fr (3.7 mm) introducer



## EndoVent Pulmonary Catheter

The EndoVent pulmonary catheter is indicated for use in patients undergoing cardiopulmonary bypass. It is intended to remove blood from the pulmonary artery and assist in decompressing the heart.

- 8.3 Fr (2.8 mm), double lumen catheter intended to vent the pulmonary artery
- Preshaped and flexible to facilitate percutaneous placement through the internal jugular vein or the subclavian vein
- An integrated balloon designed to flow-direct the catheter into the pulmonary artery
- The EndoVent pulmonary catheter is protected by a contamination guard which is compatible with the supplied introducer sheath

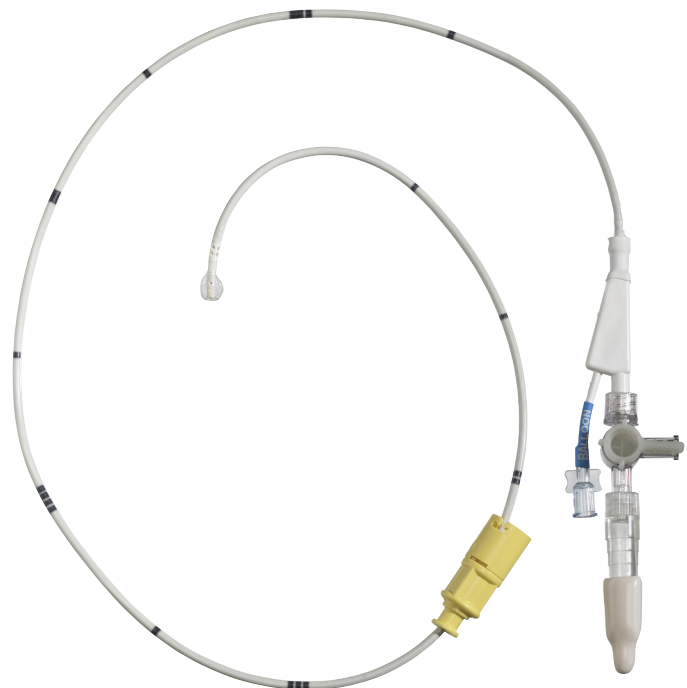
**1 unit per case**

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**25.5 inch (65 cm) overall length**

EV

8.3 Fr (2.8 mm) catheter  
9 Fr (3.0 mm) introducer



## IntraClude Intra-Aortic Occlusion Device

The IntraClude intra-aortic occlusion device is indicated for use in patients undergoing cardiopulmonary bypass. The IntraClude intra-aortic occlusion device occludes and vents the ascending aorta when the balloon is inflated. The device's central lumen allows delivery of cardioplegia to arrest the heart. The pressure lumen allows monitoring of the aortic root pressure.

- 10.5 Fr (3.5 mm), triple-lumen, 100 cm long catheter
- Designed to occlude the ascending aorta in order to partition the aortic root from arterial circulation
- Balloon expands to occlude a range of aorta sizes from 20 to 40 mm
- Designed to be used in the femoral approach with the Edwards EndoReturn (ER21B or ER23B) arterial cannula or the Edwards introducer sheath (IS19A)
- The shaft is provided with an extended strain relief designed to prevent kinking

**1 unit per case**

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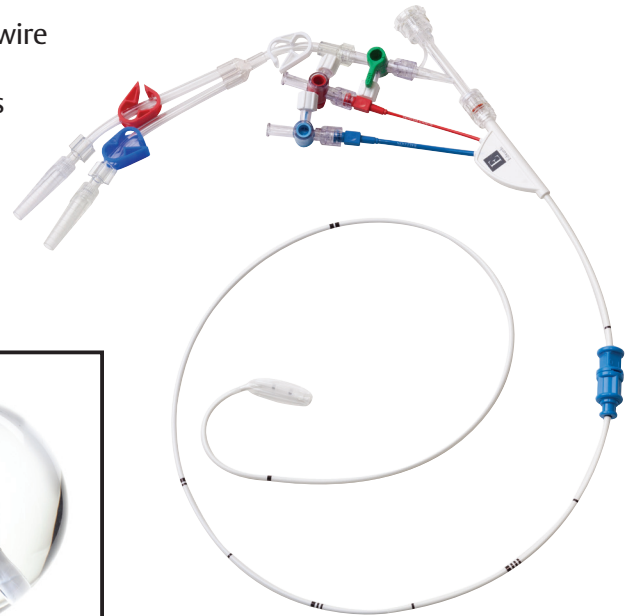
**39.3 inch (100 cm) overall length**

ICF100

0.038 inch (200 cm) guidewire  
Y-connector  
Red and blue pressure lines



Close up of tip

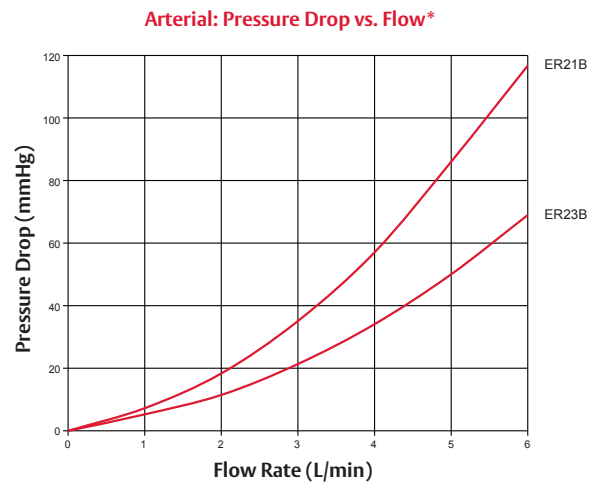




## EndoReturn Arterial Cannula

The EndoReturn arterial cannula and 19 Fr (6.3 mm) arterial cannula are indicated for patients undergoing cardiopulmonary bypass. They are intended to deliver oxygenated blood for cardiopulmonary bypass during surgery. The EndoReturn arterial cannula with hemostasis valve also allows the hemostatic introduction and removal of vascular catheters such as the EndoClamp aortic catheter.

- Kits include a wire-reinforced cannula with hemostasis valve, an introducer and a guidewire
- The cannulae have a wire-reinforced section to provide kink resistance and flexibility
- Tapered tips to aid in insertion and advancement into the femoral artery
- Hemostasis valve designed to allow passage of catheters, such as the EndoClamp aortic catheter
- The introducers accept a .038 inch (0.97 mm) guidewire and are marked to simplify assembly and indicate alignment
- A lubricious coating is applied to the surface of the cannula body, designed to ease insertion and retraction of catheters and introducers



*\* Mean value derived from in vitro testing performed with water at 21°C. The actual pressure gradients encountered in a clinical situation may vary from those shown, depending on perfusion techniques.*

**1 unit per case**

### 3.7 inch (9.4 cm) effective length

ER21B	21 Fr (7.0 mm) 0.038 inch (100 cm) guidewire Introducer Connector hub
ER23B	23 Fr (7.6 mm) 0.038 inch (100 cm) guidewire Introducer Connector hub



### 3.7 inch (9.4 cm) effective length

IS19A	19 Fr (6.3 mm) 0.038 inch (100 cm) guidewire Introducer
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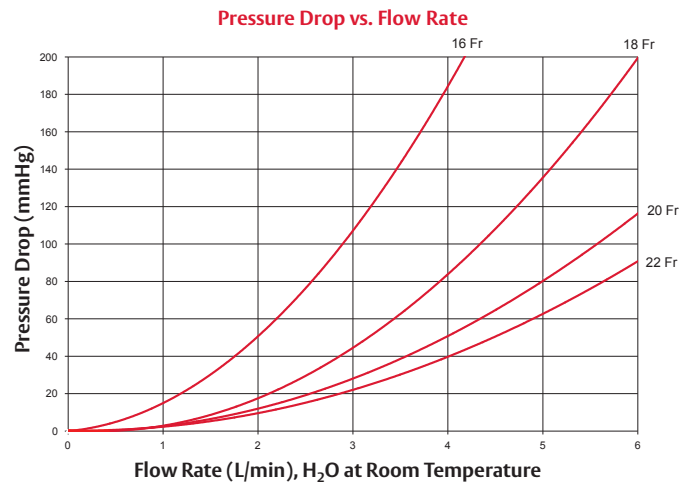


## OptiSite Arterial Cannula

The Edwards Lifesciences arterial perfusion cannulae are indicated for arterial perfusion in the extracorporeal circuit for < 6 hours. Cannulation site selection is left to the discretion of the surgeon and may include the femoral artery or the aortic arch.

- Smoothly rounded tips to facilitate atraumatic insertion
- The proximal ends of the cannulae are designed to accept 3/8 inch (9.5 mm) tubing
- Lock introducer is designed for use with 0.038 inch (0.96 mm) guidewires
- Removable vented luer cap designed to allow cannula venting when guidewire is not in use

**1 unit per case**

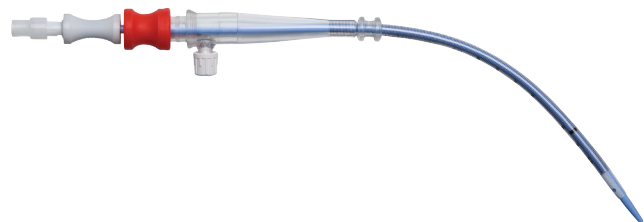


## Blunt Tip Introducer with Guidewire

**15 cm effective length**  
**20.8 cm overall length**

Vented 3/8 inch connector

OPTI16	16 Fr (5.3 mm)
OPTI18	18 Fr (6.0 mm)
OPTI20	20 Fr (6.7 mm)
OPTI22	22 Fr (7.3 mm)



## QuickDraw Venous Cannula

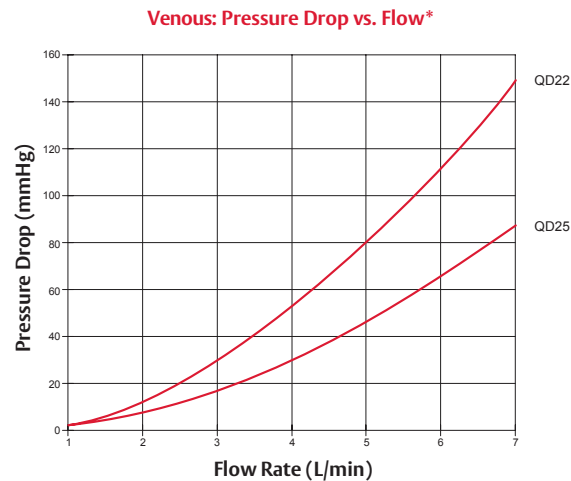
Use of the QuickDraw venous cannula is indicated for patients undergoing cardiopulmonary bypass. The QuickDraw venous cannula serves to drain nonoxygenated blood from the venae cavae or right atrium during cardiopulmonary bypass.

- The QuickDraw venous cannula kit includes: a wirewound cannula; introducer(s); guidewire; connector hub; percutaneous insertion components
- The cannula and introducer(s) have tapered tips to aid in insertion and advancement into the femoral vein
- The cannula is marked at 5 cm intervals from the first marker band to indicate the depth of insertion
- The soft, clear tubing near the barbed end of the cannula allows visualization of air and blood and provides a non-reinforced clamp site
- The cannula connector is a 3/8 inch (9.5 mm) barbed connector
- The introducers accept a 0.038 inch (0.97 mm) guidewire for assistance in cannula insertion
- The connector hub secures and immobilizes the introducer within the cannula for easier, one-person insertion of the cannula/introducer assembly
- For percutaneous insertion, percutaneous insertion components are provided

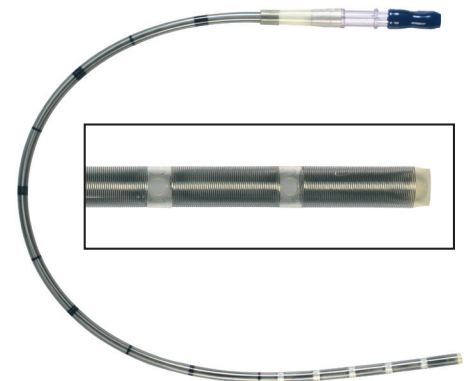
**1 unit per case**

**25.5 inch (65 cm) effective length**

QD22	22 Fr (7.3 mm) 0.375 inch (9.5 mm) barbed connector Introducer 0.038 inch (180 cm) guidewire Percutaneous insertion kit 5 mL syringe
QD25	25 Fr (8.3 mm) 0.375 inch (9.5 mm) barbed connector Introducer 0.038 inch (180 cm) guidewire Percutaneous insertion kit 5 mL syringe



*\* Mean value derived from in vitro testing performed with water at 21°C. The actual pressure gradients encountered in a clinical situation may vary from those shown, depending on perfusion techniques.*




## Soft Tissue Retractor

The ThruPort soft tissue retractor is used to allow visualization of intrathoracic structures and provide entry for the instruments into the thoracic cavity during specific cardiac surgical procedures. The ThruPort soft tissue retractor is designed to be inserted into an intercostal incision and retract tissue to form a port.

- Available in three sizes
- Fabric tabs designed to retract tissue from the incision
- Soft, polyester fabric conforms to intercostal incision
- Metallic ring compresses for insertion into thorax

Model	Description	Ring diameter	Tab length	Tab width
TRS	Soft tissue retractor, small	2.2 inch (6.0 cm)	6.0 inch (15.2 cm)	1.5 inch (3.8 cm)
TRM	Soft tissue retractor, medium	3.0 inch (7.5 cm)	6.0 inch (15.2 cm)	2.0 inch (5.1 cm)
TRL	Soft tissue retractor, large	3.5 inch (9.0 cm)	6.0 inch (15.2 cm)	2.5 inch (6.4 cm)



## Knot Pusher

- Knot pusher facilitates extracorporeal knot tying of valve sutures

KP1

12.9 inch (33 cm) length

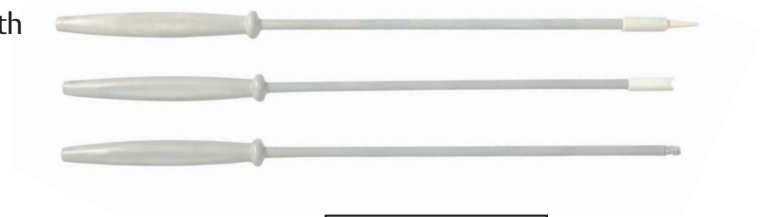


## Valve Placement Pack

- Valve probe has a soft, atraumatic tip for testing mechanical prosthetic valve leaflet motion
- Valve seater has a soft, silicone rubber tip designed to seat mechanical prosthetic valves
- Knot pusher facilitates extracorporeal knot tying of valve sutures

VPP

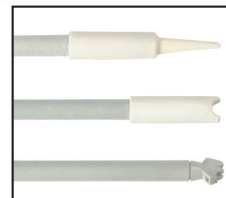
12.9 inch (33 cm) length



Valve Probe

Valve Seater

Knot pusher



Close up of tips



# Edwards Cardiac Cannulae

- Arterial Cannulae
- Venous Cannulae
- Femoral Cannulae
- Cardioplegia Catheters
- Blood Management

# Arterial Cannulae

Aortic perfusion cannulae may be used in pediatric or adult populations based on the flow rate requirements and individual patient anatomy. Please consult labeling to determine pressure drop related to flow rates.

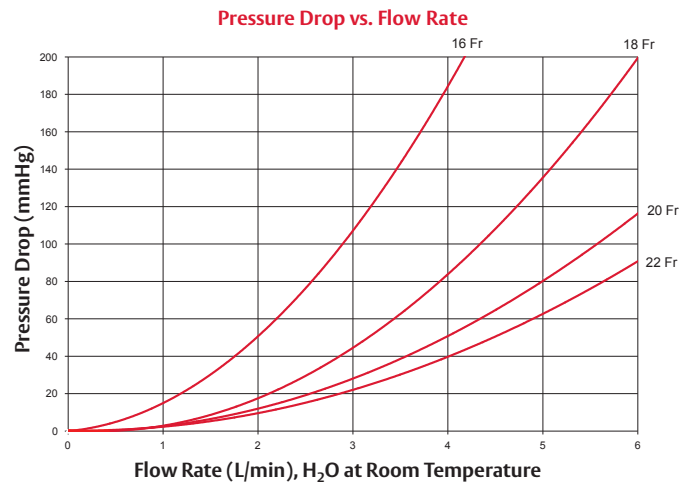


## OptiSite Arterial Cannula

The Edwards Lifesciences arterial perfusion cannulae are indicated for arterial perfusion in the extracorporeal circuit for < 6 hours. Cannulation site selection is left to the discretion of the surgeon and may include the femoral artery or the aortic arch.

- Smoothly rounded tips to facilitate atraumatic insertion
- The proximal ends of the cannulae are designed to accept 3/8 inch (9.5 mm) tubing
- Lock introducer is designed for use with 0.038 inch (0.96 mm) guidewires
- Removable vented luer cap designed to allow cannula venting when guidewire is not in use

**1 unit per case**

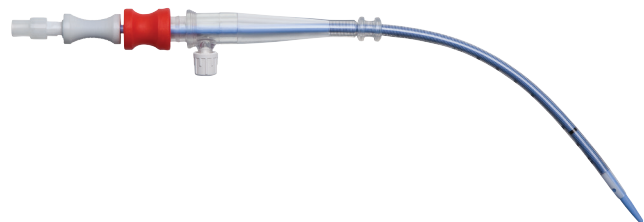


## Blunt Tip Introducer with Guidewire

**15 cm effective length**  
**20.8 cm overall length**

Vented 3/8 inch connector

OPTI16	16 Fr (5.3 mm)
OPTI18	18 Fr (6.0 mm)
OPTI20	20 Fr (6.7 mm)
OPTI22	22 Fr (7.3 mm)

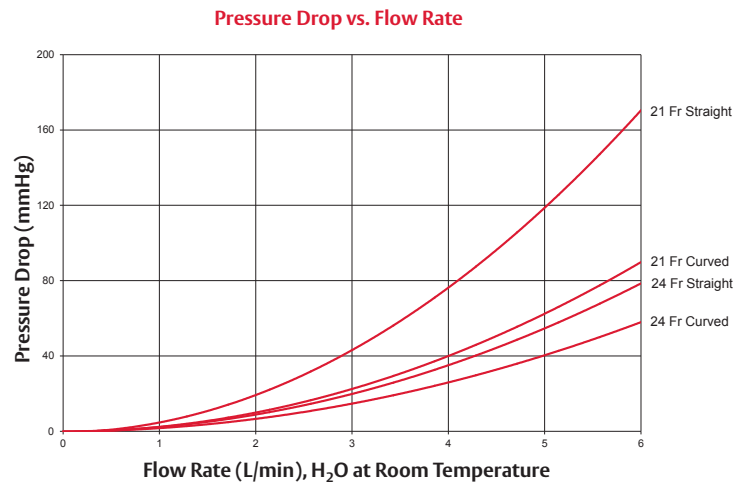


## EZ Glide Aortic Perfusion Cannula

The EZ Glide aortic perfusion cannula is intended to create a dispersive flow.

- Tip design disperses return flow in a conical spray pattern
- Unique auto-dilating tip

**10 units per case**



## Straight Cannula

**14 inch (35 cm) overall length**

3/8 inch vented connector

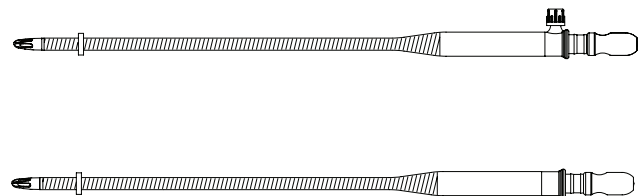
EZS21TA 21 Fr (7.0 mm)

EZS24TA 24 Fr (8.0 mm)

3/8 inch non-vented connector

EZS21A 21 Fr (7.0 mm)

EZS24A 24 Fr (8.0 mm)



## EZ Glide Aortic Perfusion Cannula (*continued*)

### Curved Cannula with Suture Bump

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**14.8 inch (37.6 cm) overall length**

3/8 inch vented connector

EZC21TA 21 Fr (7.0 mm)

EZC24TA 24 Fr (8.0 mm)



3/8 inch non-vented connector

EZC21A 21 Fr (7.0 mm)

EZC24A 24 Fr (8.0 mm)



### Curved Cannula with Suture Flange

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**14.8 inch (37.6 cm) overall length**

3/8 inch vented connector

EZF21TA 21 Fr (7.0 mm)

EZF24TA 24 Fr (8.0 mm)



3/8 inch non-vented connector

EZF21A 21 Fr (7.0 mm)

EZF24A 24 Fr (8.0 mm)



# Arterial Cannulae

## Arterial Cannula Accessories

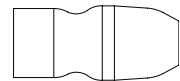
These accessories can be used in conjunction with Edwards arterial cannulae.

10 units per case

### Vent caps

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Compatible with 3/8 inch connector  
SPC2063 20 micron porous vent cap

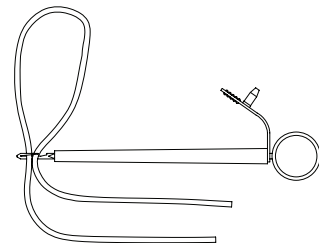


### Vascular Tourniquet

2 per pouch

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TK2 5 inch (12.7 cm) sheath



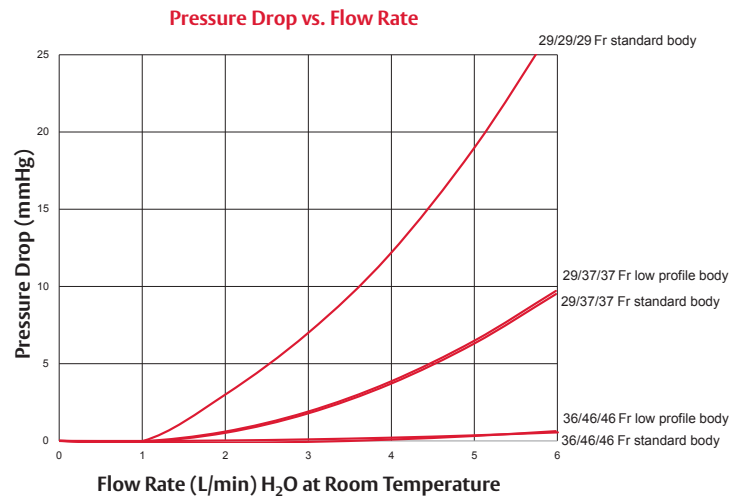
# Venous Cannulae

Venous cannulae may be used in pediatric populations or adult populations based on flow rate requirements and patient anatomy. Please see labeling for maximum flow rate information.

## Triple Stage Venous Cannula

- Thin-Flex triple stage venous cannula offers 34% reduction in wall thickness compared to traditional technology\*
- Open lighthouse tip for high flow rates
- Compatible with vacuum assist venous drainage systems
- Optional Trim-Flex low profile venous cannula offers a flattened design\*

10 units per case



## Trim-Flex Low Profile Triple Stage Venous Cannula

14.5 inch (37 cm) overall length

1/2 inch non-vented connector

TRF2937O2A 29/37/37 Fr  
(9.6/12.3/12.3 mm)



1/2 inch acceptance

TRF2937O2 29/37/37 Fr  
(9.6/12.3/12.3 mm)



16 inch (40 cm) overall length

1/2 inch non-vented connector

TRF3646O2A 36/46/46 Fr  
(12.0/15.3/15.3 mm)



1/2 inch acceptance

TRF3646O2 36/46/46 Fr  
(12.0/15.3/15.3 mm)



\* As compared to standard venous cannulae, data on file

## Triple Stage Venous Cannula (*continued*)

### Thin-Flex Triple Stage Venous Cannula

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#### 14.5 inch (37 cm) overall length

1/2 inch non-vented connector  
TF293702A      29/37/37 Fr  
                    (9.6/12.3/12.3 mm)



1/2 inch acceptance  
TF293702      29/37/37 Fr  
                    (9.6/12.3/12.3 mm)



#### 16 inch (40 cm) overall length

1/2 inch non-vented connector  
TF292902A      29/29/29 Fr  
                    (9.6/9.6/9.6 mm)



3/8 inch acceptance  
TF292902      29/29/29 Fr  
                    (9.6/9.6/9.6 mm)

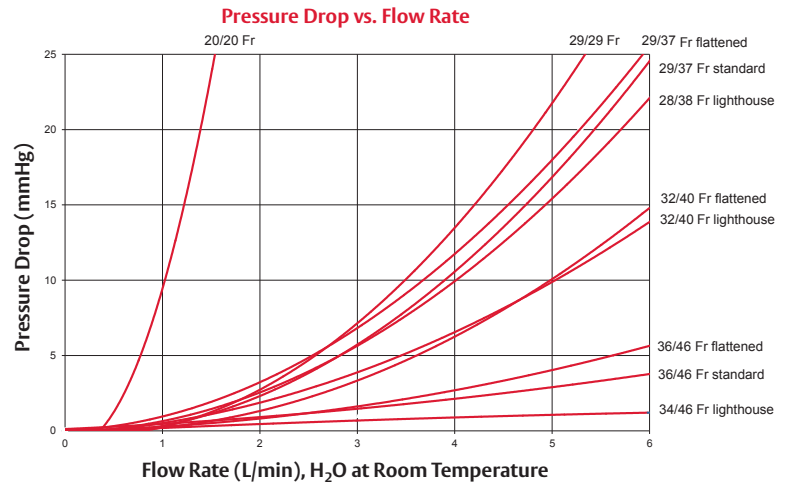


1/2 inch acceptance  
TF364602      36/46/46 Fr  
                    (12.0/15.3/15.3 mm)



## Dual Stage Venous Cannula

- Features patented dual stage drainage baskets designed to provide increased resistance to collapse
- Multiple port tip designed to increase drainage
- Wire-reinforcement helps reduce kinking and twisting
- Optional Thin-Flex dual stage venous cannula with proprietary thin-wall technology designed to maximize flow rates and available space



10 units per case

## Trim-Flex Low Profile Dual Stage Cannula

14.5 inch (37 cm) overall length

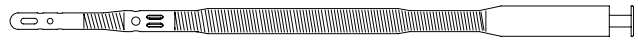
1/2 inch non-vented connector

TRF2937OA 29/37 Fr (9.6/12.3 mm)



1/2 inch acceptance

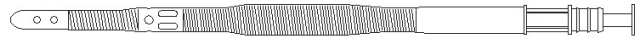
TRF2937O 29/37 Fr (9.6/12.3 mm)



16 inch (40 cm) overall length

1/2 inch non-vented connector

TRF3646OA 36/46 Fr (12.0/15.3 mm)



1/2 inch acceptance

TRF3646O 36/46 Fr (12.0/15.3 mm)





## Dual Stage Venous Cannula (continued)

### Thin-Flex Dual Stage Venous Cannula

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#### 14.5 inch (37 cm) overall length

1/2 inch non-vented connector

TF29370A                      29/37 Fr (9.6/12.3 mm)



1/2 inch acceptance

TF29370                      29/37 Fr (9.6/12.3 mm)



#### 16 inch (40 cm) overall length

3/8 inch acceptance

TF292901                      29/29 Fr (9.6/9.6 mm)



1/2 inch non-vented connector

TF36460A                      36/46 Fr (12.0/15.3 mm)

TF33430A                      33/43 Fr (11.0/14.3 mm)



1/2 inch acceptance

TF36460                      36/46 Fr (12.0/15.3 mm)

TF33430                      33/43 Fr (11.0/14.3 mm)



## Dual Stage Venous Cannula (continued)

### Open Lighthouse Tip

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#### 16 inch (40 cm) overall length

1/2 inch non-vented connector

TR3240OA 32/40 Fr (10.6/13.3 mm)



1/2 inch acceptance

TR32400 32/40 Fr (10.6/13.3 mm)



### Lighthouse Tip

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#### 16 inch (40 cm) overall length

1/2 inch acceptance

TR2838L 28/38 Fr (9.3/12.6 mm)

TR3240L 32/40 Fr (10.6/13.3 mm)

TR3446L 34/46 Fr (11.3/15.3 mm)



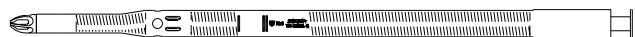
### Bullet Tip

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#### 16 inch (40 cm) overall length

1/2 inch acceptance

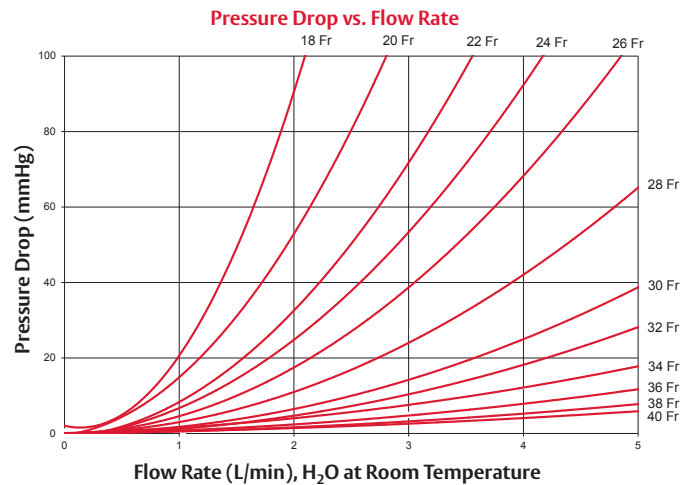
TR3651B 36/51 Fr (12.0/17.0mm)



## Single Stage Venous Cannula

- One piece wire reinforced cannula
- Proprietary thin-wall design to maximize venous drainage
- Multiple port tip designed to increase drainage
- Thin-Flex venous cannula with proprietary thin-wall technology designed to maximize flow rates

10 units per case



## Thin-Flex Straight Open Lighthouse Tip

### 14 inch (35 cm) overall length

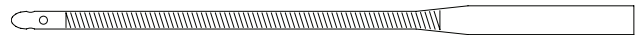
1/4 inch or 3/8 inch acceptance

TF018L	18 Fr (6.0 mm)
TF020L	20 Fr (6.7 mm)
TF022L	22 Fr (7.3 mm)
TF024L	24 Fr (8.0 mm)



3/8 inch acceptance

TF026L	26 Fr (8.7 mm)
TF028L	28 Fr (9.3 mm)



### 16 inch (40 cm) overall length

3/8 inch acceptance

TF030L	30 Fr (10.0 mm)
TF032L	32 Fr (10.7 mm)
TF034L	34 Fr (11.3 mm)
TF036L	36 Fr (12.0 mm)
TF038L	38 Fr (12.6 mm)
TF040L	40 Fr (13.3 mm)



## Single Stage Venous Cannula (continued)

### Thin-Flex Right Angled Open Lighthouse Tip

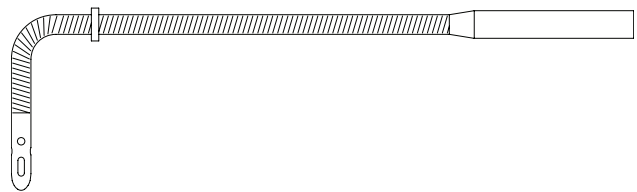
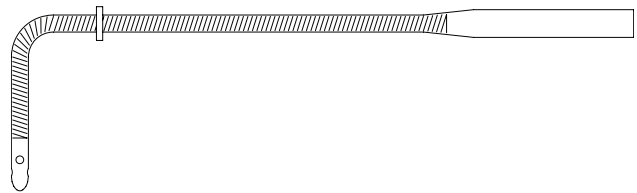
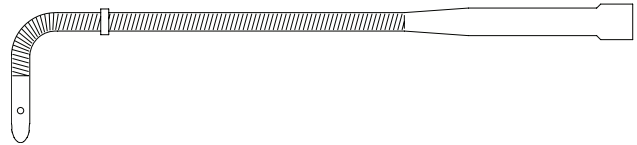
#### 14 inch (35 cm) overall length

1/4 inch or 3/8 inch acceptance  
TF024L90 24 Fr (8.0 mm)

3/8 inch acceptance  
TF026L90 26 Fr (8.7 mm)  
TF028L90 28 Fr (9.3 mm)

#### 16 inch (40 cm) overall length

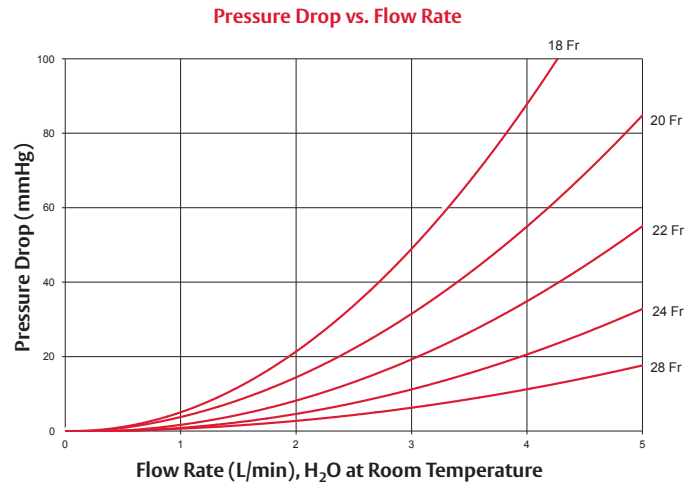
3/8 inch acceptance  
TF030L90 30 Fr (10.0 mm)  
TF032L90 32 Fr (10.7 mm)  
TF034L90 34 Fr (11.3 mm)  
TF036L90 36 Fr (12.0 mm)  
TF038L90 38 Fr (12.6 mm)



## Single Stage Venous Cannula

- One piece wire reinforced cannula
- Proprietary thin-wall design to maximize venous drainage
- Multiple port tip designed to increase drainage
- Thin-Flex venous cannula with proprietary thin-wall technology designed to maximize flow rates

10 units per case

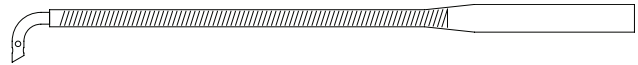


## Thin-Flex 90° Plastic Tip with Side Holes

### 14 inch (35 cm) overall length

3/8 inch acceptance

TF018O90	18 Fr (6.0 mm)
TF020O90	20 Fr (6.7 mm)



### 15 inch (38 cm) overall length

3/8 inch acceptance

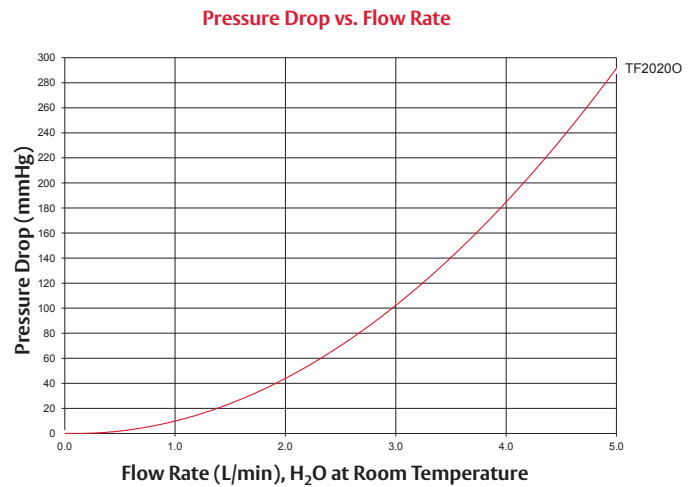
TF022O90	22 Fr (7.3 mm)
TF024O90	24 Fr (8.0 mm)
TF028O90	28 Fr (9.3 mm)



## Small Size Dual Stage Venous Cannula

- Thin-Flex venous cannula with proprietary thin-wall technology designed to maximize flow rates
- Patented dual stage drainage baskets designed to provide increased resistance to collapse
- Wire-reinforcement helps reduce kinking and twisting

10 units per case



## Thin-Flex Dual Stage Venous Cannula

14 inch (35 cm) overall length

1/4 inch or 3/8 inch acceptance

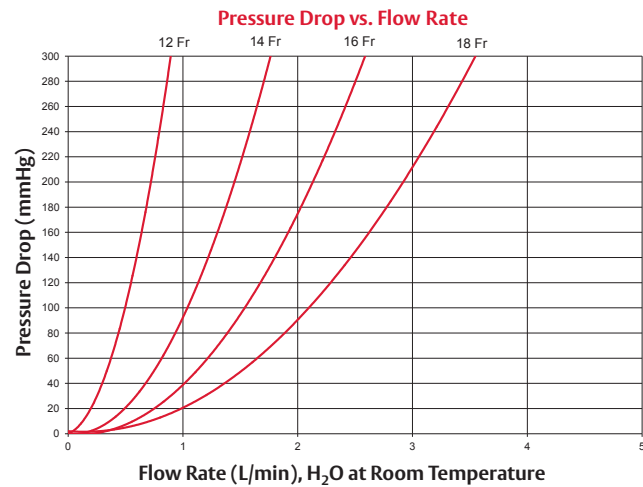
TF20200 20/20 Fr (6.7/6.7 mm)



## Small Size Single Stage Venous Cannula

- Thin-Flex venous cannula with proprietary thin-wall technology designed to maximize flow rates

10 units per case



## Thin-Flex Straight Open Lighthouse Tip

11 inch (28 cm) overall length

1/4 inch acceptance

TF012L	12 Fr (4.0 mm)
TF014L	14 Fr (4.7 mm)
TF016L	16 Fr (5.3 mm)



14 inch (35 cm) overall length

1/4 or 3/8 inch acceptance

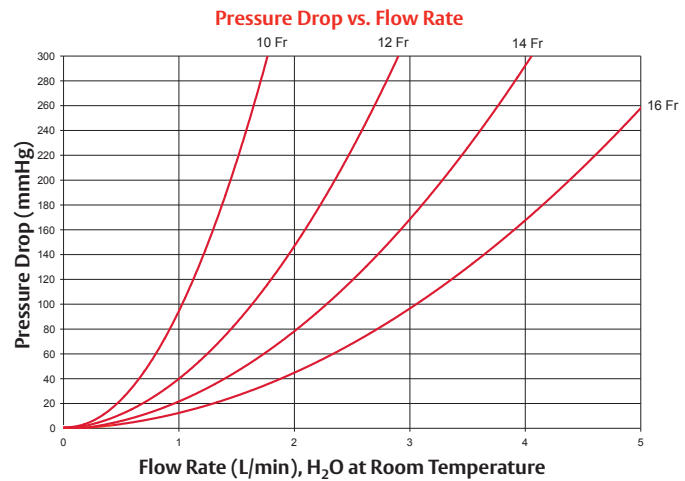
TF018L	18 Fr (6.0 mm)
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## Small Size Single Stage Venous Cannula

- Thin-Flex venous cannula with proprietary thin-wall technology designed to maximize flow rates

10 units per case



## Thin-Flex 90° Plastic Tip with Side Holes

11 inch (28 cm) overall length

1/4 inch acceptance

TF010O90

10 Fr (3.3 mm)



13 inch (33 cm) overall length

1/4 inch or 3/8 inch acceptance

TF012O90

12 Fr (4.0 mm)

TF014O90

14 Fr (4.7 mm)

TF016O90

16 Fr (5.3 mm)







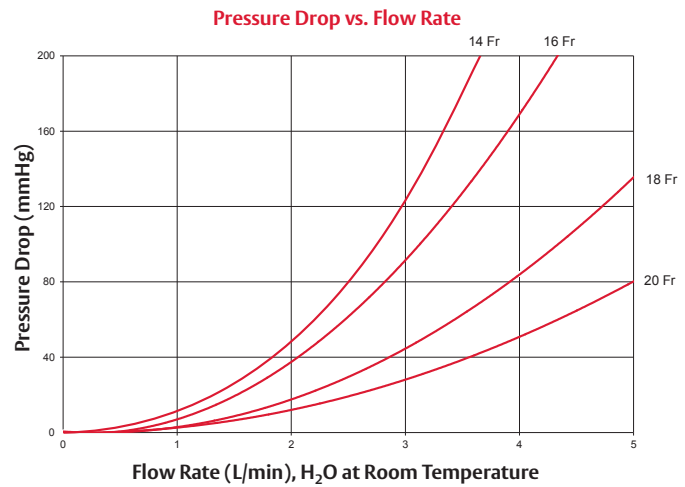
# Femoral Cannulae

Femoral access cannulae may be used in pediatric populations or adult populations based on flow rate requirements and individual patient anatomy. Please consult labeling to determine pressure drop related to flow rates.

## Fem-Flex II Femoral Arterial Cannula

Fem-Flex II femoral arterial cannula is designed with thin-wall technology for enhanced flow and flexibility.

- Tapered tip and smooth dilator to cannula transition facilitates insertion
- Polyurethane body with wire reinforcement helps reduce kinking
- Radiopaque striping for visualization during placement
- Accommodates up to 0.038 inch guidewire



**1 unit per case**

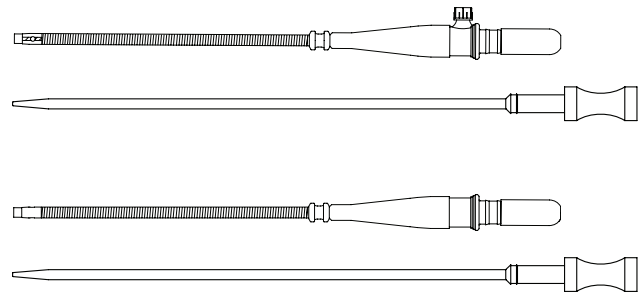
**9.5 inch (24 cm) overall length**  
**6.0 inch (15 cm) effective length**

**3/8 inch vented connector**

FEMII016A	16 Fr (5.3 mm)
FEMII018A	18 Fr (6.0 mm)
FEMII020A	20 Fr (6.7 mm)

**3/8 inch non-vented connector**

FEMII016AS	16 Fr (5.3 mm)
FEMII018AS	18 Fr (6.0 mm)
FEMII020AS	20 Fr (6.7 mm)



**5 units per case**

**Small Size**

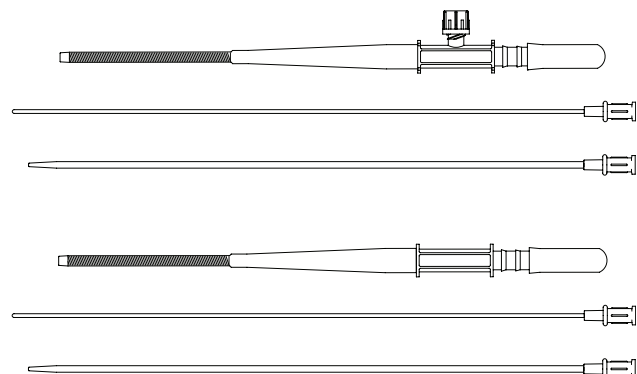
**7.75 inch (19.7 cm) overall length**  
**2.6 inch (6.5 cm) effective length**

**1/4 inch vented connector**

FEMII014AT	14 Fr (4.7 mm)
------------	----------------

**1/4 inch non-vented connector**

FEMII014A	14 Fr (4.7 mm)
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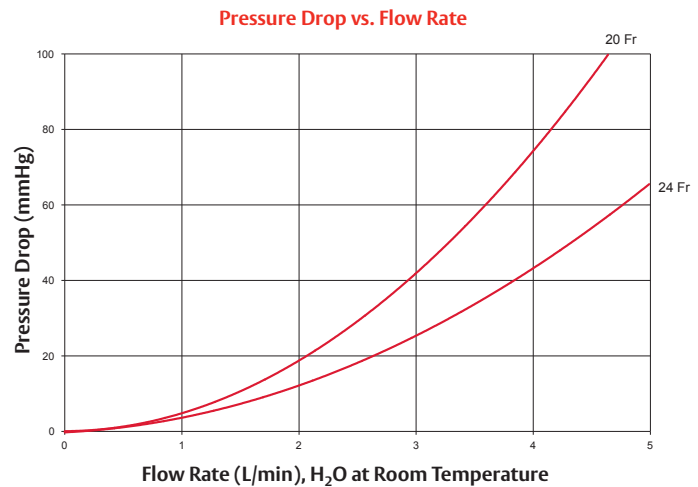


# Femoral Cannulae

## FemTrak Femoral Venous Cannula

- Wire-reinforced thin-wall body that helps minimize kinking and maximize flow rates
- Metal ferrule tipped cannula to provide an atraumatic and smooth transition between cannula and introducer
- Soft, flexible tip on the introducer

1 unit per case



29 inch (74 cm) overall length  
21.6 inch (55 cm) effective length

3/8 inch non-vented connector  
FTV020 20 Fr (6.7 mm)



34 inch (86 cm) overall length  
26.8 inch (68 cm) effective length

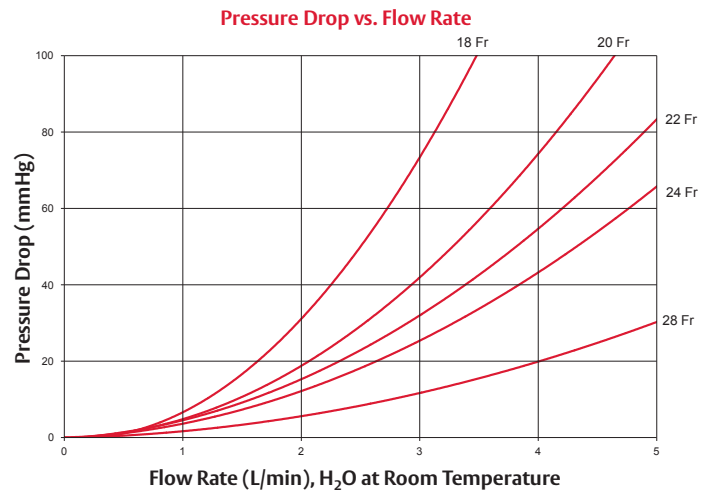
3/8 inch non-vented connector  
FTV024 24 Fr (8.0 mm)



## VFEM Femoral Venous Cannula

- Thin-wall technology enhances venous drainage and provides flexibility for a variety of surgical applications
- Wire-reinforced body to help reduce kinking
- A tapered tip and smooth dilator-to-cannula for ease of insertion
- Extended section of drainage holes designed to maximize venous drainage

1 unit per case



**29 inch (74 cm) overall length**

**21.6 inch (55 cm) effective length**

3/8 inch non-vented connector

VFEM018 18 Fr (6.0 mm)

VFEM020 20 Fr (6.7 mm)

VFEM022 22 Fr (7.3 mm)



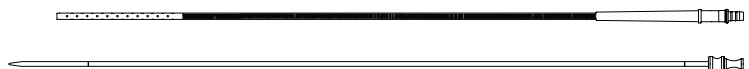
**34 inch (86 cm) overall length**

**26.8 inch (68 cm) effective length**

3/8 inch non-vented connector

VFEM024 24 Fr (8.0 mm)

VFEM028 28 Fr (9.3 mm)



## Fem-Flex II Small Size Femoral Venous Cannula

Fem-Flex II femoral venous cannula is designed with thin-wall technology for enhanced flow and flexibility.

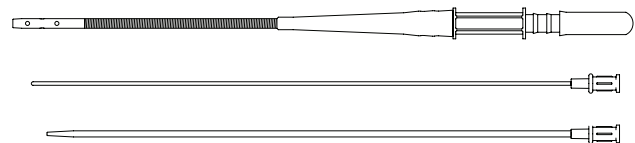
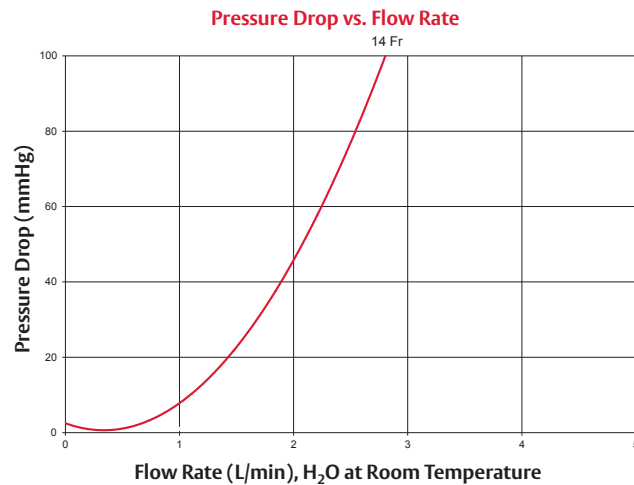
- Tapered tip and smooth dilator to cannula transition facilitates insertion
- Polyurethane body with wire reinforcement helps reduce kinking
- Radiopaque striping for visualization during placement
- Extended section of drainage holes designed to maximize venous drainage

**5 units per case**

### Small Size

**9.5 inch (24 cm) overall length**  
**4.5 inch (11.5 cm) effective length**

1/4 inch non-vented connector  
FEMII014V 14 Fr (4.7 mm)

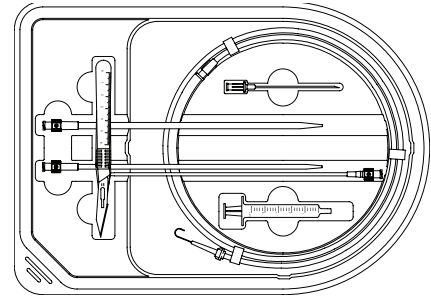


## Percutaneous Insertion Kit

The percutaneous insertion kit is designed to facilitate percutaneous insertion of a femoral cannula. The kit includes the following components:

- Number 11 scalpel
- 18 ga. insertion needle
- 5 mL syringe
- Three dilators: 8 Fr / 12 Fr / 16 Fr
- 0.038 inch guidewire

**5 units per case**



## Arterial Insertion Kit

---

PIKA                      100 cm guidewire

## Venous Insertion Kit

---

PIKV                      210 cm guidewire

# Femoral Cannulae

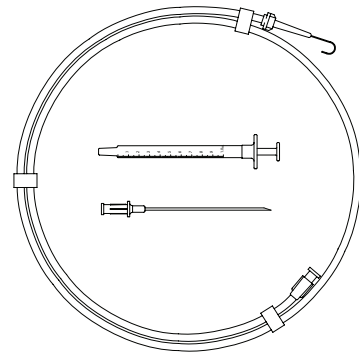
## Femoral Cannulae Accessories

10 units per case

### Guidewire Kit

---

ART100	0.038 inch (0.97 mm) guidewire - 100 cm (39.4 inch) overall length, 1 ml syringe and 18 ga. insertion needle
VEN210	0.038 inch (0.97 mm) guidewire - 210 cm (82.7 inch) overall length, 1 ml syringe and 18 ga. insertion needle





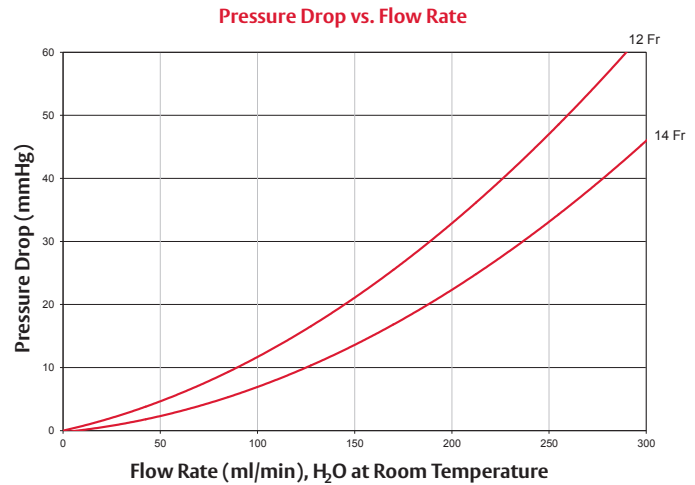
# Cardioplegia Catheters

Retrograde coronary sinus cardioplegia catheters may be used in pediatric or adult populations based on the requirements of individual patient anatomy.

## Self-Inflating Retrograde Cardioplegia Catheter with Retractable Anti-Retraction Technology

The self-inflating retrograde cardioplegia catheter is designed to maximize patient protection by providing global myocardial protection.

- Balloon self-inflates when cardioplegia is being delivered
- Variety of handle and stylet designs that facilitate insertion for a variety of surgical techniques
- Utilizes proprietary Retractableguard anti-retraction technology, which helps the cannula retain its shape after deployment and prevent balloon slippage



10 units per case

### Pre-Shaped Stylet and Handle

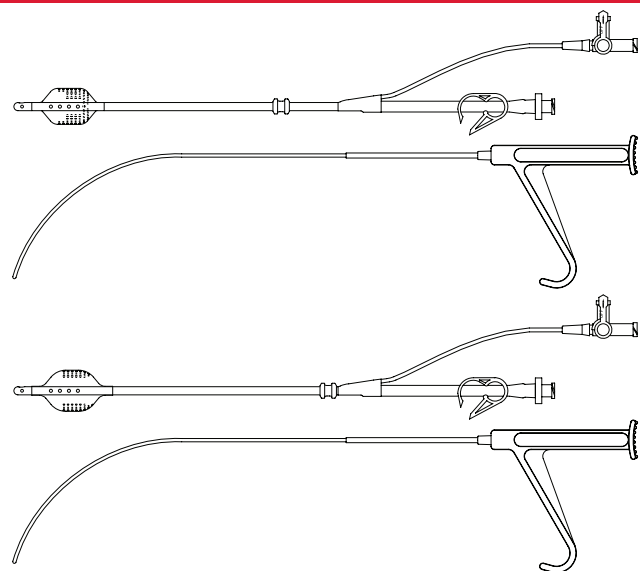
10.6 inch (27 cm) overall length

18 mm textured balloon  
RC2014S 14 Fr (4.7 mm)

12.5 inch (32 cm) overall length

18 mm textured balloon  
RC2012 12 Fr (4.0 mm)  
RC2014 14 Fr (4.7 mm)

20 mm textured balloon  
RC2014LB 14 Fr (4.7 mm)



## Self-Inflating Retrograde Cardioplegia Catheter with Retractaguard Anti-Retraction Technology (continued)

### Guidewire Stylet

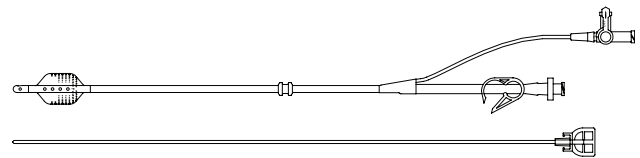
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12.5 inch (32 cm) overall length

18 mm textured balloon

RC2012M 12 Fr (4.0 mm)

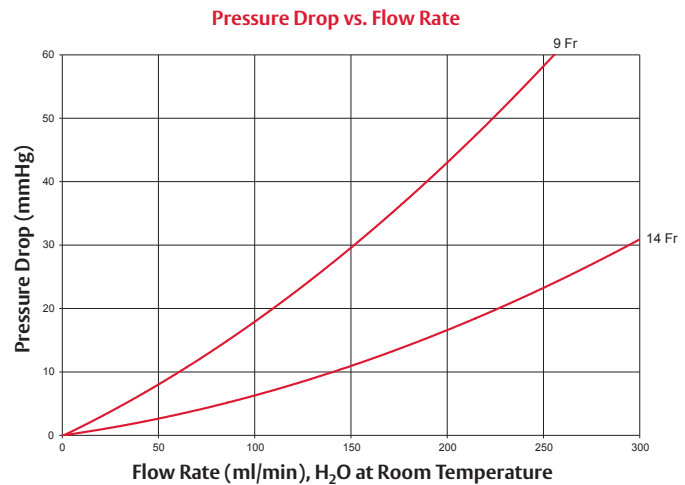
RC2014M 14 Fr (4.7 mm)



## Self-Inflating Retrograde Cardioplegia Catheter

The self-inflating retrograde cardioplegia catheter is designed to maximize patient protection by providing global myocardial protection.

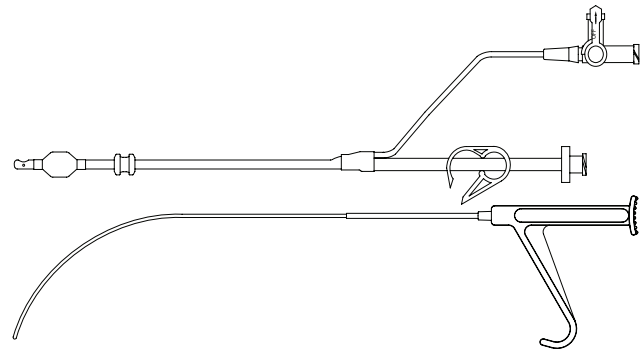
- Balloon self-inflates when cardioplegia is being delivered
- Variety of handle and stylet designs that facilitate insertion for a variety of surgical techniques



## Pre-Shaped Stylet and Handle

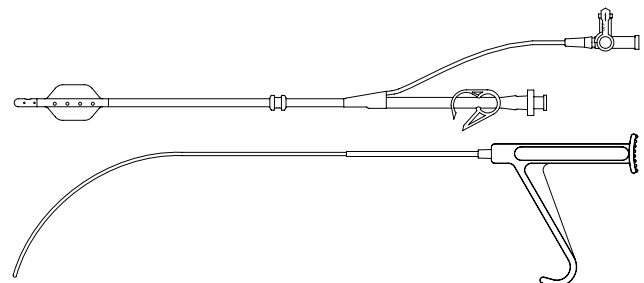
**5 units per case**  
**8 inch (20 cm) overall length**

9 mm smooth balloon  
RC09                      9 Fr (3.0 mm)

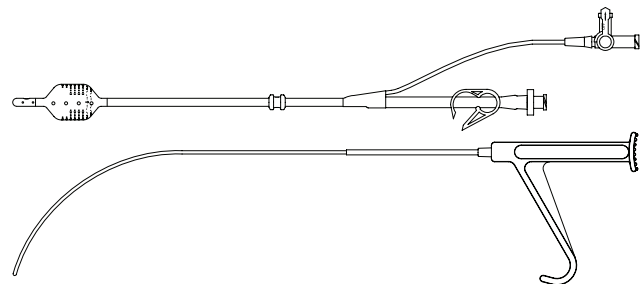


**10 units per case**  
**10.6 inch (27 cm) overall length**

18 mm smooth balloon  
RC014                      14 Fr (4.7 mm)



14 mm textured balloon  
RC014IT                      14 Fr (4.7 mm)



18 mm textured balloon  
RC014T                      14 Fr (4.7 mm)

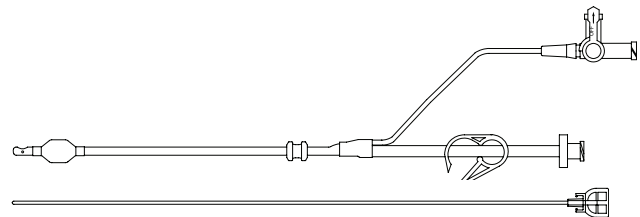
## Self-Inflating Retrograde Cardioplegia Catheter (continued)

### Guidewire Stylet

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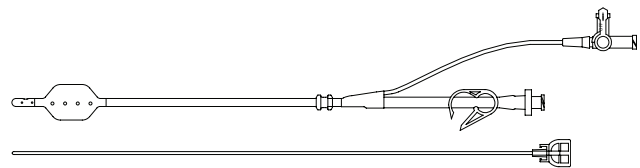
**5 units per case**  
**8 inch (20 cm) overall length**

9 mm smooth balloon  
RC09M                      9 Fr (3.0 mm)



**10 units per case**  
**10.6 inch (27 cm) overall length**

18 mm smooth balloon  
RC014M                      14 Fr (4.7 mm)



## Manually Inflating Retrograde Cardioplegia Catheter

The manually inflating retrograde cardioplegia catheter is designed to maximize patient protection by providing global myocardial protection.

- Manual inflation of the balloon allows surgical control over balloon inflation
- Variety of handle and stylet designs that facilitate insertion for a variety of surgical techniques
- Optional Retractable anti-retraction technology to prevent balloon slippage

10 units per case

### Pre-shaped Stylet and Handle

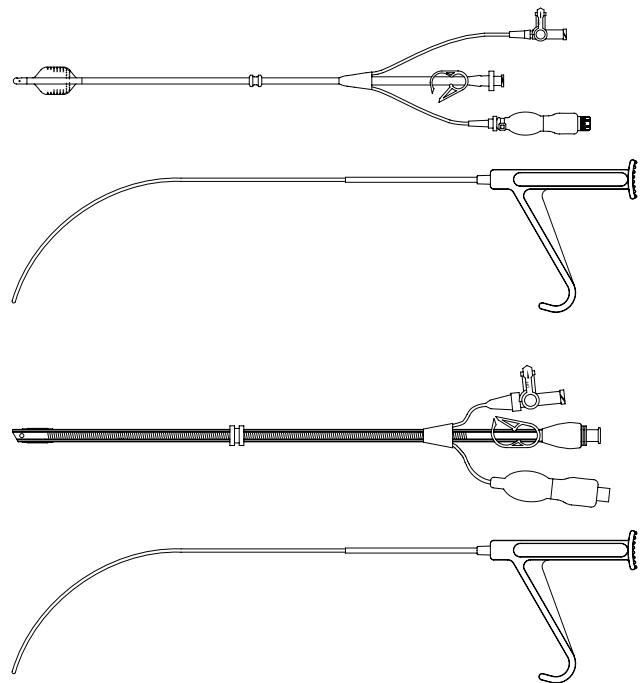
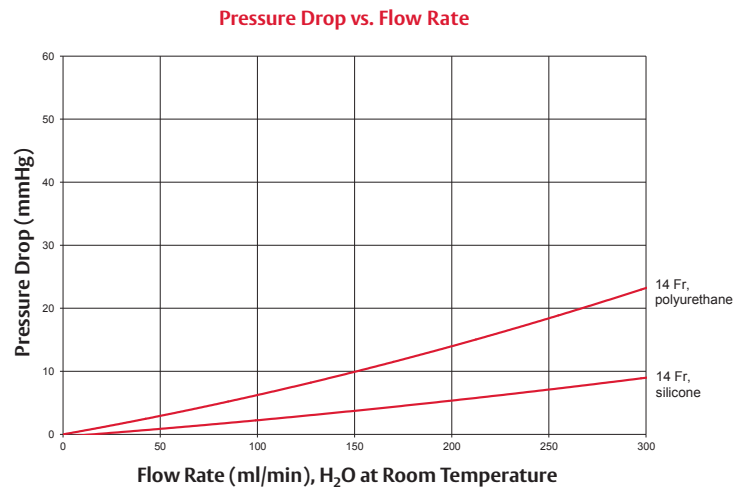
#### Pre-shaped Stylet and Handle 12.5 inch (32 cm) overall length

Textured polyurethane balloon  
and Retractable lumen

RC2014MIBB 14 Fr (4.7 mm)

Smooth silicone balloon

RC014MIBB 14 Fr (4.7 mm)



## Manually Inflating Retrograde Cardioplegia Catheter (continued)

### Guidewire Stylet

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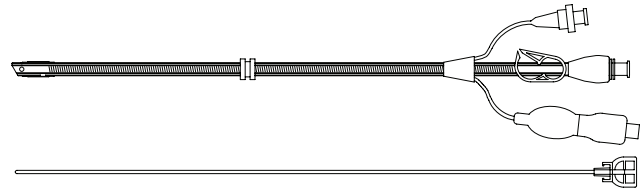
**12.5 inch (32 cm) overall length**

Smooth silicone balloon

PLD014MIBH      14 Fr (4.7 mm)\*

\*Female luer instead of stopcock

RC014MIB      14 Fr (4.7 mm)



# Blood Management

Vent catheters may be used in pediatric or adult populations based on individual patient anatomy.



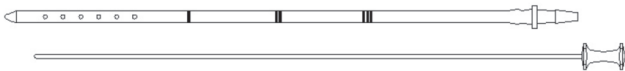
Vent Catheter

10 units per case

Guidewire Stylet and Silicone Catheter Body

1/4 inch connector  
15.5 inch (39.4 cm) overall length

E063                      20 Fr (6.7 mm)  
6 cm of drainage holes



Blood Flow Monitoring

The FLOtector ultrasonic blood flow detector is a battery powered pulsed Doppler ultrasound system designed for the evaluation of blood velocity in vessels.

- A varying audible signal is produced
- The signal pitch is proportional to blood velocity in the vessel
- Specifically designed for the evaluation of blood velocity in vessels

FLOtector Intraoperative Surgical Blood Flow Detector

1 unit per case  
FLO001                      Transceiver

FLOtector Detector Probes

4 units per case  
FLO002S                      8 Fr (2.7 mm)  
Curved tip



# Index

Large Tab

# Index

- ThruPort Systems
- Edwards Cardiac Cannulae

# ThruPort Systems

## ThruPort Systems

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### Retrograde Cardioplegia

PR9.....2

### Vent Catheter

EV .....3

### Aortic Occlusion

ICF100 .....4

### Arterial Cannulae

ER21B .....5

ER23B .....5

IS19A.....5

OPTI16 .....6

OPTI18 .....6

OPTI20 .....6

OPTI22 .....6

### Venous Cannulae

QD22 .....7

QD25 .....7

### Accessory Devices

TRS.....8

TRM .....8

TRL .....8

KP1.....8

VPP.....9



# Edwards Cardiac Cannulae



## Edwards Cardiac Cannulae

### Arterial Cannulae

EZC21A .....	13
EZC21TA .....	13
EZC24A .....	13
EZC24TA .....	13
EZF21A .....	13
EZF21TA .....	13
EZF24A .....	13
EZF24TA .....	13
EZS21A .....	12
EZS21TA .....	12
EZS24A .....	12
EZS24TA .....	12
OPTI16 .....	11
OPTI18 .....	11
OPTI20 .....	11
OPTI22 .....	11
SPC2063 .....	14
TK2 .....	14

### Venous Cannulae

TF010O90 .....	25
TF012L .....	24
TF012O90 .....	25
TF014L .....	24
TF014O90 .....	25
TF016L .....	24
TF016O90 .....	25
TF018L .....	20,24
TF018O90 .....	22
TF020L .....	20
TF020O90 .....	22
TF022L .....	20
TF022O90 .....	22
TF024L .....	20
TF024L90 .....	21
TF024O90 .....	22
TF026L .....	20
TF026L90 .....	21
TF028L .....	20
TF028L90 .....	21
TF028O90 .....	22
TF030L .....	20
TF030L90 .....	21

TF032L .....	20
TF032L90 .....	21
TF034L .....	20
TF034L90 .....	21
TF036L .....	20
TF036L90 .....	21
TF038L .....	20
TF038L90 .....	21
TF040L .....	20
TF2020O .....	23
TF292901 .....	18
TF2937O .....	18
TF2937OA .....	18
TF292902 .....	16
TF292902A .....	16
TF293702 .....	16
TF293702A .....	16
TF3343O .....	18
TF3343OA .....	18
TF3646O .....	18
TF3646OA .....	18
TF3646O2 .....	16
TR2838L .....	19
TR3240L .....	19
TR3446L .....	19
TR3240O .....	19
TR3240OA .....	19
TR3651B .....	19
TRF2937O .....	17
TRF2937OA .....	17
TRF2937O2 .....	15
TRF2937O2A .....	15
TRF3646O .....	17
TRF3646OA .....	17
TRF3646O2 .....	15
TRF3646O2A .....	15

### Femoral Cannulae

ART100 .....	32
FEMII014A .....	27
FEMII014AT .....	27
FEMII014V .....	30
FEMII016A .....	27
FEMII016AS .....	27

FEMII018A .....	27
FEMII018AS .....	27
FEMII020A .....	27
FEMII020AS .....	27
FTV020 .....	28
FTV024 .....	28
PIKA .....	31
PIKV .....	31
VEN210 .....	32
VFEM018 .....	29
VFEM020 .....	29
VFEM022 .....	29
VFEM024 .....	29
VFEM028 .....	29

### Cardioplegia Catheters

RC09 .....	35
RC09M .....	36
RC014 .....	35
RC014IT .....	35
RC014M .....	36
RC014MIB .....	38
RC014MIBB .....	37
RC014T .....	35
RC2012 .....	33
RC2012M .....	34
RC2014 .....	33
RC2014LB .....	33
RC2014M .....	34
RC2014MIBB .....	37
RC2014S .....	33

### Blood Management

E063 .....	39
FLO001 .....	39
FLO002S .....	39



## Customer Service Policies

### Customer Service US Only

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1. Edwards Lifesciences is committed to providing our customers with quality products and service. Therefore, we will accept for return and full credit and product that:
  - a. Is a result of an error by Edwards Lifesciences
  - a. Does not perform satisfactorily for the purposes and indications described in the labeling
2. Authorization is required for all returns and may be obtained through Customer Service. A Returned Goods Authorization number will be issued and this number must be referenced on all returned packages. Freight on all returns must be prepaid by the customer except for returns listed in section one.
3. All returned product will be subject to a 20% handling and restocking fee except for returns listed in section one.
4. The following material is not acceptable for return:
  - a. Sterile items that are returned without the manufacturing seals intact
  - b. Custom products (SPC, ISP)
  - c. Incomplete kits or cases
  - d. Product which has less than 13 month shelf life
  - e. Product which has been marked or labeled with anything other than the standard Edwards label
5. As part of an ongoing effort to improve the quality of our products, we would like any defective product to be returned for evaluation. Credit or replacement will be issued by Edwards upon receipt of the defective product.

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# EZ Glide

## Aortic Cannulae



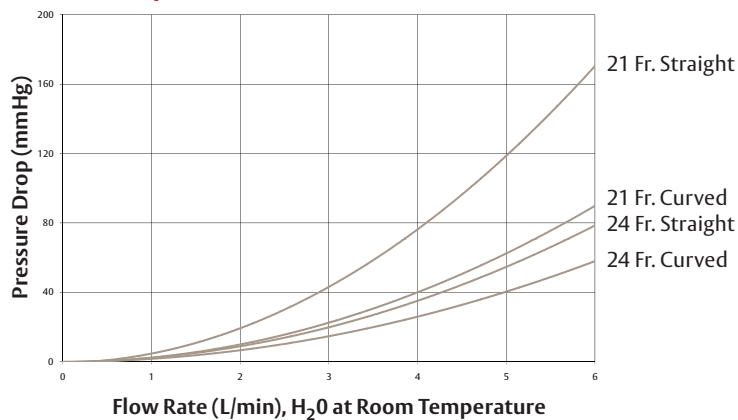
### Gentle, dispersive flow

When cardiovascular surgery requires aortic cannulae, EZ Glide aortic cannulae are intended to help protect patients from the potential dangers of embolic dislodgement.

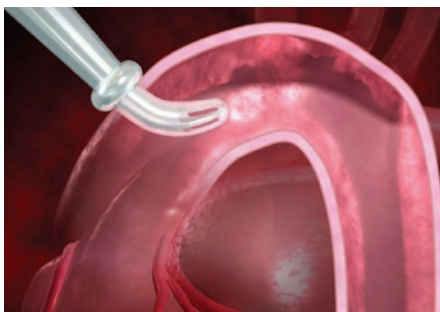
The unique auto dilating tip disperses flow in a gentle, conical spray pattern which reduces the likelihood of embolic disruption by reducing the exit force and line pressure.

- Optimized tip angle provides centered flow inside the aorta, away from the vessel wall
- Unique, auto-dilating tip enables ease of insertion
- Available with suture bump, suture flange, or moveable suture ring
- Depth markings aid in placement

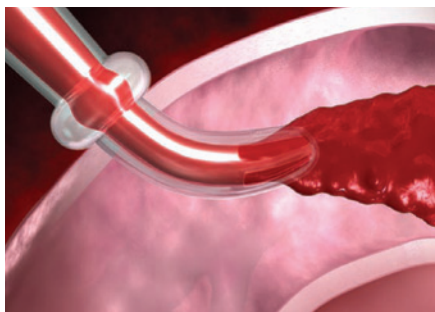
### Pressure Drop vs Flow



## Flow through EZ Glide aortic cannulae



Central orientation of aortic cannula



Central fan shaped dispersive flow

By putting a new level of gentle, dispersive flow into a cannula, our enhanced EZ Glide aortic cannulae help you protect patients from the potential dangers of embolic dislodgement.

### EZ Glide aortic cannulae offer:

- Central orientation designed to reduce jetting against the aortic wall
- Central fan shaped dispersive flow

### EZ Glide aortic cannulae models

Model Number	Tip Configuration	Size	Connector	Vent Cap
EZC21A	Curved tip with suture bump	21 Fr. (7.0 mm)	3/8" Non-vented	Standard
EZC24A		24 Fr. (8.0 mm)		Standard
EZC21TA		21 Fr. (7.0 mm)	3/8" Vented	Standard
EZC24TA		24 Fr. (8.0 mm)		Standard
EZF21A	Curved tip with suture flange	21 Fr. (7.0 mm)	3/8" Non-vented	Standard
EZF24A		24 Fr. (8.0 mm)		Standard
EZF21TA		21 Fr. (7.0 mm)	3/8" Vented	Standard
EZF24TA		24 Fr. (8.0 mm)		Standard
EZS21A	Straight tip with suture flange	21 Fr. (7.0 mm)	3/8" Non-vented	Standard
EZS24A		24 Fr. (8.0 mm)		Standard
EZS21TA		21 Fr. (7.0 mm)	3/8" Vented	Standard
EZS21QTA		21 Fr. (7.0 mm)		Quick venting cap
EZS24TA		24 Fr. (8.0 mm)		Standard

**CAUTION:** Federal (United States) law restricts this device to sale by or on the order of a physician. See instructions for use for full prescribing information, including indications, contraindications, warnings, precautions and adverse events.

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Edwards

# OptiSite

## Aortic Cannulae



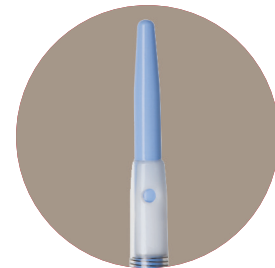
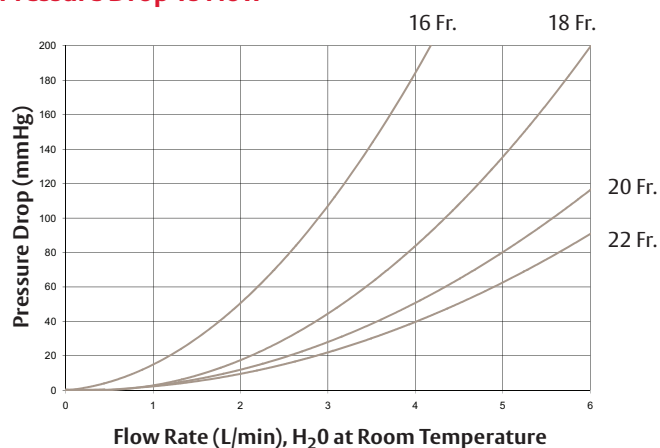
## Designed to go where you need it

Every patient and surgical situation is different, which is why you need an arterial cannula that gives you options. OptiSite arterial cannulae incorporate easy-to-use thin-wall technology to provide you with a variety of cannulation site options, designed to accommodate multiple surgical techniques and clinician preferences.

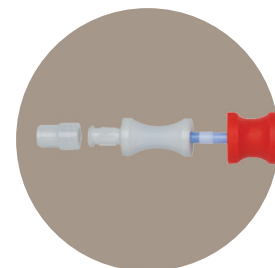
Indicated for cannulation in various arterial sites such as the aorta, femoral, axillary and subclavian.

- Smooth rounded introducer tip allows for atraumatic insertion
- Locking introducer reduces retraction during insertion
- Vent cap reduces back-bleed during aortic cannulation
- Depth markings aid in placement
- Fr. sizes include 16, 18, 20 and 22

### Pressure Drop vs Flow



**Smooth Rounded Tip**  
of the OptiSite  
arterial cannula



**Vent Cap**  
reduces  
back-bleed





OptiSite cannulae models

Model Number	Size	Effective Length	Connector
OPTI16	16 Fr. (5.3 mm)	6.0" (15 cm)	3/8" Vented
OPTI18	18 Fr. (6.0 mm)	6.0" (15 cm)	3/8" Vented
OPTI20	20 Fr. (6.7 mm)	6.0" (15 cm)	3/8" Vented
OPTI22	22 Fr. (7.3 mm)	6.0" (15 cm)	3/8" Vented



Insertion for additional arterial access sites such as the aorta, axillary, and subclavian

Insertion Sites	OptiSite
Axillary	✓
Aorta	✓
Subclavian	✓
Femoral	✓

**CAUTION:** Federal (United States) law restricts this device to sale by or on the order of a physician. See instructions for use for full prescribing information, including indications, contraindications, warnings, precautions and adverse events.

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