



# Avalon Elite

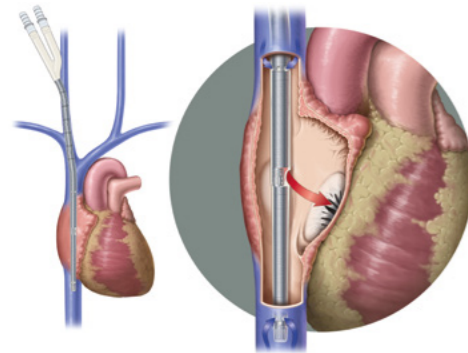
## Bi-Caval Dual Lumen Catheter

# Take the advantage

## Single-site venous vessel access during ECMO

### Minimizing patient trauma

For critically ill patients requiring extracorporeal membrane oxygenation (ECMO), cannulation can be traumatic to the vasculature. With the Avalon Elite Bi-Caval Dual-Lumen Catheter, only one cannula is inserted into the patient's internal jugular vein.



### The Avalon Elite Bi-Caval Dual-Lumen Catheter

is the world's first single site, kink resistant, veno-venous device designed to enable optimal extracorporeal life support. The Avalon Elite Bi-Caval Dual-Lumen Catheter simultaneously removes deoxygenated blood from both the superior vena cava (SVC) and the inferior vena cava (IVC), and returns oxygenated blood to the right atrium (RA).

Advantages of single-site venous vessel access include freeing the femoral vein, which facilitates patient participation in physical therapy or preserves it as another access point. If extubated on ECMO, the patient can be more easily mobilized. In addition, by not cannulating the femoral vein and using just one site for vessel access, there is one less site for infection and a reduction in nursing care. It also decreases chances for accidental dislodgement.<sup>1</sup>

A special advantage of the bi-caval catheter design is the decreased risk of recirculation.<sup>1</sup>

# Product range

## Seven sizes to accommodate all patients

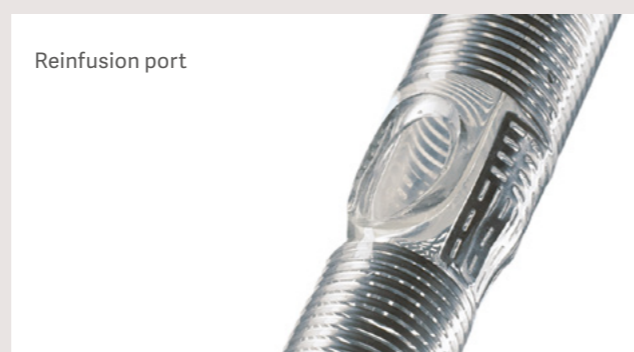


Product	Product code (non-us)	SAP code (non-us)	B Size	C Insertable length	A Connector size	Order unit
13 Fr. Catheter	10013-CE	70107.3603	13 Fr. (4.3 mm)	11 cm (4.3")	1/4"	1/Carton
16 Fr. Catheter	10016-CE	70107.3604	16 Fr. (5.3 mm)	14 cm (5.5")	1/4"	1/Carton
19 Fr. Catheter	10019-CE	70107.3605	19 Fr. (6.4 mm)	21 cm (8.3")	1/4"	1/Carton
20 Fr. Catheter	10020-CE	70107.3606	20 Fr. (6.7 mm)	31 cm (12.2")	3/8"	1/Carton
23 Fr. Catheter	10023-CE	70107.3607	23 Fr. (7.7 mm)	31 cm (12.2")	3/8"	1/Carton
27 Fr. Catheter	10027-CE	70107.3608	27 Fr. (9.0 mm)	31 cm (12.2")	3/8"	1/Carton
31 Fr. Catheter	10031-CE	70107.3609	31 Fr. (10.3 mm)	31 cm (12.2")	3/8"	1/Carton

Tolerances may vary, specifications for reference use only and are subject to change.

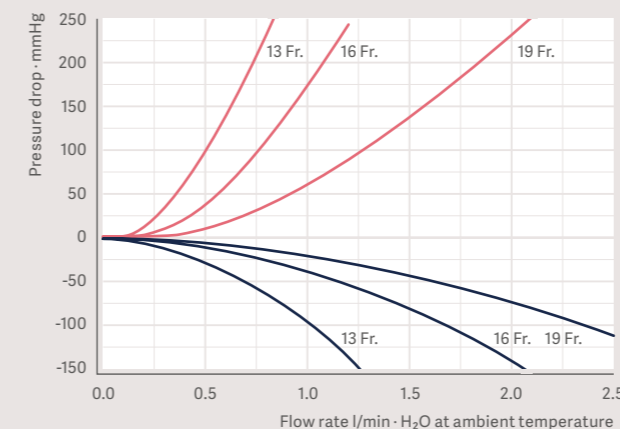
### Avalon Elite advantages

- A broad range of sizes for different patient types: neonatal, pediatric or adult
- Bi-Caval design for a decreased risk of recirculation<sup>1</sup>
- Radiopaque to assist in catheter insertion and placement
- Constructed with an exclusive material that combines the durability of polyurethane with the flexibility and biostability of silicone
- Ultra-thin membrane dividing reinfusion from drainage lumen enables large inner lumen diameters for excellent flow characteristics
- Wire reinforcement for increased kink resistance
- Smooth transition between introducer and catheter tip
- Tapered introducer tip for percutaneous insertion

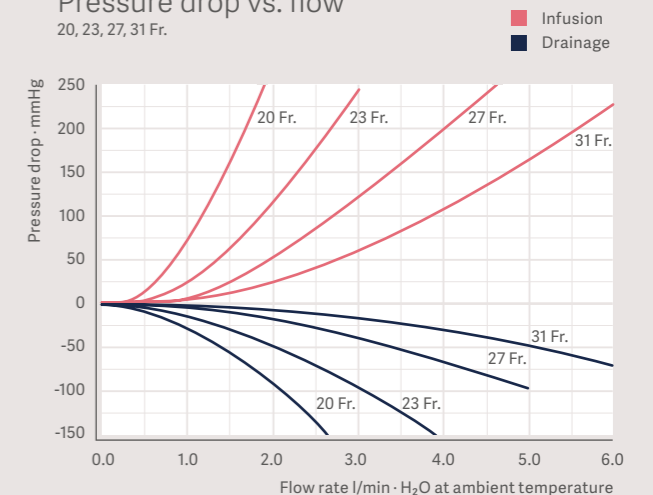


### Flow characteristics

Pressure drop vs. flow  
13, 16, 19 Fr.



Pressure drop vs. flow  
20, 23, 27, 31 Fr.



Above flows with water at ambient temperature. Patient flow may vary depending on blood viscosity, patient anatomy, and circuit configuration.

## References

- 1 "Use of Bicaval Dual-Lumen Catheter for Adult Venovenous Extracorporeal Membrane Oxygenation"; Jeffrey Javidfar, MD, Daniel Brodie, MD, Dongfang Wang, MD, PhD, Ali N. Ibrahimiyeh, MD, Jonathan Yang, MD, Joseph B. Zwischenberger, MD, Joshua Sonett, MD, and Matthew Bacchetta, MD; Ann Thorac Surg 2011;91:1763-9

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