

# Smart Port+ Power Injectable Ports

UPN	CATHETER SIZE	CATHETER MATERIAL	SUTURE HOLE
<b>SINGLE LUMEN STANDARD TITANIUM PORT</b>			
H787CT50STBANFRV10	5FR	ATTACHED BIOFLO	NON-FILLED
H787CT50STBARV10	5FR	ATTACHED BIOFLO	FILLED
H787CT50STBDNFRV10	5FR	DETACHED BIOFLO	NON-FILLED
H787CT50STBDRV10	5FR	DETACHED BIOFLO	FILLED
H787CT60STBANFRV10	6FR	ATTACHED BIOFLO	NON-FILLED
H787CT60STBARV10	6FR	ATTACHED BIOFLO	FILLED
H787CT60STBDNFRV10	6FR	DETACHED BIOFLO	NON-FILLED
H787CT60STBDRV10	6FR	DETACHED BIOFLO	FILLED
H787CT80STBANFRV10	8FR	ATTACHED BIOFLO	NON-FILLED
H787CT80STBARV10	8FR	ATTACHED BIOFLO	FILLED
H787CT80STBDNFRV10	8FR	DETACHED BIOFLO	NON-FILLED
H787CT80STBDRV10	8FR	DETACHED BIOFLO	FILLED
<b>SINGLE LUMEN MINI TITANIUM PORT</b>			
H787CT50PTBANFRV10	5F	ATTACHED BIOFLO	NON-FILLED
H787CT50PTBARV10	5F	ATTACHED BIOFLO	FILLED
H787CT50PTBDNFRV10	5F	DETACHED BIOFLO	NON-FILLED
H787CT50PTBDRV10	5F	DETACHED BIOFLO	FILLED
H787CT60PTBANFRV10	6F	ATTACHED BIOFLO	NON-FILLED
H787CT60PTBARV10	6F	ATTACHED BIOFLO	FILLED
H787CT60PTBDNFRV10	6F	DETACHED BIOFLO	NON-FILLED
H787CT60PTBDRV10	6F	DETACHED BIOFLO	FILLED

UPN	CATHETER SIZE	CATHETER MATERIAL	SUTURE HOLE
<b>SINGLE LUMEN LOW PROFILE TITANIUM PORT</b>			
H787CT50LTBANFRV10	5FR	ATTACHED BIOFLO	NON-FILLED
H787CT50LTBARV10	5FR	ATTACHED BIOFLO	FILLED
H787CT50LTBDNFRV10	5FR	DETACHED BIOFLO	NON-FILLED
H787CT50LTBDRV10	5FR	DETACHED BIOFLO	FILLED
H787CT60LTBANFRV10	6FR	ATTACHED BIOFLO	NON-FILLED
H787CT60LTBARV10	6FR	ATTACHED BIOFLO	FILLED
H787CT60LTBDNFRV10	6FR	DETACHED BIOFLO	NON-FILLED
H787CT60LTBDRV10	6FR	DETACHED BIOFLO	FILLED
H787CT80LTBANFRV10	8FR	ATTACHED BIOFLO	NON-FILLED
H787CT80LTBARV10	8FR	ATTACHED BIOFLO	FILLED
H787CT80LTBDNFRV10	8FR	DETACHED BIOFLO	NON-FILLED
H787CT80LTBDRV10	8FR	DETACHED BIOFLO	FILLED
<b>SINGLE LUMEN PLASTIC PORT</b>			
H787CT50LPBANFRV10	5FR	ATTACHED BIOFLO	NON-FILLED
H787CT50LPBARV10	5FR	ATTACHED BIOFLO	FILLED
H787CT50LPBDNFRV10	5FR	DETACHED BIOFLO	NON-FILLED
H787CT50LPBDRV10	5FR	DETACHED BIOFLO	FILLED
H787CT60LPBANFRV10	6FR	ATTACHED BIOFLO	NON-FILLED
H787CT60LPBARV10	6FR	ATTACHED BIOFLO	FILLED
H787CT60LPBDNFRV10	6FR	DETACHED BIOFLO	NON-FILLED
H787CT60LPBDRV10	6FR	DETACHED BIOFLO	FILLED
H787CT80LPBANFRV10	8FR	ATTACHED BIOFLO	NON-FILLED
H787CT80LPBARV10	8FR	ATTACHED BIOFLO	FILLED
H787CT80LPBDNFRV10	8FR	DETACHED BIOFLO	NON-FILLED
H787CT80LPBDRV10	8FR	DETACHED BIOFLO	FILLED

SMART PORT VALVED INTRODUCER CONFIGURATIONS	KIT COMPONENTS	Tunneler
Catheter French	Port Body	Plastic Blunt Needle
5F	(1) Locking Collar	(1) 22G straight huber needle
6F	Single Lumen Catheter	(1) 22G 90 degree huber needle
6F	18G Introducer Needle	(1) Vein Pick
8F	0.038x 50cm J-tipped Guidewire	
	Peelable Sheath Introducer	
	(Valved or Non-Valved)	

## RISK INFORMATION

### INDICATIONS FOR USE

The ports are indicated for patients who require long-term access to the central venous system for blood specimen withdrawal and administration of fluids including but not limited to hydration fluids, chemotherapy, analgesics, nutritional therapy and blood products, as well as the administration and adequate removal of nuclear medicine. When used with power injectable needles, the ports are indicated for power injection of contrast media. For power injection of contrast media, the maximum recommended infusion rate is 5 mL/s with 19G or 20G non-coring power injectable needles or 2 mL/s with a 22G non-coring power injectable needle.

### CONTRAINDICATIONS

- Catheter insertion in the subclavian vein medial to the border of the first rib, an area which is associated with higher rates for pinch-off.5
- Presence of infection, bacteremia, or septicemia.
- Past irradiation of prospective insertion site.
- Previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

- Local tissue factors to prevent proper device stabilization and/or access.
- Hypercoagulopathy unless considerations are made to place the patient on anticoagulation therapy.
- Presence or suspicion of allergic reaction to materials contained in this device.
- Anatomy is insufficient to accommodate size of the port or the catheter.
- Demonstrated intolerance for an implanted device.

Refer to Directions for Use and/or User Manual provided with the product for complete Instructions, Warnings, Precautions, Possible Adverse Effects and Contraindications prior to use of the product  
Rx ONLY or CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician.

## REFERENCES

1. Stevens, Barbara, et al. "A Randomized, Prospective Trial of Conventional Vascular Ports vs. the Vortex 'Clear-Flow' Reservoir Port in Adult Oncology Patients." *Journal of Vascular Access Devices*, vol. 5, no. 2, 2000, pp. 37-40.
2. Third party verification by Pinnacle Healthcare Management.
3. The reduction in thrombus accumulation (based on platelet count) is supported by acute in-vitro testing. Pre-clinical in-vitro evaluations do not necessarily predict clinical performance with respect to thrombus formation. Data on file.
4. Suleman A, Jarvis V, Hadziomerovic A, et al., Implanted vascular access device related deep vein thrombosis in oncology patients: A prospective cohort study, *Thrombosis Research*, Vol 177, 2019; P117-121
5. Hinke, D.H.; Zandt-Stastny, D.A.; Goodman, L.R.' et al. Pinch-off Syndrome: A Complication of Implantable Subclavian Venous Access Devices. *Radiology* 177: 353-356, 1990.



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# SmartPort<sup>+</sup>

*with Vortex and Endexo Technologies*

The Port Your Patient Deserves.



# Vortex Technology

Reduce chamber occlusions. Increase nursing efficiency.  
Reduce overall interventions

A comparison of conventional vs. Vortex\* chambered ports shows a clear advantage<sup>1</sup>

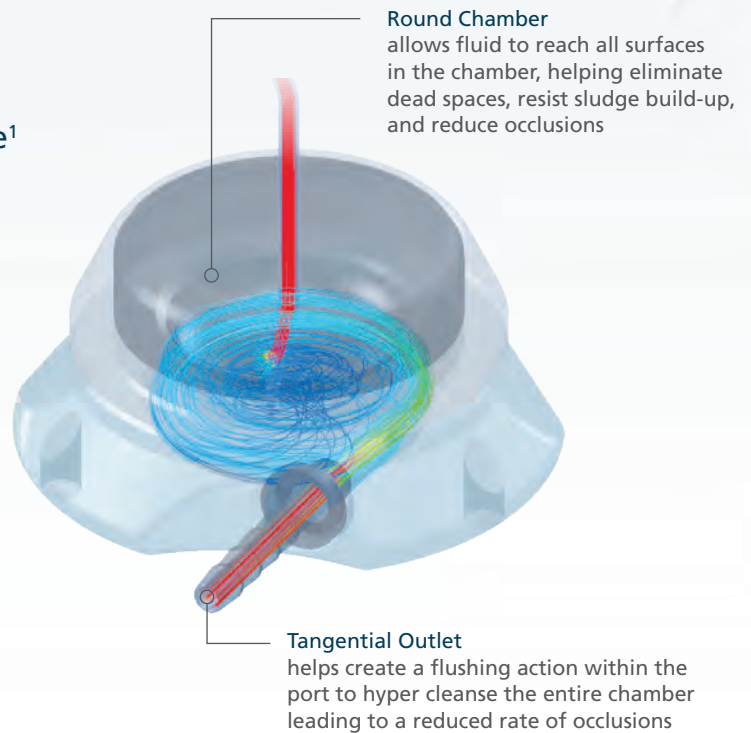
Vortex Technology demonstrated

**73%** fewer port occlusions<sup>1</sup>

**69%** fewer secondary interventions<sup>1</sup>

Use of Vortex port technology results in

**\$1,224** average savings per patient over conventional ports<sup>2</sup>



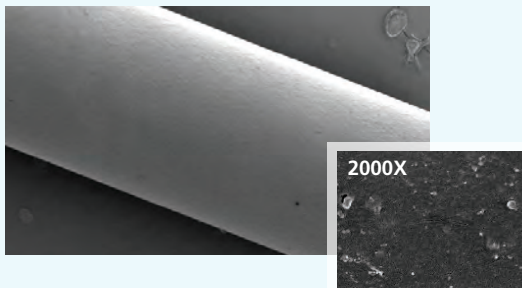
# BioFlo Catheter with Endexo Technology

Proven to Reduce Thrombus Accumulation, In Vitro<sup>3</sup>

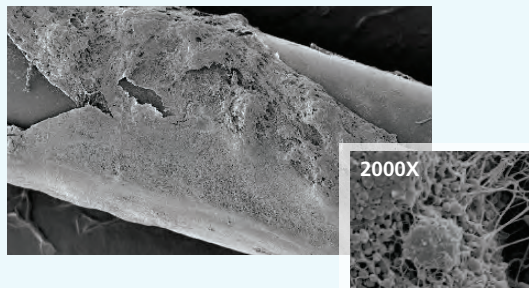
Endexo Technology is a permanent and non-eluting polymer that is “blended” into the polyurethane from which the catheter is made and is present throughout the entire catheter. Endexo Technology remains present for the life of the catheter and provides a catheter material more resistant to thrombus accumulation<sup>3</sup>

## SEM (Scanning Electron Microscopy) Images

BioFlo\* Port at 15X magnification  
Catheter has no visible thrombus, fibrin sheath, or clot.



Bard PowerPort with ChronoFlex catheter at 15X magnification  
Catheter has significant thrombus, fibrin sheath, or clot.

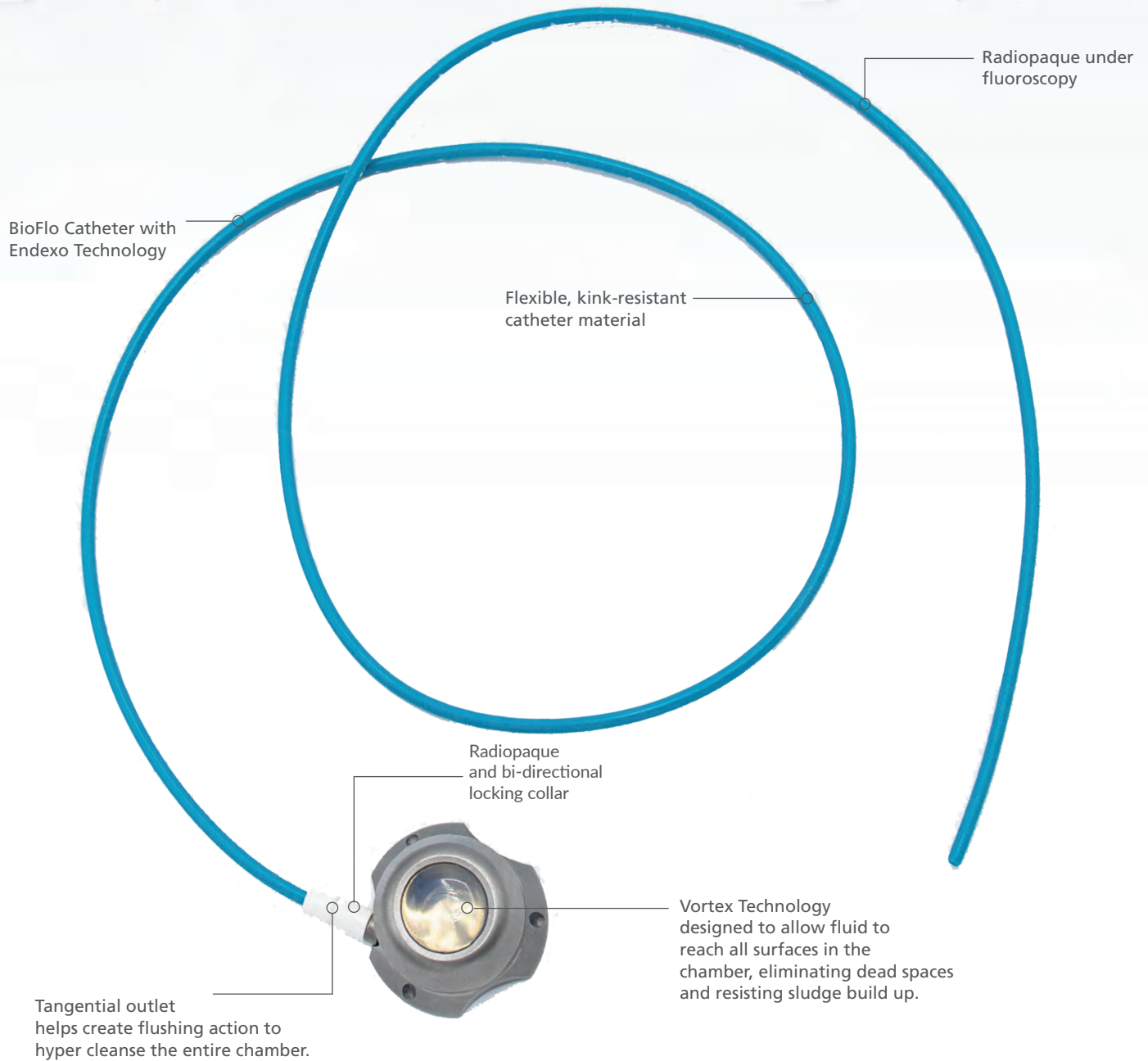


BIOFLO PORT  
**1.29%**  
UEDVT RATE  
VS  
**4.5%**  
BARD  
X-PORT ISP<sup>4†</sup>

<sup>†</sup> Results from individual site experience may not be indicative of clinical evidence at other institutions. Suleman et. al (2019) reported a port-associated DVT rate of 1.29% with the BioFlo port. In a previous study at the same institution with similar sample size and patient population, the port-associated DVT rate was 4.5% (X-port ISP, Bard Access Systems Inc, Salt Lake City, US)

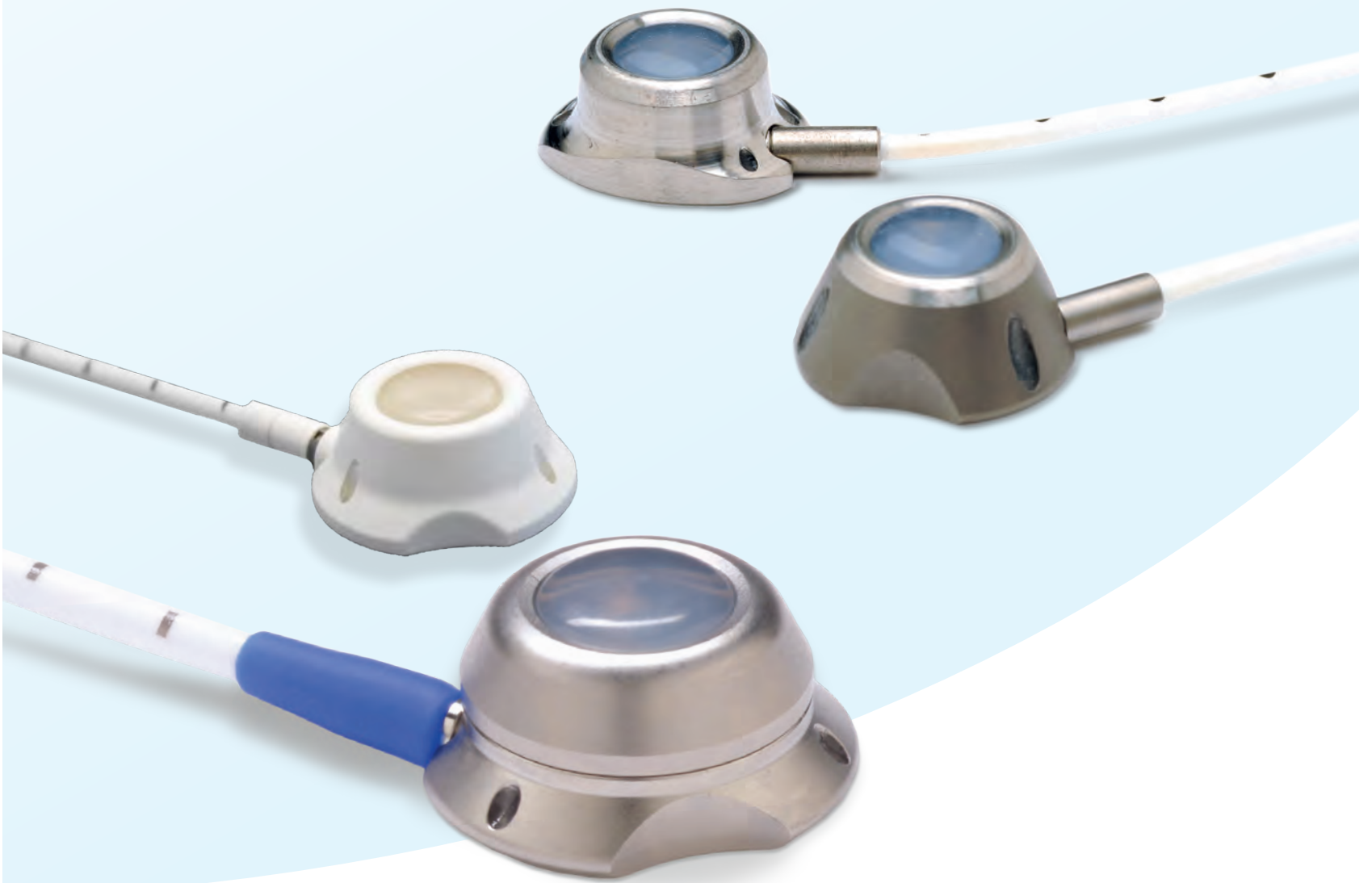
# Anatomy of the Smart Port+

Smart Port+ - Combining the Two Best in Class Technologies, Vortex Technology and Endexo Technology



# ***SMART PORT***

POWER-INJECTABLE PORTS

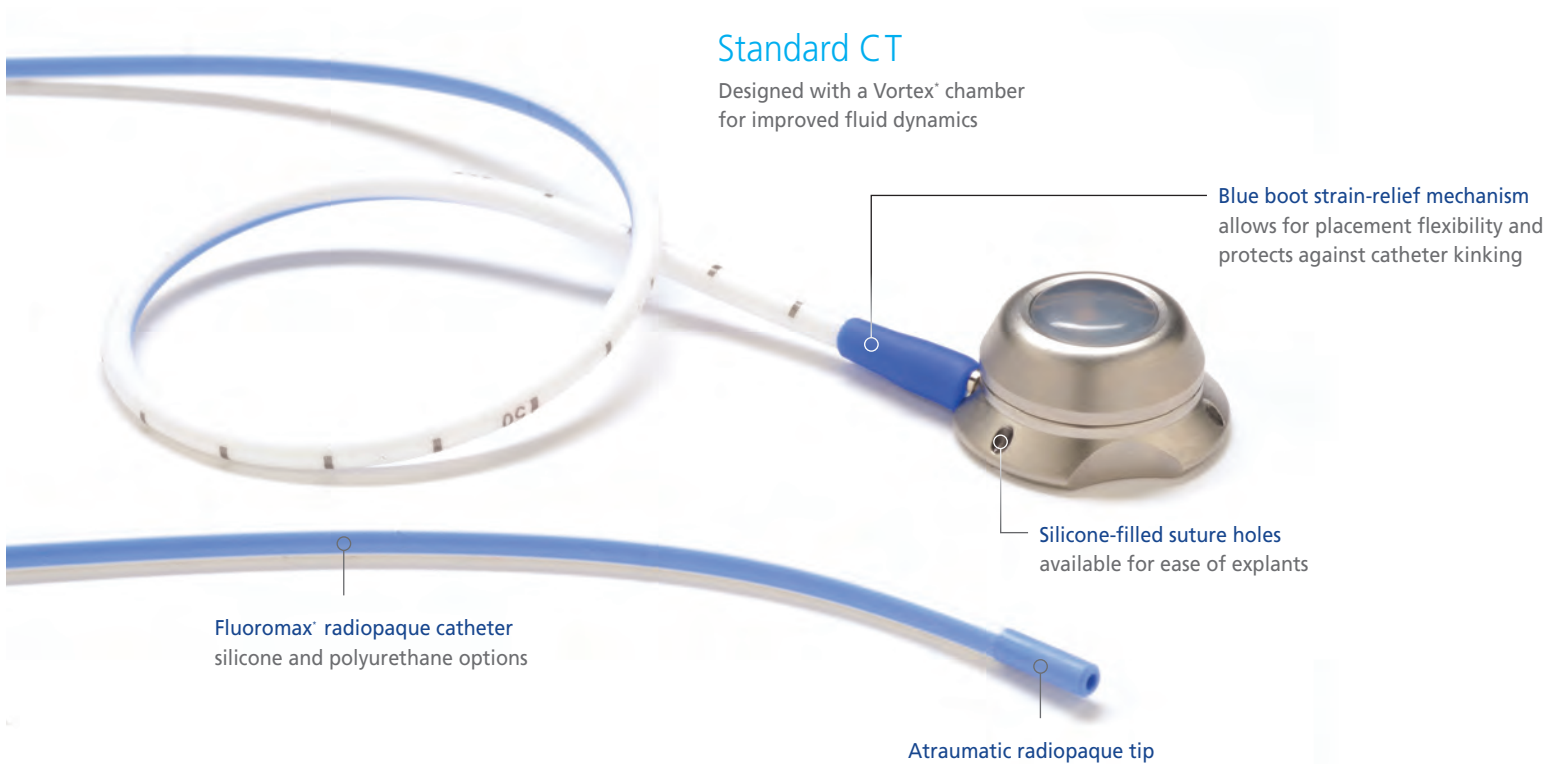


**VORTEX**  
TECHNOLOGY

 **angiodynamics**

# Engineered *for* Life

Smart Port® High-Performance Titanium & Plastic Power-Injectable Ports are indicated up to 5mL/sec and 300 psi and are MRI-conditional—3 Tesla.



## Low-Profile CT

6.6F catheter reduces the risk of thrombosis



## Mini CT

Smallest profile titanium CT-rated port indicated for chest or peripheral placement



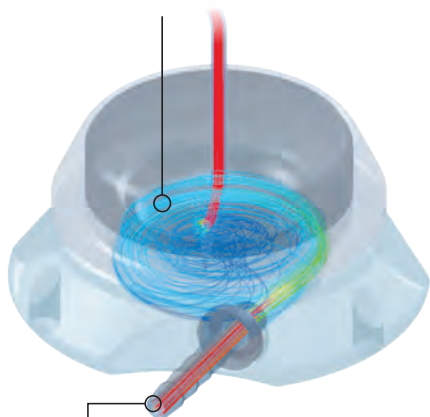
## Plastic CT

Lightweight design available in 6F and 8F

## The Vortex Technology Difference

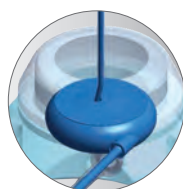
Reduce chamber occlusions.  
Increase nursing efficiency.  
Reduce overall interventions.

**Superior Fluid Dynamics**  
compared to conventional ports.



### Tangential Outlet

helps create a flushing action within the port to hyper cleanse the entire chamber leading to a reduced rate of occlusions.



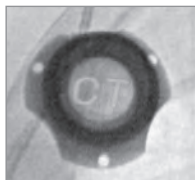
### Round Chamber

allows fluid to reach all surfaces in the chamber, helping eliminate dead spaces, resist sludge build-up, and reduce occlusions.

**VORTEX**  
TECHNOLOGY

## Identifying a Smart Port Power-Injectable Port

Smart Port power-injectable ports can be identified by the Smart Angle\* technology on the CT, CT Low-Profile, and Plastic CT models. The CT engraving on all models can be identified through chest x-ray or CT Scout Scan. Each Smart Port patient receives an education packet—including an information booklet, ID card, key ring card and ID bracelet.



A comparison of conventional ports vs. Vortex Technology chambered ports shows a clear advantage.<sup>1</sup>

Vortex demonstrated

**73%**

fewer port occlusions<sup>1</sup>

**69%**

fewer secondary interventions<sup>1</sup>

Use of Vortex port technology results in

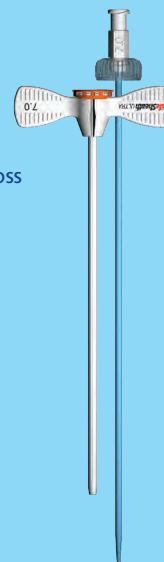
**\$1,224**

average savings per patient over conventional ports.<sup>2</sup>

## Safe Sheath Ultra Lite

Valved, peel-away sheath

- Provides for effortless access for port insertion
- Decreased risk of blood loss and air embolism
- Ergonomically designed, easy-splitting break away hub and positive locking connector
- Available in select Smart Port kits



<sup>1</sup> Stevens B, Barton SE, Brechbill M, et. al. A Randomized, Prospective Trial of Conventional Vascular Ports vs. The Vortex "Clear-Flow" Reservoir Port in Adult Oncology Patients. JVAD 2000; (Summer).

<sup>2</sup> Third party verification by Pinnacle Healthcare Management.

## Single Lumen Standard Titanium Port

UPN	Catheter Size	Catheter Material	Suture Hole
H787CT75STSA0	7.5FR	Attached Silicone	Filled
H787CT75STSD0	7.5FR	Detached Silicone	Filled
H787CT75STSDNFO	7.5FR	Detached Silicone	Non-Filled
H787CT75STSDNFV11	7.5FR	Detached Silicone	Non-Filled
H787CT75STSDVI1	7.5FR	Detached Silicone	Filled
H787CT80STPA0	8FR	Attached Polyurethane	Filled
H787CT80STPAV11	8FR	Attached Polyurethane	Filled
H787CT80STPD0	8FR	Detached Polyurethane	Filled
H787CT80STPDNFO	8FR	Detached Polyurethane	Non-Filled
H787CT80STPDNFV11	8FR	Detached Polyurethane	Non-Filled
H787CT80STPDVI1	8FR	Detached Polyurethane	Filled
H787CT96STSA0	9.6FR	Attached Silicone	Filled
H787CT96STSAV11	9.6FR	Attached Silicone	Filled
H787CT96STSD0	9.6FR	Detached Silicone	Filled
H787CT96STSDNFO	9.6FR	Detached Silicone	Non-Filled
H787CT96STSDNFV11	9.6FR	Detached Silicone	Non-Filled
H787CT96STSDVI1	9.6FR	Detached Silicone	Filled

## Single Lumen Titanium Low-Profile port

UPN	Catheter Size	Catheter Material	Suture Hole
H787CT66LTPD0	6.6FR	Detached Polyurethane	Filled
H787CT66LTPDVI1	6.6FR	Detached Polyurethane	Filled
H787CT66LTPDNFO	6.6FR	Detached Polyurethane	Non-Filled

## Single Lumen Titanium Mini Port

UPN	Catheter Size	Catheter Material	Suture Hole
H787CT66PTPD0	6.6FR	Detached Polyurethane	Filled
H787CT66PTPDVI1	6.6FR	Detached Polyurethane	Filled
H787CT66PTPDNFO	6.6FR	Detached Polyurethane	Non-Filled

## Smart Port Titanium Sheath Introducer Configurations

Catheter Size	Introducer Size
6.6F	7F
7.5F	8F
8F	8.5F
9.6F	10F

## Single Lumen Plastic Port

UPN	Catheter Size	Catheter Material	Suture Hole
H787CT60LPPDNFRNV0	6F	Detached Polyurethane	Non-Filled
H787CT60LPPDNFRV10	6F	Detached Polyurethane	Non-Filled
H787CT60LPPDRV10	6F	Detached Polyurethane	Filled
H787CT60LPPDRNV0	6F	Detached Polyurethane	Filled
H787CT60LPPANFRV10	6F	Attached Polyurethane	Non-Filled
H787CT60LPPANFRNV0	6F	Attached Polyurethane	Non-Filled
H787CT60LPPARV10	6F	Attached Polyurethane	Filled
H787CT60LPPARNV0	6F	Attached Polyurethane	Filled
H787CT80LPPDNFRV10	8F	Detached Polyurethane	Non-Filled
H787CT80LPPDNFRNV0	8F	Detached Polyurethane	Non-Filled
H787CT80LPPDRV10	8F	Detached Polyurethane	Filled
H787CT80LPPDRNV0	8F	Detached Polyurethane	Filled
H787CT80LPPANFRV10	8F	Attached Polyurethane	Non-Filled
H787CT80LPPANFRNV0	8F	Attached Polyurethane	Non-Filled
H787CT80LPPARV10	8F	Attached Polyurethane	Filled
H787CT80LPPARNV0	8F	Attached Polyurethane	Filled

## Smart Port Plastic Sheath Introducer Configurations

Catheter Size	Introducer Size
6F	6F
8F	8F

### IMPORTANT RISK INFORMATION

The following is a brief summary of important risk information for the Smart Port power-injectable port line. For detailed information on the categories referenced, please consult

the instructions for use packaged with each device. Observe all instructions prior to use. Failure to do so may result in patient complications.

**INDICATIONS FOR USE:** The Smart Port CT power injectable port line is indicated for any patient requiring repeated access of the vascular system for delivery of medications, nutritional supplementation, fluids, blood, blood products, sampling of blood and power injection of contrast media for imaging. Use of non Y site LifeGuard Safety Infusion Set (size = 20Ga or 19Ga) is indicated for power injection of contrast media. For power injection of contrast media, maximum recommended infusion rate is 5ml/sec.

**INDICATIONS FOR USE:** Smart Port Plastic ports are indicated for patients who require long-term access to the central venous system for blood specimen withdrawal and administration of fluids including but not limited to hydration fluids, chemotherapy, analgesics, nutritional therapy and blood products, as well

as the administration and adequate removal of nuclear medicine. When used with power injectable needles, the ports are indicated for power injection of contrast media. For power injection of contrast media, the maximum recommended infusion rate is 5 mL/s with 19G or 20G non-coring power injectable needles or 2 mL/s with a 22G non-coring power injectable needle.

**INDICATIONS FOR USE:** The Safe Sheath Ultralite is indicated for the introduction of various types of pacing leads and catheters. This device is intended for one time use only. Read instructions prior to use.

**CONTRAINDICATIONS:** Smart Port CT should not be implanted in the presence of known or suspected infections, bacteremia, septicemia and peritonitis, or in patients who have exhibited prior intolerance to the materials of construction, or patients whose body size or tissue is insufficient to accommodate the size of the port or catheter.

**CONTRAINDICATIONS:** Smart Port Plastic

•Catheter insertion in the subclavian vein medial to the border of the first rib, an area which is associated with higher rates for pinch-off.

• Presence of infection, bacteremia, or septicemia.

• Past irradiation of prospective insertion site.

• Previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

• Local tissue factors to prevent proper device stabilization and/or access.

• Hypercoagulopathy unless considerations are made to place the patient on anticoagulation therapy.

• Presence or suspicion of allergic reaction to materials contained in this device.

• Anatomy is insufficient to accommodate size of the port or the catheter.

• Demonstrated intolerance for an implanted device.

**WARNINGS AND PRECAUTIONS:** Please see package insert for complete list of warnings and precautions.

**POTENTIAL COMPLICATIONS:** Consult package insert for a complete list of potential complications.

**CAUTION:** Federal (USA) law restricts these devices to sale by or on the order of a physician.



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