

DELIVERING BEATING HEART INNOVATIONS FOR 20 YEARS



OPCAB In-Service Guide

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IMPORTANT SAFETY INFORMATION

Not all patients are candidates for beating heart procedures. Some patients would require cardiopulmonary support during cardiac surgery.

For a listing of indications, contraindications, precautions, and warnings, please refer to the Instructions for Use.

OPCAB TISSUE STABILIZERS

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HOLDING STABLE FOR 20 YEARS



The first of its kind and holding stable —
Octopus™ devices are still the trusted choice
for tissue stabilization.

**CELEBRATE
WITH US!**

Explore Our
Anniversary Guide

[Medtronic.com/treatCAD](https://www.Medtronic.com/treatCAD)

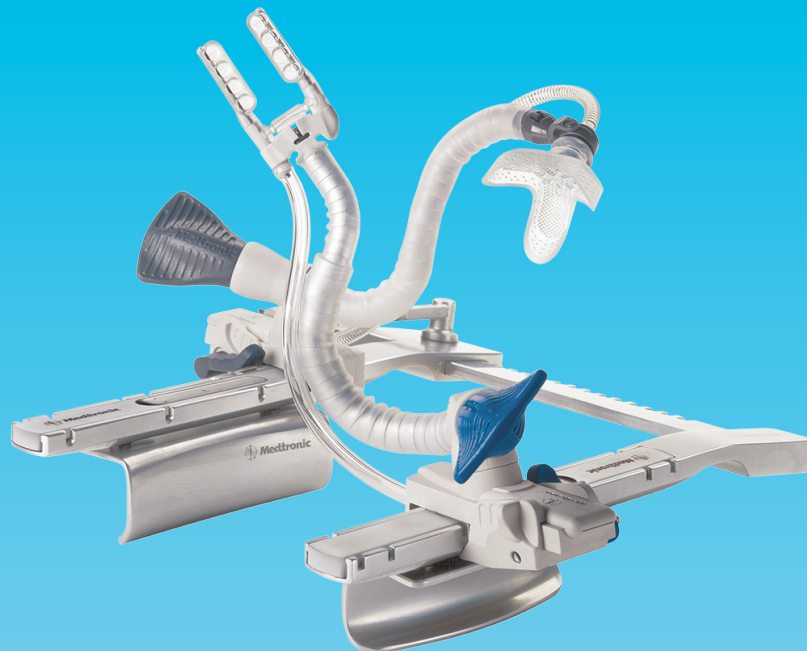
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OCTOPUS™ 4

TISSUE STABILIZER

Model # 29400

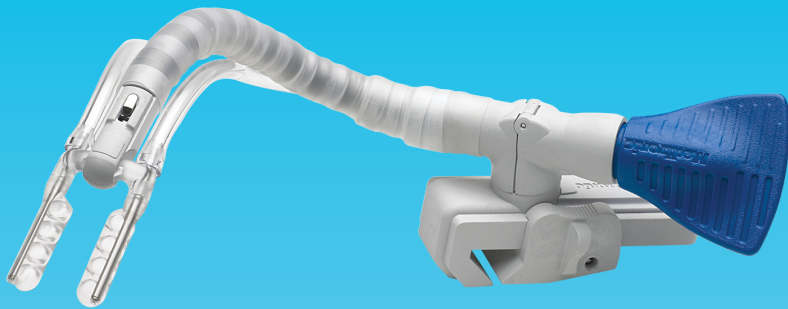
- Smaller clamp than prior models and a newer turret flexibility
- Elimination of “Y” Tubing Connection — Single Vacuum Line only
- Reduced headlink profile improves visibility to the surgical site
- Multi-material articulating arm links for stability and smaller radius
- 400 mm Hg vacuum



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OCTOPUS™ 4.3

TISSUE STABILIZER



Model # 29403

- All the updated, best-in-class features from Octopus 4 device combined with the articulating headlink from the trendsetting Octopus 3 model
- Octopus 4.3 device was our response to customer feedback asking to keep Octopus 3 headlink design available
- 400 mm Hg vacuum

OCTOPUS™ EVOLUTION

TISSUE STABILIZER

Model # TS2000

- More stable (clamp)
- More flexible ($> 90^\circ$)
- Lower profile
- Easier to use
- Surgeon-controlled pod spread
- 400 mm Hg vacuum



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OCTOPUS™ EVOLUTION AS

TISSUE STABILIZER



Dviejų šakų, 360° kampu besisukanti stabilizatoriaus galvutė su permatomomis, plastikinėmis taurelėmis. Lanksti, dengta silikonu nukreipiama bet kuria kryptimi stabilizatoriaus alkūnė, stipriai fiksuojama prisukama rankenėle

Model #TS2500

- More stable
- More flexible
- Lower profile
- Smaller and more user-friendly clamp and new turret flexibility
- Reduced headlink profile improves visibility to the surgical site
- Automatic pod spread
- 400 mm Hg vacuum
- Silicone sheath on articulating arm prevents suture capture, and all pods have a spreading capability

Universalus žemo profilio pagrindas, stabiliai tvirtinamas prie bet kurio ligoninėje naudojamo retractoriaus

Maksimalus naudojamas vakuumas 400 mmHg

PACKAGED FOR CONVENIENCE

OCTOPUS™ EVO AND OCTOPUS EVO AS DEVICES



The carton opens from the front

Dimensions:

Height	5 ¾ inches
Width	11 inches
Depth	12 ¾ inches



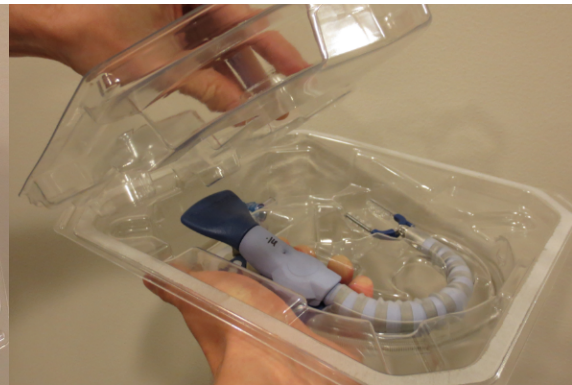
Both the device and canister set are stowed in their own trays with peel off lids and slide out the front of the carton

OPENING THE PACKAGE



Peel outer Tyvek™* lid in same fashion as with the previous configuration.

su nurodyta pakuotės atidarymo vieta



From sterile field, remove plastic lid and discard.



WHALE
TAIL

OUTER
TRAY

From sterile field side — grab **WHALE TAIL** and lift up and out to remove from outer tray, while circulator holds base of **OUTER TRAY**. Discard outer tray.

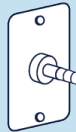
OCTOPUS™

TISSUE STABILIZER SETUP

Vacuum Sources



Blank Outlet without Interface



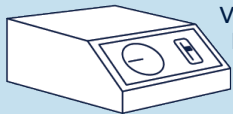
Open Nipple



Nipple with Valve



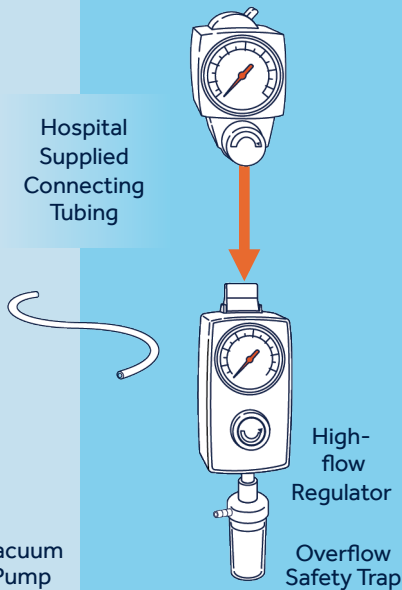
Dangling Outlet without Interface



Vacuum Pump

Regulators

Permanent Mount with Low Flow, Full, or Bypass Option, Connect to High-flow Regulator



- Suction can be supplied from several different types of outlets. A direct tubing connection from the vacuum source to a high-flow regulator is critical for proper operation of the Octopus™ device.
- Low or inadequate suction can be addressed with:
 - Hospital bio-med engineering cleaning the lines
 - Increasing the suction from the source
 - An independent suction source such as the VP 700 vacuum pump (or equivalent)

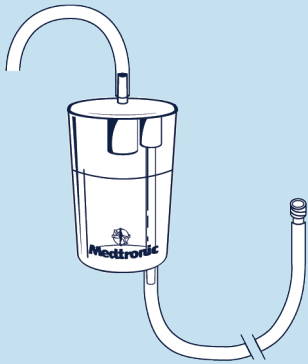


OCTOPUS™

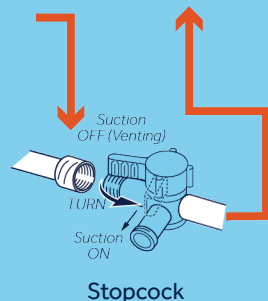
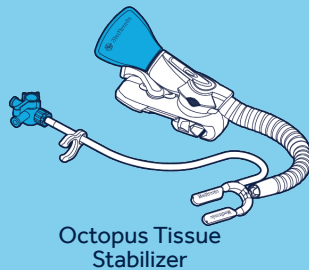
TISSUE STABILIZER SETUP

Canisters

Medtronic Supplied
Canister Tubing Set



Inside Sterile Field



- For your convenience, Medtronic includes an in-line canister tubing set with an integrated filter with all Octopus, Starfish™, and Urchin™ devices.
- If using an external canister, two different categories of canisters exist: soft (collapsible/disposable) and hard.
- Hard canisters can be reusable or single use and rarely pose any difficulty.
- The Octopus device should not be removed from the epicardium when suction is on.
- If the stopcock is pointed towards the device, suction will remain on, provided the circuit has no leaks. Make sure suction is off before removing the Octopus device from the heart.



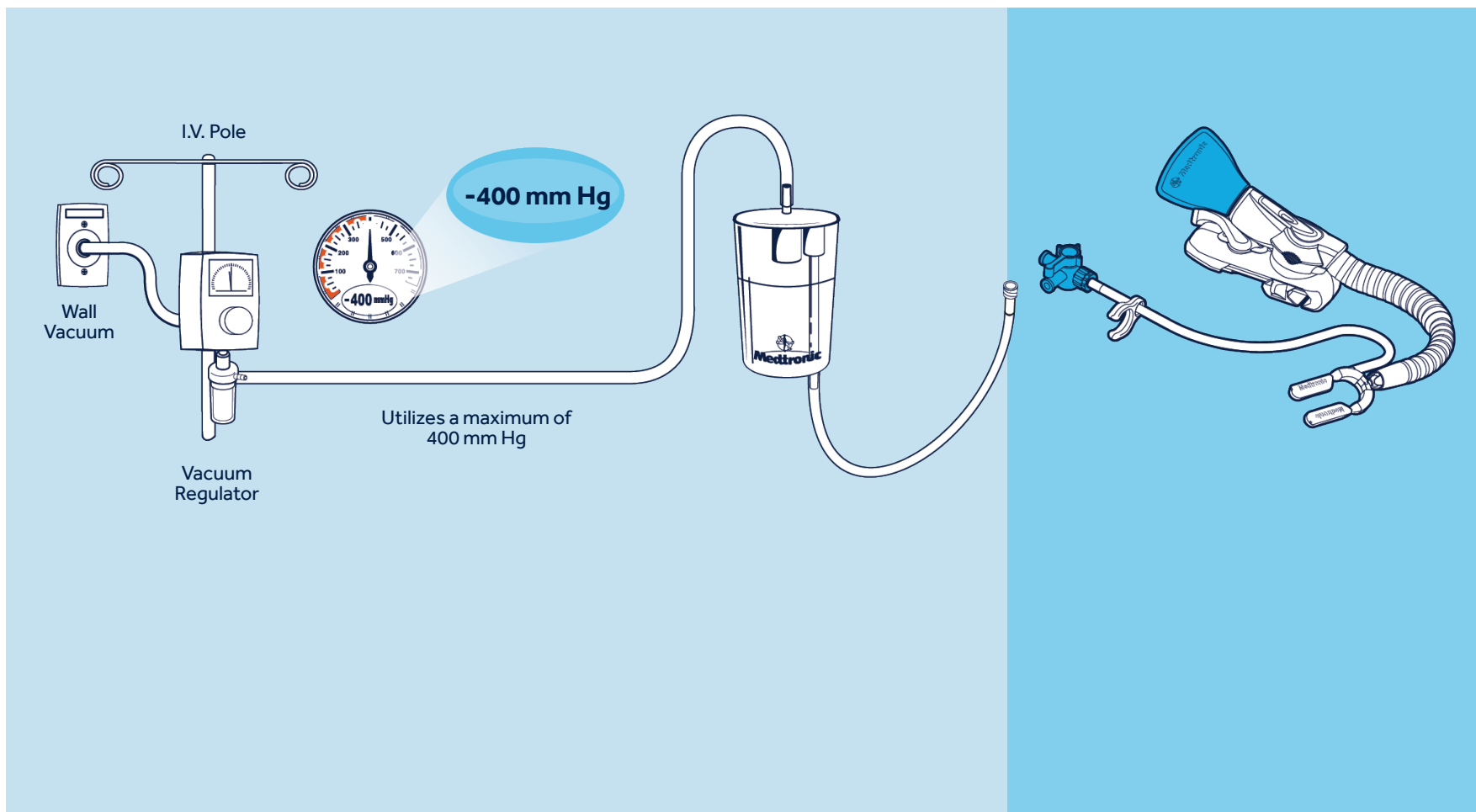
NOTE: Stabilizer stopcocks are color coded blue for ease of identification upon a cluttered surgical field.

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OCTOPUS™

TISSUE STABILIZER SETUP



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OCTOBASE™ STERNAL RETRACTOR SETUP

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OCTOBASE™ STERNAL RETRACTION AND DEVICE ATTACHMENT

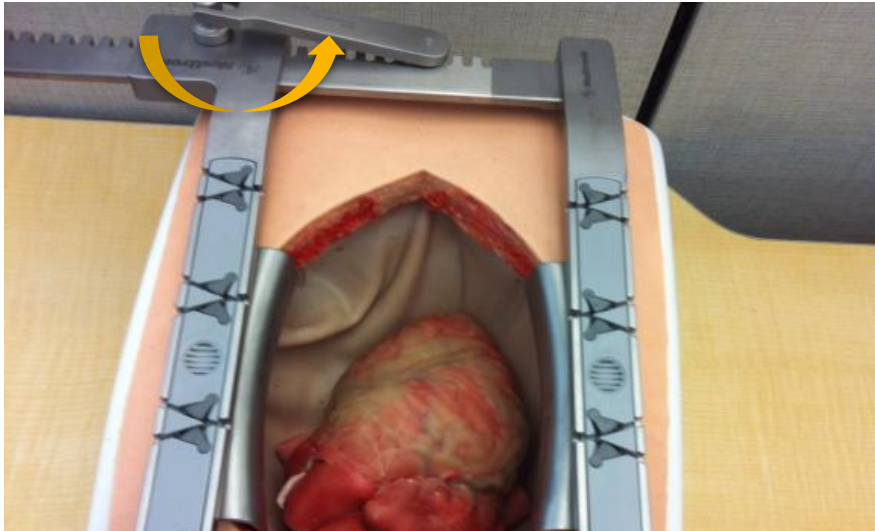


Select desired Octobase blade set. Place blades onto the retractor arm rail by inserting them through the posts.



Insert either the 28702 metal inserts or the 28707 disposable suture inserts into the retractor rail slots. This will hold the blades in place.

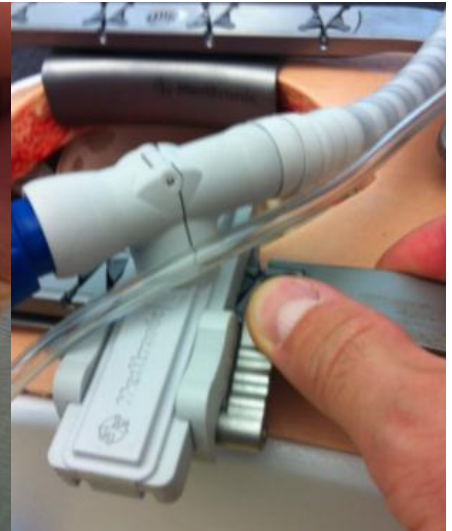
OCTOBASE™ STERNAL RETRACTION AND DEVICE ATTACHMENT



Place the Octobase™ blades into the sternotomy. The retractor is spread by rotating the lever counterclockwise.

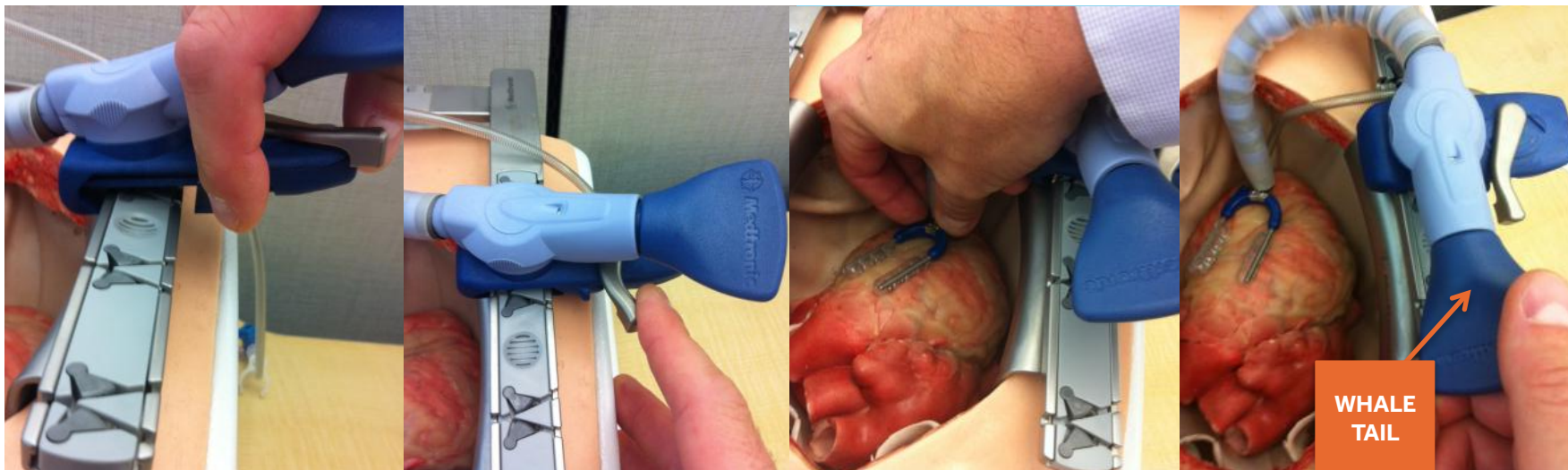


Spread the stabilizer or positioner clamp and insert onto the retractor rail.



Pictured: Octopus™ 4 Tissue Stabilizer

OCTOBASE™ STERNAL RETRACTION AND DEVICE ATTACHMENT



Spread the stabilizer or positioner clamp and insert onto the retractor rail.

The device is now stable on the Octobase and can be positioned and locked into position by rotating the **WHALE TAIL** clockwise.

Pictured: Octopus™ Evolution AS Tissue Stabilizer

Stabilizatoriaus tvirtinimo jėgos indikatorius. Prie retractoriaus: lankstus, armuotas, prie širdies anatomijos lengvai prisitaikantis, vakuumo vamzdelis su kraneliu.

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OPCAB HEART POSITIONERS

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CHOICE MATTERS

WHAT'S YOUR PREFERENCE

Starfish™ Evo Heart Positioner

- Tri-leaflet cup design paired with a low-profile device. Offers off-apex LV application for effective positioning lateral wall exposure.

Urchin™ Evo Heart Positioner

- Cup design and virtually instantaneous tissue capture

Both positioners:

- Offer turret flexibility, lower-profile clamp/arm assemblies, plus in-line canister tubing sets
- Provide silicone suspensions to prevent restriction of heart function
- May be applied to the apex and on the left ventricle immediately proximal to the apex

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EFFECTIVE POSITIONING CHOICES

URCHIN™ EVOLUTION HEART POSITIONER

Model # HP 3500

- Cup design enables virtually instant tissue capture
- Secure grip on heart
- 250 mm Hg vacuum
- Same clamp as Octopus™ Evolution Tissue Stabilizer



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EFFECTIVE POSITIONING CHOICES

STARFISH™ EVO HEART POSITIONER



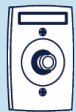
Model # HP3000

- Lower profile on heart
- Place on heart prior to turning on vacuum for secure grip
- 400 mm Hg vacuum

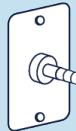
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URCHIN™ AND STARFISH™ HEART POSITIONER SETUP

Vacuum Sources



Blank Outlet without Interface



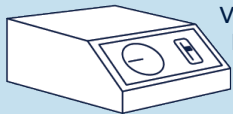
Open Nipple



Nipple with Valve



Dangling Outlet without Interface



Vacuum Pump

Regulators

Permanent Mount with Low Flow, Full, or Bypass Option, Connect to High-flow Regulator



Hospital Supplied Connecting Tubing



High-flow Regulator
Overflow Safety Trap

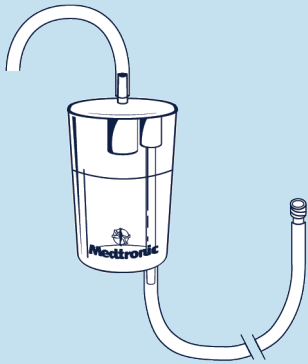
- Suction can be supplied from several different types of outlets. A direct tubing connection from the vacuum source to the back of a high-flow regulator is critical for proper operation of the heart positioners.
- Low or inadequate suction can be addressed with:
 - Hospital bio-med engineering cleaning the lines
 - Increasing the suction from the source
 - An independent suction source such as the VP 700 vacuum pump supplied by Medtronic



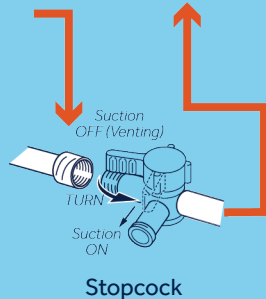
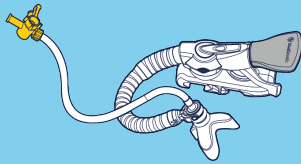
URCHIN™ AND STARFISH™ HEART POSITIONER SETUP

Canisters

Medtronic Supplied
Canister Tubing Set



Inside Sterile Field



- For your convenience, Medtronic includes an in-line canister tubing set with an internal filter with all Octopus™, Starfish™, and Urchin™ devices.
- If using an external canister, two different categories of canisters exist: soft (collapsible/disposable) and hard.
- Hard canisters can be reusable or single use and rarely pose any difficulty.
- If the stopcock is pointed towards the device, suction will remain on, provided the circuit has no leaks. Make sure suction is off before removing the device from the heart.

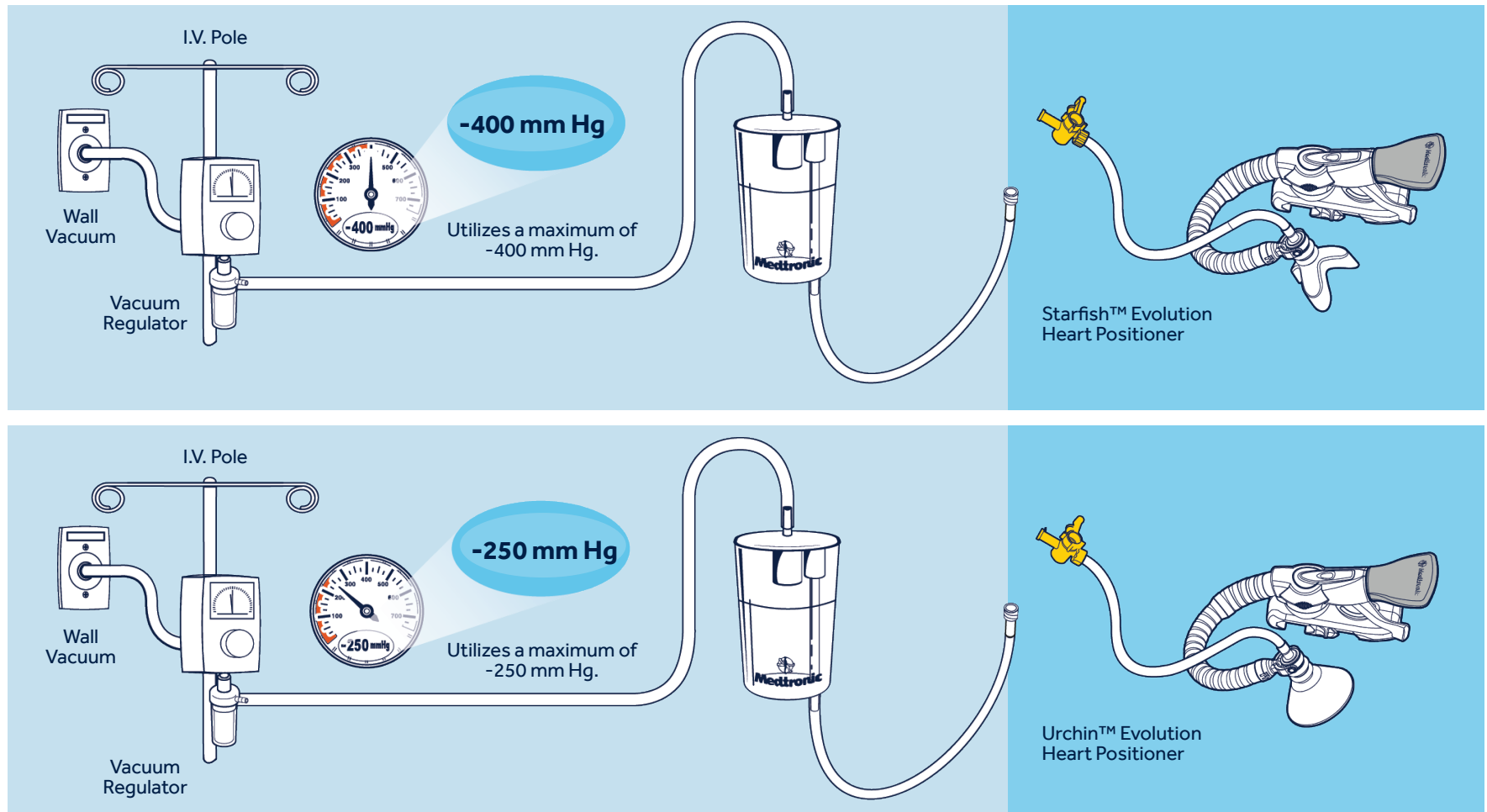


NOTE: Heart positioner stopcocks are color coded yellow for easy identification upon a cluttered surgical field.

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URCHIN™ AND STARFISH™ HEART POSITIONER SETUP



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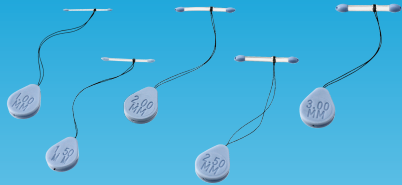
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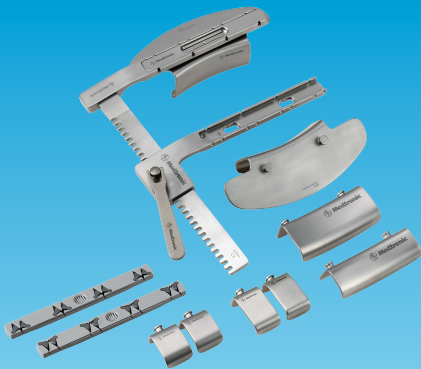
MAKE THE MOST OF YOUR OPTIONS



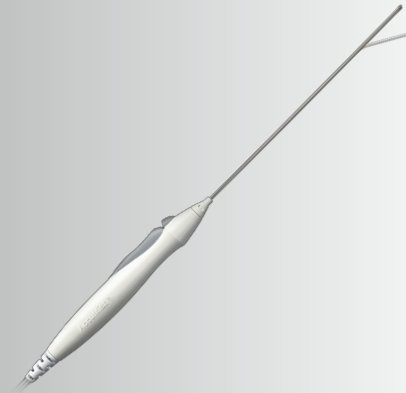
**Clearview™
Intracoronary
Shunt**



**Clearview™
Blower/Mister**



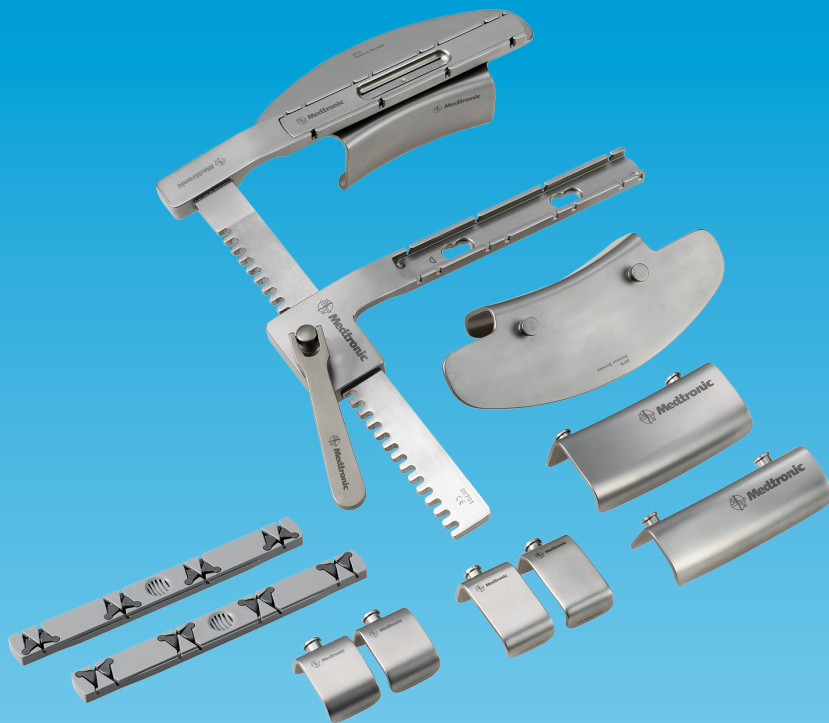
**Octobase™
Retractor**



**Accumist™
Blower/Mister**

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OCTOBASE™ RETRACTOR SYSTEM



Model # 28701 Retractor w/
stainless steel inserts

Model # 28703-28706 Blades

Model # 28710 Fixed skirted blade

Model # 28707 Disposable inserts

- Carton = 10 sets
- Disposable inserts carton = 10 sets
- Retractor designed to maximize mounting area for the Octopus™ family
- Fixed or swivel blades with two different depths

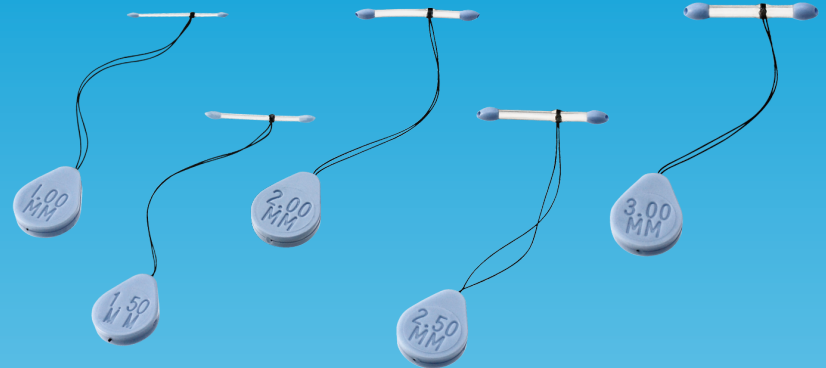
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CLEARVIEW™

INTRACORONARY SHUNTS

Model # 31100-31300

- Five per carton
- Sizes vary from 1.0 to 3.0 mm, in ¼-mm increments
- Beveled tip and flexible construction allow for atraumatic shunt insertion and removal
- Radiopaque tips and tag



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CLEARVIEW™

BLOWER/MISTER



- Irrigated mist gently clears blood from the site improving visualization.
- Irrigated mist will not dry out or dessicate delicate tissue.
- Malleable tube shaft conforms to your desired shape.
- Lightweight handle design helps reduce hand fatigue during lengthy procedures.

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ACCUMIST™

BLOWER/MISTER

- Specialized nozzle creates a precise mist via separate fluid and gas micro-orifices.
- Malleable tube shaft conforms to your desired shape.
- On/Off control provides easy access — right when you need it.
- Easy-to-hold design naturally fits in most hands.



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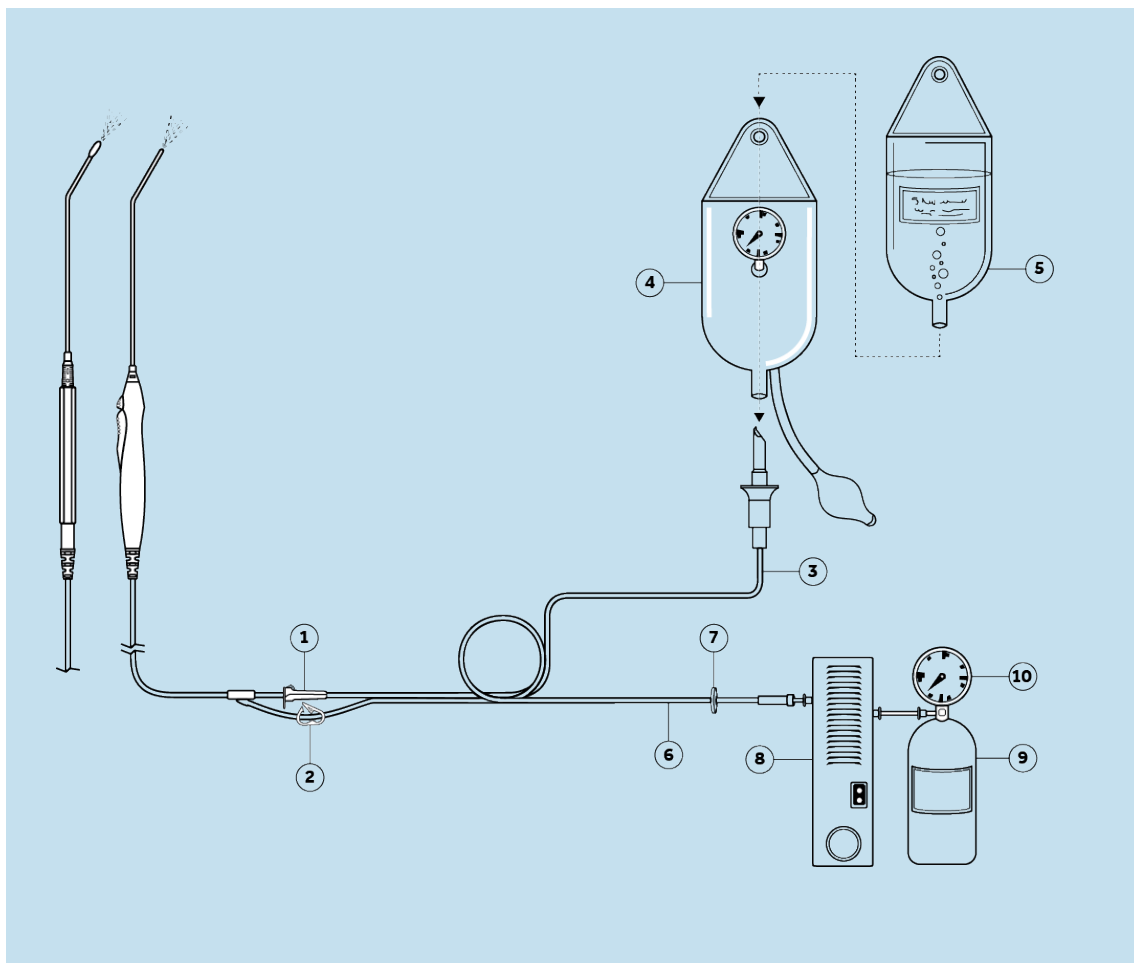
CLEARVIEW™ ACCUMIST BLOWER AND MISTER SETUP

1. Inspect product for damage and expiration date.
2. Open product and transfer onto sterile field utilizing an aseptic technique.
3. Close the roller clamp on the fluid inlet line and aseptically connect the spike to a new bag of sterile saline or other physician preferred warm fluid.
4. Place saline bag into pressure cuff and inflate the pressure cuff to approximately 150 mm Hg.
5. Open the roller clamp and adjust sterile saline flow (1 to 5 mL/min) using the roller clamp on the fluid inlet line.
6. Connect the CO₂/medical air line to a regulated source (not to exceed 60-psi/414-kPa). Adjust the flow control to 3 to 5 (L/min).
7. Adjust the irrigation mist as needed by making adjustments to either the roller clamp on the fluid inlet line or to the regulated source of CO₂/medical air.
8. Bend malleable shaft to optimize wound access and visualization.
9. Hold the tip 5 to 15 cm from the surgical site. DO NOT ALLOW TIP TO CONTACT TISSUE.

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CLEARVIEW™ ACCUMIST BLOWER AND MISTER SETUP



1. Roller Clamp
 2. Roberts Clamp
 3. Fluid Line
 4. Pressure Cuff (mm Hg)*
 5. Sterile Fluid*
 6. Gas Line
 7. Gas Filter
 8. Flow Meter (L/min)*
 9. Gas Source*
 10. Pressure Regulator*
- *not included

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CLEARVIEW™ MISTER/BLOWER

PACKAGED FOR CONVENIENCE



Model # 22150 Hand piece with tubing set — 5 per carton

Model # 22120 Hand piece — 10 per carton

ACCUMIST™ BLOWER/MISTER PACKAGING

PACKAGED FOR CONVENIENCE



Model # 29150
10 per carton

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MEDTRONIC OPCAB PORTFOLIO ADDITIONAL RESOURCES

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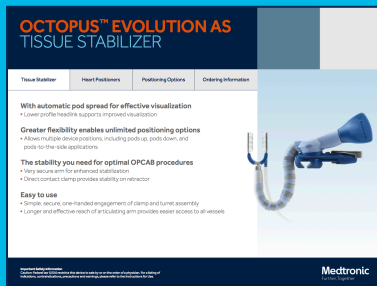
MEDTRONIC OPCAB RESOURCES



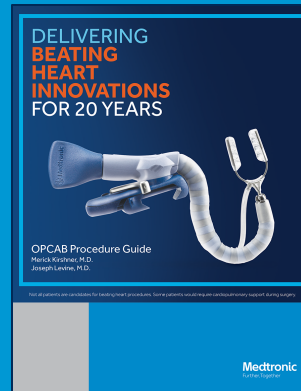
Beating Heart Technologies Brochure UC201700389 EN



OPCAB Procedure Guide and Videos Prof. Paul Sergeant, M.D. UC201605497 EN



Octopus™ Evolution AS Tissue Stabilizer E-Brochure UC201003705b EN



OPCAB Procedure Guide Merick Kirshner, M.D. Joseph Levine, M.D. UC201204905b EN

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