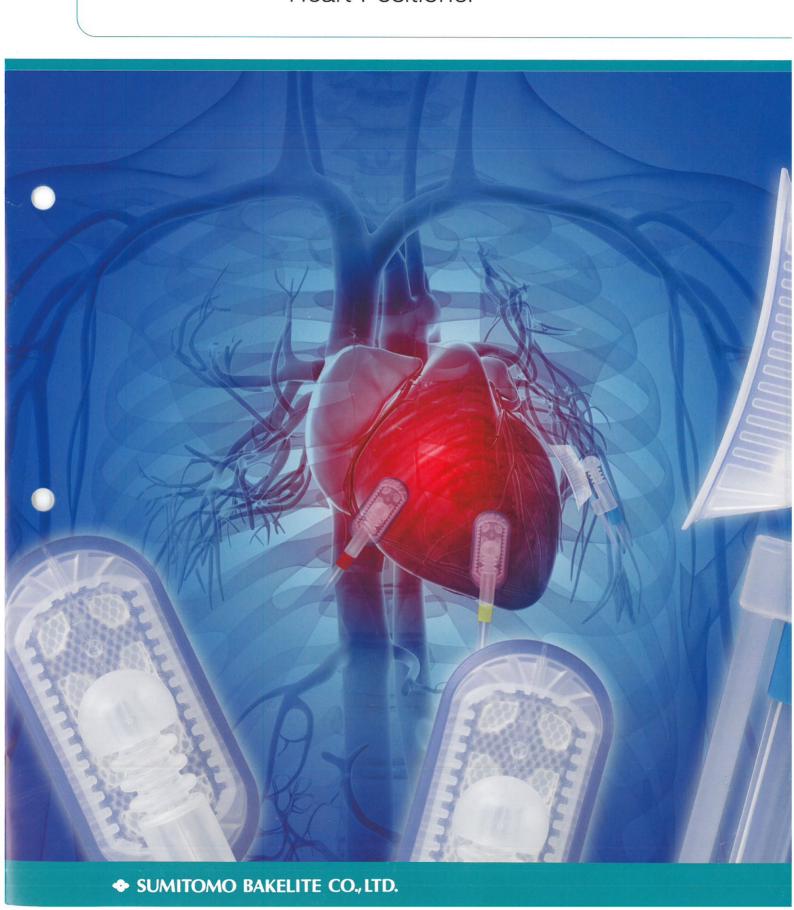
sumius

Tentacles

Heart Positioner



Features of TENTACLES

1. Strong and secured adhesiveness

TENTACLES has multiple suction cups with strong and independent adhesiveness, which enables secure positioning of the heart. -300mgHg suction negative pressure is recommended.

a) Strong Adhesion



Adhesive strength: Suction a pig heart at -300mgHg and pull up vertically, and measure the force of detachment.

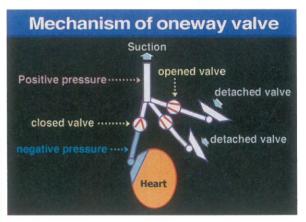
Inside view of the cup: Cup inside have cuts to increase friction for higher adhesive strength.



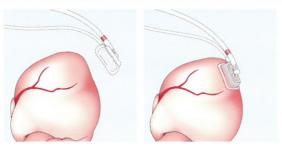
b) Independent attachment of 3 cups

Due to three-way Y connector with one way valve, even if one cup detach from the heart, the other cups maintain negative pressure and prevent the heart from falling down. Multiple suction cups lessen the weight per cup, therefore prevent the detachment of the cup and reduce damage to the tissue of the heart surface.





c) Soft silicone cup



Side view of the cup: Silicon made cups are flexible and can be attached to any surface of the heart.

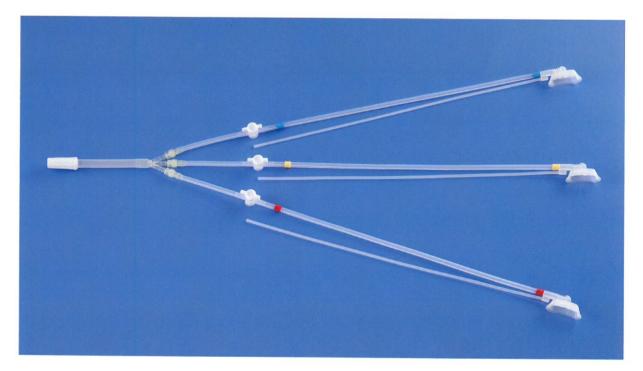
2. Free vision with no restriction

In order to achieve successful Off Pump CAB, free and clear visibility to all cardiac artery area is essential. TENTACLES can be attached to any surface of the heart, not only to the apex, but also to the lateral and inferior walls for traction. By adjusting the cup attachment position and the traction vector, TENTACLES enables free and flexible visibility according to the size and shape, and function of each heart. There are no restrictions from the usage of arm devices, too.

Please refer to the usage examples shown on the following pages

Instruction of Use

- 1. Connect the Connecting tube to TENTACLES.
- 2. Connect the Connecting tube to suction port. (-300mgHg negative pressure is recommended)
- 3. Stopcock is opened and will create whistle sound. Close the stopcock.
- 4. Attach the cups to the desired position of the heart surface. Open the stopcock. The cup will adhere to the heart surface.
- 5. Watch carefully the electrocardiogram and the blood pressure. Hold the heart with one hand, and pull slowly the traction string to position the heart to achieve good visibility.
- 6. Fix the traction string with a clamp to the surgical drape.
- Read carefully the Instruction of Use enclosed in the product before usage.
- Pulling the traction string perpendicular to the cup may cause detachment.









Specification

Order No,	Adhesion Cup	Connecting Tube	Vacuum	Packing
MD-27310	3cups	3m tube with connector	(–)300mgHg	1 set/cas

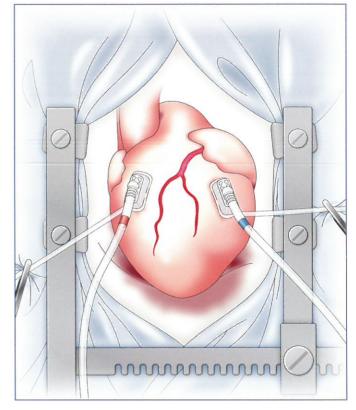
Examples of Usage

LAD

LAD: Attach one suction cup to the anterior surface of the right ventric and pull it to right hand side of the main surgeon.

Attach another suction cup to the lateral wall and pull it to the left hand side of the assistant surgeon.

LAD



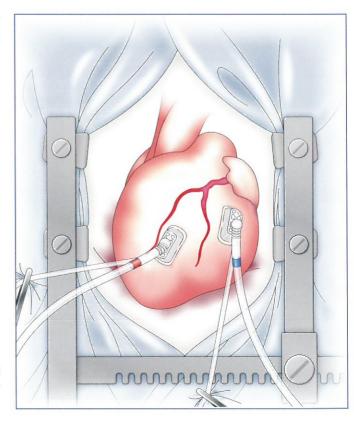
LAD will move to the center. Left ventricle can beat freely.

Dx-HL

Dx-HL: Attach one cup to the anterior wall and pull to right. Attach another cup to the lateral wall and pull lower right.

Dx-HL

The heart can be easily positioned only with TENTACLES and will provide large operational area.

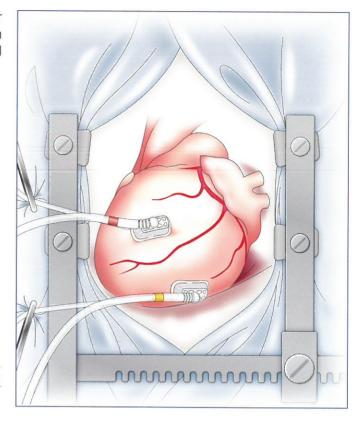


OM-PL

OM-PL: Attach one cup to the inferior wall and another to the lateral wall. Pull in a tangential direction and move the lateral wall to the right side.

OM-PL

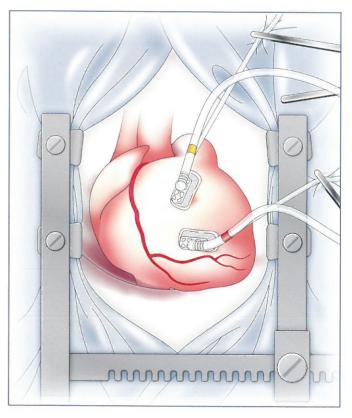
By pulling in a tangential direction, left ventricle shape will be maintained. Stable blood flow and wide visibility is secured.



RCA

RCA: Attach two cups to acute marginal area and inferior wall.
Pull to upper left and left direction

RCA

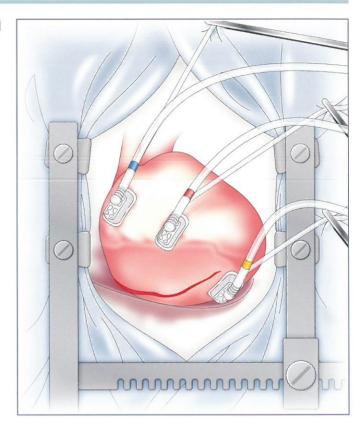


Examples of Usage

4PD[1]

4PD: Attach three cups to acute marginal area and inferior wall.
Pull to upper left direction

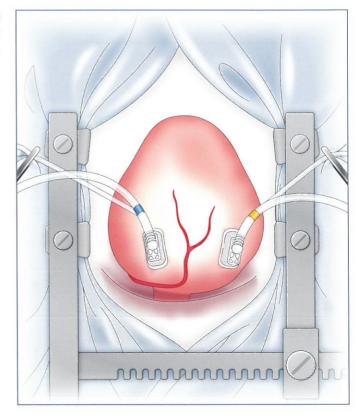
4PD[1]



4PD[2]

4PD: Attach suction cups to each acute marginal area and inferior surface and pull it to the right-cranial direction and left-cranial direction.

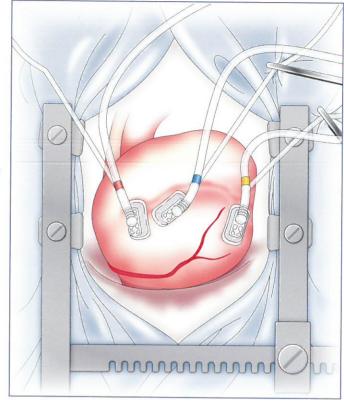
4PD[2]



4PD-4AV

4PD-4AV: Attach three cups to acute marginal area and inferior wall. Pull to upper right and upper left direction.

4PD-4AV

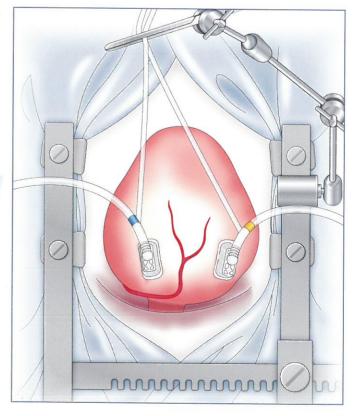


4PD-4AV

Apex using arm: Attach two or three cups to lessen the weight per cup. Combine the traction strings and pull vertically. Fix with a mini-surgical arm.

4PD-4AV

By dividing the heart weight to multi cups, traction power will be stroger and stable. The elastic traction string will maintain good beating at the apex.





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