

CALIFIA® Beating Heart Attachment Technical Specification Sheet

Biomed Simulation, Inc. | Rev. 2025-02

Product Overview

The CALIFIA® Beating Heart Attachment is a cardiac surgery simulation add-on for the CALIFIA® Patient Module and enables the realistic practice of the fundamentals of cardiac surgery including cannulation for CPB, initiation and weaning of CPB, delivery of cardioplegia with arrest, low & high frequency events, and decannulation. A perfused silicone or porcine heart are attached to a variable, inflatable balloon system that mimics cardiac contraction. Software driven physiologic hemodynamics are screen displayed and synchronized to the heart to create high-fidelity simulation training experiences.



Key Features

1. Operational Modes

- **Sync Mode:** Synchronizes with simulated patient physiology (e.g., preload/afterload changes).
- **Rate/Volume Mode:** Manual control of heart rate (0–200 bpm) and stroke volume (0–200 mL).
- **Interactive Mode:** Direct inflator manipulation for procedural calibration.

2. Visual Realism

- Piston-driven pump to create cardiac ventricular motion.
- Real-time hemodynamic waveforms on monitor displays.
- Real-time arterial pressure waveforms on the clinical monitors.

3. Dynamic Feedback

- Adjustable systolic/diastolic volumes for ischemia-reperfusion scenarios.
- Visual indicators for inflator position and cycle phase.

Technical Specifications

Performance

- Beating heart rate: 0 – 200 bpm
- Volume: 0 – 200 mL

Operation

- Temperature: 0 to 40° C (32 to 104° F)

Electrical

- Operating Voltage: 24 V DC
- Power consumption < 180 W

Integration

- Single-cable connection to the CALIFIA® Patient Monitor.



Applications

- Cardiac cannulation
- Initiation and weaning of CPB
- Cardioplegia needle placement
- Aortic crossclamp training with delivery of cardioplegia
- On-pump complications
- Low and high frequency events

Safety & Compliance

- Compatible with biological tissues for ex vivo training.
- Low-maintenance design with annual balloon inspection recommended.

Warranty & Support

- 2-year limited warranty | Onsite technical support available.

