isolatedHEART

system for Langendorff & working hearts

emka TECHNOLOGIES

Powerful, versatile & easy to use

The most powerful & flexible system at the most competitive price!

Powerful

- 3 perfusion modes
  - constant flow in aorta, in Langendorff mode
  - constant pressure in aorta, in Langendorff mode
  - constant pressure in atria, with post charge in aorta
- up to 3 physiological liquids can be perfused
- left ventricular pressure (LVP measurement by balloon or pressure sensor tip)
- electrode and amplifier for ECG monitoring
- electrical stimulation
- extra sensors & associated amplifiers: temperature, pH, pO_2, pCO_2

Versatile

- especially designed for mice and rats hearts
- adaptable to rabbits and guinea pigs hearts

Easy to use

- easily switch from Langendorff to working heart mode to facilitate experiment start
- system is fully integrated, with all tubing and connexion clearly organized, yet easily accessible.
- heart chamber is spacious, has heated walls and floor and a wide opening through sliding door.
- dead volume is limited
- temperature is optimized

.../...

isolatedHEART

system for Langendorff & working hearts

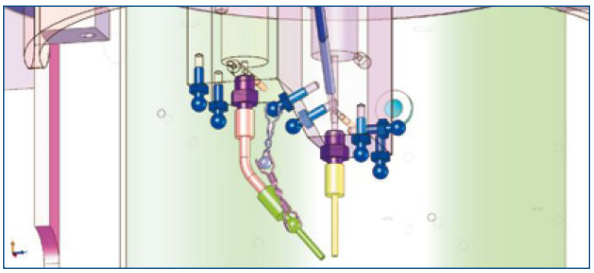
emka TECHNOLOGIES

Standard available signals

» Langendorff (constant flow or constant pressure):
- perfusion flow (coronary)
- perfusion pressure
- left ventricular pressure by latex balloon
- temperature

» working heart :
- perfusion pressure (veinous atrial pressure)
- postload pressure (mimic the load created by the complete artery network)
- perfusion flow (coronary and aortic)
- left ventricular pressure by PTFE catheter
- temperature

temperature module for perfusate temperature measurement



Detail of perfusion head: aortic cannula (yellow), balloon cannula (green), extra pods (blue) for ECG and/or electrical stimulation electrodes, etc.

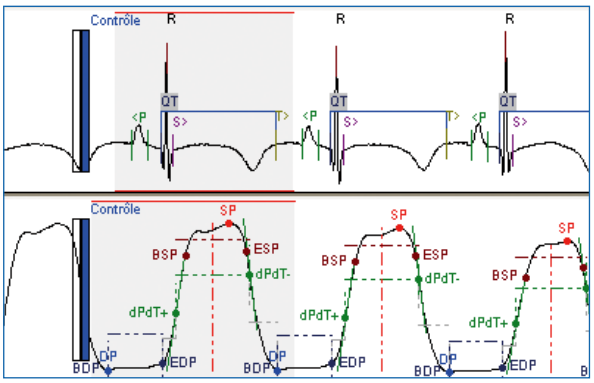
Optional signals

» left ventricular pressure using microtip pressure catheter inserted in the ventricle (only working heart)
» MAP, VAP measurement with contact micro eletrodes
» atrial flow with Transonic flowmeter in working heart mode
» pH, pO2 (with additional hardware)
» electrocardiogram (ECG)
» electrical stimulation (with additional stimulator and electrodes)

4 sizes of latex balloons for LVP measurement - 7mm X 10mm, 4mm X 8mm, 3.5mm X 5mm and 1.5mm X 3mm

Perfusion head features

» bubble trap (two sizes for rat or mouse)
» bolus injection port
» temperature probe port
» catheter port
» numerous pods for extra attachment (ECG electrodes, stimulation electrodes)



Software

» iox2 data acquisition & processing software provides real-time analysis of all recorded data, with :
- dedicated modules for signal as flow, pressure, LVP & ECG
- automation protocol feature
- connected hardware driving (regulator, electrovalves, etc.)

» 21 cfr part 11 compliance:
- online data validation
- audit trail & secured user access management