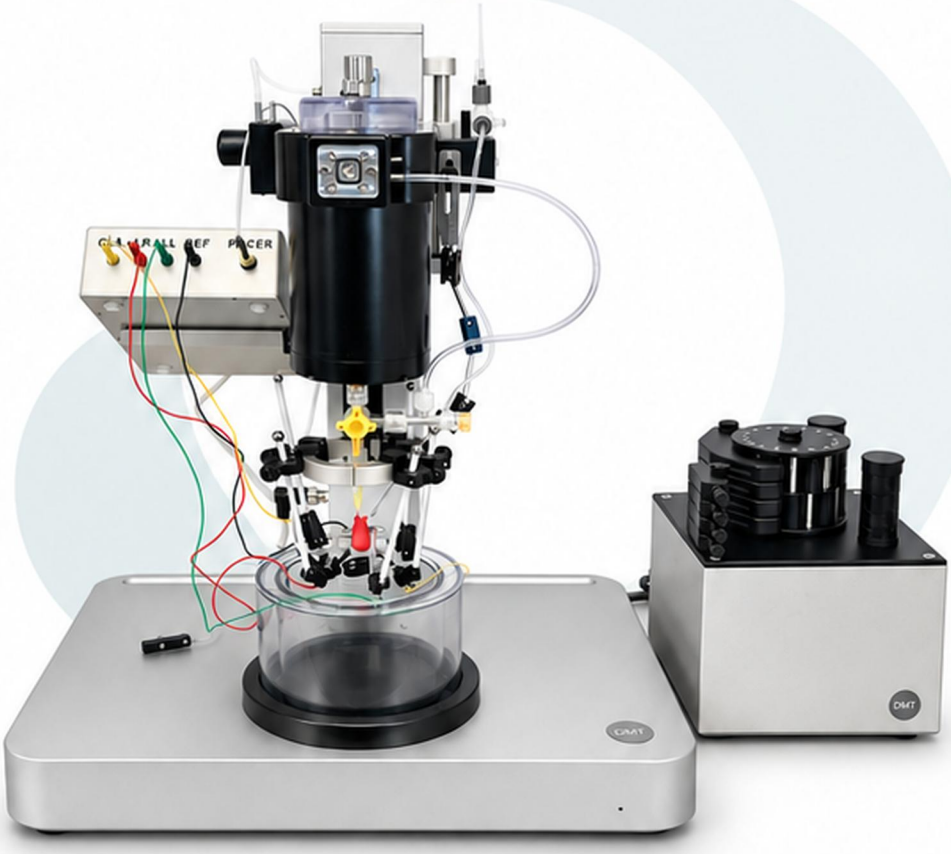
LANGENDORFF SYSTEM – 900L

Integrated isolated-heart perfusion platform for cardiac research

- **Isolated-heart perfusion for mouse and rat hearts**
  A compact, purpose-built platform for retrograde aortic perfusion of small mammalian hearts.
- **Constant-pressure or controlled flow**
  Software-selectable perfusion modes for flexible experimental protocols.
- **Integrated perfusion and temperature control**
  One coordinated platform controlling perfusion and chamber temperature.
- **Configurable cardiac readouts**
  Add LVP, ECG and pacing to match your research endpoints.
- **Seamless data integration**
  USB streaming to LabChart 8 or analogue outputs for compatible acquisition systems.



The DMT Langendorff System is a compact, purpose-built platform for retrograde aortic perfusion of isolated mouse and rat hearts. It brings perfusion control, pressure measurement and electronic temperature management together in one integrated system.

Constant-pressure or pump-controlled constant-flow operation is selected in software, while LVP, ECG and pacing packages can be added according to the experimental endpoints. Physiological signals can stream directly to LabChart 8 through USB, with dedicated analogue outputs available for compatible acquisition systems.

WHY CHOOSE DMT LANGENDORFF

1. **Integrated by design**
   Perfusion, pressure and temperature functions are coordinated in one purpose-built platform.
2. **Two perfusion modes**
   Switch between constant-pressure and pump-controlled constant-flow operation in software.
3. **Electronic temperature control**
   Built-in heating controls both the perfusion pathway and heart chamber.
4. **Configurable measurements**
   Add LVP, ECG and cardiac pacing according to the study endpoints.
5. **Flexible preparation format**
   Supports free-hanging or submerged mouse and rat hearts.
6. **Keep your acquisition workflow**
   Stream directly to LabChart 8 or use dedicated analogue BNC outputs.

LANGENDORFF SYSTEM - 900L

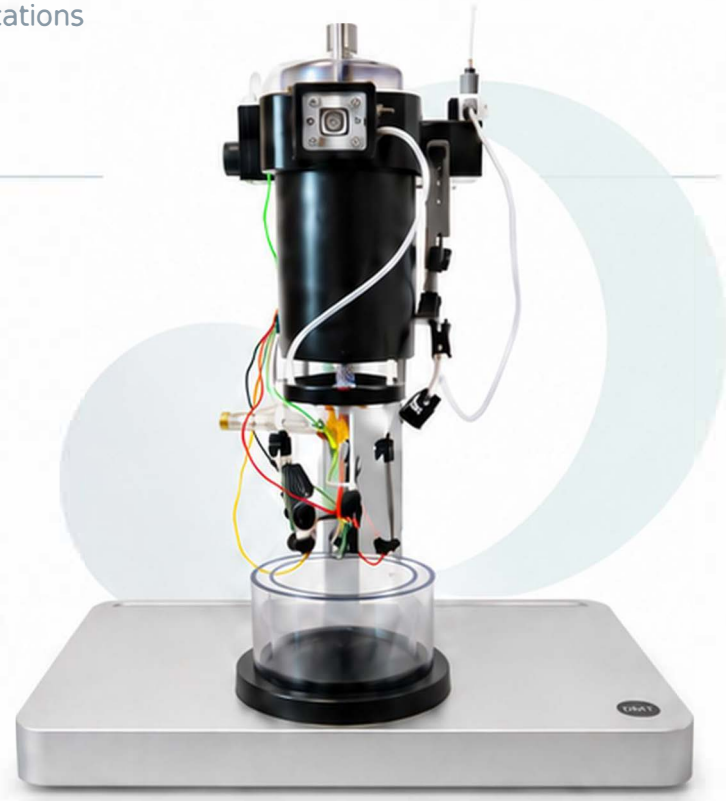
System overview, applications & key specifications

SYSTEM OVERVIEW

The DMT Langendorff System – 900L is built around a coordinated perfusion platform for isolated mouse, rat and small guinea pig hearts.

The system supports both constant-pressure and pump-controlled constant-flow operation, with integrated pressure measurement and electronic temperature control of the perfusion pathway and heart chamber.

Optional measurement packages allow the setup to be configured with LVP, ECG and cardiac pacing according to the study requirements. Signals can be streamed directly to LabChart 8 via USB or connected to compatible acquisition systems through dedicated analogue outputs.



TYPICAL APPLICATIONS

Designed around established isolated-heart research endpoints under controlled ex vivo perfusion conditions.

Ischemia-reperfusion

Controlled perfusion and temperature protocols for injury, recovery and protective interventions.

Pharmacology & cardiotoxicity

Investigate acute cardiac responses to compounds under defined ex vivo perfusion conditions.

Cardiac electrophysiology

Record ECG signals and apply controlled stimulation when the relevant packages are included.

Cardiac physiology

Study contractility, heart rate, coronary flow and pressure responses in the isolated heart.

Research areas

Cardiac physiology · Pharmacology · Cardiotoxicity · Ischemia-reperfusion · Electrophysiology · Cardiac pacing

KEY SPECIFICATIONS

Perfusion principle	**Retrograde aortic**
Perfusion modes	**Pressure / controlled flow**
Species	**Mouse / rat / small guinea pig**
Temperature range	**20 - 50 °C**
Temperature resolution	**0.1 °C**
Perfusion pressure range	**0 - 250 mmHg**
Pressure resolution	**0.1 mmHg**

Pump speed	**0 - 100 rpm**
Pump-flow range	**0 - 100 mL/min**
Heart configuration	**Free-hanging / submerged**
Digital connection	**USB to LabChart 8**
Analogue outputs	**8 BNC, ±2.5 V**

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