

Perform accurate and precise fluid volume flow measurements for *in vivo*, *in vitro*, and *ex vivo* flow research with our complete solutions.

Our systems for *in vivo*, *in vitro*, and *ex vivo* flow research combine cutting edge technology and reliability with Transonic® Flowmeters and PowerLab data acquisition.

Better measurements, proven results

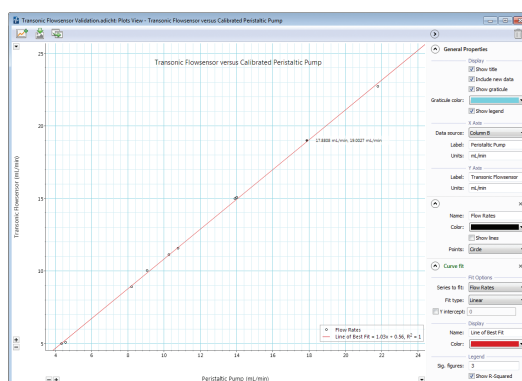
Transonic patented ultrasound transit-time technology is the gold standard for flow research:

- Precise and reliable true volume flow
- Excellent signal stability
- No electrical interference from ambient electrical noise
- Insensitivity to flow turbulence, flowprobe and vessel alignment, and changes in vessel diameter

Measurements using Transonic technology have been independently validated in many applications and referenced in thousands of publications.

Move quickly from set-up to analysis

Transonic flowprobes and flowsensors are precalibrated and ready for immediate use. Your data is recorded via the PowerLab into LabChart acquisition and analysis software, where you can choose flexible recording options and real-time calculations.



Typical studies:

- Hemodynamic studies
 - Myocardial function
 - Coronary circulation
- Renal physiology and hypertension
- Circulatory models (thrombosis)
- Isolated heart and organ perfusion
- Medical devices testing
- Ventricular assist devices (VAD) performance
- Artificial heart development



ADInstruments equipment is used in the top 100 institutions for Life Science worldwide and is cited in more than 30,000 peer-reviewed papers.

LabChart displays measured flowrates from a Transonic flowsensor plotted against a calibrated peristaltic pump – highlighting sensor accuracy.

Perivascular and Tubing Research Systems

Start your research by selecting a Perivascular and/or Tubing Flow system and then add suitable flowprobes or flowsensors. A three channel console is also available for your own customized system.

Preconfigured systems are supplied with a PowerLab data acquisition unit and LabChart Pro analysis software.

- One Channel Perivascular Flow System
- One Channel Tubing Flow System
- Two Channel Perivascular Flow System
- Two Channel Tubing Flow System
- Two Channel Tubing / Perivascular Flow System

Customize your flow measurement experience

Mix and match any combination of Perivascular or Tubing Flowmeter Modules in a dual or triple channel console to suit your experimental design. The modular nature of Transonic® flowmeters lets you create the configuration you need.



Invasive Blood Flow

Perform accurate and precise fluid flow measurements in blood vessels in mice through to large animals and even atypical animal models such as fish.

Transonic Flow Systems

By pairing state-of-the-art ultrasound transit-time technology of Transonic with LabChart and PowerLab, you can reliably measure arterial or venous flow. Single or dual channel options are available for both perivascular and tubing flow applications. With minimal signal drift and attenuation, Transonic Flowprobes (available separately) are appropriate for acute and chronic studies. A range of sizes suitable for mice and larger animals are available, as well as inline/clamp-on sensors for tubing applications.



PowerLab
COMPATIBLE



Laser Doppler Flowmetry

Measure tissue perfusion (blood flow) invasively or noninvasively using a Laser Doppler technology Blood Flowmeter that is compatible with a range of LDF probes for skin, muscle and organs.

Easy to use, and highly suitable for monitoring circulation during surgery or studying tissue perfusion in drug or cardiovascular studies. Using our LabChart software, PowerLab, Blood Flowmeter and a suitable LDF probe, you can continuously monitor and rapidly analyze tissue perfusion of microvascular beds.



Select your flowprobe or flowsensor

Flowprobes and flowsensors are precalibrated for easy, immediate use.

Perivascular Flowprobes

Measure acute and chronic *in vivo* flow in both small and large animal blood vessels. Flowprobes are placed external to the vessel and do not interfere with flow to the target tissues.



Perivascular 0.5-20 mm

PS series flowprobes offer standard or custom configurations for animal models (mice and larger animals). Our range includes miniaturized versions (nanoprobes - 0.5 and 0.7 mm) that measure flow < 1 mL / min.

Perivascular 1 and 1.5 mm

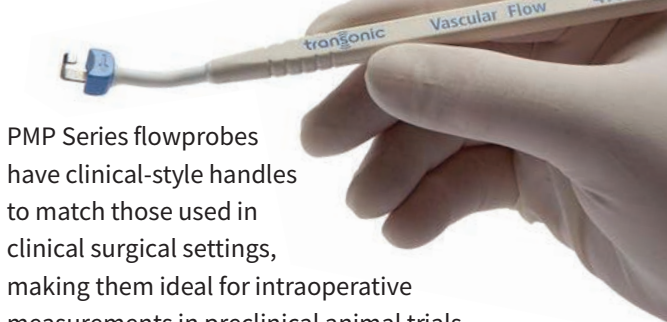
PR series flowprobes are for small acute or chronic applications that require larger probe heads for robustness.

Microcirculation 0.5 and 0.7 mm



V Series flowprobes are designed for acute flow measurements in small vessels.

Intraoperative 2-14 mm



PMP Series flowprobes have clinical-style handles to match those used in clinical surgical settings, making them ideal for intraoperative measurements in preclinical animal trials.

Cardiac Output 8-32 mm



PAU or Confidence Flowprobes are made for chronic and acute cardiac output studies in large animal models. They have Ultrafit Liners to provide cushioning for safe, easy placement and attachment without a clip.

Perivascular Accessories

We offer a wide range of accessories including special connectors, extension cables, acoustic couplants, and stabilization products for easy anchoring of probes to tissue - these include silicon shields, flanges, and wraps.

Tubing Flowsensors

Measure volume flow in non-aerated liquids including saline, buffer solutions, blood, water, and other organic fluids with high resolution and low offset. Flowsensors provide reliable, stable measurements even under perturbed and non-steady flow conditions.

Clamp-on 3-32 mm OD



PXL Series sensors "clamp-on" to most flexible laboratory and extracorporeal tubing. They are perfect for quick, repeatable process testing that is applied to multiple circuits without flow interruption. Total physical and electrical isolation is maintained between the sensor and the liquid.

Applications include:

- Artificial heart and VAD performance
- Medical device and pump engineering
- Manufacturing and compliance flow testing

Inline 2-25 mm ID

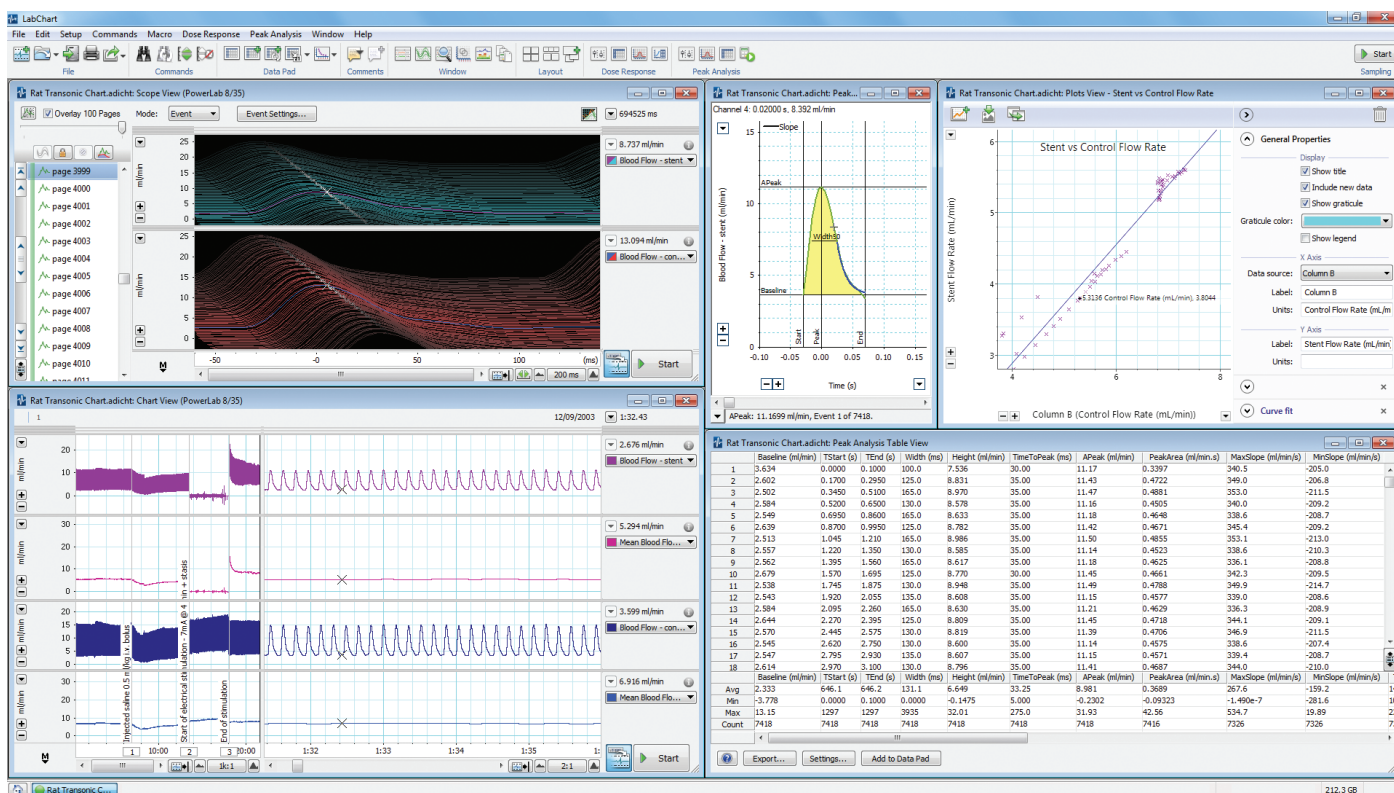


PXN series sensors offer flexibility in studies where tubing requirements are subject to change. Sensors splice into laboratory tubing for volume flow measurements of blood and other fluids, ranging from < 1 to 100 L / min.

Applications include:

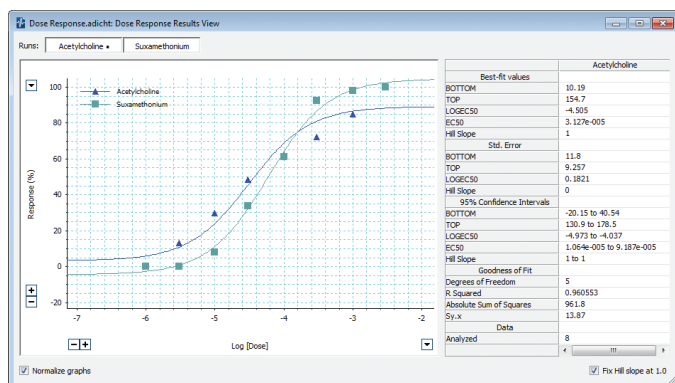
- Perfused isolated organ studies
- Flow phantoms and circulatory models
- Tubing flow applications requiring maximum sensitivity

LabChart Pro software, supplied with Perivascular and Tubing Flow Systems, simultaneously displays and analyzes up to 32 channels of data. It is easy to perform data analysis in real-time or post-acquisition. A multitude of flexible features allow a range of views and graphing.



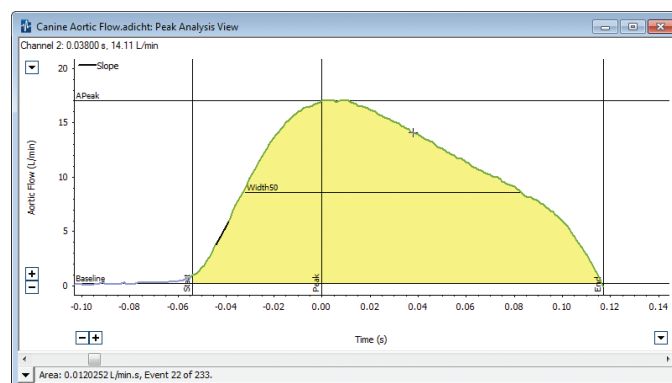
LabChart Pro Add-Ons

Automate flow volume analysis using Add-Ons supplied with LabChart Pro, including Peak Analysis and Dose Response.



Dose Response Add-On

Easily identify response markers for automated generation of Dose Response curves. Obtain quick parameter calculations including EC₅₀ values and Hill slopes.



Peak Analysis Add-On

Automatically detect and analyze multiple, non-overlapping signal peaks in real-time or offline. Choose from several analysis settings available for general waveforms and specific signal types.

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