

Precision Nanoprobes for Mice



0.5PSB

0.7PSB

1.5PSL

✓ Unprecedented Capability

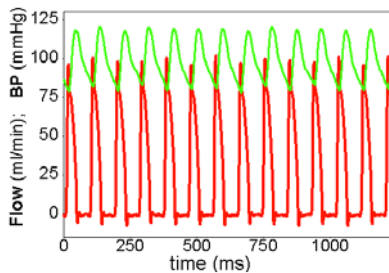
Continuous real-time volume flow measurements in ml/min can be obtained in conscious and anesthetized mouse models for calculation of cardiac output, stroke volume and vascular resistance.

✓ The Smallest Flowprobes Imaginable!

Transonic 0.5PS and 0.7PS Precision Flowprobes use nanofabrication techniques to photoetch miniature structures scaled to fit mouse anatomy.

✓ Gold Standard Accuracy

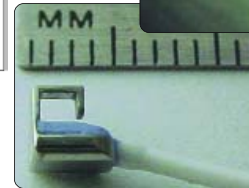
All Transonic flowprobes use validated ultrasonic transit-time technology. Waveforms demonstrate Transonic's signature zero baseline stability and high resolution of flows less than 1 ml/min.



Ascending aortic blood flow and pressure in a conscious mouse 7 days after implantation.
Courtesy of B. Janssen, Univ. of Maastricht



Top: New 0.5PSB (left) with standard 0.5 mm V probe (right) and ballpoint pen tip.
Middle: 1.5PSL probe for ascending aortic blood flow as shown in trace on left.



Bottom: Nanoprobe with handle for acute blood flow mapping in the mouse.



SPECIFICATIONS & ACCESSORIES FOR MOUSE APPLICATIONS

PRECISION PROBE SERIES	VESSEL OD (mm) MA-PROBES acute application	VESSEL OD (mm) MC-PROBES chronic application	BIDIRECTIONAL FLOW (ml/min)			ACCURACY (%)			ULTRASOUND Frequency (MHz)	
			Resolution	Scale Settings Low Flow	Normal Flow	Maximum Range	Zero Offset	Absolute Accuracy		Relative Accuracy
0.5PS	0.3 - 0.5	0.3 - 0.48	0.03	1.5	6	30	± 0.12	± 15	± 2	14.4
0.7PS	0.5 - 0.7	0.4 - 0.7	0.05	2.5	10	50	± 0.2	± 15	± 2	9.6
1.5PS	1.2 - 1.5	1.2 - 1.5	0.075	10	40	200	± 0.8	± 15	± 2	4.8
1 PR	0.7 - 1.0	0.7 - 1.2	0.05	5	20	100	± 0.2	± 10	± 2	7.2
0.5VB	0.25 - 0.50	NA	0.05	2.5	10	50	± 0.25	± 15	± 3	7.2
0.7VB	0.35 - 0.70	NA	0.075	5	20	100	± 0.5	± 15	± 3	4.8

PRECISION PROBES — 400-SERIES FLOWMETERS

MA- prefix: standard acute configuration; 0.5PSB, 0.7PSB are supplied with 5 cm handle and CRA10 connector
MC- prefix: custom or chronic configuration; specify cable orientation & length; connector, calibration option

CONNECTORS

CA4B (straight) 4-pin micro-connector (4.2 mm diameter); with calibration key;
CA4S (right angle) 4-pin micro-connector (4.2 mm diameter); with calibration key;
CRA10 acute Redel connector (15 mm)

CA4S MICRO SKIN BUTTON CUFF

with set screw: (AAPC105) 9 x 8 mm base

EXTENSION CABLES

400-Series Perivascular Flowmeter Modules:

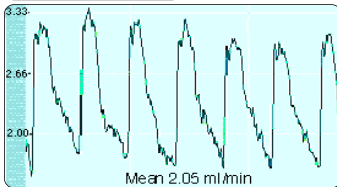
CRA10-S-CRA10: 10-pin acute, standard length, 1.25 meter
CA4-S-CRA10: 4-pin chronic mouse, standard length, 1.8 meter

MESILENE MESH

surgical mesh for implant stabilization



Conscious Mouse Renal Arterial Blood Flow, day 4 after implant of 0.5PSL flowprobe



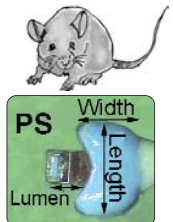
Courtesy of M.F. Callahan, Wake Forest University Health Sciences

Murine Blood Flow Mapping TRANSONIC PRECISION NANOPROBES

ASCENDING AORTA	1.5PSL
LOWER THORACIC AORTA	1PR
PULMONARY ARTERY	1PR
CAROTID ARTERY	0.5PS, 0.5VB
FEMORAL ARTERY	0.5PS
MESENTERIC ARTERY	0.7PS
RENAL ARTERY	0.5PS
PORTAL VEIN	1PR

PHYSICAL SPECIFICATIONS FOR NANOPROBES

PROBE	CABLE Orientation	WIDTH	LENGTH	DEPTH	LUMEN	Max. CABLE Lgth.	CABLE Dia.
0.5PS	back or lateral	2.3 mm	3.2 mm	1.0 mm	0.47 mm	60 cm	1.0 mm
0.7PS	back	2.7 mm	3.2 mm	1.2 mm	0.70mm	60 cm	1.0 mm
1.5PS	lateral only	3.75 mm	4.25 mm	2.0 mm	1.65 mm	60 cm	1.25 mm
1PR	back or side	4.0 mm	6.5 mm	1.1 mm	1.1 x 1.5 mm	60 cm	1.5 mm



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