

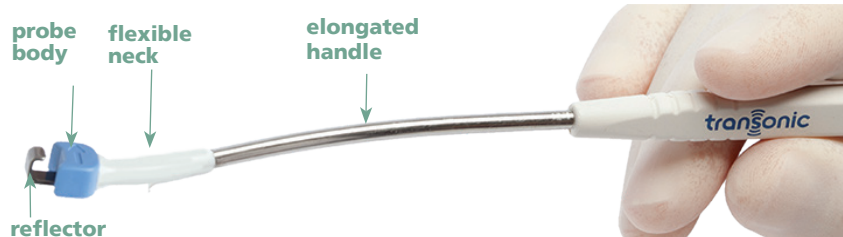
# Cardiac Surgery Flowprobes

Transonic® Cardiac Surgery Flowprobes and HT300-Series Flowmeters measure volume flow in blood vessels or grafts from 0.5 to 36.0 mm outer diameter. Measurements help the surgeon correct otherwise undetectable flow restrictions and guide surgical decisions to ensure the best outcome for the patient.

## Coronary Flowprobes for Coronary Artery Bypass (CABG) Surgery

FMC-SERIES PERIVASCULAR CORONARY BYPASS FLOWPROBES

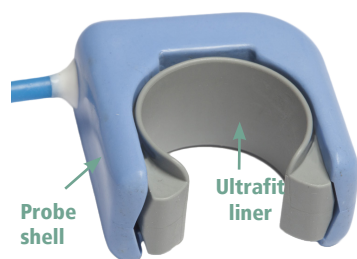
| CATALOG #  | PROBE SIZE (mm) | VESSEL SIZE outer diameter (mm) |
|------------|-----------------|---------------------------------|
| HQx 1.5FMC | 1.5             | 1.3 - 2.3                       |
| HQx 2.0FMC | 2               | 1.8 - 3.0                       |
| HQx 3.0FMC | 3               | 2.4 - 4.0                       |
| HQx 4.0FMC | 4               | 3.2 - 5.3                       |



Pictured, from left to right, are 1.5 mm, 2 mm, 3 mm and 4 mm coronary Flowprobes showing their blue Probe bodies, J-style reflectors and ultrasonic sensing windows.

The Coronary Flowprobe's elongated handle allows for easy positioning of the Probe around coronary artery bypass grafts behind the heart. As shown above, the Flowprobe's flexible neck can be bent so that the Flowprobe can easily encircle a coronary graft or vessel.

## COncidence Flowprobes® for Continuous CO Measurements



COncidence Flowprobes® provide highly accurate measurements in vessels with turbulent flows such as the ascending aorta. A novel four-transducer concept for ultrasonic signal coupling enables immediate, accurate beat-to-beat flow measurements.

COncidence Flowprobes consist of a form-fitting liner that cushions and protects the vessel during flow measurement and a reusable shell that encircles the vessel. Probes may be left in place for extended cardiac output measurements and then easily removed.

COncidence Flowprobes are available in 17 sizes ranging from miniature 4 mm and 6 mm flowprobes for pediatric and neonatal ascending aortas and pulmonary arteries to 36 mm for large turbulent vessels in adults.

CONFIDENCE FLOWPROBE® SPECIFICATIONS

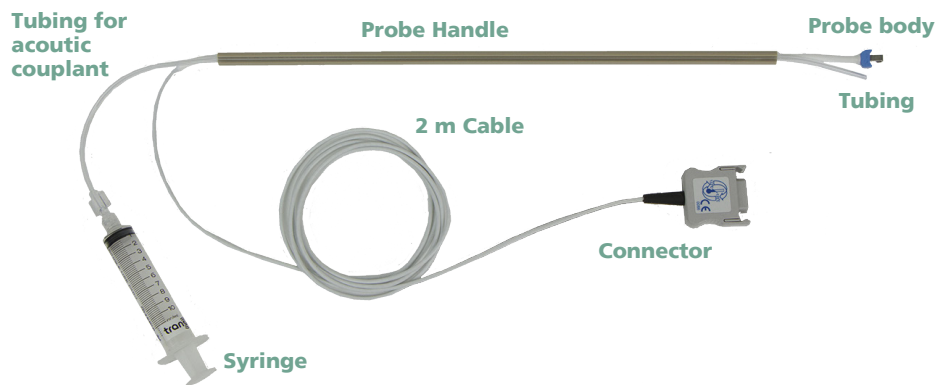
| AU-SERIES PROBE CATALOG # | LINER SIZE    | VESSEL SIZE         | MAXIMUM FLOW |
|---------------------------|---------------|---------------------|--------------|
|                           | diameter (mm) | outer diameter (mm) | (L/min)      |
| HQE 4AU                   | 4             | 3 - 4               | 2            |
| HQE 6AU                   | 6             | 5 - 6               | 5            |
| HQx 8AU                   | 8             | 6 - 8               | 10           |
| HQx 10AU                  | 10            | 8 - 10              | 10           |
| HQx 12AU                  | 12            | 9 - 12              | 20           |
| HQx 14AU                  | 14            | 11 - 14             | 20           |
| HQx 16AU                  | 16            | 13 - 16             | 50           |
| HQx 20AU                  | 18, 20        | 15 - 20             | 50           |
| HQx 24AU                  | 22, 24        | 18 - 24             | 100          |
| HQx 28AU                  | 26, 28        | 22 - 28             | 100          |
| HQx 32AU                  | 30, 32        | 26 - 32             | 200          |
| HQx 36AU                  | 34, 36        | 30 - 36             | 200          |

# Port Access Flowprobes

Transonic's Port Access Flowprobes enable volume flow measurements during minimally invasive robotic CABG surgeries to allow surgeons to confirm adequate flow, especially critical in procedures where there is no other method to accurately assess flow or where it is not possible to directly visualize the vessel or anastomosis.

The Flowprobes feature a long endoscopic handle that can be inserted through ports for access to the measurement site. The Probe handle is grooved to hold a disposable, sterile, gel-filled tube attached to a syringe in order to simplify the application of couplant to ensure the best possible measurement.

This innovative probe is CE marked; FDA clearance is pending.



FD-Series Port Access Flowprobe feature a blue probe body with J-style reflector, ultrasonic sensing windows and a long endoscopic handle with a groove on the bottom side to hold tubing through which acoustic couplant is injected by a syringe into the measurement site.



FD-Series Port Access Flowprobes: shown from top to bottom are 1.5 mm, 2 mm, 3 mm and 4 mm diameter Flowprobes.

| P-SERIES PERIVASCULAR PORT ACCESS FLOWPROBES |           |                               |                          |
|--|-----------|-------------------------------|--------------------------|
| PROBE SIZE                                   | CATALOG # | VESSEL OUTER DIAMETER OD (mm) | MINIMUM TROCAR SIZE (mm) |
| 1.5.mm                                       | HQx 1.5FD | 1.3 - 2.3                     | 8                        |
| 2.0 mm                                       | HQx 2FD   | 1.8 - 3.0                     | 8                        |
| 3.0 mm                                       | HQx 3FD   | 2.4 - 4.0                     | 12                       |
| 4.0 mm                                       | HQx 4FD   | 3.2 - 5.3                     | 12                       |

Transonic Systems Inc. is a global manufacturer of innovative biomedical measurement equipment. Founded in 1983, Transonic sells "gold standard" transit-time ultrasound flowmeters and monitors for surgical, hemodialysis, pediatric critical care, perfusion, interventional radiology and research applications. In addition, Transonic provides pressure and pressure volume systems, laser Doppler flowmeters and telemetry systems.



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