

**TSD157B-MRI – LAMINAR FLOW TRANSDUCER ±120 LPM**

The TSD157B-MRI laminar flow transducer ( $\pm 120$  LPM) is suitable for precision ventilator bidirectional airflow measurements or resting airflow measures in fMRI. It consists of flow head RX157B + pressure transducer TSD160A + Tubing. Available with 20 m tubing for MRI use or 1 m tubing for non-MRI use (option TSD157B-MRI-01). Tubing presses over the barbs on the flow head and transducer and should be cut to fit for max separation, typically 10 m for MRI or 0.5 m for non-MRI.

- For ventilator flow measurements, the flow noise of TSD157B-MRI greatly outperforms earlier offering of TSD127 + TSD117B over the typical ventilator flow range of  $\pm 100$  LPM.
- For MRI use, the TSD157B-MRI can go inside the bore; the tubing from the RX157B flow head goes through the waveguide to the TSD160A+DA100C in the Control Room and should be cut to fit. The TSD157B-MRI can also interface with the AFT35-MRI valve: AFT35-MRI to AFT7 tubing to AFT11E to RX157B. (This same setup also works with RX127, instead of RX157B, with an additional coupler AFT11B.)

BIOPAC supplied linearization polynomials are [available on request](#) as a template.

Additional or replacement flow heads available as RX157B. Ask about options for 60 LPM or below or 240 LPM and below.

**OPTIONAL ACCESSORIES**

TSD157B-MRI can be used with the AFT35-MRI low-profile mouthpiece and non-rebreathing T-valve assembly and AFT7 tubing with AFT11B coupler:



**SPECIFICATIONS**

- Components:** RX157B Flow head + TSD160A Differential Pressure Transducer + Tubing
- Type:** Bidirectional Flow Measurement
- Range:** ±120 Liter/Min
- Noise:** Standard Deviation – 0.085 Liters/Min @ 25 LPM @ DC-10 Hz Bandwidth
- Interchangeability Accuracy:** ±5% (nominal)
- Ports:** Single Barb accepts 3.5 mm ID Tubing Connects to Standard 22 mm ID Ventilator Tubing
- Tubing—Length options:** 1 m (non-MRI) or 20 m (MRI)
- Temperature Range:** 0 °C to 40 °C
- Dimensions:** 140 mm long x 22 mm OD x 15 mm ID
- Mounting:** ¼" x 20 standard female camera mount
- MR Safe:** RX157B Flowhead
- Sterilization:** Cold sterilization only (Cidex® OPA or equivalent)

Flow Rate (Liters/Min)	Pressure Delta
Inches H <sub>2</sub> O	RX157B
20	0.02
50	0.08
100	0.26
120	0.31

Calibration, noise and accuracy data: download [TSD157B to TSI4000 flow standard \(xls and txt\)](#)