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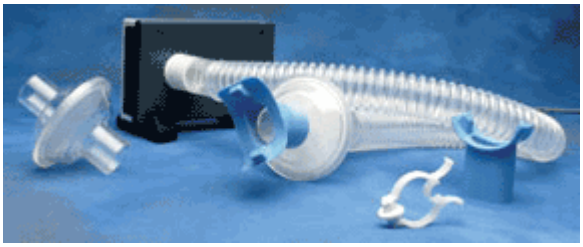
AFT SERIES AIRFLOW & GAS ANALYSIS ACCESSORIES



See also: Student Accessory Packs BSL-ACCPACK and BSLACCPACK-11B

Includes the following airflow accessories:

Bacterial Filters	*Mouthpieces*	*Calibration*	*Airflow Tubing*	*Facemasks & Accessories*	*Noseclip*
AFT1 AFT4 AFT36	AFT2 ATF8 AFT9 RX-AFT35-MOUTH	AFT6A AFT16 AFT17 AFT27 AFTCAL-160	AFT7 AFT7L AFT12	AFT10 AFT10S AFT25 RX-AFT25-SMALL RX-AFT25-MEDIUM RX-AFT25-LARGE RX-AFT25-CAP	AFT3
Gas Sampling Kits	*AFT T-valves*	*Head Support*	*Gas Tubing*	*Mixing Chamber*	*Couplers*
AFT20 AFT31-MRI	AFT21 AFT22 AFT23 AFT35-MRI AFT302	AFT24	AFT30	AFT15	AFT11A AFT11B AFT11C AFT11D AFT11E AFT11F AFT11H AFT301 AFT160

DISPOSABLE BACTERIAL FILTERS

MRI Use: MR Safe

AFT1/4/36 Bacterial Filter Components: Polycarbonate Clear Plastic

AFT1 Disposable Bacterial Filter *Available in Packs of 10 or 250*

Designed to remove airborne bacteria. Pore Size: Virus Filtration Efficiency (VFE): 3.1 micron; Bacterial Filtration Efficiency (BFE): 2.8 micron. Use between any SS11L, SS11LA, SS11LB, or TSD117, TSD117A, or TSD117B and the AFT2. 22 mm ID/OD.

AFT4 Disposable Bacterial Filter

Designed to remove airborne bacteria; for use with the TSD107B, or other 35 mm breathing circuits, connects between the AFT7 and the AFT9. (35 mm ID/35 mm OD).

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AFT36 Disposable Pulmonary Function Filter and Mouthpiece *Available in packs of 10 or 200*

This disposable bacteriological filter with integrated mouthpiece is recommended for use with the SS11LB or TSD117A/B airflow transducer, and attaches directly to the outside of the airflow head. Independent laboratory tests have verified 99.99% bacterial and viral filtration efficiency. This surpasses published ATS recommendations for flow resistance in pulmonary function instrumentation, which suggest resistance should be below 1.5 cm H_2O/L/sec at flow rates of 14 L/sec. Port: 35 mm OD. **NOTE:** The AFT36 is not compatible with earlier-style SS11L or SS11LA or TSD117 airflow transducers. (Use AFT1 + AFT2 instead.)

MOUTHPIECES

MRI Use: MR Safe

AFT Mouthpiece Components: Polyethylene EVA Copolymer, Thermoplastic Rubber, Polycarbonate Plastic

AFT2 Disposable Mouthpiece *Available in Packs of 10 or 250*

22 mm OD; connects to the older model SS11LA or TSD117 via the AFT1.

AFT8 Autoclavable Mouthpiece *Available in Packs of 1 or 10*

30 mm ID; interfaces with the SS11LA, SS11LB, TSD117A, or TSD117B and reduces the cost of disposable parts.

- RX117A-MRI Replacement Sterilizable Airflow Head**:** 22 mm ID/30 mm OD; autoclavable transducer head for the TSD117A/B; can be used with the AFT8 to reduce the cost of disposable items.

AFT9 Reusable Mouthpiece *Available in Packs of 1 or 10*

35 mm ID; designed to connect to the TSD107B or other 35 mm breathing circuits with the AFT7 via the AFT4. (Also connects to the AFT21 Non-rebreathing T Valve.)

NOSECLIP

MRI Use: MR Safe

AFT Noseclip Components: Thermoplastic Rubber, Polyvinyl Chloride (PVC) Plastic, Polyurethane Foam Plastic

AFT3 Disposable Noseclip *Available in Packs of 10 or 250*

Gently squeezes the nostrils shut while using the SS11LA or TSD117A/B Airflow Transducer.

CALIBRATION

AFT6A Calibration Syringe

0.6 liter calibration syringe. *See also*: AFT27 3.0 liter Calibration Syringe

AFT27 Calibration Syringe (3.0 liter)

The AFT27 is a 3.0 Liter Calibration Syringe for the SS11LB, SS11LA, TSD117A, or TSD117B Airflow Transducer. The AFT27 Calibration Syringe is certified to have a 3-liter volume that meets or exceeds an accuracy ± 0.5% of the total displacement volume. The increased size and accuracy of this 3.0 liter calibration syringe provide a wider calibration range than the AFT6A for advanced studies. A coupler is included and can be reordered as AFT11D (SS11LB) if it is inadvertently discarded when an airflow accessory is removed. This adjustable aluminum calibration syringe is shipped with the volume locked to 3.0 L and BIOPAC templates and software settings are set for 3 L.

The locking collar and graduated rod allow users to select other calibration volumes, from 0.5 Liters to 3.0 Liters. The aluminum syringe has a universal connector and works with BIOPAC's AFT11D flexible coupler (35 mm OD, 35 mm OD).

NOTE The AFT27 3.0 Liter Calibration Syringe replaces the AFT26 2.0 Liter Calibration Syringe, which was discontinued in September of 2017.

AFT16 Regulator Barb Interface Kit

Use the Regulator Barb Interface Kit to interface the GASCAL+GASREG calibration gas combination to an AFT15 mixing chamber to calibrate the CO2100C carbon dioxide measurement and O2100C oxygen measurement amplifier modules.

Kit includes 2 meters of tubing that connect to the GASREG and mixing chamber along with two stoppers to seal the inlet and outlet ports of the mixing chamber.

AFT17 Regulator Barb Interface for GASSYS3

Use this Regulator Barb Interface with Luer lock to connect a regulator (such as GASREG) and GASCAL or GASCAL2 calibration gas to inject calibration gases into the RX-GAS3 Calibration Chamber to calibrate the GASSYS3 Gas Analysis System.

AFTCAL-160 Differential Pressure Manometer with NIST Calibration

Use this NIST-certified manometer to calibrate the TSD160 series of differential pressure transducers. Range ±2 psi, ±140.6 cm H2O.

The device offers 11 units of measure (user-selectable on front panel) and the differential input uses quick-disconnect fittings. Advanced features include DATA HOLD, MIN-MAX-AVG RECORD mode, ZERO/OFFSET, AUTO POWER OFF, and USB PC interface. Ships fully tested and calibrated.

This manometer is recommended for use with the TSD160 Series Differential Pressure Transducer and VVK100-SYS Ventilator Validation Kit measurement accessories. (See AFTCAL-160 technical specs on page 13.)

TUBING FOR AIRFLOW

AFT7/7L/12

- **Tubing Components:** Polyethylene EVA Copolymer
- **Smooth interior surface:** Reduces rain-out and air turbulence
- **Material**: Lightweight, durable, crack and tear resistant, can be stretched by 10%, bends without blocking airflow
- **Low Compliance**
- **Integral end fittings:** Eliminate leaks that may occur around end-fittings glued onto tubing
- **Temperature range:** -30ºF to 130ºF or -34.4ºC to 54.4ºC
- **Cleaning:** May be cold-sterilized, Cidex® / Cidex OPA® recommended
- **MRI Use:** MR Safe (see Specifications for components)

AFT7 Smooth Bore Tubing

1 m length, 35 mm ID; connects to the TSD107B, AFT4, or other 35 mm breathing circuits.
See also: AFT part guide for additional applications.

AFT7L Smooth Bore Tubing

3 m length, 35 mm ID; connects to the TSD107B, AFT4, or other 35 mm breathing circuits.
See also: AFT part guide for additional applications.

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AFT12 Smooth Bore Tubing (22 mm)

1.8 m length, 22 mm ID; smooth bore tubing fits AFT15A/AFT15B mixing chambers and SDS200 scent delivery module

. *See also:* AFT part guide for additional applications.

FACEMASKS, FACEMASK ACCESSORIES

AFT10 Disposable Adult Facemask

These mouthpieces connect to 22 mm breathing circuits. Connects directly to the AFT1, AFT22 non-rebreathing T-valve, SS11LA/TSD117 airflow transducer (via AFT11B coupler), SS11LB, or TSD117A/B airflow transducer (via AFT11H coupler). Includes hook-ring to secure AFT10S adjustable head strap. (22 mm ID/25 mm OD)

MRI Use: MR Safe

AFT10 Facemask Components: Thermoplastic Elastomer, Polyvinyl Chloride (PVC) Plastic

AFT10S Adjustable Head Strap

This fully adjustable non-latex head strap holds the AFT10 disposable facemask securely to the subject's head. Use one or more straps to securely fasten the mask.

MRI Use: MR Safe

AFT10S Head Strap Components: Non-latex Elastic

AFT25 Facemask with Valve

This adult facemask with integral non-rebreathing T valve is a high performance, very low dead space, low airflow resistance mask and valve; suitable for high airflow applications (e.g., exercise physiology). The AFT25 incorporates two gas sampling ports (female Luer) for interfacing with the AFT20 Gas Sampling Kit. All ports are 35 mm OD, 28 mm ID

MRI Use: MR Safe

AFT25 Facemask Components: Mask: Thermoplastic Elastomer, Valve: Acetal Plastic, Acrylic Plastic, Aluminum (nickel plated silver,) Elastomer, Nylon, Thermoplastic Polyester, Polycarbonate Plastic, Silicone Rubber, Stainless Steel, Polysulfone Plastic

Headgear: Fabric with Velcro® straps

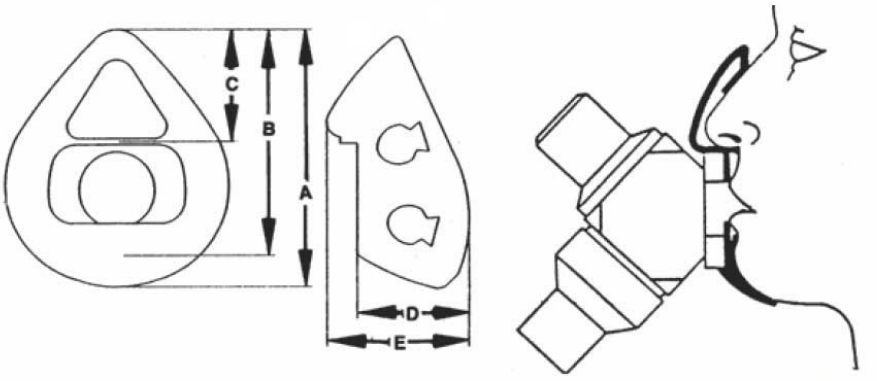
AFT25 Accessories—Masks and Cap

Airflow mask and cap accessories for the AFT25 adult facemask:

- **Masks** do not include T-valve. Available in small, medium, or large. To use, remove the valve and adapter from the original AFT25 mask and then attach them to the T-valve on the new mask via the valve adapter that is part of the AFT25 mask.

  Mask Part Numbers: **RX-AFT25-SMALL, RX-AFT25-MEDIUM, RX-AFT25-LARGE**

MOUTH BREATHING MASK FACE PIECE DIMENSIONS



Part #	Size	A Inch (mm)	B Inch (mm)	C Inch (mm)	D Inch (mm)	E Inch (mm)
RX-AFT25-LARGE	Adult Large	5.3 (134.6)	4.8 (122.7)	2.4 (61.2)	2.0 (50.8)	3.0 (74.9)
RXAFT25-MEDIUM	Adult Medium	4.9 (125.2)	4.5 (113.0)	2.2 (54.6)	2.0 (50.8)	2.7 (67.3)
RX-AFT25-SMALL	Adult Small	4.6 (117.6)	4.2 (117.6)	1.9 (47.5)	2.0 (50.8)	2.6 (66.6)

GUIDELINES FOR MASK FIT:

Adult Large	**Large Adult**
Adult Medium	**Large Adolescent to Medium Adult**
Adult Small	**9 Years to Small Adult**

- **Cap** does not include mask or T-valve. Cap includes cap, straps and clips for the AFT25 mask. Design ensures the mask has a secure fit to the subject's face and head, overcoming the problem of slipping during active or long-term setups, as with exercise physiology or sleep studies. Cap fits all three mask sizes.

  Cap Part Number: **RX-AFT25-CAP**

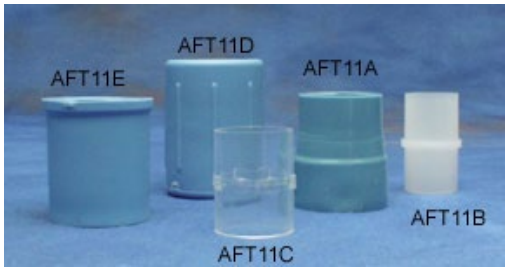
Need a complete facemask with integral non-rebreathing T-valve? See our AFT25 high performance, very low dead space, low airflow resistance mask and valve; suitable for high airflow applications (e.g., exercise physiology).

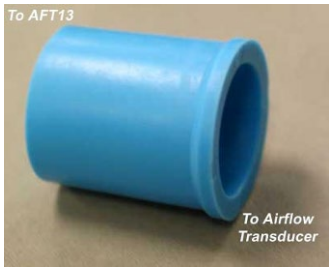
MRI Use: MR Safe (see AFT25 Specifications on previous page for components)

COUPLERS

MRI Use: MR Safe

AFT11 Series Coupler Components: Thermoplastic Rubber, Polyvinyl Chloride (PVC) Plastic, Polycarbonate Clear Plastic, Acrylonitrile Butadiene Styrene (ABS) Thermo-molded, Plastic





AFT11A Flexible **AFT11C** Rigid **AFT11E** Flexible **AFT11H** Flexible
AFT11B Rigid **AFT11D** Flexible **AFT11F** Flexible

These couplers are very useful for connecting a variety of airflow port IDs and ODs to transducers, tubing, and calibration syringes. Pick an AFT11 Series coupler that matches the port sizes to be interfaced.

AFT11 Series Coupler Guides

Coupler	Couples	Interface
AFT11A	25 mm OD/35 mm ID	AFT6A to AFT1
AFT11B	15 mm OD/22 mm ID	AFT10 to SS11LA

AFT11C	22mm OD/22 mm OD	AFT22 to AFT20
AFT11D	35 mm OD/35 mm ID	AFT27 to SS11LB
AFT11E	22 mm OD/35 mm ID	AFT7 to AFT22/25
AFT11F	35 mm OD/45 mm OD	SS52L to GASSYS3 or GASSYS2
AFT11H	35 mm OD/28.6 mm ID	AFT10 to SS11LB

Item 1	Item 2	Coupler
15 mm OD	22 mm ID	AFT11B
20 mm OD	22 mm ID	AFT11B
22 mm ID	15 mm OD	AFT11B
	20 mm OD	AFT11B
22 mm OD	22 mm OD	AFT11C
	25 mm ID	AFT11C
22-25 mm OD	22 mm OD	AFT11E
	25 mm ID	AFT11E
25 mm ID	22 mm OD	AFT11C
	25 mm ID	AFT11C

Item 1	Item 2	Coupler
25-30 mm OD	25-30 mm OD	AFT11A
	28-35 mm ID	AFT11A
28-35 mm ID	25-30 mm OD	AFT11A
	35 mm ID	AFT11A
34-37 mm ID	41-47 mm ID	AFT11F
35 mm ID	28-35 mm ID	AFT11A
	38 mm ID	AFT11E
35-38 mm ID	22-25 mm OD	AFT11E
35-38 mm OD	35-38 mm OD	AFT11D
35 mm OD	28.6 mm OD	AFT11H

Note the AFT11I coupler for connecting the AFT26 2.0 Liter Calibration Syringe to the SS11LA airflow transducer was discontinued in September of 2019. To connect an existing AFT26 syringe to the SS11LA, use the following connections:

AFT26 + AFT11D + AFT11E + AFT11B + SS11LA

AFT301 INLINE COUPLER FOR O_2 SENSOR

This inline coupler has a threaded port to fit the Galvanic Oxygen Sensor (RX301; included in TSD301) and ends that fit 22 mm smooth bore tubing (such as AFT12). The coupler is ideally suited for ventilator testing and interfaces with the patient tubing that connects to the ventilator outlet.

This inline coupler is used to ensure that the O_2 sensor is exposed to full flow in breathing or ventilator circuits, as when the TSD301 is added to the Ventilator Validation Kit (VVK100-SYS) for high-speed oxygen concentration (% Oxygen) measurements—synchronized with flow cycling.

Total length: 76.2 mm Port: M16-1 tapped hole

Ends: 31.75 mm OD Material: Delrin® Acetal Resin

AFT160 COUPLER WITH PRESSURE TAP

The AFT160 15 mm OD, 22 mm ID Pressure Tap coupler mates one connection with a 15 mm OD and a second connection with a 22 mm ID connection along with a 3.175 mm barb that allows the flow through the connection to be tapped for various purposes. This tap may be used to mate directly with any of the TSD160 series pressure transducers for monitoring pressure in an airflow circuit as well as other compatible amplifiers such as the O2100C and CO2100C. It is directly compatible with the Fluke lung.

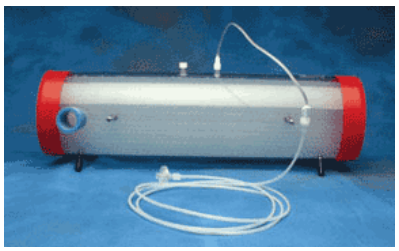
This pressure tap is recommended for use with the TSD160 Series Differential Pressure Transducer and VVK100-SYS Ventilator Validation Kit measurement accessories.

AFT302 TAP INTERFACE FOR AIRFLOW OR HUMIDITY

The AFT302 allows for a tap into a standard 22 mm ID airflow circuit to use a TSD302 temperature transducer or a TSD 304 humidity sensor to modify the values directly within the airflow stream. This tap may be used to measure and properly adjust values to STPD conditions. This unit is recommended for any users who require

STPD corrections using the TSD302 temperature or the TSD304 humidity sensors.

AFT15 MIXING CHAMBERS



AFT15A/B mixing chambers incorporate dual baffles and flexible connection ports capable of interfacing with 35 mm or 22 mm breathing circuits.

Two female Luer connection ports are provided between the baffles for the simultaneous monitoring of O_2 and CO_2 concentrations.

AFT15A shown with AFT20 (not included)

AFT15A — 5 Liter
Use for demanding expired gas analysis measurements (e.g. VO_2 or RER measurements).

Dimensions: 13 cm (dia) x 47 cm (long) Coupling Ports: 35 mm OD, 25 mm ID

AFT15B — 8 Liter
Use for very high volume and rate expired gas analysis measurements (e.g. VO_2 or RER measurements).

Dimensions: 13 cm (dia) x 73 cm (long) Coupling Ports: 35 mm OD, 25 mm ID

MRI Use: MR Conditional to 3T

Condition: Mixing Chambers AFT15 (5 liter) and AFT15B (8 liter) can be placed in chamber room, where gas sampling lines to CO2100C and O2100C are directed through chamber to control room waveguide parts.

AFT15/15B Mixing Chamber Components: Aluminum; Stainless Steel; Nylon plastic; Vinyl; Polypropylene; Low-density polyethylene; Butyrate.

GAS SAMPLING INTERFACE KITS

AFT20

Use to interface the CO2100C and the O2100C modules with the TSD107B or TSD117A/B Airflow Transducer breathing circuits.

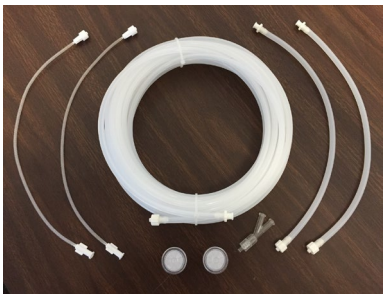
Includes: 1.8 meters of 1.5 mm inner diameter semi-flexible polyethylene tubing with M/F Luer connector; 30 cm Nafion® water vapor permeable tubing with M/F Luer connector; 5 micron filter with M/F Luer connector; M/F Luer to female Luer "Y" connector.

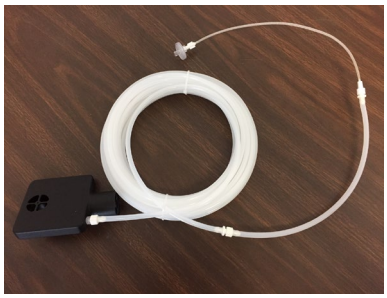
The AFT20 connects the CO2100C or O2100C directly to the sampling port of a mixing chamber. The AFT20 also permits sampling connections to the Non-rebreathing "T" Valves (AFT21 or AFT22).

MRI Use: MR Safe

AFT20 Gas Sampling Kit Components: Tubing: 1.8 m of 1.5 mm diameter polyethylene tubing with M/F Luer; Tubing: 30 cm Nafion® water vapor permeable tubing with M/F Luer connector; Y-connector: Acrylonitrile butadiene styrene (ABS) polycarbonate

AFT31-MRI





(L) AFT31-MRI components – (R) connected to AFT35-MRI mouthpiece

This 3.175 mm ID tubing is 10 meters long with male and female Luer locks for direct connection with the AFT35-MRI T-valve gas sampling port, CO2100C module, and/or O2100C module. To use both CO2100C and O2100C modules simultaneously, a "Y" connector gas sampling interface adapter is included, along with two Nafion® Drying Tubes and two 17 mm 45 micron Hydrophobic Filters to prevent moisture buildup.

Notes:

- The 3.175 mm polyethylene plastic tubing can be cleaned with isopropyl alcohol. Isopropyl alcohol is not recommended for sterilization.
- Hydrophobic filters and Nafion® Drying Tubes are used to keep gas samples clean and dry as they enter the sensing chambers of oxygen and carbon dioxide modules. Nafion® tubing should be replaced when tubing becomes discolored, and filters should be replaced monthly.
    - Replacement Drying Tubes and Hydrophobic Filters are available in packs of 10. When reordering, request RX-AFT20-NAFION and RX-AFT20-FILTER.
- Humidity effects of tubing, filters, and module setup are discussed in the O2100C-CO2100C spec sheet for Gas Concentration Measurement Modules.

MRI Use: MR Safe

AFT31-MRI Gas Sampling Kit Components: Polyethylene, Polyvinyl Chloride Plastic, Polycarbonate Clear Plastic, Nafion® water vapor permeable tubing, hydrophobic filter

ID/OD: 3.175 mm (1/8") / 6.35 mm (1/4")
Maximum Pressure: 358 psi @ 21° C
Operating Temperature Range: -73° to +79° C
"Y" connector: 1 x male to 2 x female
Length: 10 m
Type: Crack-Resistant Polyethylene Tubing
Material: Linear Low Density Polyethylene
Wall Thickness: 1.588 mm (1/16")
Bend Radius: 51 mm (2")
Durometer: 95A (Firm)

AFT T-VALVES

AFT21 Non-Rebreathing "T" Valve: Female, 35 mm

High performance, very low dead space, low airflow resistance valve, suitable for high airflow applications (e.g. exercise physiology). The non-rebreathing "T" valve incorporates a Female Luer connector gas sampling port for interfacing with the AFT20. All ports are 35 mm OD, 30 mm ID.

Includes: 35 mm OD coupler

Requires: AFT4, AFT7, and AFT9 for proper operation.

AFT22 (top left), **AFT21** (top right)
AFT20 (bottom)

AFT22 Non-Rebreathing "T" Valve: Male, 22 mm

Very low dead space valve, suitable for low to medium airflow applications. The non-rebreathing "T" valve incorporates a Male Luer connector gas sampling port for interfacing with the AFT20. Coupler ports are 22 mm OD fittings. Common port incorporates a 15 mm ID connection. Dead space 20 cc. Resistance: 0.29 cmH_2O at 5 liter per minute flow, 0.65 cmH_2O at 10 liter per minute. Single subject disposable item **– do not autoclave**. Includes: 22 mm OD coupler

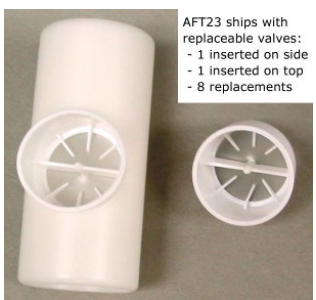
Requires: AFT1 and AFT2 for proper operation.

Includes: 22 mm OD coupler *Requires*: AFT1 and AFT2 for proper operation.

MRI Use: MR Safe

AFT21/22 T-Valve Components: Acrylic Plastic, Elasotomer, Polycarbonate Clear Plastic

AFT23 Non-Rebreathing T-Valve, 35 mm



The AFT23 is a disposable paper mouthpiece featuring a one-way valve for pulmonary function measurements (expiratory only). It provides low air resistance, adds cross-contamination protection, and is strong and durable. It ships with eight extra valves. Mouthpiece OD: 35 mm. Fits AFT1 + AFT2 pulmonary function filter & mouthpiece set.

MRI Use: MR Safe

AFT23 T-Valve Components: Acrylic Plastic, Elasotomer, Paper

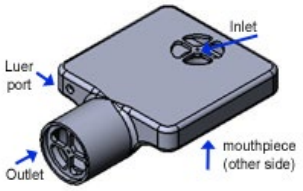
AFT35-MRI

The AFT35-MRI is a low-profile mouthpiece and non-rebreathing T-valve assembly specifically designed to fit inside an fMRI head coil.

NOTE: Although fit is fine with 32 channel head coils, a shortening (cut via snips) of the flexible snorkel mouthpiece may be required to encourage a better fit for 20 and 64 channel head coils.

Use the AFT35-MRI to perform the following airflow and lung volume tests:

- End Tidal CO_2
- VO_2 max
- Breath-by-breath Air Flow
- Breath-by-breath Volume
- Metabolic Studies



The assembly includes a female Luer lock connection for direct connection to AFT31-MRI gas sampling tubing for CO_2 and O_2 gas analysis. The Luer port has a removable male Luer sealing cap for when gas sampling is not used.
The AFT35-MRI also interfaces with AFT7/7-L tubing, via the AFT11A coupler, for operation with the TSD117A-MRI ±300 L/min airflow transducer. Extra mouthpiece included.

For the AFT31-MRI, 3.175 mm ID tubing at 10 meters, the gas sensing delay will be approximately 47.1 seconds, assuming 100 ml/min total gas sampling flow rate. This delay includes 0.6 seconds additional, due to gas module internal sampling and 30 cm NAFION tubing.

Low clearance – only 25 mm between subject and coil

Dimensions: 25 mm breathing port height (excluding mouthpiece) x 35 mm outlet port diameter x 83 mm wide x 115 mm long

Deadspace: 88 ml

Sterilization: Cidex® / Cidex OPA® recommended

RX-AFT35-MOUTH

The RX-AFT35-MOUTH is a low profile liquid silicone mouthpiece replacement for the AFT35-MRI non-rebreathing T-valve assembly.

MRI Use: MR Safe

AFT35-MRI Sample Setups

Perform a variety of tests. Place transducer outside the bore in the MRI Chamber Room and run tubing to connect to the subject and breathing accessories; place amp in Control Room.

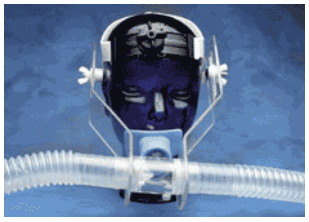
- **End Tidal CO_2:** CO2100C amp + AFT31-MRI tubing + AFT35-MRI airflow interface
- **Airflow & Lung Volume:** DA100C amp + MECMRI-DA cable/filter set + TSD117A-MRI transducer + AFT1 filter + AFT7L tubing + AFT11A coupler +AFT35-MRI
- **Airflow & Lung Volume with End Tidal CO_2:** DA100C + MECMRI-DA + TSD117A-MRI + AFT1 filter + AFT7L tubing + AFT11A + AFT35-MRI + AFT31-MRI + CO2100C

- **Metabolic:** DA100C + MECMRI-DA + TSD117A-MRI + AFT1 filter + 2 x AFT11A + 2 x AFT7L + AFT35-MRI + AFT31-MRI + AFT15A/B + CO2100C and/or O2100C

MRI Use: MR Safe

AFT35-MRI Components: Polyvinyl Chloride (PVC) plastic, Polyethylene EVA Copolymer, Thermoplastic Rubber, Polycarbonate Plastic, Acrylic Plastic, Elasotomer, Paper, Latex Rubber, Polyurethane Foam Plastic, Acrylonitrile Butadiene Styrene (ABS) Thermo-molded

AFT24 Head Support



The AFT24 head support is used when breathing directly into the AFT21 non-rebreathing T valve for exercise physiology measurements. The AFT21 is secured directly in front of the subject and minimizes the strain associated with the weight of valves and tubing.

TUBING FOR GAS SAMPLING

AFT30 Series Tubing and M/F Luer Locks

Use this semi-flexible 1.5 mm tubing with male and female Luer locks to interface with the RX110 self-inflating pressure pad, TSD114 response/hand force pump bulb, or gas sampling ports on AFT15 mixing chambers, CO2100C module, or O2100C module. *See AFT31-MRI for gas sampling in the MRI.*

Assuming a gas sampling module (CO2100C/O2100C) flow rate of 100 ml/min, the following approximate delays will be introduced as a function of tubing length:

AFT30: 1.8 m length, 1.5 mm ID – 2.5 seconds*

AFT30-L: 4 m length, 1.5 mm ID – 4.8 seconds*

AFT30-XL: 10 m length, 1.5 mm ID – 11.1 seconds*

*These delays include 0.6 seconds additional – due to gas sampling module internal tubing and 30 cm NAFION tubing.

MRI Use: MR Safe

AFT30 Series Gas Sampling Kit Components: 1.5 mm diameter polyethylene tubing with M/F Luer

Part Summary for Typical Airflow / Gas Analysis Applications

Pulmonary Function

Part #	High Flow *Exercising human*	Med. Flow *Resting human*	Low Flow *Child, Pig, Dog*	Very Low Flow *Small Animals*
AFT2 Mouthpiece		X		
AFT3 Noseclip	X	X		
AFT6A Calibration Syringe	X	X	X	
AFT7/7L Tubing	X (2)			
AFT9 Mouthpiece	X			
AFT21 T Valve	X			
AFT24 Head Support	X (optional)			
AFT36 Mouthpiece	X			
AC137 In-line Transformer				
DA100C Amplifier	X (2)	X	X	X
TSD107B Pneumotach (High)	X (2)			X
TSD117A, TSD117B Pneumotach (Med.)		X		
TSD127 Pneumotach (Low)			X	
TSD137 A-E Pneumotachs (Very Low)				X (by size)

Part Options: AFT25 = AFT21 + AFT9 + AFT3 + optional AFT24
AFT2 + AFT3 = AFT0 + AFT11B

Exercise Physiology

Part #	Mixed Expiratory Gases		Breath-by-Breath		
	High Flow *Exercising human*	Med. Flow *Resting human*	High Flow *Exercising human*	Med. Flow *Resting human*	Low Flow *Dog*
AFT6A Calibration Syringe	X	X	X	X	X
AFT7 Tubing	X (2)		X		
AFT10 Facemask		X		X	
AFT10S Head Strap		X		X	
AFT11 Series Couplers		X (3)*		X	X (2)**
AFT12 Tubing		X (2)		X	
AFT15A Mixing Chamber	X	X			
AFT20 Interface Kit	X (2)	X (2)	X (2)	X	X (2)
AFT22 T Valve		X		X	X
AFT25 Facemask w/Valve	X		X		
DA100C Amplifier	X	X	X	X	X
CO2100C CO_2 Module	X	X	X	X	X
O2100C O_2 Module	X	X	X	X	X
TSD107B Pneumotach (High)	X		X		
TSD117A/TSD117B Pneumotach (Med.)		X		X	
TSD127 Pneumotach (Low)					X

Part Options: AFT25 = AFT21 + AFT9 + AFT3 + optional AFT24
AFT10 + AFT10S = AFT2 + AFT3 + AFT11C

* use 2 AFT11B and 1 AFT11C
** use 1 AFT11B and 1 AFT11C

See also: AFT coupler guide for additional applications.

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AFT Series Cleaning & Disinfection

All AFT components, with the exception of filters, will hold up to liquid and gas sterilization as specified in this document.

The following disinfectants are recommended for LIQUID "COLD" sterilization of BIOPAC transducers:

- **Cidex® / Cidex® OPA** Disinfectant Solution, Johnson & Johnson
- **Perform®** Powder Disinfectant Concentrate, Schülke & Mayr
- **Terralin®**, Liquid Disinfectant Concentrate, Schülke & Mayr

> Always follow the manufacturer's directions.

Recommended gas-based method:

- Low temperature, **Ethylene Oxide (EtO)** gas sterilization

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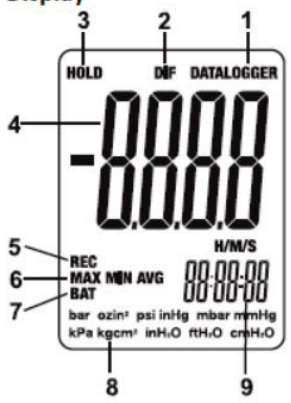
AFTCAL-160 Technical Info and Specifications

Display



1. USB data output active
2. Differential Pressure Mode
3. Data Hold Mode
4. Primary display
5. Record Mode
6. MAX/MIN/AVG indicators
7. Low Battery Indicator
8. Pressure unit of measure
9. Elapsed Timer

Meter Description

1. P1 input
2. AC adaptor jack
3. P2 Input
4. LCD Display – Indicates the measurement data, unit of measure, elapsed timer, and function symbols as described in this manual
5. USB PC interface jack (3.5mm) – For use with data acquisition software
6. UNIT button – Press to select the unit of measure
7. DIF button– Press to display differential pressure. Also used to OFFSET the displayed readings.
8. RECORD button– Press to access the MIN/MAX/AVG recording mode
9. HOLD / ZERO button– Press to freeze the displayed reading. Also used to zero the display (press and hold until display shows all zeroes).
10. BACKLIGHT button – Press to switch the display backlight ON. The backlight will automatically turn OFF after 40 seconds.
11. POWER button – Press to turn the meter ON or OFF
12. Battery compartment (on rear)

Specifications	Range	Resolution	Basic Accuracy
inH_2O	55.40 inH_2O	0.01 inH_2O	±0.3 FS
psi	2 psi	0.001 psi	±0.3 FS
mbar	137.8 mbar	0.1 mbar	±0.3 FS
kPa	13.78 kPa	0.01 kPa	±0.3 FS
inHg	4.072 inHg	0.001 inHg	±0.3 FS
mmHg	103.4 mmHg	0.1 mmHg	±0.3 FS
$Ozin^2$	32 $ozin^2$	0.01 $ozin^2$	±0.3 FS
ftH_20	4.616 ftH_20	0.001 ftH_20	±0.3 FS
cmH_2O	140 cmH_2O	0.1 cmH_2O	±0.3 FS
$Kgcm_2$	0.140 $kgcm_2$	0.001 $kgcm_2$	±0.3 FS
bar	0.137 bar	0.001 bar	±0.3 FS
Dimensions/Weight	210 mm x 75 mm x 50 mm (8.2” x 9” x 1.9”), 280 g (9.8 oz)		