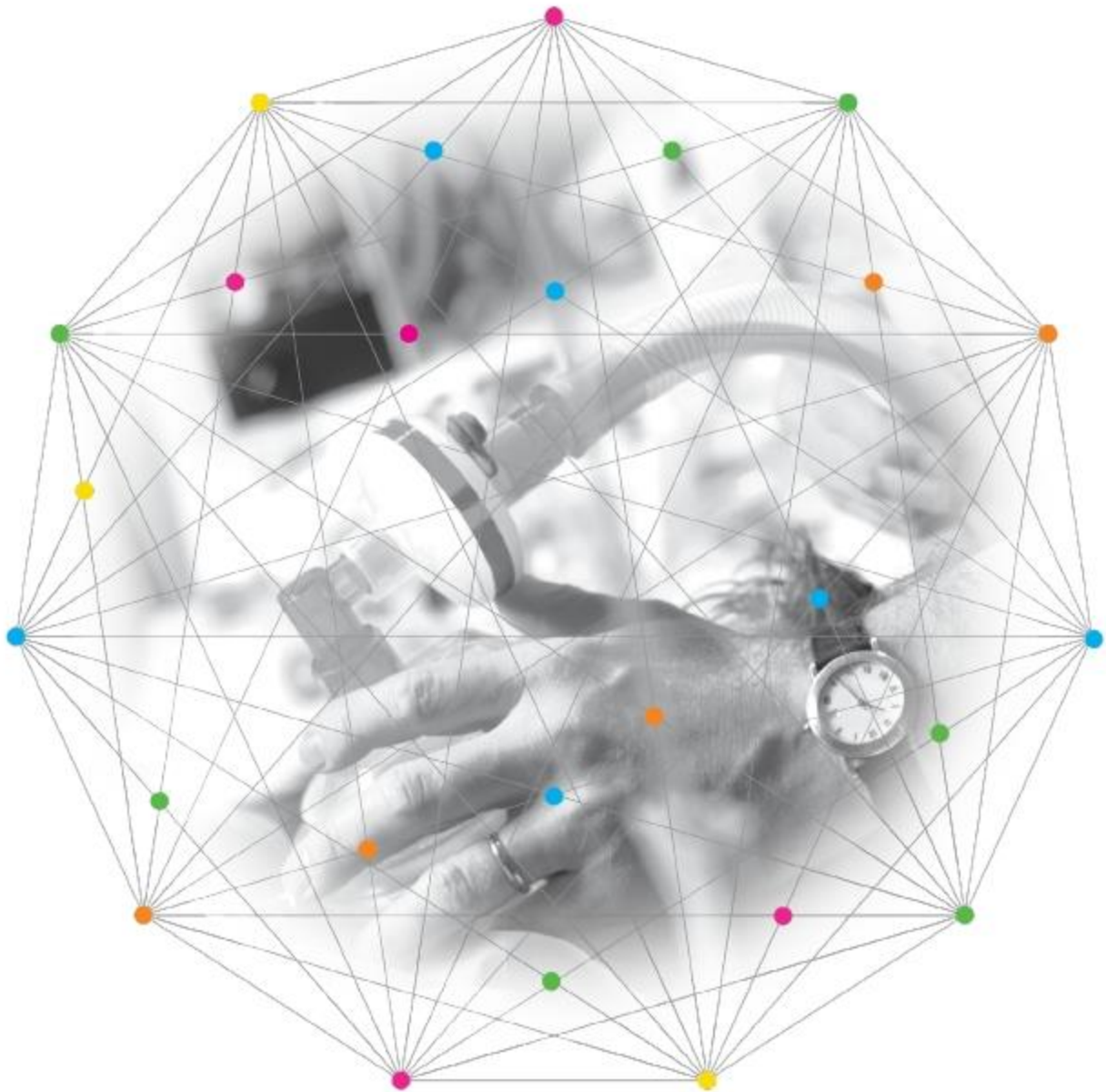


CERTIFIER® FA VENTILATOR TEST SYSTEMS

FOR GAS FLOW ANALYSIS



UNDERSTANDING, ACCELERATED

IDEAL FOR HOSPITAL, HOME-CARE, FIELD SERVICE, LABORATORY AND MANUFACTURING

CERTIFIER® FA PLUS VENTILATOR TEST SYSTEM

Certifier® FA Plus is the full-feature system capable of testing virtually all models of ventilators: adult, pediatric, anesthesia, neonatal and high-frequency.

Highlights

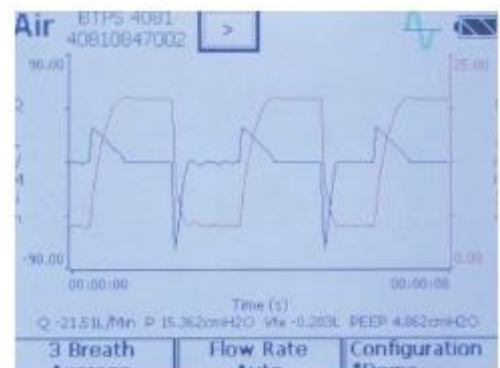
- + Color touch screen graphical user interface
- + Real-time graphing mode
- + Bi-directional flow measurement
- + Data storage using SD Flash card and internal memory
- + Stored data accessible through USB interface
- + Report printing capability
- + Rechargeable battery plus AC operation

Test Parameters

- + Flow
- + Peak & Minimum Flow
- + Volume (Inhaled and Exhaled)
- + Minute Volume
- + Low Pressure (Differential)
- + Peak & PEEP Pressure
- + Mean Airway Pressure
- + High Pressure
- + Barometric Pressure
- + Inspiratory Time
- + Expiratory Time
- + I:E Ratio
- + Respiratory Rate
- + Gas Temperature
- + Oxygen Concentration (with optional 4073 Kit)



Displays up to 18 test parameters



Graph up to 2 test parameters

Features	Certifier FA Plus
Gas Calibrations	Air, O ₂ , Air/O ₂ mixtures, N ₂ , CO ₂ , N ₂ O
Flow Direction	Bi-Directional
Flow & Volume Modes	STP, ATP, BTPS, BTPD, plus user-defined
Temperature & Pressure Compensated	Yes
Max Breath Rate	1500 BPM
High Frequency Ventilators	Yes
High Pressure	-10 to 150 PSI (-.7 to 10 bar) Gauge
Low Pressure	-25 to 150 cm H ₂ O Differential
Barometric Pressure	7 to 25 PSIA (500 to 1700 mbar)
Display	Color-Graphic Touch Screen
Batteries	Li-Ion Rechargeable Battery Pack
AC Adapter	Yes
Internal Memory	1 MB
SD Flash Card	Included
Computer Interface	USB
Printing	USB

CERTIFIER FA VENTILATOR TEST SYSTEM

Certifier FA is a low-cost test system capable of testing multiple parameters of ventilator performance.

Highlights

- + Simple, easy to read, user interface
- + Backlit LCD display
- + Entire kit weighs less than 3 lbs (1.4 Kg)
- + Volumes and flow in BTPS, ATP, or STP

Test Parameters

- + Flow
- + Peak Flow
- + Volume
- + Stacked Volume
- + Minute Volume
- + Low Pressure
- + Peak & PEEP Pressure
- + Barometric Pressure
- + Inspiratory Time
- + I:E Ratio
- + Respiratory Rate
- + Oxygen Concentration
(with optional 4073 Kit)



Features	Certifier FA
Gas Calibrations	Air, O ₂ , Air/O ₂ mixtures, N ₂ O
Flow Direction	Uni-Directional
Flow & Volume Modes	STP, ATP, BTPS
Temperature & Pressure Compensated	Yes
Max Breath Rate	120 BPM
High Frequency Ventilators	—
High Pressure	—
Low Pressure	-25 to 150 cm H ₂ O Gauge
Barometric Pressure	7 to 30 PSIA (500 to 2000 mbar)
Display	Fixed Segment LCD
Batteries	4-AA Alkaline Batteries
AC Adapter	—
Internal Memory	—
SD Flash Card	—
Computer Interface	—
Printing	—



Displays 2 test parameters



4080 High-flow test system with
4082 Low-flow kit (sold separately)

Certifier FA Plus

	Gas/Mode	Range	Accuracy**
Flow—High Flow	Air, O ₂	-200 to +300 slpm*	±2% or ±0.075 slpm
	Air/O ₂ Mixtures	0 to 300 slpm	±4% or ±0.1 slpm
	N ₂	-200 to +300 slpm	±3% or ±0.1 slpm
	CO ₂	-40 to +40 slpm	±3% or ±0.1 slpm
Flow—Low Flow	Air, O ₂	0.01 to 20 slpm	±2% or ±0.01 slpm
	N ₂ , CO ₂	0.01 to 20 slpm	±3% or ±0.01 slpm
	N ₂ O	0.01 to 20 slpm	±4% or ±0.025 slpm
Volume-High Flow-Inhaled	Air, O ₂	0.01 to 10 liters STP	±2% Plus 0.02 liters
	Air/O ₂ Mixtures	0.01 to 10 liters STP	±4% Plus 0.02 liters
Volume-High Flow-Exhaled	Air, O ₂	0.01 to 10 liters STP	±3% Plus 0.03 liters
	Air/O ₂ Mixtures	0.01 to 10 liters STP	±4% Plus 0.04 liters
Volume-Low Flow-Inhaled	Air, O ₂	0.01 to 10 liters STP	±2% or ±0.01 liters
	N ₂ O	0.01 to 10 liters STP	±4% or ±0.01 liters
Minute Volume-High Flow	—	0.01 to 100 liters STP	±3%
Minute Volume-Low Flow	—	0 to 10 liters STP	±3%
Respiratory Times	Ti, Tip, Te	0.04 to 30 seconds	±2% or ±0.01 seconds
I:E Ratios	I:E, I:Eip	1:100 to 100:1	±4%
Respiratory Rate	f	1 to 1500 breaths per minute	±2% or 0.1 bpm
Low Pressure	All	-25 to +150 cm H ₂ O	±0.5% or ±0.15 cm H ₂ O
High Pressure	—	-10 to +150 PSI (-0.7 to 10 bar)	±1% or 0.1 PSI (7 mbar)
Barometric Pressure	—	7 to 23 PSI (500 to 1600 mbar)	±0.16 PSI (11 mbar)
Oxygen Concentration	—	21% to 100%	2% of concentration

*slpm = Standard Liters per Minute.
**Accuracy stated as a percent of reading at TSI standard gas conditions.
See operators manual for more complete specifications

TSI and the TSI Logo are registered trademarks of TSI Incorporated.



TSI Incorporated - Visit our website www.tsi.com for more information.



4070 High-flow test system with
4073 Oxygen sensor kit (sold separately)

Certifier FA

	Gas	Range	Accuracy**
Flow—High Flow Module	Air, O ₂	0 to 300 slpm*	±2% or ±0.075 slpm
	Air/O ₂ Mixtures	0 to 300 slpm	±4% or ±0.1 slpm
Flow—Low Flow Module	Air, O ₂	0.01 to 15 slpm	±2% or ±0.01 slpm
	N ₂ O	0.01 to 15 slpm	±4% or ±0.025 slpm
Volume-High Flow-Inhaled	Air, O ₂	0.01 to 10 liters STP	±2% Plus 0.02 liters
	Air/O ₂ Mixtures	0.01 to 10 liters STP	±4% Plus 0.02 liters
Volume-Low Flow-Inhaled	Air, O ₂	0.01 to 9.999 liters STP	±2% or ±0.01 liters
	N ₂ O	0.01 to 10 liters STP	±4% or ±0.01 liters
Minute Volume-High Flow	—	0.01 to 99 liters STP	±7%
Minute Volume-Low Flow	—	0 to 9.999 liters STP	±7%
Inspiratory Time	—	0.25 to 60 seconds	±0.01 seconds
I:E Ratio—High Flow	—	1:100 to 100:1	±5%
I:E Ratio—Low Flow	—	1:15 to 15:1	±5%
Respiratory Rate	—	0.5 to 120 breaths per minute	±5%
Low Pressure	—	-25 to +150 cm H ₂ O	±0.75% or ±0.2 cm H ₂ O
Barometric Pressure	—	7 to 29 PSI (500 to 2000 mbar)	±0.16 PSI (11 mbar)
Oxygen Concentration	—	21% to 100%	2% of concentration

TO ORDER — CERTIFIER FA PLUS

Model	Description
4080	High-Flow Standard Kit

Optional Modules and Accessories

Model	Description
4073	Oxygen Sensor Kit
4082	Low-Flow Module

Part #	Description
1208061	Extra battery pack and charger kit
1303860	Printer cable

TO ORDER — CERTIFIER FA

Model	Description
4070	High-Flow Standard Kit

Optional Modules and Accessories

Model	Description
4073	Oxygen Sensor Kit
4072	Low-Flow Module

Part #	Description
1319288	Hard shell carrying case

