



Certifier® FA Plus Ventilator Test System for Gas Flow Analysis

TSI, a worldwide leader in air and gas flow measurement technology, introduces the new Certifier FA Plus ventilator test system. TSI continues to add new capabilities to the Certifier family for all your ventilator testing needs. It now supports adult, pediatric, anesthesia, neonatal and high frequency ventilators.



Certifier FA Plus Ventilator Test System

Highlights include:

- Color touch screen graphical user interface
- Graph mode
- Supports adult, pediatric, anesthesia, neonatal and high frequency ventilators
- Bi-directional and unidirectional gas flow capabilities
- Rates up to 1500 BPM
- Print and data storage - 1MB of internal storage and 64 MB optional SD flash card
- Volumes and flow in BTPS, BTPD, Actual, Standard, or user defined conditions
- Calibrations for air, oxygen, air/oxygen mixture, nitrogen, nitrous oxide (low flow module only), and carbon dioxide
- Battery and AC operation

The new Certifier FA Plus Ventilator Test System is:

- **Affordable**—Lowest priced full function ventilator tester on the market
- **Lightweight**—Only 1.5lbs
- **High Performance**—Similar or better than any other ventilator tester on the market



Preliminary Specifications

Certifier FA Plus Ventilator Test Systems

Flow, Peak Flow, and Minimum Flow Rate

High Flow Module (4081)

Air and O ₂	0 to 300 standard L/min; accuracy $\pm 2\%$ of reading or ± 0.075 standard L/min, whichever is greater
N ₂	0 to 300 standard L/min; accuracy $\pm 3\%$ of reading or ± 0.075 standard L/min, whichever is greater
CO ₂	0 to 40 standard L/min; accuracy $\pm 3\%$ of reading or ± 0.075 standard L/min, whichever is greater
Air/O ₂ Mix	0 to 300 standard L/min; accuracy $\pm 4\%$ of reading or ± 0.100 standard L/min, whichever is greater

Low Flow Module (4082)

Air and O ₂	0 to 20 standard L/min; accuracy $\pm 2\%$ of reading or ± 0.010 standard L/min, whichever is greater
N ₂ and CO ₂	0 to 20 standard L/min; accuracy $\pm 3\%$ of reading or ± 0.010 standard L/min, whichever is greater
N ₂ O	0 to 20 standard L/min; accuracy $\pm 4\%$ of reading or ± 0.025 standard L/min, whichever is greater

Tidal Volume

High Flow Air or O ₂	0 to 10 L; $\pm 2\%$ of reading plus 0.010 L
High Flow N ₂ or CO ₂	0 to 10 L; $\pm 2\%$ of reading plus 0.010 L
High Flow Air/O ₂ Mix	0 to 10 L; $\pm 4\%$ of reading plus 0.010 L
Low Flow Air or O ₂	0 to 10 L; $\pm 2\%$ of reading or ± 0.010 L, whichever is greater
Low Flow N ₂ O	0 to 10 L; $\pm 4\%$ of reading or ± 0.010 L, whichever is greater
Low Flow N ₂ or CO ₂	0 to 10 L; $\pm 3\%$ of reading or ± 0.010 L, whichever is greater
Minute Volume	0 to 99 L; $\pm 5\%$ of reading plus 0.010 L

Low Pressure, Peak Inspiratory Pressure, PEEP Pressure, Mean Airway Pressure, Minimum Pressure, and Delta Pressure

High Flow Module	-25 to 150 cm H ₂ O (-18.4 to 110 mmHg); $\pm 0.5\%$ of reading or ± 0.15 cm H ₂ O (0.15 mm Hg)
Low Flow Module	Not applicable.

High Pressure

High Flow Module	-10 to 150 PSI (-0.7 to 10 bar); $\pm 1\%$ of reading or 0.1 PSI (7mbar)
Low Flow Module	Not applicable.

Barometric Pressure

375 to 1200 mm Hg ± 8 mm Hg

Timing

Respiratory Rate	1 to 1500 BPM; $\pm 2\%$ of reading or 0.1 BPM, whichever is greater
Inspiratory Time, Inspiratory Pause, Expiratory Time	0.04 to 30 seconds; ± 0.01 seconds or 2% whichever is greater
I:E Ratio	1:1000 to 100.0:1; $\pm 4\%$ typical

Other Measurements

Oxygen	0 to 100% O ₂ ; $\pm 2\%$ O ₂ at calibration conditions
Temperature	10°C to 40°C; $\pm 1^\circ\text{C}$ for flows greater than 2 L/min

Power

AC Adapter and lithium ion battery pack

Ordering Information

Model	Description
4080	High Flow Standard Kit; Includes High flow module, interface module, AC adapter, bacteria filter, pressure tubing and adapters, operator's manual, National Laboratory traceable Certificate of Calibration and soft-sided carrying case.

Optional Modules and Accessories

Model	Description
4073	Oxygen Sensor Kit; oxygen sensor, threaded tee, 8-inch cable; use with High Flow Module to measure oxygen concentration and other measurements for any mixture of air and O ₂ .
4082	Low Flow Module; measures flow of air, oxygen, nitrogen, nitrous oxide or carbon dioxide.
PartNumber	Description
1208061	Extra battery pack and charger kit
1303860	Printer cable
1303754	Computer cable

Specifications are subject to change without notice.

The Certifier FA Plus ventilator test system is not a medical device under FDA 510(K) and should not be used for human measurements nor be used while the equipment under test is being used on a patient.

Additional information is available in the Operator's Manual, on the internet at www.tsi.com, or contact TSI directly.



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