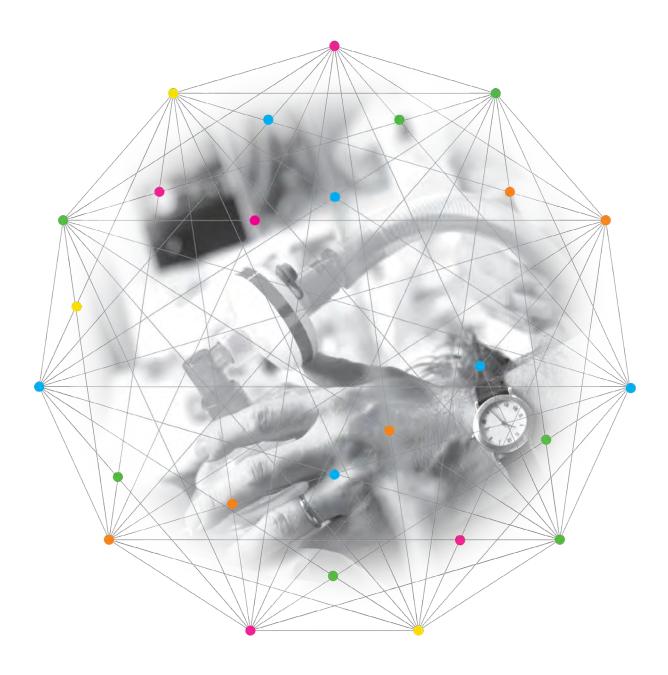
CERTIFIER® FA VENTILATOR TEST SYSTEMS

FOR GAS FLOW ANALYSIS





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

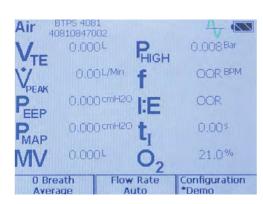
 AC operation

Test Parameters

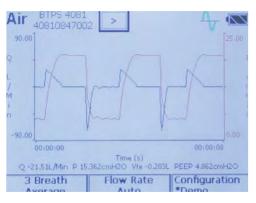
- + Flow
- + Peak & Minimum Flow
- + Volume (Inhaled and Exhaled)
- + Minute Volume
- + Low Pressure (Differential)
- + Peak & PEEP Pressure
- + Mean Airway Pressure
- + High Pressure
- + Barometric Pressure
- + Inspiratory Time
- + Expiratory Time
- + I:E Ratio
- + Respiratory Rate
- + Gas Temperature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

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 H₂0 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	





Displays up to 18 test parameters



Graph up to 2 test parameters

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)

	(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 0 Gauge
Barometric Pressure	7 to 30 PSIA (500 to 2000 mbar)
Display	Fixed Segment LCD
Batteries	4-AA Alkaline Batteries
AC Adapter	-
Internal Memory	-
	1





SD Flash Card
Computer Interface

Printing





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

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

Cartifiar FA Plus

Certiner FA Pi	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 0	±0.5% or ±0.15 cm H ₂ 0			
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

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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 0	±0.75% or ±0.2 cm H ₂ 0
Barometric Pressure	-	7 to 29 PSI (500 to 2000 mbar)	±0.16 PSI (11 mbar)

21% to 100%

2% of concentration

TO ORDER — CERTIFIER FA PLUS Model Description 4080 High-Flow Standard Kit

Oxygen Concentration

Optional Modules and Accessories

Model Description

4073 4082 Oxygen Sensor Kit Low-Flow Module

Part #

Description Extra battery pack and charger kit 1208061

1303860 Printer cable

TO ORDER - CERTIFIER FA

Model

Description High-Flow Standard Kit 4070

Optional Modules and AccessoriesModelDescription4073Oxygen Sensor Kit4072Low-Flow Module

Part # Description

1319288 Hard shell carrying case

^{**}Accuracy stated as a percent of reading at TSI standard gas conditions.

See operators manual for more complete specifications