

Архангельск (8182)63-90-72  
Астана (7172)727-132  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89  
Иваново (4932)77-34-06

Ижевск (3412)26-03-58  
Иркутск (395)279-98-46  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Липецк (4742)52-20-81  
Киргизия (996)312-96-26-47

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Казахстан (772)734-952-31

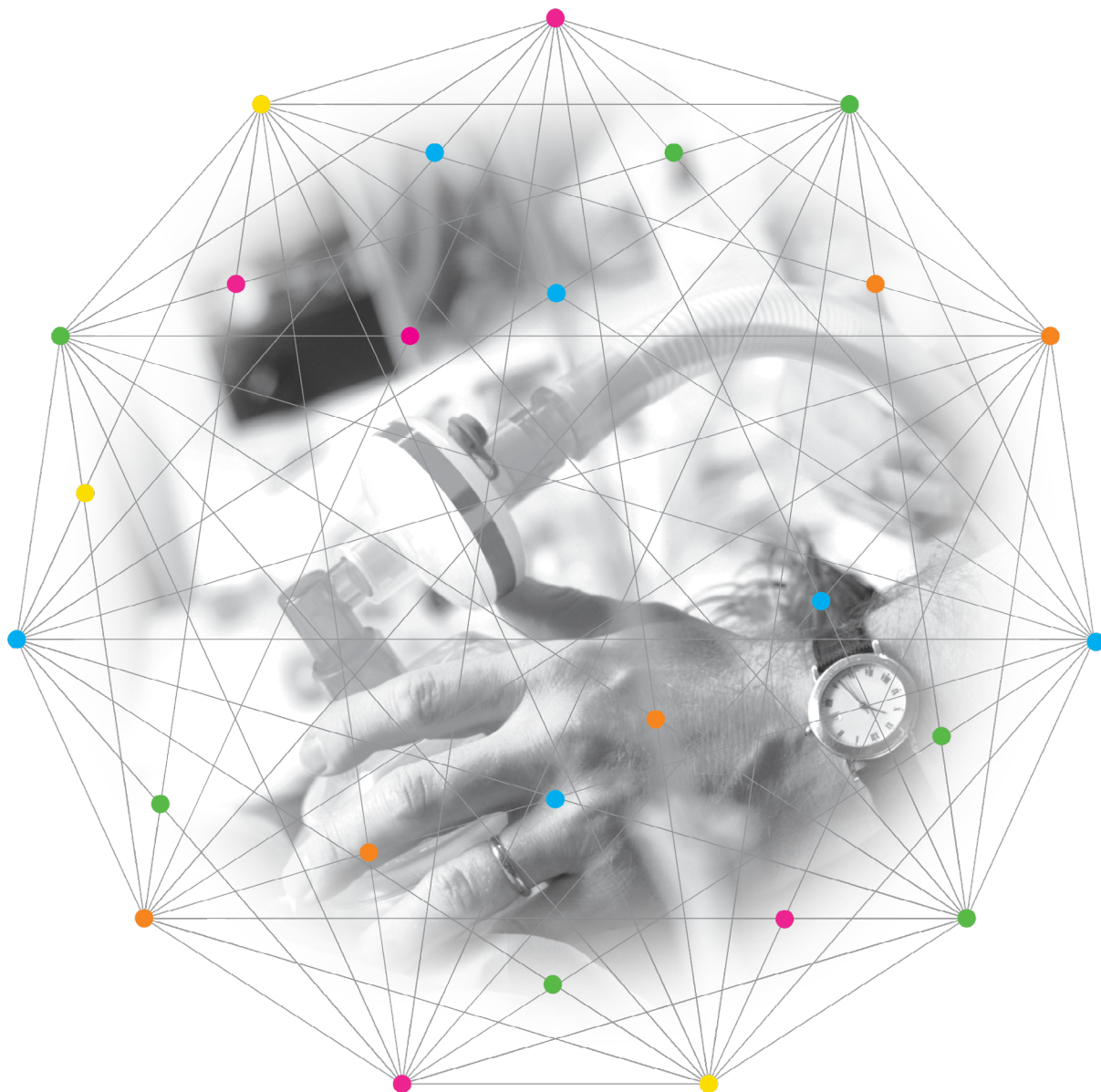
Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Таджикистан (992)427-82-92-69

Сургут (3462)77-98-35  
Тверь (4822)63-31-35  
Томск (3822)98-41-53  
Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93

<https://tsi.nt-rt.ru> || [tfs@nt-rt.ru](mailto:tfs@nt-rt.ru)

# 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

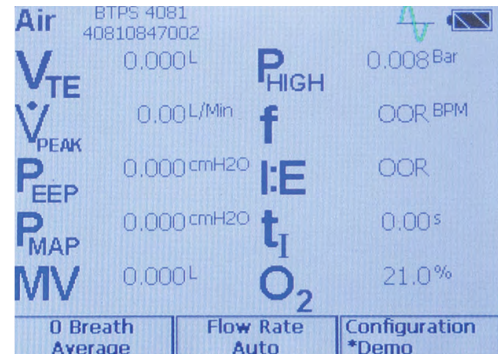
- + Color touch screen graphical user interface
- + Real-time graphing mode
- + Bi-directional flow measurement
- + Data storage using SD Flash card and internal memory
- + Stored data accessible through USB interface
- + Report printing capability
- + Rechargeable battery plus AC operation

### 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 <sub>2</sub> , Air/O <sub>2</sub> mixtures, N <sub>2</sub> , CO <sub>2</sub> , N <sub>2</sub> 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 <sub>2</sub> 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



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

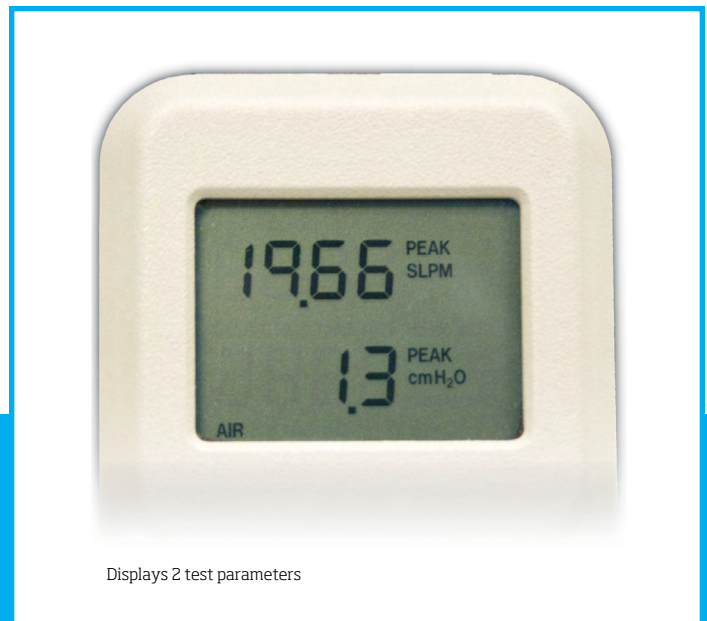
- + Simple, easy to read, user interface
- + Backlit LCD display
- + Entire kit weighs less than 3 lbs (1.4 Kg)
- + Volumes and flow in BTPS, ATP, or STP

## 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)



Features	Certifier FA
Gas Calibrations	Air, O <sub>2</sub> , Air/O <sub>2</sub> mixtures, N <sub>2</sub> 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 <sub>2</sub> 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



## Certifier FA Plus

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

	Gas/Mode	Range	Accuracy**
Flow-High Flow	Air, O <sub>2</sub>	-200 to +300 slpm*	±2% or ±0.075 slpm
	Air/O <sub>2</sub> Mixtures	0 to 300 slpm	±4% or ±0.1 slpm
	N <sub>2</sub>	-200 to +300 slpm	±3% or ±0.1 slpm
	CO <sub>2</sub>	-40 to +40 slpm	±3% or ±0.1 slpm
Flow-Low Flow	Air, O <sub>2</sub>	0.01 to 20 slpm	±2% or ±0.01 slpm
	N <sub>2</sub> , CO <sub>2</sub>	0.01 to 20 slpm	±3% or ±0.01 slpm
	N <sub>2</sub> O	0.01 to 20 slpm	±4% or ±0.025 slpm
Volume-High Flow-Inhaled	Air, O <sub>2</sub>	0.01 to 10 liters STP	±2% Plus 0.02 liters
	Air/O <sub>2</sub> Mixtures	0.01 to 10 liters STP	±4% Plus 0.02 liters
Volume-High Flow-Exhaled	Air, O <sub>2</sub>	0.01 to 10 liters STP	±3% Plus 0.03 liters
	Air/O <sub>2</sub> Mixtures	0.01 to 10 liters STP	±4% Plus 0.04 liters
Volume-Low Flow-Inhaled	Air, O <sub>2</sub>	0.01 to 10 liters STP	±2% or ±0.01 liters
	N <sub>2</sub> 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 <sub>2</sub> O	±0.5% or ±0.15 cm H <sub>2</sub> 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.

Архангельск (8182)63-90-72  
Астана (7172)727-132  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89  
Иваново (4932)77-34-06

Ижевск (3412)26-03-58  
Иркутск (395)279-98-46  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Липецк (4742)52-20-81  
Киргизия (996)312-96-26-47

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Казахстан (772)734-952-31

Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Таджикистан (992)427-82-92-69

Сургут (3462)77-98-35  
Тверь (4822)63-31-35  
Томск (3822)98-41-53  
Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
Жабаровск (4212)92-98-04  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93

## Certifier FA

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

	Gas	Range	Accuracy**
Flow-High Flow Module	Air, O <sub>2</sub>	0 to 300 slpm*	±2% or ±0.075 slpm
	Air/O <sub>2</sub> Mixtures	0 to 300 slpm	±4% or ±0.1 slpm
Flow-Low Flow Module	Air, O <sub>2</sub>	0.01 to 15 slpm	±2% or ±0.01 slpm
	N <sub>2</sub> O	0.01 to 15 slpm	±4% or ±0.025 slpm
Volume-High Flow-Inhaled	Air, O <sub>2</sub>	0.01 to 10 liters STP	±2% Plus 0.02 liters
	Air/O <sub>2</sub> Mixtures	0.01 to 10 liters STP	±4% Plus 0.02 liters
Volume-Low Flow-Inhaled	Air, O <sub>2</sub>	0.01 to 9.999 liters STP	±2% or ±0.01 liters
	N <sub>2</sub> 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 <sub>2</sub> O	±0.75% or ±0.2 cm H <sub>2</sub> 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