

## Basic Features

- ◆ 1/3 the size & 1/3 the cost of competitive products!
- ◆ Flow Rate
- ◆ Volume
- ◆ Pressure
- ◆ Minute Volume
- ◆ Inspiratory Time
- ◆ I:E Ratio
- ◆ Bias Flow Compensation
- ◆ Breath Rate
- ◆ Auto Temperature Compensation
- ◆ Peak & PEEP Pressure

## Options

- ◆ Oxygen Concentration



# VENTILATOR TESTER

*TSI Certifier FA*



*Certifier FA Controller Module  
shown approximately actual size*

Simply the best way to test ventilators, oxygen concentrators, and other respiratory & flow devices! A complete measurement solution for air, oxygen & nitrous oxide! **CONTACT US ABOUT OUR RT-200 TRADE-IN OFFER!**

If you desire to measure pressure at higher pressures, we recommend a Meriam Smart Manometer Model #350-DN2000, also available from us. Either will economically add higher pressure capability to your Certifier-FA. And, even with this additional investment, your total cost is still significantly less than competing ventilator testers. You can also find these two items with Data Sheets on our on-line store.

BC Group International, Inc.  
9415 Gentry Avenue St. Louis, MO 63125 USA  
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# TSI CERTIFIER FA VENT TESTER

## SPECIFICATIONS

High Flow Air or O <sub>2</sub>	0-300 slpm; +/- 2% of reading or +/-0.075 slpm
High Flow Air/O <sub>2</sub> Mix	0-300 slpm; +/-4% of reading or +/-0.100slpm
Low Flow Air or O <sub>2</sub>	0.01-15.00 slpm; +/-2% of reading or +/-0.010 slpm
Low Flow N <sub>2</sub> O	0.01-15.00 slpm; +/-4% of reading or +/-0.025 slpm
High Flow Mod. Vol.	0-10 liters; +/-2% of reading or +/-0.020 l stp
High Flow Mod. Vol.	0-10 liters; +/-4% of reading or +/-0.020 l stp
Low Flow Mod. Vol.	0-9.999 l stp; +/-2% of reading or +/-0.010 l stp whichever is greater
Low Flow Mod. Vol.	0-9.999 l stp; +/-4% of reading or +/-0.010 l stp whichever is greater
High Pressure	N/A (Recommend Meriam Smart Manometer from BC Group:0-72 psig @ +/-0.025% F/S)
Low Pressure	-25 to 150 cmH <sub>2</sub> O; +/-0.75% of reading or +/-0.20 cmH <sub>2</sub> O
Breath Rate	(0.5 to 120 BPM) +/-5%
I:Time	(0.25 to 60 seconds) +/-0.01 sec.
E:Time	Not Displayed
I:E Ratio	1:100.0 to 100.0:1 +/-5%
Minute Volume	0-99.00 stp liters +/-7%
Gas Temperature	Temperature is measured; flow and volume calculations are automatically adjusted.
Barometric Pressure	375 to 1,500 mmHg; +/-8mmHg
Oxygen	0-100%; +/-2% at Calibration Conditions
Portability	Case For Complete Kit - 11"x8"x4" - 3 Lbs.
Warm-Up Time	1 minute
Calibration Interval	1 Year
Power	(4) AA - Battery Life 15 to 20 Hours

*Specifications & capabilities dependent upon module, option, and accessory configuration.  
See Ordering Information below.*

## ORDERING INFORMATION

4070 High Flow Test System	Includes controller module, high flow module, 4 AA batteries, filter, pressure tubing and adapters, flow module mounting bracket, screwdriver, manual, NIST-traceable Certificate of Calibration, and soft-sided carrying case.
4075 Low-Flow Test System	Same as above except substitute low-flow for high-flow module.
4071 High-Flow Module only	
4072 Low-Flow Module only	
4073 Oxygen Kit	Adds O <sub>2</sub> measurement capability to Certifier FA Test System.
1319288 Hard Carrying Case	
BC20-40700 Protective Boot & Stand	
350-DN2000 Smart Manometer Digital Pressure Meter	Allows higher pressure measuring capabilities to Certifier system.

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Prepared by your source for  
the TSI Certifier Ventilator Test System:

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www.bcgrouptl.com

## Ventilator Tester Comparison Chart

Parameter	TSI Certifier	Mallinckrodt PTS 2000	Bio-Tek VT-Plus	RT200
<b>High Flow Air or O2 Accuracy</b>	0-300 SLPM +/- 2% of reading or +/-0.075 SLPM, whichever is greater	0-300 SLPM +/- 1.75% of reading +0.10 SLPM	300 SLPM +/-2% of reading or +/-0.5 SLPM	5-180 SLPM +/-2% of reading
<b>High Flow Air/O2 Mix Accuracy</b>	0-300 SLPM +/- 4% of reading or +/-0.100SLPM, whichever is greater	0-300 SLPM +/- 4% of reading + 0.10 SLPM	Does Not Specify Gases Not Specified	N/A
<b>Low Flow Air or O2 Accuracy</b>	0.01-15.00 SLPM +/- 2% of reading or +/-0.010 SLPM, whichever is greater	0-15 SLPM +/- 1.75% of reading + 0.025 SLPM	25 SLPM +/-2% of reading or +/-0.1 SLPM	0-5 SLPM +/-4% of reading
<b>Low Flow N2O Accuracy</b>	0.01-15.00 SLPM +/-4% of reading or +/-0.025 SLPM, whichever is greater	0-15 SLPM +/-3% of reading +0.025 SLPM	Does Not Specify Gases Not Specified	0-5 SLPM +/-3% of reading or +/-2 digits
<b>Volume Air or O2 Accuracy</b>	0-10 L STP +/-2% of reading or +/-0.020 L STP, whichever is greater +/-2% of reading or +/-0.010 L STP, whichever is greater (Low Flow Module)	0-10 L STP +/-2% or 0.02 L STP	7 L STP +/-3% of reading or +/-10ml	0-3 L STP
<b>Volume Air/O2 Mix Accuracy</b>	0-10 L STP +/-4% of reading or +/-0.020 L STP, whichever is greater	0-10 L STP +/- 4.5% of reading +0.02 L STP	Does Not Specify Gases Not Specified	N/A
<b>Volume N2O Accuracy</b>	0-9.999 L STP +/-4% of reading or +/-0.010 L STP, whichever is greater	Does Not Specify N2O Not Specified	Does Not Specify Gases Not Specified	N/A
<b>High Pressure Accuracy</b>	N/A - Recommend Meriam Smart Manometer 0-72 psig +/- 0.025% F/S - List Price \$662	0-100 psig +/- 1% of reading +0.1 psig	100 psig +/- 1% of reading or +/-0.1 psig	0-100 psig +/-1.5% of reading
<b>Low Pressure Accuracy</b>	-25 to 150 cmH2O (-18.4 to 110 mmHg) +/-0.75% of reading or +/-0.20 cmH2O, whichever is greater	-150 to 150 cmH2O +/- 0.75% of reading +0.04 cmH2O	+/- 120 cmH2O +/-0.75% of reading or +/-0.5 cmH2O	-120 to 250 cmH2O +/-1.6% of reading
<b>Breath Parameters</b>				
Breath Rate	(0.5 to 120 BPM) +/-5%	(.5 to 120 BPM) +/-5%	( 2-150 BPM) +/-1%	+/-5% of reading or +/-1 digit
I:Time	(0.25 to 60 seconds) +/-0.01 sec.	(0.25 to 60 seconds) +/-0.01 sec.	(0.2 - 30) +/-1% or 0.1sec	0.1 to 5 sec +/-5% of reading
E:Time	Not Displayed	(0.25 to 60 seconds) +/-0.01 sec.	(0.2 - 30) +/-1% or 0.1sec	0.1 to 99 sec +/-5% of reading
I:E Ratio	HF(1:100.0 to 100.0:1) +/-5%, LF 1:15.0 to 15:0:1; +/-5% of reading	(1.999 to 999:1) +/-5%	(0.25 - 9.99) +/-2% or 0.1 Sec.	1:10 to 1:9.9 +/- 5% of reading
Minute Volume	(0-99.00 stp liters) +/-7%	(0-99 L STP) +/-7% Air or O2 (0-99 L STP) +/-9% Air/O2 Mix	(0-60 L STP) +/-3% or 250ml	no stated accuracy range for parameter
<b>Barometric Pressure Accuracy</b>	375 to 1,500 mmHga +/-8mmHga	10-16 psia (500 - 800 mmHg) +/-0.1 psia (5mmHg)	Not Specified	N/A
<b>Oxygen Accuracy</b>	0-100% +/-2% at Calibration Conditions	0-100% +/-2%	0-100% Not Specified	N/A
<b>Portability</b>	Case For Complete Kit - 11"x8"x4" - 3 Lbs.	8"x4.1"x11.5" - 7 Lbs.	10"x10"x5" - 10 Lbs.	12"x10.5"x11.5" 20 Lbs.
<b>Warm-Up Time</b>	1 minute	10 Minutes		5 Minutes
<b>Calibration Interval</b>	1 Year	1 Year	1 Year	1 Year
<b>Calibration Cost</b>	\$185 For Each Flow Module	\$550	\$500	\$455
<b>Power</b>	(4) AA - Battery Life 15 to 20 Hours	110V / No Battery	110V / No Battery	110V / No Battery
<b>Case</b>	Softcase - N/C Included With High Flow Package	Hard-case Available For \$457.29	Softcase Avail for \$119, Hard-case \$253	Optional
<b>List Price</b>	Inc. High Flow Kit, Low Flow Module & O2 Kit - \$3,465	Base Unit - \$7,500	Base Unit - \$8,315	N/A Obsolete

All specifications are subject to change without notice and are believed to be accurate per each manufacturer's published information as of the time of printing.  
No warranty is offered on this information and the reader is encouraged to verify specifications. Please Note: Pricing is accurate as of November 2005.