

F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

AIR FLOW CALIBRATORS SINGLE SENSOR DESIGNS

100 — 240 VAC



**World Calibrator
PC Version**



**World Calibrator
VFD Version**



**World Calibrator
Multi-Sensor Series**



**Compact Digital
Calibrator**



Benchtop Calibrator



Mini Calibrator



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WORLD CALIBRATOR Displayless PC Version



Notable Features:

- PC Interface program:
 - Western or Asian Languages
- Operator Selectable Options
 - Multiple language options; European or Asian Version
 - Multi gas option
 - Volumetric or mass flow
 - At Reading or Full Scale Accuracy Calibration Type
 - Reference T and Reference P
 - Engineering units for all reported parameters
- Semi-Automatic calibration-verification when used with F&J digital air samplers
- Customizable calibration report
- Standard Accuracy: $\pm 1.0\%$ Full Scale (F.S.)
- Customizable to 1% of Reading Accuracy
- Two Year Warranty
- Complementary Storage Case

WORLD CALIBRATOR Vacuum Fluorescent Display (VFD) Version



Notable Features:

- Vacuum Fluorescent Display:
 - (4 lines \times 24 characters)
- 4 button key pad for stand alone operation
- Mass flow or Volumetric flow
- Volume Totalization Feature
- Operator selectable Reference T and P
- Operator selectable engineering units
- Multi gas option
- Standard Accuracy: $\pm 1.0\%$ Full Scale (F.S.)
- Customizable to 1% of Reading Accuracy
- User customizable calibration report
- Semi-Automatic calibration-verification when used with F&J digital air samplers
- PC Interface program:
 - Western or Asian languages
- Two Year Warranty
- Complimentary Storage Case



MEASUREMENT PRINCIPLE

Flow Sensor: Differential Pressure Sensor
 Standardization: Operator selectable values for reference temperature and pressure
 Flow Curve linearization: Individually calibrated and software corrected

MEASUREMENT RANGES

Air flow: Various flow ranges available
 Temperature: -40° - 122° F (-40° - 50° C)
 Barometric pressure: 30 - 22 In-Hg (760 - 559 mm-Hg); (101.325-74.5 kPa)
 approx. Sea level to 5900 ft. (1800 m) elevation above sea level
 Optional low range to 10 In-Hg (254 mg) (33.86 kPa)

MEASUREMENT ACCURACY

Air flow: Standard \pm 1.0% of full scale; custom \pm 1% of Reading available as an option
 Temperature (Typical): \pm 1°C over range -20°C to 50°C
 Barometric pressure: \pm 1% of reading over measurement range of 22.00-30.00 “Hg

STANDARD TEMPERATURE and PRESSURE CHOICES:

Temperature 32°F (0°C) 59°F (15.0°C) 68°F (20.0°C) 70°F (21.1°C) 77°F (25.0°C)

Pressure 29.92”Hg (1 atm, 760mm Hg, 1.013 bar, 101.325 kPa)
 1 bar, (100kPa, 750mm Hg, 0.987 atm 29.53”Hg)

PARAMETERS and RESOLUTIONS DISPLAYED on the PC SCREEN

	Parameter	Engineering Unit	Resolution	
Flow Options:	CFM	Cubic feet per minute	0.01	CFM
	LPM	Liter per minute	.1	LPM
	m ³ /min	Cubic meter per minute	0.0001	m ³ /min
	m ³ /hr	Cubic meters per hour	0.001	m ³ /hr
	cc/min	Cubic centimeter per minute	1	cc/min
Temperature:	F	Degree Fahrenheit	0.1	Degree F
	C	Degree Celsius	0.1	Degree C
	In-Hg	Inches of Mercury	0.01	In-Hg
Pressure:	mm-Hg	Millimeters of Mercury	0.1	mm-Hg
	kPa	Kilo pascals	0.1	kPa
	atm	atmospheres	0.001	atm
	bar	bar	0.001	bar

GENERAL SPECIFICATIONS

Power requirements:	Max 0.6A; 100–120 VAC;50/60Hz	Max 0.3A; 220–240 VAC;50/60Hz
Operating temperature:	-4°F to 122°F	-20°C to 50° C
Storage temperature:	-20°F to 158°F	-29°C to 70° C
Dimension (L×W×H)	8.625”×3.75”×8.375”	219×95.25×213mm
Weight:	8 lbs. 6 oz.	3.8 Kgs.
Installation Category:	Pollution Degree 2	
Enclosure Rating:	IPXO	
Communications Ports:	Dual RS232, one Mini-USB Connector, two DB-9	
PO OS:	Windows 98, Windows XP, Vista, Windows 7 and Windows 10 operating systems	

**WORLD CALIBRATOR
Displayless Version
Typical Flow Range
STANDARD FLOW MODELS**

100-120 VAC		220-240 VAC	
Model	CFM (SLPM)	Model	CFM (SLPM)
WC-801-PC	.15 to 1 (4 - 28)	WC-801E-PC	.15 to 1 (4 - 28)
WC-802-PC	.25 to 2 (7 - 56)	WC-802E-PC	.25 to 2 (7 - 56)
WC-803-PC	0.4 to 3.0 (9 - 85)	WC-803E-PC	0.4 to 3.0 (9 - 85)
WC-812-PC	.5 to 4 (14 - 115)	WC-812E-PC	.5 to 4.0 (15 - 115)
WC-828-PC	1 to 9 (28 - 255)	WC-828E-PC	1 to 9 (28 - 255)
WC-814-PC	2 to 14 (56 - 400)	WC-814E-PC	2 to 14 (56 - 400)
WC-530-PC	5 to 30 (142 - 850)	WC-530E-PC	5 to 30 (142 - 850)
WC-1000-PC	5 to 40 (142 - 1132)	WC-1000E-PC	5 to 40 (142 - 1132)
WC-550-PC	6 to 50 (170 - 1415)	WC-550E-PC	6 to 50 (170 - 1415)
WC-870-PC	10 to 70 (283 - 1980)	WC-870E-PC	10 to 70 (283 - 1980)

HIGH FLOW MODELS

100-120 VAC		220-240 VAC	
Model	CFM (m³/hr)	Model	CFM (m³/hr)
WC-890-PC	15 to 90 (26 - 153)	WC-890E-PC	15 to 90 (26 - 153)
WC-125-PC	30 to 125 (51 - 212)	WC-125E-PC	30 to 125 (51 - 212)
WC-150-PC	40 to 150 (68 - 255)	WC-150E-PC	40 to 150 (68 - 255)
WC-200-PC	50 to 200 (85 - 340)	WC-200E-PC	50 to 200 (85 - 340)
WC-300-PC	60 to 300 (102 - 510)	WC-300E-PC	60 to 300 (102 - 510)
WC-400-PC	70 to 400 (119 - 680)	WC-400E-PC	70 to 400 (119 - 680)
WC-600-PC	100 to 600 (170 - 1020)	WC-600E-PC	100 to 600 (170 - 1020)

BATTERY MODEL PART NUMBERS *

100-120 VAC		220-240 VAC	
WC-801B-PC	WC-870B-PC	WC-801BE-PC	WC-870BE-PC
WC-802B-PC	WC-890B-PC	WC-802BE-PC	WC-890BE-PC
WC-803B-PC	WC-125B-PC	WC-803BE-PC	WC-125BE-PC
WC-812B-PC	WC-150B-PC	WC-812BE-PC	WC-150BE-PC
WC-828B-PC	WC-200B-PC	WC-828BE-PC	WC-200BE-PC
WC-814B-PC	WC-300B-PC	WC-814BE-PC	WC-300BE-PC
WC-530B-PC	WC-400B-PC	WC-530BE-PC	WC-400BE-PC
WC-550B-PC	WC-600B-PC	WC-550BE-PC	WC-600BE-PC

* Battery models do not bear the CE mark or UL/CSA approvals

WORLD CALIBRATOR

VFD Version

Typical Flow Range

STANDARD FLOW MODELS

100-120 VAC		220-240 VAC	
Model	CFM (SLPM)	Model	CFM (SLPM)
WC-801-VFD	.15 to 1 (4 - 28)	WC-801E-VFD	.15 to 1 (4 - 28)
WC-802-VFD	.25 to 2 (7 - 56)	WC-802E-VFD	.25 to 2 (7 - 56)
WC-803-VFD	0.4 to 3.0 (9 - 85)	WC-803E-VFD	0.4 to 3.0 (9 - 85)
WC-812-VFD	.5 to 4 (14 - 115)	WC-812E-VFD	.5 to 4.0 (15 - 115)
WC-828-VFD	1 to 9 (28 - 255)	WC-828E-VFD	1 to 9 (28 - 255)
WC-814-VFD	2 to 14 (56 - 400)	WC-814E-VFD	2 to 14 (56 - 400)
WC-530-VFD	5 to 30 (142 - 850)	WC-530E-VFD	5 to 30 (142 - 850)
WC-1000-VFD	5 to 40 (142 - 1132)	WC-1000E-VFD	5 to 40 (142 - 1132)
WC-550-VFD	6 to 50 (170 - 1415)	WC-550E-VFD	6 to 50 (170 - 1415)
WC-870-VFD	10 to 70 (283 - 1980)	WC-870E-VFD	10 to 70 (283 - 1980)

HIGH FLOW MODELS

100-120 VAC		220-240 VAC	
Model	CFM (m ³ /hr)	Model	CFM (m ³ /hr)
WC-890-VFD	15 to 90 (26 - 153)	WC-890E-VFD	15 to 90 (26 - 153)
WC-125-VFD	30 to 125 (51 - 212)	WC-125E-VFD	30 to 125 (51 - 212)
WC-150-VFD	40 to 150 (68 - 255)	WC-150E-VFD	40 to 150 (68 - 255)
WC-200-VFD	50 to 200 (85 - 340)	WC-200E-VFD	50 to 200 (85 - 340)
WC-300-VFD	60 to 300 (102 - 510)	WC-300E-VFD	60 to 300 (102 - 510)
WC-400-VFD	70 to 400 (119 - 680)	WC-400E-VFD	70 to 400 (119 - 680)
WC-600-VFD	100 to 600 (170 - 1020)	WC-600E-VFD	100 to 600 (170 - 1020)

BATTERY MODEL PART NUMBERS *

100-120 VAC		220-240 VAC	
WC-801B-VFD	WC-870B-VFD	WC-801BE-VFD	WC-870BE-VFD
WC-802B-VFD	WC-890B-VFD	WC-802BE-VFD	WC-890BE-VFD
WC-803B-VFD	WC-125B-VFD	WC-803BE-VFD	WC-125BE-VFD
WC-812B-VFD	WC-150B-VFD	WC-812BE-VFD	WC-150BE-VFD
WC-828B-VFD	WC-200B-VFD	WC-828BE-VFD	WC-200BE-VFD
WC-814B-VFD	WC-300B-VFD	WC-814BE-VFD	WC-300BE-VFD
WC-530B-VFD	WC-400B-VFD	WC-530BE-VFD	WC-400BE-VFD
WC-550B-VFD	WC-600B-VFD	WC-550BE-VFD	WC-600BE-VFD

* Battery models do not bear the CE mark or UL/CSA approvals

WORLD CALIBRATOR PC Interfaceable Multi-Sensor Series



Notable Features:

- One Calibrator: Multiple Flow Sensors
- Vacuum Fluorescent Display (4 lines×24 characters)
- 4 button key pad for stand alone operation
- Mass flow or Volumetric flow
- Volume Totalization Feature
- Operator selectable Reference T and P
- Operator selectable engineering units
- Multi gas option
- $\pm 1.0\%$ Full Scale (F.S.) Accuracy
- User customizable calibration report
- Semi-Automatic calibration-verification when used with F&J digital air samplers
- PC Interface program: Western or Asian languages
- Two Year Warranty
- Complimentary Storage Case

WORLD CALIBRATOR VFD Version Multi Flow Sensor Models

100-120 VAC

Model

WCMT-VFD-2
WCMT-VFD-3
WCMT-VFD-4

220-240 VAC

Model

WCMT-VFD-2E
WCMT-VFD-3E
WCMT-VFD-4E

Standard Flow Sensor Configuration Available

CFM (SLPM)

.1 to 1 (3 - 30)
0.2 to 2.1 (6 - 60)
.5 to 4.0 (15 - 115)
1 to 10.6 (30 - 300)
1.4 to 14 (40 - 420)
5.3 to 30 (150 - 850)
4 to 35 (115 - 1000)
5.3 to 50 (150 - 1400)
8.5 to 70 (240 - 2000)

High Flow Sensor Configuration Available

CFM (m³/hr)

15 to 90 (26 - 153)
30 to 125 (51 - 212)
40 to 150 (68 - 255)
50 to 200 (85 - 340)
60 to 300 (102 - 510)
60 to 400 (102 - 680)
100 to 600 (170 - 1020)

All multi flow sensor World Calibrators are custom products. Submit the flow sensor ranges required for the world calibrator to the F&J sales department for proper pricing.

COMPACT DIGITAL AIR FLOW CALIBRATORS

NOTABLE FEATURES:

- Differential Pressure Flow Sensor
- Display of flow in CFM, LPM or M³/min. by operator selection (LED display)
- Standard accuracy: ±2.0% Full Scale
- Flowrates displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)

Classical STP	0°C, 1 Atm
Normal T and P	20°C, 1 Atm
Modified Normal T and P	70°F, 1 Atm
Standard Ambient T and P	25°C, 1 Atm
- Display of barometric pressure in metric or English units
- Display of temperature in metric or English units
- Certified to UL, CSA and CE electrical safety standards for line power models
- NIST traceable calibration certificate
- Ambient or Reference flow is selectable by the operator
- 1 year warranty



Models Available

Basic Line Power Models and Units with Battery Option

110-120VAC	110V+Battery Option*	220-240VAC	220V+Battery Option*	Air Flow Range	
<u>MODEL NO.</u>	<u>MODEL NO.</u>	<u>MODEL NO.</u>	<u>MODEL NO.</u>	<u>CFM</u>	<u>LPM</u>
CD-801V.2	CD-801BV.2	CD-801EV.2	CD-801BEV.2	.15 – 1	4 – 28
CD-802V.2	CD-802BV.2	CD-802EV.2	CD-802BEV.2	.25 – 2	7 – 56
CD-803V.2	CD-803BV.2	CD-803EV.2	CD-803BEV.2	.4 – 3	9 – 85
CD-812V.2	CD-812BV.2	CD-812EV.2	CD-812BEV.2	.5 – 4	14 – 115
CD-828V.2	CD-828BV.2	CD-828EV.2	CD-828BEV.2	1 – 9	28 – 255
CD-814V.2	CD-814BV.2	CD-814EV.2	CD-814BEV.2	2 - 14	56 - 400
CD-530V.2	CD-530BV.2	CD-530EV.2	CD-530BEV.2	5 – 30	142 – 850
CD-540V.2	CD-540BV.2	CD-540EV.2	CD-540BEV.2	5 – 40	142 – 1132
CD-550V.2	CD-550BV.2	CD-550EV.2	CD-550BEV.2	6 – 50	170 – 1415
CD-870V.2	CD-870BV.2	CD-870EV.2	CD-870BEV.2	10 – 70	283 - 1980

* Battery models do not bear the CE mark or UL/CSA approvals

1. MEASUREMENT PRINCIPLE

- 1.1 Flow Sensor: Differential Pressure Sensor
- 1.2 Standardization: Correction for standard temperature and barometric pressure
- 1.3 Curve linearization: Individually calibrated and software corrected

2. MEASUREMENT RANGES

- 2.1 Air flow: See Table on front page
- 2.2 Temperature: -4° – 122° F (-20° – 50° C)
- 2.3 Barometric pressure: 30 – 24 In-Hg (760 – 609 mm-Hg)
approx. Sea level to 6000 ft. elevation above sea level

3. MEASUREMENT ACCURACY

- 3.1 Air flow: ± 2% of Full Scale
- 3.2 Temperature (Typical): 1°C over range -20°C to 50°C
- 3.3 Barometric pressure: ± 1% of reading over measurement range of 22.00-30.00 “Hg

4. DISPLAY 6 Digit LED 0.4” high

5. DISPLAYED PARAMETERS and RESOLUTIONS

	Parameter	Engineering Unit	Resolution	
5.1	CFM	Cubic feet per minute	0.01	CFM
5.2	LPM	Liter per minute	.1 or 1	LPM
5.3	M ³ /m	Cubic meter per minute	0.0001	M ³ /min
5.4	F	Degree Fahrenheit	0.1	Degree F
5.5	C	Degree Celsius	0.1	Degree C
5.6	In-Hg	Inches of Mercury	0.01	In-Hg
5.7	mm-Hg	Millimeters of Mercury	1	mm-Hg

6. GENERAL

- 6.1 Power requirements: 100–120 VAC;50/60Hz 0.3 Amps max; 220-240 VAC/50Hz
- 6.2 Operating temperature: -4°F – 122°F (-20°C – 50° C)
- 6.3 Storage temperature: -20°F- 158°F (-29°C – 70° C)
- 6.4 Dimension (L×W×H) 8.625”×3.75”×8.375” (219×95.25×213mm)
- 6.5 Weight: 8 lbs. 6 oz. (3.8 Kgs.)
- 6.6 Installation Category: Pollution Degree 2
- 6.7 Enclosure Rating: IPXO

7. CALIBRATION

Factory calibration is recommended once per year

8. OPTIONS

- 8.1 RS-232 cable — All measured and calculated parameters are accessible through the RS-232 port to a computer.
- 8.2 Battery operable option with on-board charging system

DIGITAL FLOW CALIBRATOR for AIR SAMPLERS Regular Line Power and with Battery Powered Option

NOTABLE FEATURES:

- Flow measuring device: Venturi
- Display of flow in CFM, LPM or M³/min. by operator selection (LED display)
- Standard accuracy: ±2% Full Scale
- Flowrates displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)

Classical STP	0°C, 1 Atm
Normal T and P	20°C, 1 Atm
Modified Normal T and P	70°F, 1 Atm
Standard Ambient T and P	25°C, 1 Atm
- Display of barometric pressure in metric or English units
- Display of temperature in metric or English units
- Certified to UL, CSA and CE electrical safety standards for line power models
- Ambient or Reference flow is selectable by the operator
- 1 year warranty



Models Available

Basic Line Power Models		Units w/Battery option *		AIR FLOW RANGE	
100 – 120VAC	220 – 240VAC	100 – 120VAC	220 – 240VAC	CFM	LPM
<u>MODEL NO.</u>	<u>MODEL NO.</u>	<u>MODEL NO.</u>	<u>MODEL NO.</u>		
D-801V.2	D-801EV.2	D-801BV.2	D-801BEV.2	.15 – 1	4 – 28
D-802V.2	D-802EV.2	D-802BV.2	D-802BEV.2	.25 – 2	7 – 56
D-803V.2	D-803EV.2	D-803BV.2	D-803BEV.2	.4 – 3	9 – 85
D-812V.2	D-812EV.2	D-812BV.2	D-812BEV.2	.5 – 4	14 – 115
D-828V.2	D-828EV.2	D-828BV.2	D-828BEV.2	1 – 9	28 – 255
D-814V.2	D-814EV.2	D-814BV.2	D-814BEV.2	2 - 14	56 - 400

Options:

* Battery Powered Operation (Denoted by 'B' in model number)

1% F.S. accuracy units available (add '-1' to model number); example: D-812E-1

* **Battery models do not bear the CE mark or UL/CSA approvals**

1. MEASUREMENT PRINCIPLE

- 1.1 Flow Sensor: Venturi Tube
- 1.2 Standardization: Correction for standard temperature and barometric pressure
- 1.3 Curve linearization: Individually calibrated and software corrected

2. MEASUREMENT RANGES

- 2.1 Air flow: See Table on front page
- 2.2 Temperature: -4°F – 122 Degree F (-20°C – 50 Degree C)
- 2.3 Barometric pressure: 30 – 24 In-Hg (760 – 609 mm-Hg)
approx. Sea level to 6000 ft. elevation above sea level

3. MEASUREMENT ACCURACY

- 3.1 Air flow: +/- 2% of Full Scale
- 3.2 Temperature (Typical): 1°C over range -20°C to 50°C
- 3.3 Barometric pressure: +/- 1% over measurement range

4. DISPLAY 6 Digit LED 0.4" high

5. DISPLAYED PARAMETERS and RESOLUTIONS

	Parameter	Engineering Unit	Resolution	
5.1	CFM	Cubic feet per minute	0.01	CFM
5.2	LPM	Liter per minute	0.1 or 1	LPM*
5.3	M ³ /m	Cubic meter per minute	0.0001	M ³ /min
5.4	F	Degree Fahrenheit	0.1	° F
5.5	C	Degree Celsius	0.1	° C
5.6	In-Hg	Inches of Mercury	0.01	In-Hg
5.7	mm-Hg	Millimeters of Mercury	1	mm-Hg

* A 0.1 LPM resolution applies to calibrators that have a maximum flow of 900 LPM

6. GENERAL

- 6.1 Power requirements: 100–120 VAC;50/60Hz 0.3 Amps max; 220-240 VAC/50Hz
- 6.2 Operating temperature: -4°F – 122 Degree F (-20°C – 50° C)
- 6.3 Storage temperature: -20°F – 158° F (-29°C – 70° C)
- 6.4 Dimension (L×W×H) 9.75"×8.25"×10.75" (248 ×210 × 273 mm)
- 6.5 Weight: 8 lbs. 6 oz. (3.8 Kg)
- 6.6 Installation Category: Pollution Degree 2
- 6.7 Enclosure Rating: IPXO

7. CALIBRATION

Factory calibration is recommended once per year

8. OPTIONS

- 8.1 RS-232 interface, including cable — All measured and calculated parameters are accessible through an RS-232 port to a computer.
- 8.2 Data acquisition and processing software is available upon request.
- 8.3 AC input of 230V, 50Hz is available upon request at no additional charge.

F&J MINI CALIBRATOR

NOTABLE FEATURES:

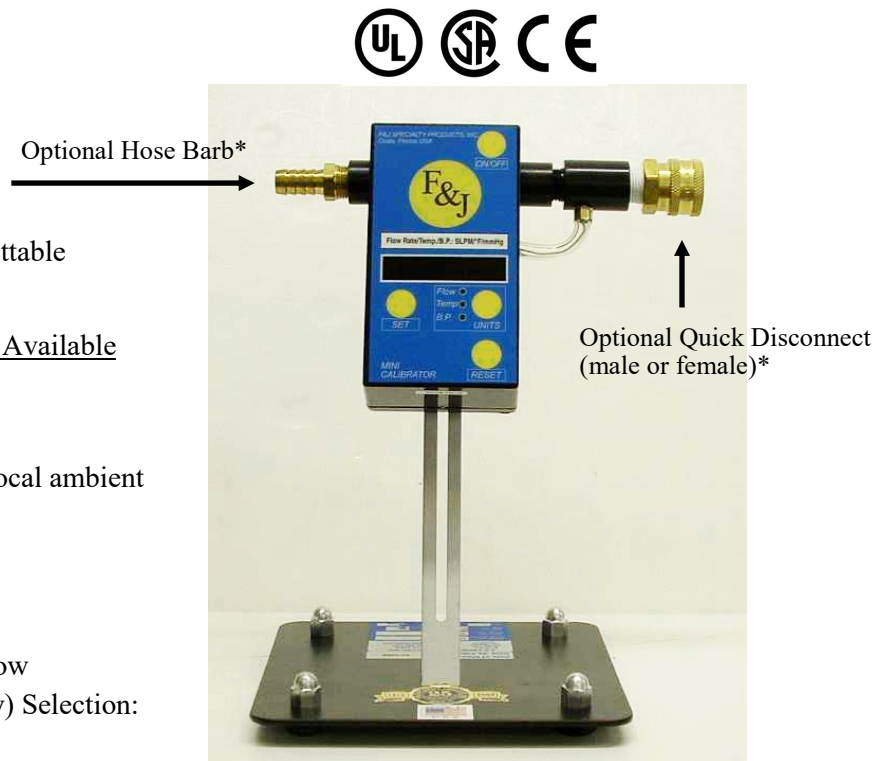
- Various Flow Ranges Available
- Lightweight; 8 oz. (227 gms)
- Small Footprint
- Adjustable Height
- Flow rate displayed are corrected to an operator settable Reference Temperature and Pressure

— Options Available:

Temperature	Pressure Options Available
20°C	1 Atm
70°F	1 Bar
25°C	

- Flow rates displayed can also be corrected to the local ambient conditions of T and P by the operator
- Displays Airflow Temperature
- Displays Barometric Pressure
- Bright LED with large characters
- Operator Selectable Ambient Flow or Standard Flow
- English or Metric Engineering Units (set at factory) Selection:

Flow	Temperature	Barometric Pressure
SCFM	°F	Inches Hg
sccm	°C	mmHg
SLPM		kPa
SCMH		Bar



* Additional Cost

MODEL SELECTION

110V	230V	SCFM	SLPM	sccm
MC-300CC	MC-300ECC		0.075 – 0.3	75 – 300 cc/m
MC-500CC	MC-500ECC		0.2 – 0.5	200 – 500 cc/m
MC-1L	MC-1LE		0.2 – 1	
MC-3L	MC-3LE		0.5 - 3	
MC-5L	MC-5LE	0.04 – 0.18	1 – 5	
MC-15L	MC-15LE	0.1 – 0.53	3 – 15	
MC-25L	MC-25LE	0.14 – 0.88	4 - 25	
MC-30L	MC-30LE	0.11 – 1.06	6 – 30	
MC-50L	MC-50LE	0.35 – 1.8	10 - 50	
MC-60L	MC-60LE	0.2 – 2	12 – 60	
MC-75L	MC-75LE	0.5 – 2.6	15 - 75	
MC-115L	MC-115LE	0.5 – 4	15 – 115	
MC-175L	MC-175LE	1.1 – 6.2	30 - 175	
MC-250L	MC-250LE	1.8 – 9	50 – 250	

F&J MINI CALIBRATOR

MEASUREMENT ACCURACY

Air Flow $\pm 2.0\%$ of full scale
Temperature (Typical) $\pm 2^{\circ}\text{F}$ (1.1°C)
Barometric Pressure $\pm 2\%$ over measurement range

CALIBRATION

Factory calibration is recommended once per year.

OPTIONS

RS-232 interface, including cable.

All measured and calculated parameters are accessible through RS-232 port to a computer

GENERAL SPECIFICATIONS

Power Requirements (charging)	110 or 230VAC; 47-63 Hz; 0.1 amp maximum
Operating Temperature	40-104 Degree F (4-40 Degree C)
Storage Temperature	22-158 Degree F (-5-70 Degree C)
Dimension (L×W×H)	3.25" × 2.50" × 2.00" (82,6 mm × 140 mm × 50,8 mm)
Weight	8 ounces (227 g)

Parameter	Engineering Unit	Typical Resolution *
CFM	Cubic feet per minute	0.01 CFM
LPM	Liter per minute	0.1 LPM
M ³ /hr	Cubic meter per hour	0.01 M ³ /hr.
F	Degree Fahrenheit	0.1 Degree F
C	Degree Celsius	0.1 Degree C
In-Hg	Inches of Mercury	0.01 In-Hg
mm-Hg	Millimeters of Mercury	1 mm-Hg

* Actual resolution will depend on the flow sensor range.

F&J MINI CALIBRATOR (Battery Powered Version)

NOTABLE FEATURES:

- Various Flow Ranges Available
- Lightweight; 8 oz. (227 gms)
- Small Footprint
- Adjustable Height
- Flow rate displayed are corrected to an operator settable Reference Temperature and Pressure
- Options Available:

<u>Temperature</u>	<u>Pressure Options Available</u>
20°C	1 Atm
70°F	1 Bar
25°C	
- Flow rates displayed can also be corrected to the local ambient conditions of T and P by the operator
- Displays Airflow Temperature
- Displays Barometric Pressure
- Bright LED with large characters
- Operator Selectable Ambient Flow or Standard Flow
- Two cell lithium battery pack; 7.4V/1.4Ah
- Three color LED to show battery capacity
- AC to DC power adaptor for battery charging
- English or Metric Engineering Units (set at factory) Selection:

<u>Flow</u>	<u>Temperature</u>	<u>Barometric Pressure</u>
SCFM	°F	Inches Hg
scm	°C	mmHg
SLPM		kPa
SCMH		Bar



MODEL SELECTION

110V	230V	SCFM	SLPM	scm
MC-300CC-DC	MC-300ECC-DC		0.075 – 0.3	75 – 300 cc/m
MC-500CC-DC	MC-500ECC-DC		0.2 – 0.5	200 – 500 cc/m
MC-1L-DC	MC-1LE-DC		0.2 – 1	
MC-3L-DC	MC-3LE-DC		0.5 - 3	
MC-5L-DC	MC-5LE-DC	0.02 – 0.18	1 – 5	
MC-15L-DC	MC-15LE-DC	0.07 – 0.53	3 – 15	
MC-25L-DC	MC-25LE-DC	0.14 – 0.88	4 - 25	
MC-30L-DC	MC-30LE-DC	0.11 – 1.06	6 – 30	
MC-50L-DC	MC-50LE-DC	0.18 – 1.8	10 - 50	
MC-60L-DC	MC-60LE-DC	0.2 – 2	12 – 60	
MC-75L-DC	MC-75LE-DC	0.26 – 2.6	15 - 75	
MC-115L-DC	MC-115LE-DC	0.5 – 4	15 – 115	
MC-175L-DC	MC-175LE-DC	0.63 – 6.2	30 - 175	
MC-250L-DC	MC-250LE-DC	1 – 9	50 – 250	

F&J MINI CALIBRATOR (Battery Powered Version)

MEASUREMENT ACCURACY

Air Flow $\pm 2.0\%$ of full scale
Temperature (Typical) $\pm 2^{\circ}\text{F}$ (1.1°C)
Barometric Pressure $\pm 2\%$ over measurement range

CALIBRATION

Factory calibration is recommended once per year.

OPTIONS

RS-232 interface, including cable.

All measured and calculated parameters are accessible through RS-232 port to a computer

GENERAL SPECIFICATIONS

Power Requirements (charging)	110 or 230VAC; 47-63 Hz; 0.1 amp maximum
Operating Temperature	40-104 Degree F (4-40 Degree C)
Storage Temperature	22-158 Degree F (-5-70 Degree C)
Dimension (L×W×H)	3.25" × 2.50" × 2.00" (82,6 mm × 140 mm × 50,8 mm)
Weight	8 ounces (227 g)

Parameter	Engineering Unit	Typical Resolution *
CFM	Cubic feet per minute	0.01 CFM
LPM	Liter per minute	0.1 LPM
M ³ /hr	Cubic meter per hour	0.01 M ³ /hr.
F	Degree Fahrenheit	0.1 Degree F
C	Degree Celsius	0.1 Degree C
In-Hg	Inches of Mercury	0.01 In-Hg
mm-Hg	Millimeters of Mercury	1 mm-Hg

* Actual resolution will depend on the flow sensor range.

PRODUCT PROFILE

Air Sampling Systems

- High Volume Air Samplers
 - Portable Grab Samplers
 - Environmental Systems
 - Enzyme Dust Samplers
 - PM10 Systems
- Continuous Air Samplers
 - Environmental Systems
 - Portable
 - Fixed Station
- Personal Air Samplers
- Emergency Response DC Powered Air Sampling Systems

Tritium Detection Systems

- Portable and Fixed Station Collection Systems utilizing Silica Gel or Molecular Sieve Absorbents
- Continuous Tritium Monitors

Air Flow Calibrators

- World Calibrator Series
- Compact Digital V.2 Series
- Mini-Calibrator

New Products

- Global Air Sampler Systems
- Digital Flow Meter Air Samplers
- C-14 Collection Systems
- Isokinetic Air Sampling Systems
- ELITE DIGITAL LIGHT (EDL) Air Samplers
- MEGA High Volume Air Samplers
- ULTRA High Volume (CTBTO) Air Samplers
- JUNIOR CTBTO Air Samplers

Radon Detection Devices

- 2-Day Passive Charcoal Canisters
- 7-Day Passive Charcoal Canisters
- Continuous Radon Monitors

Radioiodine Collection Cartridges

- TEDA Impregnated Charcoal
- Silver Zeolite
- Custom Cartridges
- Bulk Silver Zeolite

Filter Paper

- Glass Fiber
- Cellulose
- Membrane
- Quartz

Filter Holders

- Open Face
- In-Line
- PAS Filter Holders
- Materials
 - Plastic
 - Aluminum
 - Stainless Steel

