F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

HIGH FLOW
PC INTERFACEABLE
WORLD CALIBRATOR

Displayless VERSION

VFD-VERSION
(Vacuum Fluorescent Display)

2 YEAR WARRANTY

2 Year Warranty ✓

Rev: 18 october 2023

WORLD CALIBRATOR
Displayless Version

Notable Features:

- PC Interface program: Windows XP, Vista, Windows 7 and Windows 10
- 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
- User customizable calibration report
- Accuracy: ± 1.0% Full Scale (F.S.)
- Two Year Warranty
- Complementary Storage Case

WORLD CALIBRATOR
Vacuum Fluorescent Display (VFD) Version

Notable Features:

- 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
- ± 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: European or Asian languages
- Two Year Warranty
- Complimentary Storage Case

High Flow World Calibrator Series

Common Features and Specifications

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:	-40º - 122º F (-40º - 50º 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:	± 1.0% of full scale
Temperature (Typical):	± 1ºC over range –20ºC to 50ºC
Barometric pressure:	± 1% of reading over measurement range of 22.00-30.00 "Hg

STANDARD TEMPERATURE and PRESSURE CHOICES:

Temperature	32ºF (0ºC) 59ºF (15.0ºC) 68ºF (20.0ºC) 70ºF (21.1ºC) 77ºF (25.0ºC)
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, 1000 mbar)

PARAMETERS and RESOLUTIONS DISPLAYED on the PC SCREEN

	Parameter	Engineering Unit	Typical Resolution	
Flow Options:	CFM	Cubic feet per minute	0.1	CFM
	LPM	Liter per minute	1	LPM
	m^3/min	Cubic meter per minute	0.1	m^3/min
	m^3/hr	Cubic meters per hour	0.1	m^3/hr
Temperature:	F	Degree Fahrenheit	0.1	Degree F
	C	Degree Celsius	0.1	Degree C
Pressure:	In-Hg	Inches of Mercury	0.01	In-Hg
	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
	mbar	millibar	0.01	millibar

GENERAL SPECIFICATIONS

* Excluding the flow sensor

Power requirements:	Max 0.6A; 100–120 VAC;50/60Hz	Max 0.3A; 220–240 VAC;50/60Hz
Operating temperature:	-4ºF to 122ºF	-20ºC to 50º C
Storage temperature:	-20ºF to 158ºF	-29ºC to 70º 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 (DB-9 connectors); one USB-B connector	
PO OS:	Windows 98, Windows XP, Vista, Windows 7 and Windows 10 operating systems	

Unique VFD Version Features

- 4x24 VFD display
- 4 button key pad for stand alone operation
- Volume totalization calibration feature

WORLD CALIBRATOR
Displayless Version
Typical Flow Range

HIGH FLOW MODELS

100-120 VAC		200-240 VAC	
Model	**CFM (m^3/hr)**	**Model**	**CFM (m^3/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	60 to 400 (102 - 680)	WC-400E-PC	60 to 400 (102 - 680)
WC-500-PC	100 to 500 (170 - 850)	WC-500E-PC	100 to 500 (170 - 850)
WC-600-PC	100 to 600 (170 - 1020)	WC-600E-PC	100 to 600 (170 - 1020)

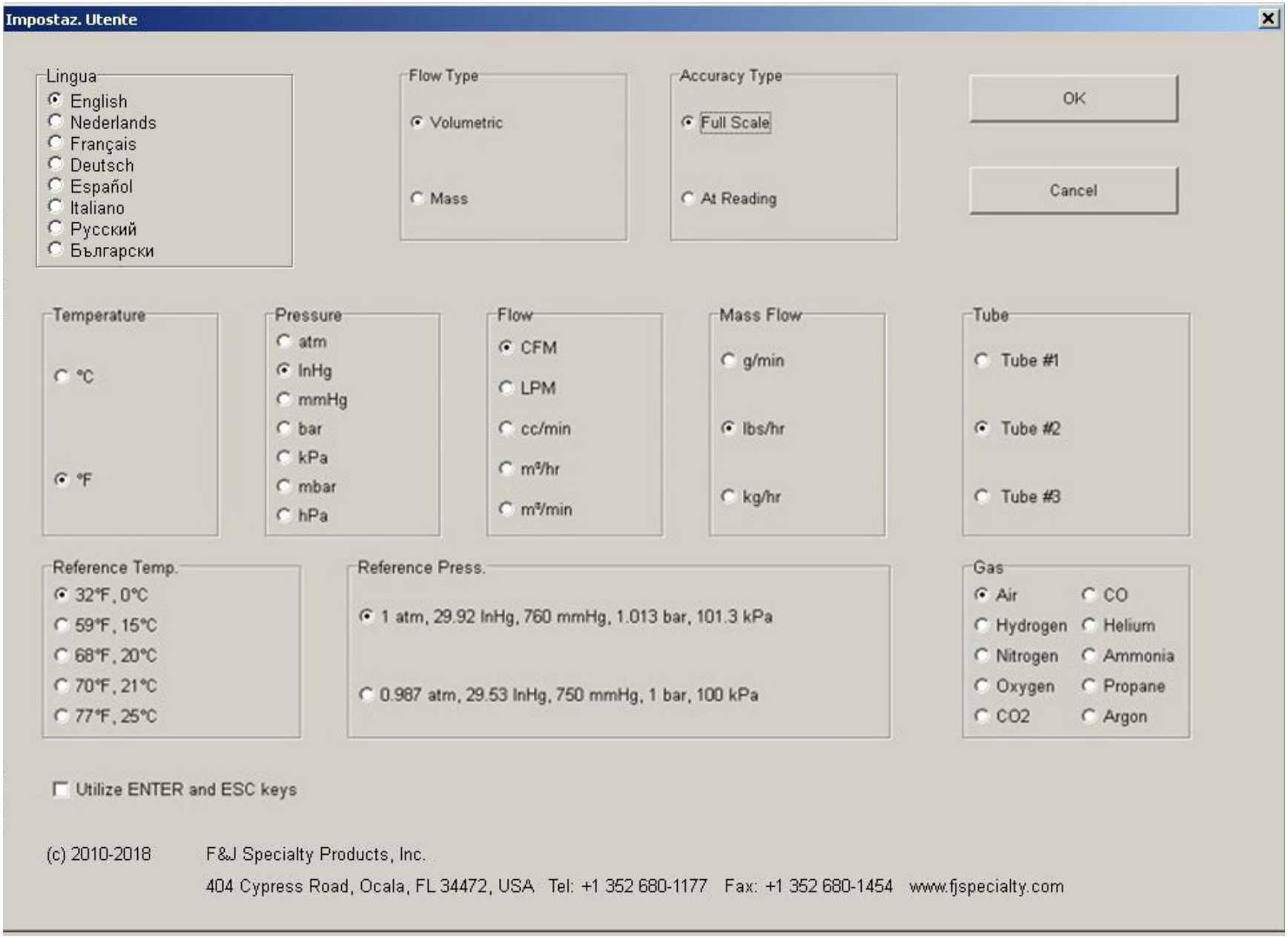
Note: F&J Multi-Sensor World Calibrator models are only manufactured in the Vacuum Fluorescent Display Series

WORLD CALIBRATOR
Vacuum Fluorescent Display Version
Typical Flow Range

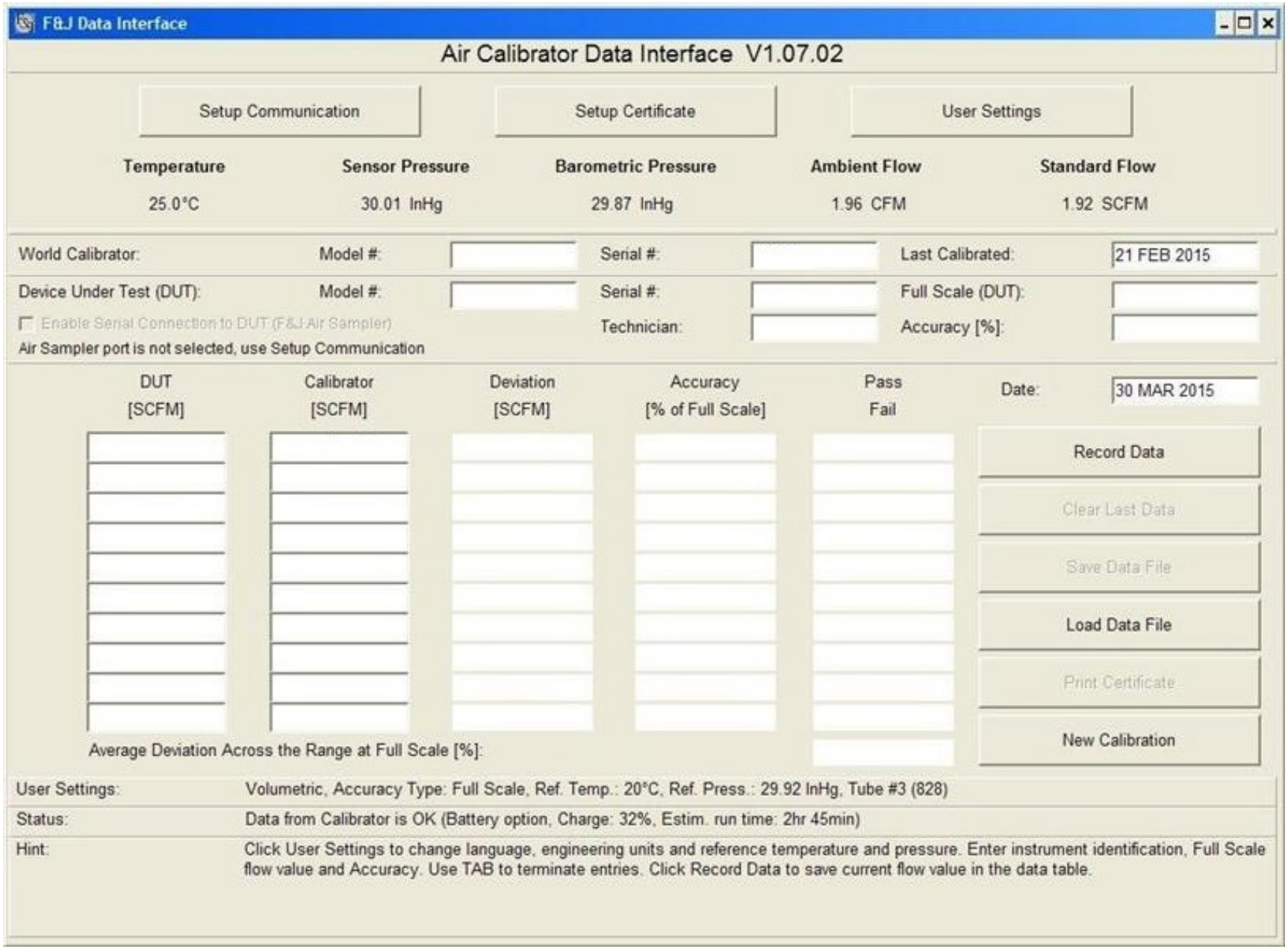
HIGH FLOW MODELS

100-120 VAC		200-240 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	60 to 400 (102 - 680)	WC-400E-VFD	60 to 400 (102 - 680)
WC-500-VFD	100 to 500 (170 - 850)	WC-500E-VFD	100 to 500 (170 - 850)
WC-600-VFD	100 to 600 (170 - 1020)	WC-600E-VFD	100 to 600 (170 - 1020)

USER SETTINGS SCREEN



DATA INTERFACE SCREEN



At Reading Accuracy Calibration Certificate

CERTIFICATE OF CALIBRATION

F&J SPECIALTY PRODUCTS, INC.
404 Cypress Road
Ocala, FL 34472
USA
Tel: +1 352 680-1177 Fax: +1 352 680-1454
Email: fandj@fjspecialty.com www.fjspecialty.com
THE NUCLEUS OF QUALITY AIR MONITORING PROGRAMS

MODEL #: **UHV600** SERIAL #: 10222

REFERENCE INSTRUMENT:	**WC-600-PC**	CALIBRATION DATE:	23 MAY 2011
REFERENCE SERIAL #:	20033	RECALIBRATION DATE:	23 MAY 2012
REFERENCE CALIBRATED:	18 APR 2011		
FLOW TYPE:	Volumetric	ACCURACY TYPE:	At Reading
REFERENCE TEMPERATURE:	77°F	REFERENCE PRESSURE:	29.92 InHg

INSTRUMENT FULL SCALE: 115.0 [SLPM]
INSTRUMENT ACCURACY AT READING: ± 4.00 [%]

	DEVICE UNDER TEST FLOW [SLPM]	REFERENCE INSTRUMENT FLOW [SLPM]	DEVIATION AT READING [SLPM]	ACCURACY AS % At Reading [%]	PASS OR FAIL
1.	**1000.0**	**995.0**	**-5.000**	**-0.17**	Pass
2.	**900.0**	**906.0**	**6.000**	**0.22**	Pass
3.	**800.0**	**795.0**	**-5.000**	**-0.21**	Pass
4.	**700.0**	**703.0**	**3.000**	**0.14**	Pass

AVERAGE DEVIATION ACROSS THE RANGE AT READING [%]: - 0.02

This is to certify that the instrument identified on this certificate has on this date certified to be within the instrument accuracy specified above. The Reference Flow Device bears letters of certification traceable to the National Institute of Standards and Technology (NIST).

CALIBRATED BY: _____ /KRK/

Full Scale Accuracy Calibration Certificate

CERTIFICATE OF CALIBRATION

F&J SPECIALTY PRODUCTS, INC.
404 Cypress Road
Ocala, FL 34472
USA
Tel: +1 352 680-1177 Fax: +1 352 680-1454
Email: fandj@fjspecialty.com www.fjspecialty.com
THE NUCLEUS OF QUALITY AIR MONITORING PROGRAMS

MODEL #: UHV600 SERIAL #: 10222

REFERENCE INSTRUMENT:	WC-600-PC	CALIBRATION DATE:	23 MAY 2011
REFERENCE SERIAL #:	20033	RECALIBRATION DATE:	09 AUG 2012
REFERENCE CALIBRATED:	18 APR 2011		
FLOW TYPE:	Volumetric	ACCURACY TYPE:	Full Scale
REFERENCE TEMPERATURE:	77°F	REFERENCE PRESSURE:	29.92 InHg

INSTRUMENT FULL SCALE: 115.0 [SLPM]
INSTRUMENT ACCURACY AT FULL SCALE: ± 4.00 [%]

	DEVICE UNDER TEST FLOW [SLPM]	REFERENCE INSTRUMENT FLOW [SLPM]	DEVIATION AT READING [SLPM]	ACCURACY AS % Of F.S. [%]	PASS OR FAIL
1.	1000.0	995.0	-5.000	-0.50	Pass
2.	900.0	906.0	6.000	0.60	Pass
3.	800.0	795.0	-5.000	-0.50	Pass
4.	700.0	703.0	3.000	0.30	Pass

AVERAGE DEVIATION ACROSS THE RANGE AT FULL SCALE [%]: - 0.10

This is to certify that the instrument identified on this certificate has on this date certified to be within the instrument accuracy specified above. The Reference Flow Device bears letters of certification traceable to the National Institute of Standards and Technology (NIST).

CALIBRATED BY: _____ /KRK/

CERTIFICATE

Management system as per

ISO 9001:2015

The Certification Body TUV USA, Inc. hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

F&J Specialty Products, Inc.
404 Cypress Road
Ocala, FL 34472
United States

Operates a management system in accordance with the requirements of ISO 9001:2015 and will be assessed for conformity within the 3 year term of validity of the certificate

Scope

Design and Manufacture of Portable and fixed station environmental air sampling instruments, airflow calibrators and supplies for radiological and non-radiological airborne pollutant monitoring applications. Product lines also include filter paper, filter holders, radioiodine collection cartridges and radon detection products.

Certificate Registration No. 56 100 20560006
Audit report No. 22-5613

Initial Certification Date: October 17, 2008
Issue Date: October 17, 2023
Expiry Date: October 16, 2026

Deann Minamino
Accreditation Management
at TUV USA, Inc.

TUV USA, Inc. 215 Main Street, Salem, NH 03079 USA www.tuv-nord.com/us

Page 1 of 1

Contract Number: 800157

Certificate: SGSNA/17/SUW/00304
Test Report Number: SUW-4169042

Certified Product: **World Calibrator**

Trademark (if any):

Model(s):

WC-xxx-PC-z, WC-xxxE-PC-z, WC-xxx-VFD-z, WC-xxxE-VFD-z, WC-xxxB-VFD-z, WC-xxxBE-VFD-z, WC-xxxB-PC, WC-xxxBE-PC Where xxx can be 801, 802, 812, 828, 814, 530, 550, 870, 890, 125, 150, 200, 300, 400, 500, 600, 770 or 999, Where z can be O,C,* or Blank; WCMT-2, WCMT-2E, WCMT-3, WCMT-3E, WCMT-4, WCMT-4E, WCMT-VFD-2, WCMT-VFD-2E, WCMT-VFD-3, WCMT-VFD-3E, WCMT-VFD-4, WCMT-VFD-4E.

Technical Data: 1.0A; 100-240Vac; 50/60Hz

Name and Address of Applicant: F&J SPECIALTY PRODUCTS, INC.
404 Cypress Road, 34472, Ocala, Florida, United States of America

Name and Address of Manufacturer: F&J SPECIALTY PRODUCTS, INC.
404 Cypress Road, 34472, Ocala, Florida, United States of America

Name and Address of Factory: F&J SPECIALTY PRODUCTS, INC.
404 Cypress Road, 34472, Ocala, Florida, United States of America

This certificate supercedes previous certificates issued with the same certificate number. Certification is valid when products are indicated on the SGS directory of certified products at www.sgs.com. The product is certified according to ISO/IEC Guide 17067, *Conformity assessment - Fundamentals of product certification, System 3*, and in accordance with

UL 61010-1, 3rd Ed. May 11, 2012
CAN/CSA C22.2 No. 61010-1-12

Authorized by

Effective date: 09 November 2017

Paul Krauss
Certifier

Consumer and Retail Services, a division of SGS North America Inc.
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t +1 770 570 1800 f +1 770 277 1240 www.sgs.com

CERTIFICATE OF REGISTRATION

F&J SPECIALTY PRODUCTS, INC.

404 Cypress Road
Ocala, Florida 34472 USA

This laboratory is accredited in accordance with the recognized Standard ISO/IEC 17025:2017. "General Requirement for the Competence of Testing and Calibration Laboratories". This laboratory also meets the requirements of ANSI/NCSL Z540.3 2006 and any additional program requirements in the field of calibration. This accreditation demonstrates technical competence for a defined scope and the operation of laboratory quality management systems

ISO/IEC 17025:2017

NIST Traceable Calibration & Servicing of Portable & Fixed Station Environmental Air Sampling Instruments & Air Flow Calibrators for Radiological & Non-Radiological Airborne Pollutant Monitoring Applications.

Additional Scope Detailed in the Attached Supplement

This approval is subject to the firm maintaining its system to the required standards, which will be monitored by AGS. In the issuance of this certificate, AGS assumes no liability to any party other than the firm named above, and then only in accordance with the agreed upon laboratory quality management systems.

Certification Number:	AGS-USA51717-I/3
Original Approval:	May 17, 2017
Date of Issue:	May 17, 2023
Date of Expiration:	May 16, 2026

For and On Behalf of American Global Standards, LLC
Stephen Keneally, President

ACCREDITED

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