



FLUKE®

Calibration

Industrial temperature calibration selection guide

Look inside for:

Field metrology wells

Infrared calibrators

Handheld and field dry-wells

Micro-baths

Environmental monitoring

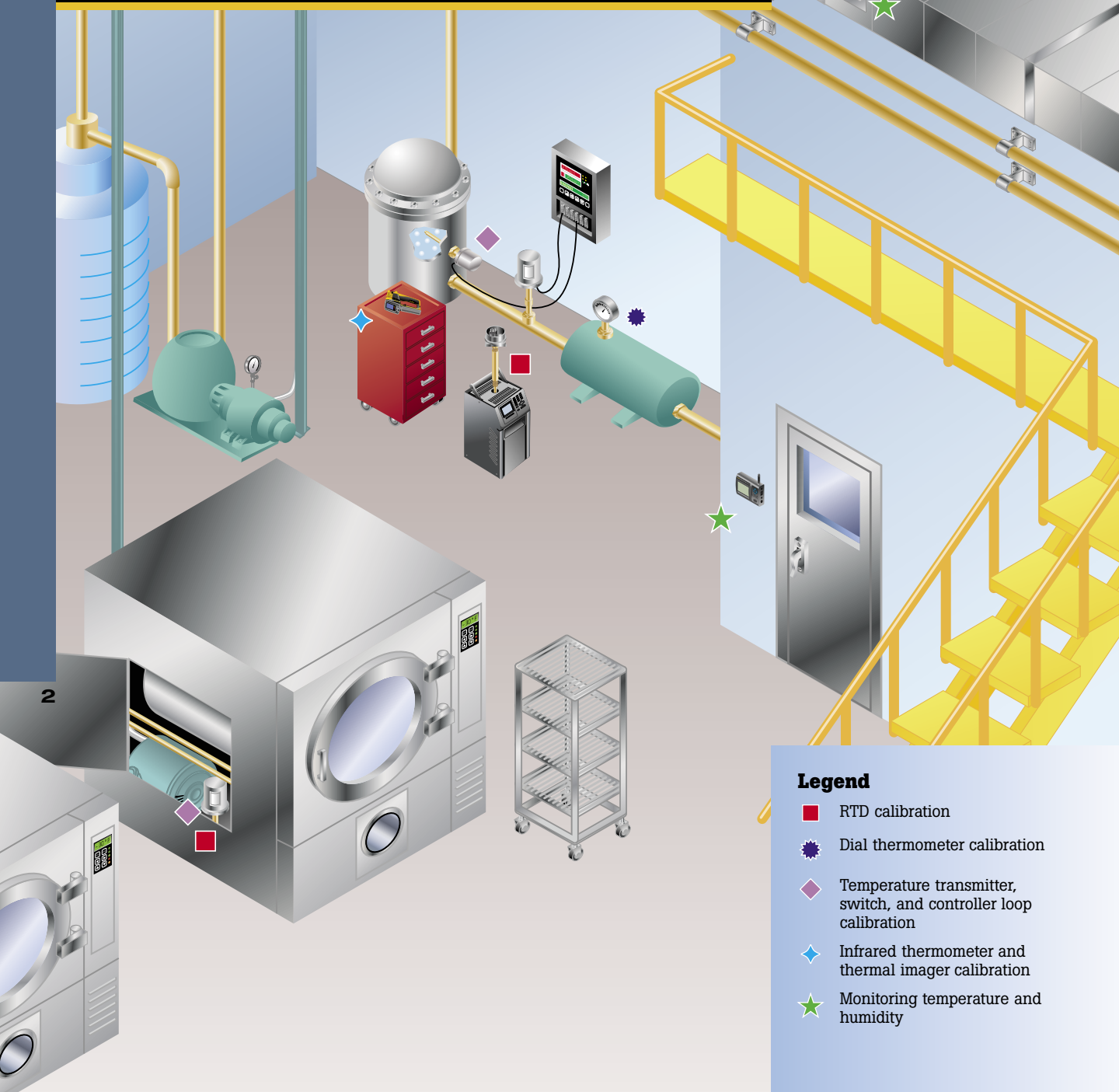
Thermometer readouts

Reference sensors

Temperature measurement and calibration

Tools for industrial instrumentation and calibration technicians

Selection guide










Legend







- RTD calibration
- ⚙ Dial thermometer calibration
- ◆ Temperature transmitter, switch, and controller loop calibration
- ◆ Infrared thermometer and thermal imager calibration
- ★ Monitoring temperature and humidity








Selection guide

FLUKE®

Calibration

	Field metrology wells			NEW! Precision infrared calibrators		Handheld dry-wells	
							
Model	9142/9142P page 4	9143/9143P page 4	9144/9144P page 4	4180 page 6	4181 page 6	9100S page 8	9102S page 8
Range	-25 °C to 150 °C 4-20 mA	33 °C to 350 °C 4-20 mA	50 °C to 660 °C 4-20 mA	-15 °C to 120 °C	35 °C to 500 °C	35 °C to 375 °C	-10 °C to 122 °C
Best accuracy	± 0.2 °C	± 0.2 °C	± 0.35 °C	± 0.35 °C	± 0.35 °C	± 0.25 °C	± 0.25 °C
Applications	◆	◆	◆	◆	◆	■	■

	Field dry-wells					Sensors	
							
Model	9009 page 9	9103 page 10	9140 page 10	9141 page 10	9150 page 10	PRT page 15	Thermistor page 15
Range(s)	-15 °C to 350 °C	-25 °C to 140 °C	35 °C to 350 °C	50 °C to 650 °C	150 °C to 1200 °C	-200 °C to 670 °C	0 °C to 100 °C
Best accuracy	± 0.2 °C	± 0.25 °C	± 0.5 °C	± 0.5 °C	± 5 °C	See pages 14-15	See pages 14-15
Applications	■ ◆	■ ◆	■ ◆	■ ◆	thermocouples	◆ ■ ◆	◆ ■ ◆

	Micro baths			Thermometer readouts and environmental monitoring			
							
Model	6102 page 11	7102 page 11	7103 page 11	1551A/1552A page 13	1523/1524 page 13	1529 page 14	1620A page 12
Range	35 °C to 200 °C	-5 °C to 125 °C	-30 °C to 125 °C	-200 °C to 300 °C	-200 °C to 2315 °C	-200 °C to 962 °C	15 °C to 35 °C 20%RH to 70%RH
Best accuracy	± 0.25 °C	± 0.25 °C	± 0.25 °C	± 0.05 °C	± 0.015 °C	± 0.006 °C	± 0.25 °C ± 2 %RH
Channels	n/a	n/a	n/a	n/a	1 or 2	4	2
Applications	◆	◆	◆	■ ◆	◆ ◆	◆ ◆	★

Field metrology wells



Fluke Calibration 9142, 9143, 9144 Field Metrology Wells

- Lightweight, portable, and fast
- Cool to $-25\text{ }^{\circ}\text{C}$ in 15 minutes and heat to $660\text{ }^{\circ}\text{C}$ in 15 minutes
- Built-in two-channel readout for PRT, RTD, thermocouple, 4–20 mA current
- True reference thermometry with accuracy to $\pm 0.01\text{ }^{\circ}\text{C}$
- Specifications guaranteed in an ambient range of $13\text{ }^{\circ}\text{C}$ to $33\text{ }^{\circ}\text{C}$
- On-board automation and documentation
- Metrology performance in accuracy, stability, uniformity, and loading

Field Metrology Wells offer accuracy, portability, and speed for nearly all field calibration applications. These units are packed with functionality and are remarkably easy to use. Field Metrology Wells are light weight, small, and quick to reach temperature set points, yet also stable, uniform, and precise. This industrial product line is perfect for transmitter loop, comparison calibration, or a simple check of a thermocouple sensor. There is no need to have to carry additional tools into the field as the “process” option offers a built-in readout for resistance, voltage, and mA measurement, 24V loop power, and on-board documentation.

Typical applications:

- Loop calibration of temperature transmitters
- Thermocouple calibration or verification
- Calibrations of RTDs or PRTs
- Testing of thermostatic switches
- Verification of industrial thermometers

Each unit includes: Accredited report of calibration, insert, insert removal tool, power cord, user manual, 9930 Interface-*it* software, serial cable, test leads (process versions only), spare PRT connector (process version only)

Recommended accessories: carrying case, MET/TEMP II automated calibration software, reference temperature sensor

Ordering Information

9142-X Field Metrology Well, $-25\text{ }^{\circ}\text{C}$ to $150\text{ }^{\circ}\text{C}$

9142-X-P Field Metrology Well, Process Version, $-25\text{ }^{\circ}\text{C}$ to $150\text{ }^{\circ}\text{C}$

9143-X Field Metrology Well, $33\text{ }^{\circ}\text{C}$ to $350\text{ }^{\circ}\text{C}$

9143-X-P Field Metrology Well, Process Version, $33\text{ }^{\circ}\text{C}$ to $350\text{ }^{\circ}\text{C}$

9144-X Field Metrology Well, $50\text{ }^{\circ}\text{C}$ to $660\text{ }^{\circ}\text{C}$

9144-X-P Field Metrology Well, Process Version, $50\text{ }^{\circ}\text{C}$ to $660\text{ }^{\circ}\text{C}$

9142-CASE Case, Carrying, Field Metrology Wells

5616-12-A PRT 305 mm x 6.35 mm

(11.75 in x 1/4 in) w/ NIST traceable calibration, $-200\text{ }^{\circ}\text{C}$ to $420\text{ }^{\circ}\text{C}$

5609-12-A PRT 305 mm x 6.35 mm

(11.75 in x 1/4 in) uncalibrated, $-200\text{ }^{\circ}\text{C}$ to $660\text{ }^{\circ}\text{C}$

1923-4-7 Calibration, PRT $-200\text{ }^{\circ}\text{C}$ to $660\text{ }^{\circ}\text{C}$

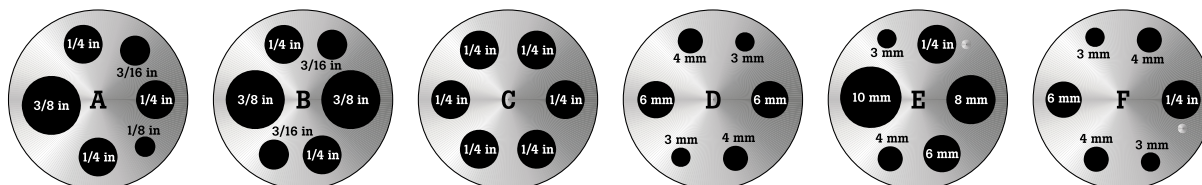
X = insert (interchangeable). Specify “A”, “B”, “C”, “D”, “E”, or “F”

Field metrology wells

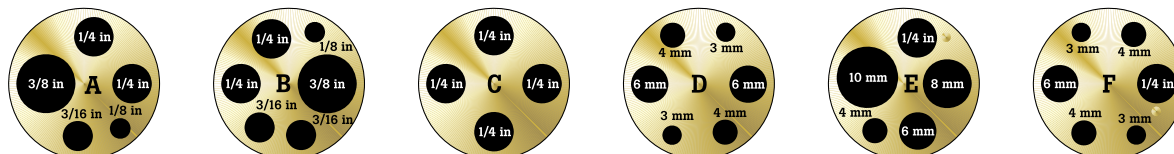
Summary specifications for 9142, 9143, and 9144

Model	9142/9142-P	9143/9143-P	9144/9144-P
Range	-25 °C to 150 °C	33 °C to 350 °C	50 °C to 660 °C
Display accuracy	± 0.2 °C	± 0.2 °C	± 0.35 °C (420 °C) ± 0.5 °C (660 °C)
Stability	± 0.01 °C	± 0.02 °C (33 °C) ± 0.03 °C (350 °C)	± 0.03 °C (50 °C) ± 0.05 °C (660 °C)
Heating time (max)	23 min	5 min	15 min
Cooling time	15 min to -25 °C	14 min to 100 °C	25 min to 100 °C
Weight	8.2 kg (18 lbs)	7.3 kg (16 lbs)	7.7 kg (17 lbs)
Process version accuracy	± 0.01 °C at -25 °C ± 0.02 °C at 155 °C	± 0.02 °C at 50 °C ± 0.04 °C at 350 °C	± 0.02 °C at 50 °C ± 0.07 °C at 660 °C
RTD inputs (process version)	2-, 3-, 4-wire RTD. Resistance range of 0 to 400 ohms. Ni-120, PT-100 (385), PT-100 (3926), PT-100 (JIS), or Ω		
TC inputs (process version)	Type J, K, T, E, R, S, B, L, U, N, C, and mV		
mA specs (process version)	Range: 0-24 mA with 24-28 VDC loop power mA accuracy: 0.02% of rdg + 0.002 mA		

9142 insert options



9143/9144 insert options



Calibration and metrology training from Fluke Calibration can help you and your staff become more knowledgeable in a wide variety of disciplines. Instructors are experts who work in electrical, temperature, pressure and flow calibration, and who really want to help you learn the foundation and techniques of metrology that you can put to immediate use in your workplace. Fluke Calibration offers introductory, intermediate, and advanced level courses in a variety of formats to meet your needs.

Training Seminars in American Fork, Utah

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Get real training from real experts that lays out the basics and builds up to more advanced material for more advanced learners.

- Principles of Temperature Metrology
- Advanced Topics in Temperature Metrology
- Infrared Temperature Metrology
- Temperature Calibration Product Training

Service

Some of the best service and lowest uncertainties are available in our primary and secondary calibration laboratories located in the US and Europe. We offer NVLAP accredited calibration services in the US and UKAS accredited calibration services are available in Europe. Don't forget to pay a visit to our calibration laboratory when you come for training.



Fluke Calibration. *Precision, performance, confidence.™*

Electrical	RF	Temperature	Pressure	Flow	Software
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Fluke Calibration

PO Box 9090, Everett, WA 98206 U.S.A.

Fluke Europe B.V.

PO Box 1186, 5602 BD

Eindhoven, The Netherlands

For more information call:

In the U.S.A. (877) 355-3225 or

Fax (425) 446-5116

In Europe/M-East/Africa +31 (0) 40 2675 200 or

Fax +31 (0) 40 2675 222

In Canada (800)-36-FLUKE or

Fax (905) 890-6866

From other countries +1 (425) 446-5500 or

Fax +1 (425) 446-5116

Web access: <http://www.flukecal.com>

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Printed in U.S.A. 9/2011 3246833B C-EN

Pub. ID: 11336-ENG, Rev 02

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