FLUKE®

Calibration

Industrial temperature calibration selection guide

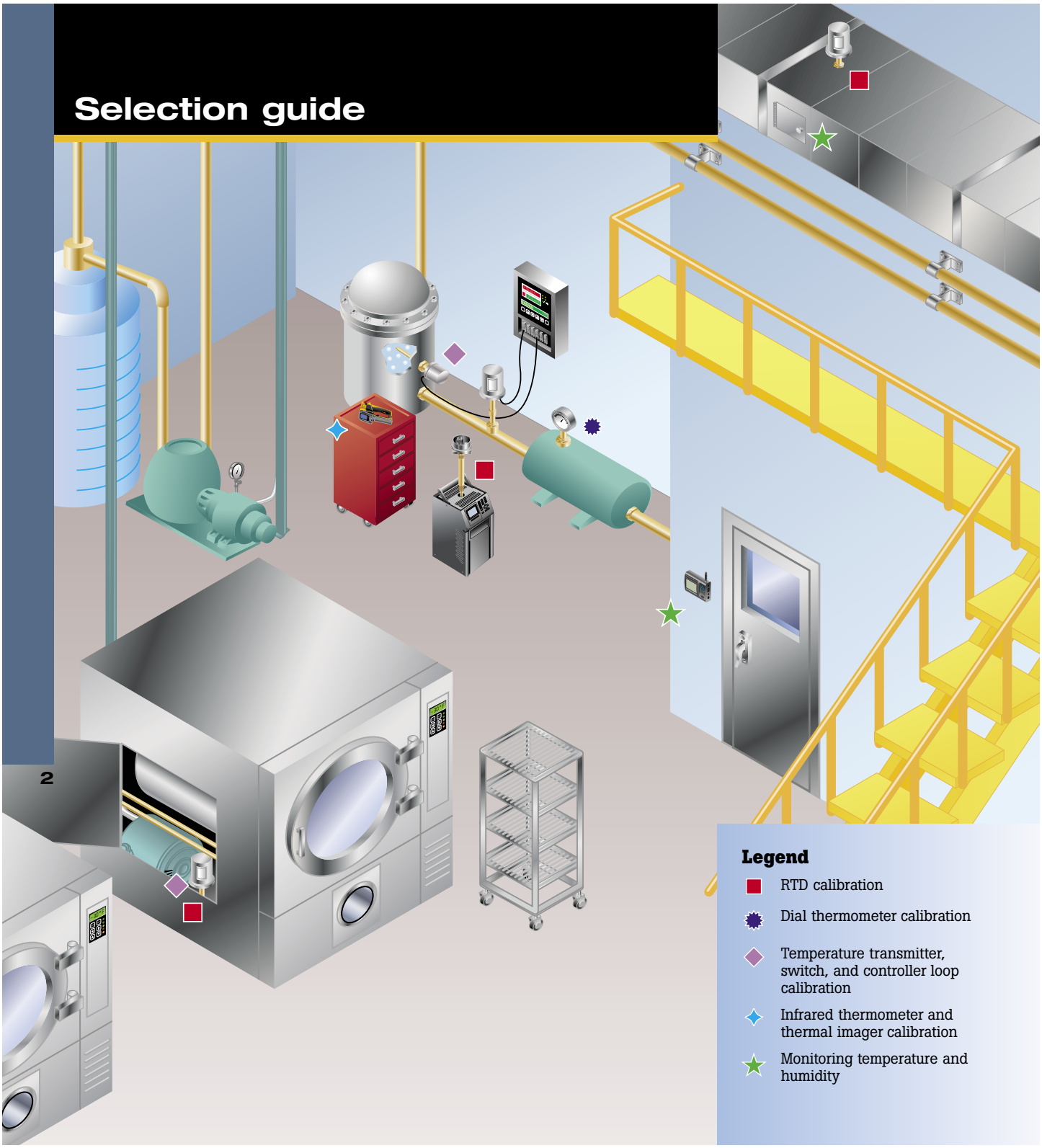
Look inside for:

- 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



Selection guide

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	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 °C in 15 minutes and heat to 660 °C in 15 minutes
- Built-in two-channel readout for PRT, RTD, thermocouple, 4–20 mA current
- True reference thermometry with accuracy to ± 0.01 °C
- Specifications guaranteed in an ambient range of 13 °C to 33 °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 °C to 150 °C
9142-X-P Field Metrology Well, Process Version, –25 °C to 150 °C
9143-X Field Metrology Well, 33 °C to 350 °C
9143-X-P Field Metrology Well, Process Version, 33 °C to 350 °C
9144-X Field Metrology Well, 50 °C to 660 °C
9144-X-P Field Metrology Well, Process Version, 50 °C to 660 °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 °C to 420 °C
5609-12-A PRT 305 mm x 6.35 mm (11.75 in x 1/4 in) uncalibrated, –200 °C to 660 °C
1923-4-7 Calibration, PRT –200 °C to 660 °C
X = insert (interchangeable). Specify "A", "B", "C", "D", "E", or "F"

Field metrology wells

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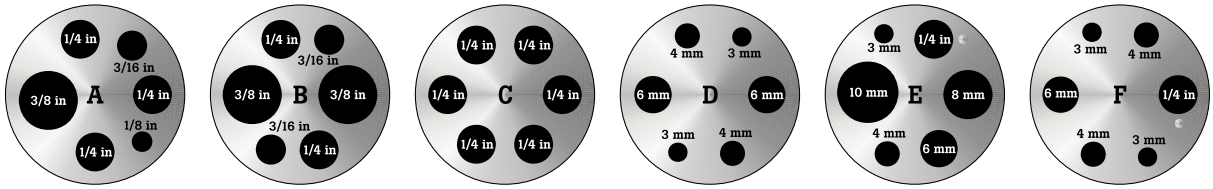
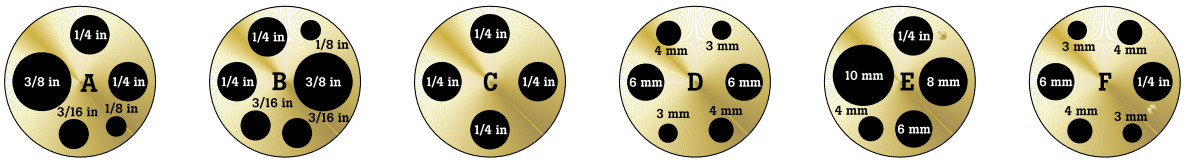
Summary specifications for 9142, 9143, and 9144

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



Training

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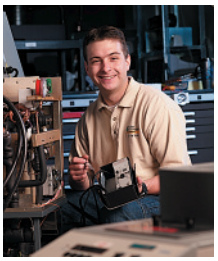
Calibration and metrology training from Fluke Calibration can help you and your staff become more knowledgeable in a wide variety of disciplines. Instructors are experts who work in electrical, temperature, pressure and flow calibration, and who really want to help you learn the foundation and techniques 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

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