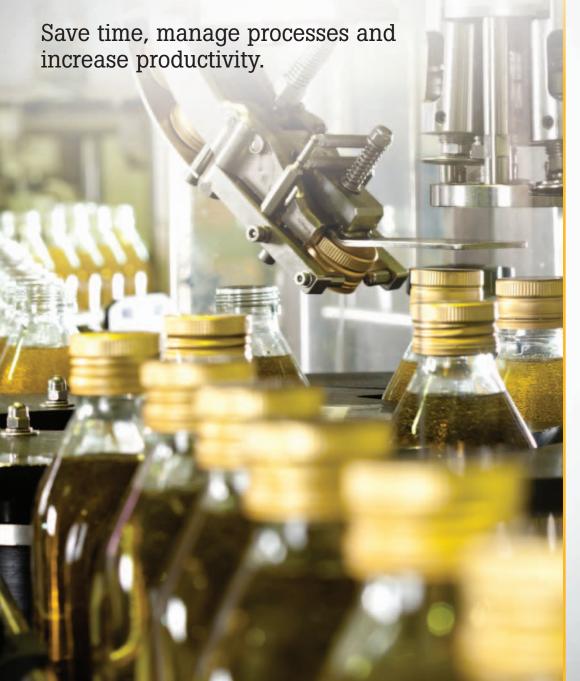


# Food and Beverage Test Tools













## Food and beverage—work that feeds the world

## Fluke can help you save time, manage processes and increase productivity

Today's food and beverage manufacturers operate in a pressure cooker. Keeping the lid on production costs and energy expenditures can be a daily challenge. Regulatory requirements, safety issues, and the demands of maintaining uptime add another layer of complexity.

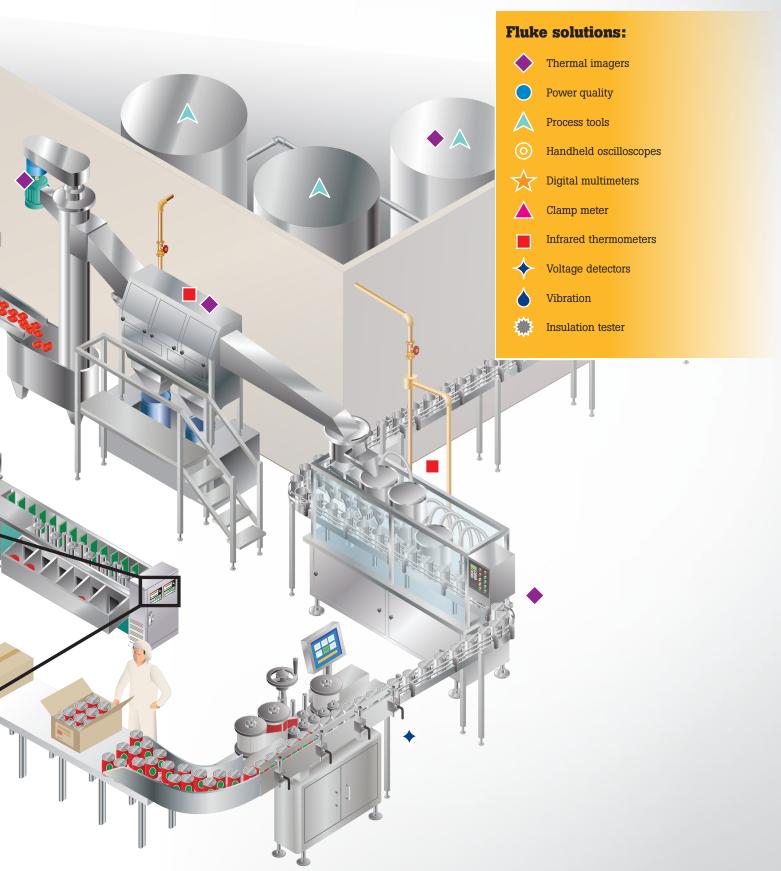
Food and beverage processing plants play a key role in ensuring human health and protecting the environment. They must operate with extreme reliability and precise control of temperature and other operating parameters. At the same time, plant operators face requirements to save on energy costs, operate more efficiently and eliminate accidents.

Fluke has solutions to minimize waste, optimize equipment, prevent downtime and reduce energy consumption. Fluke tools are the industry standard against which other tools are measured.

More information and resources. You can always count on Fluke for the troubleshooting techniques, application information, and training to keep your plant up and running. Visit our web site at www.fluke.com.



Diagram is not an exact physical representation. Diagram elements are not to scale and are for illustration purposes only. Modification of this document is not permitted without written permission from Fluke. @2009 Fluke Corporation.



## Fluke Connect® Assets

## Oversee your complex world with a system of software and wireless tools that helps you prevent equipment failure

Fluke Connect® Assets enables maintenance managers to build and sustain successful maintenance programs. Whether you are looking to establish preventive or condition-based practices or simply maximize uptime, you can now do it with minimal investment and setup.

- Improved collaboration, no matter where you are. Remote issue resolution because your data is easy to access, view and share from anywhere
- · Visualize multiple measurements, including mechanical, electrical and thermal, organized by piece of equipment
- · Quick return on investment. Designed for easy installation and setup without involving your IT team
- · Paper-free, wireless one-step measurement transfer reduces error and recaptures time spent searching for records



## Fluke Connect<sup>®</sup> is on the job for maintenance teams



#### ShareLive™ Video Calls

Stay on the same page even when you and your team are in different places, only with ShareLive™ video call.



## TrendIt™ Graphs

Instantly trend and monitor intermittent problems with TrendIt<sup>™</sup> graphs.



#### AutoRecord™ Measurements

Measure once and cut out the paperwork with AutoRecord™ measurements.



#### Fluke Cloud™ Storage

Get world-class data protection with Fluke Cloud™ storage.



### Which tools work with Fluke Connect®?

More than 30 wireless Fluke test and measurement tools work with Fluke Connect®. This includes selected tools in the product groups listed below:

- Infrared cameras
- Vibration meters
- Digital multimeters
- · Current meters
- · Voltage meters
- Temperature meters
- · Process tools
- Portable oscilloscopes
- Accessories

For more specific information on which tools work with Fluke Connect or to make a purchase, please go to connect.fluke.us





### Fluke Connect Wireless Voltage Meters

#### Wirelessly relay measurements using Fluke Connect

### v3000 FC Wireless AC Voltage Meter

- Measure up to 1000 V true-rms ac
- · Use as standalone meter or as part of the system
- · Logging function for recording and saving up to 65,000 readings

### v3001 FC Wireless DC Voltage Meter

- Measure up to 1000 V dc
- · Use as standalone meter or as part of the system
- · Use the logging function for recording and saving up to 65,000 readings











## **Fluke Connect Wireless Current Meters**

#### Take three-phase measurement in a third of the time

### a3000 FC Wireless AC Current Clamp Meter

- Fully functional true-rms current clamp meter that wirelessly relays measurements to other Fluke Connect enables master units
- Measure up to 400 A ac

### a3001 FC Wireless iFlex® AC Current Meter

- · Record over time to monitor circuit load changes for an hour, a shift or a week
- Measure up to 2500 A ac





## Clamp meters



## Fluke 376 FC True-rms AC/DC **Clamp Meter with iFlex**®

High current and a large jaw, make this clamp well suited for industrial and utility applications.

The Fluke 376 FC Wireless True-rms AC/DC Clamp Meter offers measurements up to 1000 V and 1000 A, ac or dc, plus an included iFlex® Flexible Current Clamp In addition, the 376 FC is now part of the Fluke Connect® family of wireless test tools.

- · Log and trend measurements to pinpoint intermittent faults
- · Transmit results wirelessly via Fluke Connect Measurements app
- · Create and send reports right from the field
- Capture measurements outside the arc flash zone with Bluetooth® connectivity to your Apple® or Android® devices





## Fluke 360 AC **Leakage Current Clamp Meter**

Ideally designed for non-invasive checks of insulation condition, the Fluke 360 leakage meter allows you to perform tests without powering down the installation or disconnecting equipment-saving you time, without compromising on quality or safety

- Measurement of leakage current with 3 mA range and 1 µA of resolution
- · Broad range of measurement, from 1 µA up to 60 A, for all installation needs
- Easy-to-carry, pocket-sized leakage current tester with wide 40 mm (1.5 in) jaw size
- · Conformance to IEC1010 and EMC standard for confident measurements
- Meets all of the applications and performance classes in safety standard VDE0404-4 and VDE0702



#### Every day, thousands of workers suffer disabling injuries on the job.

To help you reduce the level of risk in your work environment, Fluke has created a safety program for electrical measurement-including a free video.

At Fluke, we're committed to helping you stay safe and compliant. So we've developed the only safety program designed to mitigate risk and promote safe electrical measurement.

To find out more, just visit www.fluke.com/safety





## **Digital multimeters**

## **87V Industrial True-rms Multimeter** with Temperature

#### Accuracy and diagnostic functions for maximum industrial productivity.

The Fluke 87V has all of the measurement functions, troubleshooting features, resolution, and accuracy to solve more problems in electronics, plant automation, power distribution, and electro-mechanical equipment.

- True-rms ac voltage and current for accurate measurements on non linear signals
- · Built in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument
- · Large display digits and two level bright white backlight for increased visibility
- Withstands hazardous 8,000 V spikes caused by load switching and faults on industrial circuits and complies with second edition IEC and ANSI electrical safety standards





## **Connect Assets**

Fluke Connect® Assets enables maintenance managers to build and sustain successful maintenance programs. Whether you are looking to establish preventive or condition-based practices or simply maximize uptime, you can now do it with minimal investment and setup.

- Improved collaboration, no matter where you are. Remote issue resolution because your data is easy to access, view and share from anywhere.
- Visualize multiple measurements, including mechanical, electrical and thermal, organized by piece of equipment.
- Quick return on investment. Designed for easy installation and setup without involving your IT team.
- Paper-free, wireless one-step measurement transfer





## Fluke 279 FC True-rms Thermal Multimeter

The 279 FC is a full-featured digital multimeter with integrated thermal imaging and is designed to increase your productivity and confidence.

Fluke 279 FC True-rms Thermal Multimeter helps you find, repair, validate, and report many electrical issues quickly so that you are confident problems are solved.

Thermal imaging multimeters are a first-line troubleshooting tool for electrical equipment that can check hot spots of high-voltage equipment and transformers, and detect heating of fuses, wires, insulators, connectors, splices and switches.

- · Full-featured multimeter with built-in thermal imager
- 15 measurement functions including: ac voltage with low-pass filter, dc voltage, resistance, Continuity, capacitance, diode test, min/max/avg, ac current (with iFlex), frequency
- Image resolution-80 x 60 3.5 in /8.89 cm color LCD screen
- Rechargeable lithium ion battery allows for a for a full work day (10+ hours) under normal conditions
- CAT III 1000 V, CAT IV 600 V measurement category





## **Insulation resistance**

#### Fluke 1555 10 kV Insulation Tester Kit

#### Evaluate the trends, eliminate the doubts

The Fluke 1555 insulation resistance tester, offers digital insulation testing up to 10 kV, making it ideal for testing a wide range of high voltage equipment including switchgear, motors, generators and cables.

Fluke insulation testers can now conduct the entire range of test voltages specified in IEEE 43-2000 with a best in class, 3 year warranty and CAT IV 600 V safety rating. With measurement storage and PC interface, the 1555 is the perfect tool for preventative or predictive maintenance programs designed to identify potential equipment failures before they occur.

- Test voltages to up 10 kV provides solutions for all applications
- Warning function alerts the user that line voltage is present and gives the voltage reading up to 600 V ac or dc for increased user safety
- Selectable test voltages in 50 V steps from 250 V to 1000 V, and 100 V steps above 1000 V
- Measurements can be stored in up to 99 memory locations, with each location assigned a unique, user defined, label for easy recall
- Long battery life gives the user over 750 tests between charges
- Automatic calculation of Dielectric Absorption (DAR) and Polarization Index (PI) with no additional setup





### Fluke 1587 FC Insulation Multimeter

#### The High-Performance 2-in-1 Insulation DMM

The Fluke 1587 FC Insulation Multimeter combines a digital insulation tester with a full-featured, true-rms digital multimeter in a single compact, handheld unit, which provides maximum versatility for both troubleshooting and preventative maintenance.

- PI/DAR timed ratio tests with TrendIt<sup>™</sup> graphs
- · Auto-discharge of capacitive voltage for added user protection
- Insulation test from 0.01 M $\Omega$  to 2 G $\Omega$
- Insulation test voltages (50 V, 100 V, 250 V, 500 V, 1000 V) for many applications
- ac/dc voltage, dc millivolts, ac/dc milliamps, resistance ( $\Omega$ ), continuity
- Capacitance, diode test, temperature, Min/Max, frequency (Hz)
- Memory storage through Fluke Connect
- Temperature compensation through app for establishing accurate baselines and relevant historical comparisons



## **Infrared thermometers**

### Fluke 568 Infrared Thermometer

### The two-in-one infrared and contact thermometer with an innovative graphical display.

With a straight-forward user interface and soft-key menus, quickly and simply adjust emissivity, start data logging, or turn on and off alarms, with just a few pushes of a button.

Use the Fluke 568's high distance-to-spot ratio to check pole transformers, disconnect switches, and bus connectors to check for developing problems with a tell-tale thermal symptom from a greater distance.

- Measure -40 °C to 800 °C (-40 °F to 1470 °F)
- · Easily access advanced features with the soft-key buttons and graphical display
- Measure smaller objects from further away, with a distance-to-spot ratio of 50:1
- Compatible with most type K thermocouples
- · Log and download up to 99 measurements for accurate reporting
- Trend and analyze your results with the included FlukeView® Forms PC software





## **How a Fluke** thermometer makes your job easier?

Temperature is the second most common measurement in the world (the first is time). For something that is measured so often, wouldn't it be great to have a thermometer that's as easy to carry and as fast to read as your wristwatch? Fluke's family of infrared (IR) thermometers gives you speed and convenience. Point. Squeeze. Read the results. It's quick and easy, and helps you get your job done faster.

Find out more at www.fluke.com/ foodbeveragetemp

### Fluke 572-2 High-Temperature **Infrared Thermometer**

The Fluke 572-2 High-Temperature Infrared Thermometer is the one product you can use in high-temperature industrial environments all around the world. The 572-2 allows you to carry the most trusted name in test tools anywhere you need accurate, high-temperature and high distance-to-spot measurements.

With a straight-forward user interface and soft-key menus, the Fluke 572-2 makes even complex measurements easy. Quickly navigate and adjust emissivity, start data logging, or turn on and off alarms, with just a few pushes of a button.

- Infrared Temperature Range: -30 °C to 900 °C (-22 °F to 1652 °F)
- Spot measure: determine the absolute surface temperature of an object
- Temperature differential: compare two spot measurements against each other
- · Scanning: detect changes along a wide or continuous region target



## Thermal imagers



## Fluke Ti300, Ti400 and Ti450 **Professional Series Thermal Imagers**

100 % Focused. Every object, near and far

For the electrical utility field troubleshooter who wants to discover and diagnose potential faults and issues on electrical generation, transmission, and distribution, the Ti300, Ti400 and Ti450 should meet your needs.

- Capture a clear, accurate image focused throughout the field of view with MultiSharp™ Focus. Simply point and shoot—the camera automatically processes a stack of images focused near and far (Ti450)
- Get an instant in-focus image of your designated target. LaserSharp® Auto Focus, exclusive to Fluke, uses a built-in laser distance meter that calculates and displays the distance from your designated target with pinpoint accuracy
- Get 4x the pixel data with SuperResolution, which captures multiple images and combines them to create a 640 x 480 image (Ti450)
- Save time—wirelessly sync images directly from your camera to the Fluke Connect® system, and attach to an asset record or work order.
- See the details you need with interchangeable smart lenses—2x and 4x telephoto and wide angle—no calibration required



## Fluke CV Series IR Windows

A company's greatest investment is not the equipment that's behind the panel door. It's the electricians, engineers and inspectors who risk their lives every day doing their job.

- · Highest arc blast rating available-63 kA when properly installed
- Available in 4 inch, 3 inch and 2 inch sizes with convenient 1/4 turn access
- · Corrosion and UV resistant for challenging outdoor environments-IP67 rugged



Specification	Ti450	Ti400	Ti300
Detector resolution	320 x 240 (640 x 480 with SuperResolution)	320 x 240	240 x 180
Spatial resolution	1.31 mRad	1.31 mRad	1.75 mRad
Field of view	24° x 17°	24° x 17°	24° x 17°
Thermal sensitivity	50 mK (30 mK in filter mode)	50 mK	50 mK
Temperature range	-20 °C to +1200 °C (-4 °F to +2192 °F)	-20 °C to +1200 °C (-4 °F to +2192 °F)	-20 °C to +650 °C (-4 °F to +1202 °F)
Focus systems	LS, AMF	LS, AMF	LS, AMF
Laser distance meter	Yes	Yes	Yes
Annotation	IRPN, VA, TA	IRPN, VA, TA	IRPN, VA, TA
Standard video rec.	Yes	Yes	Yes
Radiometric video rec.	Yes	Yes	Yes
Optional lenses	Yes	Yes	Yes
Storage medium	Removable 4 GB micro SD memory card, 4 GB internal flash memory,		

save-to-USB flash drive capability, upload to Fluke Connect® system\*

Fluke Connect system is not available in all countries. Please check availability with your authorized Fluke distributor







## TiS10, TiS20, TiS40, TiS45, TiS50, TiS55, TiS60, **TiS65, TiS75 Performance Series Thermal Imagers**

Built for performance with features that help you easily and quickly identify problems before they become expensive failures.

Get improved resolution that delivers the right image quality you need to make the proper diagnosis:

- Up to 320 x 240 resolution
- · Reduce the amount of time it takes to get an in-focus image with manual or fixed focus options
- Securely store and manage your images from anywhere
  - WiFi upload to Fluke Cloud™
  - Free storage with Fluke Cloud™
  - Share images in real-time with Fluke Connect
  - Removable 4GB micro SD card
  - Voice annotation
- · Edit and analyze images then create and send reports from your smartphone directly from the field with Fluke Connect

## Fluke Connect® WiFi communication from the field

- Share images in real-time<sup>1</sup> across teams with Fluke Connect
- Save time by creating and emailing reports from the jobsite
- Capture multiple measurements all in one report
- WiFi upload and free storage<sup>2</sup> with Fluke Cloud™
- Store thousands of images with internal and external 4 GB memory

Visit www.fluke.com/select to compare products.





- <sup>1</sup>Within your provider's wireless service area; Fluke Connect is not available in all countries <sup>2</sup>5 GB of free storage
- **Specification** TiS75 TiS65 TiS60 TiS55 TiS50 TiS45 TiS40 Detector resolution 320 x 240 260 x 195 220 x 165 160 x 120 Spatial resolution 2.0 mRad 2.4 mRad 2.8 mRad 3.9 mRad Field of view 35.7 ° x 26.8 ° Thermal sensitivity 80 mK 80 mK 80 mK 90 mK -20 °C to +550 °C -20 °C to +550 °C -20 °C to +450 °C -20 °C to +350 °C Temperature range (-4 °F to 1022 °F) (-4 °F to 1022 °F) (-4 °F to 842 °F)" (-4 °F to 662 °F) Focus systems Manual focus, Minimum focus Fixed Manual focus, Fixed focus, "Manual Fixed focus, distance, 0.15 m (6 in) focus, Minimum Minimum Minimum focus, Mini-Minimum focus distance focus focus mum focus focus 0.45 m (1.5 ft) distance, distance distance, distance 0.45 m (1.5 ft) 0.15 m (6 in) 0.45 m (1.5 ft) 0.15 m (6 in) Laser distance meter Voice Annotation Yes, Bluetooth Headset (sold separately) Standard video rec. Yes Radiometric video rec Yes Non-radiometric (MPEG - encoded .AVI) and fully Video files format radiometric (.IS3) Storage medium Removable 4 GB micro SD memory card, 4 GB internal flash memory, save-to-USB flash drive capa-Internal 4GB bility, upload to Fluke Connect® system\* memory (optional 4GB micro

SD card sold separately)

<sup>\*</sup> Fluke Connect\* system is not available in all countries. Please check availability with your authorized Fluke distributor

## **Multifunction calibrators**

#### Fluke 750 Series

#### **Documenting Process Calibrators: Work smarter.** Work faster.

Whether you're calibrating instruments, troubleshooting a problem or running routine maintenance, Fluke 750 Series process calibrators can help you get the job done faster. It does so many different tasks, so quickly and so well, it's the only process calibrator you need to carry.

- · Calibrate temperature, pressure, voltage, current, resistance, and frequency. Since it both measures and sources, you can troubleshoot and calibrate all with one rugged tool.
- The Fluke 753, and 754 capture your calibration results, eliminating the need to juggle a pen and pad in the field. The USB interface in the Fluke 753 and 754 lets you transfer the results to a PC, thus saving the time of having to manually transcribe them when you return to the shop.
- Works with the Fluke DPC/TRACK<sup>™</sup> software, and with popular programs from Honeywell Meridium, Emerson, Cornerstone, Yokogawa, Prime Technologies, Intergraph and others. It allows you to create procedures, instructions, and action lists to deliver fast, easy documentation. Three operating modes Measure, Source, or simultaneous Measure/Source enable technicians to troubleshoot, calibrate, or maintain instrumentation with just one tool.
- Integrated HART communication capability lets you program and control HART instrumentation (754 only).







### Fluke 154 HART **Calibration Assistant**

The Fluke 154 is a standalone tablet based HART® communication tool. The tablet configured with the "FlukeHART" mobile app utilizes a wireless HART modem that connects directly to the HART transmitter being tested or configured. When you combine your Fluke 154 Communicator with a Fluke 750 Series Documenting Process Calibrator, or a 720 Series Multifunction Process Calibrator you have a complete HART calibration and configuration solution.



## Fluke 750 SW DPC/TRACK2 Software

Whether you schedule 200 or 2,000+ calibrations per year, Fluke's DPCTrack2 calibration management software will save you time and assure data integrity by tapping into your Fluke 750 series calibrator's documenting features. The 753, 754, 743, and 744 work with the Fluke DPC/TRACK2™ software, and with popular programs from Honeywell Meridium, Emerson, Cornerstone, Yokogawa, Prime Technologies, Intergraph and others. The program allows you to create procedures, instructions, and action lists to deliver fast, easy documentation.

- Performs pass/fail calculations and as-found/as-left data verification
- Allows multiple calibration records to be opened simultaneously
- Test standards can be approved for use only for specific instrument types
- · Reverse traceability for tracking affected instruments if needed
- · Uploads logged data captured in the field
- · Pre-structured associations for instruments to loops and/or equipment records are viewable in a hierarchical format
- Allows multiple calibration test groups for a single instrument







### Fluke 726 Precision Multifunction Process Calibrator

#### Fluke multifunction calibration tools designed to calibrate almost anything.

The Fluke 726 Precision Multifunction Process Calibrator is designed specifically for the Process industry with broad workload coverage, calibration power and unsurpassed accuracy in mind. The 726 measures and sources almost all process parameters and can calibrate almost anything. The 726 will also interpret results without the help of a calculator and store measurement data for later analysis.

- Two separate channels; measure, source and view process signals simultaneously
- · Measure volts, mA, RTDs, thermocouples, frequency, and resistance to test sensors and transmitters
- · Source/simulate volts, mA, thermocouples, RTDs, frequency, and pressure to calibrate transmitters
- Source mA with simultaneous pressure measurement to conduct valve and I/P tests
- · Integrated pressure switch test allows you to capture the set, reset and deadband of a switch
- Transmitter error % calculation, interpret calibration results without a calculator
- · Power transmitters during test using 24 V loop supply and simultaneous mA measurement
- · Train source mode for enhanced flowmeter testing
- HART mode inserts 250 ohm resistor in mA measure and source for compatibility with HART instrumentation



#### Take the Fluke 725 for a test drive with the virtual demonstrator.

Discover all controls, applications and specifications of the Fluke  $726/\overline{7}25$  with an on-line demo. Visit www.fluke.com/720demo

## **Pressure calibrators**



### Fluke 719 and 719PRO Electric **Pressure Calibrators**

- · Electric pump enables one-handed pressure pumping
- Best in class 0.025 % pressure management accuracy
- Programmable pump limit settings can eliminate over-pressurization
- Variable release rate bleed valve for controlled pressure release
- · Pressure switch test makes a difficult task easy, captures set, reset and deadband values of a pressure switch

Measure mA with 0.015% accuracy, while sourcing 24 V loop power

- 719: Two ranges, 30 psi and 100 psi
- 719PRO: Three ranges 30 psi, 150 psi and 300 psi
- 719PRO: Precision temperature measurement with optional 720RTD Probe



#### Fluke 718 Pressure Calibrators

- 1, 30, 100 and 300 psi ranges available
- Pump to 300 psi, 20 bar with internal pump (718–300G)
- 718-1G includes special low volume pump and high measurement resolution for low pressure calibration
- · Precision vernier for fine pressure adjustment
- Variable release rate bleed valve for controller pressure release
- · Pressure switch test makes a
- Measure pressure to 0.025 % of full scale
- Measure mA with 0.015 % accuracy, while sourcing 24 V loop power





### Fluke 750P Series Pressure Modules

48 pressure modules covers pressure calibrations from 0 to 1 in H<sub>2</sub>0 to 10000 psi 2.5 mBar to 690 bar

- 0.025 % reference uncertainty
- 6-month and 1-year specifications
- Temperature compensated 0 °C to 50 °C
- · Digital communication to calibrators, no analog losses or errors
- · Gage, differential, dual range, absolute and vacuum measurement models



## Temperature and loop calibrators

## 712B/714B Temperature Calibrators

#### Highly accurate single function temperature calibrator

For the food and beverage calibration professional that wants a highly accurate, easy-to-use, single function temperature calibrator, the 712B 714B are ideal. For temperature calibration professional, these temperature calibrators deliver outstanding performance, durability and reliability and each calibrator is EMI tolerant, dustand splash-resistant and features a removable battery door for quick battery changes.

- The 712B can measure and simulate (13) different RTD types and resistance
- The 714B can measure and simulate (17) different thermocouple types and millivolts
- Measure 4 to 20 mA signals whiles simultaneously sourcing a temperature signal
- The 724 specialty model will source/measure TCs, RTDs, volts and ohms as well as measure mA while supplying loop power
- · Hanging tool designed in and included with every unit (712B and 714B)
- Configurable 0 % and 100 % source settings for quick 25 % linearity checks
- Linear ramp and 25% step auto ramp based on 0% and 100% settings
- Dual inputs and backlit display for easy interpretation of measurements







### Fluke 709/709H Precision Loop Calibrators

#### Designed to save time and produce high-quality results

The Fluke 709 mA loop calibrator is designed to save time and produce high-quality results. This tool reduces the time it takes to measure, or source, voltage or current and power up a loop.

- · Best-in-class accuracy at 0.01% reading
- · HART Communication (709H only) communicates with and tests HART smart instruments
- · 24V dc loop power with mA measure mode
- Resolution on 1 µA on mA ranges
- Built in selectable 250  $\Omega$  resistor for HART communications
- Valve test (source and simulate defined mA values with % keys)
- Upload logged mA measurements and HART device data using the 709H with optional 709H/TRACK software

## **Process test tools**

#### Fluke 789 and 787 ProcessMeters™

Double your power. Fluke 787 and 789 ProcessMeters™ combine a DMM and a Loop Calibrator in one rugged, handheld tool.

The Fluke 789 has a large display that's twice as large as the 787 and is easy to read. The built-in, selectable 250 ohm HART resistor in the 789 eliminates the need to carry a separate resistor with you.

- Fully functional DMM that meets 1000 Volt EN61010-1 CAT III standards and 600 Volt EN61010-1 CAT IV standards (789 only for CAT IV)
- Simultaneous mA and % of scale readout on mA output
- 25 % Manual Step plus auto step and auto ramp on mA output
- 24 V loop power supply (789 only)
- 20 mA drive into 1200 ohm (787 only for 500 ohm)
- 0% to 100% mA Span Check buttons to toggle from 4 mA to 20 mA (789 only)
- Infrared I/O serial port compatible with FlukeView® Software







## If you're in food processing, how many of these are you doing?

Significantly improve equipment performance, compliance, reliability, and lifespan

- Conduct automated vibration analysis of mechanical equipment and pinpoint the location, the cause, and severity of the problem
- · Identify bearing problems, misalignment, looseness, and unbalance
- Troubleshoot VFD and PLC digital signals and power parameters with power quality analyzers and oscilloscopes
- Trace faulty analog I/O signals by using a milliamp clamp to measure milliamp signals without breaking the loop

Find out more at www.fluke.com/ foodbeveragenotes



## Fluke 773 Milliamp Process **Clamp Meter**

Measure output signals without bringing down the system

The Fluke 773 save time by measuring 4 to 20 mA signals five times faster than traditional DMMs without operator intervention, offering loop calibration, voltage testing and eliminate time wasting activities.

- Measure dc voltage to verify 24 V power supplies or voltage I/O signals
- · Source dc voltage to test input devices
- Scaled mA output signal enables 709H to record 4-20 mA signal without breaking the loop
- · mA in/out: simultaneously source a mA signal while measuring a mA signal with the clamp
- Transmitter error % calculation, interpret calibration results without a calculator
- HART mode inserts 250 ohm resistor in mA measure and source for compatibility with HART instrumentation



## Power loggers and troubleshooters

## Fluke 438-II Power Quality and Motor Analyzer

Quickly and easily discover electrical and mechanical performance of electric motors, and evaluate power quality with a single test tool

The ideal portable motor analysis test tool, the 438-II can help locate, predict, prevent, and troubleshoot power quality problems in three-phase and singlephase power distribution systems, while giving technicians the mechanical and electrical information they need to effectively evaluate motor performance.

- Measure key parameters on direct-on-line motors including torque, RPM, mechanical power and motor efficiency
- Perform dynamic motor analysis by plotting of motor derating factor against load according to NEMA/IEC guidelines
- · Analyze the trends using the cursors and zoom tools-even while background recording continues
- View graphs and generate reports
- Energy loss calculator: Classic active and reactive power measurements, unbalance and harmonic power, are quantified to pinpoint fiscal costs of energy losses
- Logger function: Configure for any test condition with memory for over 600 parameters at user defined intervals
- Autotrend: Every measurement you see is always automatically recorded, without any setup
- System-Monitor: Up to ten power quality parameters on one dashboard













## Fluke 1738 Advanced Power Logger

More visibility, reduced uncertainty and better power quality and energy consumption decisions

The Fluke 1736 and 1738 Three-Phase Power Loggers built with Fluke Connect® mobile app and desktop software compatibility give you the data you need to make critical power quality and energy decisions in real-time. The ideal test tools for conducting energy studies and basic power quality logging, the 1736 and 1738 automatically capture and log over 500 power quality parameters so you have more visibility into the data you need to optimize system reliability and savings.

- · Verify electrical system capacity before adding loads. Suitable for NEC 220 load studies
- · Quantify energy consumption before, and after improvements, to justify energy saving devices
- Uncover harmonic issues that can damage or disrupt critical equipment
- Monitor for dips, swells and inrush currents that cause false resets or nuisance circuit breaker tripping
- · Download directly to a USB flash drive that plugs directly into the USB port of the instrument
- · View measurements remotely via the Fluke Connect mobile app and desktop software

## ScopeMeter® test tools









The compact ScopeMeter 120B Series, is the rugged oscilloscope solution for industrial electrical and electromechanical equipment troubleshooting and maintenance applications. It's a truly integrated test tool, with oscilloscope, multimeter and high-speed recorder in one easy-to-use instrument. The ScopeMeter 120B Series also integrates with Fluke Connect® mobile app and FlukeView® for ScopeMeter software to enable further collaboration, data analysis and archiving of critical test information.

- · Dual-input digital oscilloscope and multimeter
- · 40 MHz or 20 MHz oscilloscope bandwidth
- Two 5,000-count true-rms digital multimeters
- Connect-and-View™ trigger simplicity for hands-off operation
- IntellaSet™ technology automatically and intelligently adjusts numerical readout based on the measured signal
- Recorder Event Detect captures elusive intermittent signals on repetitive waveforms up to 10 KHz
- Power measurements (W, VA, VAR, PF, DPF, Hz)
- · Voltage, current and power harmonics
- FlukeView® ScopeMeter® Software for Windows®
- Rugged design to withstand 3g Vibration, 30g shock, and rated IP51 according to EN/IEC60529
- · Highest safety rating in the industry: safety rated for CAT IV 600 V





## Fluke 190 Series II ScopeMeter Test Tool

The Fluke ScopeMeter 190 Series II combines the highest safety ratings and rugged portability with the high performance of a bench oscilloscope. Designed for plant maintenance engineers and technicians, these tough ScopeMeter test tools include multimeter, TrendPlot™ and ScopeRecord™ roll paperless recorder modes and hands free operation with Connect-and-View™ triggering, and much more:

- Two or four electrically isolated inputs
- Choose from 60 MHz, 100 MHz, 200 MHz or 500 MHz bandwidth models
- Fast sampling rate, up to 5GS/s with up to 200 ps resolution (Depending on model and channels used)
- Deep memory: 10,000 samples per channel waveform capture so you can zoom in on the details
- Four meter measurements via scope BNC inputs in four-channel models
- Connect-and-View™ continuous auto-trigger, single shot, pulse width, and video triggering
- ScopeRecord roll mode, capture waveform sample data for up to 48 hours
- TrendPlot, trend measurement readings for up to 22 days





## **Indoor** air quality tools

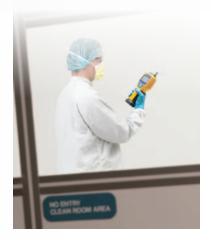
#### Fluke 985 Particle Counter

#### Take a new look at indoor air quality.

The Fluke 985 Particle Counter is the preferred choice for HVAC and IAQ professionals. From filter testing to IAQ investigations, the Fluke 985 is the portable solution for determining airborne particle concentrations. Use the Fluke 985 to immediately respond to occupant complaints, or as part of a comprehensive preventive maintenance program.

- Six channels and particle size range of 0.3 - 10.0 μm: Assures accurate measurements even for critical locations requiring ISO Class 5 - 9 certification
- Large 3.5 QVGC Color display: Easy navigation and viewing with the intuitive icons and large font options
- 10,000 record storage: Quick access to historical data
- On-screen data presentation: Data can be viewed in a traditional tabular or trend graph view at the user's preference
- USB/Ethernet charge cradle: Assures device is always ready to go when needed







## **Indoor air quality** monitoring made easy with Fluke 985 **Particle Counter**

Different locations have varying levels of acceptable particulate concentrations. In industrial environments such as food and beverage plants, energy cost, contamination control and production yields are the primary concern. Excessive levels can result in medical conditions such as Sick Building Syndrome, lower productivity, contaminated product, or all of the above.

With the Fluke 985, the technician can configure the number of channels displayed for different particle sizes.

Read the entire application note at www.fluke.com/ foodbeveragenotes



#### Fluke 975 AirMeter™

#### One Tool. Get More Done.

The Fluke 975 AirMeter test tool raises indoor air monitoring to the next level by combining five powerful tools in one, rugged and easy-to-use handheld device. Use the Fluke 975 to optimize HVAC ventilation settings for ASHRAE 62 recommendations, actively monitor conditions that promote a productive environment, and quickly and accurately address occupant comfort complaints the first time.

- Simultaneously measures, logs, and displays temperature, humidity, CO2, and CO on a bright, backlit LCD display
- · % of outside air calculation
- CO<sub>2</sub> and CO field calibration feature
- · Automatically compensates for barometric pressure changes



## **Vibration testing**

### Fluke 810 Vibration Tester

## Everything you need for machine diagnosis

The Fluke 810 helps you quickly identify and prioritize mechanical problems, putting the expertise of a vibration analyst in your hands.



#### Features and benefits:

- On-board identification and location of the most common mechanical faults focus maintenance efforts on root cause, reducing unplanned downtime
- Fault severity scale with four severity levels helps you prioritize maintenance work
- Repair recommendations advise technicians on corrective action
- Detailed diagnostic reports and spectral diagrams help confirm data quality, and narrow down the root cause of failures
- Laser tachometer for accurate machine running speed promotes confident diagnoses
- Tri-axial accelerometer reduces measurement time by 2/3 over single axis accelerometers
- · Viewer PC Software expands data storage and tracking capacity

## Put Fluke tools on every tool belt

Now you can equip utility specialists, technicians and lineman with a full complement of portable tools for utility applications including:

- · Clamp meters
- · Digital multimeters
- · Earth ground
- · Infrared thermometers
- Insulation resistance
- · Power quality
- Process tools
- Thermography
- Voltage testers
- Vibration

Trust our tools for rugged reliability and safety from the truck to the substation, wherever this mission critical work takes your team.

#### Fluke 805 FC Vibration Meter

## The reliable, repeatable, accurate way to check bearings and overall vibration

The Fluke 805 FC Vibration Meter is the most reliable vibration screening device available for frontline mechanical troubleshooting teams that need repeatable, severity scaled readings of overall vibration and bearing condition.

- Innovative sensor design minimizes measurement variations caused by device angle or contact pressure
- Four-level severity scale assesses urgency of problems for overall vibration and bearing condition
- Overall vibration measurement (10 Hz to 1,000 Hz) for acceleration, velocity and displacement units of measurement for a wide variety of machines
- Crest Factor+ technology provides reliable bearing assessment using direct sensor tip measurements between 4,000 Hz and 20,000 Hz



### **More information and resources**

You can always count on Fluke for the troubleshooting techniques, application information, and training to keep your power distribution network up and running. Visit our web site at www.fluke.com

Fluke. Keeping your world up and running.®

Fluke Corporation 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. (800) 443-5853 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.fluke.com

@2016 Fluke Corporation. All trademarks are the property of their respective owners. Specifications subject to change without notice.  $9/2016\ 6008041b$ -en

Modification of this document is not permitted without written permission from Fluke Corporation.

