

## Recommended oil and gas solutions

### Documenting process calibrators

- Best suited for:**
- Calibration and maintenance of process instrumentation and control systems.
  - Sourcing, measuring and documenting virtually any process variable
- Oil and gas applications:** Pressure and temperature transmitter calibration; calibration and configuration of HART devices; documenting field calibrations for recall and upload



### Pressure calibrators

- Best suited for:**
- Pressure calibration of transmitters, gauges, switches, and custody transfer meters
  - Maintenance of almost any pressure device using pressure sourcing and milliamp measurements
  - Calibrating P/I instruments with simultaneous pressure and current measurement
- Oil and gas applications:** Pressure measurements using internal sensor, measure mA while sourcing 24 V loop power



### Thermal imagers

- Best suited for:**
- Providing non-contact measurement and display of a visual image of surface temperatures to easily and safely identify potential problems
  - Reducing the need for unplanned maintenance to correct previous repairs
- Oil and gas applications:** Steam trap leakage, electrical panels, motors, VFDs, tank level and sludge level indication, refractory, furnaces, reformers, transformers, and pumps



### Vibration testers

- Best suited for:**
- Diagnosing machine faults to extend machine life and reduce costs
  - Reducing unexpected serious failures to help prevent production stoppages that cut into the bottom line
  - Giving maintenance staff time to schedule repairs and acquire parts
  - Anticipating problem areas before failure
- Oil and gas applications:** Pumps, compressors, motors, fans, and blowers



## More recommended oil and gas solutions

### Visual IR thermometers

- Best suited for:**
- Displaying a visual heat map of surface temperatures
  - Finding heating and ventilation problems
  - Non-contact monitoring of pumps, electrical motors and panels
  - Reducing the need for unplanned maintenance to correct previous repairs
- Oil and gas applications:** Valve packing leakage, non-contact electrical panel inspection, pump and motor inspection



### Infrared thermometers

- Best suited for:**
- Gathering surface temperature readings
  - Reducing the need for unplanned maintenance to correct previous repairs
- Oil and gas applications:** Heating, motors, HVAC, circuit breaker inspection



### Temperature calibrators

- Best suited for:**
- Troubleshooting and calibrating temperature
  - Testing temperature sensors and transmitters
  - Measuring and sourcing thermocouples and RTD's
- Oil and gas applications:** Measure thermocouples, ohms, and volts to test sensors and transmitters; calibrate transmitters by sourcing/simulating thermocouples, RTDs, volts, and ohms; powering transmitters during test using loop power supply with simultaneous mA measurement



### Insulation multimeters

- Best suited for:**
- Testing a wide range of insulation resistance and digital multimeter tests including simple spot checks to timed tests
  - Troubleshooting and preventive maintenance
- Oil and gas applications:** Switchgear, motors, variable speed drives, generators, electrical systems and cables; test voltages from 50 V to 1000 V (Insulation tester to 5000 V also available)



### mA Process clamp meters

- Best suited for:**
- Measuring 4 to 20 mA signals *without breaking the loop*
  - Sourcing, simulating and measuring mA
  - Sourcing, measuring DC voltage
- Oil and gas applications:** mA sourcing, simulation and measurement; loop calibration, maintenance and repair



### Power quality analyzers

- Best suited for:**
- Finding power quality problems before they damage critical equipment
  - Conducting load studies to reduce energy usage applications

**Oil and gas applications:** Generators, harmonics (electronics), load studies



### Handheld oscilloscopes

- Best suited for:**
- Troubleshooting and installation applications
  - Finding fast answers to problems in machinery, instrumentation, control and power systems
  - Bus health testing for industrial bus systems
- Oil and gas applications:** Pumps, compressors, motors, fans, and blowers



### Clamp meters

- Best suited for:**
- Measure 1000 A ac or dc with fixed jaw to measure current in motors, vaults and bus bars
  - Clamp around bus bars or conductors in service panels to measure loads and line frequency in circuits
- Oil and gas applications:** Pumps, compressors, motors, fans, and blowers



### Process tools

- Best suited for:** Troubleshooting and calibrating current loop applications using the functionality of a loop calibrator and digital multimeter built into one tool.
- Oil and gas applications:** Measure, source, and simulate dc loop current



Petrochemical professionals can find application notes, case studies and demos of Fluke solutions at [www.fluke.com/oilandgas](http://www.fluke.com/oilandgas)



**Intrinsically Safe Test Tools and Standards**

Certification	Fluke products	Main application	North American rating	
			Division 1	Division 2
ATEX	Fluke 800 Series	Process pressure	Ex ia IIC	Ex ia IIC
			Ex ia IIC	Ex ia IIC
ATEX	Fluke 800 Series	Process pressure	Ex ia IIC	Ex ia IIC
			Ex ia IIC	Ex ia IIC
ATEX	Fluke 800 Series	Process pressure	Ex ia IIC	Ex ia IIC
			Ex ia IIC	Ex ia IIC
ATEX	Fluke 800 Series	Process pressure	Ex ia IIC	Ex ia IIC
			Ex ia IIC	Ex ia IIC
ATEX	Fluke 800 Series	Process pressure	Ex ia IIC	Ex ia IIC
			Ex ia IIC	Ex ia IIC
ATEX	Fluke 800 Series	Process pressure	Ex ia IIC	Ex ia IIC
			Ex ia IIC	Ex ia IIC
ATEX	Fluke 800 Series	Process pressure	Ex ia IIC	Ex ia IIC
			Ex ia IIC	Ex ia IIC
ATEX	Fluke 800 Series	Process pressure	Ex ia IIC	Ex ia IIC
			Ex ia IIC	Ex ia IIC

How do you know if the configuration of test tool test device under test is safe?

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# Fluke. Working to keep the oil and gas industry flowing.

## Fluke solutions can help you maintain operational reliability and environmental safety

Fluke understands the petrochemical industry faces a range of challenges from dynamic market fluctuations to multiple stringent regulatory requirements, and downtime and inaccurate measurements can cost millions. The professionals that work in oil and gas know it is critical to maintain stable, continuous operations without sacrificing safety. Onshore or offshore, upstream to downstream, Fluke makes reliable tools that professionals in the oil and gas industry can count on for accurate and consistent measurements. Tools designed for the demanding oil and gas environment, the people who work there, and the challenges they face every day. With 65 years as the industry leader, they can feel confident that Fluke has the solutions they need to keep the oil and gas industry flowing. **See our full line of innovative products at [www.fluke.com](http://www.fluke.com)**



### Maintenance Superintendent

**Focus:**  
Downtime prevention, safety regulations, budget goals

- Issues faced:**
- Ensuring uptime is continuous and predictable
  - Safety of personnel and the environment
  - Maintaining high product quality
  - Staying within budget

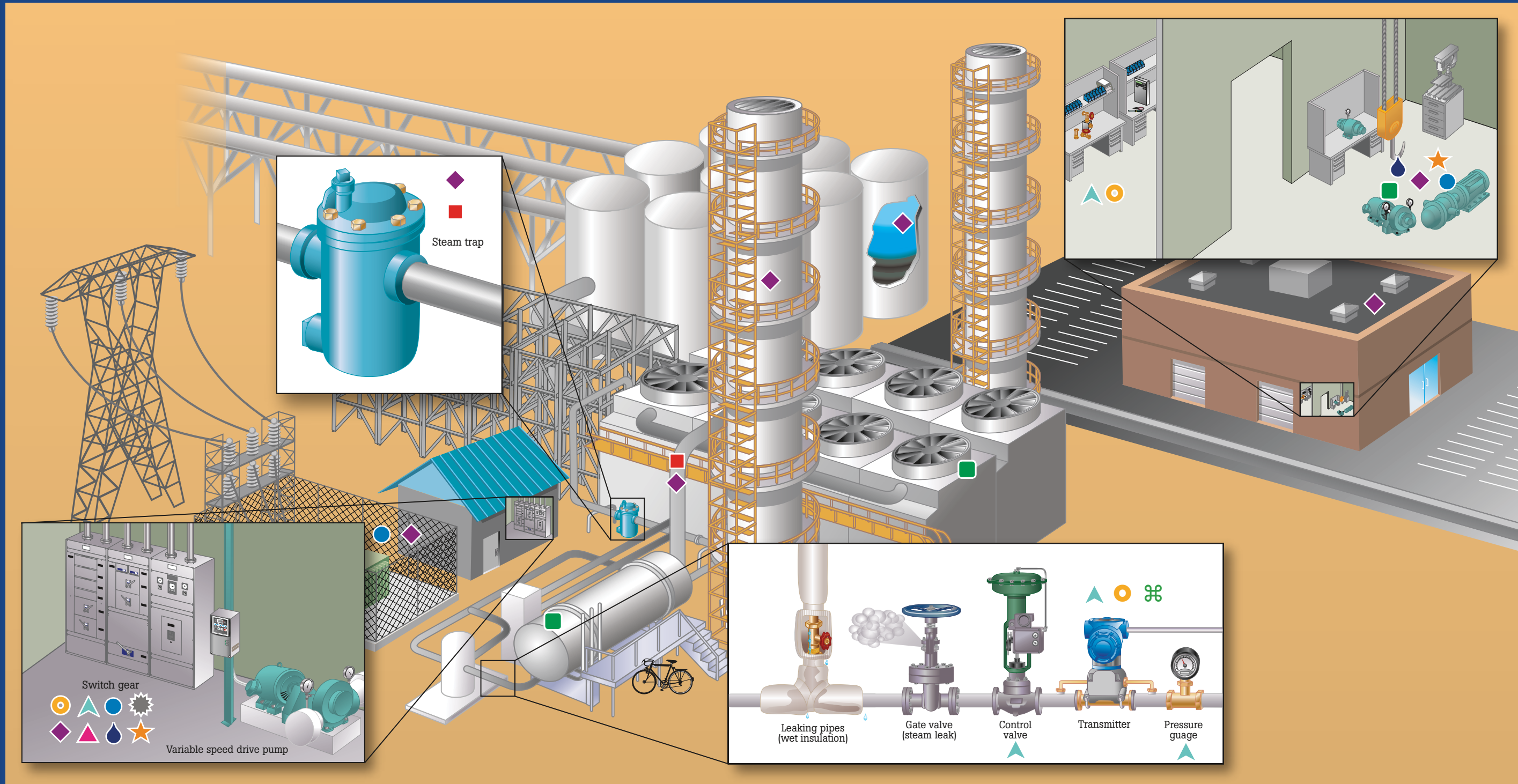
- Fluke solutions:**
- ◆ Thermal imagers
  - Power quality analyzers
  - ▲ Process tools
  - Vibration testers

### Instrument Technician

**Focus:**  
Equipment and systems testing, maintenance and repair

- Issues faced:**
- Preventing downtimes
  - Safety systems testing
  - Providing immediate response and repair during process interruptions

- Fluke solutions:**
- ▲ Process tools
  - ▲ Documenting process calibrators
  - Handheld oscilloscopes
  - ▲ Pressure calibrators
  - ✂ Loop calibrators
  - ★ Digital multimeters



### Mechanic/Millwright

**Focus:**  
Installation, assembly, and preventive maintenance

- Issues faced:**
- Meeting equipment standards and specifications
  - Effectiveness of repairs (valve repacking)
  - Assembling machinery
  - Determining optimal machinery placements

- Fluke solutions:**
- ▲ Process tools
  - Infrared thermometers
  - ◆ Thermal imagers
  - Vibration testers
  - Visual IR thermometer

### Electrician

**Focus:**  
Electrical installation, maintenance and repair

- Issues faced:**
- Delivering efficient, consistent and quality power from utility or generation to process systems
  - Maintaining safety and high energy systems
  - Controlling efficient breakers and motors

- Fluke solutions:**
- Power quality analyzers
  - Infrared thermometers
  - ▲ Process tools
  - ⚙ Insulation multimeters
  - ▲ Clamp meters
  - Visual IR thermometer
  - Vibration tester

### Measurement Tech

**Focus:**  
Calibration of flow meters involved in custody transfer








- Issues faced:**
- Accurate measurements of flow
  - Calibration of flow instruments
  - Repair verification

- Fluke solutions:**
- ▲ Process tools
  - Visual IR thermometer
  - ◆ Thermal imagers
  - ⚙ Insulation multimeters

*Diagram is not intended to be an exact representation. Diagram components are not to scale and are for illustration purposes only.*

## Fluke gas and oil solutions

Learn how Fluke solutions can save you time and money while increasing efficiency and safety at [www.fluke.com/gasandoil](http://www.fluke.com/gasandoil)  
Based on you. Built by Fluke.

Process tools	Power quality analyzers	Documenting process calibrators	Pressure calibrators	Loop calibrators	Custody Transfer Calibrators	Thermal imagers/IR Windows	Digital multimeters	Vibration tester	Clamp meters	Temperature calibrators	Infrared thermometers	Visual IR thermometers	Insulation multimeters	Handheld oscilloscopes	
 789	 773	 43x Series II	 754	 719PRO	 709H	 721	 Ti1xx/2xx/3xx/4xx CV Series	 28 II Ex	 810	 376	 724	 62MAX+	 VT04	 1587	 190 Series II