

FLUKE®

Fluke HVAC/R Solutions



Gas heat solutions

Air temperature difference

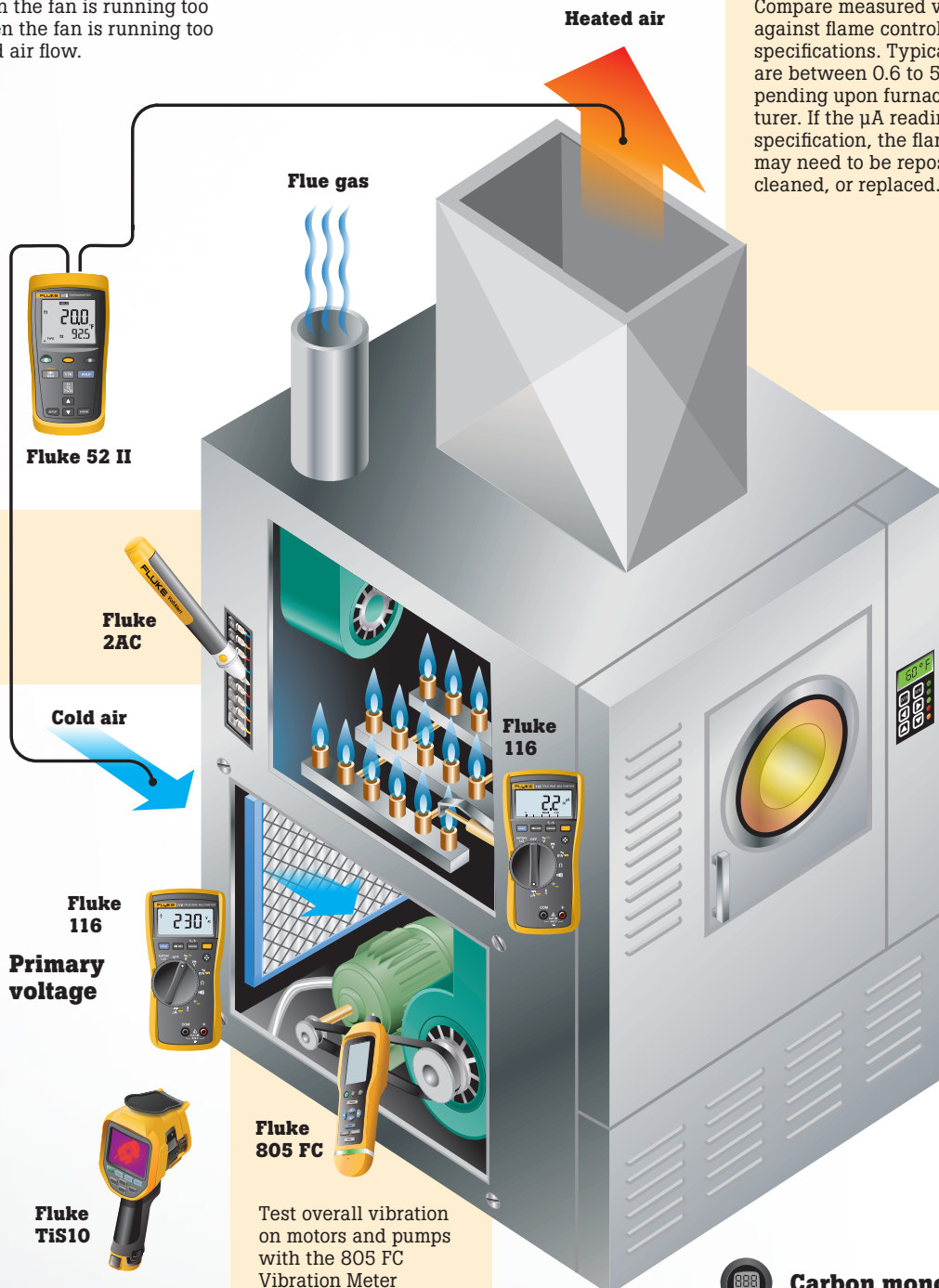
Check the temperature difference across the heat exchanger with the Fluke 52 II, with the burner working. Expect a 40-75 °F temperature difference (TD). If the TD is low, then the fan is running too fast. If the TD is high, then the fan is running too slow or there is restricted air flow.

Flame rod μ A test

Verify proper operation of the flame rectification circuit with the Fluke 116 in the μ A mode. Compare measured value against flame control module specifications. Typical values are between 0.6 to 5.0 μ A depending upon furnace manufacturer. If the μ A reading is below specification, the flame rod may need to be repositioned, cleaned, or replaced.

Control voltage

Use the VoltAlert 2AC to test for energized 24 V ac contacts.



Fluke 52 II

Fluke 2AC

Cold air

Fluke 116
Primary voltage

Fluke TiS10

Fluke 805 FC

Test overall vibration on motors and pumps with the 805 FC Vibration Meter

Heated air

Flue gas

Fluke 116



CO-220

Carbon monoxide

Use the Fluke CO-220 to check for CO leaks around the heat exchanger, flue and other points within a building.



Fluke TiS10 Infrared Camera

Easy to use, point and shoot entry level infrared camera with 80x60 resolution—ideal for quick scans and inspections.



Fluke 52 II Dual Input Digital Thermometer

The Fluke 52 Series II Thermometer provides high accuracy and performance in one of the most advanced, yet affordable dual input thermometers in the industry. Compatible with any J, K and many other type thermocouples. Ideal for differential temperature measurement.



Fluke CO-220 Carbon Monoxide Meter

The CO-220 Carbon Monoxide Meter allows quick and reliable testing for carbon monoxide. The unit is easy to use with a large display and automatic backlight. An audible beeper ticks faster as the CO level increases. Accurately measures from 0 to 1000 PPM of carbon monoxide.



Fluke 805 FC Vibration Meter

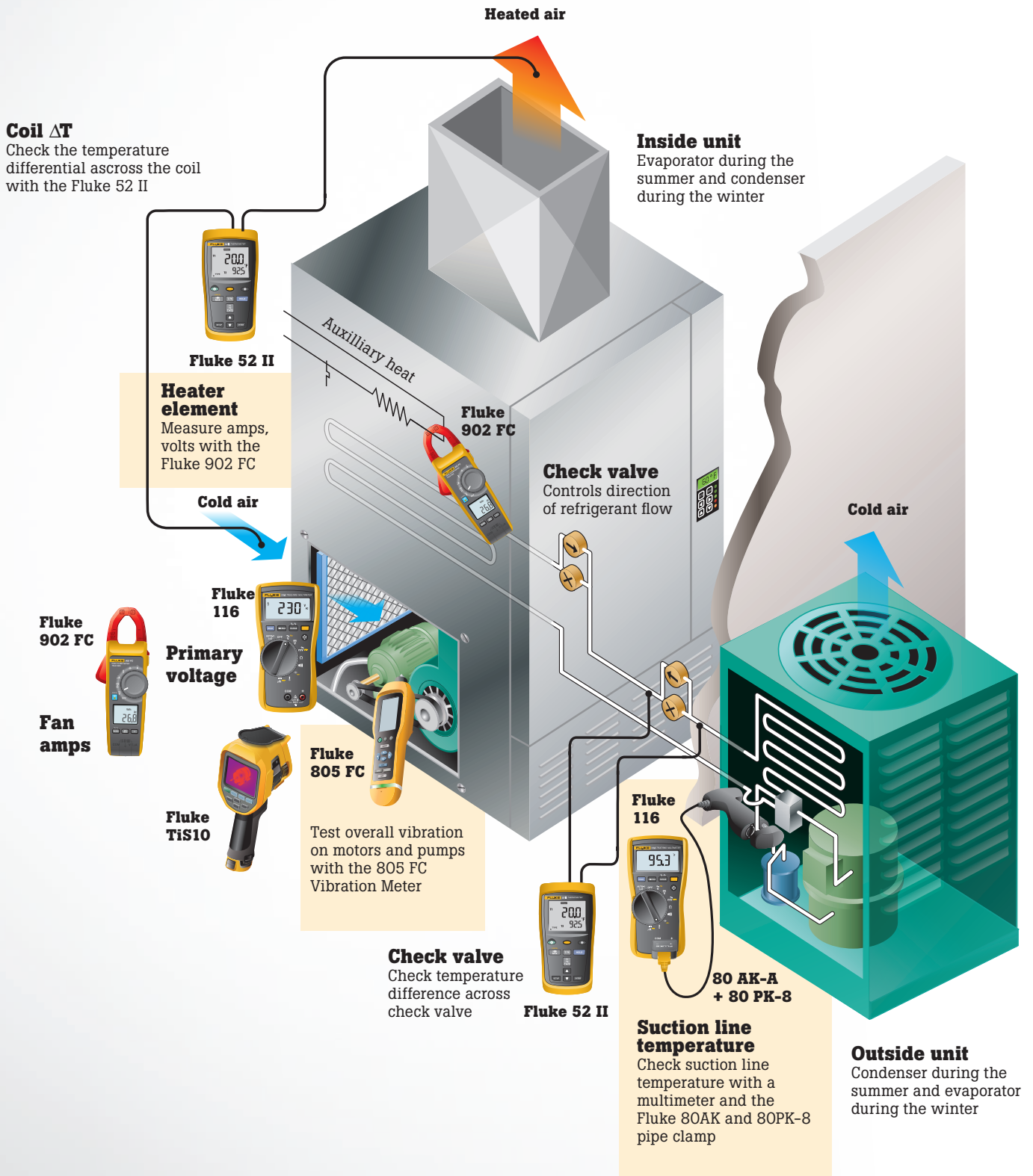
The reliable, repeatable, accurate way to check bearings and overall vibration and stay in contact with your team using Fluke Connect with ShareLive™.



Fluke 2AC VoltAlert™

The 2AC is the latest addition to the VoltAlert™ AC non-contact voltage tester family from Fluke and is designed to be pocket-sized and easy to use. The 2AC tests for energized circuits and defective grounds, whether it's for an electrician on the factory floor or the do-it-yourselfer around the house.

Heat pump solutions





Fluke TiS10 Infrared Camera

Easy to use, point and shoot entry level infrared camera with 80x60 resolution—ideal for quick scans and inspections.



Fluke 116 Digital Multimeter

With the ability to take temperature and microamp measurements, the Fluke 116 Digital Multimeter has everything you need to help you quickly troubleshoot problems with HVAC equipment and flame sensors. The Fluke 116 measures resistance, continuity, frequency and capacitance.



Fluke 52 II Dual Input Digital Thermometer

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Fluke 902 FC True-rms HVAC Clamp Meter

The Fluke 902 FC True-rms HVAC Clamp Meter, a wireless Fluke Connect®-enabled meter, improves the productivity of HVAC technicians in the field. The rugged dual rated—CAT III, 600 /CAT IV, 300 V—meter performs the essential measurements of HVAC systems.



Fluke 805 FC Vibration Meter

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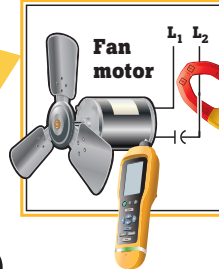
Air conditioning and refrigeration solutions

Fluke 52 II

Record evaporator temperature differences as well as minimum/maximum temperatures.

Evaporator

Air flow



Fluke 805 FC
Test overall vibration

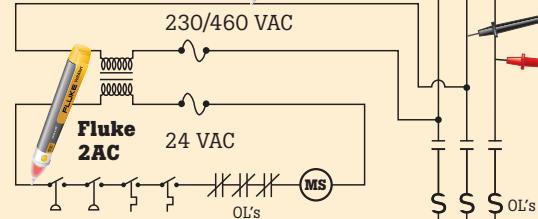
Fluke 902 FC

Measure fan motor current with a clamp meter

TXV metering device

Transformer check

Confirm the presence of voltage on both the primary and secondary sides of the transformer with non-contact voltage indicators



Current imbalance

Use a clamp meter to check for current imbalance on 3Ø systems

Suction filter

Fluke 116

Measure superheat at the evaporator. Superheat is the heat added to the refrigerant above the boiling point.

80 AK-A + 80PK-8

Fluke 279 FC

Check levels

Evaluate liquid levels in the accumulator with the Fluke TiS10

Fluke TiS10






Suction pressure

Use a multimeter and a pressure module to quickly and accurately determine suction pressure. The suction pressure is required to determine Superheat.



Fluke 279 FC with iFlex®

Piping color code

	High-pressure gas
	High-pressure gas/liquid saturated mixture
	High-pressure liquid
	Low-pressure liquid/gas saturated mixture
	Low-pressure gas

Sight glass/ moisture indicator

Liquid line filter drier

ΔP across filter drier

Measure the pressure drop across the liquid line and suction filters to determine if a restriction exists.



Capacitors

Measure capacitance or resistance and insulation resistance of the windings on the motors on PSC-Permanent Split Phase Capacitor motors.

Fluke 1587 FC



Fluke 116



Supply and load voltages

Measure supply and load voltages. The supply voltage should be within +10 %, -5 % of the motor rating.

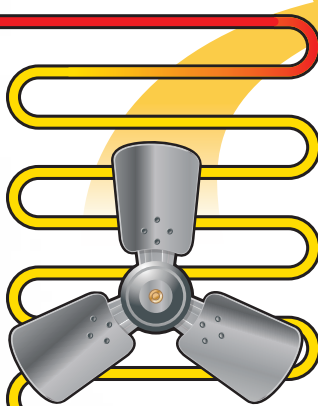
Fluke 116



Discharge line temperature

Measure discharge line temperatures with a thermometer and probe.

Condenser



Fluke 116



Ambient air temperature

Measure ambient air temperatures with a Fluke 116, 80AK-A and 80PK-24 SureGrip™ air probe.

Fluke 805 FC



TP220 + TL224

Compressor

Compressor head temperature

Measure discharge head temperatures with an infrared or non-contact thermometer. Head temperatures in excess of 250 °F to 300 °F (120 °C to 150 °C) will begin to deteriorate the quality of refrigerant lubricants.



Fluke 279 FC

Fluke TiS10



King valve

Check levels

Use a thermal imager to check liquid receiver levels or king valve.

Fluke TiS10



Subcooling

Test for proper subcooling temperatures at the liquid line. Liquid line subcooling is the temperature difference between refrigerant saturation temperature and the liquid line temperature.

80 AK-A + 80PK-8



Liquid receiver



Electric heat solutions

Calculate airflow

Calculate CFM easily from systems with electric heat:

$$\text{CFM} = \frac{(\text{Volts} \times \text{Amps} \times 3.412)}{(\Delta T \times 1.08)}$$

where Volts and Amps are the measured values of electric heat elements and T is the air temperature difference across the furnace.

Air temperature difference

Check the temperature difference across the heating elements with the Fluke 52 II

Fluke 52 II



Fluke 52 II

Sequencers: A special time delay relay with low voltage control circuit and line voltage switching. Causes staging of heating elements

Cold air

Fluke 116

Primary voltage



Fluke 279 FC



Heater elements

5 kw each provides 17,000 BTU's @ 240 volts

Heated air

Fluke T5-600



Fluke 805 FC

Test overall vibration on motors and pumps with the 805 FC Vibration Meter



$$\text{Electric heat BTU's} = \text{volts} \times \text{amps} \times 3.412$$



Fluke 279 FC 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 116 Digital Multimeter

With the ability to take temperature and microamp measurements, the Fluke 116 Digital Multimeter has everything you need to help you quickly troubleshoot problems with HVAC equipment and flame sensors. The Fluke 116 measures resistance, continuity, frequency and capacitance.



Fluke 52 II Dual Input Digital Thermometer

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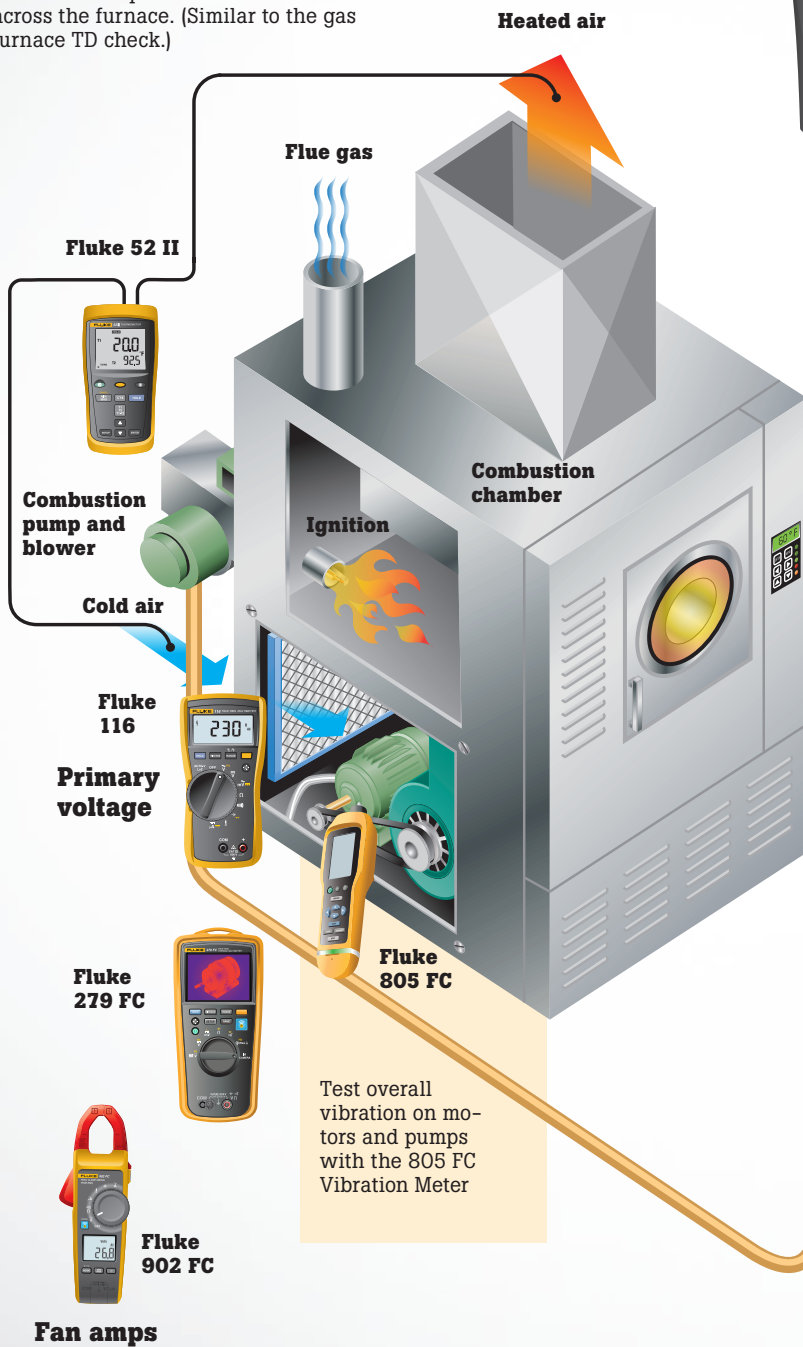
Fluke T5-600 Voltage, Continuity and Current Tester

Fluke T5 Series Electrical Tester is a flexible design for the basic measurements of volts, amps, and ohms, which is a safer alternative to traditional solenoid testers. Compact OpenJaw™ technology makes current measurement simple and reliable from 100 A down to 0.3 A ac.

Oil heat solutions

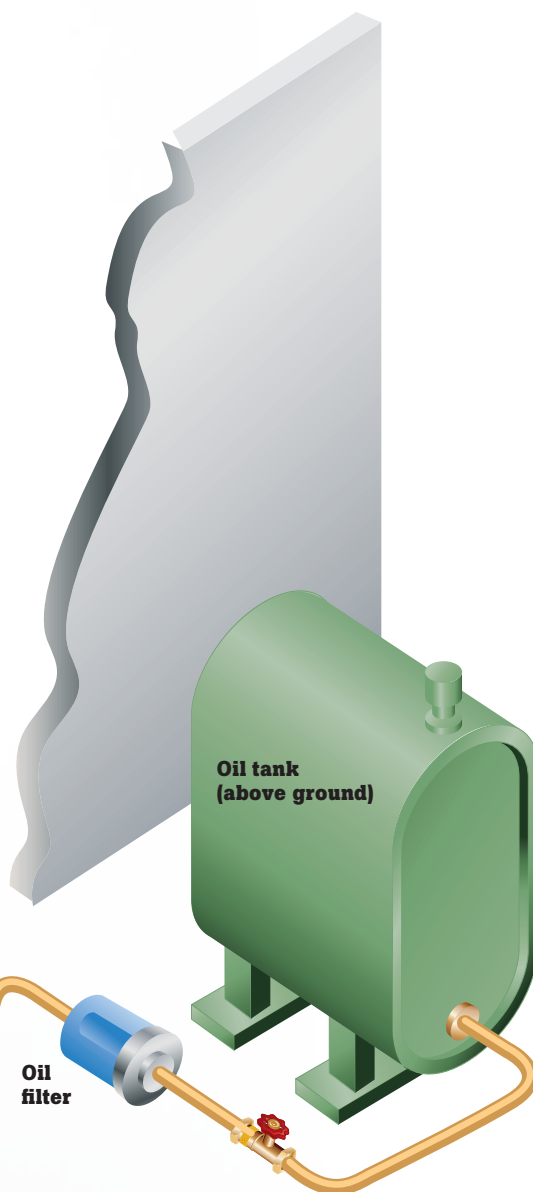
Air temperature difference

Check the temperature difference across the furnace. (Similar to the gas furnace TD check.)



Carbon monoxide

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$$\text{Net BTU's} = \text{Gross BTU's} \times \text{efficiency rating}$$



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Promotions

Receive a FREE gift with purchase
when you buy Fluke tools. Learn more at
www.fluke.com/promotions today



Fluke. *Keeping your world up and running.®*

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