Electronic Charging Scales

Eliminates refrigerant transfer from tank to cylinder to system. The cylinder with refrigerant is weighed before and after charging. Charge directly into the system or recover from the system.
Electronic charging scales show the progress of the charge as it’s happening, indicating when to close the valves and stop the charge. Works with any refrigerant in any system.

- Calibration standards traceable to NIST
- Removable control module on retractable 5' coiled cord
- Mechanical overload protection and “OL” alert on LCD
- Industrial grade circuitry for long life performance
- Minus (-) reading shows weight removed from the platform

Programmable electronic charging scales have added capabilities for automated, faster and more economical charging. Simply program the charging weight and the valve will close automatically when the charge is complete.

- Mesh filter in charging module protects solenoid valve from debris
- Low flow triggers automatic hold to extend solenoid life
- Schrader valve prevents backflow through solenoid

Convert standard 68802 and 68800 scales to programmable with upgrade kits 68804 and 68805. Each kit includes a charging module, power pack, instruction manual and larger carrying case to hold all parts.

Specifications:
- Resolution: 0.1 oz./0.01 lb./0.01 kg
- Display: Sealed LCD with high resolution 0.5" characters
- Keypad: Moisture resistant membrane keypad with tactile metal domes
- Operating temperature range: 32°F to 122°F (0º to 50ºC)
- Storage temperature range: -4º to 158ºF (-20º to 70ºC)
- Power: 9V battery, battery life approximately 25 hours

Specifications: 110 lbs. (50 kg) scale
- Platform size: 9" x 9" (228 mm x 228 mm)
- Case size: 15.5" x 12.25" x 3.25" (394 mm x 311 mm x 83 mm)
- Accuracy: ± 0.5 oz./± 0.03 lb./± 0.015 kg or 0.1% of reading, whichever is greater
- Total unit weight: 9 lbs. (4.1 kg)

Specifications: 220 lbs. (100 kg) scale
- Platform size: 11.3" x 11.3" (287 mm x 287 mm)
- Case size: 18" x 13" x 4.25" (457 mm x 330 mm x 108 mm)
- Accuracy: ± 1.0 oz./± 0.06 lb./± 0.03 kg or 0.1% of reading, whichever is greater
- Total unit weight: 12 lbs. (5.4 kg)
**MANTOOTH WIRELESS VACUUM GAUGE AND P/T GAUGE COMBINATION**

The YELLOW JACKET ManTooth-PTV (67023) shown above provides vacuum and high- and low-side P/T readings. This full set includes dual non-tethered pressure/temperature gauges, two wired temperature clamps, and one interchangeable vacuum gauge. The single ManTooth-PTV (67021) can be combined with an existing ManTooth P/T device (67001) for adding wireless vacuum capability and/or expanding it to a full system analysis tool. Simply update your ManTooth P/T app to version 2.0, connect to the 67020 hardware, and you’re ready to go!

To enable mounting on 5/16” systems, add coupler 19221 (90°) or 19121 (straight).

---

**Product Features:**
- Interchangeable/removable vacuum gauge
- Easy-to-clean vacuum sensor
- Built-in Schrader cores for easy refrigerant charging
- Operates with and without hoses attached
- Two year warranty
- High impact glass reinforced housing
- Rechargeable LiPo battery for long battery life
- Robust/rugged vacuum sensor
- Integral magnet for mounting on framework
- Integrated rubber side grip for easy handling

**App Features:**
- Available in English, French, Spanish, Dutch, and German.
- Data logging to record and document values during servicing
- Improved connectivity and reconnect process if signal is lost
- Ability to download logged data for graphing in Excel
- For iOS and Android devices
- Backwards compatible with existing ManTooth Devices (excluding vacuum gauge)

---

**Pressure/Temperature Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Sensing Resolution</td>
<td>0.1 psi, 0.1 bar, 1 kPa, 0.001 MPa, 0.01 kg/cm²</td>
</tr>
<tr>
<td>Pressure Sensing Accuracy</td>
<td>0.5% of full scale at 25°C; 1% of full scale 55°F to 130°F; 2% of full scale -40°F to 248°F</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>0 – 700 psia (48.3 bar)</td>
</tr>
<tr>
<td>Proof Pressure</td>
<td>Tolerable pressure without internal damage 1000 psia</td>
</tr>
<tr>
<td>Burst Pressure</td>
<td>Tolerable pressure without loss of seal 1500 psia</td>
</tr>
<tr>
<td>Temperature Sensor Range (Instrument)</td>
<td>Sensing element: -40°F to 266°F (-40°C to 130°C); Max Cord temp: 176°F (80°C); Max Clamp Temp: 203°F (95°C)</td>
</tr>
<tr>
<td>Temperature Display Resolution</td>
<td>0.1°F or °C</td>
</tr>
<tr>
<td>Temperature Accuracy (Instrument)</td>
<td>±0.2°C (±0.36°F)</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-4°F to 160°F (-20°C to 71°C) Limited by battery</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-4°F to 160°F (-20°C to 71°C) - for best battery performance do not store at over 100°F (38°C)</td>
</tr>
<tr>
<td>Working Humidity</td>
<td>0-95% RH (non-condensing)</td>
</tr>
<tr>
<td>IP Class</td>
<td>IP 50</td>
</tr>
<tr>
<td>Bluetooth Range</td>
<td>70-90 ft. (Class 1) or 30-40 ft. (Class 2) in most cases (varies depending on the Bluetooth capability of smart device used). Under perfect conditions (clear line of sight and low interference) communications can extend up to 300 feet.</td>
</tr>
<tr>
<td>Bluetooth Radio</td>
<td>Class 1 Bluetooth 2.1 Radio</td>
</tr>
<tr>
<td>Size and weight</td>
<td>6” long x 1.6” wide x 2.3” thick (15.3 x 4 x 5.8 cm); 0.5 lbs (225 grams)</td>
</tr>
<tr>
<td>Superheat and Subcool</td>
<td>Automatically calculated by the ManTooth App</td>
</tr>
<tr>
<td>Max. and Min. Pressures</td>
<td>Displays and records the maximum and minimum pressures</td>
</tr>
<tr>
<td>Refrigerant Database</td>
<td>98 NIST refrigerant profiles included; upgradeable</td>
</tr>
<tr>
<td>Screenshot Feature</td>
<td>Save pressure and temperature readings from your sessions; automatically organize</td>
</tr>
<tr>
<td>Temperature Sensors</td>
<td>Capable of measuring 2 temperatures using high accuracy NTC thermistors</td>
</tr>
<tr>
<td>Pressure Transducers</td>
<td>67001/67003 - one pressure transducer; 67002 – two pressure transducers</td>
</tr>
<tr>
<td>System Attachment</td>
<td>Very small internal volume minimizes refrigerant loss during system analysis.</td>
</tr>
<tr>
<td>Pressure Zeroing</td>
<td>Simple single button zeroing at the start of each session</td>
</tr>
<tr>
<td>Elevation Compensation</td>
<td>Enter elevation at the start of the session for effortless psia compensation</td>
</tr>
<tr>
<td>Battery</td>
<td>Rechargeable LiPo battery for 10+ hours continuous life</td>
</tr>
</tbody>
</table>

**Vacuum Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cord Length</td>
<td>Approximately 33”</td>
</tr>
<tr>
<td>Magnet Strength</td>
<td>8 lbs. holding force</td>
</tr>
<tr>
<td>Operational Temperature Range</td>
<td>10 – 122°F 12 – 50°C</td>
</tr>
<tr>
<td>Calibration</td>
<td>Calibration standards traceable to NIST</td>
</tr>
<tr>
<td>Resolution</td>
<td>.1 micron</td>
</tr>
<tr>
<td>Warm-Up Time and Response Time</td>
<td>Instant</td>
</tr>
</tbody>
</table>

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** UPC# | Description |
--- | --- |
67020 | ManTooth™-V (Vacuum only) with side grip |
67021 | ManTooth™-PTV Single with side grip |
67023 | ManTooth™-PTV Dual with side grip |
67030 | Vacuum gauge |
67012 | USB Cord |
67014 | Carrying case |
93394 | Tether cap |
19020 | Hose gaskets (10 pak) |
19121 | Straight 5/16” Flare quick connect x 1/4” Male coupler |
19221 | 90° 5/16” Flare quick connect x 1/4” Male coupler |
19302 | Valve depressor (10 pak) |
19305 | Schrader valve (10 pak) |
MANTOOTH WIRELESS DIGITAL PRESSURE/TEMPERATURE GAUGE

The YELLOW JACKET® ManTooth™ Wireless Digital Pressure/ Temperature Gauge provides wireless connection to your smart device so you can test the system without losing refrigerant (no hoses or manifolds necessary)!

The free downloadable ManTooth RSA app wirelessly calculates and displays the system’s actual pressures, temperatures, superheat and subcooling in an easy-to-read color format on your iPhone®, iPad® or Android™ device.

Additional Features:
- Built-in Schrader ports to easily adjust refrigerant charge
- Range up to 400’ (unobstructed) Y JACKET ManTooth RSA app (free download)
- Two-year warranty
- Screenshot feature allows you to save pressure and temperature readings from your sessions which can be automatically organized by location and unit being serviced
- Share screenshots via e-mail right from your phone
- Easily track and store service history
- Rechargeable lithium polymer battery with 10 hours battery life

The ManTooth Single Pressure Wireless Digital P/T Gauge includes a single hardware device and clamp. Two single units can be purchased in a case by order Part #67003.

For dual pressure readings, use two of the 67001 ManTooth single pressure gauges or the 67002 ManTooth Dual Pressure Unit which comes with a P/T module, tether unit and two temperature probe clamps. This unit also includes a convenient carrying case which can be purchased separately for the single pressure unit.

### UPC# Description

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>67001</td>
<td>ManTooth™ Single Pressure Gauge (includes P/T Module with boot, temperature probe clamp, and USB cable)</td>
</tr>
<tr>
<td>67002</td>
<td>ManTooth™ Dual Pressure Gauge Set (includes P/T Module and tether unit with boots, two temperature probe clamps, and USB cable in case)</td>
</tr>
<tr>
<td>67003</td>
<td>Two (2) ManTooth™ Single Pressure Gauges (includes two P/T Modules with boots, two temperature probe clamps, and two USB cables in case)</td>
</tr>
</tbody>
</table>

### UPC# Replacement Parts

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>67010</td>
<td>Clamp</td>
</tr>
<tr>
<td>67012</td>
<td>USB Cord</td>
</tr>
<tr>
<td>67013</td>
<td>Blue boot</td>
</tr>
<tr>
<td>67014</td>
<td>Carrying case</td>
</tr>
<tr>
<td>93394</td>
<td>Tether cap</td>
</tr>
<tr>
<td>19020</td>
<td>Hose gaskets (10 pak)</td>
</tr>
<tr>
<td>19302</td>
<td>Valve depressor (10 pak)</td>
</tr>
<tr>
<td>19305</td>
<td>Schrader valve (10 pak)</td>
</tr>
</tbody>
</table>

### Specifications:

<table>
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<tr>
<th>Specification</th>
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<tr>
<td>Pressure Sensing Resolution</td>
<td>0.1 psi, 0.1 bar, 1 kPa, 0.001 MPa, 0.01 kg/cm²</td>
</tr>
<tr>
<td>Pressure Sensing Accuracy</td>
<td>0.5% of full scale at 25°C; 1% of full scale 55°F to 130°F; 2% of full scale -40°F to 240°F</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>0 – 700 psia (48.3 bar)</td>
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<td>Proof Pressure</td>
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<td>Sensing element: -40°F to 266°F (-40°C to 130°C)</td>
</tr>
<tr>
<td></td>
<td>±0.2°C (±0.3°F)</td>
</tr>
<tr>
<td>Temperature Display Resolution</td>
<td>Max Cord temp: 176°F (80°C); Max Clamp Temp: 203°F (95°C)</td>
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<td>Temperature Accuracy (Instrument)</td>
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<tr>
<td>Working Temperature</td>
<td>-4°F to 160°F (-20°C to 71°C)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-4°F to 160°F (-20°C to 71°C)</td>
</tr>
<tr>
<td>Working Humidity</td>
<td>0-95% RH (non-condensing)</td>
</tr>
<tr>
<td>IP Class</td>
<td>IP 50</td>
</tr>
<tr>
<td>Battery Life</td>
<td>10+ hours continuous</td>
</tr>
<tr>
<td>Size</td>
<td>70-90 ft. (Class 1) or 30-40 ft. (Class 2) in most cases (varies depending on the Bluetooth capability of smart device used). Under perfect conditions (clear line of sight and low interference) communications can extend up to 300 feet.</td>
</tr>
<tr>
<td>Bluetooth Radio</td>
<td>Class 1 Bluetooth 2.1 Radio 6’ long x 1.6’ wide x 2.3’ thick (15.3 x 4 x 5.8 cm) 0.5 lbs (225 grams)</td>
</tr>
<tr>
<td>Weight</td>
<td>Automatically calculated by the ManTooth App Displays and records the max and min pressures 98 NIST refrigerant profiles included; upgradeable Save pressure and temperature readings from your sessions which can be automatically organized by location and serviced unit Capable of measuring 2 temperatures using high accuracy NTC thermistors 67001/67003 – one 67002 – two Very small internal volume minimizes refrigerant loss during system analysis. Simple single button zeroing at the start of each session Enter at start of session for effortless psia compensation Rechargeable LiPo battery</td>
</tr>
</tbody>
</table>
DIGITAL VACUUM GAUGE
Seven units of vacuum for confidence

This easy-to-use gauge shows that air and moisture have been removed from the system. Simple push of a button changes the display readout between 7 units of measurement. Each displays from atmosphere to 10 microns ( bargraph indication above 25000 microns) of vacuum to let you know that your vacuum pump is clean and performing properly. If the sensor gets dirty, simply plug a new sensor into the gauge, run through a quick calibration process and be back on the job within minutes.

- Unique patented thermal conductivity sensor automatically compensates for temperature
- Replaceable, cleanable, plug-in sensor (Part #69087) handles 450 psi positive pressure
- Displays seven different units of vacuum (microns, milliTorr, Torr, millimeters of mercury, millibar, kiloPascal and Pascal)
- 12” coiled sensor cord stretches to 24” for easy reach, connectivity and readability of display
- Low battery indicator
- Automatic shut-off after 20 minutes
- Calibration standards traceable to NIST
- 32° to 122°F (0° to 50°C) operating temperature range
- 14 oz. (392 g) with battery
- Approximately 25 hours continuous battery life
- Accuracy ±20% of reading
- Made in the USA

This product is protected by one or more of U.S. Patent Number: 6,779,350; 6,832,491; 7,073,346; 7,310,965; and 7,428,822.

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>69086</td>
<td>Hand-held vacuum gauge with fabric carry pouch</td>
</tr>
<tr>
<td>69087</td>
<td>Replacement sensor for older models without detachable cords</td>
</tr>
<tr>
<td>69088</td>
<td>Replacement cable for original version - not detachable</td>
</tr>
<tr>
<td>40819</td>
<td>Replacement cable for new version – detachable</td>
</tr>
<tr>
<td>69101</td>
<td>Replacement sensor and cord assembly</td>
</tr>
<tr>
<td>69091</td>
<td>Replacement fabric pouch</td>
</tr>
</tbody>
</table>
**SUPEREvac™ LCD VACUUM GAUGE**

Full range from atmosphere to 1 micron

The SUPEREvac™ LCD vacuum gauge combines thermocouple sensor technology with advanced electronics for precise readings and repeatability not found with thermistor sensors or analog meters.

Thermocouple technology has long been proven in laboratory and precision industrial instrumentation for sensing the deep vacuum range. Thermocouple sensors are factory calibrated and exhibit few of the electronic variances of thermistor sensors found in many other electronic gauges. Durable molded case with storage for sensor, cable and brass connector.

**Specifications**

- **Response time:** 3 seconds
- **Calibration:** Automatic
- **Warm up:** 3 seconds
- **Sensor cable:** 5.5’ (167 cm) coiled
- **Sensor connection:** 1/4” Male flare
- **Maximum pressure:** To avoid sensor damage, do not exceed 5 psig
- **Operating temperature range:** 32˚ to 120˚F (0˚ to 49˚C)
- **Display:** 0.5” LCD with battery check
- **Automatic shut-off:** Yes
- **Power:** D cell battery, 70 hours continuous battery life
- **Dimensions:** 9” x 12.25” x 2.37” (230 mm x 310 mm x 60 mm)
- **Accuracy:** ± 20% of reading

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>69075</td>
<td>SUPEREvac™ LCD vacuum gauge full range complete in case</td>
</tr>
<tr>
<td>69067</td>
<td>Optional ball valve to add to sensor 1/8” NPT Female x 1/4” Female flare</td>
</tr>
<tr>
<td>69071</td>
<td>Brass connector 1/4” Female x 1/4” Female flare</td>
</tr>
<tr>
<td>69073</td>
<td>Replacement sensor for 69070, 69075</td>
</tr>
<tr>
<td>19110</td>
<td>Optional coupler to add to sensor 1/8” NPT Female x 1/4” Female flare</td>
</tr>
<tr>
<td>69058</td>
<td>Replacement cord</td>
</tr>
</tbody>
</table>

**Thermocouple sensor features:**

- No adjustments or warm-up. Stays calibrated after on/off switching and long evacuations
- Automatic battery compensation
- Automatic ambient temperature compensation
- Replacement sensor requires no calibration

**LCD gauge features:**

- Automatic off 20 minutes after power up and no change
- Normal handling and jarring will not affect the LCD reading
- Case protects electronic circuitry and sensor
- Calibration standards traceable to NIST
- Precision circuitry controls sensor and translates sensor input into micron readings
- Made in the USA 🇺🇸

The digital LCD economy vacuum gauge indicates air and moisture have been removed from the system. Track down the 14 level bargraph from atmosphere to 25 microns to know that the system is clean and the vacuum pump is performing properly. Packaged complete with 9V alkaline battery and hanging hook.

- Unique thermal conductivity sensor automatically compensates for temperature with no calibration
- Simple On/Off controls
- Easy-to-clean sensor handles 450 psi positive pressure
- Rugged contractor-grade construction with tough ABS housing and solid state circuitry for accuracy
- Automatic battery saver shuts gauge off after 20 minutes with no reading changes
- Low battery indicator
- Calibration standards traceable to NIST
- Patented technology
- Made in the USA 🇺🇸

To keep the 69080 vacuum gauge accurate, it is best to avoid oil contamination. Keep the sensor vertical whenever possible and connect the gauge directly to the system, away from the pump.

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>69080</td>
<td>Digital LCD vacuum gauge with battery, hook and pouch</td>
</tr>
<tr>
<td>69081</td>
<td>Replacement soft-sided protective case</td>
</tr>
<tr>
<td>69079</td>
<td>Replacement battery door and screw</td>
</tr>
<tr>
<td>69095</td>
<td>Tee fitting</td>
</tr>
</tbody>
</table>

---

This product is protected by one or more of U.S. Patent Number: 6,779,350; 6,832,491; 7,073,346; 7,310,965; and 7,428,822.
REFRIGERANT ANALYZER
Speed, accuracy and portability

• Dispersive infrared technology quickly determines the weight concentrations of R-12, R-134a, hydrocarbons and air
• Analytical software identifies EPA SNAP approved blends, as well as illegal replacements and blends including propane and butane
• Quickly and automatically determines purity of R-12 and R-134a to help eliminate potential of human error
• Large, easy-to-read graphing display
• Rechargeable battery lasts all day
• Rugged portable case includes R-12 hose with 1/4” flare and R-134a with auto coupler

Specifications
Operating temperature range: 40° to 130°F
Operating humidity: 0-95% RH non-condensing
Display: 128 x 64 pixel LCD
Resolution: 0.1%
Output: Digital display and LEDs, optional printer module (internal)
Power: 12V, via battery clips (optional power supply available)
Weight: 8.0 lbs.
Start to finish: 60 seconds

UPC# Description
68940 HVAC Multi refrigerant analyzer
68941 R-134a Refrigerant analyzer; R-40 sensitive
68945 Refrigerant analyzer (R-12, R-134a, HC, and EPA SNAP approved blends)
68947 Refrigerant analyzer with printer
68948 Optional internal rechargeable battery kit with battery and 110V charger
68949 Optional 110/220V power adapter
68950 Thermal printer paper - 1 roll
68977 In line identifier replacement filter
68978 R-12 replacement hose
68979 R-134a replacement hose

Built-in printer (68947) runs an instant receipt for convenient and accurate customer billing.

POCKET THERMOMETERS

1” and 1-3/8” dial thermometers are adjustable with a 5” stainless steel stem. Colored sheath with pocket clip.
• Individually calibrated
• Shock resistant

UPC# Description
69251 1” Dial 0° to 220°F (12 pak)
69252 1” Dial 40° to 160°F (12 pak)
69253 1” Dial 50° to 550°F (12 pak)
69255 1-3/8” Dial -40° to 160°F (-40° to 70°C) (12 pak)
69256 1-3/8” Dial 0° to 220°F (-10° to 110°C) (12 pak)
69265 1” Dial 0° to 70°C (12 pak)

POCKET DIGITAL THERMOMETER
Digital head rotates 180° for easy reading.
• On/off button
• Auto off after 10 minutes
• Reading updates every second
• 5” (125 mm) stem

UPC# Description
69107 Digital thermometer -58° to 302°F (-50° to 150°C)
69250 69107 display (12 pak)
69110 Battery

PISTOL-GRIP INFRARED THERMOMETER
With wide measurement of -40° to 932°F, this easy-to-use tool is the effective choice for high or low temperature and refrigeration applications. For accuracy and resolution, the focal point is a tight 10:1 ratio with laser sighting.
• Selectable 3-point emissivity for simple set-up
• Backlight for dark area use
• °F/°C switchable
• ± 2% or 2°C accuracy
• 0.1°F resolution at -40° to 212°F (-40° to 100°C)
• Fast response time of 500 msec

UPC# Description
69228 Pistol-grip infrared thermometer
DIGITAL THERMOMETER PROBES

Differential and single

Single Probe “K” type:
- Single “K” type input
- °F/°C switchable
- Maximum and minimum hold
- Low battery indicator
- Power off after 30 minutes

Differential “K” type:
- Dual “K” type thermocouple inputs
- T1, T2 or T1-T2 differential readings
- Resolution 1°

Specifieds

Temperature range: -58° to 1999°F
(-50° to 1300°C)
Resolution: 0.1 or 1°
Display: LCD 5/8” (16 mm)
Operating temperature range: 32° to 120°F
(0 to 49°C)
Storage temperature range: -20° to 130°F
(-29 to 54°C)
Power: 9V, battery life approximately 200 hours
Dimensions: 7.2” x 2.75” x 1.6”
(180 mm x 70 mm x 40 mm)
Accuracy: -58° to 1800°F ± (0.3% of reading + 2°F); -50° to 982°C ± (0.3% of reading + 1°C)

ANEMOMETER

This hand-held instrument reads both air velocity and temperature simultaneously when balancing air conditioning/heating ventilation systems.

Specifications

Air flow ranges: 125 – 4900 ft/min
Resolution: 1 ft/min and 0.01 m/sec.
Accuracy: ±2%
Temperature: 14° to 122°F (-10° to 50°C)
Resolution: 0.01°F and 0.1°C
Accuracy: ±1.0°F (±0.6°C)
Power: 9V battery, battery life approximately 100 hours
Fan diameter: 2-7/8” (70 mm)

Digi-alarm Thermometer

This compact unit measures from -58° to 392°F (-50° to 200°C) and triggers an alarm at the high and low programmed temperatures.
- No calibration
- °F/°C switchable
- Data hold function
- Key tone for operation confirmation
- Maximum/minimum temperature memory
- Foldaway stand
- Automatic self test after battery installation
**SUPERHEAT CALCULATION KIT**

Easily take an internal temperature reading for calculating system superheat.
- Read from -58° to 302°F (-50° to 150°C)
- °F/°C switchable
- Extract Schrader cores without opening system
- Remove broken Schrader cores
- Chase damaged threads
- Replace cores
- Use as vacuum valve to increase flow and reduce vacuum and charging time
- Use to reduce recovery time
- Made in the USA

**SLING PSYCHROMETER**

Measures wet and dry bulb temperatures of surrounding air for immediate conversion of readings to relative humidity percentage.
- One piece unit in self-contained housing fits into your pocket
- Calibrated and easy-to-read
- "Slide rule" scale built into case
- Accurate to 1 percent of “Hygrometric Tables”

**WATER-TYPE MANOMETER**

Economical plastic tube manometer helps you set manifold pressure for natural or L.P. gas. Goes to -2" W.C. for newer systems.
- Strong magnet on manometer holds it in convenient upright position
- Includes tubing with fitting
- Made in the USA

**DIGITAL ELECTRONIC MANOMETER**

The digital electronic manometer eliminates the mess and fragility of U-tubes or diaphragm type gas pressure gauges. This easy-to-use instrument provides a continuous display of the measured positive or negative pressure. Ideal for setting gas pressure at manifold, checking pressure, flue draft and air balancing. Kit includes battery, 18" tubing and brass fitting.
- Display unit: inches of water
- -19.95" to 19.95" water gauge
- Accuracy: ±1.5% FS (±0.3 inches of water)
- 0.05" water column resolution
- Large LCD display
- Automatic off
- Long battery life
- Made in the USA
DIGITAL PSYCHROMETER

Quickly measure humidity, dry bulb, dew point and wet bulb. No need to whisk a meter or refer to a chart for results.

- °F/°C switchable
- Data hold
- Auto power off
- Display relative humidity and temperature simultaneously
- Response time of 60 seconds to changes in humidity

Specifications
- Temperature range: -4° to 122°F (-20° to 50°C)
- Resolution: 0.1°F/ºC, 0.1% RH
- Operating temperature range: 4° to 122°F (-20° to 50°C) 0-100% RH
- Power: 2 AAA batteries
- Dimensions: 7" x 1-7/8" x 1"
  (178 mm x 48 mm x 25 mm)
- Weight: 2.65 oz. (75 g)
- Accuracy: Relative humidity functions (+ 3% RH at 25°C)
  Temperature ± 1°F (0.6°C)
- Sensors: Temperature: thermistor bead
  Humidity: polymer film (capacitance)
- Update rate: 2-6 seconds depending on function

FUEL OIL TEST KIT

Determine pump efficiency, cut-off and suction, as well as analyze or troubleshoot burner efficiency. Kit includes 2" gauge, 30'-0-150 lb. scale and 12" hose with fittings.

- °F/°C switchable
- Data hold
- Auto power off
- Display relative humidity and temperature simultaneously
- Response time of 60 seconds to changes in humidity

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>78020</td>
<td>Complete fuel oil gauge kit</td>
</tr>
<tr>
<td>78021</td>
<td>2&quot; Fuel oil gauge only</td>
</tr>
<tr>
<td>78023</td>
<td>Carrying case</td>
</tr>
<tr>
<td>78011</td>
<td>12&quot; Hose – no valve opener</td>
</tr>
<tr>
<td>78024</td>
<td>Fitting set (4 pak)</td>
</tr>
<tr>
<td>78025</td>
<td>Adapter for 1/8&quot; NPT</td>
</tr>
<tr>
<td>78031</td>
<td>2-1/2&quot; Gauge, scale 30', 0-150 lbs.</td>
</tr>
<tr>
<td>78032</td>
<td>2-1/2&quot; Gauge, scale 30', 0-300 lbs.</td>
</tr>
</tbody>
</table>

All gauges are 1/8" NPT.

TEST LEAD SETS

Set of two leads 3’ in length. Clips with red and black insulators each end. 120/240V – AC.

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Maximum amps</th>
<th>Clip size</th>
</tr>
</thead>
<tbody>
<tr>
<td>69532</td>
<td>5 Amp</td>
<td>Small</td>
</tr>
<tr>
<td>69531</td>
<td>10 Amp</td>
<td>Medium</td>
</tr>
<tr>
<td>69530</td>
<td>10 Amp</td>
<td>Medium</td>
</tr>
<tr>
<td>69529</td>
<td>20 Amp</td>
<td>Large</td>
</tr>
</tbody>
</table>

ADAPTER CORD – TEST CONNECTOR

A 12" lead using number 14-3 wire and Female plug one end. Three large clips other end with red, black and green insulators. 120/240V – AC.

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Maximum amps</th>
<th>Clip size</th>
</tr>
</thead>
<tbody>
<tr>
<td>69522</td>
<td>15 Amp</td>
<td>Large</td>
</tr>
</tbody>
</table>

OIL PUMP VIBRATION ELIMINATOR

 Reinforced rubber hose helps eliminate noise and vibration when installed in a heating system.

- 1250 psi (86 bar) minimum burst, 250 psi (17 bar) maximum working pressure
- Operating temperature -20° to 180°F (-28.8° to 82.2°C)
- Made in the USA

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>78012</td>
<td>12&quot; 3/8&quot; Male flare x 1/4&quot; NPT Male oil burner connector</td>
</tr>
</tbody>
</table>
GAS PRESSURE TEST KIT

Easier to use than a manometer, this compact kit helps you accurately set manifold pressure for natural or L.P. gas.

- Sensitive diaphragm gauge calibrated in inches of water column and ounces per square inch
- Improved lamination strength of diaphragm (bellows) to brass plate withstands higher over-pressure
- Tube nipple for easy connection to system manifold
- Two gauge ranges available
- Made in the USA

2" GAS TEST GAUGE
1/2", 3/4" and 1" pipe

Easy-to-read gauge to test system pressure for leaks in new installations. Pressure drop indicates leakage. 0-30 gauge is in 1/4 lb. increments and 0-15 gauge is in 1/5 lb. increments. Brass threaded bell for leak tight connection.

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>78076</td>
<td>2&quot; Test unit 0-15 lb. gauge 1/2&quot; pipe</td>
</tr>
<tr>
<td>78077</td>
<td>2&quot; Test unit 0-15 lb. gauge 3/4&quot; pipe</td>
</tr>
<tr>
<td>78080</td>
<td>2&quot; Test unit 0-30 lb. gauge 3/4&quot; pipe</td>
</tr>
<tr>
<td>78087</td>
<td>2&quot; Test unit 0-60 lb. gauge 3/4&quot; pipe</td>
</tr>
<tr>
<td>78090</td>
<td>2&quot; Test unit 0-100 lb. gauge 3/4&quot; pipe</td>
</tr>
<tr>
<td>78078</td>
<td>Gauge 1/4&quot; NPT Male 0-15 lb.</td>
</tr>
<tr>
<td>78081</td>
<td>Gauge 1/4&quot; NPT Male 0-30 lb.</td>
</tr>
<tr>
<td>78091</td>
<td>Gauge 1/4&quot; NPT Male 0-100 lb.</td>
</tr>
<tr>
<td>78079</td>
<td>2&quot; Test unit 0-15 lb. gauge 1&quot; pipe</td>
</tr>
<tr>
<td>78085</td>
<td>2&quot; Test unit 0-30 lb. gauge 1&quot; pipe</td>
</tr>
<tr>
<td>78095</td>
<td>2&quot; Test unit 0-100 lb. gauge 1&quot; pipe</td>
</tr>
<tr>
<td>78096</td>
<td>Schrader fitting 1/8&quot; NPT Male x tire fitting (0.306&quot; - 32)</td>
</tr>
</tbody>
</table>

3-1/2" GAS TEST GAUGE
3/4" and 1" pipe

Larger 3-1/2" gauges are easier to read. Scale in psi and bar. Brass threaded bell for leak tight connection.

<table>
<thead>
<tr>
<th>UPC#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>78084</td>
<td>3-1/2&quot; Test unit 0-30 3/4&quot; pipe</td>
</tr>
<tr>
<td>78086</td>
<td>3-1/2&quot; Test unit 0-100 3/4&quot; pipe</td>
</tr>
<tr>
<td>78088</td>
<td>3-1/2&quot; Test unit 0-30 1&quot; pipe</td>
</tr>
<tr>
<td>78089</td>
<td>3-1/2&quot; Test unit 0-100 1&quot; pipe</td>
</tr>
<tr>
<td>49422</td>
<td>Gauge only 3-1/2&quot; test unit 0-60 psi</td>
</tr>
<tr>
<td>49421</td>
<td>Gauge only 3-1/2&quot; test unit 0-30 psi</td>
</tr>
<tr>
<td>49424</td>
<td>Gauge only 3-1/2&quot; test unit 0-100 psi</td>
</tr>
</tbody>
</table>