BluVac

ACCUTOOLS®

Digital Vacuum Gauge

User's Guide

Introduction

Thank you for your purchase of the **AccuTools® BluVac Digital Vacuum Gauge**. The **BluVac** is the most accurate and precise vacuum gauge available today with patent-pending technology that cannot be found anywhere else.

With the **BluVac**, you can accurately measure vacuum pressure in Microns, Pascals, Millibar, Millitorr, and mmHg with resolution down to 0.1 micron. Ideal for the HVAC/R professional, the **BluVac** is small, lightweight, rugged and easy to use. It is programmable, and allows for unattended evacuation of HVAC/R systems of all sizes.
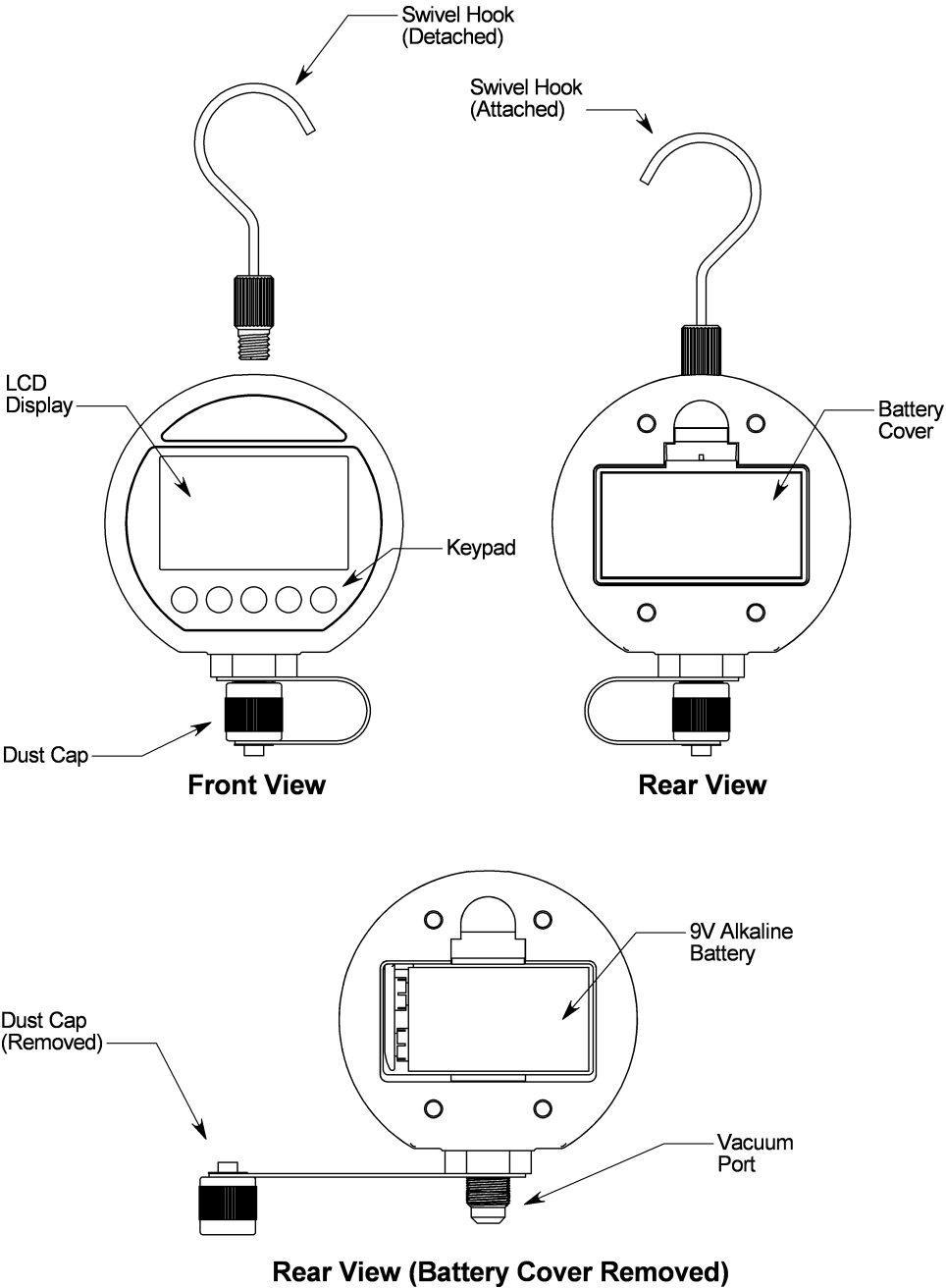
Features

- Large, high-visibility back-lit LCD display
- Measures Vacuum in Microns, Pascals, Millibar, Millitorr and mmHg
- 0 to 25,000 Micron Range with 0.1 Micron Resolution less than 10,000 Microns
- "Analog" Vacuum Level Bar Graph
- Vacuum Leak Rate and Ambient Temperature Indicator
- Automatic Oil Sensor
- Measures Temperature in Fahrenheit and Celsius to 0.1°
- Built-in memory retains all previous settings
- Rugged, Compact Design – About the Size of a Manifold Gauge
- Long Battery Life
- Programmable
- Calibration Self Test -- Can be field calibrated with no special equipment
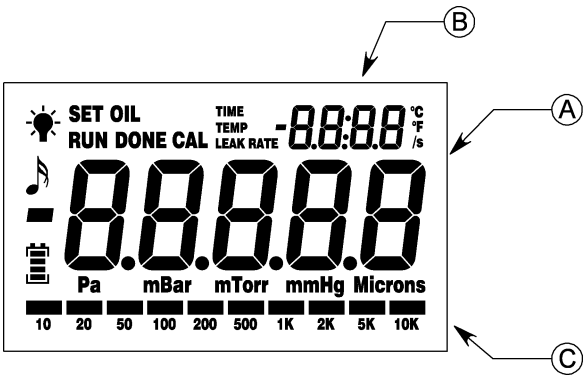- Ideal for HVAC/R Service and Industrial Use

Specifications

Range:	0 – 25,000 Microns (3333.1 Pa, 33.331 mBar, 25,000 mTorr, 25.000 mmHg)
Vacuum Accuracy:	5% of Reading +/- 5 Microns
Vacuum Resolution:	0.1 Micron (@ 0.0 to 9999.9 Microns)
Temperature Accuracy:	0.2°F (0.1°C)
Temperature Resolution:	0.1°
Warm-up Time:	Instant
Response Time:	Instant
Power:	9V Alkaline Battery (9V Lithium recommended for low temperature operation)
Battery Life:	Up to 300 Hours
Operating Temperature:	10°F – 122°F (-12°C – 50°C)
Vacuum Port Fitting:	¼" Male Flare – Nickel Plated for Durability with Dust Cap
Weight:	6 oz. (170g) including Battery and Swivel Hook
Dimensions:	3.5" x 3" x 1.25" (9cm x 7.5cm x 3cm)

WARNING: To avoid personal injury and to prevent damage to the BluVac Digital Vacuum Gauge, never exceed 500 PSI.

Parts Diagram

Swivel Hook
(Detached)

Swivel Hook
(Attached)

LCD
Display

Battery
Cover

Keypad

Dust Cap

Front View

Rear View

9V Alkaline
Battery

Dust Cap
(Removed)

Vacuum
Port

Rear View (Battery Cover Removed)

LCD Display

Item	Function
A	Main Numeric Display
B	Alternate Numeric Display
C	"Analog" Vacuum Level Bar Graph
☀	Backlight Indicator. Flashing: Temporary, Solid: Always On
♪	Sound Indicator
🔋	Battery Level Indicator
SET	Set Mode Indicator
RUN	Run Mode Indicator
DONE	Run Mode Complete Indicator
OIL	Oil Sensor Indicator
CAL	Calibration Mode Indicator
TIME	Indicates that Time is Displayed on the Alternate Numeric Display
TEMP	Indicates that Temperature is Displayed on the Alternate Numeric Display
LEAK RATE	Indicates that the Vacuum Leak Rate is Displayed on the Alternate Numeric Display
℃ ℉	Indicates either Celsius or Fahrenheit Degrees are Displayed
/s	Indicates that the Vacuum Leak Rate is Displayed in UNITS/second.
Pa	Pascal Units Indicator
mBar	Millibar Units Indicator
mTorr	Millitorr Units Indicator
mmHg	Millimeters of Mercury Units Indicator
Microns	Micron Units Indicator

Keypad
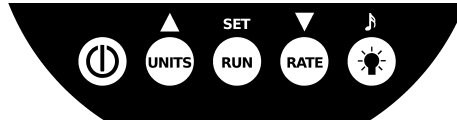
Item	Function
⏻	Press to Turn Power On, Press and Hold to Turn Power Off
UNITS	Press and Release to Change Display Units Press and Hold to Change Temperature Display Units (°F or °C)
RUN	Press and Release to Enter RUN Mode Press and Hold to Cancel RUN Mode
RATE	Press to Switch Between Temperature Display and Leak Rate Display
☀	Press and Release to Activate Backlight
▲▼	Press or Press and Hold to Change Programmed Pressure or Time in SET mode
SET	Press and Hold to Enter SET Mode Press and Release to Switch to Next Setting Press and Hold to Exit SET Mode
♪	Press and Hold to Mute/Un-mute Sound

Quick Start

To operate the BluVac as a basic vacuum gauge:

1. Install the battery as described in the "Battery Installation" section below.

2. Turn the power on by pressing ⏻. The display will show $H1-P$ to indicate pressure greater than 25,000 Microns.

3. Select the desired units by repeatedly pressing UNITS.

4. Attach the BluVac to the system to be evacuated with a high quality vacuum hose. Start the vacuum pump. Read the vacuum level from the Main Display.

5. Turn the power off by pressing and holding ⏻.

WARNING: To avoid damaging the BluVac, only hand-tighten sensor connection. If greater torque is required, support the sensor housing with a ¾" wrench.

NOTE: To assist in the use of this gauge and the interpretation of vacuum information, please refer to the *Frequently Asked Questions* Section at the end of this guide.

Battery Installation & Replacement

1. Remove the battery cover from the rear of the BluVac by compressing tab at the base of the battery cover.
2. If necessary, remove and detach old battery from battery clip.
3. Attach battery clip to new battery and insert into battery compartment. Replace battery cover by aligning tab and snapping back into place.

IMPORTANT: TO PREVENT DAMAGE FROM LEAKING BATTERIES, DO NOT LEAVE A DEAD BATTERY INSIDE THE BluVac. REMOVE BATTERY IF THE BluVac IS NOT TO BE USED FOR AN EXTENDED PERIOD OF TIME.

Battery Level Indicator

The battery level indicator shows the relative strength of the battery. Full power is indicated by four bars. As the battery is depleted, the number of bars displayed decreases, until no bars are left. At this point, it is necessary to replace the batteries (refer to the Battery Installation section above). If the battery power drops to the point where the BluVac can no longer function accurately, the alarm will beep 10 times and the power will turn off automatically. When the battery is replaced, and the BluVac is turned back on, the BluVac will resume operation with all previous setting intact.

Hi-Pressure Indication

If the sensed vacuum pressure exceeds 25,000 Microns (3333.1 Pa, 33.331 mBar, 25,000 mTorr, or 25.000 mmHg), the display will show $HI\text{-}P$.

Sleep Mode

Unlike other Digital Vacuum Gauges, the BluVac helps to conserve battery life through advanced power management. After 5 minutes of displaying $HI\text{-}P$, the BluVac will enter "Sleep Mode" in which the sensor and backlight are turned off, thus reducing the load on the battery and extending the battery life up to 300 hours or more. While in this mode, the display will show $SLEEP$. Approximately every 35 seconds, the gauge will automatically check the pressure and exit Sleep Mode if the pressure is less than 25,000 Microns. The gauge can be manually brought out of Sleep Mode by pressing any key on the keypad. While in Sleep, the gauge will beep twice every 5 minutes to remind you that it is on. The BluVac will not sleep in the Set Mode or the Calibration Mode (see the corresponding sections below).

Auto Power-Off

After 1 hour in "Sleep Mode" the BluVac will automatically turn itself off to further conserve battery power.

Oil Sensor

It is necessary to prevent oil from being drawn into the Vacuum Sensor. For HVAC/R service, always recover refrigerant prior to attaching gauge. If possible, always close the blank-off valve on the vacuum pump prior to turning the vacuum pump off. Over time, oil vapor and other materials may contaminate the sensor. The BluVac has a built in Oil Sensor that will detect this condition. If the OIL indicator on the display illuminates, this is an indication that the vacuum sensor has been contaminated and is no longer functioning accurately. If the sensor becomes completely saturated with oil to the extent that it cannot function properly at all, the message $-OIL-$ will show on the

display. Prior to further use of the BluVac, clean the sensor as describe in the "Cleaning the Vacuum Sensor" section below.

Units

Change the displayed units by pressing and releasing the ⬤ key on the keypad. The appropriate units indicator on the LCD display will show **Pa, mBar, mTorr, mmHg, or Microns** depending on the units set. The units cannot be changed in the Set Mode or the Run Mode (see corresponding sections below).

Range and Resolution

The BluVac has a broad vacuum pressure measurement range, and the highest resolution of any gauge. The display range and resolution depends upon the units displayed and the vacuum pressure reading, according to the table below:

|	Vacuum Range	Vacuum Pressure Reading	Resolution
Pascals (Pa)	0 — 3,333.1	1,000.0 — 3,333.1	0.1 Pa
		0 — 999.99	0.01 Pa
Millibar (mBar)	0 — 33.331	10.000 — 33.331	0.001 mBar
		0 — 9.9999	0.0001 mBar
Millitorr (mTorr)	0 — 25,000	10,000 — 25,000	1 mTorr
		0 — 9,999.9	0.1 mTorr
mmHg (mmHg)	0 — 25.000	10.000 — 25.000	0.001 mmHg
		0 — 9.9999	0.0001 mmHg
Microns (Microns)	0 — 25,000	10,000 — 25,000	1 Micron
		0 — 9,999.9	0.1 Micron

"Analog" Vacuum Level Bar Graph

The BluVac also displays a Vacuum Level Bar Graph allowing for a quick visual determination of the vacuum level achieved. Each bar corresponds to a vacuum pressure range depending on units according to the following table:

Bar Value	Units				
	Microns	**Pa**	**Millibar**	**Millitorr**	**mmHg**
10K	10,000 — ATM	1,000 — ATM	10 — ATM	10,000 — ATM	10 — ATM
5K	5,000 — 10,000	500 — 1,000	5 — 10	5,000 — 10,000	5 — 10
2K	2,000 — 5,000	200 — 500	2 — 5	2,000 — 5,000	2 — 5
1K	1,000 — 2,000	100 — 200	1 — 2	1,000 — 2,000	1 — 2
500	500 — 1,000	50 — 100	0.5 — 1	500 — 1,000	0.5 — 1
200	200 — 500	20 — 50	0.2 — 0.5	200 — 500	0.2 — 0.5
100	100 — 200	10 — 20	0.1 — 0.2	100 — 200	0.1 — 0.2
50	50 — 100	5 — 10	0.05 — 0.1	50 — 100	0.05 — 0.1
20	20 — 50	2 — 5	0.02 — 0.05	20 — 50	0.02 — 0.05
10	10 — 20	1 — 2	0.01 — 0.02	10 — 20	0.01 — 0.02

Backlight

To activate the Backlight temporarily, press once. The indicator on the display will flash, and the backlight will turn off automatically after 1 minute. To activate the Backlight permanently, press again. The indicator on the display will show solid. Turn off the backlight by pressing repeatedly until the indicator turns off. During Sleep Mode, the backlight will turn off to help conserve battery power, but will turn on again automatically upon resumption of normal operation if it was previously set in the permanent-on mode.

Sound

The BluVac has an internal speaker that will emit a beep for each valid key press, and also functions as an alarm in the Programming and Calibration modes (see corresponding sections below). It will also beep every 5 minutes in Sleep Mode. For silent operation, the sound can be muted by pressing and holding the ♪ key. The alarm is not affected by the mute status. The ♪ indicator on the LCD display indicates that the sound is on (not muted).

Alternate Numeric Display

The BluVac has an Alternate Numeric Display that can indicate Vacuum Leak Rate, Ambient Temperature, or Programming Time/Progress. Please refer to the "Programming" section below for programming instructions. During normal operation, the Alternate Numeric Display may show either Vacuum Leak Rate or Sensor Temperature. Select the display mode by pressing the **RATE** key until either **LEAK RATE** or **TEMP** illuminates on the display.

Vacuum Leak Rate Indicator

The Vacuum Leak Rate Indicator displays the rate of change of vacuum per second in the selected units when the **LEAK RATE** indicator is illuminated. The reading is positive for increasing pressure and negative of decreasing pressure. The Leak Rate Indicator is useful for determining the size of a vacuum leak, if one exists. Under high-pressure conditions, the leak rate indicator shows ▬ ▬ ▬ ▬.

Ambient Temperature Indicator

Internally, the BluVac uses a very high accuracy temperature sensor to maintain proper calibration throughout the entire operating temperature range. This temperature is shown on the Alternate Numeric Display when the **TEMP** indicator is illuminated. The accuracy of the temperature sensor is 0.2°F or 0.1°C. The temperature display units can be toggled between Fahrenheit and Celsius by pressing and holding the **UNITS** key while in the temperature display mode.

Swivel Hook

The BluVac's removable stainless steel swivel hook enables hanging of the gauge and will allow it to swivel freely in any direction. The gauge may be operated with or without the hook attached. When fastening the hook to the gauge, turn it finger tight only. Use of a tool to tighten the hook may result in damage to the BluVac case.

Programming

The programming feature of the BluVac allows for unattended evacuation of large systems, and will sound an audible/visual alarm when the evacuation program has been completed. The program consists of both a target pressure (vacuum level) and a time period through which the system must remain at or below that pressure. There are 16 possible target pressures, depending upon the units displayed, as shown in the table below:

Units				
Microns	**Pascal**	**Millibar**	**Millitorr**	**mmHg**
50	5.0	0.050	50	0.050
75	10.0	0.100	75	0.075
100	15.0	0.150	100	0.100
150	20.0	0.200	150	0.150
200	30.0	0.300	200	0.200
300	50.0	0.500	300	0.300
500	75.0	0.750	500	0.500
750	100.0	1.000	750	0.750
1000	150.0	1.500	1000	1.000
1500	200.0	2.000	1500	1.500
2000	300.0	3.000	2000	2.000
3000	500.0	5.000	3000	3.000
5000	750.0	7.500	5000	5.000
7500	1000.0	10.000	7500	7.500
10000	1500.0	15.000	10000	10.000
15000	2000.0	20.000	15000	15.000

The evacuation time period may be programmed between 0 seconds and 100 minutes. To program the BluVac:

Programming (Set Mode)

1. Turn the power on by pressing .

2. Select the desired units by repeatedly pressing **UNITS**.

3. Activate the Program Set Mode by pressing and holding **SET**. The **SET** indicator will show on the display, as well as the currently programmed target pressure and time.

4. While the pressure display is flashing, press and/or hold the ▲ or ▼ keys to increase or decrease the target pressure. When compete, press and release the **SET** key.

5. While the minutes display is flashing, press and/or hold the ▲ or ▼ keys to increase or decrease the minutes. When compete, press and release the **SET** key.

6. While the seconds display is flashing, press and/or hold the ▲ or ▼ keys to increase or decrease the seconds. When compete, press and release the **SET** key. The gauge will beep three times (if sound is enabled), and return to normal mode.

7. At any point in the Program Set Mode, pressing and holding the **SET** key will result in saving the current program and returning to normal mode.

8. Once programmed, the BluVac will remember the settings until changed again, even if the power is turned off or the battery removed.

NOTE: The units cannot be changed while in the Set Mode.

Executing the Program (Run Mode)

1. Press and release 🔘**RUN**. The **RUN** and **TIME** indicators will illuminate on the display.
2. Start the vacuum pump.
3. When the vacuum pressure drops to less than the target pressure, the timer will start. Subsequently, if the pressure exceeds the target pressure, the timer will stop and resume counting when the pressure again drops to less than the target pressure.
4. When the timer expires, the BluVac will sound an alarm, flash the backlight, and blink the **DONE** indicator. Press any key to silence the alarm. The program is complete.
5. At any time during the Run Mode, the program can be canceled by pressing and holding 🔘**RUN**.
6. While in the Run Mode, the gauge may sleep after 5 minutes of high pressure. The gauge will wake and continue the program normally once the pressure drops below 25,000 Microns. The gauge may be manually wakened from sleep by pressing any key. **In the Run Mode, the Auto Power-Off feature is disabled.**

NOTE: The units cannot be changed while in the Run Mode. Also, the Leak Rate and Ambient Temperature Indicators are disabled.

Maintenance

The BluVac should provide many years of service with no maintenance required. When not in use, the dust cap should remain in place over the sensor port. Clean the plastic enclosure with a damp (not wet) rag. Mild detergent is acceptable, but use no solvents. Take care not to expose the vacuum sensor to oil. If the Oil Sensor (described above) indicates a contaminated sensor, follow the Sensor Cleaning Procedure below.

Cleaning the Vacuum Sensor

If the vacuum sensor becomes contaminated with oil (as indicated by the Oil Sensor), carefully follow this procedure:

1. Turn the BluVac power off.
2. Shake the gauge to remove any large quantities of oil from the sensor.
3. Apply a few drops of rubbing alcohol inside the sensor vacuum port. (**DO NOT INSERT ANY OBJECT INTO THE PORT, AS THIS WILL PERMANENTLY DAMAGE THE SENSOR**).
4. Place your finger over the port and shake for a few moments.
5. Remove your finger and shake out the alcohol.
6. Repeat steps (3) – (5) at least three times.
7. Allow the sensor to air dry over at least an hour, or pull a vacuum on the sensor to dry it more quickly (a few seconds).
8. Replace the battery and turn on the gauge. The Oil Indicator should be off. If it is still on, repeat the cleaning procedure.
9. If full accuracy is desired, perform a calibration cycle as detailed in the Calibration section below.

NOTE: It is important to remove all alcohol vapors from the sensor, either through air-drying or via vacuum. Any remaining vapors will cause an incorrect vacuum reading.

Calibration Test

The BluVac should rarely require recalibration, though it may be necessary to know that your gauge is calibrated properly for full accuracy. The Calibration Test mode assures you that the BluVac is calibrated to factory specifications. Test the calibration as follows:

1. Turn the BluVac power off.
2. **Important:** Expose the BluVac to atmospheric pressure.
3. Press and hold (do not release) the ⏻ key for about 5 seconds.
4. The display will show **CAL** $Good$ if the instrument is calibrated properly.
5. The display will show **CAL** $Soon$ if the instrument requires calibration. Please see the Calibration section below.

Calibration

If the Calibration Test indicates recalibration is required, the gauge may be recalibrated. Unlike any other vacuum gauge, the BluVac can be easily recalibrated to factory specifications without any special equipment, with the following procedure:

1. For best results, clean the sensor with alcohol prior to calibration. Ensure the sensor is completely dry before proceeding.
2. Turn the BluVac power off. If necessary, install a fully charged battery into the gauge.
3. Place the dust cap over the vacuum fitting.
4. Hold **RUN** while pressing ⏻. As soon as the power turns on, release both buttons and then press **RUN** quickly at least three times. The **CAL** indicator should illuminate, and $Cold$ should show on the Main Numeric Display. If not, turn the power off again and repeat.
5. Place the BluVac in a clear Ziploc (resealable zipper storage) bag, press out any extra air, and seal.
6. Place the bagged BluVac into a freezer with a temperature of less than –5°C (23°F).
7. Allow the BluVac to cool to below -2°C (28.4°F). At this point, the alarm will sound and the display will change to Hot.
8. Remove from freezer and press any key to silence the alarm.
9. Place the BluVac undisturbed in an area with a room temperature of at least 23°C (73.4°F) but no greater than 30°C (86°F).
10. Allow the BluVac to warm to 20°C (68°F). At this point, the alarm will sound, and $HI\text{-}P$ will show on the display.
11. Press any key to silence the alarm. The BluVac is now calibrated to factory specifications.

Note: For accurate calibration, it is necessary to allow the BluVac to warm slowly. Attempting to accelerate the warming by using a heat source will not provide satisfactory results. During the cooling/warming process, the temperature will be indicated on the Alternate Numeric Display in degrees Celsius. The calibration process may be canceled at any time by turning off the BluVac or by pressing and holding **RUN**. The previous calibration will be unchanged.

Restoring Factory Calibration

The original factory calibration can be restored at any time by the following procedure:

1. Turn the BluVac power off.
2. Hold **RUN** while pressing ⏻. As soon as the power turns on, release both buttons and then press **RUN** quickly at least three times. The **CAL** indicator should illuminate, and $\mathcal{C}o$ $\mathcal{ld}$ should show on the Main Numeric Display. If not, turn the power off again and repeat.
3. Press **UNITS** five times followed by **RUN**.
4. The gauge will beep 5 times and return to normal operation. The BluVac is now reset to the original factory calibration.

Low Temperature Operation

The BluVac can operate accurately at temperatures as low as 10°F (-12°C). While operating below freezing (32°F/0°C), the display update rate will slow from 3.5 readings every second to one reading every two seconds.

For satisfactory battery life at low temperatures, a 9V Lithium battery is recommended.

Troubleshooting

Under certain conditions, the display may read $-\mathcal{OIL}-$ or $\mathcal{Error}$. Please use the table below to determine and fix the problem:

Display	Mode	Possible Problem	Solution
$-\mathcal{OIL}-$	Normal Operation or Run Mode	Sensor Contaminated	Clean the Vacuum Sensor
		Ambient Temperature too Low	Turn the BluVac off, warm the vacuum port with your hand, turn the BluVac back on.
	Calibration	Sensor Contaminated	Clean the Vacuum Sensor and Restart Calibration
$\mathcal{Error}$	Normal Operation or Run Mode	Sensor Failure	Contact Customer Service
	Calibration	Gauged Warmed too Quickly	Restart Calibration. Allow the Gauge to Warm Slowly
		Gauge Disturbed During Calibration	Restart Calibration. Leave the Gauge Undisturbed During Warming Phase.

Frequently Asked Questions

Q. How often must I calibrate the BluVac?

A. Calibration of the BluVac is only necessary when the Calibration Test indicates that calibration is required. Regardless, frequent cleaning and/or calibration will not adversely affect the long-term reliability of the instrument. For best results, ensure the sensor is clean and dry, and the dust cap is in place, prior to calibration.

Q. Can I use the BluVac to check the proper operation of my vacuum pump?

A. Yes. Attach the BluVac directly to the pump with a short hose or coupler. Turn the pump on, open the blank-off valve, and close the ballast. A good pump with clean and dry oil will typically pull very quickly to less than 100 microns (generally around 25 microns for a two-stage pump). Always close the blank-off valve and/or disconnect the BluVac prior to turning off the pump so as to avoid oil contamination of the sensor.

Q. The BluVac does not indicate acceptably low pressure when I test my pump.

A. Ensure the pump oil is clean and dry (it should be completely clear when viewed through the pump's sight glass). Replace the oil. Ensure the pump ballast is completely closed and the blank-off valve is completely open, and all fittings are tight and seals are not damaged. If low pressure is still not achieved, the pump may be damaged or worn.

Q. I've attached the BluVac directly to my pump with a short hose or coupler. As soon as I blank off the pump, the indicated pressure rises rapidly. Is the BluVac sensor leaking?

A. No. There will always be molecular-sized leaks, outgassing, and/or permeation in any hose or fitting, and the pump's blank-off valve may not be entirely gas tight. The indicated pressure will rise due to the small internal volume of the hose or coupler.

Q. What is the recommended method for attaching the BluVac for evacuation service?

A. Ideally, the BluVac should be as close to the internals of the system under evacuation, and as far from the vacuum pump as possible. Attaching the BluVac to the auxiliary port of a vacuum-rated core removal tool (CRT) connected directly to a service port is the best method. The ball-valve of the CRT can be closed to completely isolate the system from the pump and hoses, thereby allowing for an accurate rise-time test at the completion of evacuation. Additionally, removing the Schrader core(s) via the CRT and using large diameter hoses will greatly speed the evacuation process.

Q. I accidentally exposed the BluVac to high-pressure refrigerant. Did I damage the BluVac?

A. No. The BluVac sensor is rated to 500 PSI overpressure, and can be directly exposed to gas/liquid refrigerant. At worst, the sensor may be exposed to oil, in which case the oil indicator will activate and cleaning/calibration may be required.

Q. I removed the BluVac from the system under vacuum, but the indicated pressure rises slowly and/or the gauge does not return to Hi-P. Is the BluVac damaged?

A. No. The slow rise in pressure is due to residual refrigerant gas captured in the sensor. Gently blowing air into the sensor to remove the residual gas will effect an immediate rise to Hi-P.

Q. How do I use the leak rate indicator?

A. The leak-rate indicator is especially useful for system diagnostics during a rise-time test. If the indicated leak rate is stable and constant, this usually indicates a physical vacuum leak. If the leak rate is stable, but decreases as the pressure rises, this usually indicates evaporating moisture or outgassing. If the leak rate is unstable (bouncing between different numbers), this usually indicates liquid water boiling off inside the system. Since the resolution of the BluVac is so high, it may be difficult to achieve a zero leak-rate. This is not a problem as long as the system meets the manufacturer's recommended vacuum rise-time performance.

Q. Why does the ambient temperature indicator show a different temperature than my room thermometer?

A. The ambient temperature indicator actually measures the temperature of the metal sensor housing and the gas contained within the sensor. This temperature may be a few degrees different than room temperature. The temperature sensor itself is inherently accurate within 0.2°F (0.1°C) and requires no calibration.

Q. My BluVac reads a different pressure than my other vacuum gauge from another manufacture. Which gauge is correct?

A. Unlike all other micron gauges, the BluVac's accuracy is independent of temperature and pressure. Therefore, you can be confident that the BluVac's reading is correct. Other gauges are calibrated at a specific temperature and pressure (i.e. 500 microns and 77°F (25°C)). The accuracy of those gauges is necessarily derated when operated at pressures and temperatures different than the calibration values.

Q. I am still having problems using the BluVac and/or understanding the readings it is giving me. What should I do?

A. Please, contact us! Use our website at www.accutools.com or call us at (954) 227-0781 between 9:00AM and 5:30PM EST. We will be happy to help.

Warranty and Repair

1 Year Limited Warranty

AccuTools® warrants that this product conforms to our published specifications and will be free from defects in material and workmanship. The duration is for a period of one year from the date of purchase. AccuTools®, at its option, will repair or replace this product or any component of the product found to be defective during the warranty period. Replacement will be made with a new or remanufactured product or component. This is your sole warranty.

This warranty is valid for the original retail purchaser from the date of initial retail purchase and is not transferable. Keep the original sales receipt. Proof of purchase is required to obtain warranty performance. AccuTools® dealers, service centers, or retail stores selling AccuTools® products do not have the right to alter, modify or any way change the terms and conditions of this warranty.

This warranty does not cover batteries or any other normal wear of parts or damage resulting from any of the following: negligent use or misuse of the product, damage caused by use of the product for purposes other than those for which was designed, use contrary to the operating instructions, disassembly, repair or alteration by anyone other than AccuTools® or an authorized AccuTools® service center. Further, the warranty does not cover: Acts of God, such as fire, flood, lightning, hurricanes and tornadoes.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS OR REPRESENTATIONS, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITTNESS FOR A PARTICULAR PURPOSE

AccuTools® shall not be liable for any incidental or consequential damages caused by the breach of any express, implied or statutory warranty or condition.

Except to the extent prohibited by applicable law, any implied warranty or condition of merchantability or fitness for a particular purpose is limited in duration to the duration of the above warranty.

AccuTools® shall not be liable for any damages of any kind resulting from the purchase, use or misuse of, or inability to use the product including incidental, special, consequential or similar damages or loss of profits, or for any breach of contract, fundamental or otherwise, or for any claim brought against purchaser by any other party.

Some states or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state or jurisdiction to jurisdiction.

How to Obtain Warranty and Repair Service

To obtain warranty or repair service, please call (954) 227 0781 to obtain a RMA number. For warranty service, a legible copy of the original receipt must be sent along with the RMA Form. Any package received without this RMA number will be refused. The returned product must be properly packaged and insured against shipping damage. Any shipping damage resulting from improper packaging shall be the responsibility of the Purchaser. The repaired or replaced product will be returned to Purchaser, freight prepaid via UPS ground only. Repaired or replaced units carry an additional 90 days warranty.

ACCUTOOLS®

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