

## Digital Micron Gauge



### User's Guide

## Specifications

- Range: 0 – 25,000 Microns, 25 Torr  
3330 Pa, 33.3 mBar, 25 mmHg
- Accuracy: 5% of Reading +/- 5 Microns
- Resolution: 1 Micron (< 1000 Microns),  
.1 Pa, .001 mBar/mmHg/Torr
- Warm-up: Instant
- Response: Instant
- Power: 2 'AAA' Alkaline Batteries  
Lithium Recommended for Low  
Temperature Operation.
- Battery Life: Up to 100 Hours
- Op. Temp. -10°F – 122°F (-12°C – 50°C)
- Fitting: ¼" MFL Anodized Aluminum
- Weight: 2.7 oz. (77g) with Batteries
- Dimensions: 4.3" x 1.3" x 1"  
(11cm x 3.3cm x 2.5cm)
- Safe Over-  
Pressure: 500 PSI
- US Patents: 8,504,313 & 8,768,633

## Introduction




Thank you for your purchase of the AccuTools µBluVac "Micro" Micron Gauge. The µBluVac utilizes patented technology providing unsurpassed vacuum accuracy and dependability.

The µBluVac accurately and quickly measures vacuum in Microns, Pascals, Millibar, mmHg, and Torr with a resolution down to 1 micron. Two 'AAA' batteries supply up to 100 hours of use in a package small enough to fit in a shirt pocket.

## Features

- Hi-Visibility Back-Lit Display
- Microns, Pascals, Millibar, mmHg, Torr
- 0 – 25,000 Micron Range with 1 Micron Resolution
- Automatic Oil Sensor
- Wide Operating Temperature Range
- Long Battery Life
- Calibration Self-Test
- Calibratable – No Reference Needed
- Ideal for HVAC, Industrial and Scientific

## Quick Start

1. Install 2 'AAA' batteries.
2. Press and hold  for 1 second.
3. Press and hold  to change the vacuum measurement units.
4. Using the supplied coupler, connect the µBluVac to an unused service port, core removal tool, or hose attached to the system.
5. Start the vacuum pump. Display will show vacuum pressure in selected units.
6. Press and hold  for 1 second to turn the power off.

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



## Display




## Battery Installation

1. Remove battery cover from the back of the instrument.
2. Install 2 'AAA' Alkaline batteries observing polarity.
3. Replace battery cover.

## Battery Level Indicator

Four bars in the battery level indicator indicate full battery strength. As battery power is depleted, the number of bars displayed decreases, until no bars are left. The µBluVac will turn itself off when the batteries are fully consumed.

## Backlight

Press and release  to toggle the backlight on and off. To conserve battery power, the backlight will automatically turn itself off after one minute.

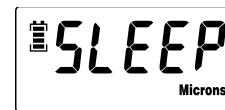
## Hi-Pressure Indication

If the vacuum pressure exceeds 25,000 Microns (3330 Pa, 33.3 mBar, 25 mmHg/Torr), the display will show:



## Sleep Mode

After one minute in HI-P, the µBluVac will reduce power to conserve battery life. This is indicated on the display:



Full power operation will resume when a button is pressed, or if the vacuum pressure is reduced below 25,000 microns.

## Auto Power-Off

After 1 hour in *Sleep Mode* the µBluVac will automatically power off to further conserve battery life.

## Range and Resolution

The µBluVac has a broad vacuum measurement range and very high resolution:

Units	Range	Resolution
Pa	0 – 3,330	10 (@ > 1,000)
		1 (@ > 100)
		0.1 (@ < 100)
mBar	0 – 33.3	0.1 (@ > 10)
		0.01 (@ > 100)
		0.001 (@ < 100)
mmHg Torr	0 – 25	0.1 (@ > 10)
		0.01 (@ > 1)
		0.001 (@ < 1)
Microns	0 – 25,000	100 (@ > 10,000)
		10 (@ > 1,000)
		1 (@ < 1,000)

**CAL** Indicates Calibration Self-Test and Field Calibration Mode


**Torr** Torr Units Selected

**Pa** Pascal Units Selected

**mBar** Millibar Units Selected

**Microns** Micron Units Selected

**mmHg** mmHg Units Selected

 Battery Level Indicator

## Oil Sensor & Cleaning

If oil or other contamination is inadvertently drawn into the sensor, the display will show:



To clean the sensor:

1. Turn the  $\mu$ BluVac power on.
2. Shake out any excess oil.
3. Using an eye dropper or syringe, fill the sensor port hole with isopropyl alcohol. **Do not** insert any object into the port.
4. Shake out the alcohol.
5. Repeat steps (3) and (4) three times.
6. Thoroughly dry the sensor by pulling a vacuum for about 1 minute, or allow at least 1 hour to air dry.
7. If OIL still shows on the display, perform a freezer calibration.

## Maintenance

The  $\mu$ 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.

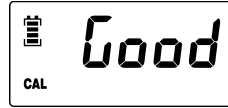
## Product Registration

To register your  $\mu$ BluVac for warranty purposes, and for additional information regarding  $\mu$ BluVac and other AccuTools products, please visit our website at: [www.accutools.com](http://www.accutools.com).

## Calibration Self-Test

To ensure highest accuracy, periodically perform a calibration self-test:

1. Turn the  $\mu$ BluVac power is off.
2. Expose the  $\mu$ BluVac to atmospheric pressure.
3. Press and continue to hold . After 5 seconds, the display will show:



if the unit is in calibration, or:

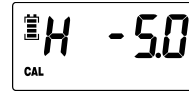


if calibration is required.

## Calibration

To calibrate the  $\mu$ BluVac:

1. Ensure the sensor is clean and dry.
  2. Install fresh batteries, place dust cap over vacuum port, and turn the power off.
  3. Insert the unit into a small Ziploc (resealable zipper bag) and seal.
  4. Place the bagged unit into a freezer with a temperature of less than  $-5^{\circ}\text{C}$  ( $23^{\circ}\text{F}$ ).
  5. After about 45 minutes, remove the unit from the freezer (do not remove unit from bag).
  6. While holding , press and continue to hold . After 5 seconds, the display will show 'H' and the sensor temperature:
7. Place the unit in an undisturbed location with a room temperature of at least  $23^{\circ}\text{C}$  ( $74^{\circ}\text{F}$ ).



## Calibration (cont'd)

8. Allow the unit to warm slowly to  $20^{\circ}\text{C}$ .
9. When complete, the display will show:



**Note:** The sensor temperature in step (6) must be less than  $-2^{\circ}\text{C}$  ( $28^{\circ}\text{F}$ ) for calibration to start. If ERROR appears on the display, perform the complete calibration procedure again, or, contact Core Enterprises, Inc. for technical support.

## Low Temperature Operation

The  $\mu$ BluVac can operate accurately at temperatures below freezing, though battery life may not be optimum. Use Lithium 'AAA' batteries for best battery life at low temperatures.

### ONE YEAR LIMITED WARRANTY

Core Enterprises, Inc. warrants that this AccuTools® product conforms to Core Enterprises, Inc. 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. Core Enterprises, Inc., 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 exclusive 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. Core Enterprises, Inc. dealers, service centers, or retail stores selling Core Enterprises, Inc. 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 Core Enterprises, Inc. or an authorized Core Enterprises, Inc. service center. Further, the warranty does not cover: Acts of God, such as fire, flood, lightning, hurricanes and tornadoes.

### ONE YEAR LIMITED WARRANTY (Cont'd)

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 FITNESS FOR A PARTICULAR PURPOSE.

Core Enterprises, Inc. 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.

Core Enterprises, Inc. 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.



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