µBluVac

Digital Micron Gauge

User's Guide

Specifications

Range:	0 – 25,000 Microns 3330 Pa, 33.3 mBar, 25 mmHg
Accuracy:	5% of Reading +/- 5 Microns
Resolution:	1 Micron (< 1000 Microns) .1 Pa, .001 mBar, .001 mmHg
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, and mmHg 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, and mmHg
- 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.

CE

Display

CAL	Indicates Calibration Self-Test and Field Calibration Mode
Pa	Pascal Units Selected
mBar	Millibar Units Selected
Microns	Micron Units Selected
mmHg	mmHg Units Selected
🔋	Battery Level Indicator

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

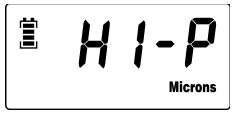
Four bars in the battery level indicator indicate full battery strength. As battery power is depleted, the number of bars displayed decreases, until no bars are left. The µBluVac will turn itself off when the batteries are fully consumed.

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), 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	0 – 25	0.1 (@ > 10) 0.01 (@ > 1) 0.001 (@ < 1)
Microns	0 – 25,000	100 (@ > 10,000) 10 (@ > 1,000) 1 (@ < 1,000)

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 µBluVac 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 µBluVac 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.

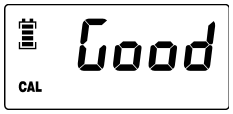
Product Registration

To register your µBluVac for warranty purposes, and for additional information regarding µBluVac and other AccuTools products, please visit our website at:

Calibration Self-Test

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

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



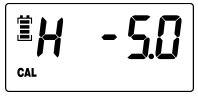
if the unit is in calibration, or:

if calibration is required.

Calibration

To calibrate the µBluVac:

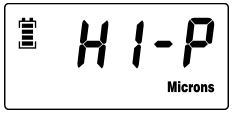
1. Ensure the sensor is clean and dry.
2. Install fresh batteries, place dust cap over vacuum port, and turn the power off.
3. Insert the unit into a small Ziploc (resealable zipper bag) and seal.
4. Place the bagged unit into a freezer with a temperature of less than -5°C (23°F).
5. After about 45 minutes, 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°C (74°F).

Calibration (cont'd)

8. Allow the unit to warm slowly to 20°C.
9. When complete, the display will show:



Note: The sensor temperature in step (6) must be less than -2°C (28°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 µBluVac 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.