HPICAL-15000

Setup Procedures

WIDDER®TOOLS

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Industrial Manufacturing Solutions

Click spacebar to advance through slides

⚠️ WARNING ⚠️

- Always wear proper safety equipment when using high pressure equipment.
- Do not exceed 125 psi air pressure.
- Never exceed the maximum pressure rating of the gauge being tested.
- Be sure pressures on air and water systems are relieved before disconnecting any hoses or fittings.
- Pressurization of any materials is dangerous – follow all OSHA procedures for stored energy and pressurization precautions pertaining to the fluids used.
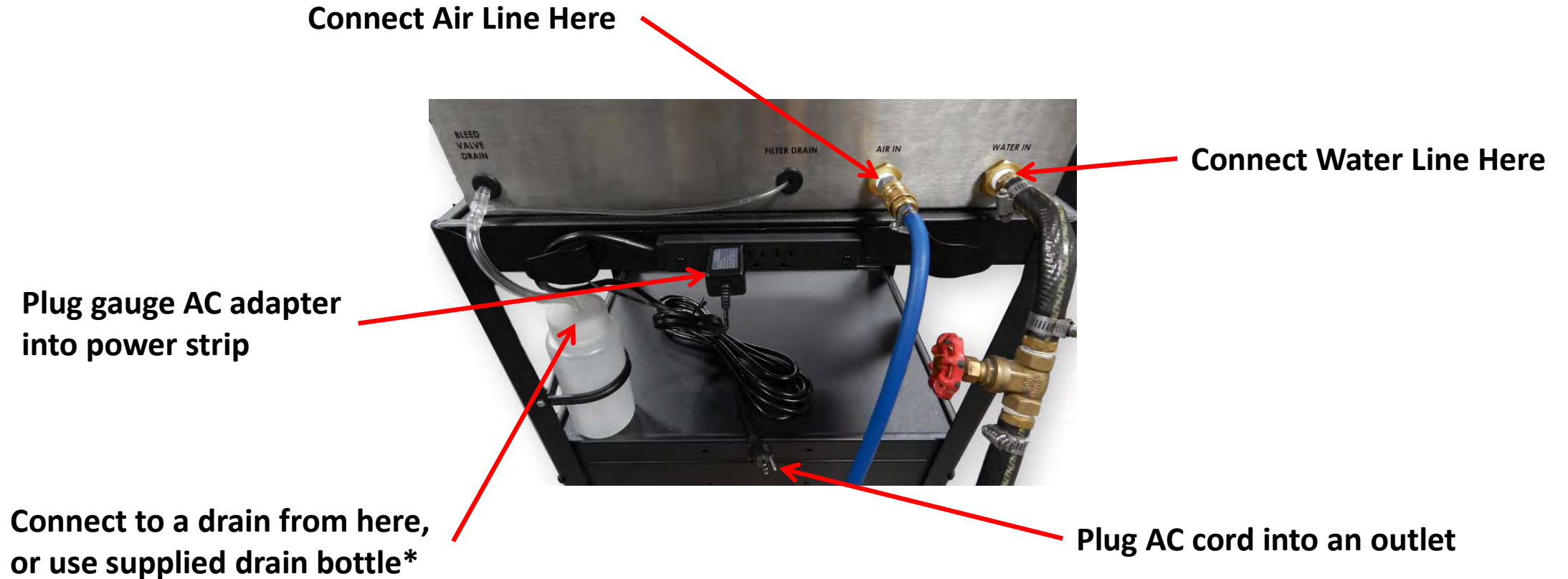- Read and understand all instructions before performing a test/calibration.

Air Regulator

System Pressure

Pressure Adjust

Top Test Port

Air Valve

Bleed Valve

Water Valve

Side Test Port

Air Pressure

Turn Air and Water Inputs to Off

Rotate Air Regulator Counter Clock-wise to Off = Open Position
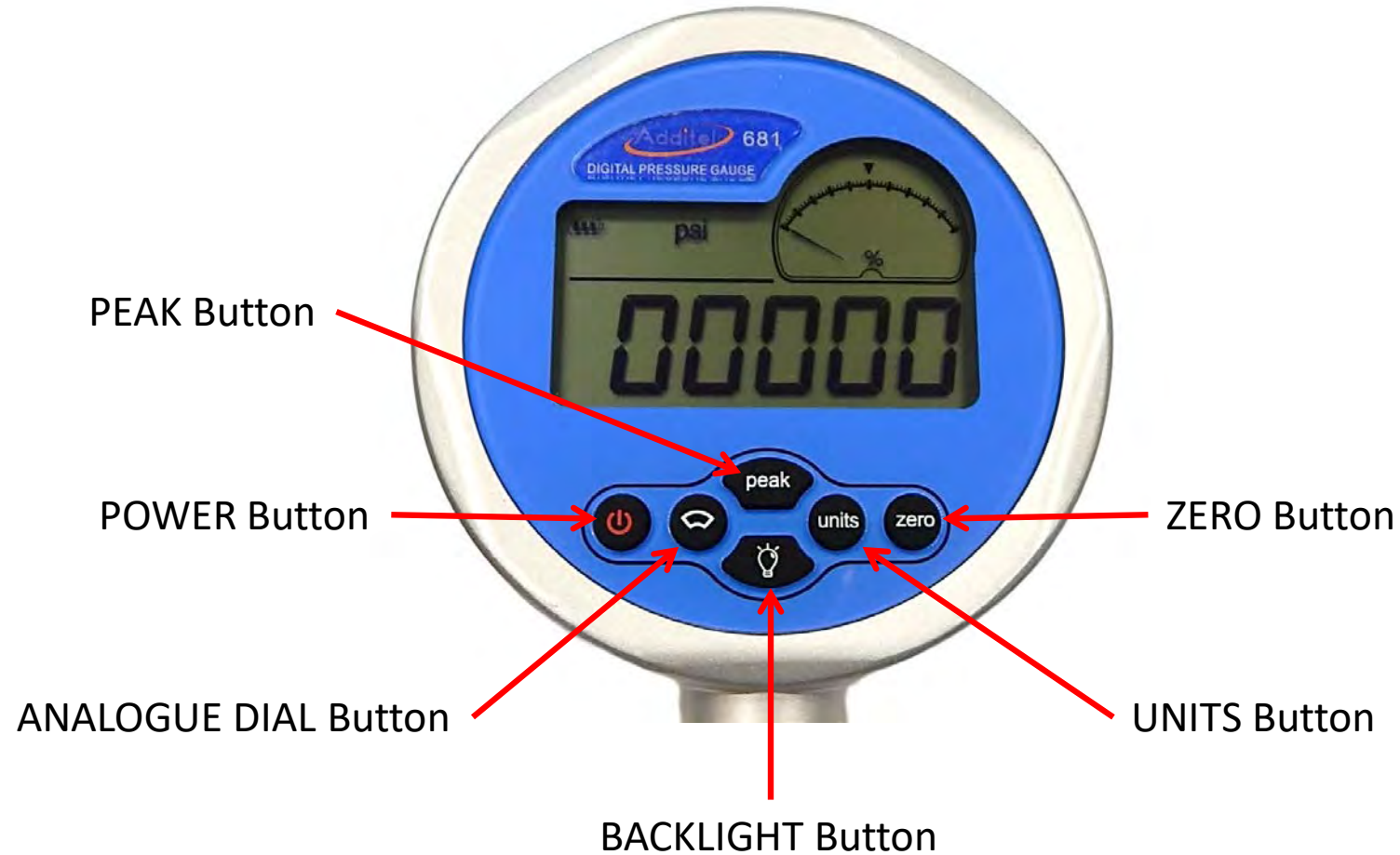
Turn Both Air and Water Inlets Clock-wise to Off Position

Water and Air Connections

Connect Air Line Here

Connect Water Line Here

Plug gauge AC adapter into power strip

Connect to a drain from here, or use supplied drain bottle*

Plug AC cord into an outlet

*If using the supplied drain bottle, be sure to empty it periodically

Additel Digital Logger Gauge

Setting Date and Time

1. Press and hold the PEAK button to enter main menu.

2. Press the ZERO button to enter Logging menu (Option 1).

3. Press the ZERO button again to enter date and time settings (option 1).

4. Press the ZERO button again to begin setting year.

5. Use the UNITS, PEAK and BACKLIGHT buttons to change the year, month, day and time.

6. When all are set correctly, press the ZERO button to accept the changes.

7. Use the POWER button to escape to the main screen.

8. **NOTE**: If the gauge loses power (unplugged from AC power), the date and time will reset to the factory set date and time.

Data Logging

1. Press and hold the PEAK button.

2. Press the ZERO button to enter Logging menu (Option 1).

3. Use the BACKLIGHT button to scroll down to the GAP setting (Option 5).

   (This will need to be set every time a new session is started)

4. Use the UNITS button to move over until the right number is flashing.

5. Use the PEAK and BACKLIGHT buttons to move the interval up or down.

6. Press the ZERO button to accept your set interval.

7. Use the BACKLIGHT button to scroll down to the OFF setting (Option 6).

8. Press the ZERO button to turn on Logging.

   (At this point the % should be flashing to indicate Logging is active)

9. Use the POWER button to escape to the main screen.

10. To turn off Logging, repeat steps 1,2,7 and 8.

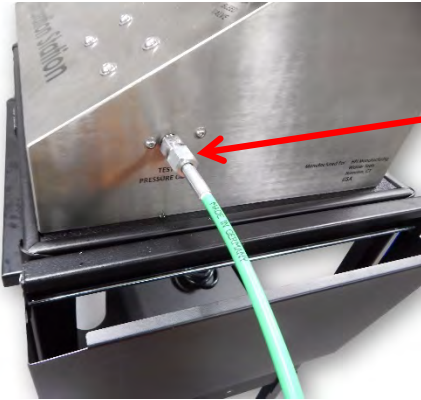# Attaching Gauge Directly for Inspection and Calibration

Remove plug from the top test port and install appropriate adapter for the gauge being tested

Install correct cap onto side test port

Install gauge to be tested.
Note: NPT fittings should be installed with tape

Attaching Free Standing Pump for Inspection and Calibration

Remove cap from side test port and attach green test hose

Install plug into top test port

Be sure Isolation Valve is fully closed

Install adapter for hose to pump and attach hose

Bleeding the System

- Be sure the Pressure Adjust Valve is backed all the way off (counter clockwise)
- If testing a gauge directly:
  - Open the Bleed Valve (only 1/4-1/2 of a turn is necessary)
  - At this point both gauges should be zeroed
  - DATA LOGGING can also be started now
  - Turn the Water Valve to the on position
  - Let the water run through the system for about 5-10 seconds
  - Close the Bleed Valve firmly
- If testing a pump:
  - Open the Bleed Valve (1/4-1/2 turn) on the Calibration Station
  - Open the Bleed Valve on the pump being tested
  - At this point both gauges should be zeroed
  - DATA LOGGING can also be started now
  - Turn the Water Valve to on
  - Let the water run for 5-10 seconds
  - Close the Bleed Valve on the pump being tested
  - Then close the Bleed Valve on the Calibration Station

Building Pressure

- Follow all previous instruction on connecting air and water inputs, connecting a gauge directly or a free standing pump and bleeding the system.

- Be sure the regulator is back all the way off (counter clockwise)

- Turn the Air Valve to the on position

- **SLOWLY** turn the air regulator clockwise to increase the system pressure

- Increase the pressure until it reaches 300-500 PSI BELOW the desired pressure

- Back the regulator off completely (counter clockwise)
  - NOTE: this will cause the system pressure to drop slightly due to the check valves seating

- Use the Pressure Adjust Valve to bring the pressure to the exact desired pressure

- To relieve pressure:
  - Back the Pressure Adjust Valve all the way out (counterclockwise), then open Bleed Valve slightly to relieve pressure.
  - Close Bleed Valve firmly and repeat steps to build pressure to next desired pressure.

Inspection vs. Calibration

- Inspection is performed to verify that the gauge is working properly and is within the accuracy percentage range.
  - In the case of the Ashcroft gauge in the HPIC-10000-D, the accuracy is ±0.25% of full scale , or ±25 PSI.

- Calibration is performed if the tested gauge is outside of its specified range (verified by the Calibration Station).
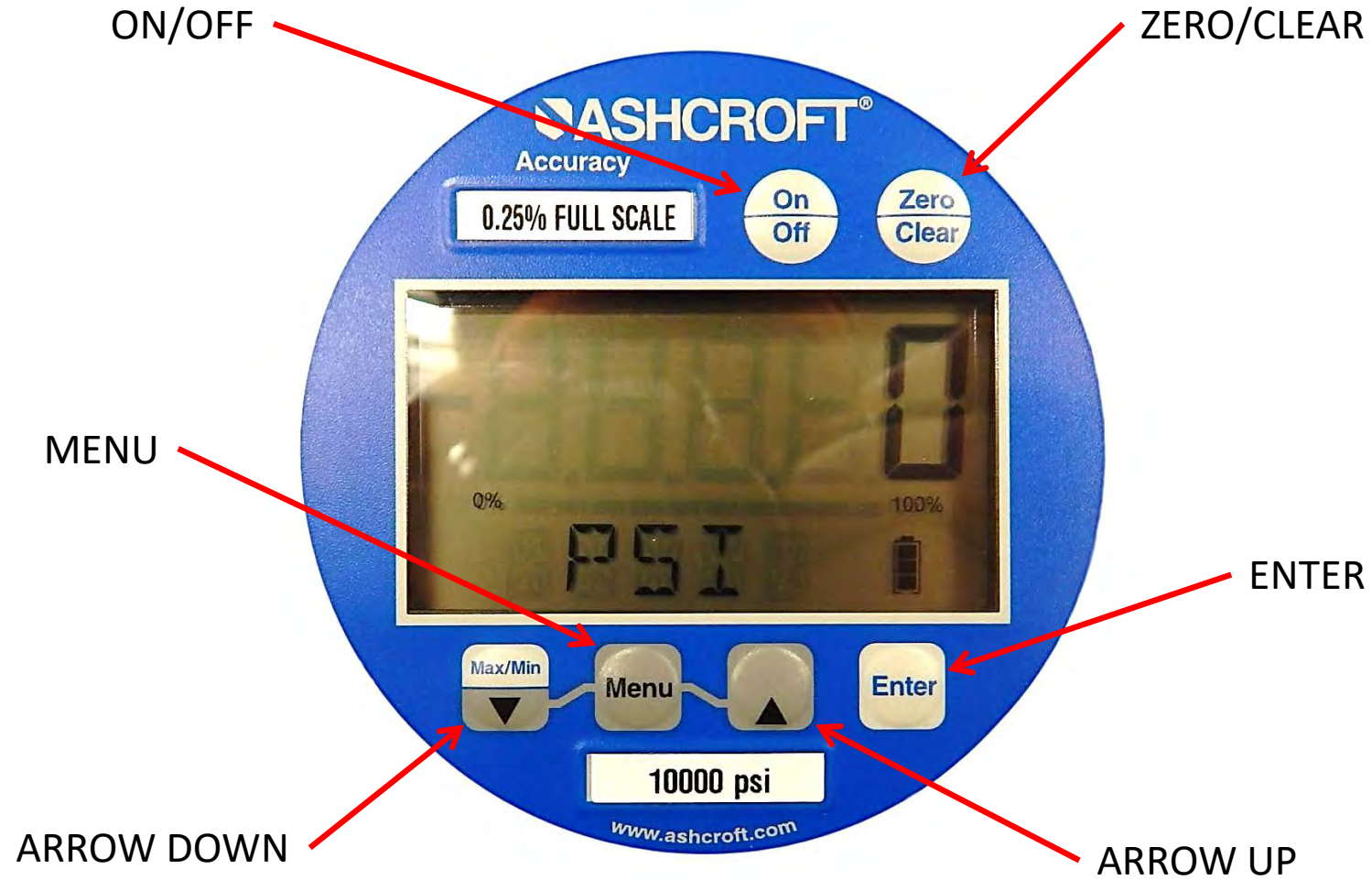
Gauge Inspection Procedure

- Follow directions for attaching a pump or gauge to the Calibration Station
- Follow instructions for bleeding the system
- Do not zero any gauges after bleeding; the pressure in the system should be your input water pressure
- Build the pressure to half of the full range of the gauge (5000 PSI for a 10000 PSI gauge) following the Building Pressure instructions
- Compare the gauge being tested to the gauge on the Calibration station
- If it is within the manufacturer's intended accuracy percentage range, it does not need to be calibrated.
- If the gauge is not within range, it will need to be calibrated according to the manufacturer's instructions.

Gauge Calibration Procedure

- Connect a gauge to the Calibration Station using one of the two methods.
- Follows all steps to bleed the system.
- Be sure DATA LOGGING is active (flashing % on Additel gauge).
- Follow the manufacturer's instructions for calibration of the gauge.
- See the following slides for instructions on calibrating the Ashcroft gauge standard in the HPIC-10000-D.
- After calibration is complete the DATA LOGGING can be turned off.
- At this point the data obtained can be uploaded to the laptop supplied using the Additel/Land software.

Ashcroft Gauge Calibration

ON/OFF

ZERO/CLEAR

MENU

ENTER

ARROW DOWN

ARROW UP

HPIC-10000-D
Unit/Ashcroft Gauge Calibration- Step 1

1. Press the MENU button

2. Press the ▲ (up arrow key) or ▼ (down arrow key) on the keypad until the word CONFIG appears.
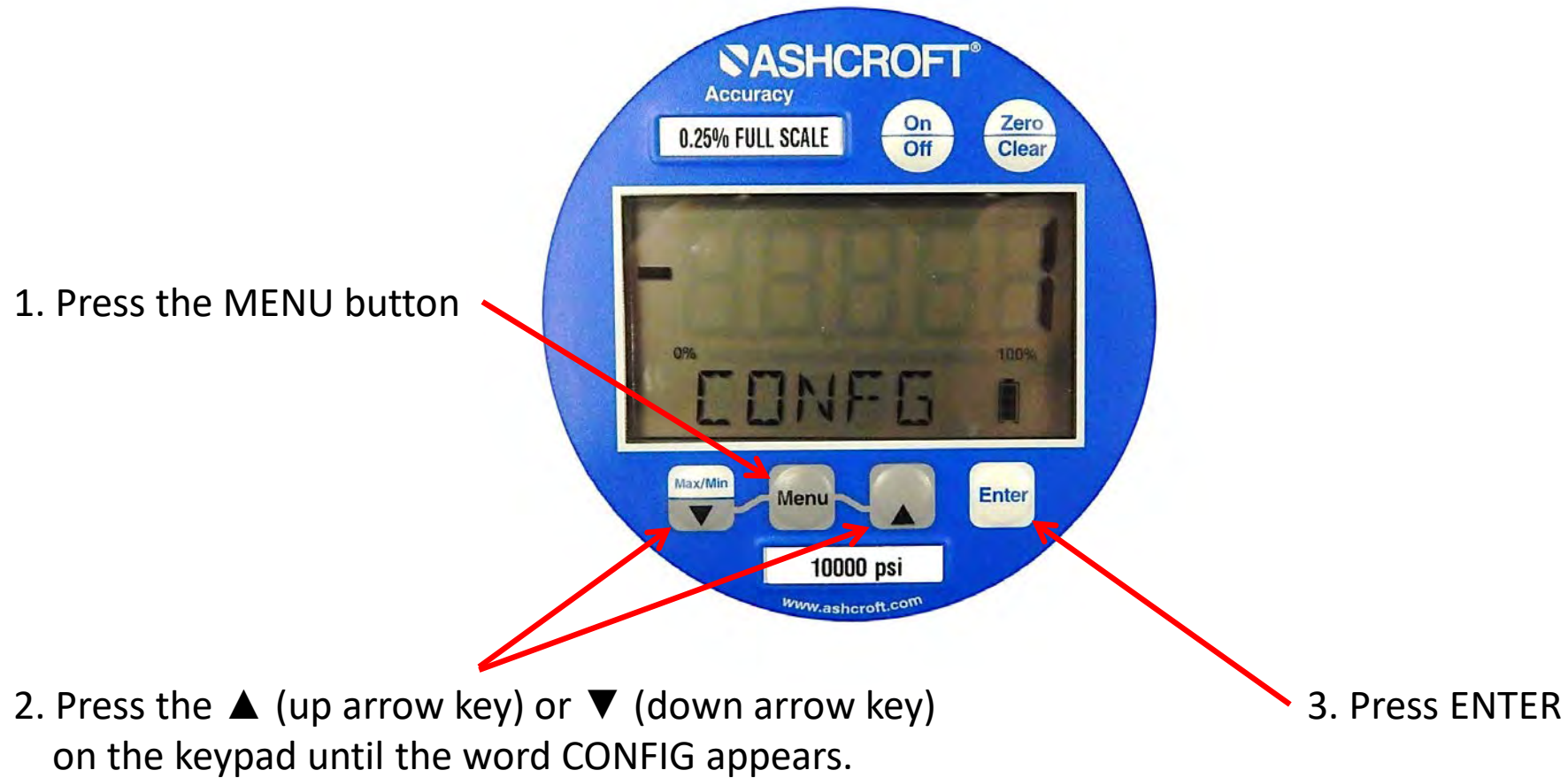
3. Press ENTER

Ashcroft Gage Calibration- Step 2
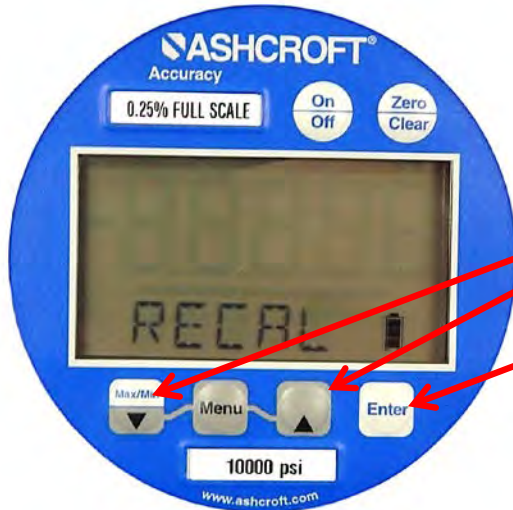
4. Enter user password if it has been programmed.
5. Press ▲ (up arrow key) or ▼ (down arrow key) until the word RECAL appears.
6. Press ENTER.

7. The gauge will show 0 on the top line and flash between INPUT and unit of measure on the lower line.
   Apply zero pressure to the gauge.
8. Press ENTER. Zero pressure is now set

Ashcroft Gage Calibration- Step 3

9. The gauge will display full-scale pressure (10000 PSI). Apply full-scale pressure to the gauge.
10. Press ENTER. Full-scale pressure is now set.

11. The gauge will now display mid-scale pressure (5000 PSI). Apply mid-scale pressure to the gauge.
12. Press ENTER. Mid-scale pressure is now set.

Ashcroft Gage Calibration - Finish

After zero, full-scale and mid-scale calibration have been set, the word SAVE appears on the gauge display.

Press ENTER to finalize calibration.

Finishing

- After all desired tests have been performed:

    – Be sure Data Logging is turned off. (no flashing %)

    – Turn Air and Water valves OFF.

    – Be sure regulator is backed all the

    way off (counterclockwise).

    – Open the Bleed Valve and relieve the system of all pressure.
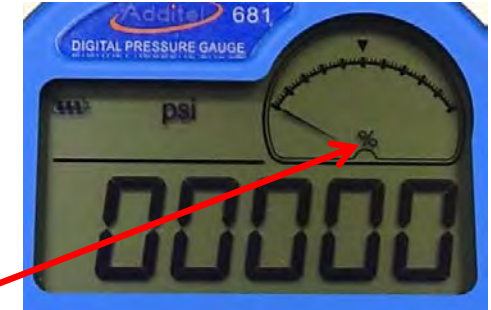
Uploading Data to Laptop

1. Connect the gauge to the USB port using the included adapter cable.

2. Open the Additel/Land software.

3. Click the scan button to search for the gauge.

4. Click on the gauge when it appears.
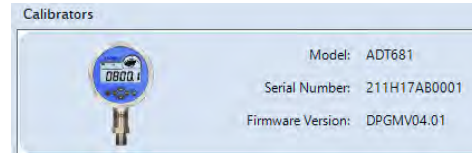
5. Click the DATA LOGGING button to access the data
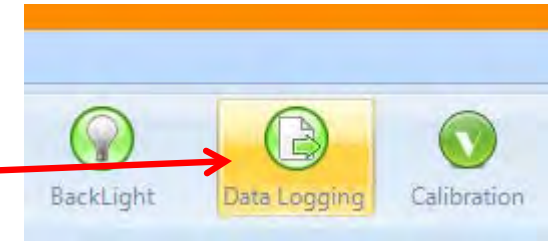
6. Select desired units for pressure and temperature.

7. Click UPLOAD.
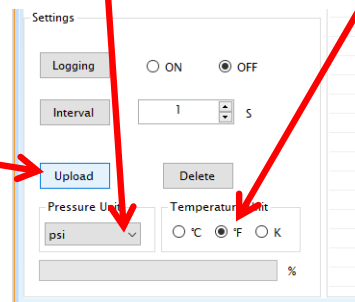
Exporting Data

- The data that has been uploaded can now be viewed in a graph in the Additel/Land software or exported to an Excel Spreadsheet.

- The only way to save the data is to export is to Excel.

- To do this, simply click the export button.

- You will be prompted to save the file.

- After saving, the file will automatically open in Excel.

- Do not close the Additel/Land window.
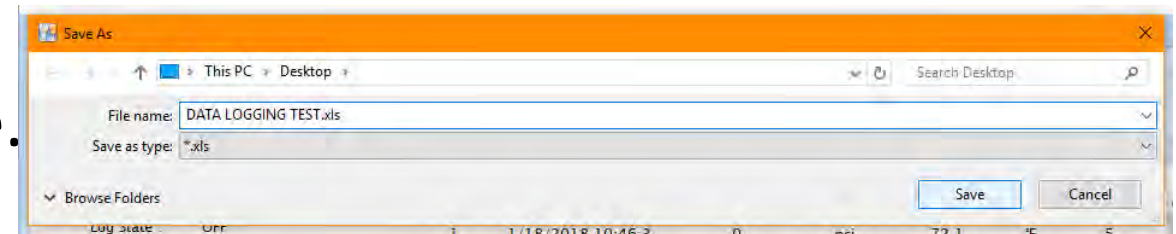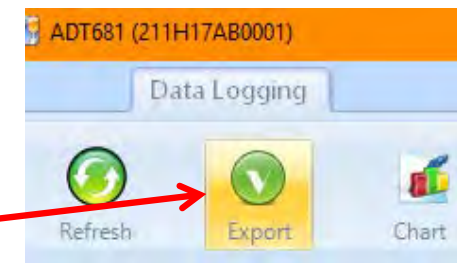
Creating a Certificate of Certification

- Open the Certificate of Certification Template.
- Only certain fields in this file can be edited.
- Input the Additel gauge serial number, your name, and the model and serial number of the gauge/unit being tested.

Certificate Continued

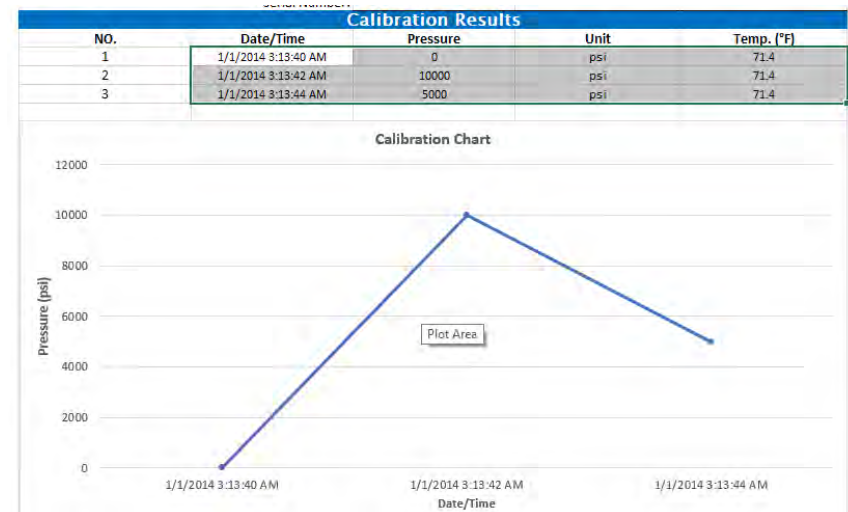- Go back to the exported sheet and copy the points at 0 PSI, 10000 PSI and 5000 PSI as shown.

- Go back to the Certificate and click on the first cell under Results.

- Paste the values using Cntrl+C.

- The graph will automatically update to the values pasted.

- You can now print and save as.

Deleting Data on Gauge

- After all data is exported **AND SAVED**, the data can now be deleted from the gauge.

- Go back to the Additel/Land window.

- Click the Delete button.

- Input the password (211) for the Additel gauge and select OK.

- You can now start another logging session.
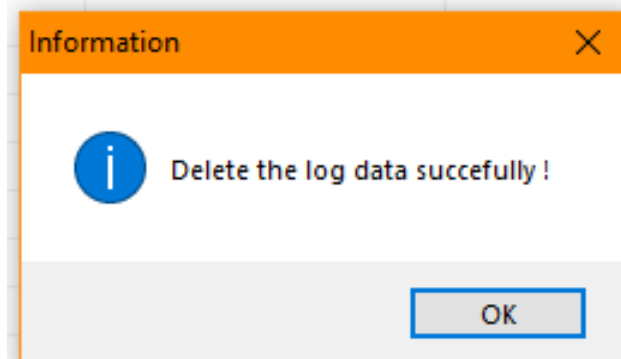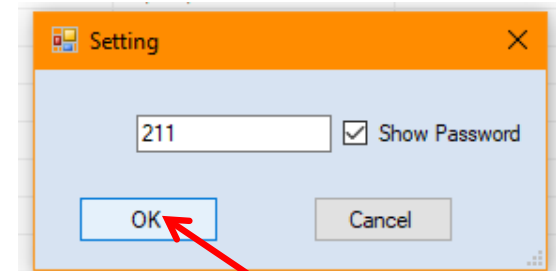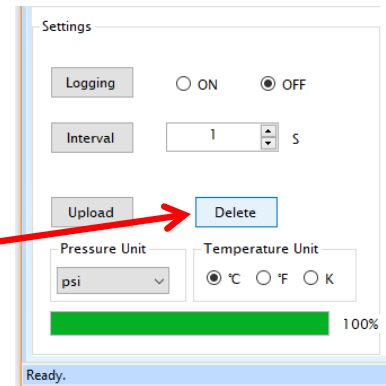
If there are any questions, concerns or comments do not hesitate to contact:

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