

ROTARY CALPlex

User's Guide

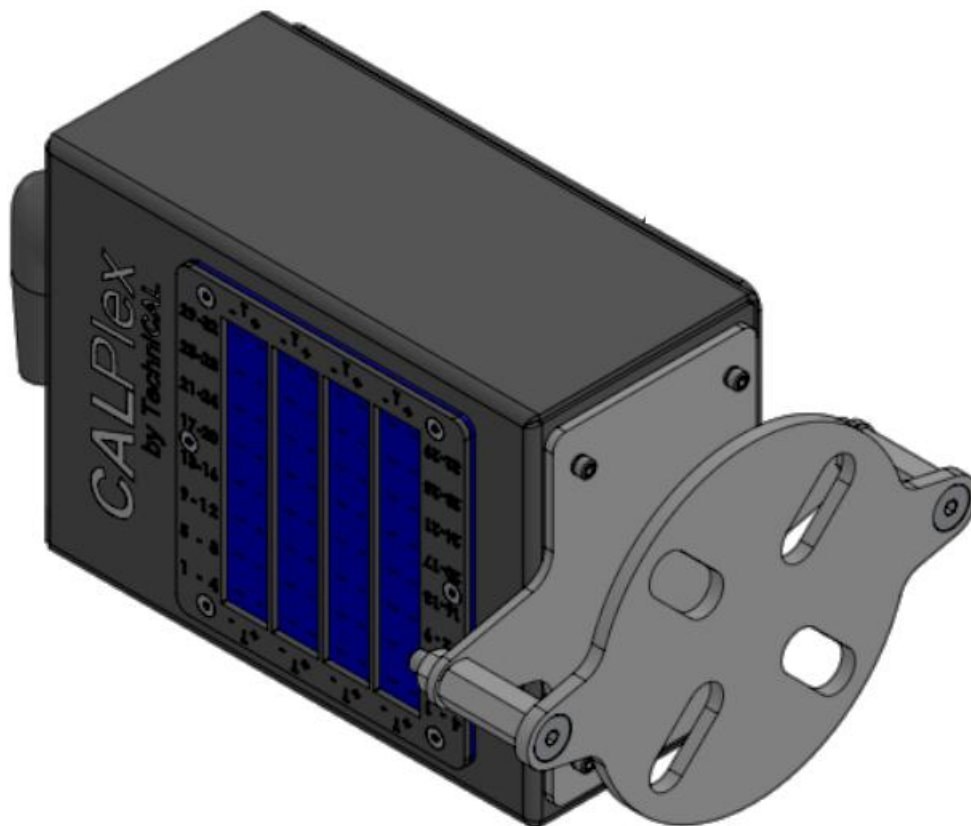


Table of Contents

1. Warnings
2. Overview of Rotary CALPlex
3. Protecting from Water Damage
4. Installing Thermocouple Wires
5. Installing Rotary CALPlex - Retorts with a Standard Packing Gland Flange
6. Installing Rotary CALPlex - Allpax Pilot Retort 2402
7. Installing Rotary CALPlex - FMC/JBT Steritort pilot retort
8. Make Your Own Extension / Mounting Bracket
9. Connecting CALPlex to a computer with CALSoft installed
10. Calibration & Warranty

WARNINGS

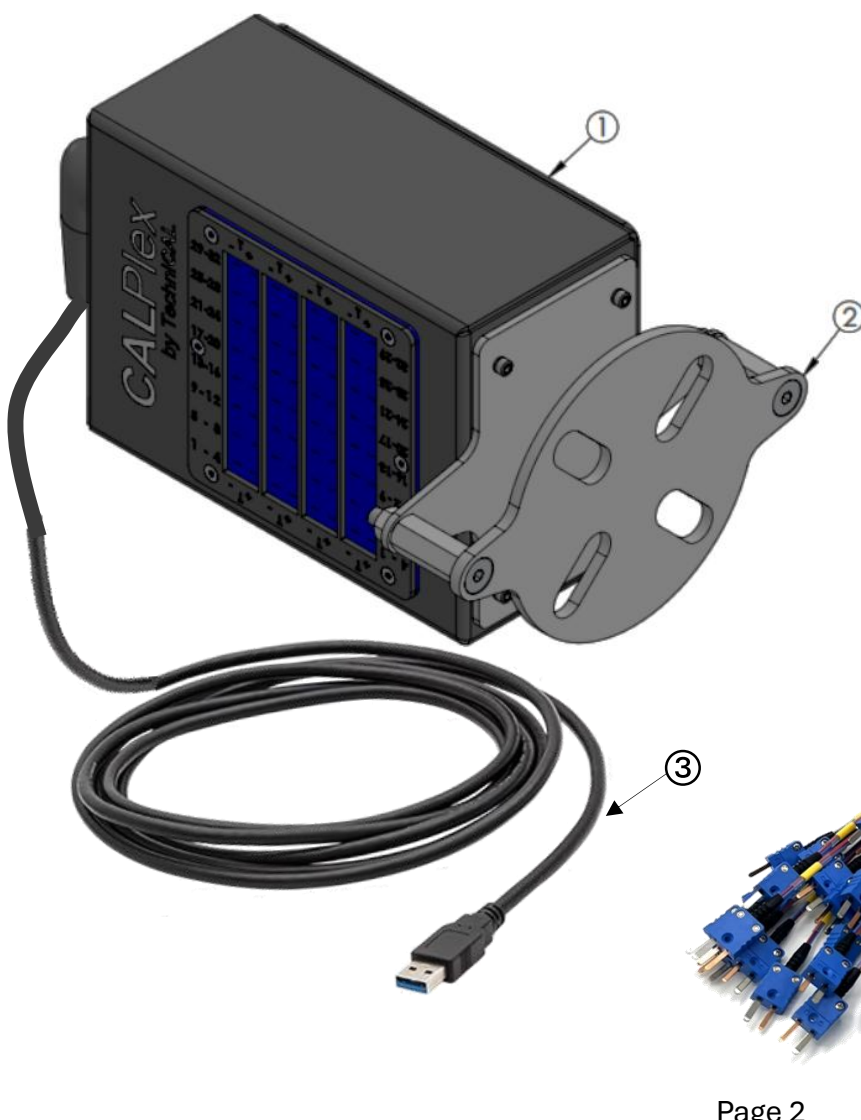
- (1) A retort is a pressure vessel and may be very dangerous. Take care when working around a pressurized retort.
- (2) The retort shell, piping, valves, and incoming utilities may be extremely hot. Take necessary precautions when working in or around the retort to protect from burns.
- (3) A retort is considered Confined Space. Take necessary precautions when working inside the retort.
- (4) DO NOT install Rotary CALPlex if the retort is in operation or is pressurized. We recommend the front door of the retort be opened during the installation of the Rotary CALPlex.
- (5) Secure any packing gland flanges or other fittings used to install the wires into the retort, so that there are no leaks. Leaking steam or water may cause severe burns.

Overview of Rotary CALPlex

CALPlex is part of TechniCAL's "Wired Data Collection Equipment" system. It is specifically designed for conducting heat penetration and temperature distribution testing on canned foods in retort sterilizers.

CALPlex allows for connection of up to 32 Type T thermocouple wires with male Subminiature Connector inputs. The unit is then connected using a USB Cable (Male USB-A Connector) to a computer with the CALSoft software. The CALSoft software communicates with the CALPlex datalogger, scanning all 32 channels during a test at the pre-determined scan rate and records the data directly to a computer.

Rotary CALPlex is specially designed to install on the back of a rotational retort. Using a specially designed USB Slipping, Rotary CALPlex rotates along with the retort, preventing the thermocouple wires from being tangled.



What's in the Box?

- ① Rotary CALPlex unit
- ② Mounting Bracket to mount onto retort
- ③ USB-A Cable (10 feet)
- ④ Jumper wires to help prevent water damage (set of 32 @18" each)

Protecting CALPlex From Water Damage

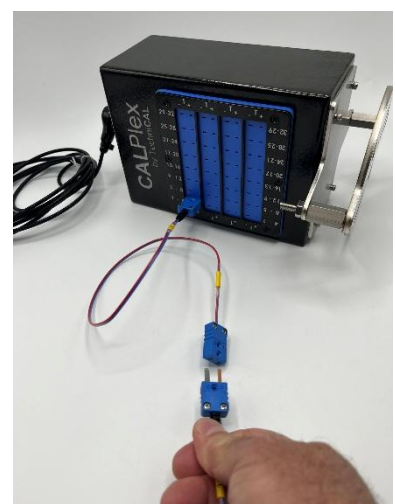
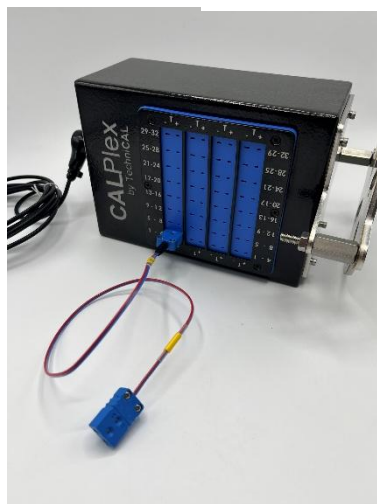
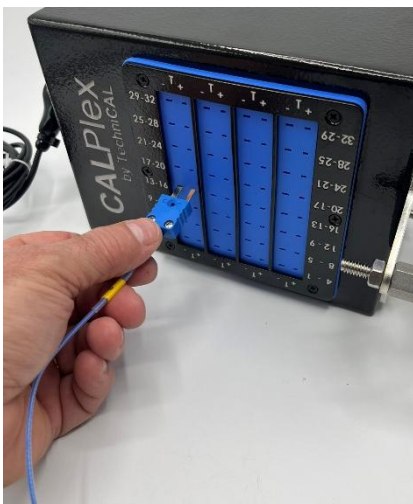
The warranty on CALPlex does not cover damage due to water intrusion into the unit.

The CALPlex is designed to resist water with a robust gasket system at the 32 plugs and on the back-plate. However, water damage may still occur if excess water is introduced onto the unit... either from an external source (a hose/pressure washer or water leaking from retort) or from the thermocouple lead wires connecting to the CALPlex.

If you notice water exiting out of the wires at the “blue” subminiature connectors during a test, this is a condition referred to as “water wicking”. This occurs by water inside the pressurized retort being forced through the overwrap on the thermocouple lead wire, and exiting out of the blue plugs at the end of the wires. Even with our improved waterproofing efforts, excessive water-wicking coming from the lead wires may introduce water into the CALPlex, which may damage the electronics.

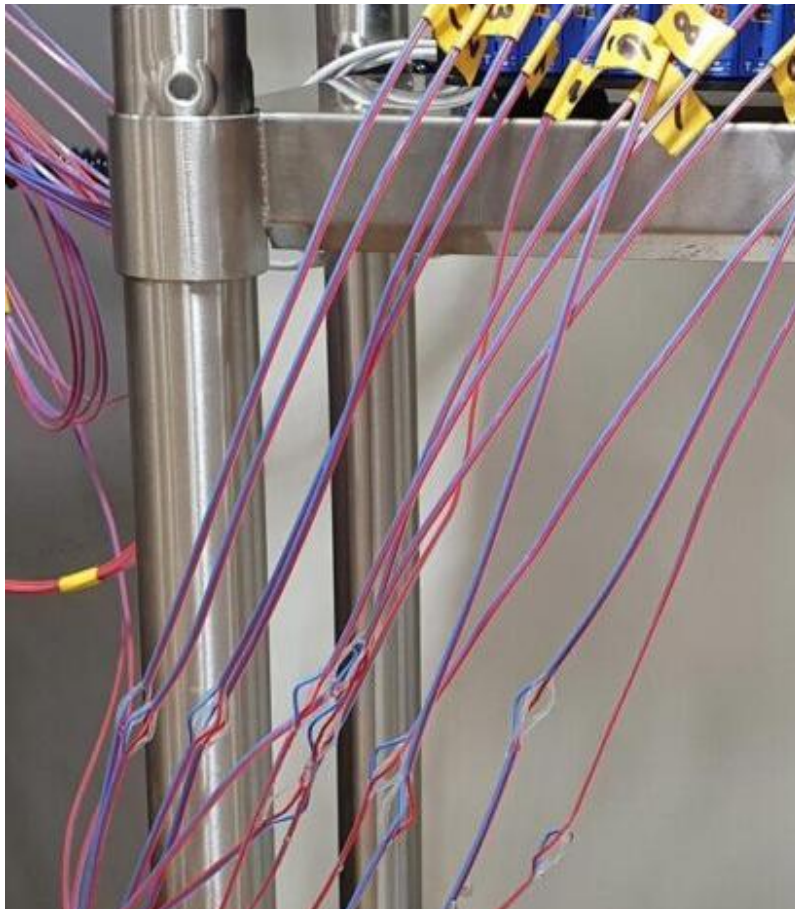
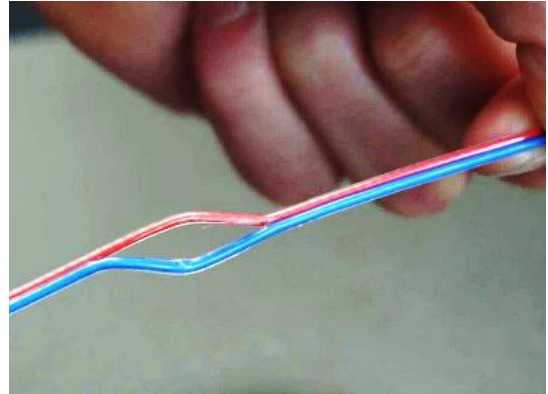
To prevent water damage to the CALPlex due to water-wicking at your wires, we recommend the following:

- (1) **Jumper Wires:** Included with your new CALPlex is a set of 32 short “jumper wires”. These wires can be used as a buffer between your thermocouple lead wires and the CALPlex. Connect the male-end of the jumper wires to the CALPlex, and then connect your lead wires from the retort to the female end plugs on the jumper wires. This will allow any water-wicking to exit at the end of the jumper wire, away from the CALPlex.



- (2) **Split Wires to create drip-spot for water-wicking:** You can also “split” the wires, removing the overwrap a short distance from the CALPlex. This will allow any water due to water-wicking to “drip out” of the wires before the connection to the CALPlex. You can learn more and see a video on how to do this here.. [Splitting Lead Wires to Prevent CALPlex Water Damage - TechniCAL](#).

CAUTION: do not expose the copper or constantan wire when stripping back the overwrap.



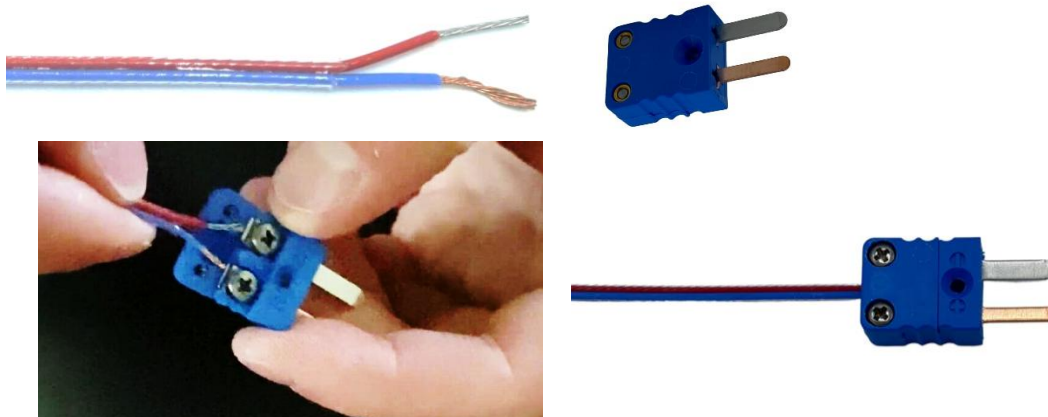
Preventing excess water from coming in contact with the CALPlex will prevent any damage to the unit.

Installing Thermocouple Wires

- **WARNING:** A retort is considered Confined Space. Take necessary precautions when working inside the retort.
- Secure any opening tightly to avoid steam or water from leaking out of the retort during operation. Leaking steam or hot water can cause severe burns.

Thermocouple wires are installed in a Rotary Retort through a port in the rear of the retort. Consult with your Retort Manufacturer to confirm where the correct port is and how to access it.

If the port in the back of the retort is small diameter, you may need to remove the Blue Subminiature Connectors from the wires in order to install the wires through the port. If you do remove the Submini Connectors from the wires, it is important that you reinstall the connector to the appropriate wire. Copper (+) should be installed to the copper terminal and Constantan (-) should be installed to the constantan terminal.



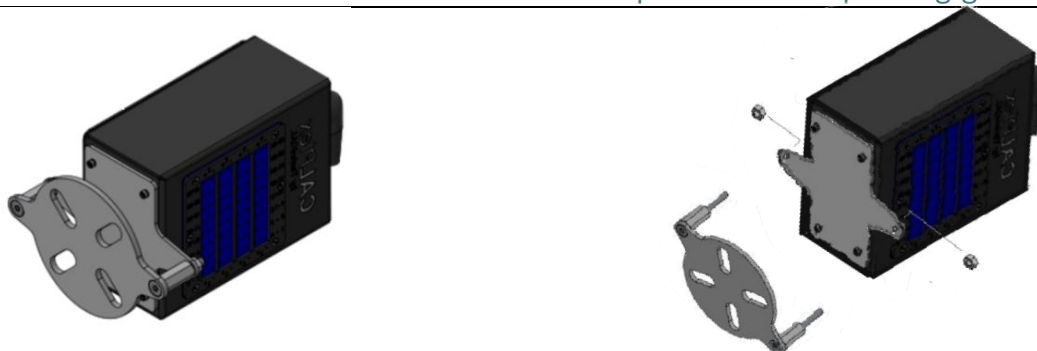
Make sure to secure and protect the wires properly **INSIDE** the retort to avoid damage to the wires during retort operation/rotation.

Leave enough wires out the rear of the retort to connect to the Rotary CALPlex.

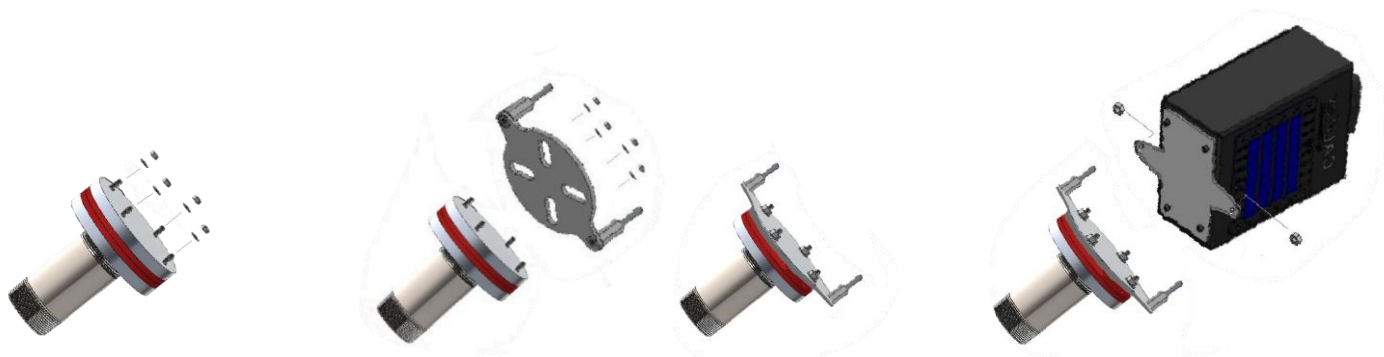
Installing Rotary CALPlex

Retorts with a Standard Packing Gland

Most rotary retorts should have a "Packing Gland Flange" on the rear of the retort for installation of the Thermocouple Wires. The Rotary CALPlex can be mounted directly to this Packing Gland Flange. Packing Glands can be ordered from TechniCAL... www.tcal.com/product/retort-packing-gland/



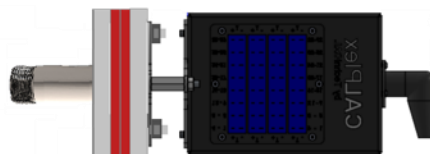
- (1) Remove the Round Disk portion of the Stainless-Steel Mounting plate by removing the 2 nuts from the 2 bolts**



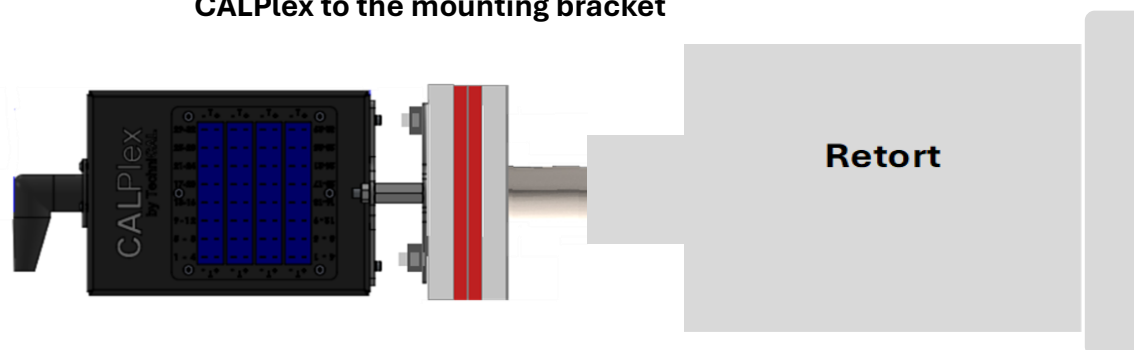
- (2) Locate the Packing Gland flange on the rear of the retort & remove nuts.**

- (3) Using nuts from Packing Gland, install the Rotary CALPlex Round Disk mounting plate**

- (4) Using the 2 nuts from the Rotary CALPlex mounting plate, connect the CALPlex to the Bolts on the Round Disk**



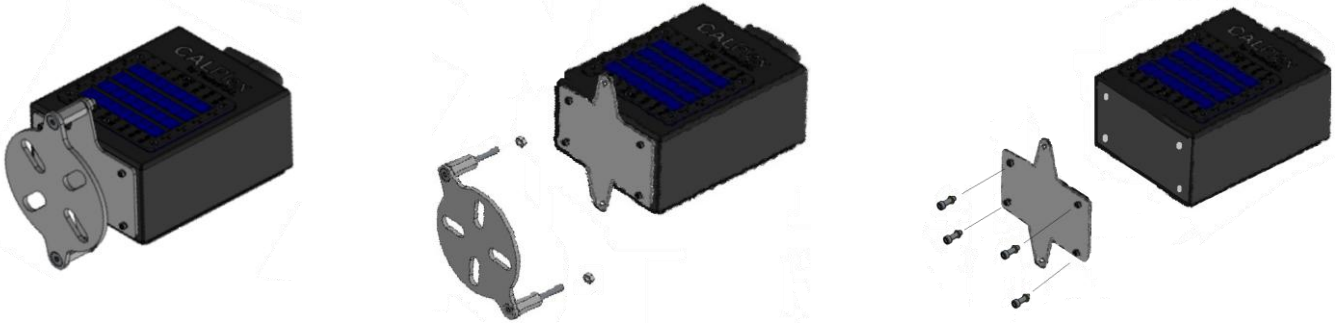
- (5) Tighten the 2 nuts to secure Rotary CALPlex to the mounting bracket**



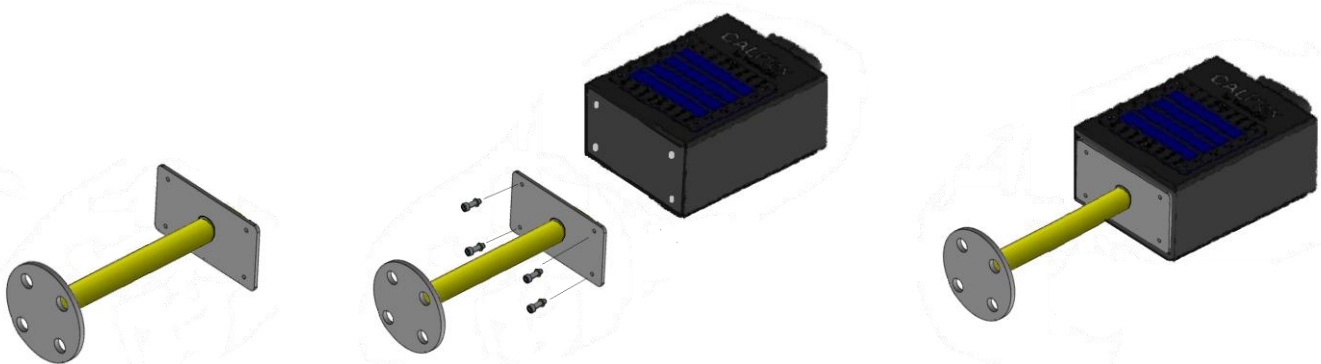
Installing Rotary CALPlex

Allpax 2402 Pilot Retort

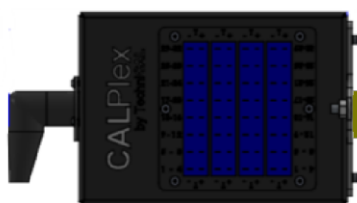
The Allpax 2402 Pilot Retort should come with a bracket for mounting the Rotary CALPlex. If this bracket is not provided, or if the bracket is the wrong size, we suggest you contact Allpax and ask them to provide the mounting bracket to fit the “new design” Rotary CALPlex.



- (1) Remove the Round Disk portion of the Stainless-Steel Mounting plate by removing the 2 nuts from the 2 bolts.
- (2) Remove the Rectangle plate from the CALPlex by removing the 4 hex-head screws.



- (3) Locate the Mounting Bracket on the Allpax 2402
- (4) Mount the Allpax Mounting Bracket to the CALPlex using the 4 hex-head bolts from Step (1)
- (5) Secure the Hex Bolts tightly to secure Rotary CALPlex to the mounting bracket

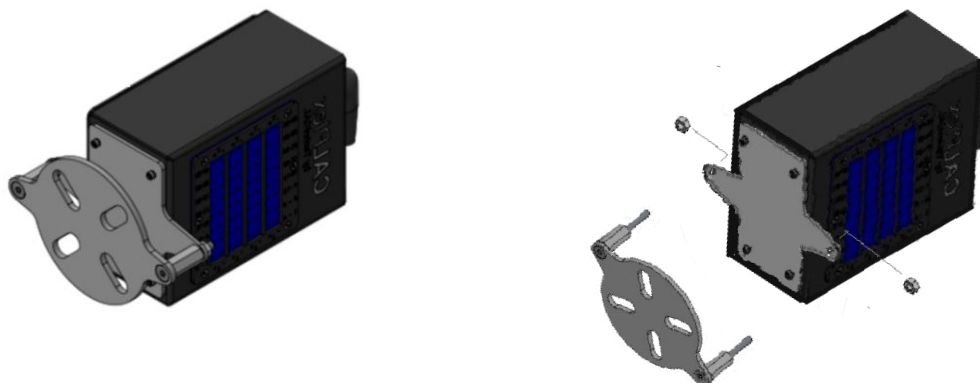


**Allpax 2402
Pilot Retort**

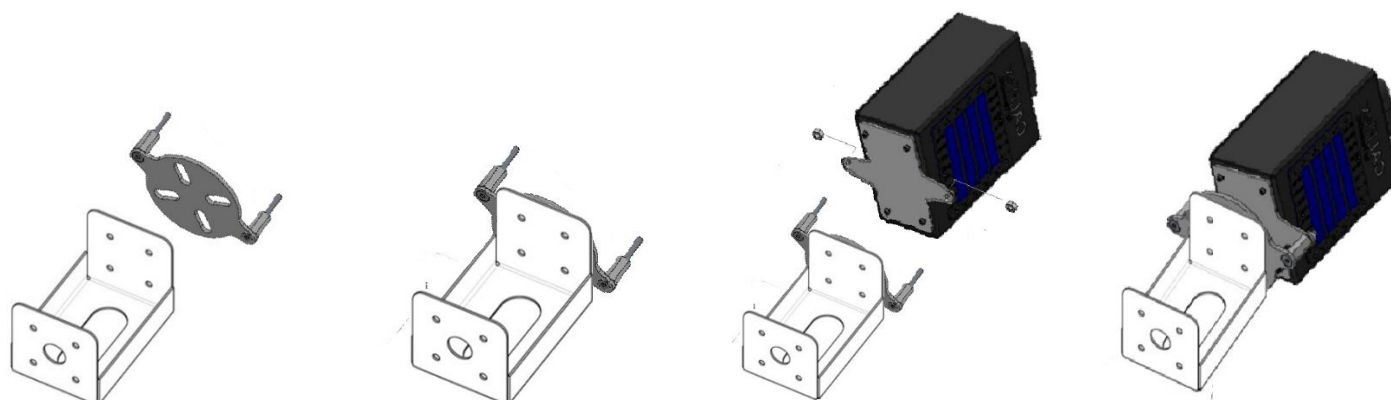
Installing Rotary CALPlex

FMC Steritort

The JBT Steritort should come with a bracket for mounting the Rotary CALPlex. If this bracket is not provided, or if the bracket is the wrong size, we suggest you contact JBT and ask them to provide the mounting bracket to fit the “new design” Rotary CALPlex



- (1) Remove the Round Disk portion of the Stainless-Steel Mounting plate by removing the 2 nuts from the 2 bolts**



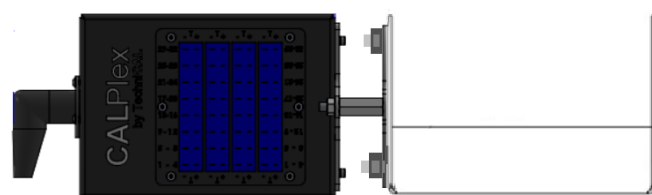
- (2) Locate the Mounting Bracket on the Steritort**

- (3) Mount the Round Disk to the Mounting Plate (Bolts not included**)**

- (4) Connect the CALPlex to the Bolts on the Round Disk**

- (5) Secure the Bolts tightly**

**** Bolts Not Included. NOTE: If the holes on the Steritort mounting bracket do not match the slots on the CALPlex mounting bracket, you will need to drill holes in the Steritort bracket to fit.**

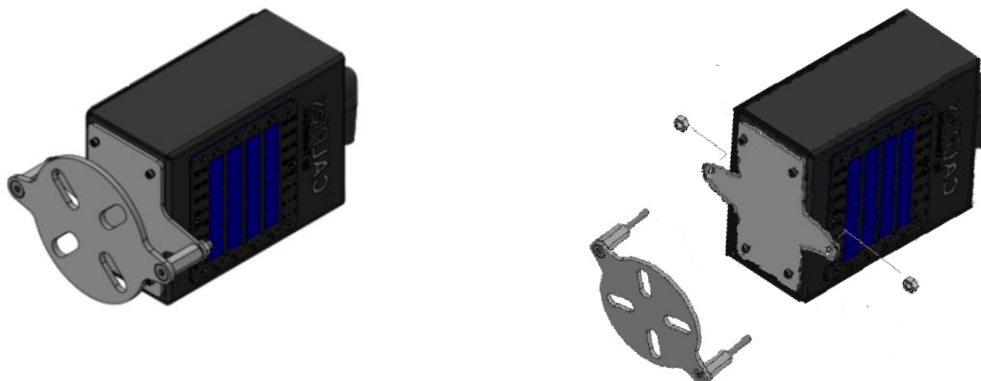


**Steritort
Retort**

Installing Rotary CALPlex

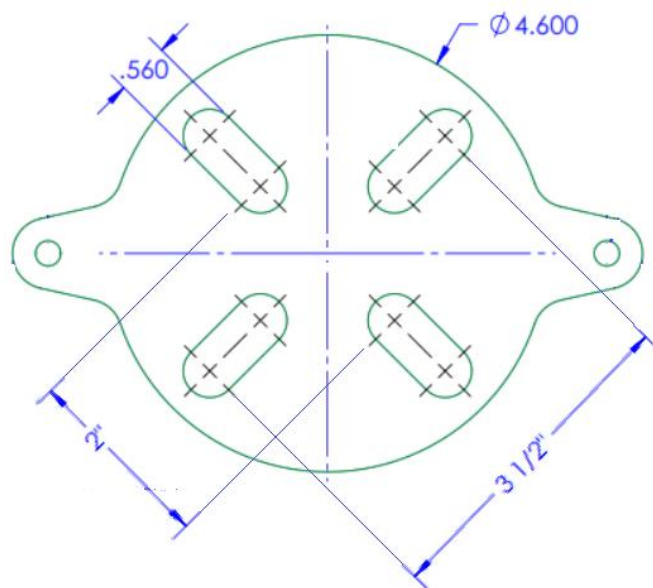
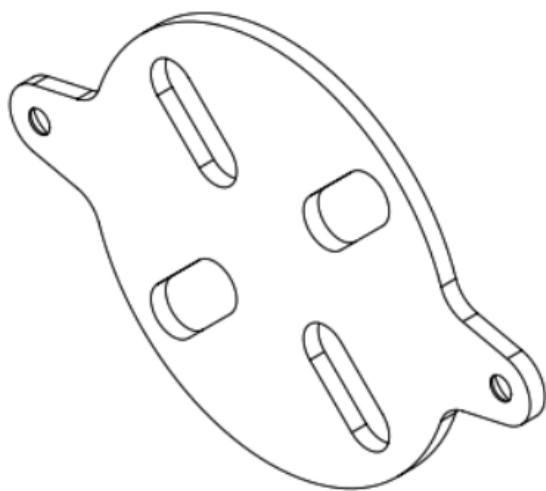
Make Your Own Extension / Mounting Bracket

If your retort does not have a mounting bracket for Rotary CALPlex, or there is not enough clearance for the CALPlex at the packing gland area, you can fabricate your own extension mount.



- (1) Remove the Round Disk portion of the Stainless-Steel Mounting plate by removing the 2 nuts from the 2 bolts

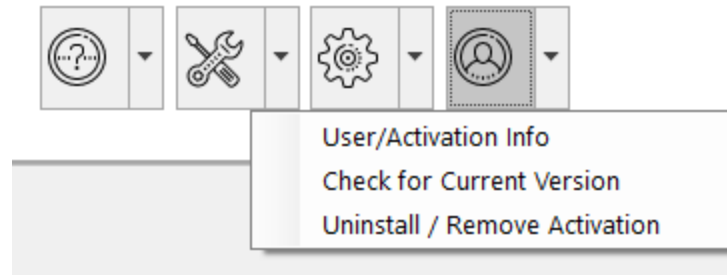
When fabricating your own extension/mount, please refer to these measurements of the Circular Disk on the CALPlex Mounting Bracket....



Connecting CALPlex to computer with CALSoft

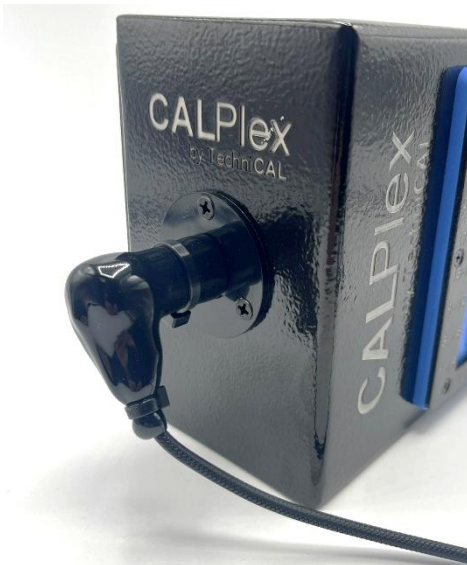
The CALPlex datalogger requires the CALSoft software to operate and collect data to your computer. CALSoft must be installed on the computer connected to CALPlex.

BEFORE YOU CAN USE CALPlex, you must have the most current version of CALSoft. To check for the current version, open the CALSoft software and in the top right of the main CALSoft homepage (dashboard), click the User Info Icon and select "Check for Current Version."



Follow the instructions and install a new version if available.

Rotary CALPlex comes with a 10 foot USB cable installed onto the unit. (The USB cable cannot be removed). To connect CALPlex to your computer, plug the USB-A connector into an available USB-A port on your computer.



Once connected to your computer, you may now use CALSoft to communicate with the CALPlex and collect data to your computer.

Calibration

Your new CALPlex has been calibrated prior to shipping. A Calibration Certificate is provided by TechniCAL with your CALPlex.

It is recommended that you have your CALPlex calibrated annually to confirm that it is reading properly. Calibrations may be done only by TechniCAL. To submit a calibration request, visit our website www.tcal.com/support/#calibration.

Warranty

TechniCAL warrants CALPlex to be free from manufacturing defects for 12 months from date of shipping the new unit.

Warranty does not cover the following:

- Damage to unit due to water intrusion
- Damage caused by misuse of the product
- Damage caused by using the product for something other than its intended design purpose.
- Damage to the USB Cable

TechniCAL reserves the right to determine the cause of the damage.

TechniCAL, at their sole discretion, may choose to either repair or replace the damaged CALPlex under warranty.

User is responsible for shipping costs to TechniCAL's repair center in the United States related to any repair, including repairs under warranty term.