



ARES-G2

Sealed Fluid Bath Upgrade Kit

Installation Instructions

Parts Supplied

Table 1 Parts supplied

Description	Quantity
Sealed Fluid Bath outer cover, teflon	1
Bath accessory cable	1
Communication/serial cable	1
Loctite® adhesive	1
Disposable gloves	1 pair

Tools Required

- Tool kit supplied with ARES-G2
- Tools supplied with Sealed Fluid Bath kit

Installation Procedure



Consult TRIOS online help for details on operation of this accessory and configuration of the Julabo circulator.

These procedures describe how to modify and install an existing Sealed Fluid Bath accessory for use with the ARES-G2.

Uninstall the Sealed Fluid Bath from the ARES



Refer to the appropriate documentation for detailed procedures on removing and reassembling components from your test station.

- 1 Turn off the motor from the Instrument Control panel in Orchestrator software.
- 2 If applicable, power off the circulator connected to the Sealed Fluid Bath.
- 3 Uninstall the Sealed Fluid Bath from the ARES.

Prepare the ARES-G2



Refer to your instrument documentation for detailed procedures on removing and reassembling components.

- 1 Raise the stage to maximum height.
- 2 Remove all upper and lower test tools, and loosen the anvil tightening knob on the motor anvil.
- 3 Turn off the motor from the Instrument Control panel on the touch screen or in TRIOS software.
- 4 Power off the instrument.
- 5 Thoroughly inspect the test tool mounting surfaces (i.e., the transducer anvil and the motor anvil) and clean off any material that may interfere with the mounting of the fluid bath. This is essential to ensure proper mechanical alignment between the bath and the instrument.

Install the Sealed Fluid Bath

The sealed fluid bath (assembly shown in [Figure 1](#) below) mounts onto the motor using a threaded collar. The motor anvil knob is used to fasten the rotating shaft of the fluid bath to the instrument, and the threaded collar secures it to the motor housing.

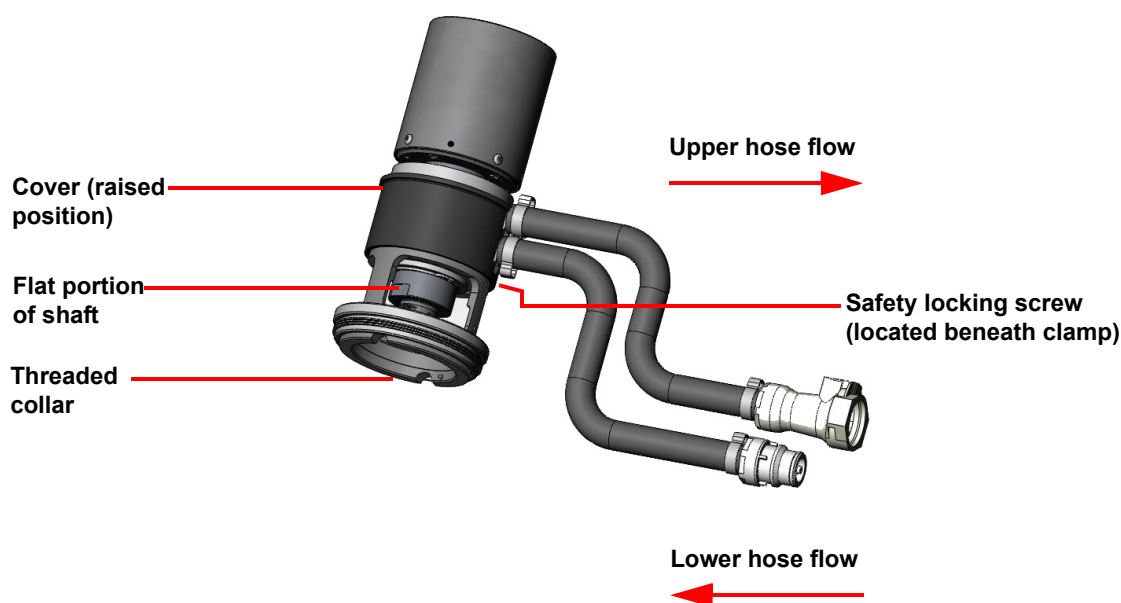


Figure 1 Sealed Fluid Bath (lower portion).

The two hoses shown in [Figure 1](#) supply fluid between the sealed fluid bath and the fluid source (typically a computer-controlled circulator).

Follow these instructions to install the Sealed Fluid Bath. Refer to [Figure 2](#) for an illustrated parts and assembly breakdown.

- 1 Remove the safety locking screw (located beneath the lower hose clamp) from the fluid bath cover. Save this screw, as it will be reinstalled at the end of this installation procedure.

- 2 Slide the fluid bath cover fully upward.
- 3 Position the fluid bath so that the bath hoses are facing right as you face the instrument.
- 4 Rotate the fluid bath shaft to align the flat portion of the shaft with the flat portion of the motor anvil (both flats should be facing toward the right as you face the instrument).

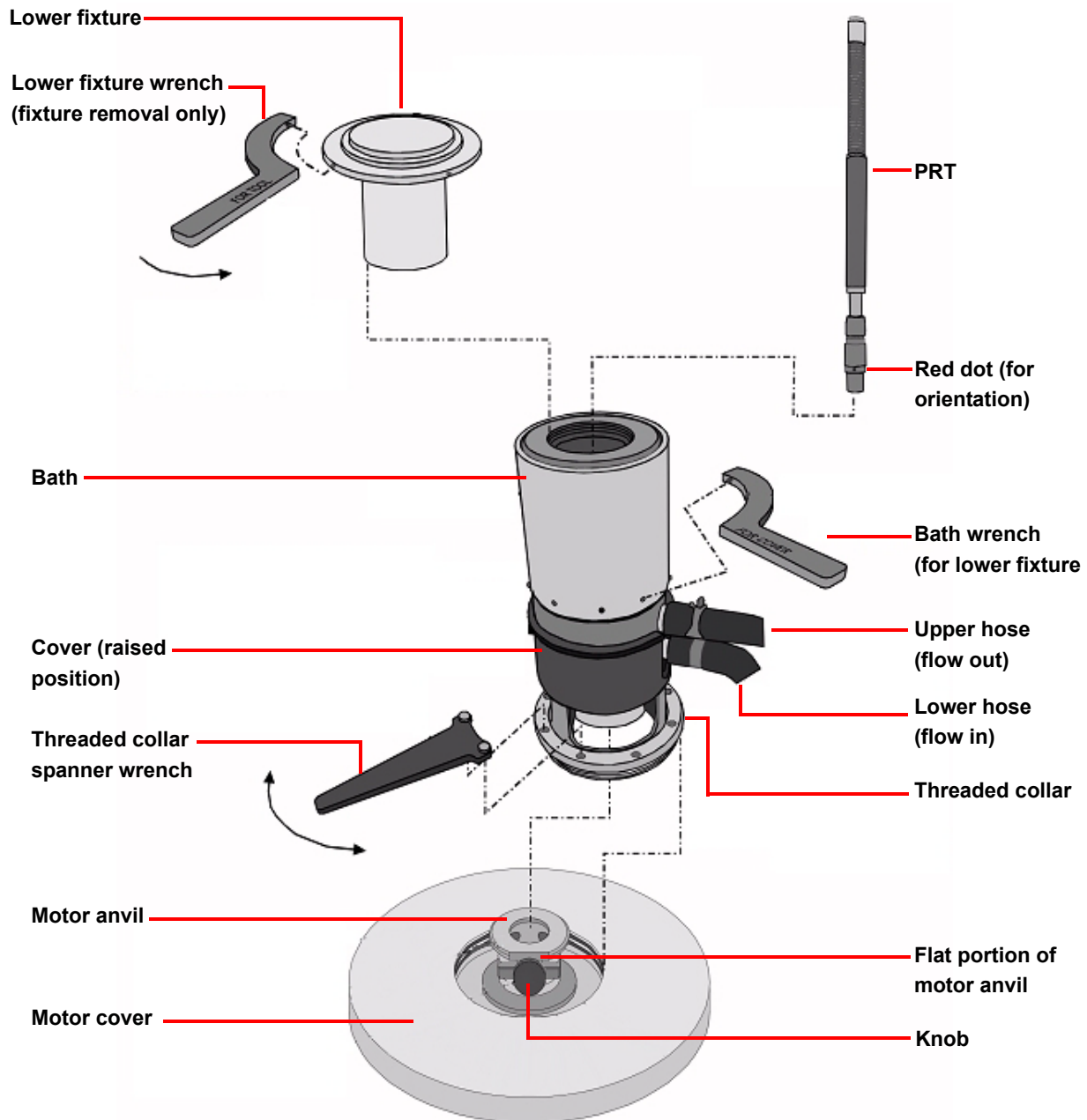


Figure 2 Overview of Sealed Fluid Bath assembly and installation.

5 Slowly lower the bath onto the motor housing:



The original Sealed Fluid Bath for the ARES has three captive screws on the collar. If necessary, remove these screws as they are no longer needed on the ARES-G2.

- a Align the flat portion of the fluid bath's shaft with the flat portion of the motor anvil.
- b Push down on the top of the bath to seat the bath's shaft into the motor anvil.
- c Seat the pin machined into the bottom of the fluid bath (see [Figure 3](#)) into the notch in the motor housing (the pin and notch should be located toward the rear of the instrument). It may be necessary to rotate the bath back and forth until the pin falls into the notch.

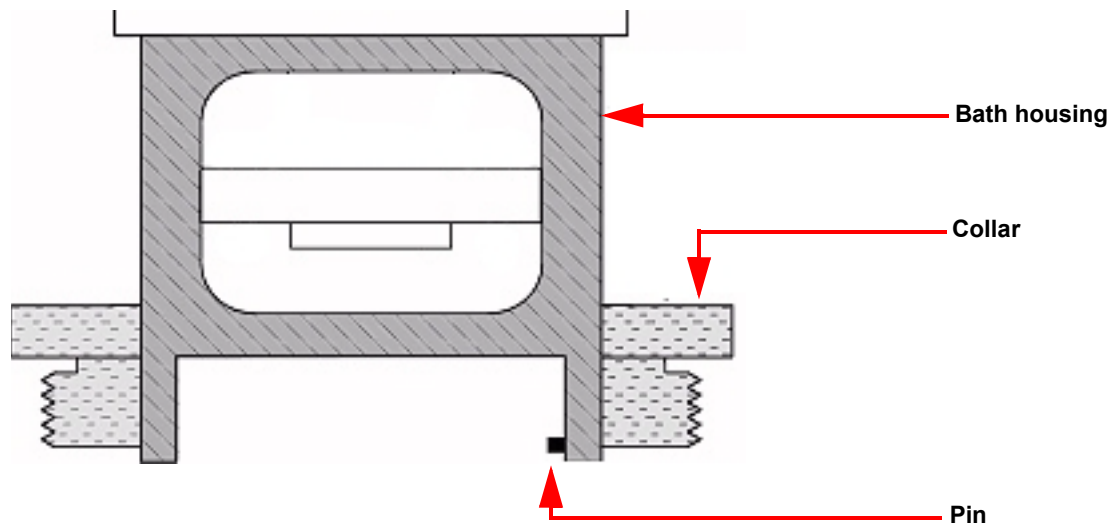


Figure 3 Fluid bath alignment pin configuration (cross section shown for visibility).

- d Verify that the threaded collar rests in the threaded portion of the motor housing. Tighten the threaded collar by hand, then place the two pins on the spanner wrench into two of the holes machined into the threaded collar. Rotate the wrench clockwise to tighten. Do not overtighten the collar.
 - e Tighten the motor anvil knob by hand, making sure that the flats of the motor anvil and bath shaft are in alignment. Continue to tighten using the flat end of the spanner wrench. Do not overtighten the anvil knob.
- 6 Insert the appropriate PRT into the bath, making sure to align the red dot on the PRT with the flat portion of the motor anvil. Refer to [Figure 3](#) for correct orientation. Rotate the PRT until it drops securely into the bath housing.
 - 7 Install the appropriate lower geometry into the bath by placing it over the PRT, then install the upper geometry into the transducer.
 - 8 With the fluid bath cover in the down position, reinstall the previously-removed safety locking screw.

Install the Sealed Fluid Bath Upgrade

Follow the procedures below to install the accessory upgrade.

- 1 Remove the 4 button head screws from the stainless steel cover. Save the screws, as they will be used to install the replacement cover supplied in the upgrade kit. Refer to [Figure 4](#).

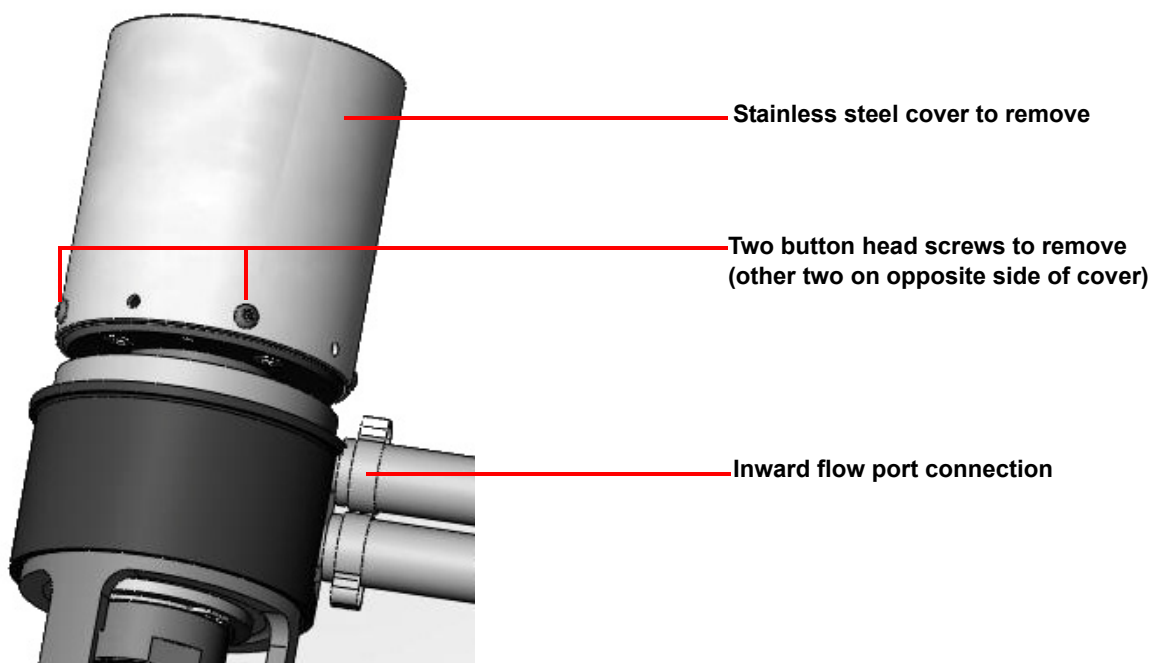


Figure 4 Sealed Fluid Bath cover and button head screw locations.

- 2 Pull the cover up to remove it from the Sealed Fluid Bath; replace with the teflon cover supplied in upgrade kit.
- 3 Align the screw holes on the cover with the screw holes on the bath. Wear the disposable gloves (supplied in kit) and apply a small amount of Loctite adhesive (supplied in kit) to each of the 4 previously-removed button head screws. Then secure the teflon cover using the screws. When finished, dispose of the gloves.
- 4 Insert the appropriate PRT into the bath, making sure to align the red dot on the PRT with the flat portion of the motor anvil. Refer to [Figure 2](#) for correct orientation. Rotate the PRT until it drops securely into the bath housing. The instrument will begin to read temperature.
- 5 Disconnect the upper hose from the inward flow port on the circulator.
- 6 Slip the loop end of the accessory cable over the upper hose quick disconnect fitting. It necessary, enlarge the loop by pushing the cable through the crimped ferrule. Refer to [Figure 5](#).
- 7 Reattach the hose to the inward flow port on the circulator.

- 8 On the upper hose, slide the accessory cable loop towards the bath as shown in [Figure 5](#). Tighten the loop until it fits snugly on the upper hose.

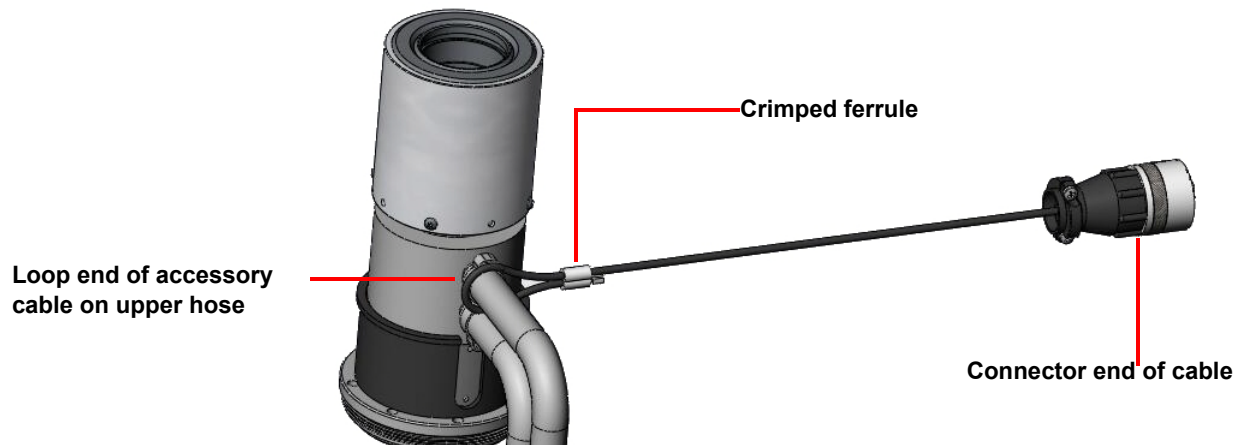


Figure 5 Accessory cable properly installed on upper hose.

- 9 Plug the connector into the receptacle on the left side of the test station (shown below).

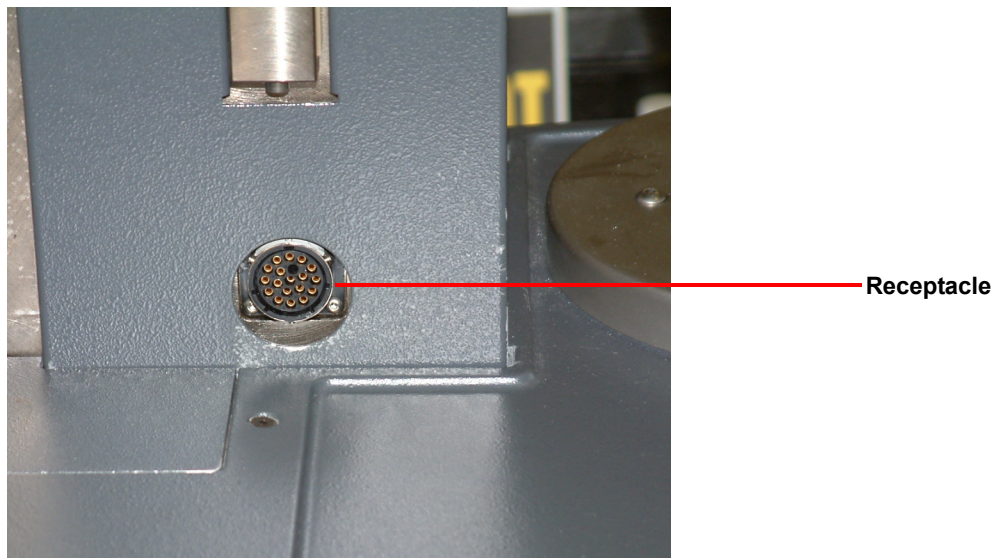


Figure 6 Connection to make on left side of test station (ARES-G2 shown).

Connect the Circulator

Follow these steps to connect the circulator to the Sealed Fluid Bath:

- 1 Position the circulator on the floor below the ARES-G2 work area, allowing yourself ample room to work.
- 2 Obtain the supplied connectors from the kit (upper hose, lower hose, and communication cable).
- 3 Connect the lower hose to the outward flow port of the circulator.
- 4 Connect the upper hose to the inward flow port of the circulator.
- 5 Ensure that all hoses are installed completely onto their respective hose barbs and that the hose clamps are tight.
- 6 Connect one end of the communication/serial cable (supplied with the upgrade kit) to the circulator **RS232** connector, and connect the other end of the cable to the Test Station Signal Panel **COM1** connector.

Fill the Circulator

Fill the circulator with fluid using the table below as a guide. The fluid to use depends on the type of circulator in use and the desired operating range of the circulator.

The Julabo FP35-MC circulator requires about 2 liters of fluid, and should be filled to within 20 mm from the top.

Because of the construction of the Sealed Fluid Bath, the seals are very delicate. Use an ethylene glycol / water solution with a minimum ethylene glycol concentration of 50%. Alternatively, use Julabo® Thermal H10S. **Using pure water is not recommended**, as it will significantly reduce the lifetime of the seals. In the event of a seal failure, the bath must be returned to TA Instruments for service and repair.

Table 2 Circulator Operating Ranges

Desired Operating Range of Circulator*	Fluid
–5 °C to +100 °C	50% Ethylene glycol / 50% water
+40 °C to +110 °C	100% Ethylene glycol
–20 °C to +150 °C	Julabo Thermal H10S

*Bath temperature range is slightly less.

Restore the Instrument to Operating Condition

- 1 Power on the instrument.
- 2 Turn on the motor from the Instrument Control panel on the touch screen or in TRIOS software.
- 3 Ensure that the circulator is in Remote mode (the display will read **rOFF**). Communication will automatically be established with the circulator; no additional action is required. From within TRIOS, perform the Bath Friction Check.