

Owner's Manual
for
BellyDancer®/Hybridization
Water Bath
and
Hybridization Water Bath,
with Remote Control
115 Volt & 220 Volt

STOVALL LIFE SCIENCE
INCORPORATED

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Introduction

Your satisfaction and **safety** are important to Stovall Life Science, Inc. and a proper understanding of this water bath or the combination shaker/water bath is necessary to attain these objectives.

As the ultimate user of this apparatus it is your responsibility to understand its proper function and operational characteristics. These instructions should be carefully read and all operators given adequate training before placing the unit in service. Awareness of the stated cautions and warnings, and compliance with recommended operating parameters, along with maintenance requirements, are important for safe and satisfactory operation. The Hybridization Water Bath with remote control and The Belly Dancer/Hybridization Water Bath should be used for their intended application; alterations or modifications will void the warranty.

Unpacking and Damage

Save all packing material (and these instructions) if the instrument is received damaged. All items were carefully packaged and thoroughly inspected before leaving our factory. **Responsibility for its safe delivery was assumed by the carrier** upon acceptance of the shipment; therefore, claims for loss or damage sustained in transit must be made upon the carrier by the recipient as follows:

Visible Loss or Damage: Note any external evidence of loss or damage on the freight bill (or express receipt) and have it signed by the carrier's agent. Failure to describe adequately such external damage may result in the carrier's refusing to honor your damage claim. The form required to file such a claim will be supplied by the carrier.

Concealed Loss or Damage: Concealed loss damage means loss or damage which does not become apparent until the merchandise has been unpacked and inspected. Should either occur, make a written request for inspection by the carrier's agent **within 14 days** of the delivery date; then file a claim with the carrier since the damage is the carrier's responsibility. By following these instructions carefully, we guarantee our full support of your claim to be compensated for loss from concealed damage.

Do not, for any reason, return this unit without first obtaining authorization. In any correspondence to Stovall Life Science, Inc., please supply the nameplate data, including model number and serial number.

Installation

• Location

The water bath products are designed to operate in ambient lab conditions. The shaker in the combination unit (Belly Dancer/Hybridization Water Bath)

can be used without the water bath as a regular shaker in a reasonable but limited range of temperatures and conditions. The shaker can be used in incubated and refrigerated as well as ambient laboratory environments between 0° C and 40° C. It will operate successfully in non-condensing, high humidity environments of up to 95% humidity.

Warning: Operate the shaker unit by itself in temperature conditions between 0° C to 40° C.

Cleaning

The exterior of the cases, platform and other parts can be cleaned with a rag dampened with a solution of mild detergent then rinsed by wiping with a cloth dampened in water.

The stainless steel pan of the water bath also should be cleaned with mild detergent to prevent accumulation of mineral deposits and other stains. Yes, it is true that stainless steel will stain, and especially under elevated heat conditions, unless it is properly cleaned from time to time.

Warning: Do not immerse any of the units in water or other liquid or operate around flammable liquids and gases.

Warning: Always **unplug** the power cord from the receptacle before cleaning the unit.

Electrical Connection

For personal safety these instruments must be properly grounded. The power cords are equipped with a three-prong, grounded plug which mates with a standard three-prong, grounded wall receptacle to minimize the possibility of electric shock hazard from these water bath products. The user should have the wall receptacle and circuit checked by a qualified electrician to be assured that the receptacle is properly grounded. Where a two-prong receptacle is encountered it is the responsibility of the user to have it replaced with a properly grounded three-prong wall receptacle.

Warning: Do not under any circumstances, cut or remove the third ground prong from the power cord. Do not use a two-prong adapter plug.

Current Demands 115v Units

Determine the total amount of current presently being used by other apparatus connected to the circuit that will be used for the water bath product you have purchased. The usual current demand for the Belly Dancer/ Hybridization Water Bath 115v is appropriately 5.8 amps. The combined unit will not pull more than an additional 1/2 amp of current during a short interval. The usual current demand for the Hybridization Water Bath with remote control (115v) is approximately 5.5 amps.

◆ Current Demands 220v Units:

The usual current demand for the Belly Dancer/Hybridization Water Bath (220v) is approximately 3.3 amps. This combined unit will not pull more than an additional 1/4 amp of current during a short interval.

The usual current demand for the Hybridization Water Bath with remote control (220v) is approximately 3 amps.

It is critical that this added current demand and other equipment on the circuit not exceed the rating of the fuse or circuit breaker in use.

Caution: Be sure the input voltage is of the same value as specified on the nameplate located on the back panel of the instrument.

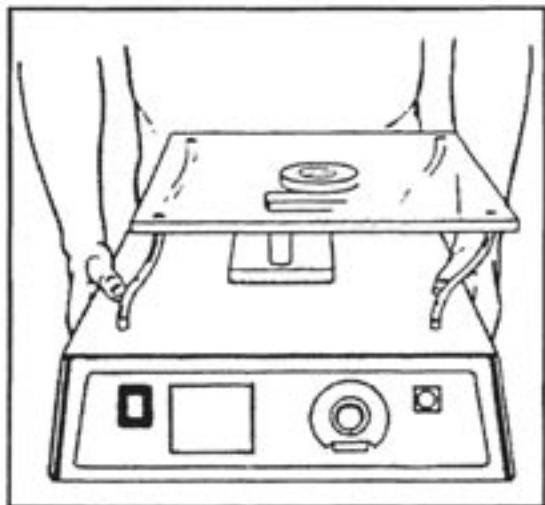
• Fuses 115v & 220V

The fuse for the 115v water bath units is 3AG 8 amp 5 x 20 mm slo blo. The fuse for the 220v units is 3AG 4 amp, 5 x 20 mm slo blo. Should the fuse blow replace with a new fuse of the same value.

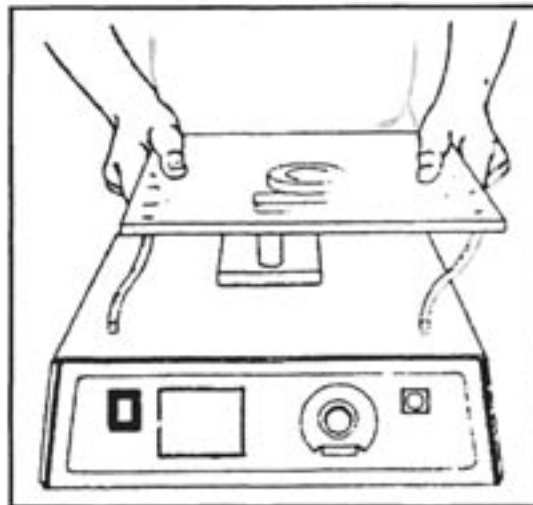
Warning: Before replacing a blown fuse, cut all switches to the OFF position and unplug the instrument.

• Transport

Always unplug the power cord from the wall receptacle before moving the water bath instruments. When transporting the combined unit (Belly Dancer/Hybridization Water Bath) also detach the coiled power/data cord from the water bath and lay it on the casing of the Belly Dancer. When moving the shaker from one location to another, lift and carry the shaker by grasping underneath the aluminum case. **Do not lift or transport the shaker by means of the acrylic platform.** Carrying the shaker by the platform may cause serious damage to the shaker and void the warranty.



Correct Transport



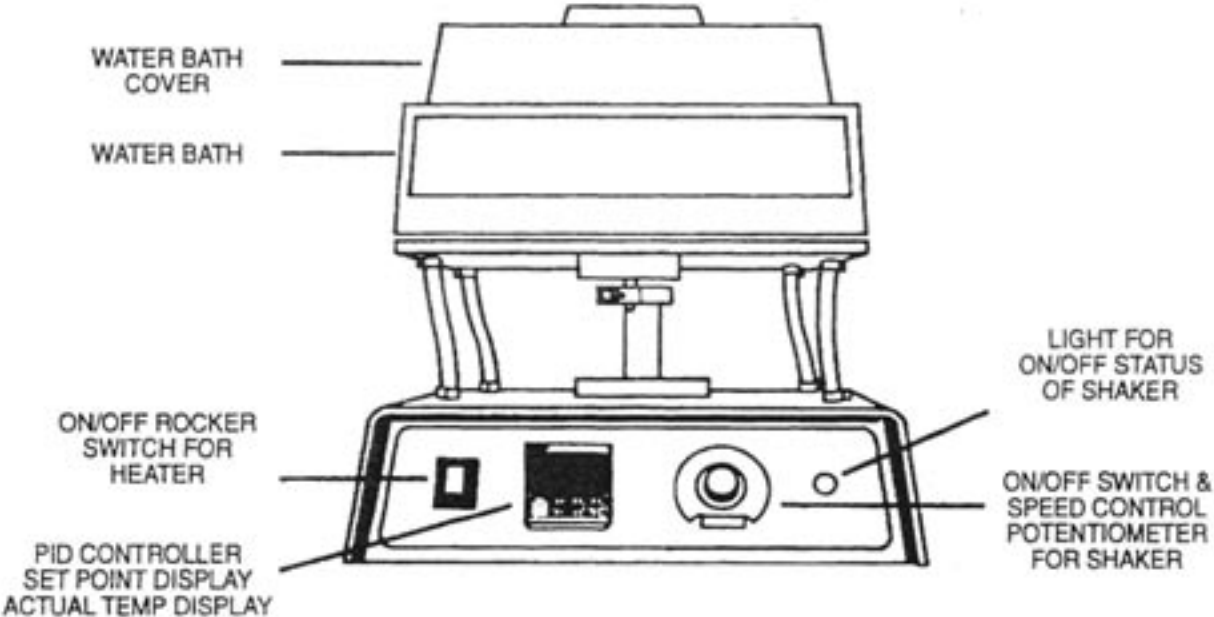
Incorrect Transport

Warning: Never transport the combined unit with water in the water bath or with the water bath resting on the Belly Dancer platform.

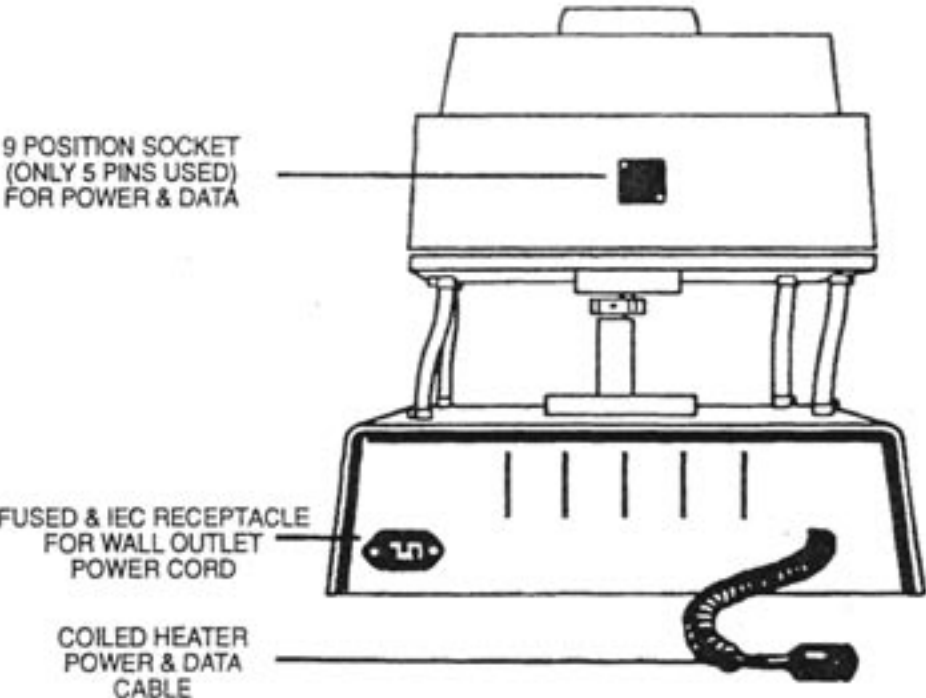
When transporting the Hybridization Water Bath with remote control, empty all the water from the pan and place the remote control in the pan.

Operation

Front View Combination Unit

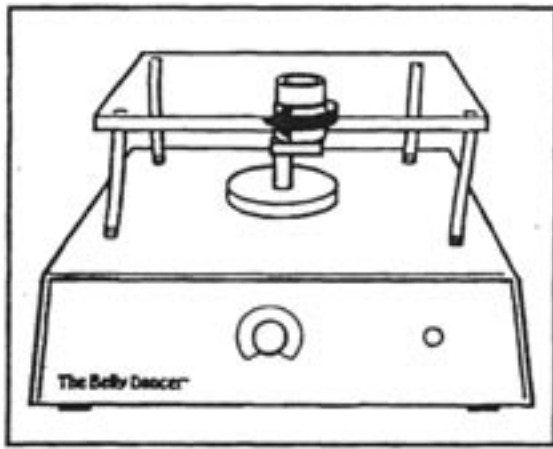


Back View Combination Unit

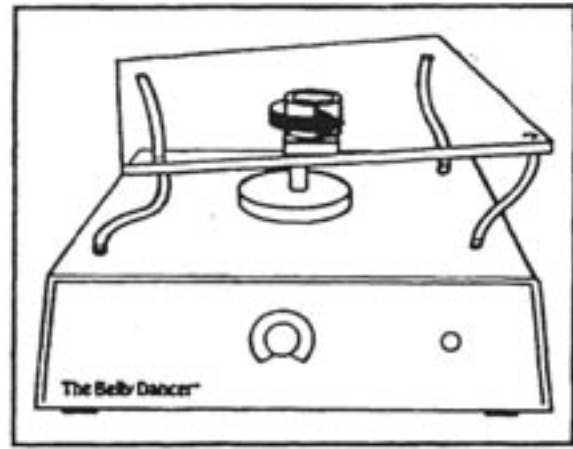


The assembly and testing of the Belly Dancer/Hybridization Water Bath should be accomplished in several steps. The shaker is fully assembled and ready for use. Before plugging the power cord of the shaker into an outlet take the two following steps.

1. Turning the brass collar of the tilt control counterclockwise all the way in for maximum tilt platform position. The shaker is shipped with the tilt control all the way up and level.
2. Make sure the power is in the OFF position by turning the speed control clockwise, then counterclockwise until you hear the on-off click of the switch.



LEVEL POSITION PLATFORM



MAXIMUM TILT POSMON PLATFORM

Plug the shaker power cord into the outlet and run the shaker for 1 to 2 hours at half speed - with the arrow on the speed control in the 12 o'clock position.

After this break-in period, turn the shaker off and unplug the electric power cord. Place the water bath squarely on top of the shaker platform. When using the water bath on the shaker always keep the tilt control turned all the way in to the maximum tilt position.

Turn the whole assmebly sideways so you have easy access to make the cable connection between the shaker case and the water bath. Line up the 5 pins and plug the coiled power and data cord securely into the round pin receptacle on the water bath. Turn the knurled collar on the cord connector clockwise until the connector is fully seated and secure.

Caution: The power/data cord plug fits the pin receptacle on the bath one way only. Do not force the plug, but make certain it is fully seated into the receptacle.

When repositioning this assembly forward make sure there is ample distance between the back of the instrument and the uprights of the benchtop or wall for unencumbered operation of the instrument.

Caution: At this point reattach the shaker power cord into the outlet and run at a slow speed. Observe and check that there exists adequate clearance between the arc of the coiled cord and platform and **any** possible obstruction. Adjust for adequate clearance if necessary.

◆ **Water Level:**

Now add water to the water bath pan to the desired, safe level. The safe level is a level which does not slosh the water out when the shaker is running. You will need to experiment with the amount of water and the speed of the shaker that will best satisfy safety and agitation requirements. For most applications a maximum of two liters of water can be used. Of course, displacement caused by use of plastic containers, submerged or partially submerged, must be taken into account.

Caution: For safety and accurate temperature control, the level of water in the pan should be at least 1 cm at all times.

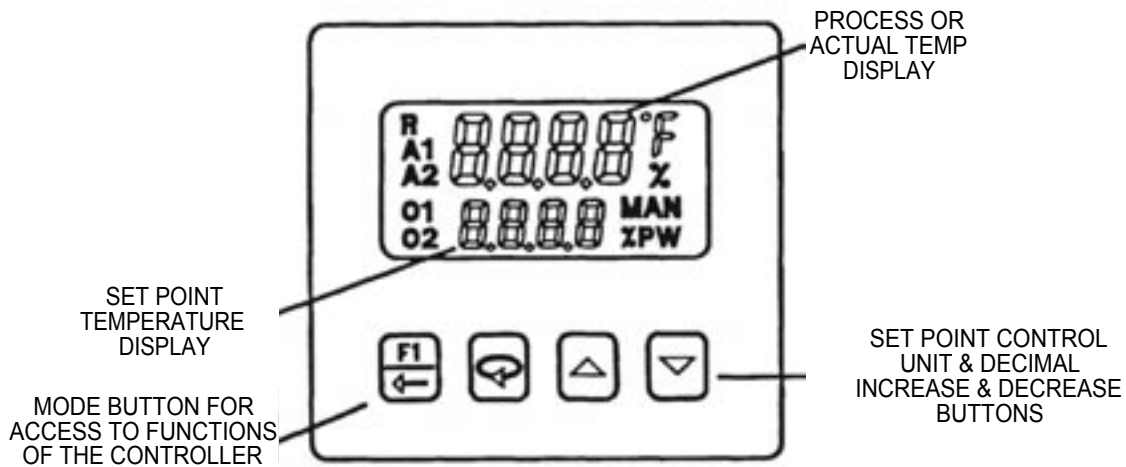
Warning: Maximum load should not exceed 20 lbs. The weight of the water bath with top, not including water, is 7.5.1bs.

◆ **Hybridization Water Bath, Remote Control:**

The assembly of the remote control water bath unit follows the same steps as the combined unit water bath. Refer also to illustration of combined unit on page 4.

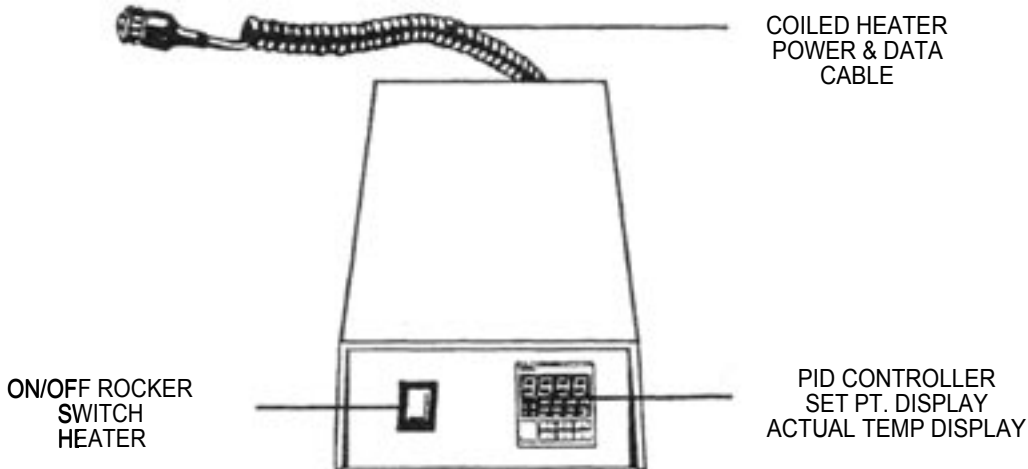
◆ **Temperature Set Point:**

After adding water to the bath, press the heater power switch to the ON position. There will be a short delay before the process and set point temperatures are displayed. The top, green display of the PID control reflects actual water temperature. The bottom, red display reflects the temperature set point.

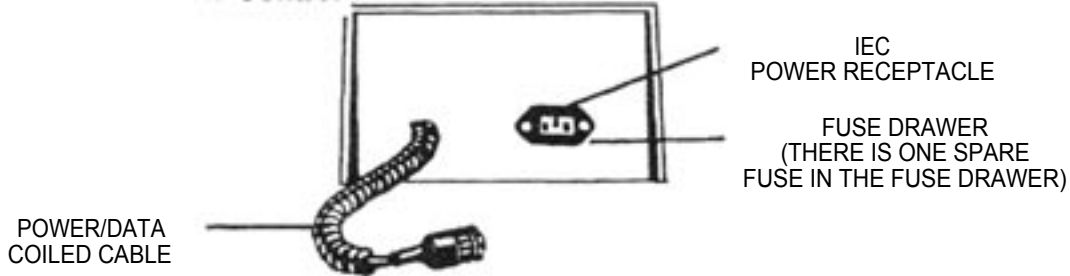


Press the increase or decrease buttons on the control to the desired set point for the bath. These buttons also are used when changing values when the control is in programming mode.

Water Bath Remote Control Front View



Back View Of Remote Control



Thermal Runway and Resetting of the Automatic Reset Thermostat:

The Hybridization Water Bath with remote control and the Belly Dancer/Hybridization Water Bath are equipped with an independent, automatic reset thermostat which shuts off all power to the bath heater if a thermal runaway condition occurs. The thermostat is set to open the circuit and shut off power if water in the pan exceeds 78° - 82°C. The safety thermostat circuit will close automatically and resume power to the heater when the bath cools to approximately 47°C.

When the thermostat safety switch is tripped under these conditions the LED temperature indicator will drop swiftly from the set point. This dropping of temperature from set point will be the indication that the thermostat safety switch has been tripped. The rocker switch light and the shaker will continue to operate. If the switch and status lights do not work, some other malfunction exists.

Evaporation of all water from the pan will be the source of shut down in most thermal runaway situations. When the pan is dry the safety thermostat will open and shut power off when the bottom of the steel pan of the bath reaches a temperature of approximately 80°C. However, since there is no water in the pan to dissipate the heat, the thermal momentum will cause the pan temperature to rise higher than 100°C. **This can cause damage to samples and containers in the dry pan. It is, therefore, most important to make sure there is always a minimum of 1 cm of water in the bath at all times.**

Caution: Operate water bath only with the cover in position to prevent water from evaporating.

If the thermostat switch continues to trip though the water bath has adequate water in it, cease to operate the equipment. When this condition persists the temperature controller most probably has failed and must be replaced.

Trouble Shooting:

In the event **any** problem develops with your water bath unit do not attempt to perform any service on the unit without first contacting the Stovall Life Science Service Department. Unauthorized repair may void the warranty. Stovall will readily supply information regarding trouble shooting minor problems upon request.

In any correspondence with Stovall concerning your water bath unit please refer to the appropriate Model Number and Serial Number. This information may be found on the label attached to the rear of the unit.

Should your unit suddenly cease to operate, first make sure there is power to the circuit to which the shaker or remote control is connected.

Secondly, check the fuse in the shaker or remote control located on the rear panel. First unplug the power cord, then pull open the small fuse drawer in the lower part of the IEC. This drawer contains one active fuse & one replacement fuse.

Also, the power cord plug, which inserts in the IEC receptacle of the instrument, is a very close fit. Some effort is required to seat this plug into the socket so that a good electrical connection is made. Make sure the power cord plug is completely seated into the IEC socket of the instrument.

If the lights (rocker switch, LED and status light) are not operating, one of the above situations is most likely the cause of the problem.