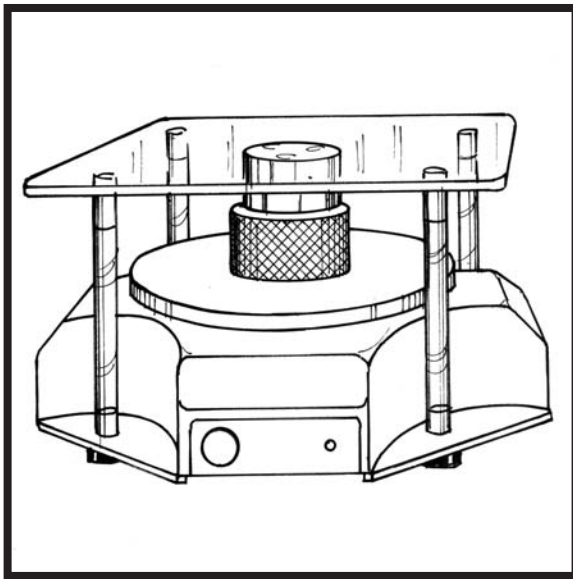


**Owner's Manual  
for**

the  
**belly button<sup>®</sup>**



**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 shaker 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 Belly Button shaker should be used for its intended application; alterations or modifications will void the warranty.

## Unpacking and Damage

Save all packing material, and these instructions, if the shaker is received damaged. This shaker was 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 or 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.



**This symbol is a caution/warning symbol. Owner/operator needs to read and understand all caution statements before using or operating equipment.**

# Installation

## ◆ Location & Intended Use of the Belly Button Shaker

The Belly Button® shaker is designed for use in molecular and cell biology research laboratories for staining and destaining of gels, incubation and washing of protein and nucleic acid membrane blots, cell culture incubations, phage elution, retroviral infection, amplification of cDNA libraries and mixing of small tubes and blood samples.

It is designed to operate in a wide range of lab environments, from 0° C to 60° C, in CO<sub>2</sub> incubators and in humid, non-condensing atmospheres of up to 95% humidity.

The maximum load for this shaker is 5 lbs.



**Caution:** For safety, all tubes and containers used on the Belly Button should have firmly affixed lids to contain solutions mixed on the instrument.

**Caution:** Operate only in temperature conditions between 0°C to 60°C.

## ◆ Cleaning

The exterior of the shaker case, 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.



**Warning:** Do not immerse unit in water or other liquids or use around flammable liquids and gases.

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

**Warning:** Either end of the AC power cord must be readily accessible to the end user at all times to disconnect the unit from the power source.

## ◆ Power Requirements

The Belly Button Shaker operates from an ac power source of 90V to 240V, 50/60 hz. Determine the total amount of current presently being used by other apparatus connected to the circuit that will be used for this shaker. The usual current demand at 115V is approximately .1 amp or less; for 230V it is .05 amp or less. 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.

## ◆ Fuse

The Belly Button does not use a conventional glass or ceramic fuse. It has an internal, resettable fuse which, when a failure (such as a power

surge or short circuit) occurs, reverts to high impedance to block the flow of electricity.

There is no mechanical way to reset this internal fuse. To reset the internal fuse, unplug the unit and wait for 3 minutes for the problem to clear. There is nothing more to do but wait for the automatic reset to occur.

◆ **Electrical Connection**

100V - 120V Countries

For personal safety this instrument must be properly grounded. The power cord of the Belly Button is 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 this shaker. The user should have the wall receptacle and circuit checked by a qualified electrician to make sure the receptacle is properly grounded. When a two-prong receptacle is encountered it is a responsibility of the user to have it replaced with a properly grounded three-prong wall receptacle.



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
















◆ **Special Instruction for 220V/240v Countries**

220V and 240V power occurs in Europe and many Pacific countries. 220V and 240V users are directed to the following information since the power cord enclosed does not have an attached wall plug and the user must supply his own approved plug.

The enclosed cord bears the VDE and HAR mark and contains marked conductors as evidence that it meets the HARmonized requirements of the Cenelic countries.

Individual conductors have a cross sectional area of 2.25 mm.

The detachable cord must be connected to a plug with the mark of approval used by an official agency for the location of use. Please refer to the following chart to assist in securing the correct wall plug for this unit's application.

<b>Certification Markings</b>					
Country	Agency	Certification Mark	Country	Agency	Certification Mark
Australia	SA		Italy	IMQ	
Austria	OVE		Netherlands	KEMA	
Belgium	CEBEC		Norway	NEMKO	
Denmark	DEMKO		Spain	AEE	
Finland	FIMKO		Sweden	SEMKO	
France	UTE		Switzerland	SEV	
Germany	VDE		UK	ASTA	
Ireland	NSAI				



**Warning:** Should the user need further assistance in selecting the appropriate detachable cord set, it is suggested that he/she contact the local code authority.

◆ **Operating Conditions Chart, Specifications**

Voltage fluctuation:	Main voltage fluctuation not to exceed $\pm$ 10% of normal voltage
Frequency:	50/60 Hz
Power Rating:	11 Watts max
Installation Category:	Category II
Pollution Degree:	2
Location:	For indoor use only.
Ambient Operations:	Normal ambient operations from 0°C to 60°C. And in non condensing humidity up to 95%
Maximum Load:	5 lbs
Altitude:	Up to 2,000 meters



### **General Cautions & Equipment Operation**

- This unit should not be used in any manner not specified by the user manual or by Stovall Life Science.
- This equipment should not be used with accessories not provided by or recommended by Stovall Life Science. If such accessories are used the protection provided by the equipment may be impaired.
- This instrument is not suitable for use with flammable, combustible or other hazardous fluids and materials.
- This instrument is not suitable for use in atmospheres over 60°C or under 0°C.
- This instrument is not suitable for use in hazardous atmospheres such as high oxygen or high hydrogen atmospheres.
- Always disconnect the power cord from the unit before servicing or cleaning the instrument.

### **◆ Mats for Belly Button Platform**

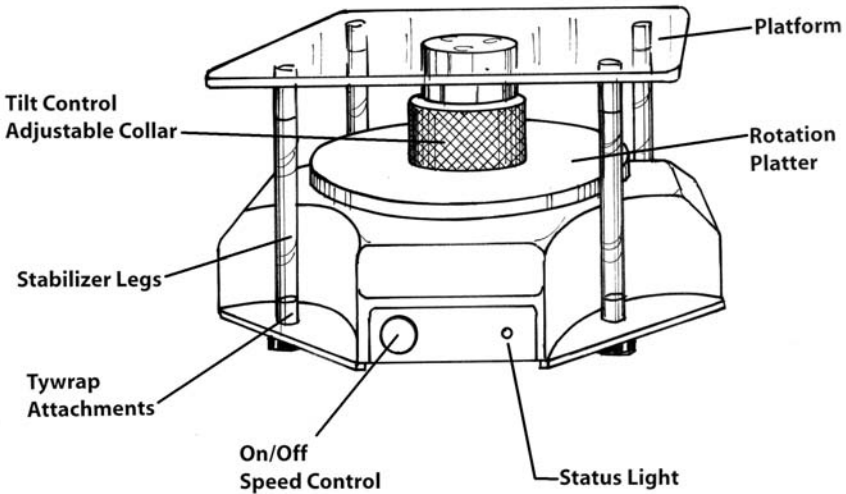
A white, washable, nonskid mat is provided with the Belly Button unit to keep items placed on the platform from skidding. An accessory "Finger Mat" can be ordered separately to secure small tubes on the platform.



**Warning:** There is a possibility this equipment may damage test samples (vials, beakers, etc.) when operated under the following conditions: maximum platform tilt is 8°; maximum rated load 5 lbs.; maximum operating temperature 60°C; maximum line voltage (line plus 10%). User should monitor and adjust platform tilt and speed to prevent damage to samples or equipment and to prevent personal harm.



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



## Operation

Your new Belly Button shaker is shipped fully assembled and ready for use. Before plugging the power cord of the shaker into an outlet take the two following steps:

1. Turn the tilt control collar counterclockwise all the way down for maximum tilt platform position. The shaker is shipped with the tilt control all the way up, making the platform level.
2. Make sure the power is in the OFF position by turning the speed control clockwise, then counterclockwise until the control knob stops.

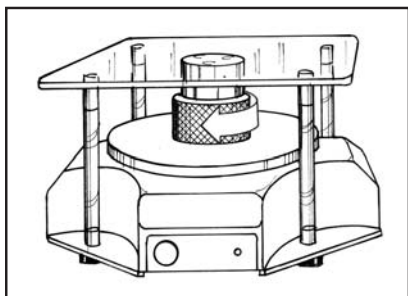
**To break the shaker in, plug the power cord into the outlet and run the shaker for 1 to 2 hours at half speed—with the arrow in the speed control in the 12 o'clock position.**

3. To turn the unit OFF, move the speed control knob counter clockwise until it stops. There is no “click” to the switch, but the power light indicator will blink twice before extinguishing to indicate that the electricity has stopped flowing.

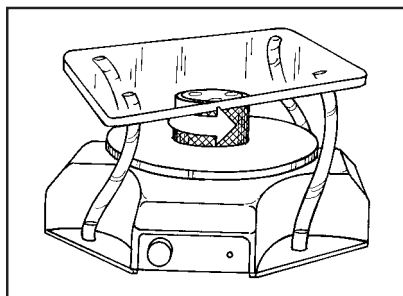
### ◆ Platform Pitch Adjustment

The Belly Button is shipped with the pitch control fully extended which causes the platform to orbit in a level position when operating.

To adjust the pitch of the platform for the unique, undulating motion of the Belly Button, adjust the tilt control collar beneath the platform by turning in a counterclockwise manner. *Increase* the tilt angle by turning the collar counterclockwise; *decrease* the tilt angle by turning the collar clockwise. Experiment with the degree of tilt and speed that will best satisfy safety and laboratory requirements.



**Level  
Platform Position**



**Maximum Tilt  
Platform Position**



**Caution:** Maximum load should not exceed 5 lbs.

## **Trouble Shooting**

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

In any correspondence with Stovall concerning your Belly Button 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 shaker suddenly cease to operate, first make sure there is power to the circuit to which the shaker is connected.

Secondly, turn the power off and wait three minutes to allow automatic reset of the internal fuse.

Thirdly, make sure the power cord plug is fully and securely seated in the power entry module of the instrument.

If the power light does not operate when the power is turned on, one of the above three situations is most likely the cause of the problem.

