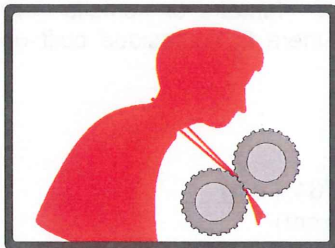


The safety of personnel, equipment, and plant facilities should be considered with each change of product, or machinery modification. Toxic, corrosive, and flammable materials may be processed through this machine only when proper design considerations and modifications have been made. If changing to one of these products at a later date, contact Accutek Packaging Equipment Co., Inc. for recommendations on a configuration that meets all local, state, and federal codes and regulations.



Air pressure, necessary for control systems, poses considerable threat for injury from suspended scale, dirt, and dust particles. When shielding is removed, or maintenance is being performed, isolate the machine from the air source using standard lockout/tag procedures.



Keep any loose garments, clothing, or appendages away from moving or rotating parts on the machine.



Alerts you to the possibility of moving or rotating parts that could cause severe harm to appendages if caution is not use when operating the machinery. Keep hands clear when machine is running.

#### **Precautions:**

To insure safe operation of the AccuSealer, the operator should be aware of pinch points and possible burn hazard near the Seal Jaw area. Wear all company-specified personal protective equipment while operating the machine.

Do not use flammable or toxic cleaning fluids such as gasoline, benzene, or ether when cleaning or maintaining the sealer

**Keep hands, finger or flammable objects out of the Seal Jaw area. To prevent burns should an unauthorized object get caught between the jaws, turn off the Main Power Switch.**

## II. SPECIFICATIONS

### AccuSealer U - Tabletop Ultrasonic Tube Sealer

#### KEY FEATURES:

- Space Saver: Compact table top design
- Improved Productivity: Sealing process seals, even in the presence of product contamination and cuts rejects to less than 1%
- Improved Appearance: Ultrasonic process eliminates flash and 'ears' often associated with other methods.
- Efficient Semi-Auto Operation: Experienced operators can seal at speeds up to 15 containers per minute<sup>1</sup>.
- Quick changeover: Versatile tooling that requires no changes from tube style to tube style.
- Quick start-up time: The ultrasonic process requires no warmup time and allows immediate start-up at the beginning of a shift.
- Low operating costs: The ultrasonic process is energy efficient. It only uses power when sealing, and does not have to maintain tool temperature.

#### REQUIREMENTS:

Power: 1.6 kW,

Electrical: 110 V, Single Phase, 60hz, 20 Amps.

Air: 0.7~0.8Mpa (100 – 120 psi)

ULTRASONIC FREQUENCY: 20 Khz

#### FILL SIZE:

0.33oz - 16oz (10mL - 475mL)

**The AccuSealer U is the perfect machine for sealing a wide range of plastic tubes.**

The AccuSealer U is an advanced ultrasonic tube sealing system that uses ultrasonic energy to produce a hermetic seal on most tube materials. The AccuSealer U ultrasonic tube sealer seals then cuts plastic tubes with diameters / cross-sections of up to 2 ½ inches. Ultrasonic tube sealers require no warm up time and remove the need for compressors with refrigerant; no fumes or smells are produced and there is no residue built up due to melting.

#### DIMENSIONS:

Length: 25.5" (64.4 cm)

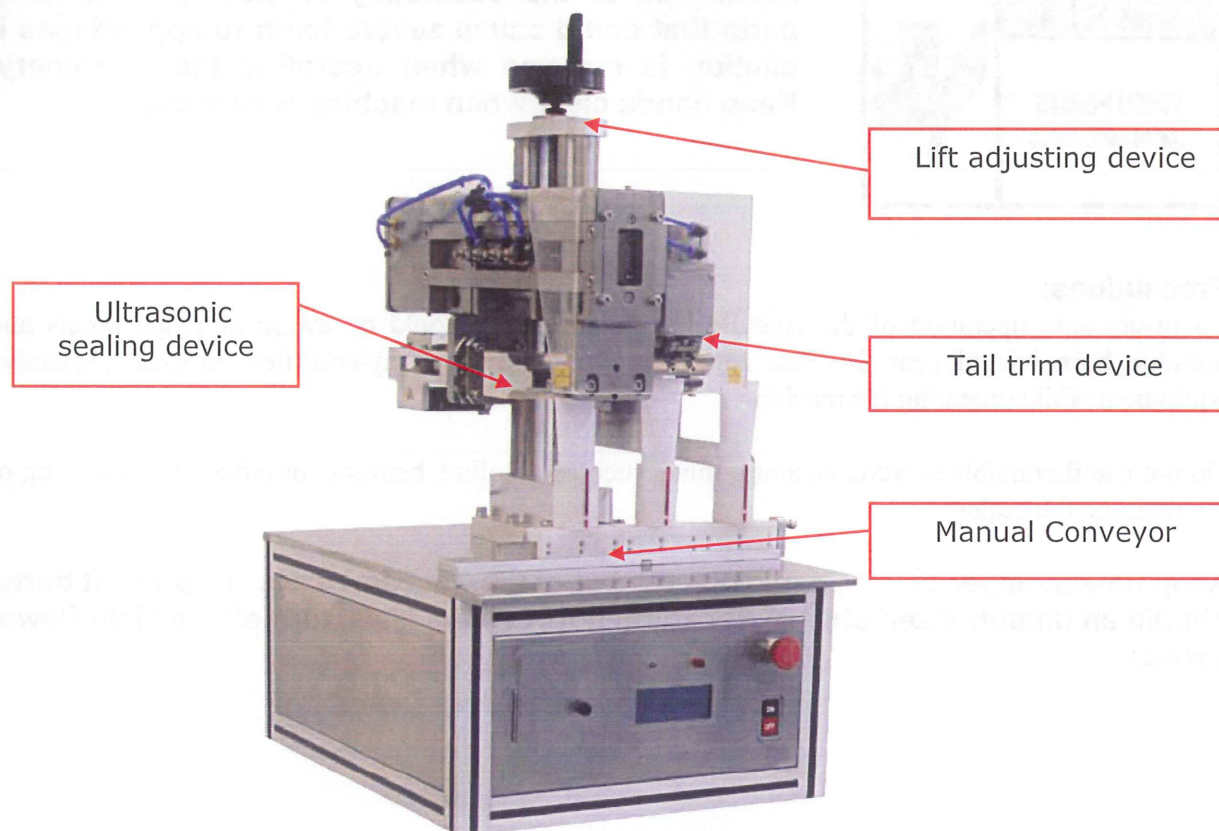
Depth: 20" (50 cm)

Height: 35.5" (90 cm)

WEIGHT: Approx. ~175 lbs. (79 kg)

OPTIONS: Date / Lot code

<sup>1</sup> Fill speed is dependent on: Operator, container dimensions, and product characteristics.





## Ultrasonic Sealing Process

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The plastic tube end is sandwiched between a fixed anvil and a sonotrode (horn) connected to a transducer, which emits a ~20 kHz low-amplitude acoustic vibration. (Note: Common frequencies used in ultrasonic sealing / welding of thermoplastics are 15 kHz, 20 kHz, 30 kHz, 35 kHz, 40 kHz and 70 kHz). When welding plastics, the interface of the two parts is specially designed to concentrate the melting process. One of the materials usually has a spiked energy director which contacts the second plastic part. The ultrasonic energy melts the point contact between the parts, creating a seal.

### Components:

- All ultrasonic sealing / welding systems are composed of the same basic elements:
- A press to put the 2 parts to be assembled under pressure
- A nest or anvil where the parts are placed and allowing the high frequency vibration to be directed to the interfaces
- An ultrasonic stack composed of a converter or piezoelectric transducer, an optional booster and a sonotrode (US: Horn). All three elements of the stack are specifically tuned to resonate at the same exact ultrasonic frequency (Typically 20, 30, 35 or 40 kHz)
- Converter: Converts the electrical signal into a mechanical vibration
- Booster: Modifies the amplitude of the vibration. It is also used in standard systems to clamp the stack in the press.
- Sonotrode: Applies the mechanical vibration to the parts to be welded.
- An electronic ultrasonic generator (US: Power supply) delivering a high power AC signal with frequency matching the resonance frequency of the stack.
- A controller controlling the movement of the press and the delivery of the ultrasonic energy.

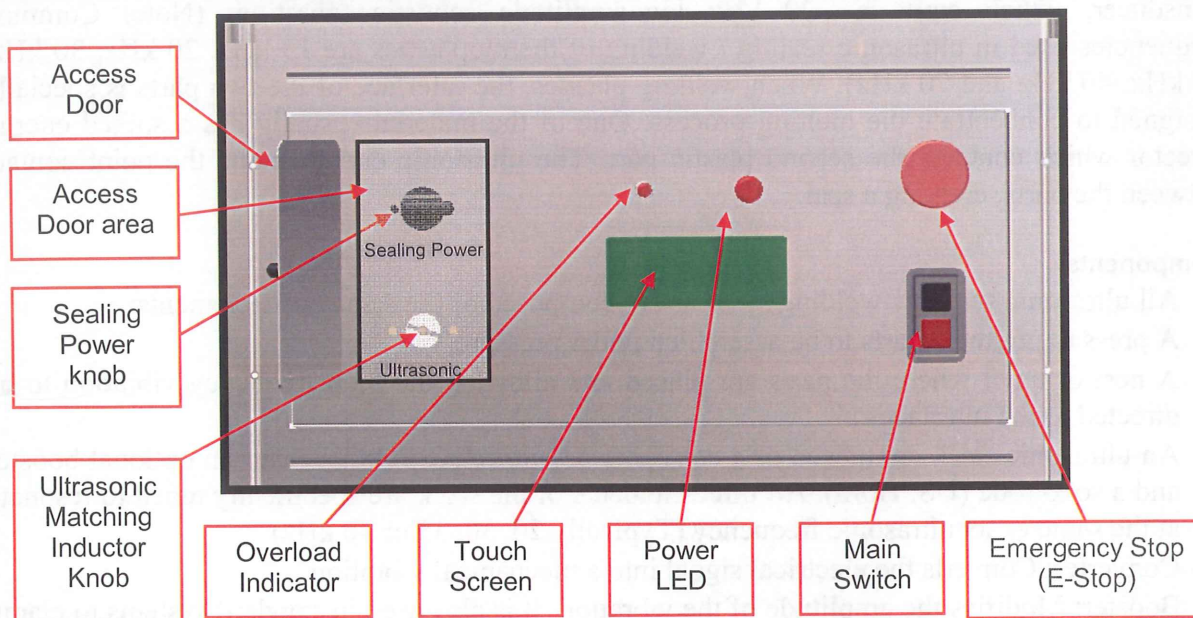
### Ultrasonic Sealing Application and How They Work

Nearly all packaging materials and laminates with a thermoplastic sealing layer or coating are suitable for the use of ultrasonic technology. A strong hermetic seal is possible with the use of an ultrasonic sealing system. Ultrasonic sealing of packaging materials is based on the conversion of high frequency mechanical sound waves in a thermoplastic material into frictional heat creating a molecular bond between two sealant layers. The ultrasonic sealing system consists of an anvil and an ultrasonic system with an acoustic stack (converter, amplitude coupler and sonotrode). The acoustic stack and anvil apply a clamping force. Ultrasonic vibrations are activated through the acoustic stack creating localized frictional heat.

The ultrasonic process is used in many stand-up and flat-pillow pouches, form-fill seal bags, carton, blister/clamshell, cups/trays and tube type applications. Successful integration of ultrasonic components is available for most horizontal and vertical form, fill and seal machines for longitudinal and cross seal projects. Ultrasonic technology is also used for cutting both food and non-food products. Fast and clean cuts are produced reducing machine down time due to continuous maintenance and cleaning.

### III. DESCRIPTION OF CONTROLS & FUNCTIONS

#### Front and Rear Panel Description



**Sealing Power** – Adjusts the sealing power of the machine

**Ultrasonic Matching Inductor** – the energy exchanger has been preset at factory to match with the Ultrasonic Power Supply circuit board.

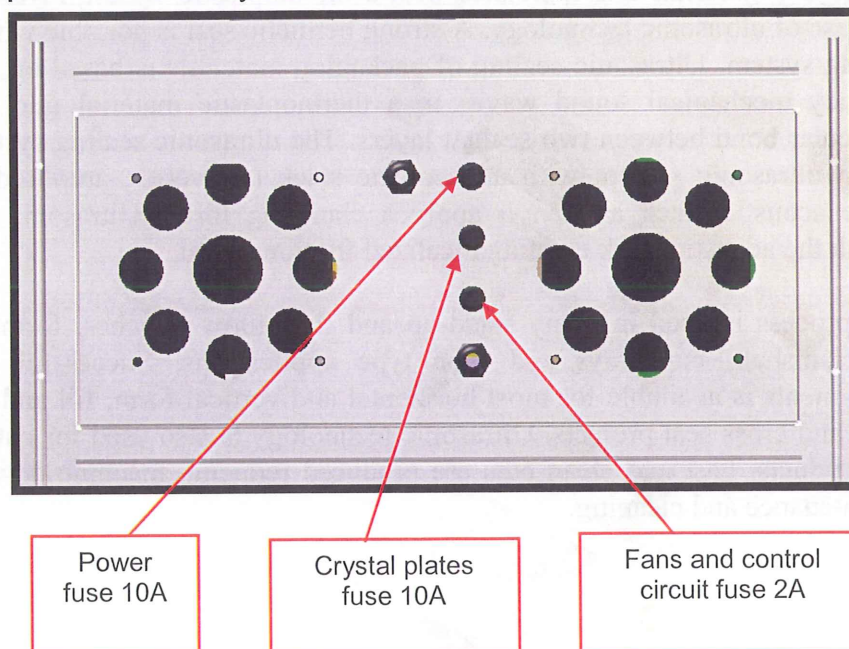
**Overload Indicator** – Indicates when an Ultrasonic Overload has occurred.

**Touch Screen** – used for verifying and making changes to the machine settings

**Power LED** - Red indicator light indicates on/off status.

**Main Switch** - Turns power to the machine on and off.

**Emergency Stop** – To immediately shut the machine down, in the event of an emergency.





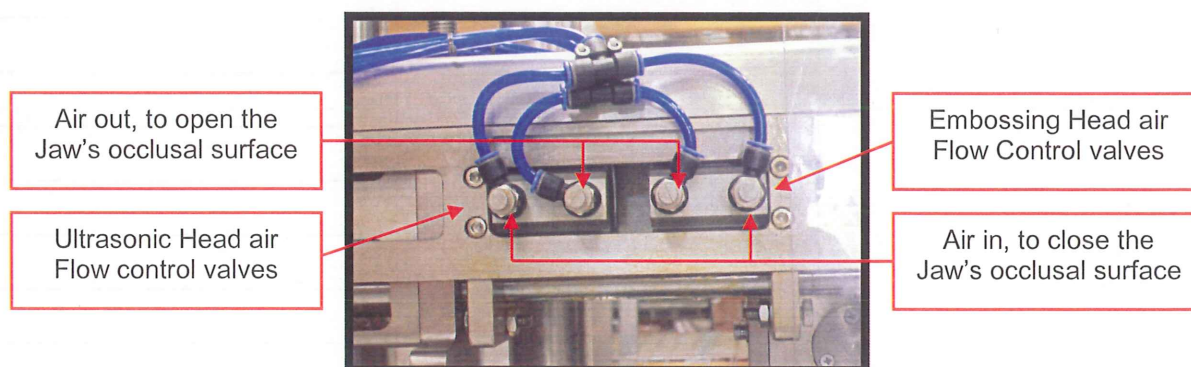
## V. TROUBLESHOOTING

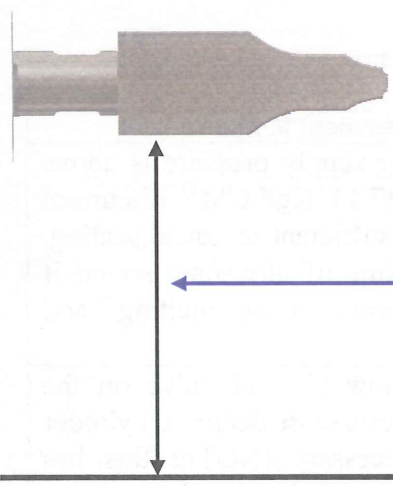
Since your filler is predominantly a mechanical device, most troubles can be diagnosed visually. If a problem develops, try to isolate the symptoms to a specific section of the machine, and then examine the appropriate operating parts closely to determine what is at fault.

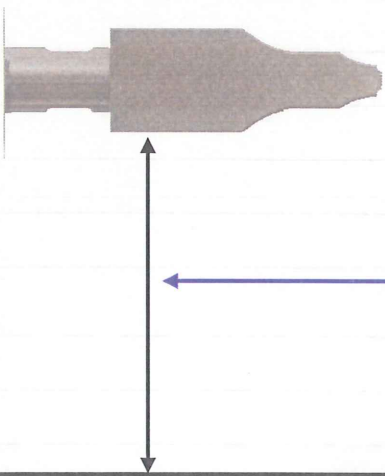
This is not intended as a comprehensive digest of all problems that might occur to your equipment, but rather a simple aid in understanding more about your equipment. If the cause of the problem cannot be determined, please call:

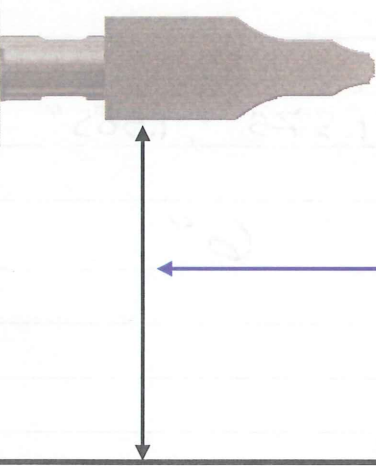
Call Biner Ellison / Accutek Packaging Systems, Inc. at 760/ 598-6500 for assistance.

Common Problems	Reason	Treatment Methods
<b>Sealing unstable and unsightly</b>	Insufficient pressure or ultrasonic sound is too short or too long	Try increasing supply pressure is above the 0.7MPa (7.13 KgF/CM <sup>2</sup> ) if current pressure is insufficient to cause sealing, or decrease time of ultrasonic sound if the seal appears to be melting and unsightly.
<b>Sealing Head traveling too fast or too slow</b>	Cylinder moves Ultrasonic or Embossing Head too fast resulting in Head impact causing a bounce on the Sealing Head or when cylinder moves too slow causes a weak seal.	Adjust the Flow Control valve on the cylinder to increase or decrease cylinder motion as necessary (NOTE: this has been adjusted before leaving factory).
<b>Ultrasonic Overload Indicator light</b>	Ultrasonic Overload	Check the transducer whether it is normally connected with the power box. If it is normal, try to regulate a matching inductance. Method: release butterfly nut, left-hand gently turning the adjusting screw and left-hand click on ultrasonic sound icon, finally edge point spin until overload indicator light does not shine and no-load current is minimum



AccuSealer U - Semi-Automatic Table Top Ultrasonic Tube Sealer							
Tube	Tall	Diameter	1.13"	Height	7"	Fill Weight	—
Adjustment Specifications							
		Tube #	1				
		Tube Dimensions (OD, Length)					
		Puck #	1				
		Puck Dimensions (ID, Depth)	1.375", 2.84"				
		Head Height: from Bottom of Seal Head to Deck	8 1/8"				
Screen Settings		Clamp Time	1.0				
		Cut Time	.9				
		Frequency Output	.7				
		Product Delay	.5				

AccuSealer U - Semi-Automatic Table Top Ultrasonic Tube Sealer							
Tube	Short	Diameter	1.13"	Height	4 7/8"	Fill Weight	—
Adjustment Specifications							
Mechanical Info		Tube #		2			
		Tube Dimensions (OD, Length)					
		Puck #		2			
		Puck Dimensions (ID, Depth)		1.375", 1.585"			
		Head Height: from Bottom of Seal Head to Deck		6"			
Screen Settings		Clamp Time		1.0			
		Cut Time		.9			
		Frequency Output		.7			
		Product Delay		.5			

AccuSealer U - Semi-Automatic Table Top Ultrasonic Tube Sealer							
Tube		Diameter		Height		Fill Weight	
Adjustment Specifications							
Mechanical Info		Tube #					
		Tube Dimensions (OD, Length)					
		Puck #					
		Puck Dimensions (ID, Depth)					
		Head Height: from Bottom of Seal Head to Deck					
Screen Settings		Clamp Time					
		Cut Time					
		Frequency Output					
		Product Delay					