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A1		REPLACED SERIAL LABELS FOR CLEAR PICTURES	D. BRIGGS	9/23/08
B	12158	2.2 OPERATION PROCEDURE ADD "EMPTY BLADE DRAWER" NOTE. REPLACED FIGURES 1.3 AND 3.3. UPDATE TABLE OF CONTENTS. REPLACED SERIAL LABEL PHOTOS FOR CLARITY. REPLACE C-FLEX LOGO, UPDATE PRODUCT PERFORMANCE SPECS, ADD SMALL AND LARGE TUBING CLAMPS WITH INSTALLATION, PLACEMENT STEPS AND ILLUSTRATIONS. UPDATE SERIAL LABEL TO REMOVE LARGE VANTE AND REPLACE WITH "MFG BY VANTE" CHANGE CALIBRATION WITH CERTIFICATION ADD SPECIFIC FUSE REPLACEMENT INFORMATION.	D.ARMENTA	4/27/11
C	12245	UPDATE THE ™ TO THE ®, UNDER APPLICATION CHANGED C-FLEX TO TPE THERMO PLASTIC ELASTIMER MATERIAL	D. ROBERTS	5/8/13
C1	00235	UPDATED COMPANY NAME	S. SAMP	12/12/13
D	13617	UPDATED COMPANY ADDRESS	D.ROBERTS	4/20/18
E	13759	UPDATED THE USER MANUAL TO REFLECT 3.15A UNDER FUSE 120 VAC	K.HEMSWORTH	10/29/18

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		<p>DOC., INSTRUCTION MANUAL, MODEL 3960 STERILE TUBING WELDER , VANTE</p>	
		COVER OF 31 PAGE DOC.	PART NUMBER 39600830-01



Vante
igniting innovation®

INSTRUCTION MANUAL

**Model 3960
Sterile Tubing Welder**

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Preliminary Information

Overview

The 3960 is an automated table top devices which produce a singular aseptic tubing connection from two separate tubing segments. The product is designed for use in biopharmaceutical manufacturing applications where aseptic tubing connections are required.

Document Scope

This manual is intended as a guide for the setup, adjustment and operation of the 3960 Sterile Tube Welder (hereinafter referred to as “the Welder”). The information contained herein is based upon technical data that has been verified and validated by Vante® and is believed to be adequate for the intended use of the product.

Intended Audience

This manual is intended for use by personnel who have technical skills in, and a thorough understanding of, the procedures for welding and/or forming thermoplastic materials, and who understand that this product is to be used at their own discretion and risk.

Application

The Welders are units for making welds on tubing made from irradiated and non-irradiated TPE (Thermo Plastic Elastomer) material.

Exclusions and Limits of Liability

Vante makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Vante assumes no liability or obligation nor guarantees product performance. The contents of this manual are not to be construed as license to operate under, nor a recommendation to infringe upon, any patents.

Vante shall have no liability for consequential, incidental, or exemplary damages of any description in connection with the products.

Proprietary Information

All rights are reserved. Copying of the protected designs associated with the Welder is strictly prohibited without the prior written consent of Vante.

User Alerts

Throughout this document, WARNINGS, CAUTIONS and NOTES are employed to notify the user of important and/or critical information.

WARNING: A Warning indicates a condition or procedure that could result in bodily harm. A Warning is enclosed with a bold-line box.



CAUTION: A Caution indicates a condition or procedure that could result in damage to the unit. A Caution is enclosed with a single-line box.

NOTE: A Note indicates important and/or useful information.

Safety Symbols



Caution, risk of electric shock



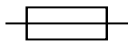
Caution (refer to accompanying documents)



Caution, hot surface



Protective Earth (P.E.)



Fuse



On



Off



WEEE – Indicates electronic equipment requiring proper recycling
(EU only)

CE Marking Information

For inquires related to the CE marking of this product, please contact Vante at 3480 E. Britannia Dr., Suite 120, Tucson, AZ 85706, +1-520-881-6555, +1-520-323-9055 (fax).

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1. Product Description

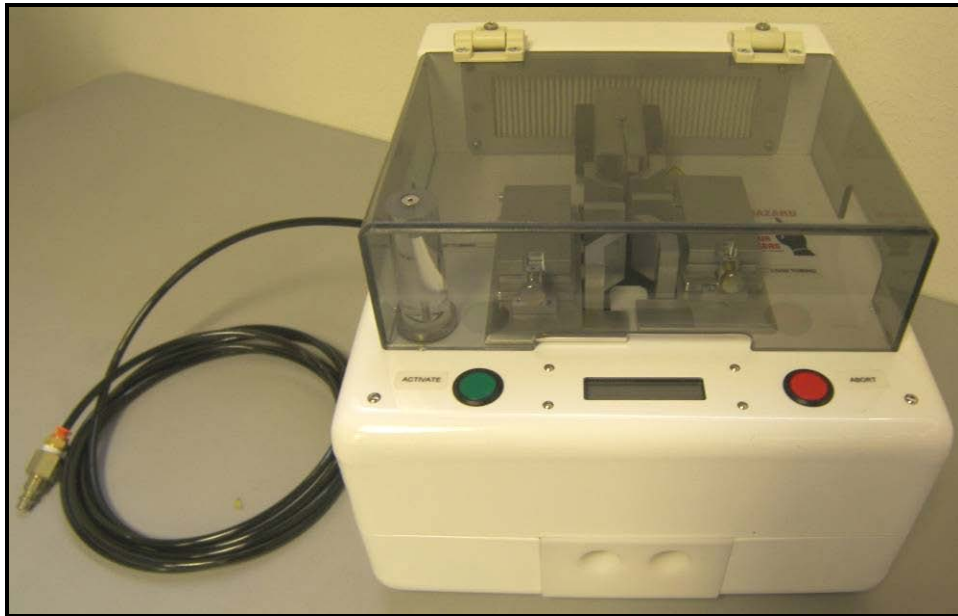


Figure 1.1 Model 3960 Sterile Tubing Welder

1.1 System Overview

The Model 3960 Sterile Tubing Welder is a stand-alone automated table top devices that require minimal user interface for ease of operation. The unit incorporates self-controlled heating operation and temperature monitoring as well as an automated mechanical assembly to perform the tube welding operation. A cover protects the user during the operation.

The Welder includes a 10 foot air supply tube and fitting. The Welder requires a single use, disposable cutting blade which is purchased separately from the unit.

1.2 Theory of Operation

Two segments of tubing are laid parallel to each other where they are secured by mechanical grippers and tubing clamps. A blade is heated for a brief period of time to ensure sterility of the blade and to assist in cutting through the segments of tubing. The heated blade is then inserted through both segments of tubing in a perpendicular direction to the tubing. The walls of the tubing are melted as the blade is inserted creating an aseptic seal between the blade and the tubing. While pressed and sealed to the blade, one segment of tubing is then indexed to align with the other segment of tubing. While the two segments of tubing are pressed against the blade in opposing directions, the blade is removed and the two segments of tubing are pressed together where the melted tube walls seal and bond to each other. Once cooled, the tubing creates a singular, linear tube segment.

1.3 User Safety

The Welder is intended for use by personnel trained by their organization for using equipment to seal, weld or manipulate plastic tubing or parts in a controlled environment.

Vante devices meet or exceed appropriate electric safety standards and pose no electrical shock hazard when used with properly fused and grounded outlets.

The Welder has been incorporated with a magnetically latched safety cover and blade assembly housing to minimize the risk of mechanical hazards. Caution is still to be observed when working around the mechanical gripper and blade assembly. Keep hands clear at all times except when loading blades and loading/removing tubing.

1.4 Product Specification

Mechanical	
Dimensions (W x L x H)	12 x 13 x 9 ½ in (30.5 x 33 x 24 cm)
Operating weight:	25 lbs (11.4 kg)
Shipping weight:	34 lbs (15.5 kg)
Electrical	
Power input (120 VAC):	100-120 VAC, 50 -60Hz, 2.4 amps
Fuse (120 VAC)	T3.15A 250 VAC
Power input (230 VAC)	230 VAC, 50-60Hz, 3.1 amps
Fuse (230 VAC)	4A-T 250VAC
Air Pressure	
Air supply	85 - 100 psi
Operating Conditions	
Use	Indoor use only
Temperature	68°F to 95°F (20°C to 35°C)
Humidity	Relative humidity 70%, non-condensing

Table 1.1 Product Specifications

1.5 Component Identification

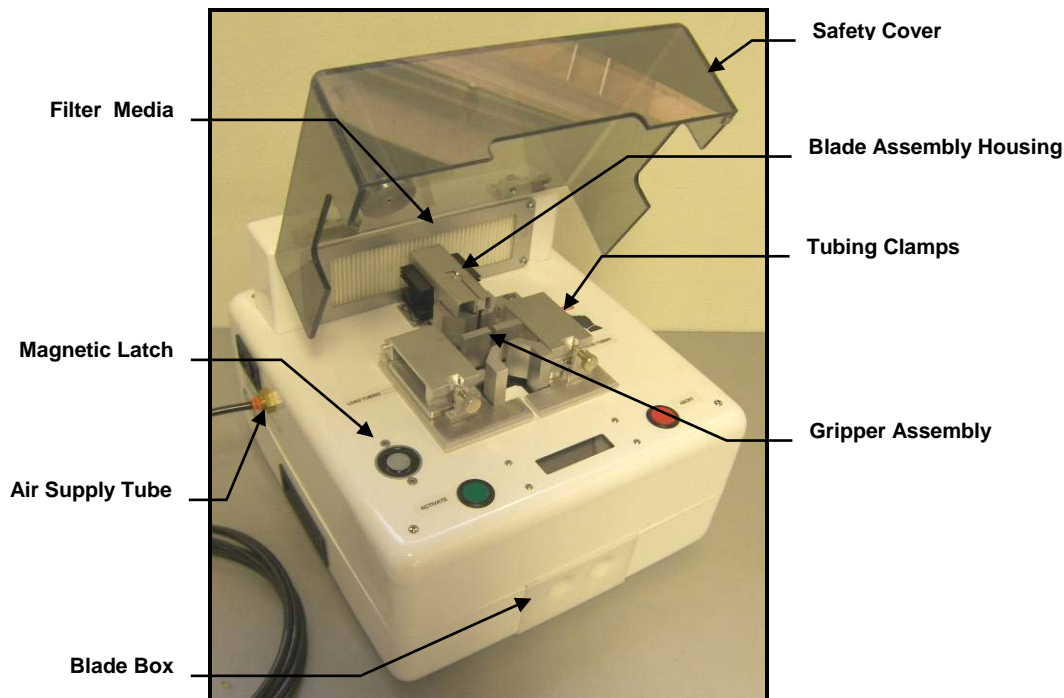


Figure 1.2 Component Identification - Top View

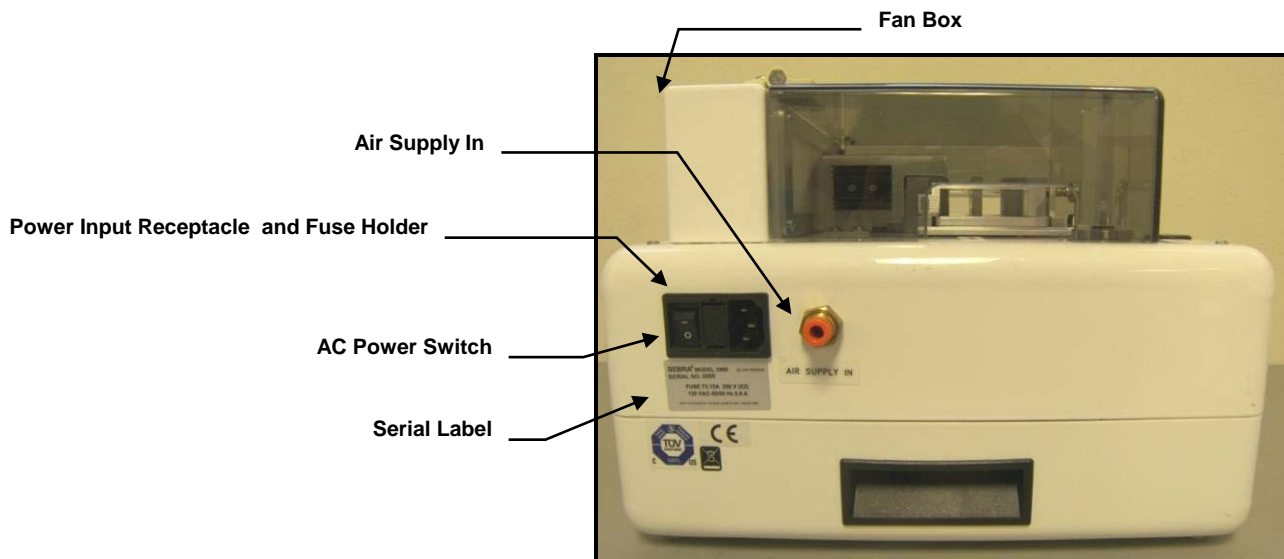


Figure 1.3 Component Identification - Side View

1.5.1 The welding system is provided with the following items:

- Welding Unit
- AC Power cord
- 10 foot, 1/4" outer diameter air supply tube and fitting
- Small Tubing Clamps and/or Large Tubing Clamps

Component	Function
AC Power Cord (not pictured)	Detachable AC power cord. Plug end varies with country in which welder is used to provide AC power connection to the country-specific AC Power Source.
AC Power Switch	Turns AC power “ ” (on) or “O” (off). Rocker-type switch located on the rear of the Power Source.
Power Input Receptacle and Fuse Holder	Located at the left side of the Welder. Connects the Power Source to detachable AC power cord and houses the user-replaceable fuses.
Serial plate	Located on the left side of the Welder. Indicates the model number, the serial number, and the required power input to the Welder.
Air Supply In	Provides air to the pneumatic gripper and blade components. Located to the rear of the left side of the unit beside the Power Input Receptacle and Fuse Holder.
Gripper Assembly	Used to grip and index tubing.
Blade Box	Stores used blades that are ejected during a welding operation.
Optical Sensor (not shown)	Identifies whether a new or used blade is inserted.
Filter Media	Captures particulate matter produced during the welding operation.
Fan (not shown)	Draws particulates through filter and cools blade assembly housing.
Small Tubing Clamps	Grippers used to position, align and secure small size tubing (3/8”OD – 1/2” OD).
Large Tubing Clamps	Grippers used to position, align and secure large size tubing (1/2” OD-3/4”OD)(clamps are not used on 3/4” OD tubing).
Safety	Function
Blade Assembly Housing	Protects user from direct access to hot blade assembly.
Safety Cover	Shields the blade and gripper assembly from user during operation.
Magnetic Latch	Engages and locks the safety cover down during operation.

Table 1.2 Components

1.5.2 The labels below depict the serial plates which specify the power input requirements for the Welder. Each unit's serial plate indicates the model number and serial number for the unit.

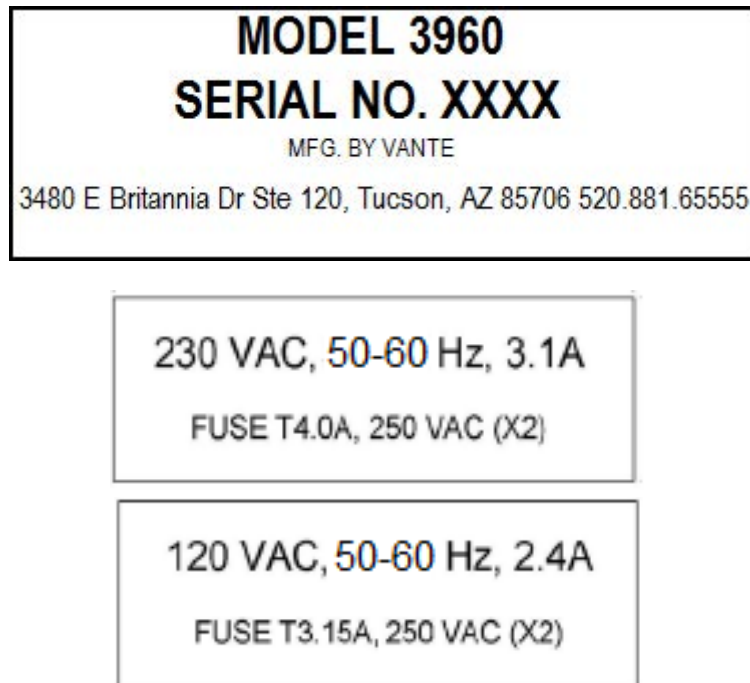


Figure 1.4 Serial Label

1.5.3 Refer to the serial number when contacting Vante.

CAUTION: Unit is equipped with dual fuses. Disconnect power cord before replacing fuses.

1.6 Operating Environment

The Welder will perform effectively when used in a controlled environment. Actual performance may be affected by variation in environmental conditions of the facility and/or the level of contamination and/or moisture on the unit and/or tubing exterior.

1.7 Tubing Size Categories

Tubing Size Category	Outside Diameter Range	Wall Thickness Range
Small	3/8" - 1/2"	1/16" - 1/8"
Large	1/2"-3/4"	1/16" - 1/8"

Table 1.3 Tubing Sizes

NOTE: The table illustrates typical tubing sizes found in the manufacturing industry. The table also represents those tubing sizes validated by Vante. It is not intended to absolutely define operating performance characteristics. Allowances are made for dimensions and tolerances that fall outside of these typical tubing sizes. Users may verify welder function and performance on tubing sizes not included here. Contact your Vante representative for further information.

2. Procedures for Use

2.1 Installation

- 2.1.1 Remove the welding system and components from their respective shipping cartons and visually inspect them for obvious damage. Contact Vante if any damage is found.

NOTE: If possible, retain shipping containers and packing materials for future use.

- 2.1.2 Verify the power cord plug matches the power receptacle for the country in which the Welder is being used. If it does not, contact Vante. Use only the power cord supplied with the Welder.

CAUTION: Do not connect the AC power to Welder at this time.

NOTE: Equipment should be validated for clean room operation by user. Particulates are produced by cutting tubing at sterilization temperatures. A filter has been incorporated to reduce particulate matter from entering the environment; however, it has not been tested to meet user's clean room requirements.

WARNING: Set up unit in a well-ventilated area. Fumes may be a byproduct of cutting tubing at sterilization temperatures.



- 2.1.3 Set the Welder on a clean flat secure surface near the area of intended operation.

WARNING: Be sure to leave adequate space to the left of unit to allow for the AC cord and air supply to be easily and readily connected to the unit and be sure to secure the cord so that it does not pose tripping or another type of hazard.



- 2.1.4 Connect the ¼" in. outer diameter air supply tube (included) to the air fitting located on the left side of the unit by pressing the tube firmly into the red tube fitting. With moderate force, pull the air tube to ensure it does disconnect from the tube fitting.

- 2.1.5 Connect the other end of the air supply tube to a pressure regulated air supply with a standard ¼ in. NTPF female quick disconnect. If another type of air fitting is required, the user may alter this end of the fitting as needed.

- 2.1.6 Set the air supply pressure to 85 - 100 psi for ideal operation.

WARNING: Ensure compressed air connections are properly installed on Welder prior to activating air supply. Injury can occur if air connections dislodge from unit and air supply is active.



CAUTION: Failure to set the pressures correctly can result in poor results and/or damage to the equipment.

Do NOT attempt to use any other air supply tube or AC power cord. Unauthorized substitution of the air supply tube or AC power cord may result in malfunction of the Welder.

2.1.7 Verify all connections have been correctly made and AC power switch is off. Connect the power cord to the power input receptacle on the left side of the unit and plug it into an appropriate power source (see the Welder serial plate).

2.1.8 Turn on the Welder by pressing the AC power switch on the left side of the controller. The control screen will indicate Welder is ready for use. The Welder requires no warm-up period.

WARNING: Keep fingers clear of the gripper mechanism when the unit is powered up to prevent potential pinching.



Welding is not recommended for tubing filled with flammable or other hazardous materials.

2.2 Operation Procedure

2.2.1 Once the unit is turned on, the unit display will instruct the user as shown:

*“Insert New Blade
Load Tubes
Total Cycles: XXXX”*

NOTE: The unit will display “Air Pressure Low” and will not proceed if insufficient or no air is being supplied.

2.2.2 Open the safety cover to insert a new blade. Insert the new L-shaped blade by positioning the blade with the bent edge facing towards the back and to the left of the unit. Insert where the bent edge engages a small slot in the blade holder as shown below.

WARNING: The internal blade holder will be hot after use. Remove finger(s) promptly after inserting blade. Severe burns can occur!



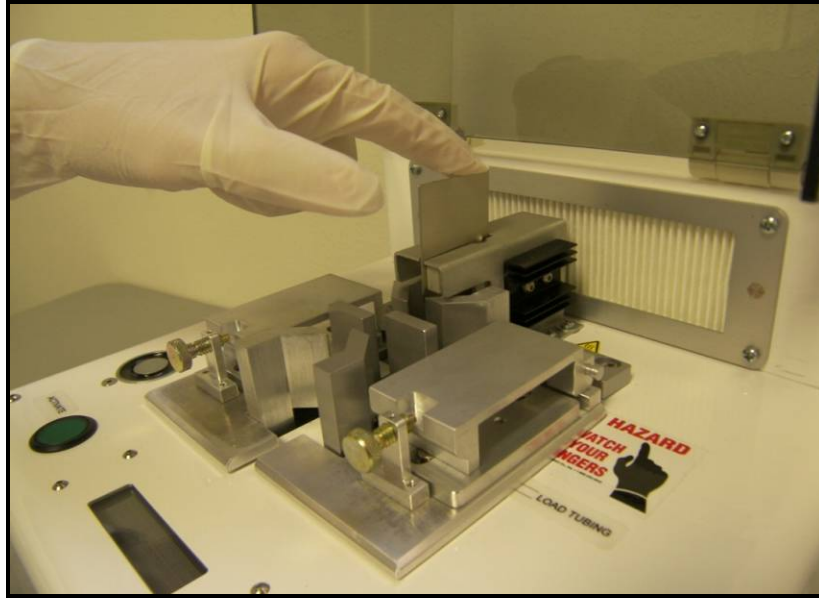


Figure 2.1 Blade Loading Procedure

2.2.3 Push the blade into the holder as shown in Figure 2.1. Be sure to insert the blade sufficiently so it clears the blade assembly housing. Also ensure that it will recognize the new blade. Proper alignment of the pink dot on the blade with red optical sensor is required for operation. The previous blade will be displaced and fall into a holding area just above the blade box. It cannot and will not be ejected into the blade box until the next cycle begins.

NOTE: The unit will only work with a new blade which is indicated by a pink dot on the blade. A used blade will instead be indicated by a purple dot on the blade.

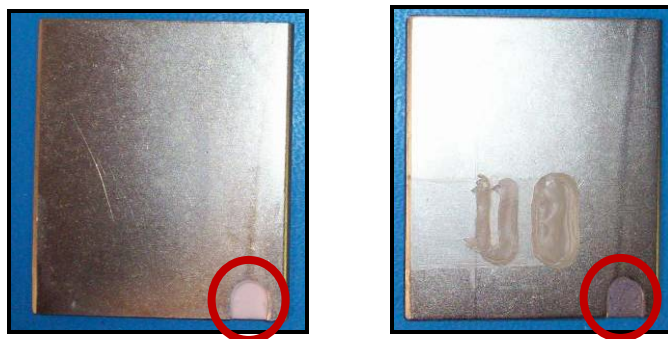


Figure 2.2 New Blade (L) and Used Blade (R)

NOTE: After every five welds the unit will remind the user to “*Empty Blade Drawer.*” User should empty drawer regularly to prevent used blades from piling up and potentially jamming the unit. Once the blade drawer is emptied, press and hold the red button to clear the reminder.

NOTE: If the new blade has already been inserted, the display will skip to the next set of instructions.

WARNING: Keep the outside of the tubing and equipment clean and dry!



2.2.4 Load the tube segments as shown below. Firmly press the tubing down to the guide bars on each side so the height of each tube is aligned.

CAUTION: The tubing on the left must be inserted into the upper position and the tubing segment to right must be loaded into the lower position. If reversed, the tubing segments will not connect!



Figure 2.3 Tube Loading

2.2.5 If welding small size tubing (3/8" - 1/2" OD), attach small tubing clamps to latch block. On the other hand, if welding large size tubing (1/2"-3/4"OD), attach large tubing clamps (Tubing clamps are not used on 3/4" OD tubing.)

- Position tubing clamp aligning holes with latch block.
- Insert hinge pin on hole to secure tubing clamp with latch block.

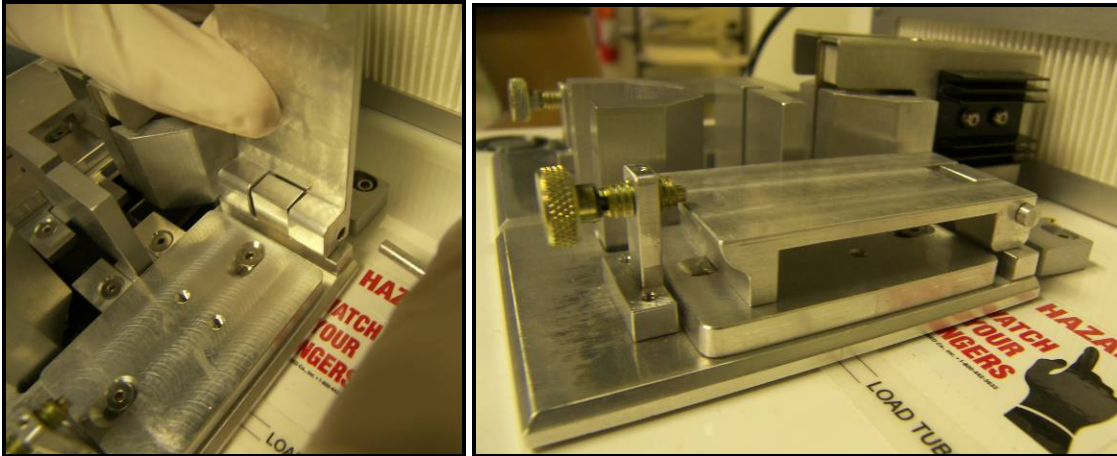


Figure 2.4 Tubing Clamp Installation

2.2.6 Close both tubing clamps by pressing them to secure tubing. See Figure 2.5.



Figure 2.5 Closing clamps to secure tubing

CAUTION: Do NOT pull on tubing while welding occurs. Under no circumstances should the tubing be pulled at the instant of welding. This may cause an opening in the tubing.

2.2.7 Once the tubing is in place and the tube clamps are secure, lower the safety cover. The unit will then display the unit is ready to begin the cycle. Press the green button to begin the welding operation. The unit will then magnetically latch the safety cover to prevent and protect the user from contacting the actuating and heated components.

2.2.8 Once the cycle begins, the display will change to “TEMP” and display the current temperature of the blade. The blade will heat to the designated temperature and remain at that temperature for approximately 1 minute to sterilize the blade before insertion.

NOTE: During the temperature ramp up the user may observe an initial overshoot of the weld temperature. This is a normal part of the operation.

2.2.9 After approximately 1 minute, the blade will advance to cut through both segments of tubing. As it cuts, the previously displaced blade will eject into the blade box. The blade may make an audible ‘clunking’ sound as it drops into the blade box.



Figure 2.6 Position of unit during a weld

2.2.10 The cutting blade will then remain in its forward position. Then, the left gripper will index to align the two cut tube ends. The blade will retract and the two tubes will be pressed together to bond the segments. The tubes will be held together to allow the molten tubing to cool and solidify. After that, the grippers will release the tubing and the magnetic latch will disengage. Remove tubing as shown below.

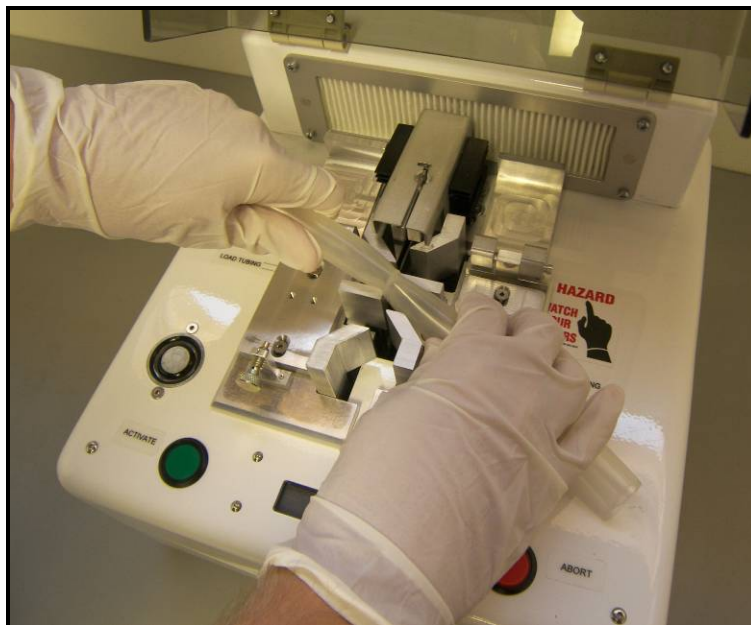


Figure 2.7 Removing the welded tubing

NOTE: The fan will continue to run until both buttons are pressed to reset the unit.

2.2.11 Once the tubes have been removed and when the display indicates it, the user may press both buttons to reset the grippers to the loading position. Press/pinch the tubing as shown to break the small seal that has formed internally and open the connection between the two welded tubes (see Figure 2.8 below). For thin wall tubing, massaging and/or gently rolling the weld site may help to clear the thin membrane.

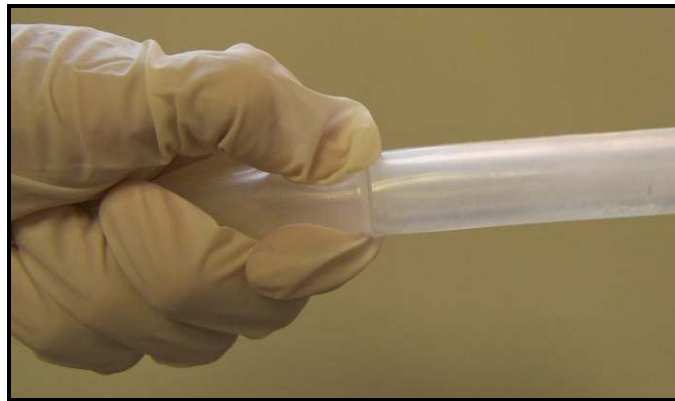


Figure 2.8 Opening the Welded Connection

NOTE: In the event the user needs to reset the tubing prior to removing the tubing from the grippers, press and hold the green button while then pressing the red button. This will bring you to the “PASS =” screen. The user will have 6 seconds to cycle to the number “2” by pressing the green button until “2” is reached. If the user overshoots the number press the red button to cycle the number down. Once the 6 seconds have elapsed, the grippers will return to the tube removal position. Once the tubing is removed, press the red button again to reset the grippers and return to the initial screen.

2.2.12 To remove the old blades, simply slide open the blade box and remove the blades.

WARNING: Blades should be properly disposed of in a “sharps” container or follow user established standard operating procedure if and when handling and disposing of potentially hazardous material.



2.3 Weld Spacing

2.3.1 A minimum of five inches between welds is recommended to ensure weld integrity.

WARNING: Never attempt to make welds closer than recommended without validating for weld integrity.



2.4 Abort Feature

2.4.1 In the event the user must interrupt and stop the welding process, the user can press the red button at any time during the welding operation.

2.4.2 Once the red button is pushed, the unit will no longer continue to heat the blade and the fan will be activated to assist in cooling the blade assembly housing. If the blade was actuated in the forward position, the blade will withdraw back into the blade assembly housing and weld the tubing together in the position it was aligned in that moment.

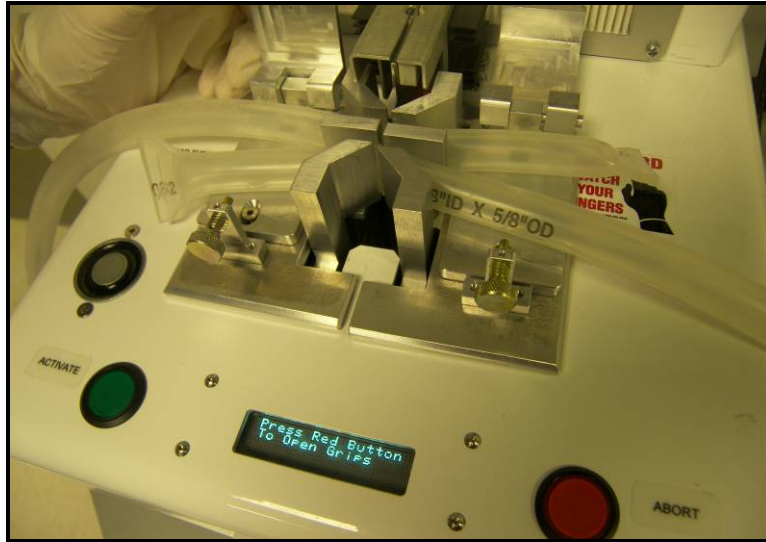


Figure 2.9 Abort Feature

2.4.3 The safety cover will disengage; however, the tubing grippers will remain closed until the user can secure and seal the tubing as necessary to minimize the risk of exposing the tubing contents.

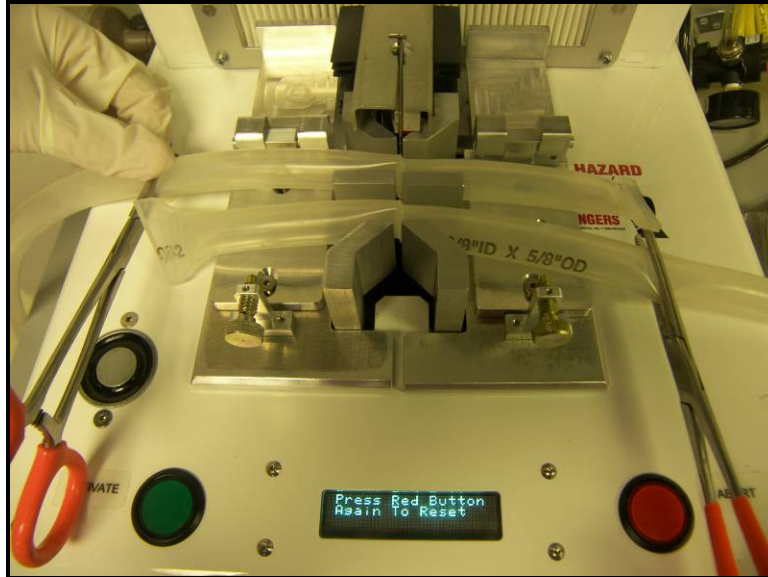


Figure 2.10 Tubing Removal

- 2.4.4 Once the tubing is secure, press the red button to open the grippers.
- 2.4.5 Once pressed, the fan will deactivate. Open the tube clamps and remove tubing.
- 2.4.6 As instructed, press the red button again to reset the unit to its initial position. It is now ready to set up for another weld cycle.

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3. Maintenance and Repair

3.1 System Maintenance

- 3.1.1 Yearly Certification of the Welder is recommended.
- 3.1.2 Clean the tube gripper assembly and the rest of the unit after any fluid spillage to minimize the possibility of any residue from potentially binding the mechanical assembly.
- 3.1.3 User can change filter on the Welder as required.

CAUTION: The Welder is designed to require minimum maintenance and field repairs are not recommended. Any questions regarding repairs should be directed to Vante.

The Welder does not allow replacement of internal items. All internal repairs and replacements need to be directed to Vante.

3.2 Troubleshooting

- 3.2.1 The following chart offers diagnosis and action for many commonly-reported problems. For any problems or failures not listed, please contact Vante.

Problem	Diagnosis	Action
Not welding	No power to the Power Source.	Ensure all connections are correct Ensure the AC power switch is in the “I” (on) position.
	Blown Fuses.	Ensure the fuse(s) is(are) not blown. See if the fuse requires replacement. For fuse replacement <u>only</u> use the following types: <u>For use in 120V units:</u> a) Schurter AG – 250V, 3.15A, Cat. No. 0034.5622 b) Littelfuse – 250V, 3.15A, Cat. No. 2183.15XP c) Cooper Bussmann – 250V, 3.15A, Cat. No. S506-3.15A <u>For use in 230V units:</u> a) Littelfuse – 250V, 4A, Cat. No. 0218004.XP
	Component failure.	Contact Vante.
	Air Supply Low indicated.	Ensure the air supply connection is correct. Ensure the air supply is set to appropriate pressure.
	Incorrect Tube loading.	Verify tubing is loaded according to Section 2.2.5. Tubing must be of same size and material composition.
	Optical Sensor doesn’t detect a new Blade.	Push a new Blade into Blade Housing. If new Blade isn’t detected, try a different Blade. If problem persists, contact Vante.
	No latch engagement.	Ensure the cover is completely closed and no blockage is present.
Bad Welds	Moisture in the welding area or on the tubing.	Ensure the outside of the tubing, the welding region and adjacent areas are clean and dry.
	Improper tube alignment.	Verify tubing is properly aligned with the assistance of the tube clamps.
Blade Actuator Jams	Blades aren’t falling into Blade Box.	Blade Box is too full. Dispose of Blades properly. If problem persists, contact Vante.
	Blade Box is not pushed in fully obstructing used blade from falling through.	In that event, turn the AC power switch to the “O” (off) position and disconnect the AC power cord from the AC outlet and Welder. Remove the blade box and use a tool to pull the used blade through. The bottom cover may need to be removed.
	Blade not pushed in or inserted sufficiently.	The lip on the blade may catch on the blade housing assembly (see section 1.5 for part reference.) Push the blade down further to make sure it clears the housing assembly. Warning: Blade may be hot!

Table 3.1 Troubleshooting

3.3 Fuse Replacement

- 3.3.1 The replacement of a fuse, located in the AC input receptacle on the left side of the unit, is a rare occurrence. If the unit is plugged into the AC Power Source, and the display does not come on when the switch is in the “|” (on) position, then the fuse *may* need replacement.
- 3.3.2 To access the fuse compartment turn the AC power switch to the “O” (off) position and disconnect the AC power cord from the AC outlet and Welder.
- 3.3.3 Release the fuse holder by inserting the end of two flat head screwdrivers into each of the detents. Slide the fuse holder out until the fuses are exposed.



Figure 3.1 Fuse Holder Release

- 3.3.4 Examine the fuse and replace with the appropriate fuse indicated in Table 1.1 Product Specifications for the unit’s power supply. The recommended fuse Manufacturer, electrical ratings and catalog number is shown on table 3.1 – Troubleshooting. If the fuse is not blown, check again to be sure all other connections are correct.

CAUTION: Replace fuses with the appropriate fuse and specified rating only as recommended on table 3.1.

- 3.3.5 Insert the fuse holder into the Power Input Receptacle until the latch engages.
- 3.3.6 Reconnect the AC Power Supply and turn power switch to the “|” (on) position. If the fuse blows again, contact Vante.

3.4 Filter Replacement

- 3.4.1 To replace the filter, turn the AC power switch to the “O” (off) position and disconnect the AC power cord from the AC outlet and Welder. Remove the four screws located in the corners of the filter using a Phillips head screwdriver and pull the filter assembly out.

NOTE: To remove the filter, the user will likely need to remove the blade housing assembly. To remove, unscrew the heat sinks mounted to it followed by the four screws located at the base of the blade housing assembly and set the assembly aside.

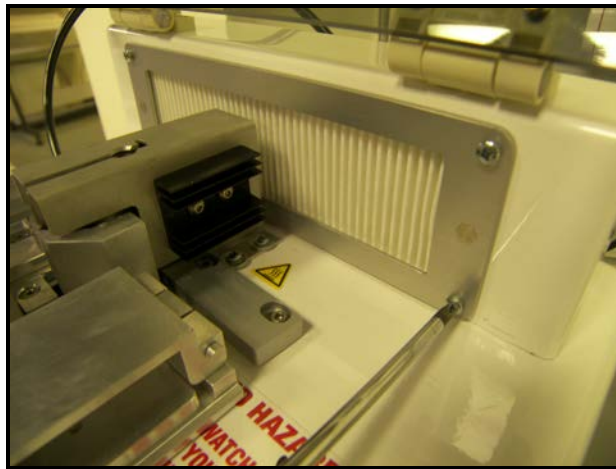


Figure 3.2 Remove the Screws Around the Filter

- 3.4.2 Remove the filter by loosening the screws fastening the filter to the filter assembly.

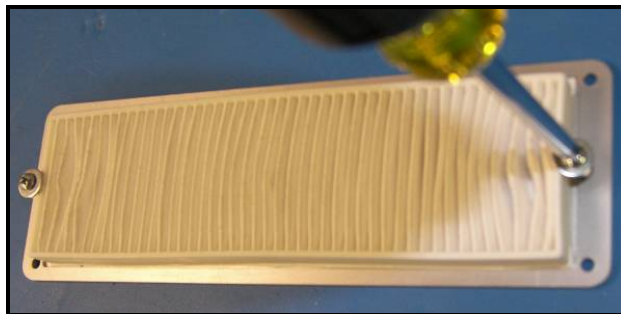


Figure 3.3 Loosening the fastener

- 3.4.3 Once the new filter has been installed, secure by tightening screws that hold the filter in place. Insert and screw down the filter back into the fan assembly box.
- 3.4.4 Remounting the blade housing assembly is necessary to finish installation.

NOTE: Contact Vante to request replacement filters.

3.5 Cleaning the Welder

- 3.5.1 Ensure that the AC power switch located on the left side of the Welder is off. Disconnect the AC power cord from the AC power outlet. Disconnect the air supply line and the AC power cord from the Welder.

CAUTION: Bleach or bleach solution, other harsh chemicals or abrasive cleaners **MUST NOT BE USED** on the Welder.

- 3.5.2 Apply a cleaning solution made from a mild detergent or alcohol and water to a clean soft towel. Wipe the Welder case with the damp towel. Ensure the Welder is completely dry before returning to service.

CAUTION: Do not apply fluids directly to the Welder case and do not over-saturate the cleaning solution applicator. The fluids may run into the electronic components and cause contamination of the electronics and subsequent unit malfunction. *Never immerse the Welder in any liquid.*

- 3.5.3 Properly dispose of all used cleaning materials.

3.6 Returning a Unit for Service or Certification

Other than external cleaning, fuse replacement and periodic calibration, the Welder is designed to be maintenance free. Do not attempt repairs of any kind. Please notify Vante, if unit requires maintenance.

Call Vante prior to sending the unit in for repair or certification. Have the model and serial numbers available (serial plate located beside the Power Input Receptacle and Fuse Holder) before calling Vante for a Return Material Authorization (RMA) number.

If possible ship the Welder using the original shipping containers and packing material. If the original shipping materials are not available, wrap the components separately in plastic bubble wrap or other suitable packing material that will provide sufficient shock protection. Place components in a shipping container large enough to contain the individually wrapped components, or place each component in its own size relevant shipping container.

CAUTION: Failure to properly package the components for shipping may increase any repair costs.

3.7 Disposing of Equipment

Equipment should be disposed in accordance with local government practices for electronic equipment. Contact appropriate government personnel to obtain procedures or contact Vante.

3.8 Manufacturer Warranty

The enclosed products, when used and handled under normal conditions and in accordance with written instructions are guaranteed to be free from defects in material and workmanship for one year based on the date of shipment.

This warranty policy may be changed by the Manufacturer at its own discretion.

Vante should be contacted for instruction regarding any necessary Warranty or Non-warranty repairs. If non-warranty, shipping and repair charges will be paid by user. In the event product is sent to Manufacturer, call Vante first to obtain a Return Material Authorization number (RMA#). There are no warranties, including any implied warranty and any warranty of merchantability or fitness for any particular purpose which extend beyond the description of the product and those expressly set forth in product labeling. Unless used in accordance with written instructions accompanying the product, all warranties are specifically excluded.

Modifications, alterations, recalibrations, abuse, or service by other than an authorized representative shall void the warranty.

The buyer or user's exclusive remedy for breach of such warranty shall be repair, replacement of such products by Manufacturer or, at Manufacturer's option, refund of the purchase price. Manufacturer shall have no liability for consequential, incidental or exemplary damages of any description in connection with the products.