

# YOUR GUIDE TO MAINTAINING TUTTNAUER<sup>™</sup> M/MK SERIES & VALUEKLAVE MKV STERILIZERS

Replacement Parts Industries, Inc. is pleased to present this valuable work tool that can help save you and your customers time and money. Take a look, you will find Troubleshooting Guides, diagrams, exploded views and a complete listing of all RPI parts that fit all 1730/2340/2540/3850/3870 M/MK and Valueklave<sup>™</sup> 1730 MKV Tuttnauer models. It's all here, in one easy-to-use tool. Keep it close by - in your RPI catalog or at your workbench.

## PLEASE NOTE!

Over the years, Tuttnauer has substituted parts from what has been noted in their manuals. As a precaution, please verify parts before replacing or servicing them.

## LEVELING THE STERILIZER

- 1. The sterilizer must be placed on a level surface. Note: When positioning the sterilizer on the surface, be sure to keep the back and right side of the sterilizer approximately 1" (25mm) away from the wall to allow for proper ventilation.
- 2. To check if the sterilizer is level: Refer to Table A. to the right; measure only the amount of water indicated in the chart for the corresponding model into a measuring cup; and, pour the measured water into the chamber. The water must reach the indication groove near the front of the chamber. Refer to Figure 1, to the right. If the water does not reach or it goes past the groove, the sterilizer is not level and must be adjusted. To help level the sterilizer, use the RPI Wrench (Low Profile) (RPI Part #RXT003) to adjust the front legs of the sterilizer.

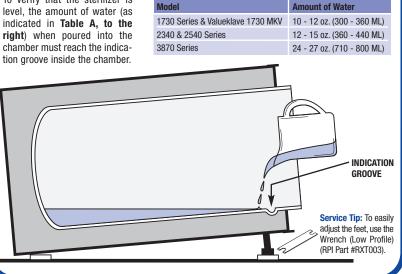
### FILLING THE RESERVOIR

1. Use distilled water only to fill the reservoir. Fill the reservoir until the water level is 1" (25mm) below the base of the Safety Valve Holder. Refer to the Min/Max lines on the Reservoir Dip Stick.

Caution! For proper operation of the sterilizer. do not fill water above the Safety Valve Holder. FIGURE 1

**LEVELING & FILLING PROCESS** 

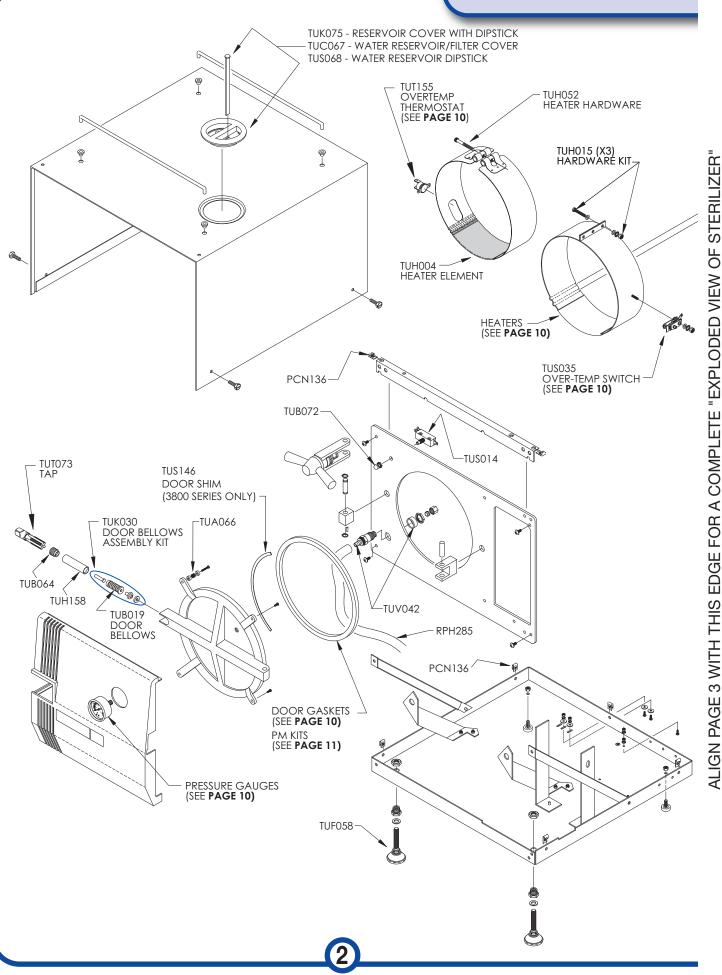
LEVELING THE STERILIZER To verify that the sterilizer is TABLE A AMOUNT OF WATER NEEDED, TO CHECK IF STERILIZER IS LEVEL. Model



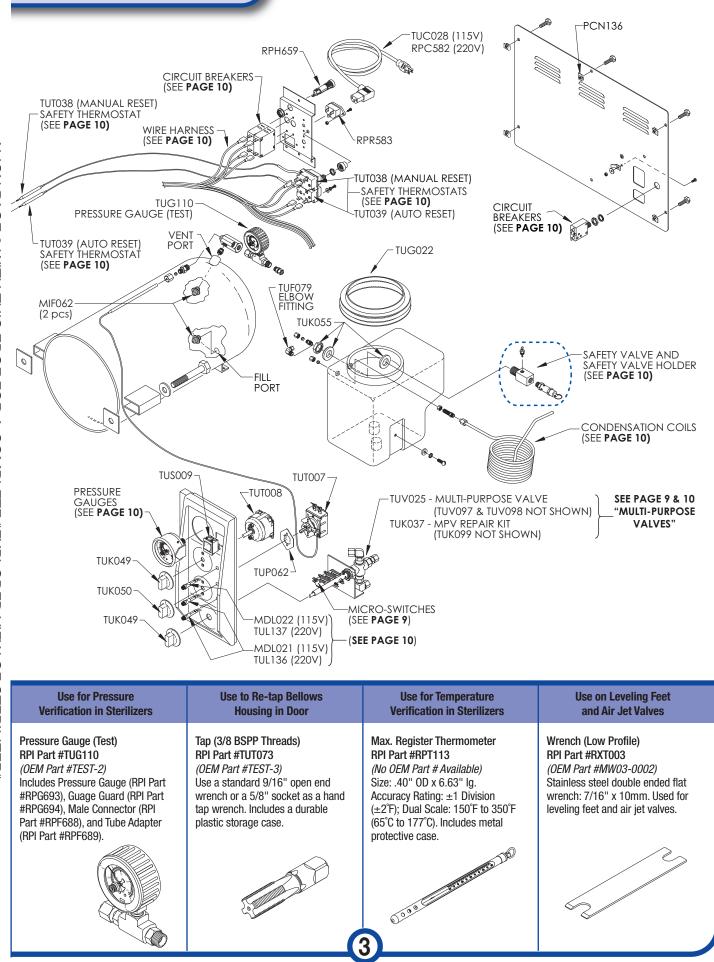
# PLANNED MAINTENANCE

CAUTION!	Before starting any maintenance or repairs: 1) Turn the sterilizer OFF. 2) Disconnect the sterilizer from the power source before servicing. Follow all local, NEC and OSHA safety guidelines. 3) Verify that there is <b>no</b> pressure in the unit. 4) Allow to cool to room temperature. 5) Wear appropriate protective hand and eye gear. Clean the Door Gasket with a soft cloth or sponge using a soft liquid detergent and water. Rinse well and leave no residue.
WEEKLY	<ul> <li>1. Remove the Trays and Tray Holder from the unit. Clean the Chamber, Tray Holder and Trays with a cloth or sponge using an OEM recommended cleaner. <i>Caution: Do not use steel wool, a steel brush or chlorinated cleansers on these parts.</i></li> <li>2. Thoroughly rinse Chamber, Tray Holder, and Trays with clean water. Flush the Chamber. Flush the Fill hole located at the back of the Chamber by turning the Fill Knob to the FILL position for a couple of seconds.</li> <li>3. Dry the Chamber, Tray Holder and Trays, and reinstall.</li> <li>Place a couple of drops of oil on the two door pins and the door tightening bolts.</li> <li>Clean the outside of the unit with a soft cloth or sponge using a non-abrasive cleaner.</li> <li>Drain and flush the Water Reservoir while using a baby bottle brush to clear any build up of debris. Refill the reservoir (see <i>FILLING THE RESERVOIR, above</i>).</li> <li>When the sterilizer is cold and not pressurized, verify the integrity of the Spring and Plunger Assembly by pulling and releasing the end ring on the Safety Valve – it should spring back.</li> <li>Remove and clean Chamber Filters.</li> <li>Check and clean the Air Jet Valve by moving the wire back and forth several times to prevent debris buildup.</li> </ul>
MONTHLY	<ul> <li>During a sterilization cycle, use an insulated tool or pair of needle nose pliers to pull on the end ring of the Safety Valve, and let the steam exhaust for a couple of seconds. This will remove debris in the lines and clean the valve's orifices. Verify its closing ability. <i>Caution: During this procedure, be prepared for a rush of steam to be released with a loud hissing sound. Wear appropriate protective hand and eye gear.</i></li> <li><i>After Every 20 Cycles</i> - Clean Sterilizer with Tutt-Clean™ (RPI Part #'s TUC094 &amp;TUC095) in conjunction with the Sterilizers Cleaning Kit (RPI Part #RPK791) to help remove water deposits, oxides and other sediments.</li> </ul>
ANNUALLY	Recommended parts to be replaced at this time include the Door Gasket, Chamber Filters, Door Bellows, and parts showing wear. PM Kits are a convenient package that include all of the parts that need to be replaced on an annual basis, see <b>page 11</b> .

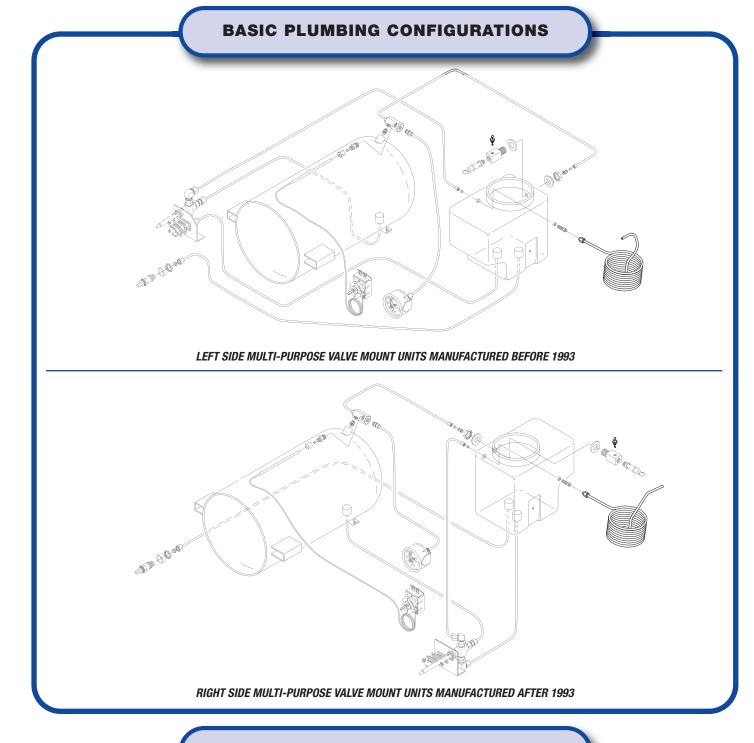
# **EXPLODED VIEW**



# OF STERILIZER



ALIGN PAGE 2 WITH THIS EDGE FOR A COMPLETE "EXPLODED VIEW OF STERILIZER



# HEATING ELEMENT SERVICE TIPS

- When replacing a Heater, a burning smell may be present for several cycles. This is normal and does not indicate any malfunction of the new Heater.
- Current Heaters offered by RPI and Tuttnauer are designed to accommodate Safety Thermostats that use 3/16" diameter bulbs. When replacing the Heater band that mounts the Safety Thermostats to the Chamber, take a moment to measure the diameter of the Safety Thermostat bulbs. <u>If the bulbs are 1/8" diameter (original style)</u>, then replace them with the newer style 3/16" diameter bulbs to ensure proper contact to the Chamber and the Heater band.
- Make sure that the bulb for the <u>automatic reset Safety Thermostat is in-</u> stalled in the lower groove of the heater band, and that the bulb for the manual reset thermostat is installed in the upper groove.

- When installing new heater bands, note that there are two different heater band closing clamp mechanisms; a three bolt/"flange" pattern, and a "Tbolt" and barrel pattern.
  - When installing the <u>three bolt/"flange" pattern</u>, it is important to tighten all (3) three bolts evenly until the band is snug against the chamber.
  - When installing the <u>"T-bolt" and barrel pattern</u>, you only need to tighten the single bolt until the band is snug against the chamber. Also note, on this style heater band, there is a large cutout in the band. This cutout is for the old-style over temperature devices, modern units will still use the capillary-tube-style over temperature devices located in the ridges just below the cutout.

With both styles of heater bands, it is important to run the sterilizer through several test cycles and then retighten the hardware to ensure a proper fit. Failing to properly tighten the heater bands can lead to a premature failure.

ELECTRICAL TROUBLESHOOTING & WIRING DIAGRAMS

## **BASIC CIRCUIT INSPECTION**

SERVICE TIP When working on the electrical system, follow all safety requirements.

#### 1. Disconnect power to unit.

- 2. Set sterilizer controls to the following settings:
  - Circuit Breaker = ON Power Switch = ON
  - Sterilizer Door = CLOSED Timer = Set for more than 10 minutes
  - Temperature Controller = Set at 250° or higher
- 3. Set a multi-meter to ohm scale, then connect the line and neutral terminals of the power module.
- Rotate the Multi-Purpose Valve to each setting; starting and ending at 0, and observe the meter for the following:
  - In the STE and EXH+DRY positions, the meter should read the circuit values  $(\pm 10\%)$  shown in **Table B, below** for each model. If the VOM meter reads outside the  $\pm 10\%$ , then you must check each individual heating element by disconnecting one of the wires going to the heating element terminals and measuring across the two terminals. Verify the resistance needed for each individual heating element by comparing it to the required resistance listed for your unit in **Table B, below**. If any heating element is outside of the required resistance by  $\pm 10\%$ , then it must be replaced.
- Remove unit's covers and insulation blanket. Perform a full visual inspection of wiring, terminals and connections. Inspect the wiring harness for loose leads and broken or damaged wires. Make any repairs and

retest. If no defects found, then inspect each component and conduct continuity check of the complete wiring circuit.

- Refer to the schematic in Figure 2, below, check each circuit component, starting with the circuit breaker. Take note of the following characteristics for each of the components:
  - Safety Thermostats should be closed except at high temperature when they
    open to protect the circuit. *Note:* Models built after January, 1993 have
    <u>dual</u> Safety Thermostats, one of which has a manual reset button and is
    located near the circuit breaker.
  - Timer must be turned *past 10 minutes* to make contact and provide electrical continuity.
  - Control Thermostat must be set above 212° F to make contact and provide electrical continuity.
  - Microswitch wiring is referenced in Figure 2, below. Microswitch positions are shown on page 9, MULTI-PURPOSE VALVE & MICROSWITCHES. (Note: Microswitches are best checked with an analog ohm meter.)
- Heater element resistance values are shown in Table B, below.
- 7. Repair or replace all faulty circuits or components, then retest unit.
- 8. Replace insulation blanket and reinstall covers.
- 9. Run unit for several cycles and check all operations.

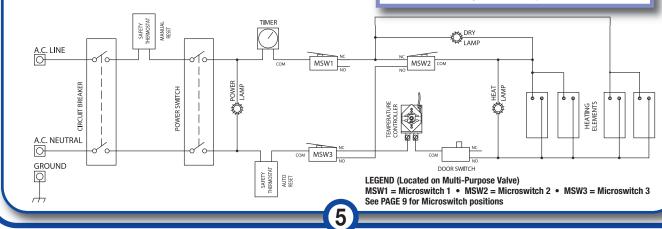
TABLE B - APPROXIMATE C	TABLE B - APPROXIMATE CIRCUIT VALUES (±10%) AT STE AND EXH-DRY POSITIONS & APPROXIMATE HEATER ELEMENT RESISTANCE VALUES (±10%)										
Model	VAC	Watts	Individual Heating Element Resistance	Resistance in STE	STE Amps	Resistance in EXH-DRY	EXH-DRY Amps				
1730M	120	350	41.0	14	9	82	2				
1730M	230	350	151.0	50	5	302	1				
1730MK	230	450	117.0	39	6	234	1				
1730MKV (Valueklave)	120	450	32.0	11	11	64	2				
2340M	120	350	41.0	10	12	41	3				
2340M	230	350	151.0	38	6	151	2				
2340MK	230	550	96.0	24	10	96	2				
2540M	120	350	41.0	10	12	41	3				
2540M	230	350	151.0	38	6	151	2				
2540MK	230	550	96.0	24	10	96	2				
3850M	23	600	88.0	22	10	44	5				
3850MK	230	600	88.0	22	10	44	5				
3870M	230	500	105.8	18	13	71	3				
3870MK	230	500	105.8	18	13	71	3				

### FIGURE 2

Schematic of Current Tuttnauer Models 2340M/MK & 2540M/MK Although the schematic below applies to the current 2340M/MK & 2540M/MK Models of Tuttnauer sterilizers, it can be used as a reference for all of the other manual models as well. Variations to the wiring of manual models is common among Tuttnauer sterilizers. For a list of the variations that might be encountered when servicing these sterilizers, see the listing to the right.



- Single vs. Dual Circuit Breakers
- Circuit Breaker(s) or Fuse Holder
- Single or Dual Thermostat
- Wiring of Thermostat (Manual or Automatic reset)
- Wiring of Heat Light or Dry Light
- With or without Door Switch
- Number of Heating Elements required



# WATER/STEAM SYSTEM TROUBLESHOOTING

SERVICE TIP To help prevent clogging of the MPV. install RPI Filters (RPI Part #MIF062) into

the Water Fill and Exhaust Lines.

Water and steam leaks not only cause damage to the site where the unit is located but also, will create a low water condition resulting in overheating that could cause major damage to the autoclave.

## **ISOLATING LEAKS & CORRECTIVE ACTION**

Visual and audible leaks can be detected by operating the sterilizer in the normal STE mode with temperature set at 273° F and the time set for 30 minutes on M units and 15 minutes on MK & Valueklave 1730 MKV units. Possible points of water/steam leaks with corrective action, and

า

2

3

4

5

SERVICE TIP

If the Chamber is found to be defective, tag it as "Out of Operation". Removal of the power cord is recommended until the chamber is replaced.

order in which they should be checked are noted in #1-5 below.

## **DOOR GASKET & DOOR BELLOWS**

Check chamber Door Gasket for any steam leaks, hissing, or water bubbles at the Door Bellows. If steam is leaking at the door closing device, then rotate the Gasket 180° to see if the leak follows it. If the leak follows the Gasket, then replace the Gasket. If the leak does not follow the Gasket, then replace the Door Bellows. (Also available is a Door Shim (RPI Part #TUS146) made of stainless steel to install behind the Door Gasket to fit the 3800 Series only.)

### **SAFETY VALVE**

Remove the Water Reservoir Fill Cover and visually inspect the Safety Valve - use a dental mirror to help locate the leak. Confirm that there is no steam or water drops escaping from the vent holes or threads of the Safety Valve. If a leakage is observed, replace the Safety Valve.

#### **AIR JET VALVE**

Inspect the Air Jet Valve. It should make a slight hissing sound throughout the STE cycle. If there is excessive hissing, steam, or water bubbles escaping from the Air Jet Valve, refer to HOW TO CHECK THE AIR JET VALVE, at the top right hand side of this page. Service Tip: Use a dental mirror to help locate the leak.

If a water/steam leak is not related to #1-3 above, disconnect power from the sterilizer and remove the cover, then carefully remove the insulation blanket. Proceed to #4-5, below. Warning! Make sure power has been disconnected prior to removing the cover. When running the sterilizer with the cover removed, the interior of the machine will be very hot - use extreme caution.

#### **MULTI-PURPOSE VALVE**

Inspect the Multi-Purpose Valve for leakage. Note any leaks at the three fittings or the valve stem. If none are found, disconnect the Condensation Coil in the water reservoir at the point where it connects inside the reservoir. Operate the sterilizer in STE mode at 273°F for 30 minutes on M units and 15 minutes on MK & Valueklave 1730 MKV units, and look for any signs of leakage back into the reservoir from the tubing fitting where the Condensation Coil was attached. Inspect the water fill tube at the bottom of the reservoir for any signs of steam bubbling back into the reservoir. If any leakage is noted at either position, repair or replace the Multi-Purpose Valve. Important: Reconnect Condensation Coil before exhausting Chamber pressure.

### **CHAMBER & INTERNAL TUBING**

Carefully inspect for steam or water bubbles at the Chamber and all fittings. If a leak is detected at one of the fittings or tubing, tighten or replace only after the unit has been depressurized and allowed to cool down.

## HOW TO CHECK THE AIR JET VALVE

- 1. Refer to Table A, page 1, and in a measuring cup, fill it with the amount of water indicated in the chart for the corresponding model, then pour the measured water into the Chamber.
- 2. Bypass the FILL setting to manually run sterilizer in STE mode at 273°F for 30 minutes for M units and 15 minutes for MK & Valueklave 1730 MKV units. After 30 minutes (or 15 minutes), shut off power, but leave MPV in STE mode until chamber pressure is reduced to 0 PSI and chamber has cooled (approx. 15 minutes).
- 3. Open Chamber Door, siphon water back into the measuring cup, and measure the amount of water remaining in the chamber.
  - If remaining water is less than 50% of the original volume and no other leaks were detected, replace Air Jet Valve.
  - If remaining water is greater than 50% and the pressure did not reach within the nominal times (see STERILIZATION TIMES, page 9), and no fault was found within the heating system, then replace the Air Jet Valve.

## **REMOVING OBSTRUCTIONS**

## HOW TO UNCLOG THE MULTI-PURPOSE VALVE DURING A CYCLE

- 1. Refer to Table A, page 1, and pour the indicated amount of water into the sterilizer. Turn the power switch ON.
- 2. Close and lock the sterilizer door be sure to make a tight seal and wait for the heat light to come on.
- Set the sterilizer to the following settings: Multi-Purpose Valve (MPV) set to STE position; Timer Knob set to 20 minutes; and, Thermostats Knob to 273°F (134°C). Then press power switch to START. (Note: With the MPV in the STE position, heaters will be ON, and sterilizer will begin to build pressure.)
- 4. When the Chamber pressure reaches 30-31 PSI:
- Turn the Power Switch to the OFF position.
- Turn the MPV to the FILL position. Now the Chamber pressure should force out debris from the MPV through the Fill Line into the Reservoir.
- When the pressure in the Chamber reaches 0, turn the MPV to the OFF position, then open the door. Allow the sterilizer to cool.
- Clean out any debris from the inside of the Chamber.
- If the MPV is still clogged, rebuild or replace it.

## HOW TO MANUALLY UNCLOG THE MULTI-PURPOSE VALVE

- 1. Disconnect power from sterilizer. Allow to cool. Remove covers.
- 2. At the center port of the Multi-Purpose Valve (MPV), disconnect the fitting. Set MPV to the FILL position. Service Tip: Drain most of the water from the Reservoir to prevent excess spillage during this process. This will also verify that the Drain Tube and Drain Valve are clear.
  - If water flows into the Chamber, then the obstruction has been cleared from MPV and Fill Tube.
  - If water does not flow into the Chamber, check Fill Tube as follows: Disconnect Fill Tube fitting at bottom of MPV.
  - If water flows, Fill Tube is clear, but MPV must be rebuilt or replaced.
  - If water does not flow, use forced air through Fill Tube and check for bubbles in Reservoir. If procedure does not clear obstructions, replace Fill Tube. Service Tip: When disconnecting Fill Tube, straighten portion of tube (about 1" lg.) that protrudes into the bottom of Reservoir. Support Reservoir boss with a wrench.
- 3. If MPV and Fill Tube are clear, next check Chamber Tube as follows: Disconnect and remove MPV from Chamber Tube. Use forced air or water through tube. If procedure does not clear obstructions, replace Chamber Tube. Also check and clear Chamber Fitting and boss of any obstructions.
- 4. Check exhaust lines as follows: At the top port of MPV, disconnect Condensing Coil Tube, see MULTI-PURPOSE VALVE, page 9. Force air through tube. If the flow is blocked, determine whether Condensing Coil or Tube is obstructed. Clear obstruction or replace coil and/or tube.
- 5. If no leaks or obstructions have been found by following the previous steps, and sterilizer is still experiencing a low water condition resulting in overheating problems, see HOW TO CHECK THE AIR JET VALVE, above.

# TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTIONS
Power-On Light does not illuminate	Wall outlet or plug	Verify power at outlet. Make sure power cord is plugged in at the wall and at the machine.
	Power Switch	Turn Power Switch ON. Replace if necessary.
	Circuit Breaker	Reset breaker. Check for short circuit (see <b>page 5</b> ). If no short is found, replace <b>Circuit Breaker</b> (see <b>page 10</b> ).
	Power Lamp	Replace Power Light.
	Open Circuit	Check for loose or disconnected wires. Replace <b>Wire Harness</b> , if necessary (see <b>page 10</b> ).
Heat Lamp OFF in STE cycle	Timer	Check that <b>Timer</b> is turned ON. Timer must be advanced <b>past 10 minutes</b> to activate.
	Heat Lamp	If unit has heat and pressure, check and/or replace <b>Heat Lamp</b> (see <b>page 10</b> ). If unit has <u>no</u> heat, check for open circuit (see <b>page 5</b> ).
	Microswitch 1 (MSW1) is defective or it is stuck in the <b>down</b> position.	Check <b>MSW1</b> . Adjust or replace as necessary (see <b>page 9</b> ).
	Control Thermostat	Set <b>Control Thermostat</b> to 212°F or higher. Adjust or replace <b>Control Thermostat</b> as necessary.
Heat lamp is ON; No heat or pressure	Heaters	Measure <b>Heater</b> for proper resistance, see <b>Table B</b> , <b>page 5</b> . Check for broken/disconnected wiring. Replace if necessary (see <b>page 10</b> ).
Heat lamp is ON in STE cycle, but with low heat and slow pressure build	Steam Leak	Check for audible/visual steam leak at <b>Door Gasket</b> , <b>Door Bellows</b> , <b>Safety Valve</b> , <b>Air Jet Valve</b> , and <b>Condensation Coil</b> . If there are air bubbles in reservoir, check <b>Multi-Purpose Valve</b> . Repair or replace faulty part(s) as necessary.
	Heaters	Measure <b>Heaters</b> for proper resistance, see <b>Table B, page 5</b> . Check for broken or disconnected wiring.
	Control Thermostat	Set <b>Control Thermostat</b> to 212°F or higher. <u>Adjust</u> or replace <b>Control Thermostat</b> as necessary.
	Excess water in Chamber	Check water level. Check level of unit per <i>Installation Procedure</i> , see <i>Figure 1, page 1</i> .
	Pressure Gauge	Check and/or replace <b>Pressure Gauge</b> (see <b>page 10</b> ).
Safety Valve opens	Control Thermostat	Reset <b>Control Thermostat</b> to proper value or, if necessary, replace it.
	Safety Valve	If Safety Valve opens below rated cracking pressure, replace it.
Unit overheats, Heat Light stays ON	Water level	Check fill operation and water level, see <i>Figure 1, page 1</i> .
	Water or steam leak	Check for audible/visual steam leak at <b>Door Gasket</b> , <b>Door Bellows</b> , <b>Safety Valve</b> , <b>Air Jet Valve</b> , and <b>Condensation Coil</b> . If there are air bubbles in reservoir, check <b>Multi-Purpose Valve</b> . Repair or replace part(s) as necessary.
Unit overheats, Power and Heat Lights go out	Low water level (Over Temp Safety Switch)	Check for water or steam leak. Replace <b>Over Temp Safety</b> <b>Switch</b> if necessary (see <b>page 10</b> ).
Heat lamp remains ON when Timer is at 0 or Timer will not advance	Timer	<b>Timer</b> must be advanced <b>past 10 minutes</b> to activate. Check <b>Timer</b> operation and replace if necessary.
Timer Bell does not sound	Timer	<b>Timer</b> must be advanced <b>past 10 minutes</b> to activate. Check <b>Timer</b> operation and replace if necessary.
Water enters Chamber after unit is exhausted and the door is closed	Condensation Coil	Water level is above open end or there is a hole in the <b>Condensa-</b> tion Coil creating a vacuum. Reduce water level to 1" below <b>Safety</b> <b>Valve</b> and open end of <b>Condensation Coil</b> must be above water level. Replace <b>Condensation Coil</b> if necessary (see <b>page 10</b> ).
		Remove, disassemble, clean and rebuild, or replace Multi-Purpose

# TROUBLESHOOTING

Multi-Purpose Valve Assembly (MPV)

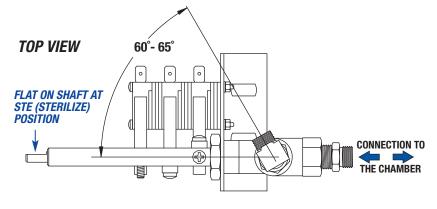
**IMPORTANT NOTE!** Before working on the Multi-Purpose Valve or the Door Bellows: Disconnect the sterilizer from the power source before servicing. Follow all local, NEC and OSHA safety guidelines. Wear protective hand and eye gear. Use a tool such as a screwdriver or wrench (do not use your fingers) to pull the Safety Valve Pull Ring, and vent the Chamber to ZERO pressure. Allow the unit to cool down.

SYMPTOM	CAUSE	SOLUTION			
MPV will not rotate.	MPV is jammed.	Remove, disassemble, clean and rebuild, or replace MPV. See <b>Important Note!, above</b> .			
MPV valve rotates in both directions.	Broken Anti-rotational Spring Clip.	Remove, disassemble, clean and rebuild, or replace MPV (see IM- PORTANT NOTE!, above and REMOVING OBSTRUCTIONS, page 6)			
MPV will not exhaust in the EXH-DRY position; Pressure remains high	Clogged MPV, Condensation Coil, or MPV Tubing.	Remove, disassemble, clean and rebuild, or replace MPV (see IM- PORTANT NOTE!, above and REMOVING OBSTRUCTIONS, page 6)			
With power ON, MPV in EXH-DRY; Dry Light is OFF, but unit is drying properly	Dry Light malfunction.	Replace Dry Light.			
With power ON, MPV in EXH-DRY; Unit is not drying properly	Excess water in Chamber.	If Chamber door is closed, then open the door 1" to allow for proper ventilation.			
	Chamber over packed.	Refer to Owners Manual for maximum load.			
	Heater malfunction.	Measure <b>Heater</b> for proper resistance, see <i>Table B, page 5</i> . Check for broken/disconnected wiring. Replace if necessary.			
In EXH-DRY position, Power Light is ON, Dry Light OFF, but unit is not drying	Timer not activated.	Activate Timer by setting it <b>past 10 minutes</b> . If timer still does not activate, then replace Timer.			
	Microswitch 1 (MSW1) is defective or it is stuck in the <b>down</b> position.	Set MPV to STE position, if Heat Light is OFF, adjust or replace <b>MSW1</b> . Refer to <b>MULTI-PURPOSE VALVE &amp; MICROSWITCHES, page 9.</b>			
	Microswitch 2 (MSW2) is defective or it is stuck in the <b>down</b> position.	Set MPV to STE position, if Heat Light is OFF, adjust or replace <b>MSW2</b> . Refer to <b>MULTI-PURPOSE VALVE &amp; MICROSWITCHES, page 9.</b>			
In EXH-DRY position, Dry and Heat Lights OFF (Door open)	Microswitch 3 (MSW3) is defective or it is stuck in the <b>up</b> position.	Adjust or replace MSW3. Refer to MULTI-PURPOSE VALVE & MICRO-SWITCHES, page 9.			
In EXH-DRY position, Circuit Breaker trips when Timer is set.	Microswitch 2 (MSW2) is defective or it is stuck in the <b>up</b> position.	Adjust or replace MSW2. Refer to MULTI-PURPOSE VALVE & MICRO-SWITCHES, page 9.			
	Short circuit in Wiring Harness.	Check and replace <b>Wiring Harness</b> or repair shorted wire, see page 10.			
With power ON, MPV in EXH-DRY posi- tion, all three lights ON (indicating unit is overheating).	Microswitch 3 (MSW3) is defective or it is stuck in the <b>up</b> position.	Adjust or replace MSW3. Refer to MULTI-PURPOSE VALVE & MICRO-SWITCHES, page 9.			
Door will not open after Chamber is ex- hausted and MPV is in the EXH-DRY po- sition	Door Bellows could be jammed.	<ol> <li>See Important Note!, above. Then turn door closing device slightly clockwise to tighten, then turn counter clockwise to open.</li> <li>See Important Note!, above. Remove covers. Carefully move</li> </ol>			
		the Insulation Blanket on the left side to expose the Chamber Tightening Bolt. Loosen Bolt until Door Locking Assembly is loose enough to open the Door. After the Door is open, tighten the Bolt and replace the Insulation Blanket. If necessary, replace <b>Door Bellows Assembly</b> , see <b>page 2</b> .			
	Vacuum in Chamber (pressure below zero).	See <b>Important Note!, above</b> . If this does not correct the situation, then check if MPV has blockage, see <b>page 6</b> , <b>REMOVING OBSTRUCTIONS</b> .			

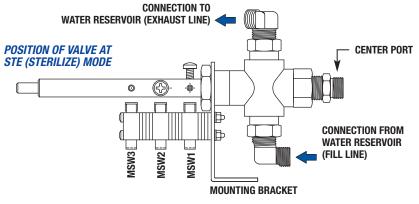
# MULTI-PURPOSE VALVE (MPV)

Illustrations shown below refer to right side MPV mount only

**NOTE:** The illustrations below show the Multi-Purpose Valve (**RPI Part #TUV025**). The Multi-Purpose Valves (**RPI Part #'s TUV097 & TUV098**) have slightly different connection fittings and orientations. See page 10 for the models that these valves fit.







**NEW STYLE MICROSWITCH OPERATION** CLOSED = SWITCH ACTIVATED • OPEN = SWITCH NOT ACTIVATED

<b>VALVE POSITION</b>	SWITCH OPERATION								
	MSW1	MSW1 MSW2							
0	CLOSED	OPEN	OPEN						
FILL	CLOSED	OPEN	OPEN						
STE	OPEN	OPEN	OPEN						
EXH-DRY	OPEN	CLOSED	CLOSED						

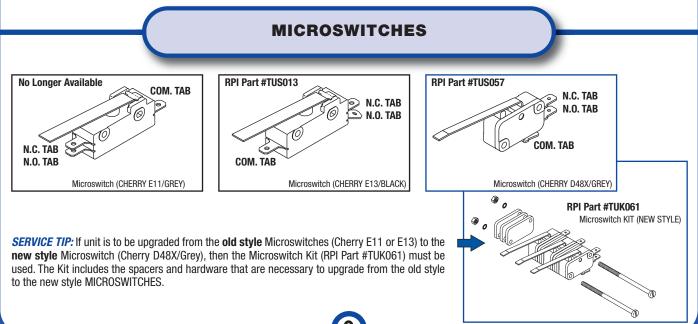
## STERILIZATION TIMES Total Time from Start to Finish

STE Temperature: 273°F (134°C)

ore remperate	110.2701 (1040)
MS	SERIES
CYCLE TYPE:	Unwrapped
COLD START:	30 minutes
HOT START:	20 minutes
CYCLE TYPE:	Wrapped
COLD START:	40 minutes
HOT START:	30 minutes
CYCLE TYPE:	Packs
COLD START:	45 minutes
HOT START:	35 minutes
<b>IK SERIES &amp; VAI</b>	UEKLAVE 1730 MKV
CYCLE TYPE:	Unwrapped
COLD START:	15 minutes
HOT START:	12 minutes
CYCLE TYPE:	Wrapped
COLD START:	20 minutes
HOT START:	15 minutes
CYCLE TYPE:	Packs
COLD START:	25 minutes
HOT START:	20 minutes
	times noted above are

• The sterilization times noted above are based on the information sticker located on the unit's outer covering. If the voltage is significantly less than the voltage noted, then additional time must be added to each cycle to ensure proper functionality.

• Tuttnauer sterilizers tend to run a few degrees higher than the set temperature.



# **COMMON PARTS QUICK REFERENCE**

		_	_
	<b>CIRCUIT BRE</b>	AKERS	
RPI Part #	Style	Options	<b>RPI Part</b>
TUB023	Lever	15 AMPS	TUC040
TUB024	Lever	10 AMPS	TUC041
TUB048	Push Button	7 AMPS	
TUB047	Push Button	15 AMPS	TUC063
	FUSE & FUSE H	IOLDER	TUC145
RPI Part #	Description	Fits Models	
RPF071	Fuse (15A)	Fits all models	NOTE - Vá
RPH659	Fuse Holder	Fits all models	either the
	GASKET	s	Multi-Pu
RPI Part #	Fits Models	0	TUV025
TUG001	1730M/MK &		TIN/007
100001	Valueklave 173	0 MKV	TUV097
TUG002	2340M (Serial #		TUV098
TUG002	•	rial #8806 and above)	
TUG0021	2540M/MK/MK	,	SERVICE
TUG074	3870M		replace a
100011	oor om		the body
	HEATER ELEN	<b>MENTS</b>	Descript
RPI Part #	Fits Models		Descript
TUH027	1730M		A: 1-+1/
TUH004	1730MK & Val	ueklave 1730 MKV	Air Jet V
TUH016	1730MK (230V	AC)	Safety Va
TUH005	2340M	Safety Va	
TUH017	2340MK	Safety Va	
TUH006	2540M	Threade	
TUH018	2540MK/MKA	Elbow Fi	
TUH147	3870M & 3870		Mountin
TUH148	3850M & 3850		_
TUH015	-	re for <u>older</u> style heaters	
TUH052	Attaching hardwa	re for <u>newer</u> style heater	<b>RPI Part</b>
	PRESSURE G		MDL021
RPI Part #		NULU	MDL022
TUG020	Options Smaller sized	gauge (1-1/2" dia.)	TUL136
TUG020		auge (2-1/2" dia.)	TUL137
100012	Larger Sizeu g	auge (2-1/2 ula.)	
S	AFETY THERMO	OSTATS &	See pag
OVI	ER TEMPERATU	RE SWITCH	RPI Part
RPI Part #	Options		TUT165
TUS035	Over Temperat	ure Switch	TUH164
	(Original style)		TUK163
TUT038	Safety Thermos		TUT168
TUTOS	(Newer style-m		TUH167
TUT039	Safety Thermos (Newer style-a		TUK166
TUT155	Overtemp Ther		TUT168
	(Fits 1730 mod		TUH170
			TUK169
	WIRE HARNE	SSES	TUT173
RPI Part #	Fits Models		TUT174
TUH043	1730M/MK		TUH172
TUH044	2340M/MK & 2	2540M/MK	TUK171

	CONDENSATION COILS
RPI Part #	Fits Models
TUC040	1730М/МК
TUC041	Fits earlier models where coil joins reservoir at the left $\underline{\text{rear}}$ and vents towards the $\underline{\text{front}}$ of the machine.
TUC063	Fits newer models where coil joins reservoir at the left $\underline{\text{front}}$ and vents towards the $\underline{\text{rear}}$ of the machine.
TUC145	Fits 3800 series

## **MULTI-PURPOSE VALVES**

alueklaves (1730 MKV) manufactured with the Multi-Purpose Valves on the right side of the machine utilized E Long or Short shaft versions.

Multi-Purpose Valve	Fits Models	Description	MPV Repair Kit
TUV025	1730M/MK, 2340M/MK, 2540M/MK/MKA & 3870M	Long Shaft	TUK037
TUV097	Valueklave 1730 MKV	Long Shaft	TUK037
TUV098	Valueklave 1730 MKV	Short Shaft	TUK099

#### **SAFETY VALVES & SAFETY VALVE HOLDERS**

TIP - When a Safety Valve needs replacement, replace it with the same rated PSI Valve - in other words, a 37 PSI valve with a 37 PSI valve, and a 40 with a 40. The PSI cracking pressure is actually etched onto of the Valve for your reference. (See chart below for listing of parts and corresponding Models.)

	N	Λ	I M	K I	MKV
Description	1730/2340/2540/3870		1730/234	40/2540	Valueklave (1730)
	37 PSI	40 PSI	37 PSI	40 PSI	40 PSI
Air Jet Valve	TUJ034 Black Top	TUJ034 Black Top	TUJ033 Red Top	TUJ033 Red Top	TUJ033 Red Top
Safety Valve Holder Kit	TUK054	TUK078	TUK053	TUK077	TUK077
Safety Valve Holder	TUH032	TUH032	TUH031	TUH031	TUH031
Safety Valve	TUV011	TUV065	TUV011	TUV065	TUV065
Threaded Adapter	TUA060	TUA060	TUA060	TUA060	TUA060
Elbow Fitting	TUF079	TUF079	TUF079	TUF079	TUF079
Mounting Hardware	TUK055	TUK055	TUK055	TUK055	TUK055

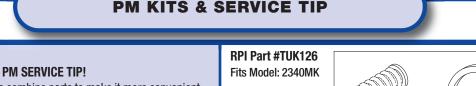
SIGNAL LIGHTS (POWER, HEAT & DRY)							
RPI Part #	Description	Fits Models					
MDL021	Amber (125V)	1730M, 2340M & 2540M					
MDL022	Green (125 V)	1730M, 2340M & 2540M					
TUL136	Amber (220 V)	1730MK, 2340M/MK, 2540M/MK/MKA, 3850M & 3870M/MK					
TUL137	Green (220V)	1730MK, 2340M/MK, 2540M/MK/MKA, 3850M & 3870M/MK					

## **TRAYS & RACKS**

ge 12, "Tips for Trays, Racks & Chambers", on how to keep racks and trays clean and looking like new. Description **Fits Models** # 1730M/MK & Valueklave1730 MKV Tray (Wire) **Tray Holder** 1730M/MK & Valueklave1730 MKV Holder and Tray Kit 1730M/MK & Valueklave1730 MKV Tray (Wire) 2340M/MK Tray Holder 2340M/MK Holder and Tray Kit 2340M/MK Tray (Wire) 2540M/MK/MKA Tray Holder 2540M/MK/MKA Holder and Tray Kit 2540M/MK/MKA Tray (Small) 3870M/MK Tray (Large) 3870M/MK Tray Holder 3870M/MK Holder and Tray Kit

3870M/MK

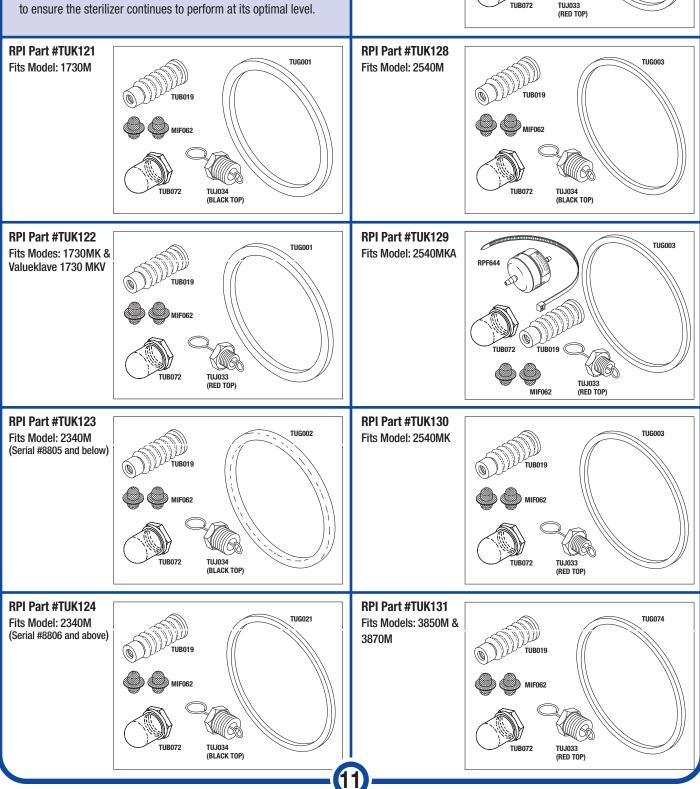
# **PM KITS & SERVICE TIP**

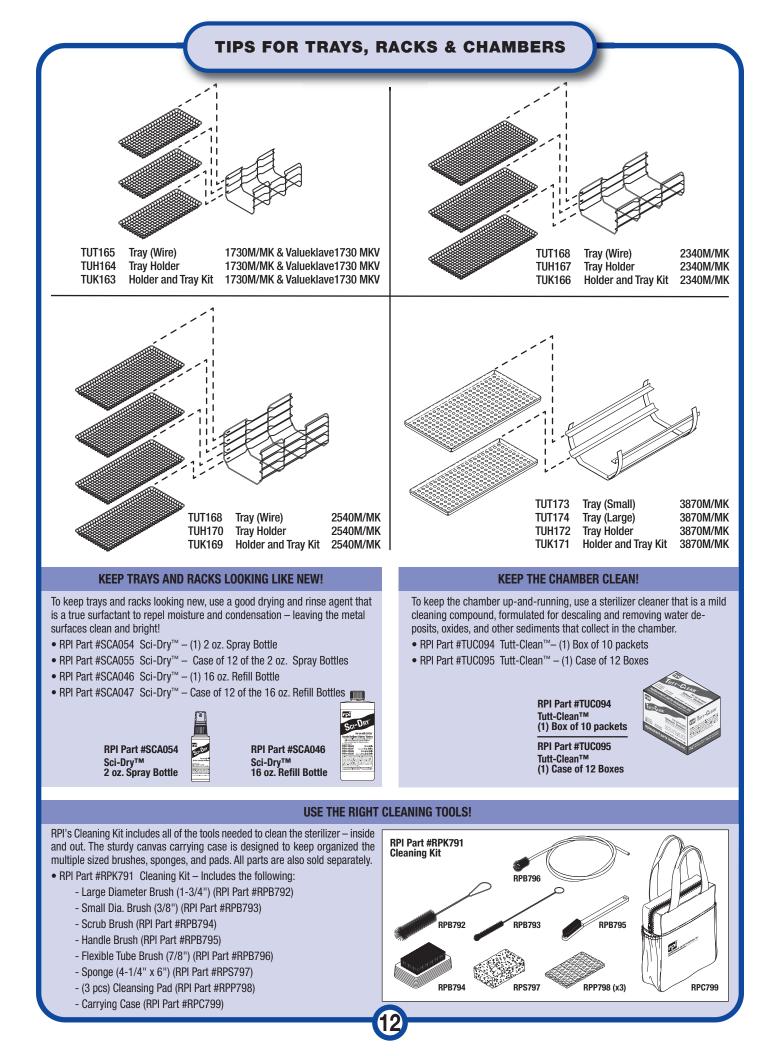


TUG021

**MIF062** 

The RPI Sterilizer PM Kits combine parts to make it more convenient for you to service these sterilizers with one, easy-to-use package that includes all of the basic parts in these sterilizers that should be changed on a regular basis. Also included in these kits is a PM Checklist that provides installation instructions and insightful PM procedures and Tips for all of the parts that need to be replaced, and a PM Sticker to record the date of installation. RPI PM Kits help to ensure the sterilizer continues to perform at its optimal level.







RPI Part #	OEM Part #	DESCRIPTION	VALUE KLAVE	17	30	23	40	2540		2540		2540 3850		3870	
MDL021	01910257	SIGNAL LIGHT - AMBER (125VAC)	MKV	М		М		М							
MDL022	01910258	SIGNAL LIGHT - GREEN (125VAC)	MKV	М		М		М							
MIF062	(No OEM Part # Available)	FILL/VENT MESH CHAMBER FILTER	MKV	М	MK	М	MK	М	MK	MKA			М		
RPA369	(No OEM Part # Available)	THREADLOCKER 545	MKV	М	MK	М	MK	М	MK	MKA	М		М		
RPA459	(No OEM Part # Available)	PIPE SEALANT 567	MKV	М	MK	М	MK	М	MK	MKA	М		М		
RPB792	(No OEM Part # Available)	LARGE DIA. BRUSH (1-3/4")	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М		
RPB793	(No OEM Part # Available)	SMALL DIA. BRUSH (3/8")	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М		
RPB794	(No OEM Part # Available)	SCRUB BRUSH	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М		
RPB795	(No OEM Part # Available)	HANDLE BRUSH	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М		
RPB796	(No OEM Part # Available)	FLEXIBLE TUBE BRUSH (7/8")	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М		
RPC582	02819996	POWER CORD (230VAC)			MK		MK		MK	MKA					
RPC799	(No OEM Part # Available)	CARRYING CASE	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М		
RPF071	(No OEM Part # Available)	FUSE	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	MK	
RPF216	(No OEM Part # Available)	COMPRESSION SLEEVE	MKV	М	MK	М	MK	М	MK	MKA			М		
RPF217	(No OEM Part # Available)	COMPRESSION SLEEVE	MKV	М	MK	М	MK	М	MK	MKA			М		
RPF221	(No OEM Part # Available)	COMPRESSION NUT	MKV	М	MK	М	MK	М	MK	MKA			М		
RPH105	(No OEM Part # Available)	#8 SPLIT LOCK WASHER		М	MK	М	MK	М	MK	MKA	М	MK	М		
RPH108	(No OEM Part # Available)	#8 FLAT WASHER		М	MK	М	MK	М	MK	MKA	М	МК	М		
RPH118	(No OEM Part # Available)	METRIC SCREW (M4 X 8)		М	MK	М	MK	М	MK	MKA	М	MK	М		
RPH130	(No OEM Part # Available)	METRIC SCREW (M4 X 8)	MKV	М	MK	М	MK	М	MK	MKA			М		
RPH186	(No OEM Part # Available)	1/4" EXTERNAL TOOTH WASHER	MKV	М	MK	М	MK	М	MK	MKA			М		
RPH285	02620016A	DRAIN HOSE	MKV	М	MK	М	MK	М	MK	MKA			М		
RPH659	(No OEM Part # Available)	FUSE HOLDER	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	MK	
RPK791	(No OEM Part # Available)	CLEANING KIT	MKV	М	MK	М	MK	М	MK	MKA			М	МК	
RPL090	(No OEM Part # Available)	HIGH TEMP LUBRICANT	MKV	М	MK	М	MK	М	MK	MKA			М		
RP0386	02610030/Inner	O-RING (Drain Valve)	MKV	М	MK	М	MK	М	MK	MKA			М		
RP0387	02610027/Outer	O-RING (Drain Valve)	MKV	М	MK	М	MK	М	MK	MKA			М		
RPP798	(No OEM Part # Available)	CLEANSING PAD	MKV	М	МК	М	МК	М	MK	MKA		МК	М		
RPR583	02819993	AC INLET RECEPTACLE	MKV	М		М	MK	М	MK	MKA			М		
RPS797	(No OEM Part # Available)	SPONGE (4-1/4" x 6")	MKV	М	MK	М	MK	М	MK	MKA	М	МК	М		
RPT018	(No OEM Part # Available)	WIRE NUT		М	MK	М	MK	М	MK	MKA					
				- 1											

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RPI Part #	OEM Part #	DECODIDITION		17	'30	00	340	2540		3850		50 387		
		DESCRIPTION					-	5.4		N 41Z A				
RPT113	(No OEM Part # Available)	MAX REGISTER THERMOMETER	MKV	M	MK	M	MK	М	MK	MKA	M	MK	M	MK
RPT579	(No OEM Part # Available)	1/4" TEFLON THREAD SEALING TAPE	MKV	M	MK	M	MK	М	MK	MKA	М	MK	M	MK
RPT580	(No OEM Part # Available)	1/2" TEFLON THREAD SEALING TAPE	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	MK
RXT003	MW03-0002	WRENCH (LOW PROFILE)	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	
SCA054	(No OEM Part # Available)	SCI-DRY™ (2 oz.)	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	
TUA060	(No OEM Part # Available)	THREADED ADAPTER	MKV	М	MK	М	MK	М	MK	MKA	М		М	
		(Fits Safety Valve Holder)												
TUA066	CT312036	DOOR SWITCH ACTIVATOR	MKV	М	MK	М	MK	М	MK	MKA	М	MK	Μ	
TUB019	(No OEM Part # Available)	DOOR BELLOWS	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	MK
TUB023	01910098	CIRCUIT BREAKER (15A)	MKV	М		М		М						
TUB024	01910097	CIRCUIT BREAKER (10A)			MK									
TUB047	01910100	CIRCUIT BREAKER (15A)		М	MK	М	MK	М	MK	MKA			М	
TUB048	01910099	CIRCUIT BREAKER (7A)			MK									
TUB064	CT245010	DOOR BELLOW HOUSING BOLT	MKV	М	MK	М	MK	М	MK	MKA			М	
TUB072	(No OEM Part # Available)	RUBBER BOOT (Fits Door Switch)	MKV	М	МК	М	MK	М	МК	MKA	М	MK	М	МК
TUC028	02819995	POWER CORD (125VAC)	MKV	М		М		М					М	
TUC040	CU836101	CONDENSATION COIL		М	MK									
TUC041	CT836101 (Prior to 1993)	CONDENSATION COIL (1)	MKV			М	MK	М	MK	MKA				
TUC063	CT836101 (After 1993)	CONDENSATION COIL (1)				М	MK	М	МК	MKA				
TUC067	02550019	WATER RESERVOIR/FILTER COVER	MKV	М	MK	М	MK	М	MK	MKA			М	
TUC094	CB0010 (Chamber Brite™)	TUTT-CLEAN™	MKV	М	МК	М	MK	М	МК	МКА	М	MK	М	
TUC095	CB0010 (Chamber Brite™)	TUTT-CLEAN™ (CASE)	MKV	М	MK	М	МК	М	МК	MKA	М	MK	М	
TUC145	CMT387-0029 & CC836101	CONDENSATION COIL									М	МК	М	
TUF058	04010001 & 04010002	LEVELING FOOT	MKV	М	МК	М	МК	М	МК	MKA			М	
TUF079	(No OEM Part # Available)	ELBOW FITTING	MKV	М	МК	М	МК	М	МК	МКА	М		М	
	· · · · · · · · · · · · · · · · · · ·	(Fits Safety Valve Holder)												
TUG001	02610020	DOOR GASKET	MKV	М	МК									
TUG002	02610005	DOOR GASKET (2)				М								
TUG003	02610023	DOOR GASKET						М	MK	MKA				
TUG012	02300011	PRESSURE GAUGE W/ INDICATOR (2-1/2")		М	МК	М	МК	M	MK	MKA			М	
TUG020	02300012	PRESSURE GAUGE (1-1/2")	MKV											
				- 1										

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RPI Part #	OEM PART #	DESCRIPTION	VALUE KLAVE	17	30	2340		2540			3850		3870	
TUG021	02610118	DOOR GASKET (3)			00	M	MK		2040					
TUG022	02610029	WATER RESERVOIR GASKET	MKV	М	МК	M	MK	М	MK	MKA			М	
TUG074	02610019	DOOR GASKET											M	
TUH004	01720011	HEATER ELEMENT (120VAC, 450W)	MKV	М	МК									
TUH005	01720002	HEATER ELEMENT (120VAC, 350W)				М								
TUH006	01720003	HEATER ELEMENT (120VAC, 350W)						М						
TUH015	(No OEM Part # Available)	ATTACHING HARDWARE (Fits Heaters)		М	MK	М	MK	М	МК	MKA			М	
TUH016	01720012	HEATER ELEMENT (230VAC, 450W)			МК									
TUH017	01720013	HEATER ELEMENT (230VAC, 550W)					MK							
TUH018	01720014	HEATER ELEMENT (230VAC, 550W)							МК	MKA				
TUH027	01720001	HEATER ELEMENT (120VAC, 350W)		М										
TUH031	CT841010	SAFETY VALVE HOLDER (4)	MKV		МК		МК		МК	MKA	М		М	
TUH032	CT841020	SAFETY VALVE HOLDER (4)		М		М		М			М		М	
TUH043	CU900012	WIRE HARNESS (5)		М	МК									
TUH044	CT900012	WIRE HARNESS (6)				М	MK	М	MK					
TUH052	(No OEM Part # Available)	HEATER HARDWARE	MKV	М	MK	М	MK	М	МК			MK	М	MK
TUH147	HEA009-0008	HEATING ELEMENT											М	MK
TUH148	HEA009-0007	HEATING ELEMENT									М	MK		
TUH158	CT241010	DOOR BELLOWS HOUSING	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	
TUH164	TRH173-0005,	TRAY HOLDER	MKV	М	MK									
		(Replaces CU510010)												
TUH167	TRH254-0012,	TRAY HOLDER				М	MK							
		(Replaces CT510010)												
TUH170	TRH254-0036,	TRAY HOLDER						М	МК	MKA				
		(Replaces CV510010)												
TUH172	CC510010	TRAY HOLDER											М	MK
TUJ033	CB842010	AIR JET VALVE (4)	MKV		MK		MK		MK	MKA	М		М	
TUJ034	CT842010	AIR JET VALVE (4)		М		М		М						
TUK030	CT241111	DOOR BELLOWS ASSEMBLY KIT	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	MK
TUK037	(No OEM Part # Available)	MULTI-PURPOSE VALVE REPAIR KIT	MKV	М	MK	М	MK	М	MK	MKA			М	
TUK049	02450002	TIMER & MULTI-PURPOSE VALVE KNOB	MKV	М	MK	М	MK	М	MK	MKA			М	

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RPI Part #	OEM Part #	DESCRIPTION	VALUE KLAVE	17	30	2340			2540			3850		870
TUK050	02450003	THERMOSTAT KNOB	MKV	M	MK	M	MK	М	MK	MKA	M	MK	M	MK
TUK053	(No OEM Part # Available)	SAFETY VALVE HOLDER KIT (37 PSI) (4)			MK		МК		МК		М		М	
TUK054	(No OEM Part # Available)	SAFETY VALVE HOLDER KIT (37 PSI) (4)		М		М		М						
TUK055	(No OEM Part # Available)	MOUNTING HARDWARE	MKV	М	МК	М	МК	М	МК				М	
	, , , , , , , , , , , , , , , , , , ,	(Fits Safety Valve Holder)												
TUK061	ELE036-0012 (Switch Only)	MICROSWITCH KIT	MKV	М	MK	М	MK	М	МК	MKA			М	
TUK075	(No OEM Part # Available)	RESERVOIR COVER WITH DIPSTICK	MKV	М	MK	М	МК	М	МК	МКА			М	
TUK077	(No OEM Part # Available)	SAFETY VALVE HOLDER KIT (40 PSI) (4)	MKV		MK		MK		МК	MKA	М		М	
TUK078	(No OEM Part # Available)	SAFETY VALVE HOLDER KIT (40 PSI) (4)		М		М		М						
TUK099	(No OEM Part # Available)	REPAIR KIT (MPV)	MKV											
TUK121	02610020 (Gasket Only)	STERILIZER PM KIT		М										
TUK122	02610020 (Gasket Only)	STERILIZER PM KIT	MKV		MK									
TUK123	02610005 (Gasket Only)	STERILIZER PM KIT (8)				М								
TUK124	02610118 (Gasket Only)	STERILIZER PM KIT (9)				М								
TUK126	02610118 (Gasket Only)	STERILIZER PM KIT					МК							
TUK128	02610023 (Gasket Only)	STERILIZER PM KIT						М						
TUK129	02610023 (Gasket Only)	STERILIZER PM KIT								MKA				
TUK130	02610023 (Gasket Only)	STERILIZER PM KIT							MK					
TUK131	02610019 (Gasket Only)	STERILIZER PM KIT									М		М	
TUK163	TRH173-0005 (Tray Holder),	HOLDER AND TRAY KIT	MKV	М	MK									
	TRY173-0008 Tray (Wire)													
TUK166	TRH254-0003 (Tray Holder),	HOLDER AND TRAY KIT				М	MK							
	TRY234-0012 Tray (Wire)													
TUK169	TRH254-0036 (Tray Holder),	HOLDER AND TRAY KIT						М	MK	MKA				
	TRY254-0003 Tray (Wire)													
TUK171	CC510010 (Tray Holder),	HOLDER AND TRAY KIT											М	MK
	CC520020 Tray (Small),													
	CC520010 Tray (Large),													
TUL136	01910261	SIGNAL LIGHT (AMBER 220V)			MK	М	MK	М	MK	MKA	М		М	MK
TUL137	01919262	SIGNAL LIGHT (GREEN 220V)			MK	М	MK	М	МК		М		М	MK
TUP062	CT910020	THERMOSTAT STOP PLATE		М	MK	М	MK	М	MK	MKA	М	MK	М	MK
					6				I					



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RPI Part #	OEM PART #	DESCRIPTION	VALUE KLAVE	17	30	22	40	2540		3850		3870		
TUS009	01910172	POWER SWITCH	MKV	M	MK	M	MK	М	MK	MKA	30	50	M	570
			IVIT\V	M	MK	M	MK	M	MK	IVINA				
TUS013	01910191	MICROSWITCH (CHERRY E13/BLACK)	1407							D. ALCA		D. M.L.C.	M	D.41/
TUS014	01910190	DOOR SWITCH	MKV	Μ	MK	М	MK	М	MK	MKA	М	MK	М	MK
TUS035	01620301	OVER TEMP SAFETY SWITCH (7)			MK		MK		MK	MKA				
TUS057	01910197	MICROSWITCH (CHERRY D48X/GREY)	MKV	М	MK	М	MK	М	MK	MKA			М	
TUS068	02550043	WATER RESERVOIR DIPSTICK	MKV	М	MK	М	MK	М	MK	MKA			М	
TUS146	SHIM	DOOR SHIM									Μ	MK	М	MK
TUT007	01620101	CONTROL THERMOSTAT	MKV	М	MK	М	MK	М	MK	MKA	М	MK	М	MK
TUT008	01910011 & 01910005	TIMER	MKV	М	MK	М	MK	М	MK	MKA	М		М	
TUT038	01620004	SAFETY THERMOSTAT		М	МК	М	МК	М	MK	MKA	М	МК	М	МК
		(MANUAL RESET)												
TUT039	01620103	SAFETY THERMOSTAT		М	MK	М	MK	М	MK	MKA	М	MK	М	
		(AUTOMATIC RESET)												
TUT073	TEST-3	TAP (3/8-19 BSPP)	MKV	М	МК	М	МК	М	MK	MKA			М	
TUT155	THE005-0012	OVERTEMP THERMOSTAT	MKV	М	MK									
TUT165	TRY173-0008,	TRAY (WIRE)	MKV	М	МК									
	(Replaces CU520010)													
TUT168	TRY254-0003	TRAY (WIRE)				М	MK	М	MK	MKA				
	(Replaces CT520010)													
TUT173	CC520020	TRAY (SMALL)											М	МК
TUT174	CC520010	TRAY (LARGE)											М	MK
TUV011	03110003	SAFETY VALVE (37 PSI) (4)		М	МК	М	МК	М	MK	MKA	М		М	
TUV025	CT810013	MULTI-PURPOSE VALVE ASSEMBLY		М	MK	М	MK	М	MK	MKA			М	
TUV042	CT844180	DRAIN VALVE ASSEMBLY	MKV	М	МК	М	МК	М	МК	MKA			М	
TUV065	03110002	SAFETY VALVE (40 PSI) (4)	MKV	М	MK	М	MK	М	MK	MKA	М		М	
TUV097	CMT173-0031	MULTI-PURPOSE VALVE (Long Shaft)	MKV											
TUV098	CMT173-0031	MULTI-PURPOSE VALVE (Short Shaft)	MKV											

**IMPORTANT NOTE:** Over the years, Tuttnauer has substituted parts from what has been noted in their manuals. As a precaution, please verify parts before replacing or servicing them.

**FOOTNOTES:** (1) TUC041 & TUC063: Both parts fit Models 2340M/MK & 2540M. However, see **page 10, Condensation Coils,** for specifics. (2) TUG002: Fits Models 2340M S/N 8805 and below. (3) TUG021: Fits Models 2340M/MK S/N 8806 and above. (4) TUJ033/TUJ034, TUH031/TUH032, TUK053/TUK054, TUK077/TUK078 and TUV011/TUV065: See **page 10, Safety Valves & Safety Valve Holders. (5)** TUH043: For Models 1730M/MK, existing connections should accommodate most units manufactured after January 1993. However, some modifications may be necessary (6) TUH044: For Models 2340M/MK and 2540 M/MK, existing connections should accommodate most units manufactured after January 1993. However, some modifications may be necessary. (7) TUS035: Fits units prior to 1993. (8) TUK123: Fits only Serial #8805 and below. (9) TUK124: Fits only Serial #8806 and above.