

SAFETY-KLEEN

MODELS 501S/571S/581S/591S

RECYCLING PARTS WASHERS

Operator Booklet



Customer should read and retain this booklet.

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LOCAL SAFETY-KLEEN BRANCH

OFFICE ADDRESS

PHONE NUMBER

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SAFETY MEASURES



Safety in the workplace is dependent upon the proper use of this recycler and the solvent used in it. Therefore, it is important to carefully follow all safety instructions and operational procedures provided in this booklet, as well as all instructions included in the Safety Data Sheet (SDS) and on the recycler labels. Failure to do so may create a dangerous working environment.

Keep a copy of this booklet and Safety Data Sheet for the solvent in use near the recycler for quick and easy reference.

This recycler has been evaluated by an Occupational Safety and Health Administration (OSHA) approved Nationally Recognized Testing Laboratory (NRTL) and found to be in compliance with the following US and Canadian safety standards:



- UL 2208 - Standard for Solvent Distillation Units
- UL 1204 - Outline of Investigation for Parts Washers
- CSA C22.2 No. 88 - Standard for Industrial Heating Equipment

IMPORTANT SAFETY INSTRUCTIONS

1. In any emergency, turn off the recycler and disconnect the electrical supply.
2. Recyclers are only to be used with aliphatic hydrocarbon solvent (e.g., Safety-Kleen Virgin 105 Solvent, Safety-Kleen Premium Solvent), select VOC exempt solvents (e.g., Safety-Kleen QSOL 220 and QSOL 300 Cleaning Solvents), or technical equivalents, with a flash point $\geq 105^{\circ}\text{F}$, an auto-ignition temperature $\geq 350^{\circ}\text{F}$, and an upper boiling point of 425°F .
3. Do NOT add other chemicals to the solvent including, but not limited to, kerosene, fuel oil, gasoline, detergents, or chlorinated solvents. The use of any other cleaning agents could cause a hazardous condition.
4. CAUTION! Avoid distilling solvents that may include unstable reactives, such as nitrocellulose.
5. DO NOT remove solvent for remote cleaning operations.
6. Avoid contact with solvent or vapor. Always wear appropriate personal protective equipment (gloves, apron, eyewear, respirator [where required] to meet OSHA protection standards. ALWAYS WEAR SAFETY GLASSES. Consult the SDS and follow all recommended safety information.
7. Care must be taken as burns can occur from touching hot parts.
8. Do NOT operate damaged recycler until it has been examined by a qualified technician.
9. Always unplug recycler from the electrical outlet when not in use or when being maintained, serviced, or repaired.
10. To reduce the risk of fire, do NOT operate recycler in the vicinity of any open containers of flammable liquids (e.g., gasoline) or near any ignition source. Keep away from heat, spark, or flame.
11. Do NOT place hot parts in contact with the solvent.
12. Do NOT clean friction materials (e.g., brake linings and clutch surfaces) in this recycler. Do NOT clean or degrease porous or absorbent materials, such as cloth, leather, wood, or paper in this recycler.
13. To reduce the risk of electric shock, do NOT use on wet surfaces or expose to moisture/water (For indoor use ONLY). Do NOT operate any electrical apparatus inside the recycler.
14. Do NOT smoke, eat, or drink in the work area. Use good personal hygiene. Wash hands thoroughly with soap and water after handling. Clean water should be available in work areas for flushing the eyes and skin.
15. Do NOT modify this recycler. Modification may cause personal injury and/or property damage, and will void recycler warranty and the ETL listing.

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16. Do NOT operate this recycler in any manner that can cause splashing or mist to form.
17. Do NOT lean into this recycler.
18. Do NOT use compressed air to dry parts.
19. Do NOT operate the recycler if a leak is apparent or occurs during use. Slippery conditions can result. Consult SDS for clean-up measures. Contact your Safety-Kleen Representative for repair.
20. The fusible link wingnut is used to secure the lid in an open position and is made of a fusible alloy designed to melt in the event of a wash basin fire, causing the lid to automatically close. Do NOT replace, modify, or obstruct the fusible link assembly. Do NOT leave unattended objects in the wash basin that can interfere with proper lid closure. Do NOT hang anything on the lid.

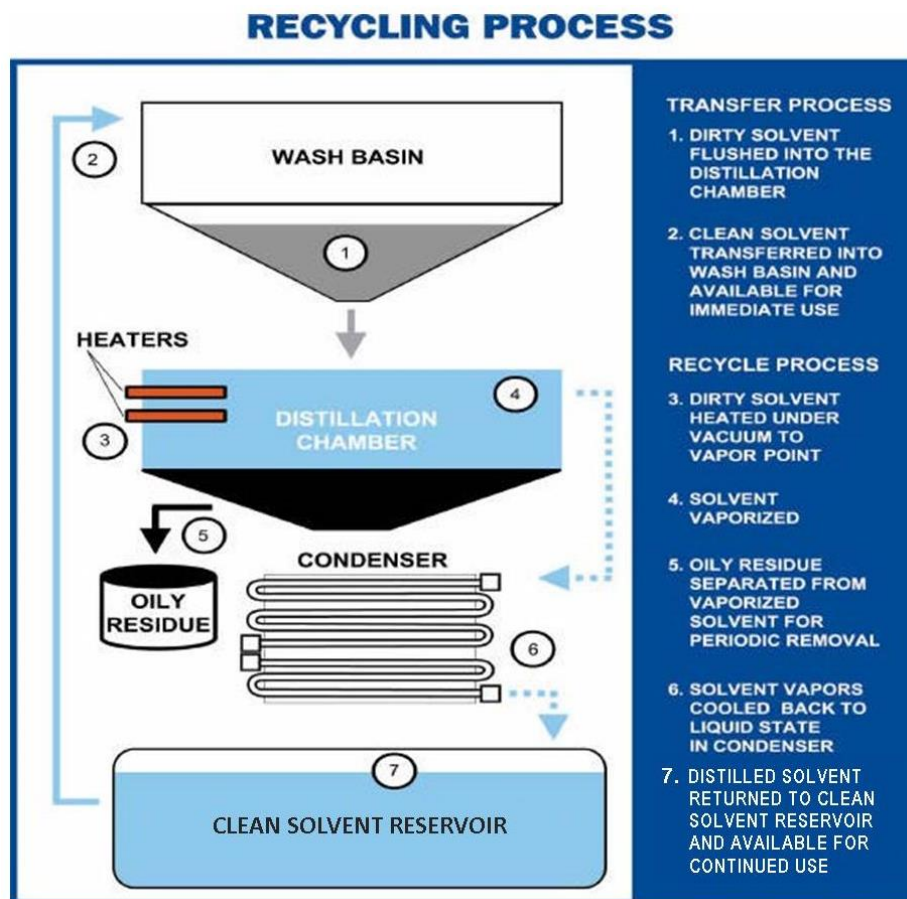
SAVE THESE INSTRUCTIONS

SAFETY-KLEEN M501S/571S/581S/591S

Safety-Kleen's Model 500S recyclers are designed to meet parts cleaning needs by providing clean solvent on demand while also addressing the need to reduce hazardous waste generation.

The patented distillation and recycling process allows the user to access clean solvent at the touch of a button. Dirty solvent is recycled rather than discarded, reducing the hazardous waste generated.

The 500S series also includes a factory set timer for automatic recycling and an LED diagnostic feature alerting the user when the distillation tank is at capacity.



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Side View:



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SPECIFICATIONS

FLOOR SPACE	MODEL 501S	MODEL 571S	MODEL 581S	MODEL 591S
Width (left to right)	33" (84 cm)	39" (99 cm)	45" (114 cm)	54" (137 cm)
Depth (front to back)	27" (69 cm)	29" (74 cm)	27" (69 cm)	27" (69 cm)
Working Height	40" (102 cm)	40" (102 cm)	40" (102 cm)	40" (102 cm)
Height with lid open	69" (173 cm)	71" (179 cm)	69" (173 cm)	70" (178 cm)
Front Clearance	36" (91 cm)	36" (91 cm)	36" (91 cm)	36" (91 cm)
Rear Clearance	3" (8 cm)	3" (8 cm)	3" (8 cm)	3" (8 cm)
Side Clearance	4" (10 cm)	4" (10 cm)	4" (10 cm)	4" (10 cm)

WASH BASIN DIMENSIONS

Width (left to right)	33" (86 cm)	39" (96 cm)	45" (114 cm)	54" (137 cm)
Length (front to back)	27" (69 cm)	29" (70 cm)	27" (66 cm)	27" (66 cm)
Depth	6" (15 cm)	6" (15 cm)	6" (15 cm)	6" (15 cm)

VOLUME CAPACITY

Wash Basin	5 gal (19L)	5 gal (19L)	5 gal (19L)	5 gal (19L)
Clean Solvent Tank	30 gal (114L)	30 gal (114L)	30 gal (114L)	30 gal (114L)
Distillation Tank	15 gal (57L)	15 gal (57L)	15 gal (57L)	15 gal (57L)

WEIGHT CAPACITY

Max Work Load	500 lbs (227 kg)	500 lbs (227 kg)	500 lbs (227 kg)	500 lbs (227 kg)
Shipping Weight	385 lbs (175 kg)	405 lbs (184 kg)	415 lbs (188 kg)	435 lbs (197 kg)

ELECTRICAL

Grounded, dedicated outlet requirements	115V,20A, 60Hz	115V,20A, 60Hz	115V,20A, 60Hz	115V,20A, 60Hz
Current Draw	12.7A	12.7A	12.7A	12.7A

MISCELLANEOUS

Operating temperature	41°F - 103°F (5°C - 39°C)	41°F - 103°F (5°C - 39°C)	41°F - 103°F (5°C - 39°C)	41°F - 103°F (5°C - 39°C)
Fusible Link Melt Temperature	158°F (70°C)	158°F (70°C)	158°F (70°C)	158°F (70°C)
NRTL listings	cETLus	cETLus	cETLus	cETLus

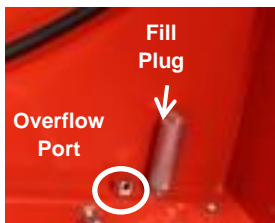
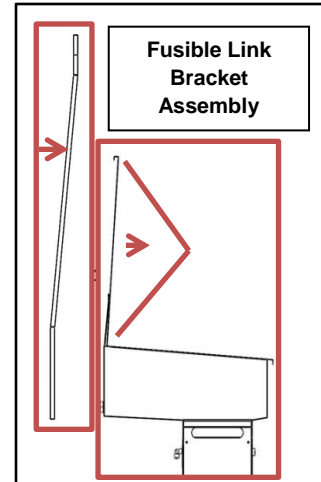
INSTALLATION

WARNING! Risk of explosion.
The recycler has internal arcing or sparking parts, which should not be exposed to flammable vapors. Do not place or operate the recycler in a recessed floor area.

1. Do NOT install the recycler below garage floor or grade level.
2. This recycler is designed for use in an environment with no forced ventilation and a maximum operating temperature of 103°F (39°C). Under these conditions, the recycler must be spaced a minimum of 3 feet (1 meter) from potential sources of ignition such as electrical receptacles, switches, pilot lights, fixtures, contacts, and other similar recyclers that can produce sparks. If the recycler is used in higher temperatures, an increase in the spacing to sources of ignition must be considered.
3. Permanently place the recycler on a level surface.

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4. To provide continued protection against the risk of electric shock, fire, and explosion, connect the recycler directly to a dedicated and grounded 115V, 60Hz, 20A electrical outlet.
5. Use care to install the fusible link bracket correctly. Locate the two holes on the wash basin rear wall, and working from outside the basin, position the bracket over the holes, with the bend in the bracket facing towards the wash basin. Still working from outside the basin, use the provided hardware to attach the bracket. Engage the assembly, and the lid will lean slightly towards the wash basin when the fusible link bracket is correctly installed.
6. Remove the fill plug and add ~30 gallons solvent to the clean holding tank through the fill port located in the upper right hand corner of the sink. Continue filling until the solvent flows from the overflow port.



7. Press and hold the On/Off button for 20 seconds to bring solvent to the sink.

OPERATION

IMPORTANT!

Ensure the clean holding tank is filled with solvent before turning on the recycler. Running the recycler in a 'dry state' will cause a serious mechanical malfunction, requiring a service call.

PREPARATION

1. Put on protective eyewear, gloves, clothing, and shoes.
2. Drain fluids and remove excess debris from dirty parts before cleaning parts in the wash basin. The waste should be deposited into an appropriate waste container, not in the recycler. Failure to do so will cause a mechanical breakdown, requiring a service call.
3. Raise the lid and engage the fusible link assembly to secure the lid in an open position.
4. Direct the spigot downward into the sink basin.

CLEANING

1. Push the On/Off button once and release quickly to turn the recycler pump on and begin solvent flow. Solvent will flow for 15 minutes, or until the On/Off button is pushed again. If solvent does not flow when the On/Off button is pushed, then push and hold the On/Off button again for up to 60 seconds. Repeat procedure if necessary.
2. Clean all parts in the wash basin. Avoid splashing outside of the wash basin. Drain cleaned parts in the wash basin for approximately 15 seconds or until dripping ceases.
3. **IMPORTANT:** Once parts cleaning has ceased, or if the washbasin is not draining, remove the strainer cover plate to access the strainer basket. Clean both components and deposit waste debris into an appropriate side waste container. Do not deposit debris into the wash basin. Very small solids and particulates deposited into the wash basin will clog the system. Once cleaned, replace the cover plate and strainer basket. Failure to follow this step will result in a mechanical malfunction and service call.
4. Close lid when not in use.



IMPORTANT!

The lid incorporates a fusible link. Parts large enough to prevent the lid from closing should never be left unattended in the wash basin as they will interfere, in the case of a fire, with the fusible link disengaging and allowing the lid to close.

RECYCLING

The recycler is equipped with a factory programmed timer scheduled to start a 12 hour recycle process every Mon, Wed, and Fri at 6:00pm EST. When the recycler is plugged in, the timer may default to Manual Mode. Switch the timer from Manual Mode to Automatic Mode to engage the factory set schedule. See Appendix 1 of this document for timer instructions.

1. For Manual Mode Recycling, push the Recycle button once and release.
2. For Automatic Mode Recycling, the recycler will automatically start the recycle process at the schedule time.
3. The LED turns blue indicating the recycle process has started.
4. The recycler assumes a 4 minute operating lockout period then normal cleaning may resume.
5. The recycle process takes a total 4-5 hours to complete and turns off automatically.
6. The LED turns green when recycling is completed.
7. The Recycle button is automatically disabled for approximately one hour in order to allow the recycler to cool down sufficiently.
8. NEVER open the oil drain or service bungs during recycling or if hot to the touch.

RESETTING THE RECYCLER

A reset should only be performed by a qualified service technician. A unit reset may be required if the recycle process has been interrupted either by a vacuum lose or if it fails the system self-checkup. The reset will clear all system error codes.

1. DO NOT unplug the unit.
2. Press and hold the On/Off button then immediately press and hold the recycle button.
3. Hold both buttons until the LED turns white then release.
4. The LED light will change back to green after both buttons have been released.
5. Once the LED light turns green, the recycler is ready for use.

REQUIRED MAINTENANCE



Oil and soils removed from the solvent during the recycling process accumulate in the distillation tank (typically, 2 to 3 quarts per week). To ensure the recycler functions correctly, it is **ABSOLUTELY CRITICAL** that the distillation tank be drained after each recycle process has completed. Failure to do so will result in mechanical breakdown and the need for a service call.

DRAINING THE DISTILLATION CHAMBER

1. Confirm the temperature indicator label on the oil drain bung is green indicating the bung is cool to the touch.
2. Place a suitable waste container (e.g., 5 gallon container) under the drain bung and open the bung.
3. Allow the waste to drain into the waste container.



IMPORTANT!
Dispose of waste oil in accordance with all Federal, State/Provincial, and Local Regulations.
For assistance, contact your local Safety-Kleen Branch.

4. Reattach the oil drain bung and hand tighten.
5. A service call is required if:
 - ✓ There is a noticeable build up of solids and used oil sludge in the distillation tank
 - ✓ The unit emits a foul odor
 - ✓ The LED light remains yellow after initial draining of the distillation tank

LED INDICATOR LIGHTS

- Green, steady = Standby mode, ready for use
- Green, flashing = Low solvent volume, add clean solvent to clean holding tank
- Blue, steady = Recycling, normal operation
- Blue, flashing = Low solvent volume, add clean solvent to clean holding tank
- Yellow, flashing = Solvent in distillation tank. Drain distillation tank through the oil bung. If yellow light remains lit, contact Service Representative.
- Red, steady or flashing = System failure. Contact Service Representative
- White, steady = Illuminates after a unit reset indicating the control board memory of recent error codes has been cleared

PROBLEM	POSSIBLE SOLUTION
No Power	<ul style="list-style-type: none"> ➤ Ensure the recycler is connected directly to a dedicated and grounded 115V, 60Hz, 20A electrical outlet ➤ Reset recycler ➤ Press On/Off switch ➤ Wait for 1 hour if machine just completed a recycle mode ➤ Contact Safety-Kleen
Wash Basin Does Not Fill/or Hold Solvent	<ul style="list-style-type: none"> ➤ Hold On/Off Button for 20 seconds to bring solvent up to the wash basin. ➤ Strainer basket has a hole. Replace strainer. ➤ Contact Safety-Kleen
Automatic Recycle Mode Does Not Engage	<ul style="list-style-type: none"> ➤ Wait for 1 hour if machine just completed a recycle mode ➤ Check the timer for manual or auto recycle mode. The timer may have defaulted to manual recycle mode. Switch the timer to automatic mode to engage the factory set schedule for automatic recycling . ➤ Reset recycler ➤ Contact Safety-Kleen

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Solvent Does Not Drain From Wash Basin	<ul style="list-style-type: none"> ➤ Check strainer cover plate for blockages and clear debris into a side waste container. DO NOT redeposit debris into the wash basin ➤ Contact Safety-Kleen
Pump Sounds Louder than Normal	<ul style="list-style-type: none"> ➤ Ensure the recycler is installed on a level surface, rebalance if needed. ➤ Contact Safety-Kleen
The Recycler Is Giving Off A Foul Odor	<ul style="list-style-type: none"> ➤ Contact Safety-Kleen
Yellow Light Remians Lit	<ul style="list-style-type: none"> ➤ Contact Safety-Kleen

SERVICE AND REPAIR

In accordance with your service agreement with Safety-Kleen Systems, Inc., a Safety-Kleen service representative will:

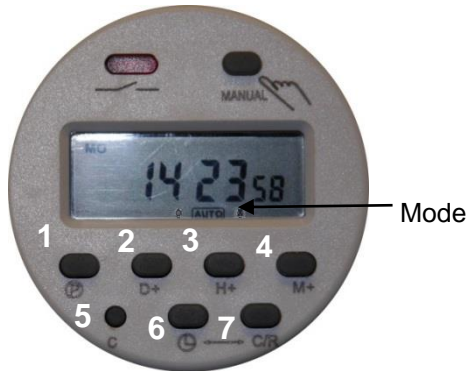
- Install and set up the Safety-Kleen recycler
- Be your primary Safety-Kleen contact
- Put the name and phone number of the nearest Safety-Kleen branch on the recycler and/or on the inside cover of this booklet.
- Provide information about the Safety-Kleen Service Contract
- Explain what solvent is provided with the recycler, provide SDS's and answer any questions

This recycler is to be serviced only by authorized Safety-Kleen personnel. If you have any questions, require repairs or early service, contact your local branch or Safety-Kleen at 1-800-669-5740. Additional assistance can be found at www.safety-kleen.com.

APPENDIX ONE: TIMER OPERATION

The timer automates the recycling schedule and arrives factory pre-programmed to start the recycling process every Monday, Wednesday and Friday at 6:00 pm EST. The recycling process will operate for 12 hours; and the "OFF" time cannot be adjusted.

NOTE: The timer may default to manual mode when the recycler is unplugged, and automatic mode may need to be chosen when the recycler is plugged in again.



Programming Keypad


- 1 = Program
- 2 = Day
- 3 = Hour
- 4 = Minute
- 5 = Master Reset
- 6 = Clock Program
- 7 = Program Clear

TO SET THE TIME AND/OR DAY OF THE WEEK


Note: the clock is factory set in 24 hour format.

1. Press and hold the Clock Program button (6). While holding this button,
2. Press the Day button (2)
3. Press the Hour button (3)
4. Press the Minute button (4)

TO ENABLE THE AUTOMATIC RECYCLE MODE

1. Press the "MANUAL" button until the status indicator displays 

TO DISABLE THE AUTOMATIC RECYCLE MODE

1. Press the "MANUAL" button on the top of the timer until the status indicator displays 

TO CHANGE RECYCLE SCHEDULES

1. Press the Program button (1). While holding this button, and as applicable:
2. Press the Day button (2)
3. Press the Hour button (3)
4. Press the Minute button (4)
5. When desired schedule appears, press the program button (1)

TO ADD NEW SCHEDULE

1. Press the Program button (1) until you arrive at a blank schedule. As applicable:
2. Press the Day button (2)
3. Press the Hour button (3)
4. Press the Minute button (4)
5. Press the Clock program button (1)

TO DELETE A SCHEDULE

1. Press the Program button (1)
2. Press the Program Clear button (7)

TO CLEAR THE PROGRAMMED SETTINGS

1. Press the Program Clear button (5)



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