



FINISH THOMPSON INC.



Purity  
and  
Profits  
from  
Solvent  
Recycling

# Why Recycle?



## LS Series Solvent Recovery Systems

Profitability is measured in many ways. Looking toward the future of your business is as important as having an environment in which to do business.

Finish Thompson saw this many years ago when we produced our first solvent recovery system, reducing environmental risks while increasing profitability.

### Reduce hazardous waste . . .

Solvents are a leading source of hazardous waste and major contributors to air and water pollution. Federal regulations, such as the Resource Conservation and Recovery Act, and state and local regulations mandate treatment and disposal of hazardous solvent waste. LS Series on-site solvent recyclers reduce the accumulation of this hazardous waste and the associated environmental and liability risks.

### and increase profit!

In addition to reducing environmental risks, the LS Series has a high return on investment. Recycling used solvents recoups the expense of new solvents and eliminates costly outside transportation and disposal services. Don't let someone haul your money away! Clean solvent for as low as 10-15 cents/gallon.

## Benefits



### LS Series recyclers...

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"><li>• Return a 99+% pure, reusable solvent</li><li>• Reduce solvent-based waste</li><li>• Require minimal labor</li><li>• Provide a fast ROI</li><li>• Are safe and reliable</li><li>• Clean up easily with non-stick lining and Stilbags</li><li>• Have a proven track record</li><li>• Provide consistent quality</li><li>• Are made in the U.S.A.</li></ul> | <p>Are used in applications such as:</p> <ul style="list-style-type: none"><li>• Wash-up paint lines and guns</li><li>• Inks from printing machines</li><li>• Inks from decorating machines</li><li>• Degreasing of machined parts</li><li>• Wash-up fiberglass from molds</li><li>• And many, many more . . .</li></ul> | <p>Commonly recycle:</p> <ul style="list-style-type: none"><li>• MEK (methyl ethyl ketone)</li><li>• Acetone</li><li>• Lacquer thinner (solvent blend)</li><li>• Mineral spirits</li><li>• Naphtha</li><li>• Toluene</li><li>• Xylene</li><li>• Esters (primarily ethyl and butyl acetate)</li><li>• MIBK (methyl isobutyl ketone)</li><li>• Alcohols</li><li>• Replacement solvents</li><li>• and many, many more . . .</li></ul> |
|--|--|--|

## The Process



*LSJRE boiling chamber filled with solvent.*



*Residue is removed from the boiling chamber at process completion and disposed of according to local regulations.*

## Sequence of operation:

- 1.** The operator inserts a standard Stilbag into the boiling chamber, which is lined with a non-stick coating. Solvent is poured or pumped into the chamber. (A Stilpan may be used instead of the Stilbag.)
- 2.** The boiling chamber lid is secured and power to the unit is activated. Heat is transferred from the encapsulated heater through the conductive walls and bottom of the chamber and into the solvent.
- 3.** As the solvent boils, vapors form and pass through the vapor tube into a water-cooled condenser.
- 4.** The vapors are cooled and return to a liquid state. This clean, clear liquid gravity flows into a receiving drum (5-gallon pail on LSJRE). The contaminating substances remain behind in the boiling chamber.
- 5.** A visual check confirms that the distillate flow has ended and the unit is shut off for cooling. After cooling, the residue contained in the boiling chamber is removed via Stilbag or Stilpan and disposed of according to local regulations.

## Results

LS Series solvent recycling equipment can provide many years of safe, simple and efficient daily operation ... with little operator attendance. When properly installed, LS equipment satisfies the most stringent safety standards for on-site solvent recycling.

LS equipment returns a nearly pure, completely reusable product, provides a high recovery yield, and allows the user to control the distillation schedule.

Utilizing thermal distillation, LS Series solvent recyclers return waste industrial solvents to a 99+% pure, reusable condition. Finish Thompson's solvent recyclers are batch type in 5, 15 or 55 gallon capacities. All units distill solvents, are explosion proof, and are vacuum capable. With vacuum assistance, recyclers can process solvents with boiling points up to 500°F.

LS Series equipment requires minimal operator involvement. Once set up and started, the units can operate virtually unattended until the process is complete. A full line of accessories is offered to enable process automation from fill to finish. A patented heater design eliminates the need for heat transfer fluids and utilizes electricity more efficiently.

The Little Cooler provides a convenient cooling water source for electrically heated LS Series solvent distillation systems, eliminating the need for a tap water source. Self-contained and weatherproof, the Little Cooler is designed for use with solvents with boiling points above 150°F (65.5°C).

Depending upon solvent volume, an LS Recycler can pay for itself in a matter of months. Contact FTI Sales for the payback formula.

# Safety & Design Features

## Installation Guidelines:

- Recycler must be located in an area with only explosion proof electrical devices present and with electrically interlocked floor ventilation.
- All containers must be grounded.
- The installation must be approved by an accredited inspector prior to operation.
- A detailed manual and safety instructions accompany each recycler.



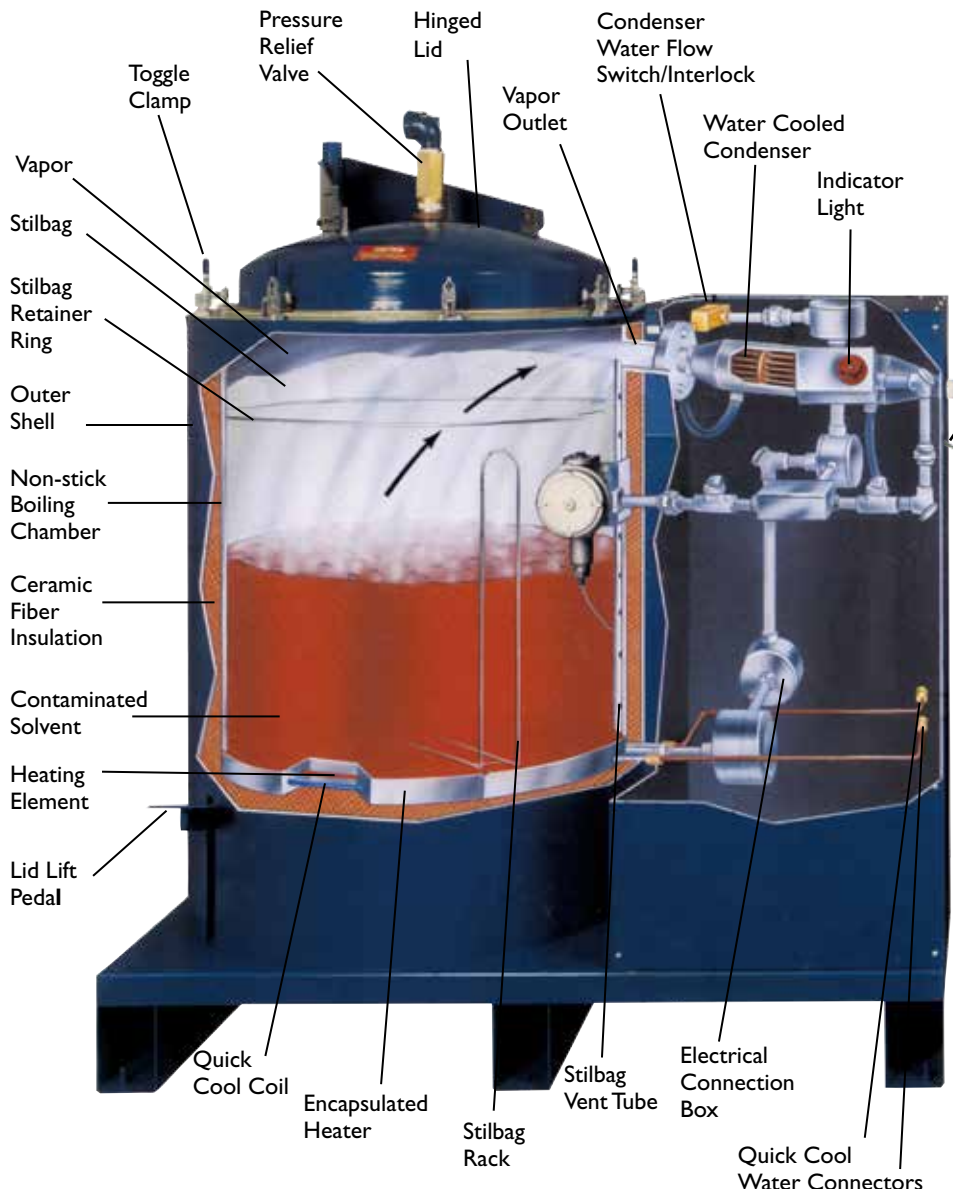
[www.finishthompson.com](http://www.finishthompson.com)

## LS55E with JetVac

The LS55E processes up to twenty 55-gallon drums of contaminated solvent a week at an average rate of 55 gallons per 6-8 hours. FTI's exclusive vacuum attachment allows recovery of solvents with boiling points up to 500°F. The JetVac option is available for all models.

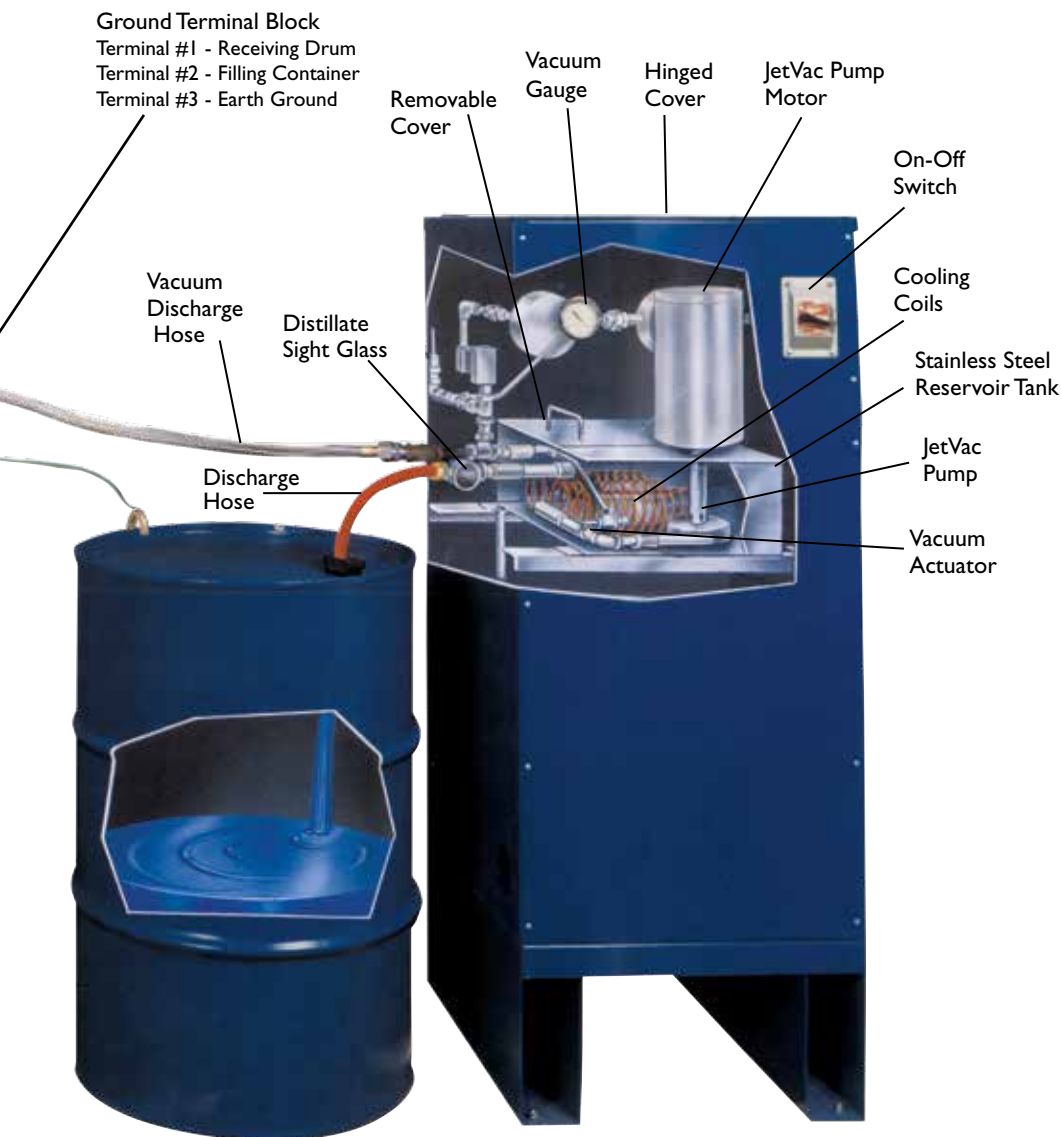
**JetVac Operation** - FTI's exclusive JetVac technology is the most reliable way to create high levels of vacuum with virtually no maintenance and very low operating costs. Vacuum levels as high as -28 hg can be reached enabling high boiling point solvents to be safely recovered.

**How does the JetVac work?** A stainless steel reservoir is initially filled with a small amount of clean solvent during the set up process. A small stainless steel vertical pump is immersed in the clean solvent and is powered by an explosion-proof electric motor. Clean solvent is drawn into the pump and forced through the vacuum generator tube. Air from the distillation tank and piping is removed, lowering the pressure in the system, and allowing the solvent in the distillation tank to boil at a lower temperature. When the solvent begins to boil, clean, distilled solvent flows into the JetVac reservoir and is gravity fed into a collection drum.





- **Heater Element** – Patented encapsulated heating element in chamber bottom ensures even distribution of heat through out the chamber. NO inefficient hot oil immersion heating is needed.
- **Residue Removal** – Residue is contained inside a disposable Stilbag liner for quick removal from the boiling chamber. An optional Stilpan is available. The distillation chamber has a non-stick coating for cleaning ease.
- **Quick Cooling Coil** – Enables fast cool-down of distillation chamber between operations.
- **Push/Pull Light Indicator** – A lighted indicator displays on-off mode.
- **Solid State Design** - Insures reliability and accuracy.
- **Construction** - Finish Thompson Solvent Recyclers are built to Class I, Division I, Group D (NEMA 7) standards of the National Electrical Code. Explosion-proof components carry independent testing laboratory approval. All LS units are CSA approved (except LSJRE JetVac).
- **Insulation** - Lid and distillation tank are fully insulated with ceramic fiber for heat retention and efficient distillation.
- **Vacuum** – All LS Series units can accept an FTI JetVac attachment to allow processing solvents with boiling points up to 500°F.
- **Flow Switch/Interlock** –The distillation unit operates ONLY when sufficient volume of cooling water is present. Interruption of water terminates power to heater.
- **Dual Thermostat** –Two thermostat controls are provided so the unit temperature does not exceed the recommendation for heater temperature in a Class I, Division I, Group D environment.
- **Adjustable Temperature Controller** – Allows setting variable temperatures.



- All Finish Thompson manufacturing processes strictly adhere to ISO 9001 guidelines to ensure consistent quality and delivery commitments. Each system is thoroughly tested prior to shipment.
- FTI's heater design eliminates the need for heat transfer fluids and utilizes electricity more efficiently resulting in a lower cost per recovered gallon of solvent.
- Multiple coats of industrial grade, non-stick coating are applied to the interior of the distillation tank to ensure easy cleaning. When combined with our Stilbag liners, they are the easiest to clean systems on the market!
- All LS units are CSA approved.\*
- LS Series distillation systems carry a full **3-year warranty** on the heater.
- Finish Thompson solvent recyclers are used by thousands of customers worldwide
- FTI has a toll-free technical support hot line to answer any questions for the life of the equipment.

\* LSJRE JetVacs are not CSA approved.

## Models



### LSJRE Features:

- Designed for low solvent volume
- Non-stick coating on boiling chamber for cleaning ease
- 5-gallon capacity
- Requires little space
- Clean distillate gravity feeds to a 5-gallon pail
- Variable temperature controller
- One-switch operation
- Easy to install
- Little maintenance

### LSJRE Specifications:

Process Rate	3-5 gals/shift
Solvent Boiling Range	100 – 320°F
<b>Utility Requirements:</b>	
Electricity	240V/1PH/50-60Hz, 4 amps
Condensing Water	1/8 – 1/4 gpm
<b>Dimensions:</b>	
Length	29"
Depth	24"
Height	19"
Weight	165 lbs.



### JRE JetVac Features:

- Retrofittable to all LSJR units
- Allows atmospheric or vacuum distillation
- Adjustable to 28" mercury vacuum
- Easy to read vacuum gauge
- Fully grounded

### LSJRE JetVac - Vacuum Attachment

Process Rate	3 – 5 gals/shift
Solvent Boiling Range	200– 500°F
<b>Utility Requirements:</b>	
Electricity	240V/1PH/60Hz, 1.7 amps
Cooling Water	1/4 - 1/2 gallon
<b>Dimensions:</b>	
Length	12"
Depth	20"
Height	17"
Weight	80 lbs.



**Little Cooler\*** - a self-contained water/glycol recirculation system designed to provide a closed loop water supply to the condenser. For use with LSJRE, LS15/55E and LS15II/55IIE models:

- Corrosion-resistant water/glycol reservoir
- High capacity recirculation pump with motor
- Integral radiator with fan and motor
- Weatherproof enclosure

\*Little Cooler is not explosion-proof and must be installed outside the explosion-proof area. Ambient air temperature cannot exceed 100° F.

### Little Cooler Specifications:

<b>Utility Requirements</b>	
Electricity	240V/1PH/60 Hz, 5.5 amps
<b>Dimensions</b>	
Length	31"
Depth	22"
Height	22"
Weight	186 lbs.



### LS15E Features:

- Rugged construction
- 15-gallon capacity
- Non-stick coating on boiling chamber for cleaning ease
- Condensed solvent gravity feeds to a 15-gallon drum
- Skid mounted
- Easy to install
- Simple to operate
- Minimal maintenance

### LS15E Specifications:

Process Rate	15 gals/shift
Solvent Boiling Range	100 – 320°F
<b>Utility Requirements:</b>	
Electricity	240V/1PH/50-60Hz, 7.5 amps
Condensing Water	1/2 gpm
Quick Cool Water*	1 – 3 gpm
<b>Dimensions:</b>	
Length	51"
Depth	27"
Height	42"
Weight	425 lbs.

\*Used for 1/2-1 hour to cool distillation tank at cycle completion (optional use).



**LS15IIE Features:**

- Automated cycle completion
- Automatic water valves control water supply to condenser
- Vapor temperature gauge monitors solvent vapor temperatures
- Lid view glass to monitor distillation process
- Heat "on" indicator light
- Electrical surge protection and low voltage DC controls
- Non-stick coating on boiling chamber for cleaning ease

<b>LS15IIE Specifications:</b>	
Process Rate	15 gals/shift
Solvent Boiling Range	100 – 320°F
<b>Utility Requirements:</b>	
Electricity	240V/1PH/50-60Hz, 7.5 amps
Condensing Water	1/2 gpm
Quick Cool Water*	1 – 3 gpm
<b>Dimensions:</b>	
Length	51"
Depth	27"
Height	42"
Weight	565 lbs.



**LS55E Features:**

- Rugged construction
- Non-stick coating for cleaning ease
- Large 55-gallon capacity boiling chamber
- Swing-hinged lid and lid lift foot pedal
- Skid mounted
- Easy to install
- Simple to operate
- Minimal maintenance

<b>LS55E Specifications:</b>	
Process Rate	55 gals/shift
Solvent Boiling Range	100 – 320°F
<b>Utility Requirements:</b>	
Electricity	240V/1PH/50-60Hz, 30 amps
Condensing Water	1 1/2 gpm
Quick Cool Water*	2-5 gpm
<b>Dimensions:</b>	
Length	56"
Depth	34"
Height	65"
Weight	961 lbs.



**LS55IIE Features:**

- Swing-hinged lid and lid lift foot pedal
- Automated cycle completion
- Automatic water valves control water supply to condenser
- Vapor temperature gauge monitors solvent vapor temperatures
- Lid view glass to observe process
- Heat "on" indicator light
- Electrical surge protection and low voltage DC controls
- Non-stick coating on boiling chamber for cleaning ease

<b>LS55IIE Specifications:</b>	
Process Rate	55 gals/shift
Solvent Boiling Range	100 – 320°F
<b>Utility Requirements:</b>	
Electricity	240V/1PH/50-60Hz, 30 amps
Condensing Water	1 1/2 gpm
Quick Cool Water*	2-5 gpm
<b>Dimensions:</b>	
Length	56"
Depth	34"
Height	65"
Weight	1020 lbs.



**LS15E/LS55E JetVac Features:**

- Rugged construction
- Allows vacuum or atmospheric distillation
- JetVac pump is adjustable to 28" mercury vacuum
- Condensed solvent is gravity-fed from the vacuum unit to a 15 or 55 gallon drum
- Easy to read vacuum gauge
- Fully grounded
- Retrofits to existing installations

<b>LS JetVac - Vacuum Attachments</b>		
	LS15E & 15IIE JV	LS55E & 55IIEJV
Process Rate	15 gal/shift	55 gal/shift
Solvent Boiling Range	200– 500°F	
<b>Utility Requirements:</b>		
Electricity	240V/1PH/60Hz; 3 amps	
Cooling Water	1/4 - 1/2 gallon	
<b>Dimensions:</b>		
Length	22"	22"
Depth	25"	25"
Height	48"	48"
Weight	325 lbs.	335 lbs.

\*Used for 1/2-1 hour to cool distillation tank at cycle completion (optional use).

## SOLVENT RECOVERY APPLICATION QUESTIONNAIRE

Company: \_\_\_\_\_

Contact: \_\_\_\_\_

Mail Address: \_\_\_\_\_

Street Address (shipping): \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Web site: \_\_\_\_\_

1. What type of solvent or solvent blend? \_\_\_\_\_

If a blend (mixed) what are the ratios? \_\_\_\_\_

2. What is the solvent boiling point? \_\_\_\_\_ °F °C (circle one)

Greater than 300°F requires vacuum attachment.

3. What is the contaminant? \_\_\_\_\_

4. What volume is the waste stream? Gallons/week to be reclaimed \_\_\_\_\_

What is the present method of disposal? \_\_\_\_\_

5. What process generates the waste solvent? \_\_\_\_\_

6. What will be the end use of reclaimed solvent? \_\_\_\_\_

7. Is the solvent and/or contaminant extremely toxic? \_\_\_\_\_ If yes, please comment. \_\_\_\_\_

8. Is there water mixed in with the material? \_\_\_\_\_

How much? \_\_\_\_\_

9. What is an acceptable recovery rate? \_\_\_\_\_

10. Is there any purity required? \_\_\_\_\_

Key for high priced or specialized solvents!

11. Installation Requirements:

- Voltage/Phase \_\_\_\_\_
- Access to H<sub>2</sub>O hook up \_\_\_\_\_
- Indoor / outdoor installation \_\_\_\_\_

- Explosion proof NEC Class 1, Division 1, Group D \_\_\_\_\_
- NFPA Guidelines: #77 Static, #91 Exhaust, #30 Flammable Liquid

**Cut out form and fax or mail to Finish Thompson Inc.**



**FINISH THOMPSON INC.**

921 Greengarden Road • Erie, PA 16501-1591 U.S.A.  
 Ph 814-455-4478 • Fax 814-455-8518  
 Email [fti@finishthompson.com](mailto:fti@finishthompson.com) • [www.finishthompson.com](http://www.finishthompson.com)