(When you receive your evaporator, please write your serial number in the space provided above. Please have your serial number available when you call technical service.)

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**SPECIFICATIONS**

### 500 Series
- Heat Input Max.: 195,000 Btu
- Evaporation Rate: 15 gal/hr (Auto), 33 gal/hr (Batch)
- Heat Exchanger: 3", Schedule 10
- Vent Stack: 5" Diameter
- Tank Capacity: 174 Gallons
- Weight (Empty): 600 lbs.
- Blower Type: 530 CFM, 1/2 HP
- Power Supply: 110 VAC, 7A 1-PH.

### 600 Series
- Heat Input Max.: 395,000 Btu
- Evaporation Rate: 33 gal/hr (Auto), 66 gal/hr (Batch)
- Heat Exchanger: 4", Schedule 10
- Vent Stack: 6" Diameter
- Tank Capacity: 333 Gallons
- Weight (Empty): 800 lbs.
- Blower Type: 800 CFM, 1 HP
- Power Supply: 110 VAC, 15A 3-PH.

### 700 Series
- Heat Input Max.: 750,000 Btu
- Evaporation Rate: 63 gal/hr (Auto), 86 gal/hr (Batch)
- Heat Exchanger: 6", Schedule 10
- Vent Stack: 8" Diameter
- Tank Capacity: 296 Gallons
- Weight (Empty): 1,200 lbs.
- Blower Type: 2,000 CFM, 15 HP
- Power Supply: 230/460 VAC 3-PH.

### 800 Series
- Heat Input Max.: 1,500,000 Btu
- Evaporation Rate: 126 gal/hr (Auto), 145 gal/hr (Batch)
- Heat Exchanger: 6", Schedule 10
- Vent Stack: 10" Diameter
- Tank Capacity: 537 Gallons
- Weight (Empty): 2,800 lbs.
- Blower Type: 2,500 CFM, 25 HP
- Power Supply: 230/460 VAC 3-PH.

### Common to Each Series
- Burner Type: Natural Gas or Propane
- Heat Exchanger: Elevated, Layered Serpentine
- Tank Floor: Sloped for sludge collection/removal
- Tank Insulation: 6-sides, 1", rated 280°F
- Inlet Port: 1 1/2" Female NPT with fill pipe
- Cleanout Port: 4" Male NPT
- Oil Overflow Outlet: 1 1/4" Male NPT
- Not suitable for combustible materials

### FEATURES
- Finely Tuned for Maximum Burner Efficiency
- Direct Ignition
- Safety: Burner Shut-Off
- Remote Status Panel
- Energy Sources: Electrical or Steam
- Intermittent Pilot, Electronically Timed Proving System
- Flame Rectification, Dual Safety Valve Shutdown
- Redundant Low Level Shut-Off (Capacitance & Thermocouple)
- Redundant High Temperature Shut-Off (Manual Reset)
- Blower Fan – Lockout of Burner unless Fan Operating – Airflow Detection Switch
- Solids fall past elevated Heat Exchanger (unlike bottom heating designs, where solids fall directly onto heat transfer surface)
- Avoids inevitable solids buildup/insulation of heat transfer surfaces
- Ensures consistent heat transfer and protects heat exchanger
- 100% Tank/Lid Insulation for Maximum Safety and Efficiency
- "Off-the-Shelf" Replacement Parts, Readily Available
- Not Suitable for Combustible Materials
- Energy Sources: Electrical or Steam

### SAFETY: BURNER SHUT-OFF
- Intermittent Pilot, Electronically Timed Proving System, Flame Rectification, Dual Safety Valve Shutdown
- Redundant Low Level Shut-Off (Capacitance & Thermocouple)
- Redundant High Temperature Shut-Off (Manual Reset)
- Blower Fan – Lockout of Burner unless Fan Operating – Airflow Detection Switch

### OPTIONS:
- Automatic Fill/Level Control
- High Level Alarm
- Custom Bottoms
- Tank Stands - Transfer Pumps - Holding/Evacuation Tanks
- Remote Status Panel
- Energy Sources: Electrical or Steam
Evaporates the Water Portion of Water-Based Wastes

ALL INDUSTRIES GENERATING WATER-BASED WASTES HAVE ONE COMMON PROBLEM: How to simply and economically dispose of their aqueous waste streams? There are major regulatory and economic pressures on them to reduce the effluent that they are currently hauling off-site or "putting to drain."

How are generators solving this dilemma? Many are turning to the SAMSCO WATER EVAPORATOR and the SAMSCO Organization as the answer to their disposal problem.

SAMSCO's equipment has been designed to evaporate efficiently and economically the water portion of a water-based waste. By converting the water to environmentally safe vapor and segregating any oils and solids, you can dramatically reduce the effluent volume and, therefore, the associated costs and liabilities of waste disposal.

Furthermore, SAMSCO, Inc., with its expertise and proven track record, stands today as the leader in this evaporative methodology. SAMSCO's technical capabilities extend beyond simple equipment know-how, into such critical areas as: regulatory proficiency, assessment of stream composition, facility planning, engineering support, and financial payback considerations.

Equally important, through SAMSCO's efforts, this evaporative technology has been enthusiastically accepted by both environmental consultants and regulatory agencies. It is currently solving clients' waste disposal problems in some of the most stringent compliance states in the country.

ELIMINATE MOST OF THE WATER AND YOU ELIMINATE MOST OF THE PROBLEM!

**PRINCIPLES OF OPERATION**

- Solution is fed to the tank in either a batch or continuous mode (automatic fill).
- Solution is heated in the tank to boiling (212°F) by a serpentine gas-fired heat exchanger. Blower draws in ambient air through both the burner and a specially sized opening in the tank. Air is drawn across the surface of the heated liquid, sweeping away water vapor as it breaks the surface.
- This moisture-saturated air and the flue gases leave the tank via separate passageways and are joined together at the blower entrance.
- The two air streams, environmentally safe, are mixed in the blower and are released up the stack.
- Free oils and oils whose emulsions have been thermally broken float to the surface. They are then removed, either automatically or by simply pushing a button. These oils exit via an overflow trough into an external waste receptacle.
- Precipitated solids settle to a sloping trough and are easily removed via a convenient clean-out port.
- A full-function Control Panel indicates all operating and safety conditions.
**BENEFITS SECTION**

Reduces effluent up to 98% of its original volume
Operates economically — $.03 to $.08 per gallon
Available for a low capital investment
Supported technically by the most experienced organization in this evaporative methodology

Handles, simultaneously, a wide variety of aqueous waste streams
Eliminates — entirely — sewer discharge and sewer accountability
Segregates any remaining water-free oils and/or solids for final disposal
Can eliminate the need for large holding tanks and/or drum storage
Compact and flexible, to meet varying installation requirements

Extremely simple for personnel to install, operate and maintain
Protects heat transfer surface with elevated Heat Exchanger/ “Cold Zone” design
Engineered for accessibility and convenient oil/sludge removal
Achieves maximum burner efficiency easily and maintains it consistently
Safe operation insured by burner/process Shutdown Controls, with Status Lights

Evaporation rate not dependent upon air humidity nor pre-heating of liquid
Does not direct fire, thus avoiding potential oil fire hazards and minimizing foam problems
Can enhance previously installed disposal/recycling systems, for close-to-zero discharge
Permits the choice of a variety of coolants on the production floor, unlike most recycling systems

**APPLICATIONS**

SAMSCO’s expertise has proven effective and reliable with clients that range from small generators to many Fortune 500 companies. Applications include such waste streams as:

- Machining and grinding coolants
- Water-based cleaners
  - *Spraywashers*  *Dip tanks*  *Steam cleaners*
- Floor-scrubber waters
- Tumbling and vibratory solutions
- Wire-drawing compounds
- Die-casting solutions
- Plating solutions/Rinse waters
- Ion exchange regenerate
- RO/UF concentrate
- Oily compressor waters
- Dye penetrants
- Hydrotesting solutions
- Photographic solutions
- Phosphatizing compounds

**EVAPORATIVE RATE**

Evaporative rate depends upon selected SAMSCO Model and Btu input.

<table>
<thead>
<tr>
<th>Gallons Per Year*</th>
<th>500 Series</th>
<th>600 Series</th>
<th>700 Series</th>
<th>800 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 shift</td>
<td>30,000 gal</td>
<td>66,000 gal</td>
<td>128,000 gal</td>
<td>252,000 gal</td>
</tr>
<tr>
<td>2 shifts</td>
<td>60,000 gal</td>
<td>132,000 gal</td>
<td>252,000 gal</td>
<td>504,000 gal</td>
</tr>
<tr>
<td>3 shifts</td>
<td>90,000 gal</td>
<td>188,000 gal</td>
<td>378,000 gal</td>
<td>756,000 gal</td>
</tr>
</tbody>
</table>

*NOTE: Calculations based upon automatic feed (60°F water) and 250 days/year.

Clients with higher volumes routinely choose multiple units, utilizing a modular approach. Higher volume units are also available.
INTRODUCTION (CONT'D)

1.6 SPECIFICATIONS - SERIES 800

ELECTRICAL REQUIREMENTS: 230/460V, 3 Phase, 60Hz, 57/29A

BURNER TYPE: Atmospheric with Induced Draft - Direct Ignition
Natural Gas or Liquid Propane
Normal Operating Range 750,000 to 1,500,000 BTU/Hr

HEAT EXCHANGER MATERIAL: Schedule 10, 6-inch (Nominal) Diameter
Material to match tank material selected.

HEAT EXCHANGER DESIGN: Submerged, Elevated, Serpentine Layered,
Safety "Cold Zone"

VENT STACK: 10-inch Diameter (single wall, galvanized typical)

BLOWER TYPE: High Pressure Direct Drive 2,500 CFM
3450 RPM, 25 HP (three phase)

TANK CAPACITY: 537 gallons Normal Operation

TANK INSULATION: 1-inch thick, 250°F, all six sides

WEIGHT: 2,800 lbs empty (shipping = 3,000 lbs)

TANK DESIGN: Sloped Bottom (for easy sludge removal)

INLET PORT: 1-1/2" NPTF with fill standpipe

CLEANOUT PORT: 4" NPT Pipe

OIL OVERFLOW OUTLET: 1-1/2" NPT

1.7 ACCEPTABLE LIQUID WASTE

Only you can control what types of water-based wastes are placed in the SAMSCO Water
Evaporator. You should process only those wastes for which the SAMSCO Water
Evaporator was originally approved and purchased.

Only those liquid wastes that have been approved by SAMSCO, INC. and the proper
regulatory agencies should be placed in the SAMSCO unit.

Do not put acidic (pH less than 7) materials into the evaporator.

WARNING: DO NOT ATTEMPT TO EVAPORATE FLAMMABLE
WASTES OF ANY KIND. DO NOT PROCESS
SOLVENTS, PURE OILS, ETC.