



## Closed-Loop Wastewater Reclamation System

- Reduce Your Disposal Cost
- Recycle Re-use

Maximize your water recovery/re-use with vacuum evaporation. Proceco offers MVR (mechanical vapor-recompression) evaporators as an environmentally and more cost effective alternative to conventional wastewater concentration technologies.

MVR evaporators are at their best when evaporating large quantities of dilute solutions such as rinse-waters that are common to surface treatment, parts washing or fluorescent penetrant inspection lines (FPI). In most cases the distillate meets or exceeds process water purity requirements and can be re-used without further treatment.



### APPLICATIONS

Surface Treatment Rinse Water  
 FPI Rinse Water  
 Parts Washing  
 Die Casting Wastewater  
 Oily Emulsions  
 Ink Wastes / Recovery

### FEATURES

PLC Controlled — Runs Unattended  
 Few Moving Parts — No Membranes  
 Efficient Vapor Compression Technology  
 Uses No Electric or Steam Heat Sources  
 Automatic Periodic Blow-Down  
 Compact, Portable and Easy to Install

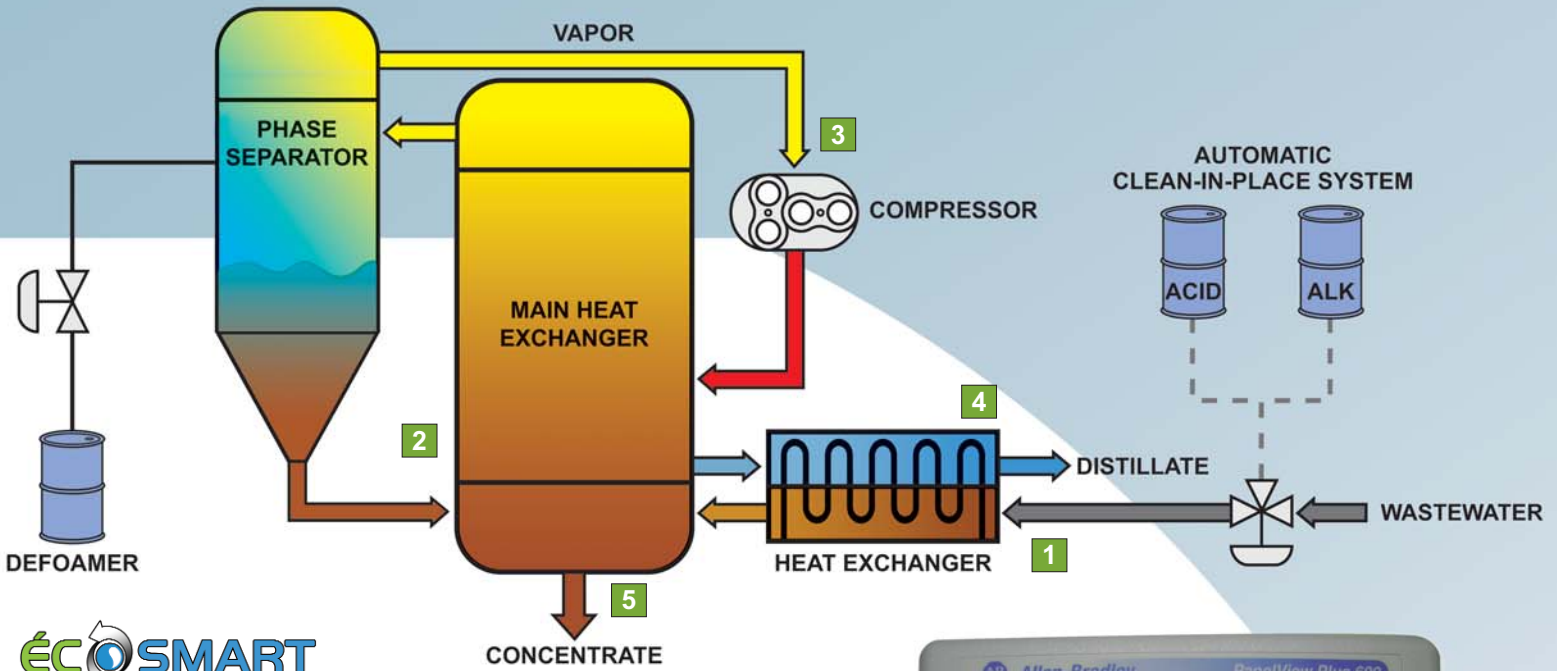
### BENEFITS

Low Operating Cost  
 Low Maintenance  
 Low Energy Consumption — 0.25Kw/gal  
 High Recovery Rate — Up to 98 percent  
 Closed-Loop Systems — No Air Permits  
 Concentrations up to 500,000 mg/L

Models	*Daily Production (USGPD)	Motor Power (HP)	Dimensions LxWxH (Inches)	Weight (Lbs)
Éco-Smart ES 400	400	15	94x52x88	2000
Éco-Smart ES 800	800	20	98x60x100	3000
Éco-Smart ES 1500	1500	30	110x60x110	4000
Éco-Smart ES 3200	3200	75	140x72x128	10000

\*Based on 22/24 hours

# Mechanical Vapor Recompression (MVR) Evaporator

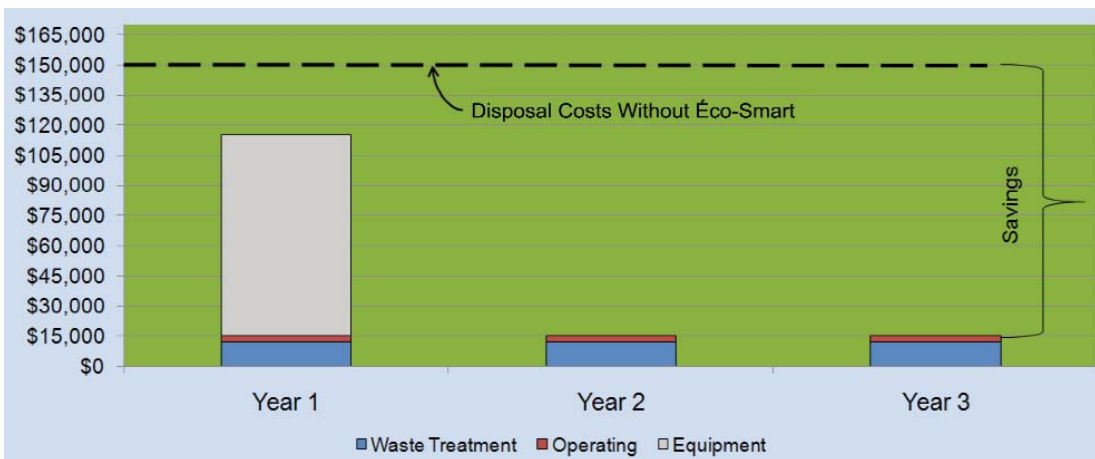


## Principle of Operation

- 1 Incoming wastewater is pre-heated by the heat available in the distillate being produced.
- 2 The wastewater evaporates under a partial vacuum in the main heat exchanger.
- 3 The evaporate (steam) is compressed, and returned to the main heat exchanger where it is condensed; thus releasing all of the latent heat back into the system.
- 4 The condensate is released in the form of high quality distillate ready for re-use or disposal.
- 5 Wastewater undergoes continuous concentration to a minimum level where it is then ejected for waste disposal.



The Éco-Smart's process is fully automatic and can be continuously monitored on the machine interface.



Disposal costs based on 100,000 USgal/Yr



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