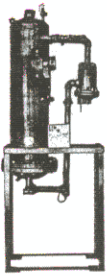




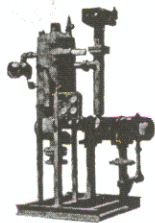
***Save Money On Your  
Boiler Operation***

## **CONTINUOUS BLOWDOWN HEAT RECOVERY SYSTEMS** ***Pick The System Which is Right for You.***



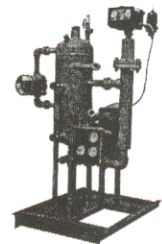
### **THE FLASH-ECONOMIZER SYSTEM**

Complete packaged heat recovery system in a smaller single vertical tank design. Ten different Pre-Engineered systems for small to medium sized boilers with continuous blowdown of 1 to 30 gpm and make-up capacities of 9 to 150 gpm in a self-contained unit. This system can provide up to 90% heat recovery from the continuous blowdown.



### **THE FLASH SEPARATOR - SHELL AND TUBE SYSTEM**

Individually designed system for your boiler blowdown and make-up requirements. System features Penn's patented Flash Separator which is smaller than conventional flash tanks. Packaged with a "U" tube heat exchanger and controls skid mounted on a channel frame. Provides 90% heat recovery from the continuous blowdown.



### **THE CROSSOVER - PLATE AND FRAME SYSTEM**

Same individual flash separator and heat exchanger as our shell and tube system with a highly efficient plate and frame heat exchanger. System requires less space for installation, operation, and maintenance. Complete package skid mounted on a channel frame. Total heat recovery from continuous blowdown is over 95% for the crossover system.

**PENN Separator Corp., P.O. Box 340, Brookville, PA 15825**  
**TELEPHONE (814) 849-7328      FAX (814) 849-4510**

Your De  **pendable Boiler Accessories for Over 35 Years**



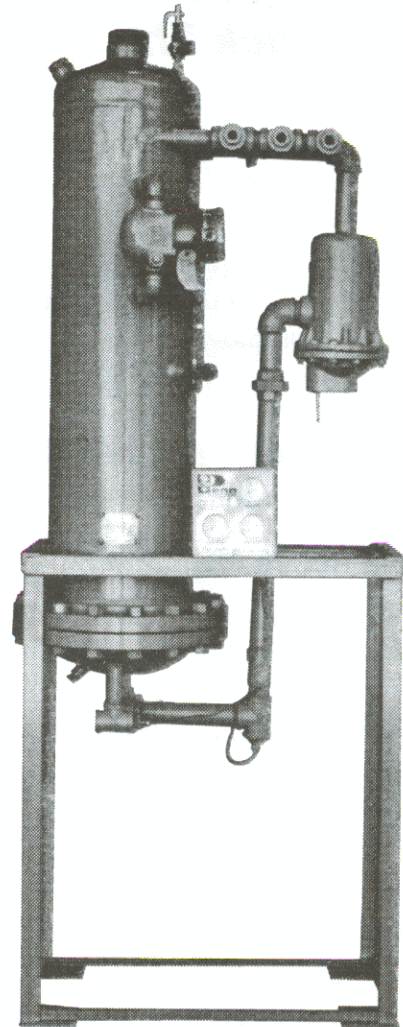
# FLASH ECONOMIZER HEAT RECOVERY SYSTEM

The Flash Economizer with PENN's patented spiral heat exchanger is a self-contained heat recovery package. Many installations throughout the U.S.A. proves that this small self-contained heat recovery system can save you money on continuous blowdown and pay for itself with a Return On Investment from three months to a year. All of the level controls are external — The ball float valve is outside the pressure vessel for easy maintenance. The Penn Flash Economizer is flanged at the lower half so that the heat exchanger can be dropped down for cleaning. Easy maintenance and cleaning are features of the Penn Flash Economizer.

## DESIGN FEATURES

1. Vertical Design saves valuable boiler room floor space.
2. Quality welded carbon steel construction to ASME Code.
3. Flanged Coil Section and External Controls for Ease of Maintenance.
4. Complete system with Accessories table mounted on four Angle Legs.
5. Flash Chamber with Tangential Inlet provides 97% quality steam.
6. Multiple Boilers can be used even if different pressures.

**For more information ask for Brochure F1.25**



## SIZING CHART

MODEL NO.	BLOWDOWN	MAKEUP	MODEL NO.	BLOWDOWN	MAKEUP
AHR-3	3 GPM	9 GPM	AHRB-3-15	3 GPM	15 GPM
AHR-6	6 GPM	12 GPM	AHRB-6-30	6 GPM	30 GPM
AHR-10	10 GPM	20 GPM	AHRB-10-50	10 GPM	50 GPM
AHR-20	20 GPM	40 GPM	AHRB-20-100	20 GPM	100 GPM
AHR-30	30 GPM	60 GPM	AHRB-30-150	30 GPM	150 GPM

\* Ten different sizes to choose from to fit your specific Boiler Operation.

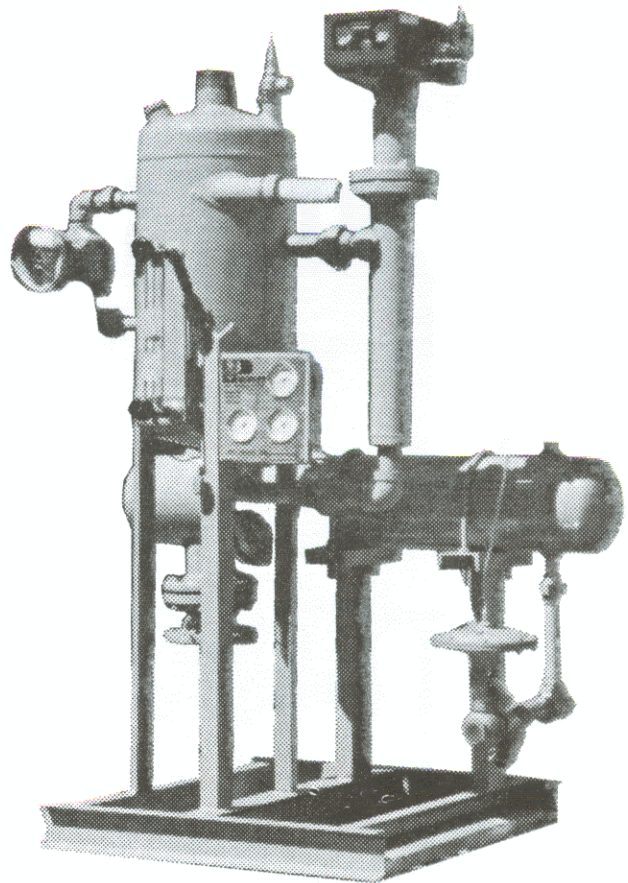


# FLASH SEPARATOR — SHELL & TUBE SYSTEM

The Flash Separator — Shell & Tube System uses the patented Flash Separator to separate continuous blowdown into Flash Steam and hot condensate. The flash steam is taken back to the Deaerator, Feedwater Heater or low pressure system where you get 100% BTU recovery from this steam. The hot condensate flows to the efficient shell and tube heat exchanger where the make-up is heated. Penn workmanship, along with brand name level controller, heat exchanger, and accessories make this a quality package. Package comes skid mounted and ready to install in most cases.

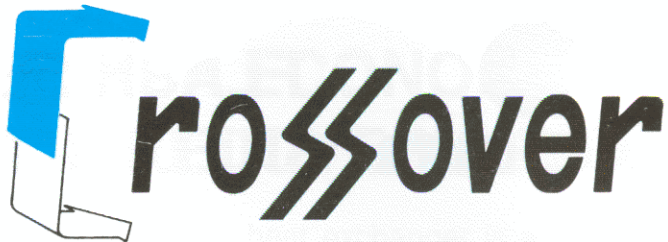
## DESIGN FEATURES

1. Sized and Designed for your specific needs for any size boiler or boilers.
2. Uses a Flash Separator which is smaller than conventional Flash Tanks.
3. Separator and Heat Exchanger are ASME Code designed and stamped.
4. Heat Exchanger and Accessories are completely assembled on Channel Frame.
5. Gauge Panel with Thermometers to show make-up inlet, make-up outlet, and blowdown drain temperatures.
6. High and low level alarms as shown provided when requested.



Sizing is done based on volume of blowdown and make-up.

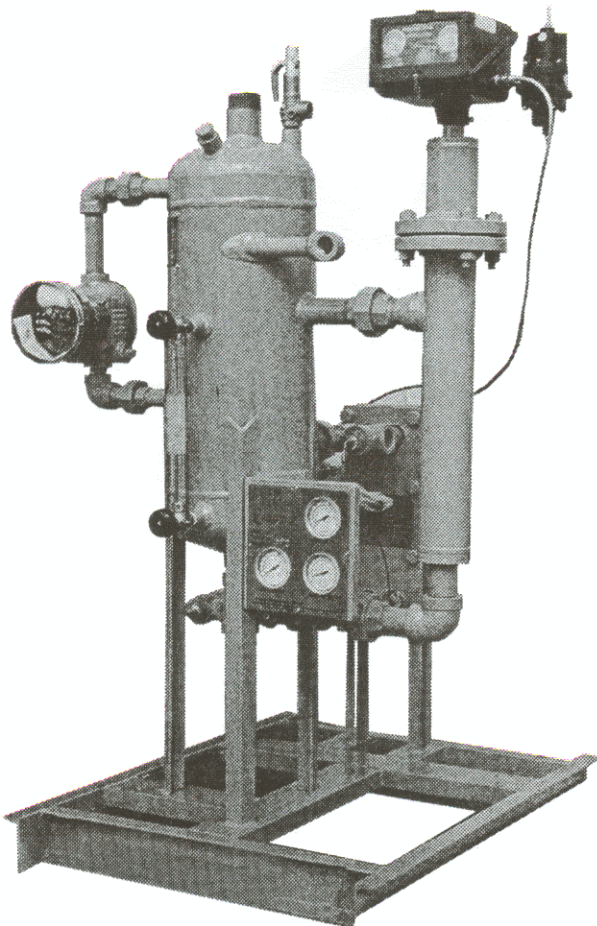
**For more information ask for Brochure F-13.**



The Crossover heat recovery package utilizes a very efficient plate and frame heat exchanger to take the maximum heat out of continuous blowdown. This new heat exchanger package also uses the patented Penn Flash Separator to separate flash steam for condensate. This plate and frame heat exchanger package requires a minimum amount of space in the Boiler Room. Extra plates can be added if blowdown and make-up rates increase. In many cases an approach of 2°F is possible making this a very efficient heat recovery package.

### DESIGN FEATURES

1. Maximum Heat Transfer from blowdown to boiler make-up water.
2. Compact Design requires less space than conventional heat exchanger.
3. Plates are stainless steel with EPDM Gaskets expandable for additional flows.
4. Sized and Designed for your specific needs for any size boiler or boilers.
5. Quality Heat Exchanger and Accessories assembled on a channel frame.
6. Separator and Heat Exchanger are ASME Code Designed and Stamped.



**For more information ask  
for Brochure F-15**

This brochure has been prepared to acquaint you with the three heat recovery systems produced by Penn Separator. Should you desire more detailed information on any system please contact us or one of our Sales Representatives.

### SALES REPRESENTATIVE