Flash Steam Heat Recovery Unit  
(Steam and Condensate)  
Model FSHR-FC  

The Model FSHR-FC, Flash Steam Heat Recovery Unit is a manufactured unit featuring dual Recovery Module, facilitating both flash steam and condensate heat extraction. The FSHR-FC is ideally suited for heating continuous flow of fluid, such as make-up water to boiler feedwater system. The atmospherically vented unit helps recovery and utilize valuable heat generally lost during boiler blowdown. A Shell and Tube Recovery Module with U-tube configuration is used for recovering energy from the flash steam, while the condensate utilizes an efficient Plate and Frame Recovery Module. The Model FSHR-FC is a complete unit including a Carbon Steel Flash Vessel. Non-continuous flow applications may require additional recirculation and/or relief valving. An optional make-up water control valve may be installed upstream of the unit in order for the make-up to be allowed to thermally expand to atmosphere to prevent system damage. Each Unit is custom engineered and designed to meet specific system requirements. All systems are fabricated and welded per ASME Section IX Code and Standards, and are Hydrostatically tested prior to shipment.

**SIZING AND SELECTION**

Units are custom engineered for individual systems, based upon the selection of the system parameters:

I. System Flow Rate: Range of 5 lb/hr to 30,000 lb/hr  
   II. Blow-down Upstream Pressure: Range of 5 psig to 250 psig  
   III. Flash Vessel Pressure: Range of 0 psig to 15 psig  
   IV. Dimensions: Based on specific requirements

**CONDITIONS OF OPERATION**

| Max. Allowable Pressure: | 125 psig / 8.6 bar |
| Max. Allowable Temperature: | 375 °F / 190.5 °C |

**STANDARD CONSTRUCTION**

- Fabricated Structural Steel frame  
- Shell and Tube, U-Tube Recovery Module  
- Plate and Frame Recovery Module  
- Carbon Steel Flash Vessel  
- Bronze Gate Valves  
- Hydrostatically Tested  
- High Temperature Industrial Enamel Paint  

Legend:  
A. Flash Vessel  
B. Shell and Tube Flash Recovery Module  
C. Plate and Frame Recovery Module  
D. Vent  
E. Blowdown Inlet  
F. Make-up Water Inlet  
G. Heated Make-up Water Supply  
H. Condensate Discharge  
I. Isolation Valves
Model FSHR-FC
Heat Recovery Unit Order Form

Specify the following parameters:

I. Blowdown Inlet Flow Rate = ___________ lb/hr
II. Blowdown Upstream Pressure = __________ psig
III. Flash Vessel Pressure = ____________ psig

IV. Make-up Water Temperature Inlet = __________ °F
V. Max. Make-up Temperature Outlet = __________ °F
VI. Fouling Factor = _______________

PACKAGE OPTIONS

Pneumatic-operated Steam Control Valve
Electronic Positioner
Pneumatic Positioner
Inlet Isolation Gate Valve
Stainless Steel Flash Vessel
Steam Pressure Gauges
Thermostatic Air Vent
Flash Recovery Module Bypass Valve Station
Condensate Recovery Module Bypass Valve Station
Pressure Relief Valves
Steam-side
Water-side

Condensate Isolation and Check Valves
Condensate Y-Strainer
Float and Thermostatic Steam Trap
Single-pass Shell and Tube Recovery Module
Plate and Frame Recovery Module
Inlet / Outlet waterside Thermometers
Double-walled tube construction on Heat Exchanger for Potable water use

Regardless of system size, temperature, pressure, fluid medium, or space requirements, EnviroSep can provide solutions to all specialized needs.

EnviroSep offers Professional Engineering Service including complete facility, steam, and condensate system layout and design.