Flash Steam Heat Recovery Unit  
Model FSHR-F

The Model FSHR-F, Flash Steam Heat Recovery Unit is a manufactured unit featuring a recovery module facilitating flash steam heat extraction from boiler blowdown. The FSHR-F 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; Plate and Frame Module is optional. The Model FSHR-F 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 15psig  
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  
- Carbon Steel Flash Vessel  
- Hydrostatically Tested  
- High Temperature Industrial Enamel Paint
Model FSHR-F
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
Inlet / Outlet waterside Thermometers
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
Inverted Bucket Steam Trap
Single-pass Shell and Tube Recovery Module
Plate and Frame Recovery Module
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.