

Spirax Australia FREME Flash Recovery Energy Management Equipment

Spirax FREME system

The Spirax FREME system recovers the useful energy from condensate return and utilises it to pre-heat boiler feedwater, or other process water applications. Standard systems can be provided for boiler duties up to 15,000 kg / hr and bespoke systems for larger duties. Systems are supplied fully assembled and pressure tested ready for installation.

Principal features:

- Reduces steam raising costs, utility bills and CO₂ emissions.
- Reduces or completely removes unsightly plumes of flash steam.
- Significant savings – fuel, water and feedwater chemicals provide rapid return on investment.
- Prevents feedtank boiling and pump cavitation risks.
- Fully assembled skid-mounted system offers minimal installation time and trouble-free commissioning.

Flash vessel

The FV flash vessel is designed and constructed to the following standard AS1210. The design is free-draining and provides efficient separation of flash steam from condensate return.

Heat exchangers

The TS6-M plate heat exchanger for steam is used for efficient heat transfer within a very compact design. The high surface / volume ratio of the plates enables rapid heat transfer. The heat exchanger is easily dismantled for examination or cleaning of the heat transfer surfaces. All wetted parts are stainless steel.

Quality management

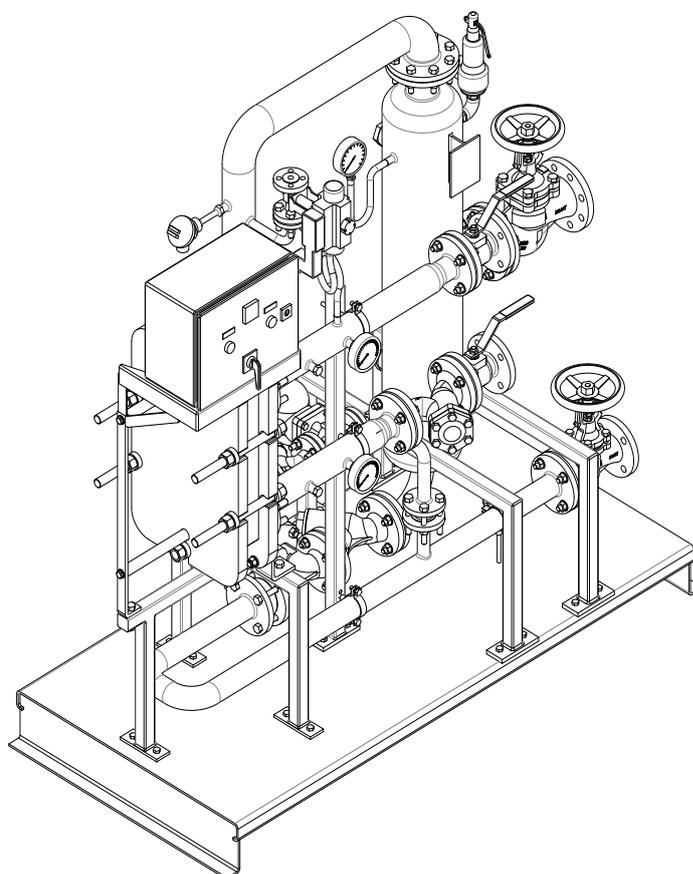
Spirax FREME is manufactured under our Quality Management System that meets the requirement of AS/ NZS ISO 9001:2008.

Pressure / temperature limits

Part	Maximum operating pressure	Maximum operating temperature
Primary side (plant steam) condensate and flash steam	5 bar g	160°C
Secondary side (Boiler feedwater)	18 bar g	140°C

Materials

Part	Material
Flash vessel	Carbon steel
Interconnecting pipework	Carbon steel
Heat exchangers	Stainless steel plate, carbon steel frame
Isolation valves	Carbon steel / SG iron
Check valves	Stainless steel



Product Range

Feedwater flowrate kg/hr	Type	Dimension / weights approximate in mm and kg				Connections			
		Height	Length	Width	Weight	Condensate		Feedwater	
						Inlet	Outlet	Inlet	Outlet
7500	FR-1	1850	1750	850	630	DN80	DN50	DN50	DN50
15000	FR-2	2000	2150	850	780	DN100	DN50 DN40	DN50	DN50

Sizing

Please contact Spirax Sarco for assistance with application, sizing and selection guidance.

Information required for system appraisal:

1. Application.
2. Maximum boiler capacity, pressure and operating hours.
3. Type of boiler level control system.
4. System pressure and temperature.
5. Fuel type and costs.
6. Process conditions.
7. Condensate return rate.

Pipework and frame

All pipework is correctly sized correctly for the application and is fabricated using modern welding techniques, approved welders and weld procedures

Scale formation

There may be a danger of scale formation in the heat exchangers and pipeworks. This depends mainly on the water quality, and expert advice from a water treatment specialist should be sought.

Hard water scale in heat exchangers and pipework reduces system efficiency. Chemical cleaning is the only satisfactory method of restoring the heat transfer efficiency by complete removal of the deposits.

Typical specification

The Spirax FRÈME heat recovery shall be a Spirax Sarco packaged heat exchanger system. The system shall come complete with heat exchangers and condensate removal equipment. All items shall be pre-assembled and mounted on a compact frame.

How to order

The best way of ensuring that we have all the necessary information for your application is to contact your Spirax Sarco representative.

