



Rising Film Evaporator (RFE) Series

for marine application



Description of process

Hamworthy Serck Como's rising film evaporators (RFE) are shell-and-tube type, single-stage units. The sea water flows through the tubes of the vertical tube bundle while the heating medium (steam or engine jacket water) flows around the tubes. The vapour produced inside the tubes flows upwards into the upper casing of the unit. Evaporation takes place under vacuum at low temperature.

The vapour produced in the tubes passes through the demister into the upper casing where it is led into the condenser. The demister prevents entrained sea water droplets from entering the condenser which would have an adverse effect on the quality of the produced distillate. The residual salinity of the distillate is ≤ 4 ppm TDS.

The combined brine and air ejector is supplied with motive water from the combined cooling water/ejector water pump. The ejector extracts brine and non-condensable gases from the unit and also maintains the necessary vacuum during start-up and operation of the unit.

All materials coming into contact with sea water are made of corrosion-resistant materials.

All units are subjected to a pressure test before leaving our works. On request, a works test certificate can be supplied free of charge.

Scope of supply

- ▶ Evaporation chamber
- ▶ Heating system
- ▶ Condenser
- ▶ Demister
- ▶ Brine/air ejector
- ▶ Electric switchbox
- ▶ Distillate pump with electric motor
- ▶ Chemical tank with dosing equipment
- ▶ Salinometer with measuring cell
- ▶ Cooling water by-pass
- ▶ One set of standard spare parts
- ▶ Documentation including operating instruction manual in German or English language

Accessories

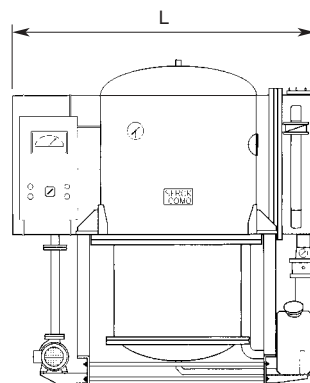
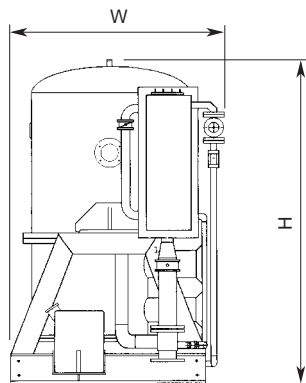
- ▶ Feed water inlet valve
- ▶ Sea water pressure gauge
- ▶ Safety valve
- ▶ Distillate sample device
- ▶ Feed water flow meter
- ▶ 2-way solenoid valve
- ▶ Water meter
- ▶ Vacuum gauge
- ▶ Inspection glass

Optional supply

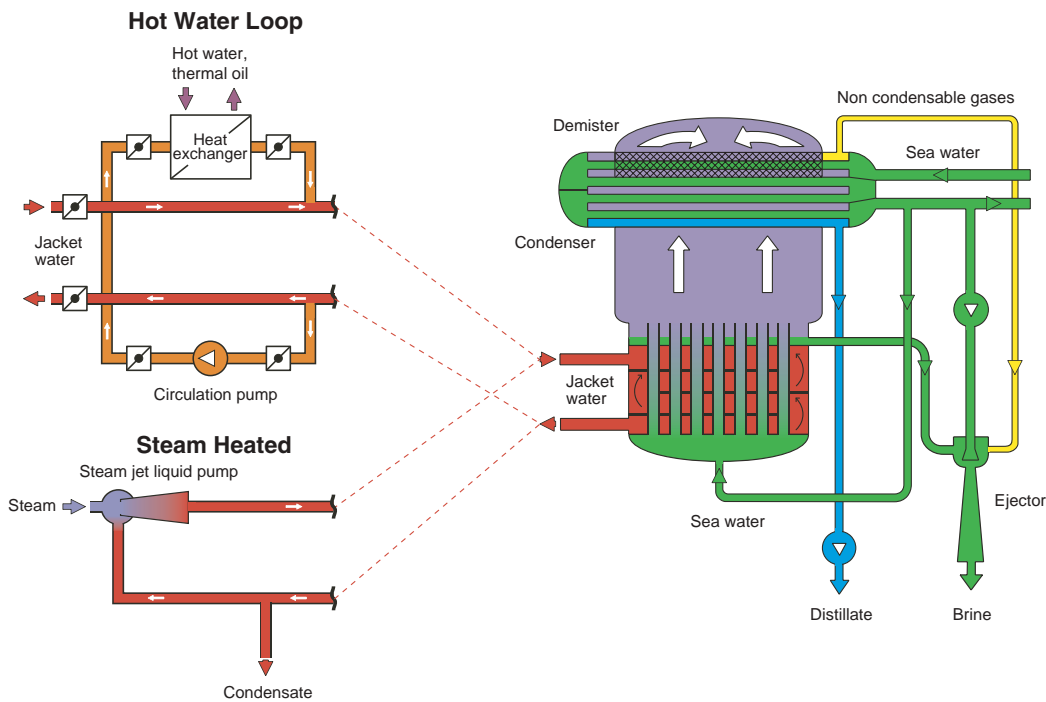
- ▶ Sea water pump with electric motor
- ▶ Potable water treatment



Model No.	Length (L) (mm)	Width (W) (mm)	Height (H) (mm)	Weight (kg)	Distillate Capacity (max.) (t/24h)
RFE 20	1585	970	1820	1000	20
RFE 30	1905	1140	1850	1270	30
RFE 40	1950	1600	2100	1800	40
RFE 50	1950	1600	2270	2300	50
RFE 65	2200	2100	2100	2600	65
RFE 80	2015	2030	2490	3200	80



Flow Diagram: Rising Film Evaporator (RFE)



Approval Certificate No. 202595



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The manufacturers reserve the right to alter the specification and data to incorporate improvements in design. Certified drawings will be issued on request.

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