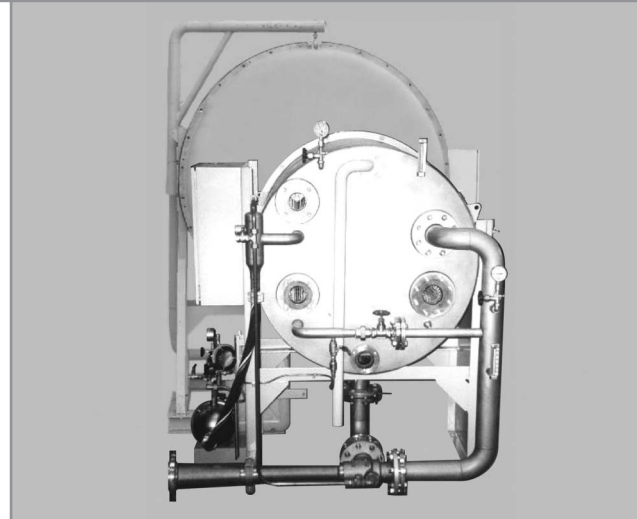




Plate Type Evaporator (PTE) Series

for marine application



Description of plant and process

Hamworthy Serck Como's plate type evaporators incorporate features, which are based on more than a century of experience in the design and production of marine fresh water generators. This range of plate type evaporators are complementary to our existing program of various evaporation processes and evaporator designs. The evaporator generally utilizes the waste heat from the main diesel engine jacket water, however, other media may also be used (e.g. steam, thermal oil).

Output of the Plate Type Evaporator (PTE) series ranges from 10 to 75 t/24h, depending on the available heat source.

The process is simple, but effective. Sea water is led through the condenser, where it absorbs the latent heat of the condensing vapour. A part of sea water is used as feed water for the evaporator whilst the remaining part of brine as well as the non condensable gases are discharged by means of a combined ejector. In the evaporator the sea water is heated up to the saturation temperature corresponding to the vacuum maintained by the ejector and a certain part is evaporated.

The vapour produced passes through the demister located in the upper casing in order to remove entrained droplets of water and is led to the condenser where it is condensed. The distillate is drawn from the condenser by the distillate pump and discharged through the salinity measuring unit. Depending on the residual salt content of the distillate, it is either led to the distillate tank or, in case of maximum allowable residual salt content being exceeded, back to evaporator.

All parts in contact with sea water are constructed of corrosion-resistant materials (CuNi, stainless steel). The plates are made of titanium.

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

Scope of supply

- ▶ Casing with cover (stainless steel)
- ▶ Evaporator (titanium plates)
- ▶ Condenser (titanium plates)
- ▶ Demister (stainless steel)
- ▶ Combined brine/air ejector (cast bronze)
- ▶ Distillate pump with electric motor
- ▶ Control panel with motor starter, built in salinometer and common alarm
- ▶ Chemical tank with dosing equipment, fitted to the plant
- ▶ Documentation including operating instruction manual in German or English language

Accessories

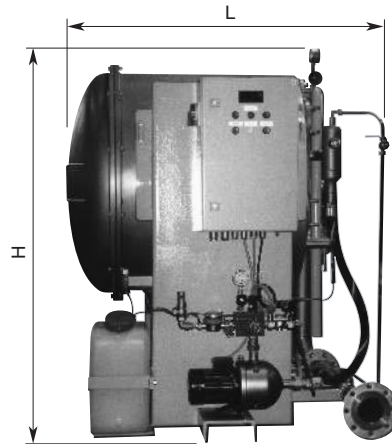
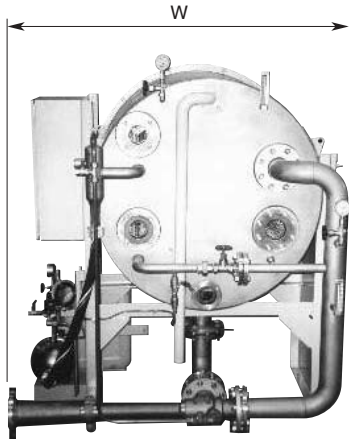
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|---------------------------------|--------------------------------|
| ▶ Set of pressure gauges | ▶ Feed water valve and orifice |
| ▶ Set of thermometers | ▶ 2-way solenoid valve |
| ▶ Safety valve | ▶ Vacuum meter |
| ▶ Salinity measuring cell | ▶ Sight glass |
| ▶ Distillate sample cock | ▶ Distillate meter |
| ▶ Distillate pressure set valve | ▶ Internal wiring and piping |

Optional supply

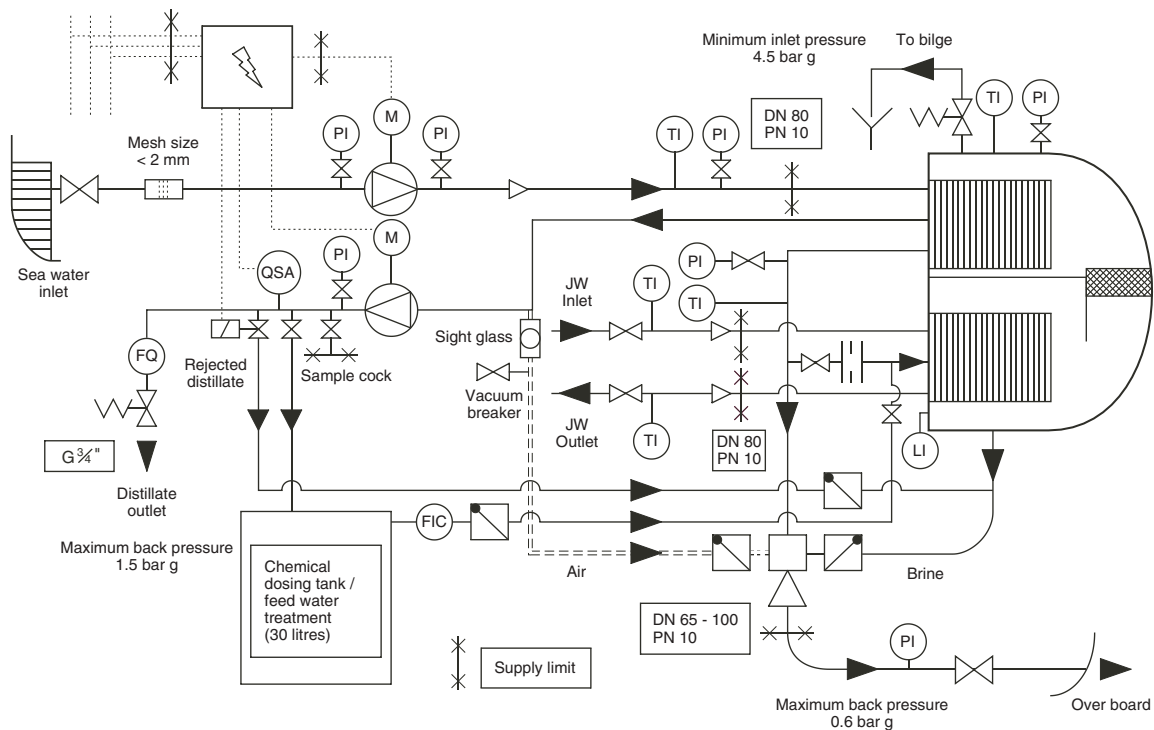
- ▶ Sea water pump with electric motor
- ▶ Steam heating system
- ▶ Rehardening filter
- ▶ Disinfection unit
- ▶ Remote indication salinity
- ▶ Remote indication distillate quantity
- ▶ Circulation pump
- ▶ Hot water loop



Model No.	Heating Water Temp. (°C)	Length (L) (mm)	Width (W) (mm)	Height (H) (mm)	Weight (kg)	Distillate Capacity (t/24h)
PTE 25	65 - 90	1350	1660	1545	630 - 710	10 - 30
PTE 65	65 / 90	2925	2060	2370	1800 - 1950	25 - 75



Flow Diagram: PTE Rising Film Evaporator



Approval Certificate No. 202595

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a subsidiary of Hamworthy plc



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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