

*Liquids to Value*

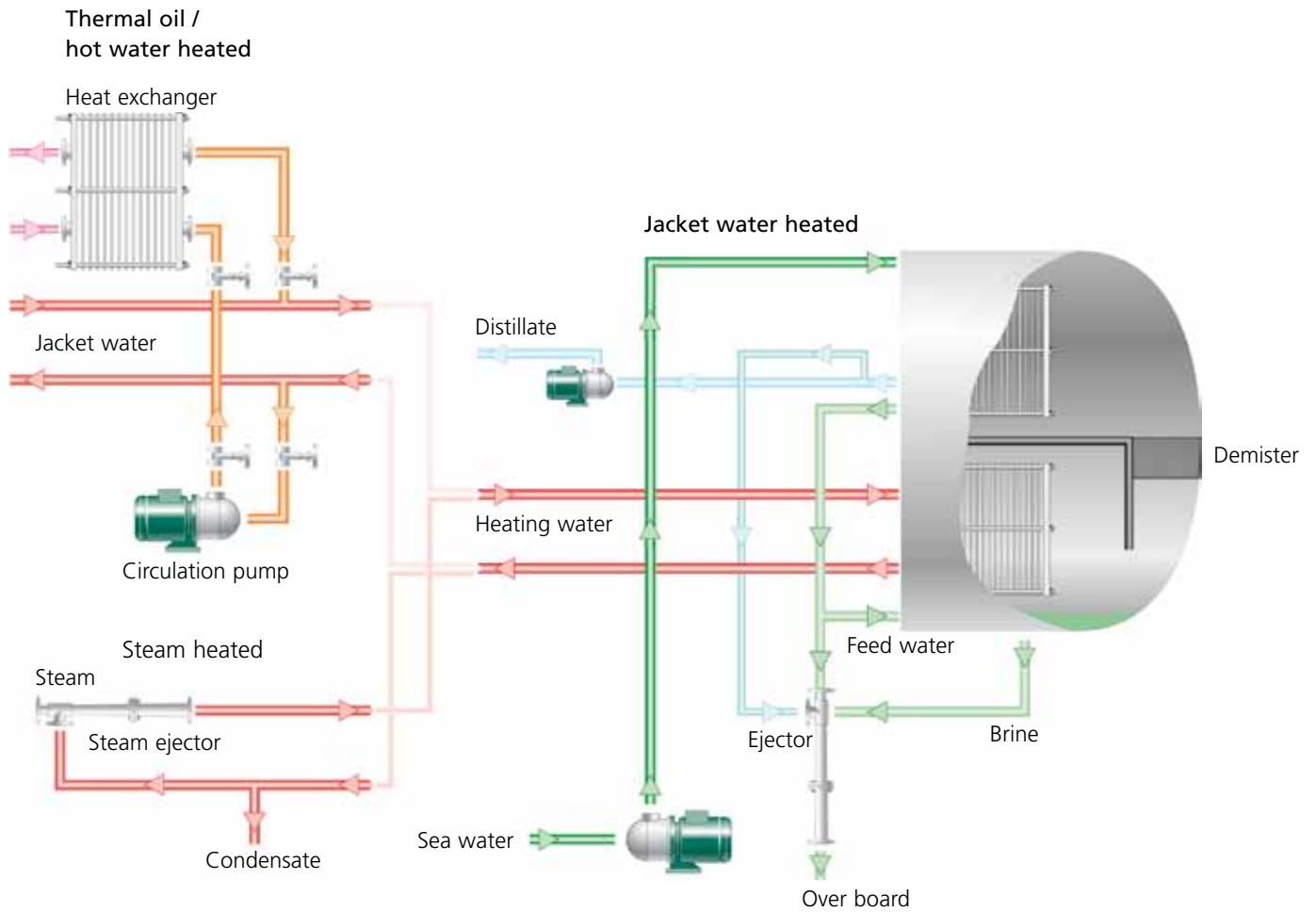


## Westfalia Separator® **SeaWaterDistiller**

Technical Data | SWD 10/15/20/25/30



# Operating Principles and Constructional Features



The SWD (Westfalia Separator® SeaWater-Distiller) is working on the well known vacuum distillation principle. Waste heat from the main engine on board is utilized as heating medium for evaporation. The evaporation takes place in the evaporation plate bundle located in the lower part of the housing.

A part of the incoming sea water evaporates due to the high vacuum inside the housing. The generated vapour is cleaned from sea water droplets while flowing through

a wire mesh demister. The condensation takes place in the condenser plate bundle located in the upper part of the housing. The condenser is cooled by sea water. The latent heat from condensation is transferred to the sea water. The condensation/evaporation temperature varies with the sea water temperature.

A small portion of the heated sea water is utilized as feed water for the evaporator bundle. The biggest part is used as driving medium for the combined air-/brine

ejector. This ejector has a double function: Extraction of the surplus sea water (so-called brine) out of the housing and vacuum creation by exhaust of the non-condensable gases.

The distillate quality (salinity) is monitored at the control panel. If the salinity exceeds the adjusted set point (2 – 10 ppm) the distillate is rejected back to the evaporator via a solenoid valve.

## Features

- Simple, compact design
- Distillate pump, control panel, chemical dosing equipment
- Titanium heat exchanger plates
- Sea water resistant materials
- Hinged hood

## Optional supply

- Sea water pump  
(necessary for operation)
- Re-hardening filter (pH-adjustment)
- UV-Sterilizer

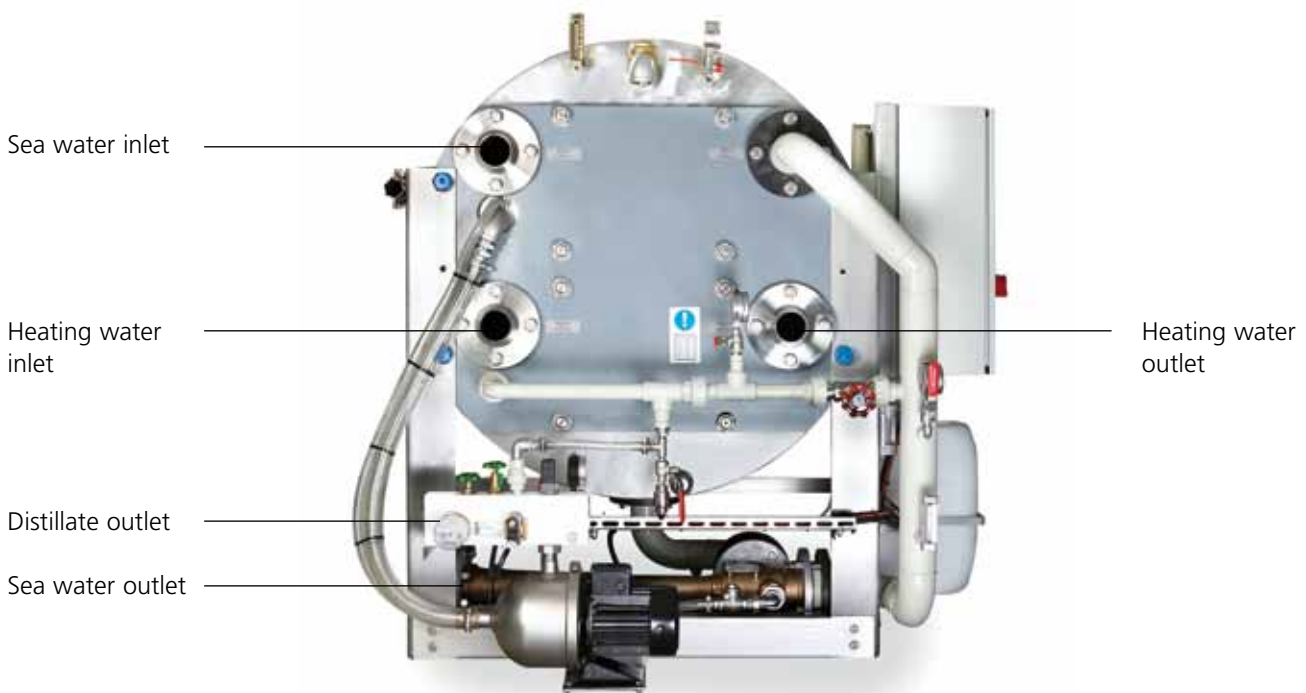
Heating modules for various heat sources e.g.

- Steam
- Hot water
- Thermal oil

Materials	
Plates	Titanium
Demister	Stainless steel
Housing	Stainless steel
Air-/brine ejector	Cast bronze
Frame	Stainless steel
Distillate pump	Stainless steel
Sea water pipe work	PP
Brine pipe work	PP
Distillate	Hose

## Standard equipment

- Control panel  
(built in on left or right side)
- Chemical dosing tank (built in)
- Distillate pump
- Set of thermometers and pressure gauges
- Set of non-return flaps
- Feed water valve
- Solenoid valve
- Water meter
- Salinity measuring cell + indicator



# Technical Data

## Westfalia Separator® SeaWaterDistiller

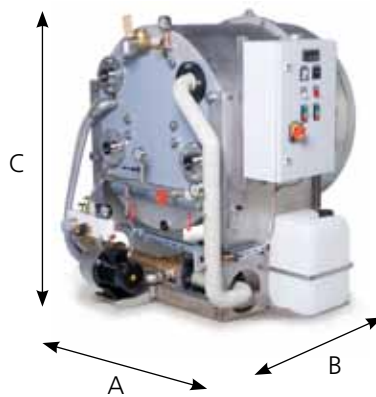
Westfalia Separator® SeaWaterDistiller	SWD 10	SWD 15	SWD 20	SWD 25	SWD 30
Capacity	10 t/d	15 t/d	20 t/d	25 t/d	30 t/d
Heating water temperature	70–90 °C				
<b>Connections</b>					
Sea water inlet	65 DN				
Sea water outlet	65 DN	80 DN	80 DN	100 DN	100 DN
Heating water inlet	65 DN				
Heating water outlet	65 DN				
Distillate	G¾"				
<b>Weight</b>					
Empty	600 kg	617 kg	626 kg	642 kg	651 kg
In Operation	640 kg	676 kg	706 kg	742 kg	771 kg
<b>Dimensions</b>					
A	1358 mm	1358 mm	1358 mm	1637 mm	1637 mm
B	1390 mm				
C	1423 mm				
D (*)	2020 mm				
E (*)	477 mm				

### Function

Generation of fresh water from sea water

### Application

- Shipbuilding industry
- Offshore



GEA Mechanical Equipment

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