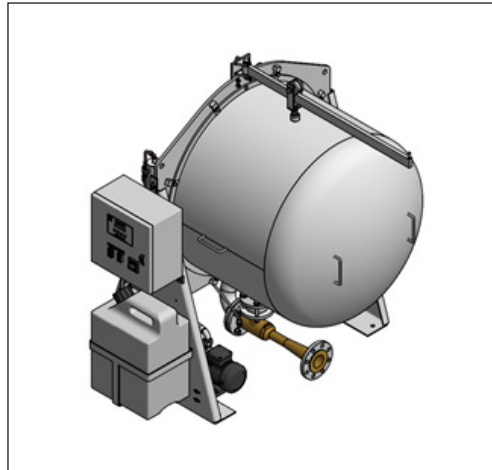


Data sheet

# SONDEX® Single Stage Plate Fresh Water Distiller SFD6 / SFD13 / SFD22 / SFD35 / SFD45

Description



SONDEX® traditional plate fresh water distillers are the ideal choice for a wide range of applications across numerous market segments. We customize each fresh water distiller to meet your exact requirements. Innovative technologies and smart design make our traditional plate fresh water distiller a good investment.

**Benefits:**

- Individually customized solution that perfectly matches your requirements and lowers your energy consumption.
- High performance and a low pressure drop eliminate unnecessary burdens on your system and optimize overall system performance.
- Well proven and tested product.
- The design results in a compact solution with a small footprint, simple installation, and easy access for maintenance.

**Common applications:**

- Marine/offshore industry

**Main data:**

- Capacity 5-100 m<sup>3</sup>/24h
- 400v 50Hz, 440v 60Hz
- 0-2 ppm, 0-5 ppm for technical water.
- Min. temperature sea water 2 °C
- Max. temperature sea water 32 °C
- Max. temperature 95 °C
- Max. working pressure 4 bar (5 or 6 barg on request)
- Circulation water

**Marine approvals:**

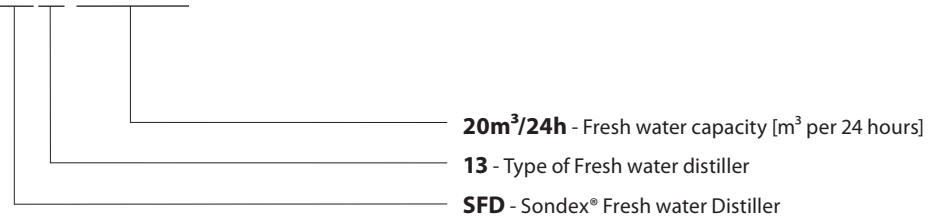
- We offer a wide range of marine approvals. Please contact your local Danfoss/Sondex sales representative to provide you with exact approvals availability in your region.

**Construction Standard:**

- EN13445 (PED 2014/68/EU)

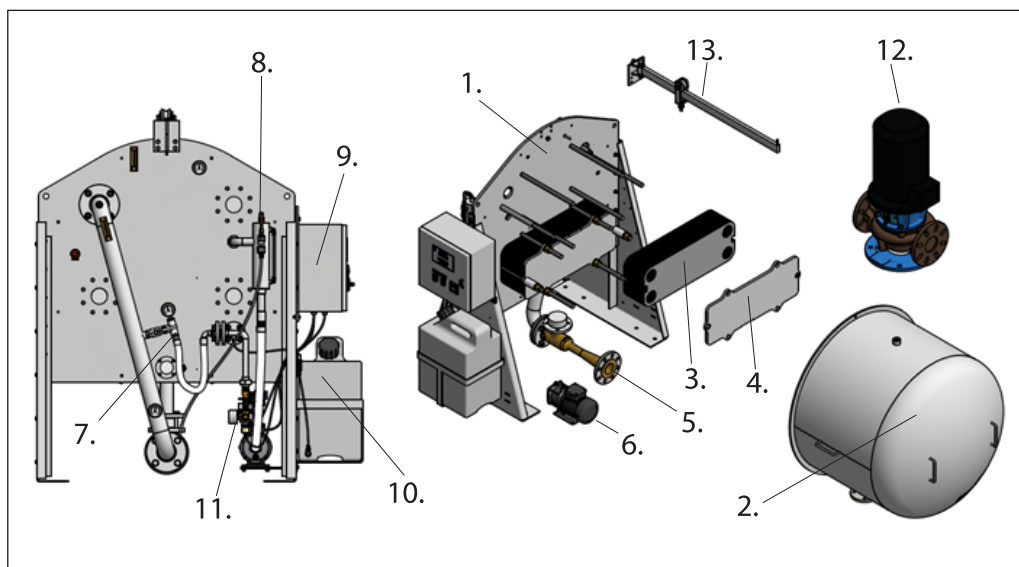
Naming of units

SFD13 - 20m<sup>3</sup>/24h



Design

The SONDEX® Fresh Water Distiller consists of



**Frame (1.)**

- Backbone in the plant. Almost every component is in one or another way connected to the frame.

**Vacuum chamber (2.)**

- Process chamber, where the transformation from sea water to fresh water happens.

**Plate pack (3.)**

- Sondex brand titanium plates of highest quality. Heats or cools the medium.

**Follower (4.)**

- Used for assembling the plate pack to the assembly measurement to ensure the correct function of the plate pack.

**Ejector (5.)**

- Ensures that brine is extracted from the vacuum chamber and that adequate vacuum is obtained.

**Fresh water pump (6.)**

- Extract the fresh water from the condenser.

**Feed water system (7.)**

- Used for open, close and adjusting the feed water inlet.

**Unit for bleeding (8.)**

- Extracting air from the fresh water and allow the user to see the level of fresh water from the condenser.

**Control box (9.)**

- Control and protection of pumps and salinometer. Additional components are available on request.

**Chemical dosing system (10.)**

- A chemical dosage unit ensures a constant flow of chemicals from the tank to ensure against scale formation in the evaporator and extend maintenance time.

**Fresh water outlet with water meter (11.)**

- Connection towards fresh water holding tank. Equipped with a water meter which enables the user to read the produced fresh water. A salinity probe is located to measure the ppm. If the limit exceeds the set-point the system automatically recycles fresh water back to the evaporator.

**Sea water pump (12.)**

- Ensures an adequate flow to cool the sea water vapor in the condenser and feeds the ejector- and feedwater to the system.

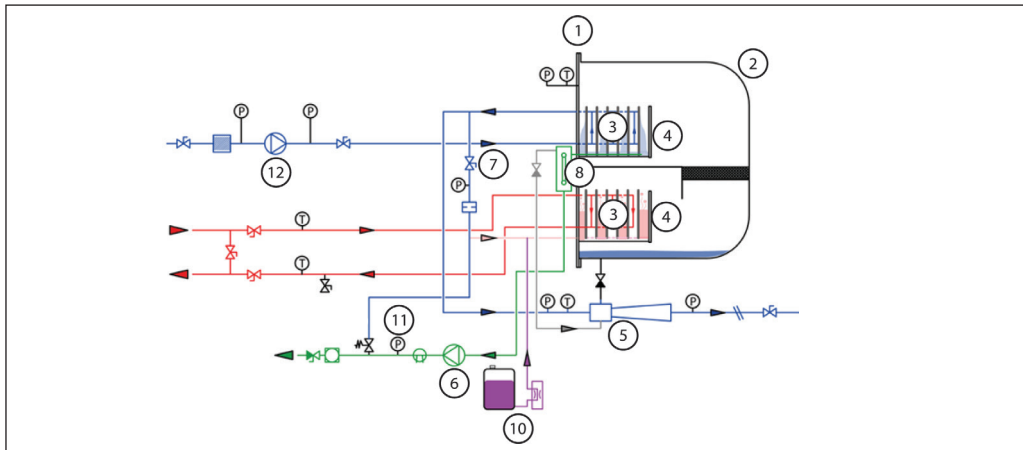
**Carrying bar (13.)**

- For easy removal of the vacuum chamber. Models SFD6, SFD13 and SFD22 the steering arm is additional equipment.

**Connections**

The fresh water distillers have connections for sea water in jacket water inlet/ outlet on the front of the head and outlet of sea water/ brine at the back end of the unit through the ejector outlet and a fresh water outlet.

Please contact your local Danfoss or Sondex sales representative to provide you with the design for SONDEX® Fresh Water Distillers.



**Technical data**

SONDEX® Single Stage Fresh Water Distiller

| Type                                    |                     | SFD6  | SFD13  | SFD22   | SFD35    | SFD45    |  |
|---|---------------------|---|--|---------|----------|----------|--|
| Capacity                                | m <sup>3</sup> /24h | 5 - 12  | 10 - 25  | 30 - 40 | 45 - 55  | 60 - 100 |  |
| Max. working pressure                   | bar                 | 4<br>Units with higher working pressure available on request                              |  |         |          |          |  |
| Max. design temperature                 | °C                  | 95<br>Units with higher temperature available on request                                  |  |         |          |          |  |
| Max. ambient temperature                |                     | Up to 45<br>Units with higher temperature available on request                            |  |         |          |          |  |
| Min. inlet jacket water temperature     |                     | 75  |  |         |          |          |  |
| Max. inlet jacket water temperature     |                     | 90<br>Units with higher temperature available on request                                  |  |         |          |          |  |
| Min. inlet sea water temperature        |                     | 2   |  |         |          |          |  |
| Max. inlet sea water temperature        |                     | 32  |  |         |          |          |  |
| Salinity/ purity                        |                     | ppm   | 0-2 or 0-5<br>Units with other ppm ranges available on request                   |         |          |          |  |
| Electrical supply                       |                     |   | 400v 50Hz, 440v 60 Hz<br>Units with other electrical supply available on request |         |          |          |  |
| Flow medium                             |                     | Water   |  |         |          |          |  |
| Connection size                         |                     | DN65  | DN80   | DN100   | DN125    | DN150    |  |
| Connection type                         |                     | Bolted flange connection  |  |         |          |          |  |
| Plate thickness                         | mm                  | 0,5   |  |         |          |          |  |
| Plate material                          |                     | Titanium Grade 1  |  |         |          |          |  |
| Gasket material                         |                     | NBR   |  |         |          |          |  |
| Gasket attachment type                  |                     | Hang-on   | Glued on   | Hang-on | Glued on | Glued on |  |
| Frame and vacuum chamber                |                     | Stainless steel (AISI 316) head and vacuum chamber,<br>Leg on frame is S235JRG2, El-galv. |  |         |          |          |  |
| Max. counter pressure on ejector outlet | bar                 | 0,6   |  |         |          |          |  |

Using the right plate for each individual duty is very important, as it greatly impacts the efficiency of the entire installation. It is important that the length of the plates and the type of pattern match the requirements of individual thermal duty. We have designed our plants to provide the perfect plate and connection size for the duty.

**Accessories****UV filter**

For aftertreatment of the fresh water we offer a wide range of UV sterilization filters.

**Rehardening filter**

To adjust the pH level of the fresh water we offer a wide range of Rehardening filters. We offer Dolomite material for the filter too.

**Output to ECR – Engine control room**

As standard we offer a salinity level remote reading (4-20mA) and a salinity limit alarm. Additional we offer a remote reading of the pump condition and a fault condition, spacer heater etc.

**Spare part kits**

1, 2 and 5 year spare part kits for each type of fresh water distiller can be ordered together with our products.

**Spare parts**

Spare parts for fresh water distiller such as plates, gaskets, ejector parts etc. can be ordered for maintenance, repair, increasing fresh water distiller capacity, etc.

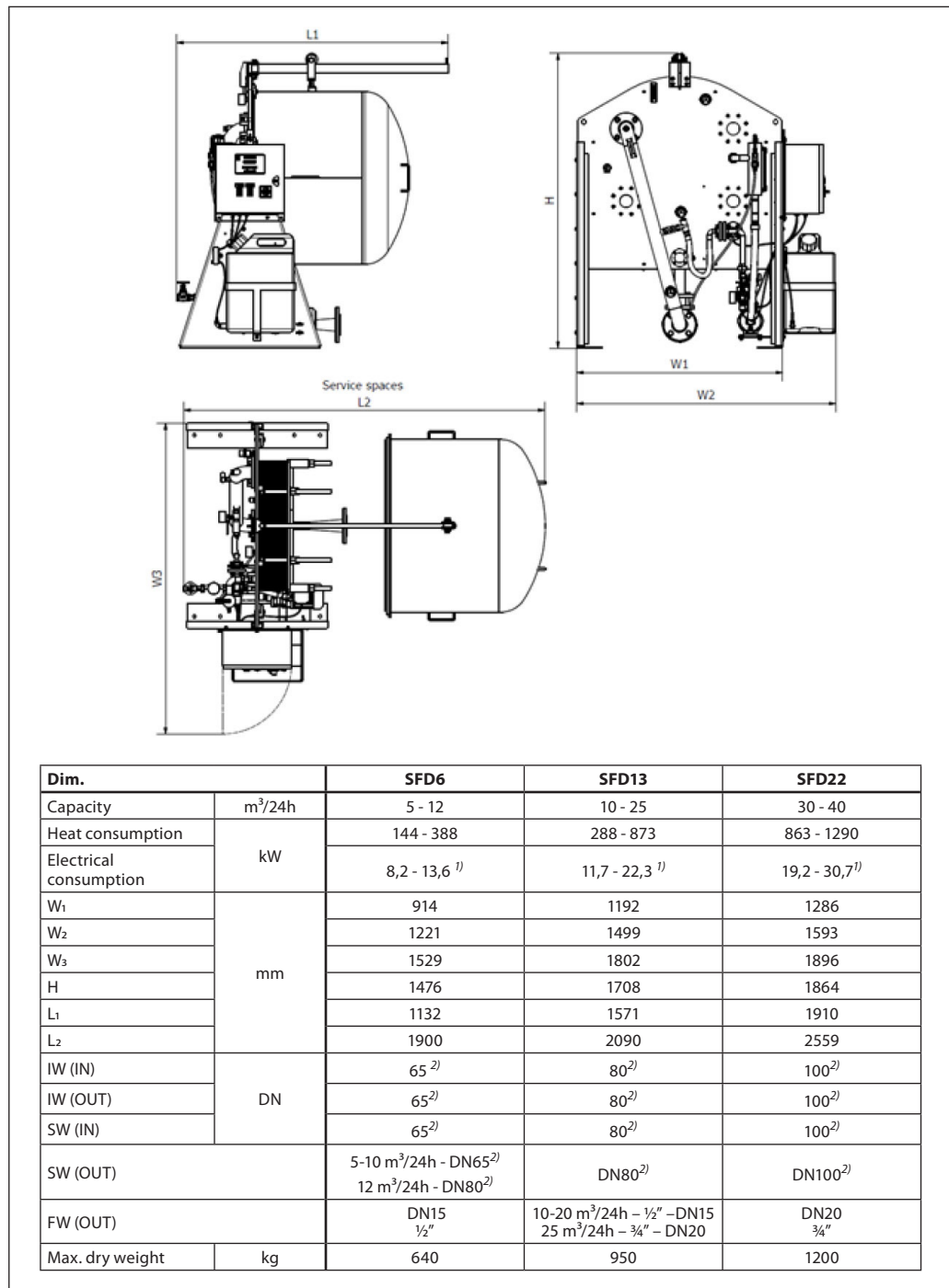
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**Selection and ordering**

Please contact local Sondex or Danfoss sales representative for the selection and / or ordering of the heat exchangers, spare parts and accessories.

For contact information please visit <https://www.danfoss.com/en/contact-us>.

Dimensions and data

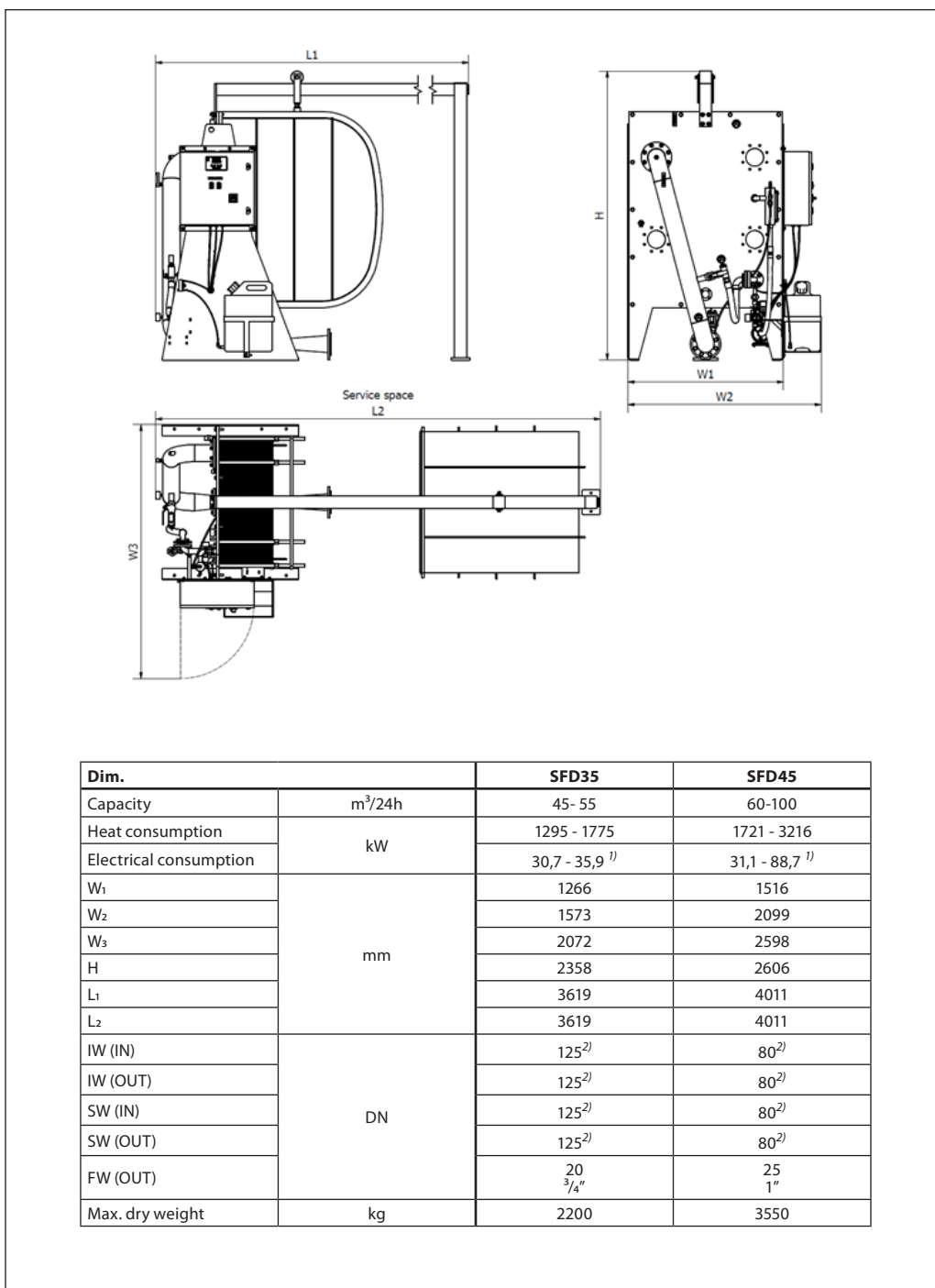


<sup>1)</sup> Electrical consumption is subject to change depending on the chosen pump. The sea water pump is included.

<sup>2)</sup> ANSI connections available on request.

Please check the final dimension in the quotation. The dimensions are subject to change without prior notification. All dimensions are given incl. carrying bar and in the largest configuration/production within the specific type

Continued



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Please check the final dimension in the quotation. The dimensions are subject to change without prior notification. All dimensions are given incl. carrying bar and in the largest configuration/production within the specific type.



