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ISO 14001
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OHSAS 18001
Certificate No. C 0082



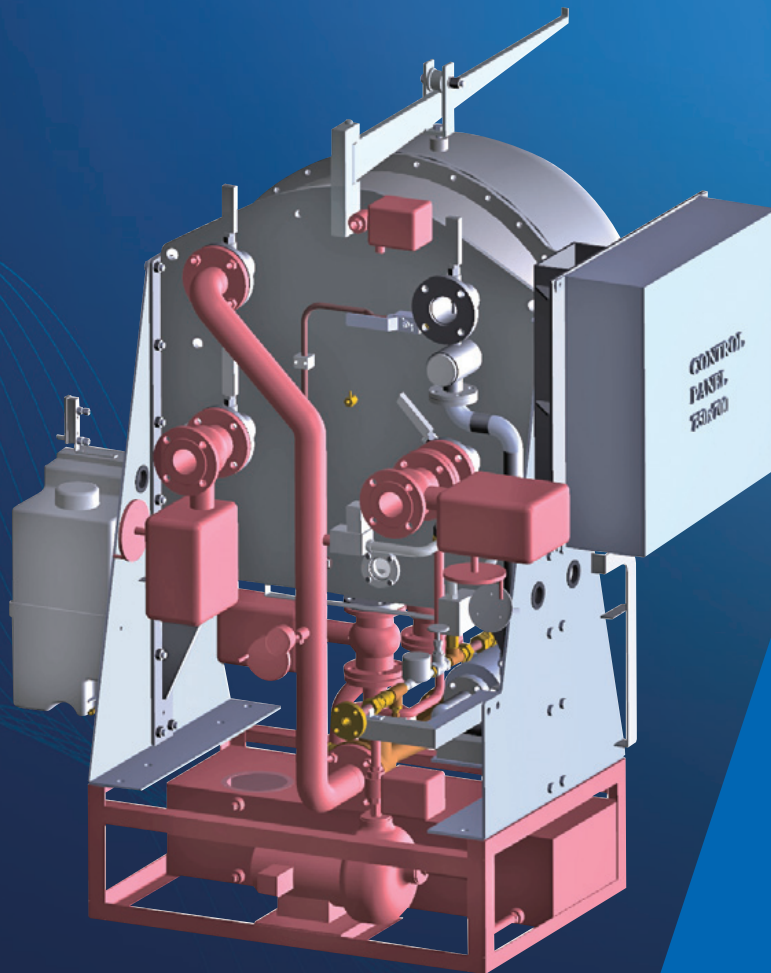
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▶▶ Cryogenic Heat Exchanger and System Engineering **Global Leader**

Smart FWG

Fresh Water Generator



Benefits

- Save Times(M/H)
- Save cost

Feature

- Self Cleaning - 7hr/1hr
- Self Diagnosis - 10ppm
- Self Flushing - 90minutis
- Self Evaluation - ton/year

DongHwa Entec

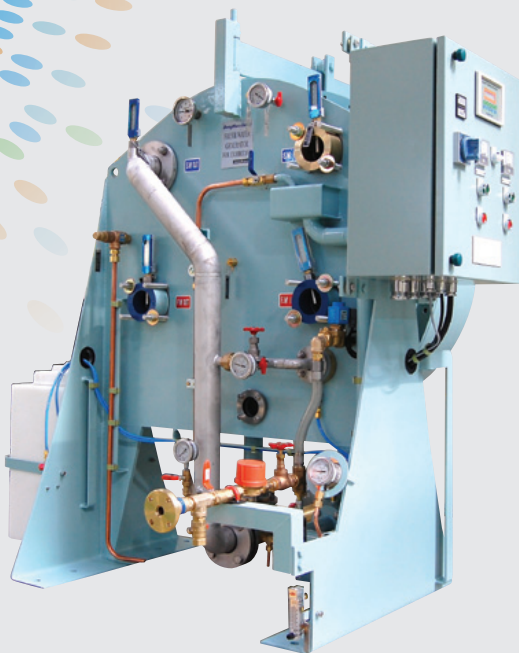
Smart FWG

Hard scales in fresh water generator reduces performance of the system, thereby reducing quality and quantity of freshwater produced on ships. These irregularities must be identified and rectified immediately to ensure that the optimum performance of the fresh water generator is achieved.

We Smart Fresh water Generator is cleaned evaporator's inside via distilled water self cleaning system when service water PPM will be high. Thus, Smart Fresh water Generator will operate over prolonged periods without any overhaul or chemical cleaning because scale does not form to any great extent. We Smart Fresh water Generator can save money and time.

- Benefits**
- Save Times(M/H)
 - Save cost

Two type of FWG (Fresh Water Generator)



| Plate type |



| S&T type |

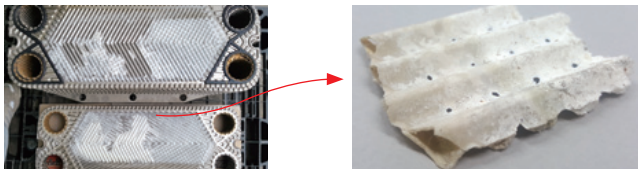
Distillation

Fresh water is generally produced on board using the evaporation method. There are two things that are available in plenty on ship to produce fresh water -Seawater and heat. Thus fresh water is produced by evaporating sea water using heat from any of the heat source. The evaporated sea water is then again cooled by the sea water and the cycle repeats.

Hard scales formation

If sea water is heated above 80 degree Celsius, magnesium hydroxide scale is deposited. Similarly higher shell temperatures result in formation of hard scales which will be difficult to remove. Currently, Most of ships is designed above 80~90 degree Celsius for jacket water.

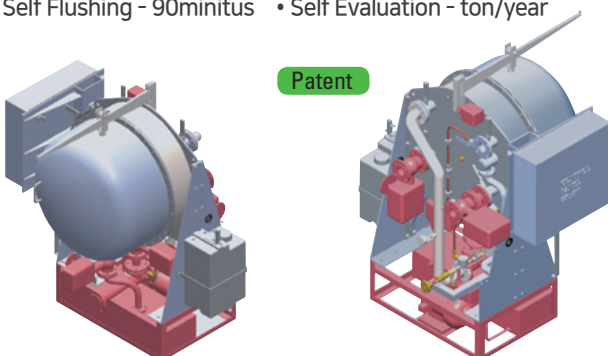
Thus, the hard scales is formation easily in the evaporator. All these together will reduce the fresh water generator efficiency drastically.



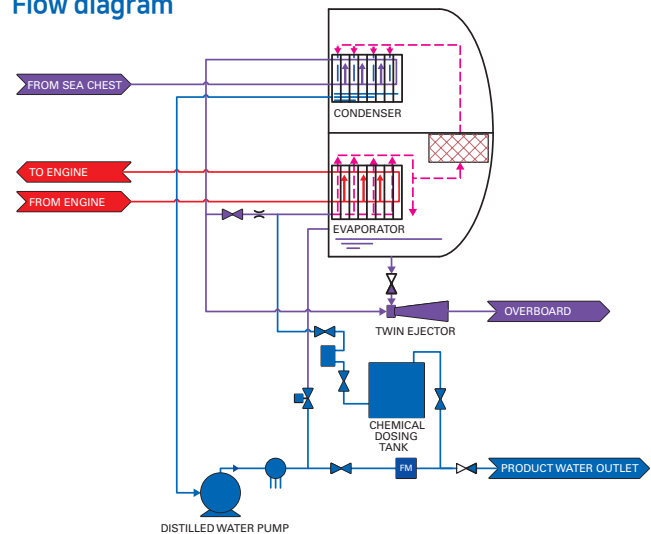
The cleaning time depends on the working condition, but normally a chemical cleaning should be 3~4 times per year as well as an opening of the plate pack once a year or every second year for total cleaning/inspection.

Feature

- Self Cleaning - 7hr/1hr
- Self Diagnosis - 10ppm
- Self Flushing - 90minutis
- Self Evaluation - ton/year



Flow diagram



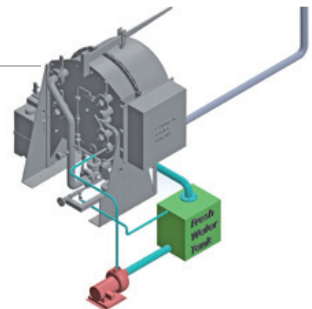
Two concept of Smart FWG v1.0

The difference between the two types depends on the cleaning water supply method.

Model S1 :

Standalone Smart FWG

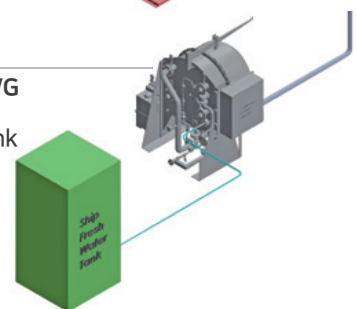
- Supplied self cleaning system



Model W1 :

Water-Filling Smart FWG

- Supplied fresh water tank



Economic study

In case of Standalone Smart FWG.

Smart FWG v1.0 Payback

Maintenance	Self cleaning system	Payback
\$5,000/year	\$10,000	2 years

We hope that you will not miss good opportunity with your wise choice. If you need more information or specific data for Smart FWG, Don't hesitate contact me anytime.

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