Plate Type Fresh Water Generator

SASAKURA
ENGINEERING CO.,LTD.

Sasakura, the world leading manufacture of Marine Water Makers and Industrial use Desalination Plants for more than half a century, has developed a state-of-the art Plate type Marine Fresh Water Generator, taking advantage of the latest technology of plate heat exchangers.

Features

[No Front Cover]

NO FRONT COVER brings the following benefits —

- Easier and quicker disassembly and reassembly of Heater and Condenser.
- No corrosion of Frame, Guide Bar, End Cover, Bolts & Nuts as they are in dry condition.
- Minimal space for installation and maintenance as opening space for cover is not required.

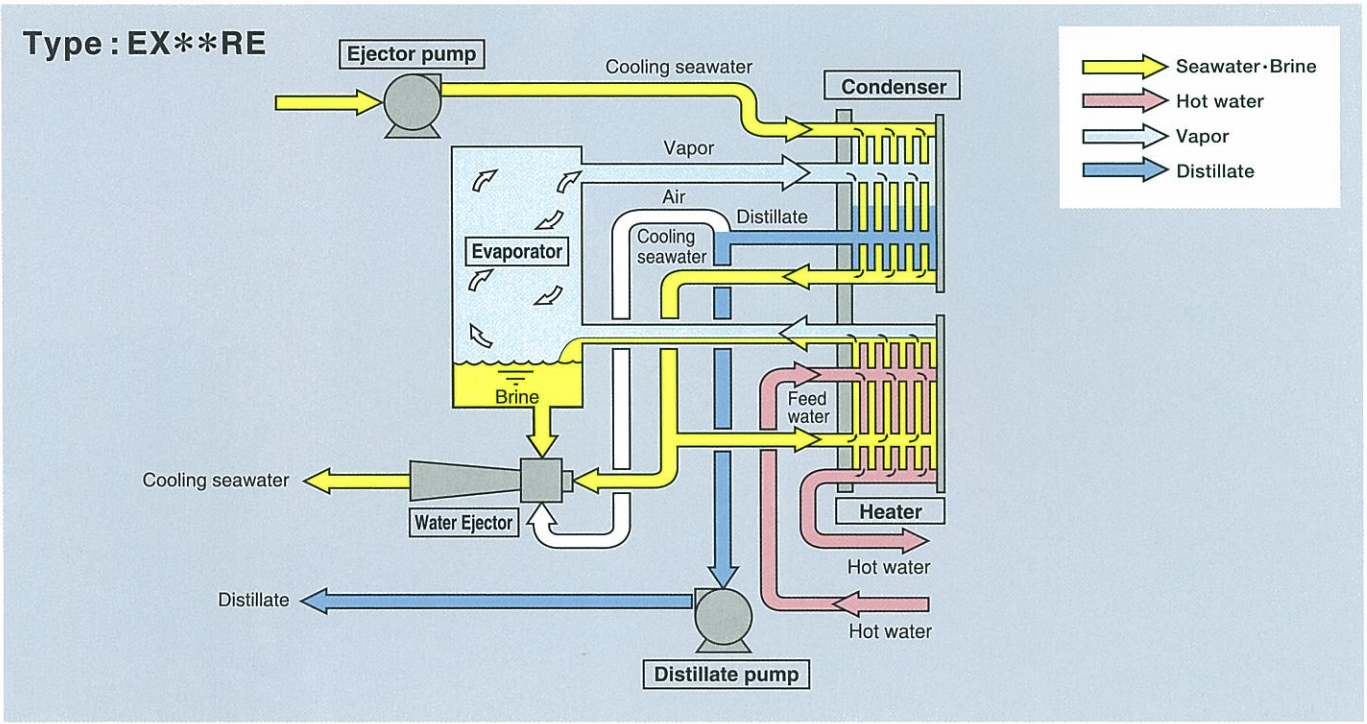
[Particularly designed Plate for Fresh Water Generator]

- Lesser risk of sea water mixture into jacket water owing to Dual Sealed Gasket.
- Lesser maintenance cost owing to on-board replacement of plate gaskets.

Operation Principle

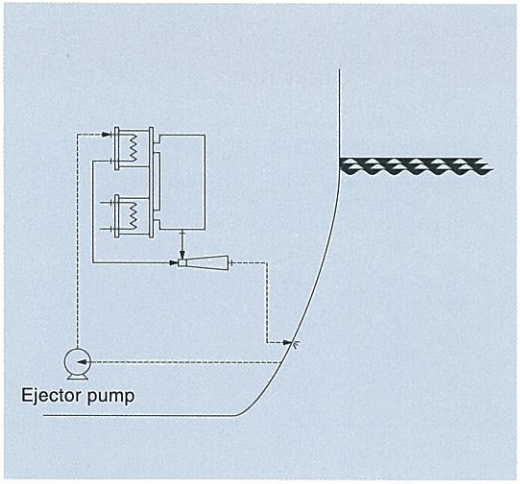
Utilizing waste heat of diesel engine, fresh water of high purity will be produced

- Evaporator is kept under high vacuum by means of water ejector driven by seawater supplied by ejector pump.
- Heating medium (jacket cooling water) is led to heater and warms up feed seawater.
- A part of cooling seawater is branched after condenser outlet and used as feed seawater.
- Vapor generated in evaporator enters into condenser after being demisted and brine(condensed seawater) is dicharged overboard by ejector pump.
- Vapor is condensed into fresh water and transferd to fresh water tank by distillate pump.
- Salinity of product water is continuously measured and observed with salinity indicator. Fresh water of higher salinity than set point is to be automatically returned to evaporator by means of solenoid valve and is not allowed to go into fresh water tank.



Type EX**RE

Cooling seawater is supplied by ejector pump of Fresh Water Generator. Water ejector is to be driven with cooling seawater supplied by ejector pump.

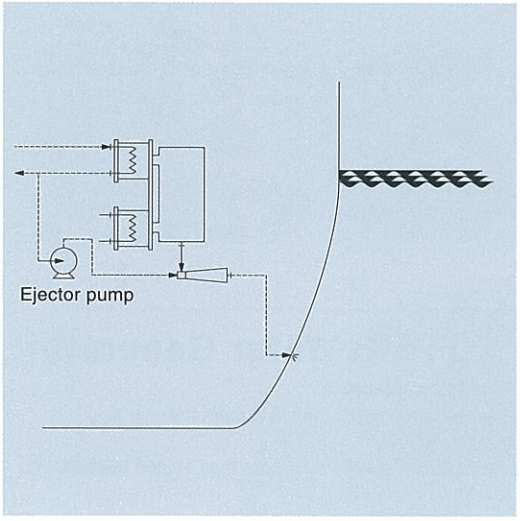


■ Technical Specifications Type EX**RE

Item \ Type EX**			05RE	10RE	15RE	20RE	25RE	30RE	35RE	40RE	45RE
Capacity		t/d	5	10	15	20	25	30	35	40	45
Salinity of distillate		ppm	*Below 10								
Heat Consumption		x10³kcal/h	135	271	407	540	680	822	949	1087	1233
		kW	157	316	474	628	791	956	1103	1264	1434
Cooling Seawater Temperature		℃	32								
Hot water		m³/h	13	26	39	51	64	77	89	102	126
		℃	80								
Distillate Pump		m³/h	0.3	1.2				2.5			
		m	20	30							
		kW	0.4	0.75				1.5			
Ejector Pump		m³/h	12	25	38	47	66	88		103	105
		m	48								
		kW	5.5	7.5	11.0		15.0	18.5		30.0	
Power Source			Motor : FAC440V 60Hz 3phase/Salinity Indicator : AC100～220V 60Hz 1phase								
Installation Space	W	mm	1330	1330	1350	1710	1740	1740	1820	2040	2080
	L	mm	1210	1210	1320	1360	1470	1470	1600	1600	1620
	H	mm	1650	1650	1650	2000	2000	2000	2000	2000	2000
Empty		kg	900	920	960	1620	1670	1710	1750	1850	1900

Type EX**RM

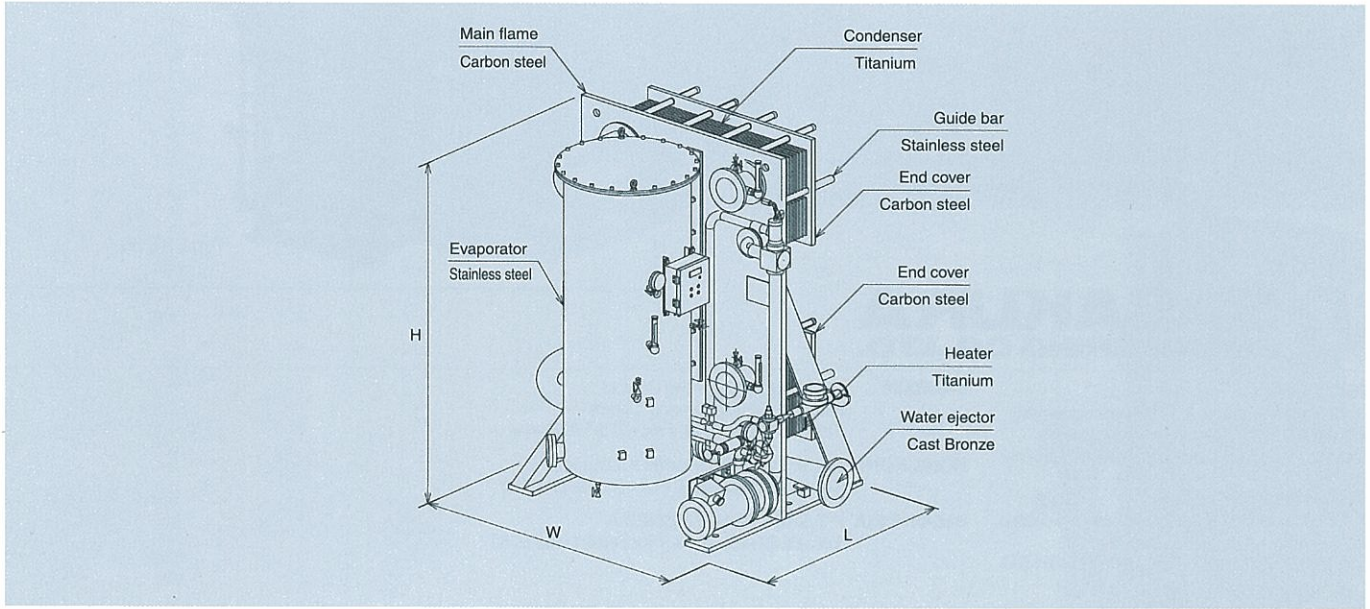
Cooling seawater is to be supplied by seawater service pump of the ship. This type can save ejector pump capacity and its power consumption.



■ Technical Specifications Type EX**RM

Item \ Type EX**			05RM	10RM	15RM	20RM	25RM	30RM	35RM	40RM	45RM
Capacity		t/d	5	10	15	20	25	30	35	40	45
Salinity of distillate		ppm	*Below 10								
Heat Consumption		x10³kcal/h	135	271	407	540	680	822	949	1087	1233
		kW	157	316	474	628	791	956	1103	1264	1434
Cooling Seawater Temperature		m³/h	13	26	39	51	63	77	89	101	123
		℃	32								
Hot water		m³/h	13	26	39	51	64	77	89	102	126
		℃	80								
Distillate Pump		m³/h	0.3	1.2				2.5			
		m	20	30							
		kW	0.4	0.75				1.5			
Ejector Pump		m³/h	10	18	25	27	33	37	42	47	62
		m	39								
		kW	3.7	5.5		7.5		11.0			15.0
Power Source			Motor : AC440V 60Hz 3phase/Salinity Indicator : AC100～220V 60Hz 1phase								
Installation Space	W	mm	1160	1160	1160	1520	1520	1520	1520	1570	1595
	L	mm	1220	1220	1340	1390	1480	1480	1600	1600	1620
	H	mm	1650	1650	1650	2000	2000	2000	2000	2000	2000
Empty		kg	870	890	890	1450	1620	1660	1700	1800	1840

*Salinity of less than 4 or 2 ppm can be guranteed for special orders.



Steam Heating

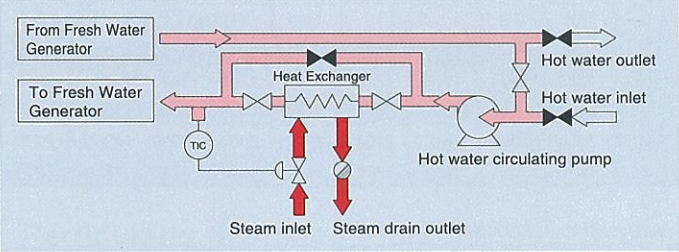
Steam Booster unit / Steam Injector

Steam instead of jacket cooling water can be used to run Fresh Water Generator when engine load is low or engine is not running and so jacket cooling water temperature is not high enough to be used as heating medium.

Steam Booster Unit

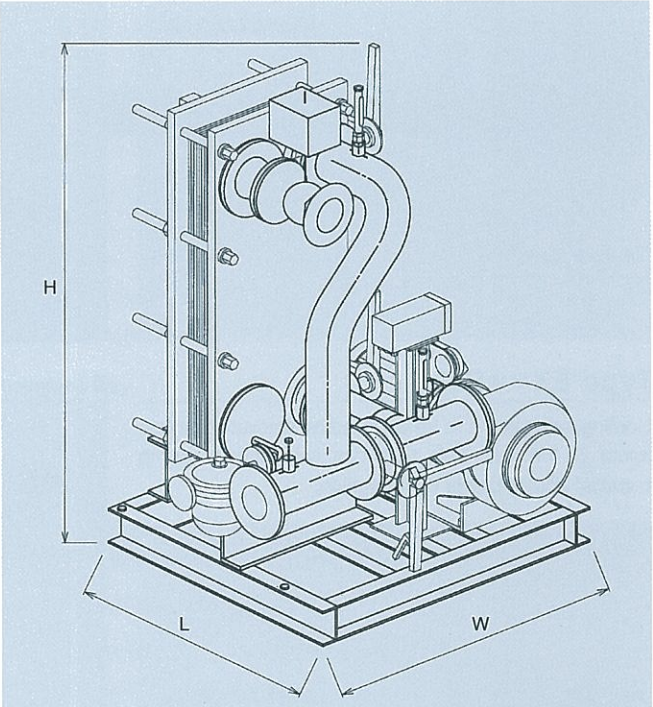
Steam Booster Unit incorporated with plate type heater

- can warm up jacket cooling water of low temperature and circulates it as heating medium for Fresh Water Genarator.
- can be used for main engine warm up.



■ Steam Booster Unit

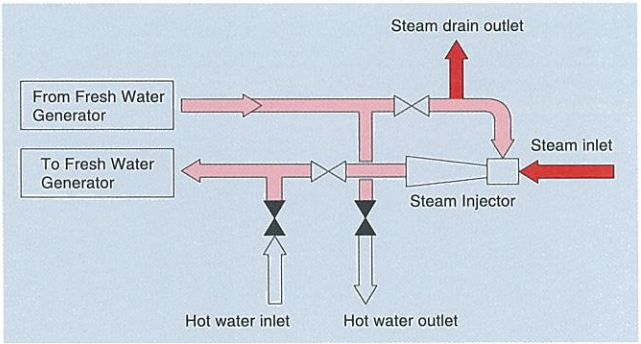
Item	Type	HLS-10	HLS-20	HLS-30
Max Capacity	t/d	10	20	30
Max Steam Consumption	kg/h	480	950	1430
Hot water Circulation Pump	m^3/h	25	51	77
	m	10	10	10
	kW	2.2	3.7	5.5
Installation Space (mm)	W	1220	1220	1220
	L	1130	1130	1130
	H	1660	1660	1660



Steam Booster Unit External Arrangement

Steam Injector

Steam supplied through steam injector mixes up with heating water in fresh water generator and warms it up to more or less 80℃ that is high enough as heating medium for Fresh Water Generator.
Steam drain is retrieved to drain tank.



Series K Fresh Water Generator

Tubular Type Fresh Water Generator
We have three different type of KE, KM, K to meet the user's various requirements.
Reliability and performance proven with more than 10,000 installations.
Capacity range: 3 to 100 ton/day.

Type KE30

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Due to our policy of continuous introduction of technical improvements the information given in this brochure is subject to change without notice.

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