

## Ballast Water Management System



### Advantages

1. Worldwide services;
2. Highly intelligent operation;
3. Small size & compact design;
4. Easy and economical maintenance;
5. Pure physical treatment technology;
6. Optional Global Remote Support System;
7. Ex-proof and EMC approval to fit all vessel types;
8. Suitable for all high salinity seawater, brackish water and fresh water.

### Application

A key international measurement for environmental protection that aims to stop the spread of potential invasive aquatic species in ships' ballast water enters into force.

### Mandatory

1. New ships must meet the ballast water treatment standard;
2. Existing ships should exchange ballast water mid-ocean but they will need to meet the ballast water treatment standard by the date of a specified renewal survey;
3. Eventually, most ships will need to install an on-board ballast water treatment system.

### Certificates

CCS, ABS, RINA, DNV-GL, BV, USCG, NK, etc.

### Models and Main Technical Parameters

Model	Capacity(m <sup>3</sup> /hr)	Outline Size (mm) (L*W*H)		Power (kW)
		Horizontal Layout	Vertical Layout	
HS-200	100-200	2480*1300*1926	1150*1150*2490	27/36
HS-300	250-300	2980*1300*1980	1290*1240*2540	30/48
HS-500	350-500	3145*1300*2085	1490*1290*2690	54/72
HS-750	550-750	3215*1300*2465	1890*1570*2890	65/84
HS-1000	800-1000	3515*1300*2465	2140*1740*3050	75/108
HS-1250	1100-1250	3895*1300*2465	2290*1790*3110	103/132
HS-1500	1300-1500	2*HS-750		2*HS-750
HS-2000	1600-2000	2*HS-1000		2*HS-1000
HS-2500	2200-2500	2*HS-1250		2*HS-1250
HS-3000	2600-3000	3*HS-1000		3*HS-1000
HS-4000	3100-4000	4*HS-1000		4*HS-1000

The technical parameters are optional, we can accommodate your requirements.

## Marine Sewage Treatment Plant

### Applications

It used to treat the "black water" from toilet fecal sewage, and "gray water" from washing room and kitchen.

### Advantages

1. It can be used for ships and oil platforms;
2. Common type and ex-proof type for choose;
3. Integrated type and split type for choose;
4. Membrane biochemical sewage treatment plant.



**Round Type**

### Standard

It is according to the revised Annex IV of the International Convention of the Prevention of Pollution (MARPOL 73/78).

It satisfies the requirements of the (IMO) Resolution MEPC.227(64).

### Certificates

CCS, ABS, RINA, DNV-GL, BV, USCG, NK, RS, IRS, etc.



**Split Type**

( Best design for old ship repairs when the door sizes not enough.)



**Square Type**

## Models and Main Technical Parameters

Model	SWCM(I)-														
	15	20	25	30	40	50	60	80	100	120	150	200	250	300	400
Average load (L/d)	1190	1540	1890	2310	3080	3780	4480	6020	7700	9100	11200	14700	18200	23100	30800
Peak load (L/h)	149	193	237	289	385	473	560	753	963	1138	1400	1838	2275	2888	3850
Organic load (kgBOD5/d)	0.595	0.77	0.945	1.155	1.54	1.89	2.24	3.01	3.85	4.55	5.6	7.35	9.10	11.55	15.4
Rated Capacity (person)	15	20	25	30	40	50	60	80	100	120	150	200	250	300	400
Max capacity (person)	17	22	27	33	44	54	64	86	110	130	160	210	260	330	440
Electricity	AC 380V/50Hz/3φ, AC 415V/50Hz/3φ, AC 440V/60Hz/3φ, etc.														
Power (kW)	1870	1680	1890	1980	2320	2320	2650	2800	2800	3030	3090	3640	3890	4790	5980
Outline Size (mm) LxWxH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Dry weigh (kg)	1200	1400	1400	1500	1600	1700	1700	1900	2100	2100	2250	2250	2450	2450	2450
Wet weight (kg)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Effluent standard	1450	1570	1560	1650	1700	1880	1860	2090	2300	2300	2390	2390	2580	2600	2600
	1000	1000	1100	1200	1300	1450	1600	1850	2200	2300	2800	3000	3300	3700	4200
	2283	2640	2740	3500	4400	5073	5270	6517	8268	9166	11340	13267	16538	20357	25417
	BOD5≤25 Qi/Qe mg/L, COD≤125Qi/Qe mg/L, TSS≤35 Qi/Qe mg/L, coliforms≤100/100ml, PH6~8.5, CL2≤0.5mg/L														

The technical parameters are optional, we can accommodate your requirements.

## Marine Sewage Comminuting and Collecting Tank

### Application

1. Storing raw sewage or solid waste treated by sewage treatment equipment;
2. Disinfection;
3. Comminuting of residue.

### Standard:

Annex IV of "MARPOL" 73/78

### Principle Description

Raw sewage or solid residues treated by sewage treatment plant are put into the sterilization storage tank, which accumulates to a certain level in the cabinet to start the crushing pump.



### Models and Main Technical Parameters

Model	WCH-													
	0.3	0.5	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	15.0	
Capacity (m³)	0.3	0.5	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	15.0	
Discharge pressure	0.08MPa or as order							0.1MPa or as order						
Electricity	AC 380V/50Hz/3φ, AC 415V/50Hz/3φ, AC 440/60Hz/3φ, etc.													
Power (kW)	1.0kw							1.5kw						
External dimensions L×B×H (mm)	900	900	1200	1300	1400	1800	1800	2000	2500	2800	2800	2850	3250	
	×	×	×	×	×	×	×	×	×	×	×	×	×	
	650	800	950	1100	1300	1500	1500	1600	1650	1850	2050	2250	2450	
	×	×	×	×	×	×	×	×	×	×	×	×	×	
	1350	1500	1500	1500	1500	1500	2000	2000	2000	2000	2300	2300	2300	
Weight	Dry weight (kg)	380	450	560	650	730	950	1200	1600	2000	2500	3000	3200	3600
	Wet weight (kg)	680	950	1560	2150	2730	3950	5200	6600	8000	10500	13000	15200	18600
Quality of Effluent	Colichin≤1000pcs/100ml, suspended solid shall not be found													

The technical parameters are optional, we can accommodate your requirements.

## Marine Oil Water Separator

### Application

It used to treat bilge water on ships.  
It also be called 15ppm bilge separator.

### Standard

It meets the requirements of IMO.MEPC.107 (49) resolution.

### Certificates

CCS, ABS, RINA, DNV-GL, BV, USCG, NK, RS, IRS, etc.



### Models and Main Technical Parameters

Model	YWC-								
	0.25	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00
Rated capacity (m <sup>3</sup> /h)	0.25	0.50	1.00	1.50	2.00	2.50	3.00	4.00	5.00
Discharge Water Oil Content	≤15ppm								
Heater Power (kW)	1kw	3kw	6	6	6	6	6	12	12
Voltage	AC 380V/50Hz/3φ, AC 415V/50Hz/3φ, AC 440/60Hz/3φ, etc.								
Motor Power (kW)	0.37	0.55	0.75	1.1	1.1	1.5	1.5	2.2	2.2
Suction Head	≤6m(H <sub>2</sub> O)								
Discharge Water Pressure	5-10m(H <sub>2</sub> O)								
Outline Size (mm) (L×W×H)	1000	1100	1050	1100	1900	1900	1700	2280	2590
	×	×	×	×	×	×	×	×	×
	600	690	1000	1130	1120	1120	1500	1700	2000
	×	×	×	×	×	×	×	×	×
	1250	1460	1620	1650	1700	1900	1900	1900	1900
Dry Weight (kg)	400	600	800	1060	1260	1500	1800	2100	2500
Wet Weight (kg)	550	900	1200	1650	2260	2800	3200	3900	4600
Applicable Vessel (KDWT)	<1	1-5	5-10	10-30	30-50	50-100	100-200	100-300	>300

The technical parameters are optional, we can accommodate your requirements.

## Marine Calorifier

### Application

The marine calorifier is suitable for heating fresh water for crew use, by electricity or steam on ship or platform.

### Types

1. DRG series electric heating type;
2. ZRG series steam heating type;
3. ZDR series steam-electric heating type.

### Certificates

CCS, ABS, RINA, DNV-GL, BV, USCG, NK, RS, IRS, etc.



**Without Hot Water Circulating Pump Type**



**With Hot Water Circulating Pump Type**

### Hot Water Circulating Pump

1. One use only;
2. One use one standby.

### Materials

1. Marine carbon steel;
2. SUS304;
3. SUS316.

### DRG Series Electric Heating Calorifier Models and Main Technical Parameters

Model	DRG-				
	0.12	0.2	0.3	0.5	1.0
Capacity (m3)	0.12	0.2	0.3	0.5	1.0
Working pressure (MPa)	0.4 (60°C)				
Design pressure (MPa)	0.44				
Test pressure (MPa)	0.66				
Water inlet temperature ( °C)	15				
Water outlet temperature ( °C)	65				
Working temperature (°C)	0~65				
Design temperature (°C)	80				
Heated water capacity (kg/h)	180	360	540	720	900
Electrical heating power (Kw)	12	24	36	48	60

The technical parameters are optional, we can accommodate your requirements.

**ZRG series steam heating Calorifier Models and Main Technical Parameters**

Model	ZRG-				
	0.12	0.2	0.3	0.5	1.0
Capacity (m <sup>3</sup> )	0.12	0.2	0.3	0.5	1.0
Working Pressure (Mpa)	0.6				
Design Pressure (Mpa)	0.7				
Steam Pressure (Mpa)	0.3				
Water Inlet Temp. (°C)	15				
Water Outlet Temp. (°C)	65				
Steam Consumption (kg/h)	27.5	45	75	120	325
Heated-water Capacity(kg/h)	275	450	750	1200	3250
Steam Hot-water area (m <sup>2</sup> )	0.24	0.38	0.6	1.0	2.6
Weight (kg)	155	205	222	286	343

The technical parameters are optional, we can accommodate your requirements.

**ZDR series steam-electric heating Calorifier Models and Main Technical Parameters**

Model	ZDR-				
	0.12	0.2	0.3	0.5	1.0
Capacity(m <sup>3</sup> )	0.12	0.2	0.3	0.5	1.0
Working pressure (MPa)	0.4 (60°C)				
Design pressure(MPa)	0.44				
Test pressure (MPa)	0.68				
Safety valve open pressure(MPa)	0.42				
Water inlet temperature(°C)	15				
Water outlet temperature (°C)	65				
Working temperature(°C)	0~65				
Design temperature(°C)	80				
Steam pressure (MPa)	0.3				
Heated water capacity (kg/h)	275	450	750	1200	3250
Steam consumption(kg/h)	27.5	45	75	120	325
Heated water capacity (kg/h)	90	140	180	280	540
Electrical heating power(kW)	6	9	12	18	36
Electricity	AC380/50Hz/3φ, AC440V/60Hz/3φ(Optional)				

The technical parameters are optional, we can accommodate your requirements.



## Marine Hydrophore

### Application

The marine hydrophore is appropriate for the water supply system (fresh water, seawater) on board and oil platform.

### Types

1. YLG series type (without centrifugal pump);
2. ZYG series type (with two centrifugal pumps);
3. Fresh-water tank and sea-water tank combined type.

### Materials

1. Carbon steel; 2. SUS304; 3. SUS316

**Certificate:** CCS, ABS, RINA, DNV-GL, BV, USCG, NK, RS, IRS, etc.



YLG series type



ZYG series type



Fresh-water tank and sea-water tank combined type

### ZYG Series Hydrophore Models and Main Technical Parameters

Model		ZYG-						
		0.12	0.2	0.3	0.5	1.0	1.5	2.0
Volume (m <sup>3</sup> )		0.12	0.2	0.3	0.5	1.0	1.5	2.0
Working pressure (MPa)		0.4						
Design pressure (MPa)		0.44						
Test pressure (MPa)		0.66						
Water pump	Model	1.5CWX-1.5/1.5A			1.5CWX-2/2A		1.5CWX-3/3A	
	Flow rate (m <sup>3</sup> /h)	3			6.5		10	
	Pump head (m)	40			40		40	
	Power(kW)	2.2			3		4	

**The technical parameters are optional, we can accommodate your requirements.**



## Seawater Desalination Plant

### Application

The seawater desalination plant is accommodating to the seawater which average salinity is less than 35000ppm. The produced water is in accordance with your requirement when among this scale of seawater salinity.

The functions of our device including raw water boosting and pre-treatment system, online monitoring device of reverse osmosis product water salinity, semiautomatic cleaning and fore & back flushing system with compressed air acceleration of sand filter.



### Quality of Produced Water

It Meets National Drinking Water Standards (TDS≤600ppm).

Requested Environment Conditions:

1. Environment temperature: 0~45°C;
2. Seawater temperature: 5~35°C;
3. Humidity: 20%~95%.

### Models and Main Technical Parameters

Model	HS-FSHB						
	5	10	20	30	40	50	60
Capacity (m <sup>3</sup> /day)	5	10	20	30	40	50	60
Raw water (mg/L)	≤35000	≤35000	≤35000	≤35000	≤35000	≤35000	≤35000
Inlet temperature (°C)	5~35	5~35	5~35	5~35	5~35	5~35	5~35
PH value of Raw Water	3.0~10.0	3.0~10.0	3.0~10.0	3.0~10.0	3.0~10.0	3.0~10.0	3.0~10.0
Boosting inlet pressure (kg/cm <sup>2</sup> )	0.1~1	0.1~1	0.1~1	0.1~1	0.1~1	0.1~1	0.1~1
Salt Content of Product Water (PPM)	≤500	≤500	≤500	≤500	≤500	≤500	≤500
Desalination rate	≥98.5%	≥98.5%	≥98.5%	≥98.5%	≥98.5%	≥98.5%	≥98.5%
Voltage	AC 380V/50Hz/3Ph, AC 440V/60Hz/3Ph, etc.						
Environment temperature (°C)	0~45	0~45	0~45	0~45	0~45	0~45	0~45
Air Humidity	20~90%	20~90%	20~90%	20~90%	20~90%	20~90%	20~90%

The technical parameters are optional, we can accommodate your requirements.

## Marine Oil Separator



### Application

It is specifically designed for cleaning of mineral oils from water and solid particles (sludge).

The separator handles the following types of lubricating oil and low viscosity fuel oil:

1. Distillate (viscosity 1.5-5.5 cst/40°C);
2. Marine diesel oil (viscosity 13 cst/40°C);
3. Intermediate fuel oil and heavy fuel oil (viscosity 30-380cst/50°C);
4. Lubricating oil of R & O type, detergent or steam turbine.

### Models and Main Technical Parameters

Model	KYDR203 CD-21	KYDB203DD- 21	KYDB204 DD-21	KYDB405 SD-21	KYDB309 SD-21	KYDB513 SD-21
Rated Separated Volume (L/hr)	2000	1500	2000	3000	6000	10000
Drum Rotating Speed (rpm)	9000	9400	9300	9100	5800	6200
Separating Factors (g)	12450	9037	9910	12034	7050	9131
Motor Power (kW)	2.2	1.5	3	5.5	11	15
Drive Type	High-speed Strap					
Start/Stop Time	3~5 min/10~15 min				5~8 min/15~20 min	
Slag Discharge Way	Manual	Auto Valve-circled Partial				
Waste Oil Input Way	Independent External Pump					
Waste Oil Input Pressure	0.1Mpa					
Purified Oil Output Way	Concentric Pump					
Purified Oil Output Pressure	0.2-0.3Mpa					
Water Control Pressure	0.02-0.7 Mpa	0.2-0.3Mpa/85-95 °C				
N.W.(KG)	268	250	270	400	900	1100
Outline Dimension (mm)	720*450*850	710*420*840	720*450*850	840*510*930	1220*800*1300	1300*900*1450
Power Supply	380V/50HZ/3p, 440V/60HZ/3p, etc.					

## Marine Fuel Oil Supply Unit



### Application

Marine fuel oil supply unit is services for the fuel supply of diesel engine, can supply pressure stably for diesel fuel into the machine, meets the temperature and viscosity requested by diesel engine, to achieve the desired fuel burning effect, give full play to the maximum working efficiency, reduce exhaust of diesel engine and carbon, prolong the service life of diesel engine and parts.

This device is an individual and whole unit module, through the combination of various components requested by the system, let the users greatly improve their work efficiency during the design, construction, installation and debugging. Facilitate the operation of the turbine staff management and maintenance at the same time.

### Models and Main Technical Parameters

Model	RF/FOS-							
	1.0	1.2	1.6	1.9	2.5	3.3		
Diesel Engine Power (kW/Ps)	1500-3000ps 1103-2206kW	3000-4000ps 2206-2930kW	4000-5310ps 2930-3906kW	5310-6000ps 3906-4400kW	6000-8000ps 4400-600kW	8000-10000ps 6000-7350kW	More than 10000	
Supply Pump Par.(m <sup>3</sup> /h)	1.0	1.2	1.6	1.9	2.5	3.3	According to the design requirement	
Circulating Pump Par.(m <sup>3</sup> /h)	1.6	1.9	2.5	3.3	4.0	5.0		
Outline Dimension(mm)	2000*1200*1600						2300*1400*1800	

The technical parameters are optional, we can accommodate your requirements.

## Hot Well Unit

### Description

The hot well unit can be used to steam condensate water, boiler water supply system of ships and drilling platforms. It is the essential equipment of steam condensate water closed loop circulatory system.

The unit is composed with public bas, marine atmosphere condenser, condensate water observation cabinet, hot water well, automatic replenish water valve, thermometer, temperature controller, liquid controller, hot water pump, electric controller, valve, etc.

The unit is constituted of steam condensate water closed loop circulatory system. The surplus steam produced by boiler and condensate water produced when the steam passing through the steam using devices, they are cooled when passing through atmosphere condenser, then flow into hot well, hot water filtered in hot well, exhausting the oil and dirty, sending it into boiler by pressure increasing pump of boiler supply water, supply to continue circulatory in system, accomplishing heat exchange of the whole system.



### Models and Main Technical Parameters

Model	Hot-well Capacity (m <sup>3</sup> )	Cooled Area (m <sup>2</sup> )	Outline Dimension (mm)
HSWU-0.3/2.0	0.25	1.0	1350*600*1050
HSWU-0.5/3.0	0.5	2.0	1600*700*1250
HSWU-0.75/5.0	0.75	3.0	1600*1000*1250
HSWU-1.0/5.0	1.0	5.0	1700*1300*1450
HSWU-1.0/8.0	1.0	8.0	1750*1300*1450
HSWU-1.2/6.0	1.2	6.0	1800*1500*1650
HSWU-1.2/8.0	1.2	8.0	1950*1500*1650
HSWU-1.5/8.0	1.5	8.0	1950*1500*1950
HSWU-1.5/10	1.5	10	1950*1500*1950
HSWU-2.0/12	2.0	12	2000*1600*1950
HSWU-2.0/15	2.0	15	2500*1600*1950
HSWU-2.5/18	2.5	18	2500*1800*1950
HSWU-2.5/20	2.5	20	2500*1800*1950

The technical parameters are optional, we can accommodate your requirements.