OILY BILGE SEPARATOR

IMO Resolution MEPC. 107(49). Approved Type



Clean Sea, The Better Environment

GEORIM ENGINEERING CO.,LTD.

COMPANY INTRODUCTION

As leading of Oily Bilge Separator(15PPM Bilge Separator) Manufacturer, **GeoRim (巨林, GRS)**has progressed in a professional manufacturer of **Oily Bilge Separator, 15ppm Bilge Alarm, Bilge and Sludge Pump, and F.W.(or S.W.) Hydrophore Tank Unit.**

Our new type Oily Bilge Separator has **IMO type** approval certificate and MED / **EC type** certificate and **RS** type approval certificate and ABS Classification Design Assessment Certificate in accordance with New **IMO** Resolution **MEPC 107(49).**

Our separators, produced based on our high technology and various experience in the field for 25 years, are being installed in ships of prominent shipping companies.

We have been making a constant effort with mind of environmental conservation and turning clean ocean over to the descendents. We are look over future, not only looking back our achievement in the past. We promise that we will the best company with customers based on the highest quality and technology.

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COMPANY HISTORY

1990

- Jul. 1989 Established Georim Engineering. Branch office of Kolon Eng Marine Equipment Co., Ltd.
- Oct. 1994 Developed Oil Filtering Equipment (IMO MEPC. 60 (33).) Obtaining the type approved certificate by the Korea Maritime and Port Administration (UST-02G ~100NG) : 7 types
- Jan. 1996 Developed Oil Filtering Equipment in accordance with IMO Resolution MEPC. 60(33). (Type : POS-2000,5000)

2000

- Jan. 2000 Developed Oil Filtering Equipment in accordance with IMO Resolution MEPC. 60(33). (Type : POS-N2, POS-N5, POS-N10)
- Jan. 2000 Acquired ISO 9002 & EC Type Certificate from DNV.
- Jan. 2000 Moved Factory & Head Office from Eomgung Dong to Noksan National Industrial complex 72B9L (Building site 1652.9)Changed company name from GeoRim Engineering to GeoRim Engineering Co., Ltd.
- Jul. 2002 Acquired the type approval certificate from Russian Maritime Register of Shipping. (Type: UST-05G, UST-10G, POS-N2, POS-N5, POS-N10)
- Jan. 2003 Acquired ISO-9001:2000 / KS A 9001:2001 Certificate from DNV
- Jan. 2003 Developed 15PPM Bilge Alarm in accordance with IMO Resolution MEPC. 60(33).
- Nov. 2004 Developed new type Oily Bilge Separator, and acquired IMO type approval certificate for 15PPM Bilge Separator in accordance with IMO Resolution MEPC. 107(49). (Type : GRS-02EB, 03EB, 05EB, / GRS-10EB, 20EB, 25EB, 50EB, 100EB)

2005

- Jul. 2005 Developed new type 15PPM Bilge Alarm, and acquired IMO type approval certificate for 15PPM Bilge Alarm in accordance with IMO Resolution MEPC. 107(49).
- Jul. 2005 Acquired EC Type Certificate for 15PPM Bilge Separator in accordance with IMO Resolution MEPC. 107(49). From DNV.
- Sep. 2006 Obtained Type-Approval Certificate for 15ppm Bilge Separator by RS (Russian maritime Register of Shipping)
- Nov. 2006 Obtained Type-Approval Certificate for 15ppm Bilge Alarm by RS (Russian maritime Register of Shipping)
- Dec. 2009 Obtained Drawing Approval for Single Screw Pump by KR (Korea Register of Shipping)

2010

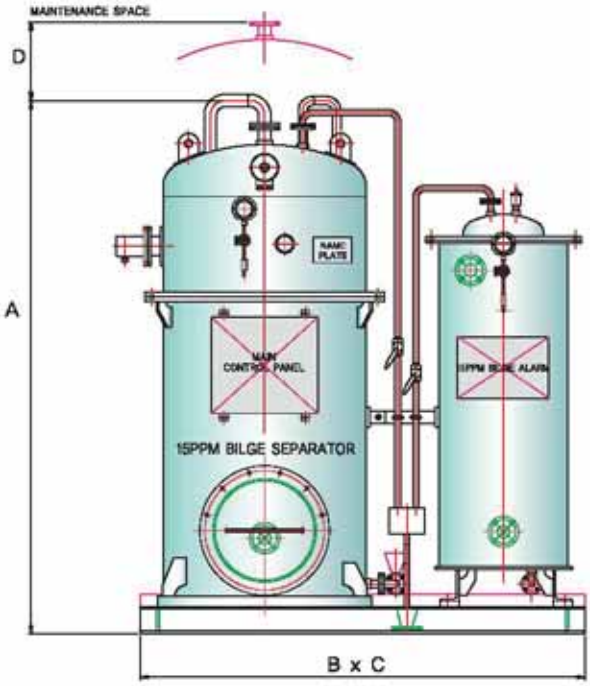
- Jul. 2011 Relocated the factory for expansion(Building site 4299.9) from 1591-10 to 1589-7 Songjeong-dong, Gangseo-gu. Busan, Korea
- Jul. 2012 Obtained Type-Approval Certificate for 5ppm Bilge Separator by RS (Russian maritime Register of Shipping)
- Nov. 2013 Acquired ISO-9001:2008 Certificate from BV

OILY BILGE SEPARATOR

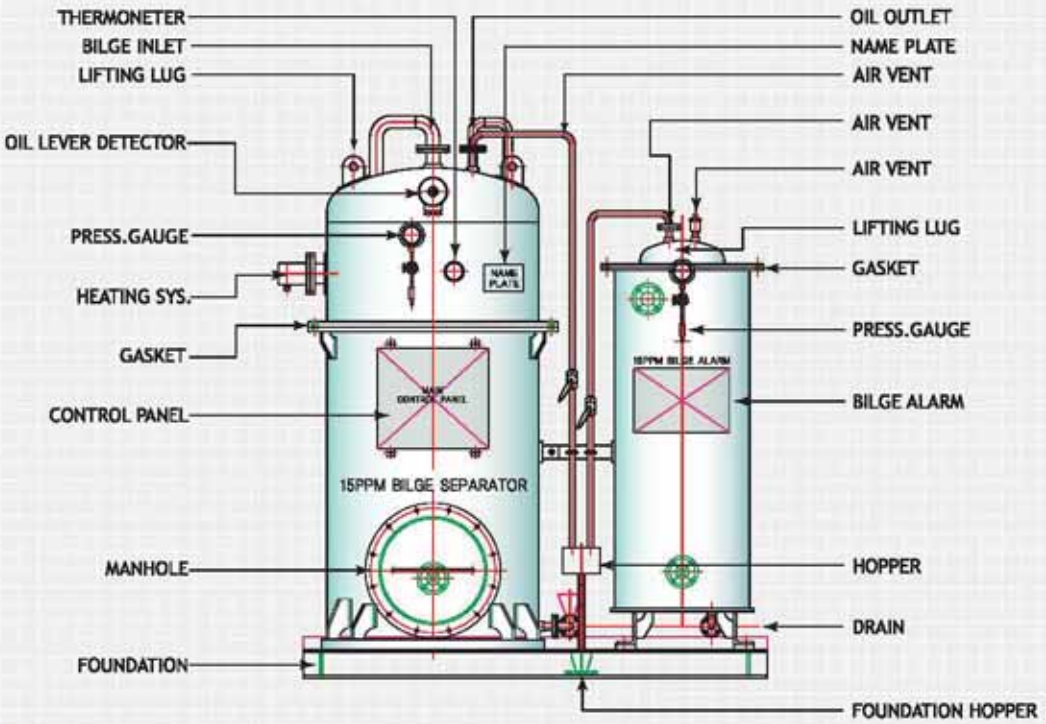
TYPE : GRS-10EB, 20EB, 25EB, 50EB, 100EB

1. Tested According , **IMO Resolution MEPC. 107(49).**
2. Selfcleaing System with Automatic Backwashing





MODEL	CAPACITY	A	B	C	D	INLET	OUTLET	OILOUTLET	WEIGHT(kg)	
									EMPTY	FULL
GRS-10EB	1.0M³/HR	1,820	1,200	880	300	25A	25A	20A	700	1,300
GRS-20EB	2.0M³/HR	2,030	1,500	1,000	300	25A	25A	25A	950	1,520
GRS-25EB	2.5M³/HR	2,130	1,500	1,000	300	25A	25A	25A	1,050	1,700
GRS-50EB	5.0M³/HR	2,100	1,750	1,200	300	40A	40A	25A	1,500	2,370
GRS-100EB	10.0M³/HR	2,320	2,050	1,500	300	50A	40A	25A	1,960	3,765



WORKING PRINCIPLE

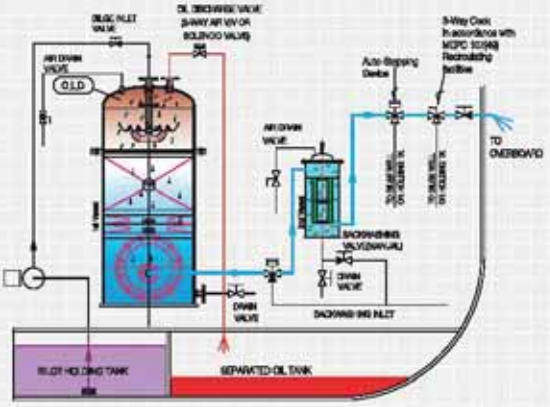


Fig. 1 SEPARATION OF OIL AND WATER

THE GRS-TYPE 15PPM Bilge Separator separates oil and water by difference of their specific gravity. The oily water is commenced to be spearated when passing 4-way distributing device, and the floated and accumulated oil are collecting into the upper part of 1st chamber of the 1st vessel and also the remains including minute oil particles of oily water passes through the pallring & Urethane Coalescer equipped in the 2nd chamber of the 1st vessel.

During this process, the size of oily particle become great and floating speed of the particles are increased, thus the oil floats easily. As the emulsified oil is removed by Coalescer equipped in the 3rd chamber of the 1st vessel and 2nd vessel(Emulsion Treatment Unit) and then water is discharged under the condition of below 15PPM(or 5PPM) of oil density.

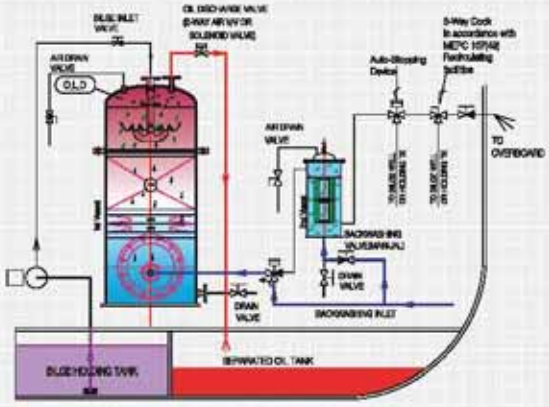


Fig. 2 OIL DISCHARGE

When the collected oil in the upper part of the 1st chamber is detected by the Oil Level Detector, the oil discharging valve is opened and then oil is discharged automatically by the Backwashing system.

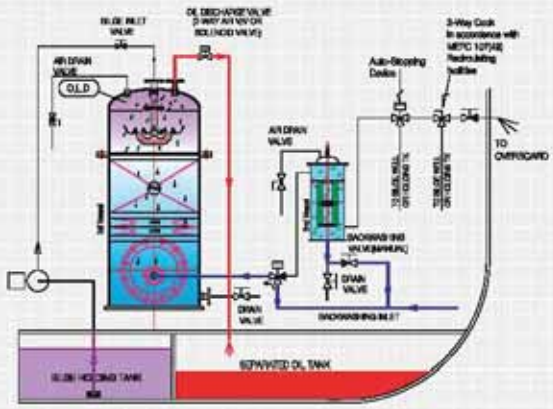


Fig. 3 BACKWASHING

[1st chamber of the 1st vessel]

When the Oil Level Detector detects oil, the bilge pump is stopped and the oil discharge valve is opened and direction of 3-way Backwashing valve is changed for backwashing at the same time.

The coalescer filter in the 3rd chamber and Pallring & Urethane Coalescer in the 2nd chamber are cleaned by backwashing water automatically, and the floating objects with oil are discharged.

[2nd vessel(Emulsion Treatment Unit)]

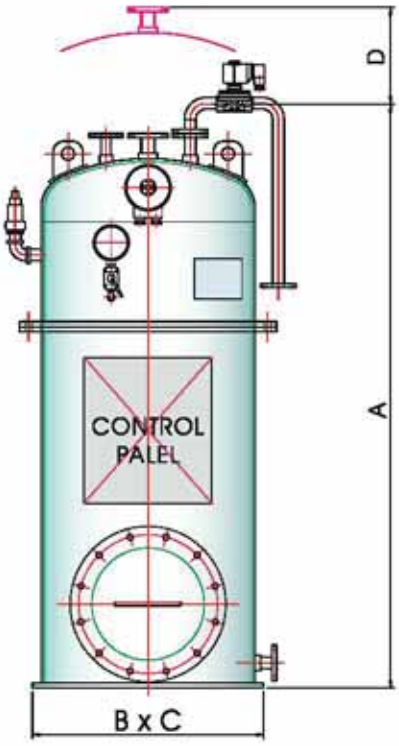
The emulsified oil is removed by the Coalescer and the equipment is cleaned by backwashing after opening the Air vent valve with manual Backwashing valve, thus the performance and efficiency of the systemare improved.

OILY BILGE SEPARATOR

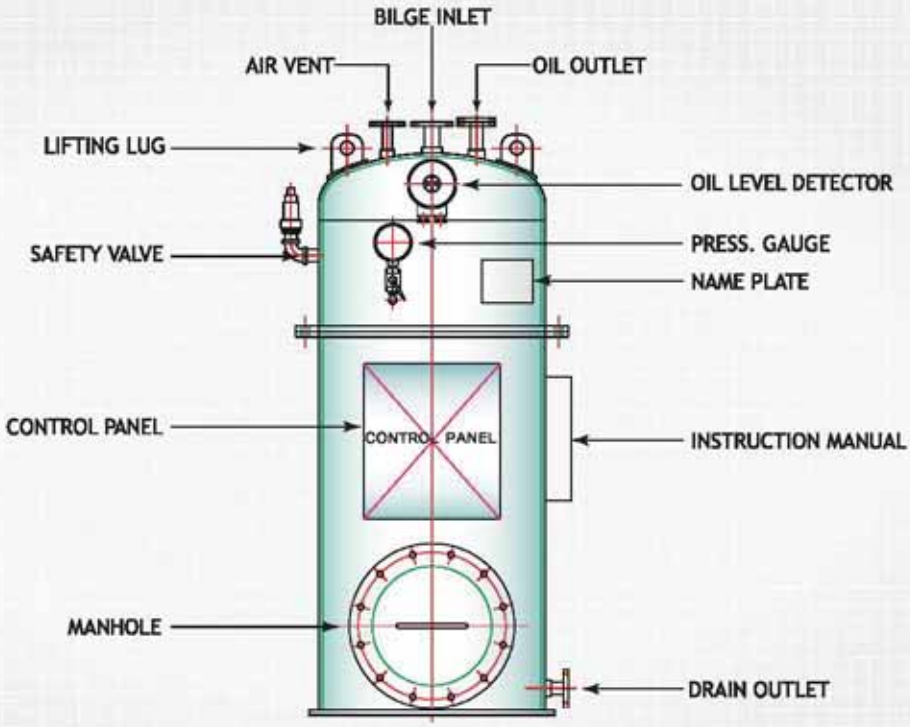
TYPE : GRS-02EB,03EB,05EB

1. Tested According , **IMO Resolution MEPC. 107(49).**
2. Selfcleaing System with Manual Backwashing





MODEL	CAPACITY	A	B	C	D	INLET	OUTLET	OILOUTLET	WEIGHT(kg)	
									EMPTY	FULL
GRS-02EB	0.2M3/HR	1,170	360	360	200	20A	20A	15A	145	230
GRS-03EB	0.3M3/HR	1,320	440	440	200	20A	20A	15A	180	330
GRS-05EB	0.5M3/HR	1,390	550	550	200	20A	20A	20A	260	510



WORKING PRINCIPLE

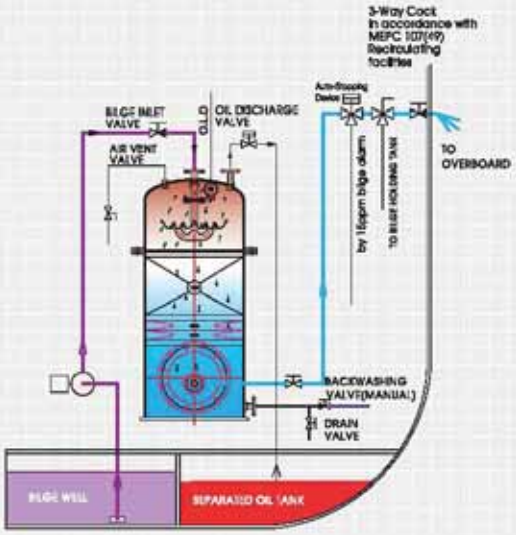


Fig. 1 SEPARATION OF OIL AND WATER

GRS-TYPE 15PPM BILGE SEPARATOR separates oil and water by difference of their specific gravity.

The oily water is commenced to be separated when passing 4-way distributing device,and the floated and accumulated oil are collectinginto the upper part of 1st chamber of the 1st vessel and also the remains including minute oil particles of oily water passes through the Pallring & Urethane Coalescer equipped in the 2nd chamber of the 1st vessel.

During this process, the size of oily particle become great and floating speed of the particles are increased, thus the oil floats easily. As the emulsified oil is removed by Coalescer equipped in the 3rd chamber of the 1st vessel and 2nd vessel(Emulsion Treatment Unit), and then water is discharged under the condition of below 15PPM (or 5PPM) of oil density.

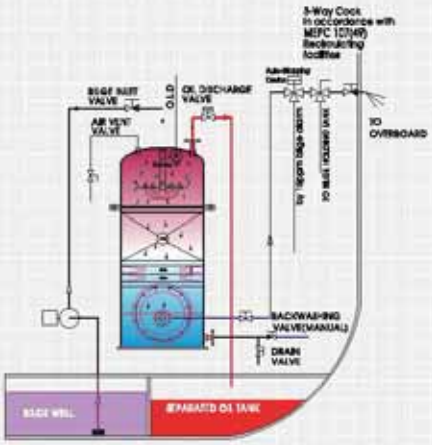


Fig. 2 OIL DISCHARGE

When the collected oil in the upper part of the 1st chamber is detected by the oil level detector, the oil discharge valves is opened and oil is discharged at the same time.

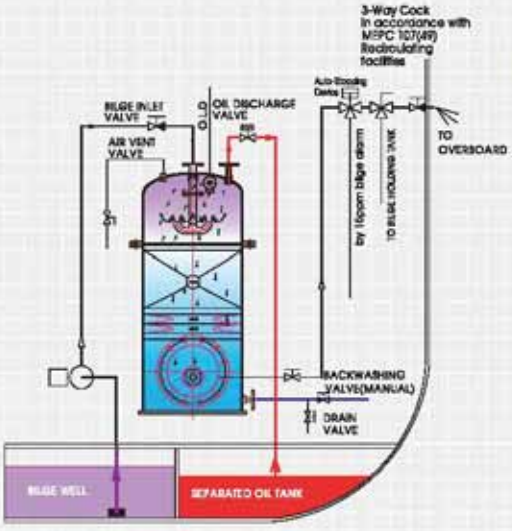
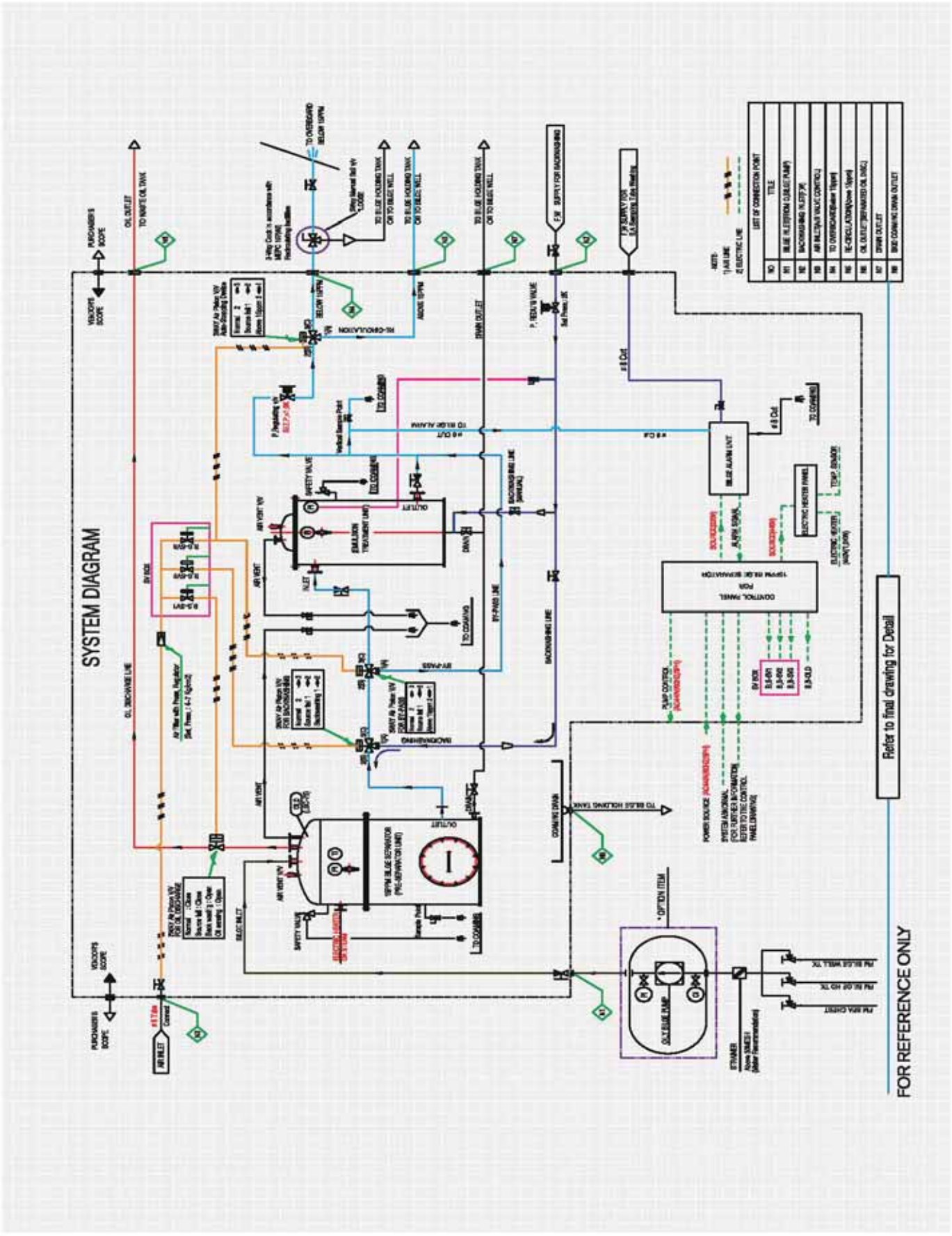


Fig. 3 BACKWASHING

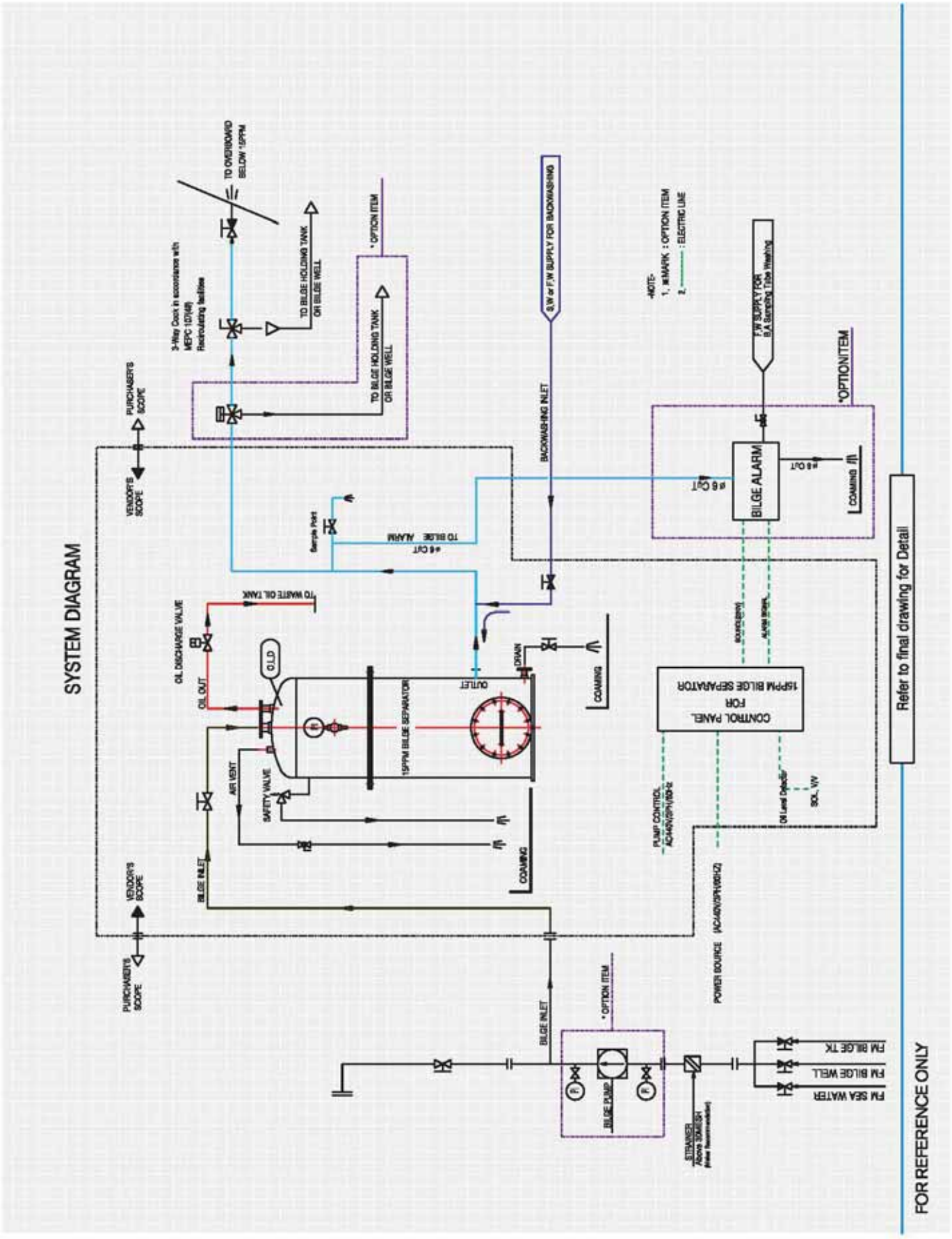
By washing the inside of the equipment after opening the air vent valve and manual backwashing water inlet valve, the coalescer filter in the 3rd chamber and pallring & urethane coalescer in the 2nd chamber are cleaned by Backwashing water.As the result, it's performance and efficiency are maintained by discharging the floating objects and oil in the equipment.

PIPING & INSTALLTION

TYPE : GRS-10EB, 20EB, 25EB, 50EB, 100EB,



TYPE : GRS-02EB, 03EB, 05EB

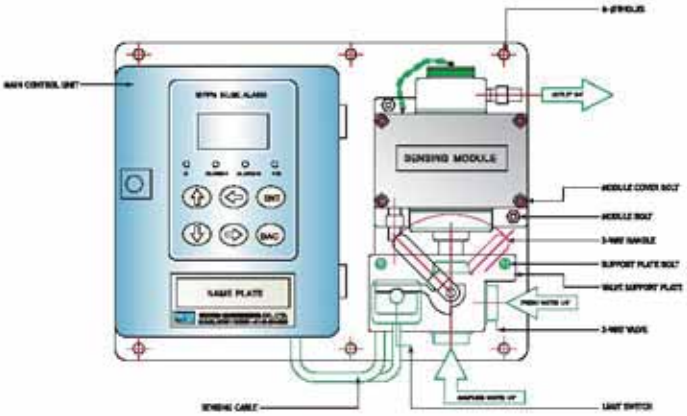


BILGE ALARM(OIL CONTENT METER)

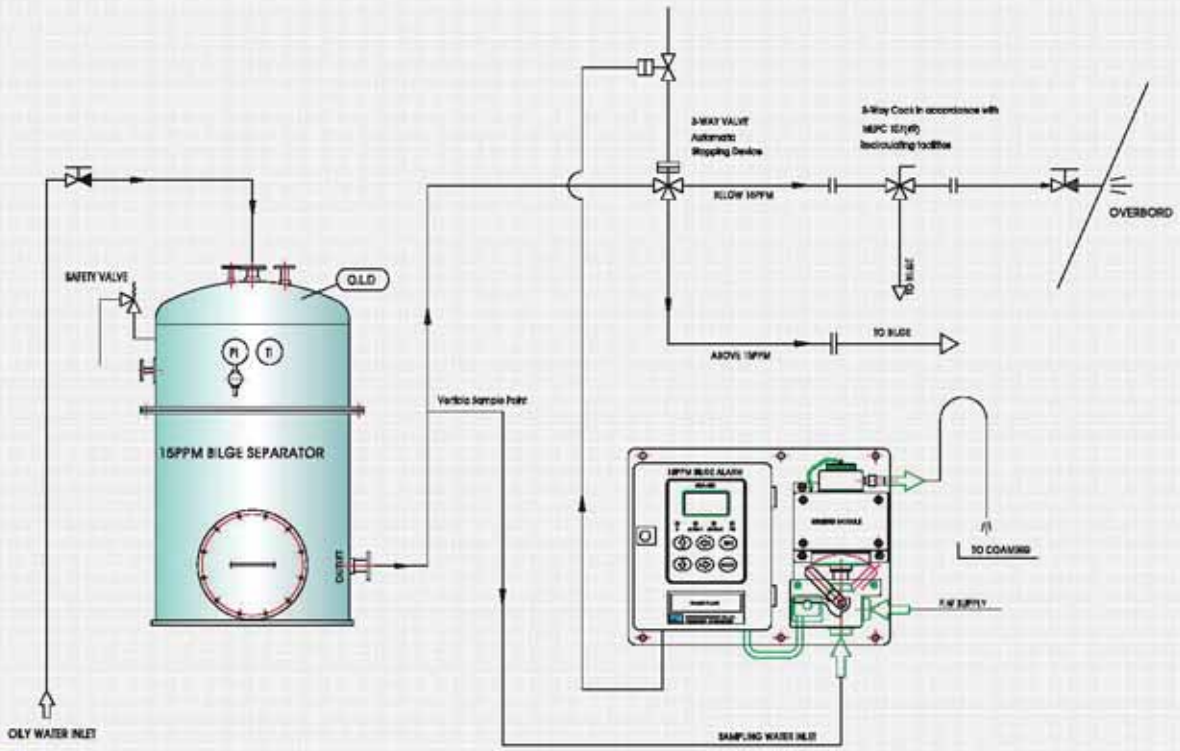
TYPE : GBA-155

This **15ppm Bilge Alarm** meets the requirements of **IMO Resolution MEPC. 107(49).**
Type-Approval Certificate in according with **IMO Resolution MEPC. 107(49).** therefore this satisfy international convention.
This **15ppm Bilge Alarm** Monitor serves to continuously measure the concentration of oil int bilge and other waste water produced on a ship, and produces an alarm signal when the oil concentration exceeds 15ppm



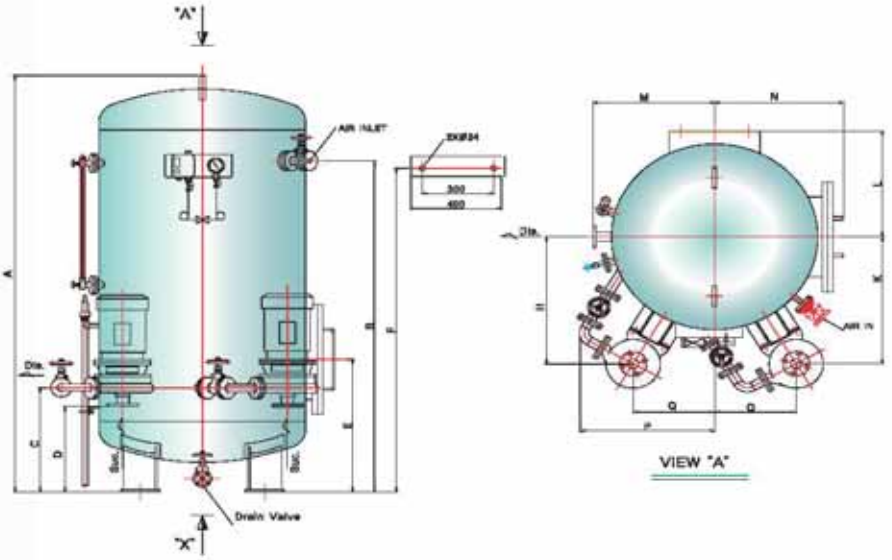


No	ITEM	DESCRIPTION
1	Measuring range	0~30ppm
2	Measuring accuracy	15ppm ± 5ppm {IMO Resolution MEPC107(49)}
3	Set point	0~15ppm
4	Response time	Time delay : 0 second(Below 5 sec.)
5	Alarm contacts/Rating	Normal /Alarm contacts
6	Sources of electricity	AC100~220V
7	Dimensions	(w)350 x (L)270 x (H)80
8	Weignt	About 10kg



HYDROPHORE TANK UNIT

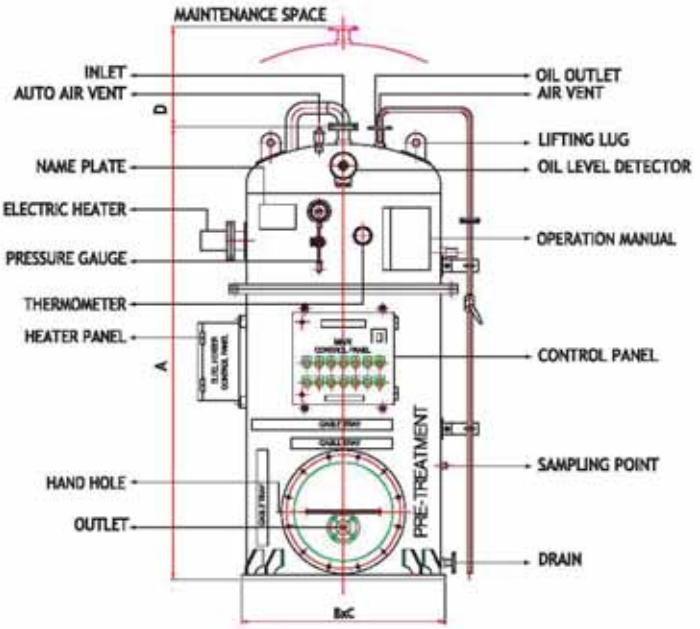




Model No.	Bore		Tank Volume(m³)	Dimension(mm)									
	Suc.	Dis		A	B	C	D	E	F	G	H	K	L
GRH-0.5-DR	#	40	0.5	1205	805	450	350	600	795	625	590	590	495
GRH-1.0-DR	#	40	1.0	1975	1570	450	350	650	1620	650	625	625	520
GRH-1.5-DR	#	50	1.5	2010	1700	450	350	700	1520	750	710	710	620
GRH-2.0-DR	#	50	2.0	2170	1800	450	350	750	1690	800	825	825	670

PRE-TREATMENT UNIT



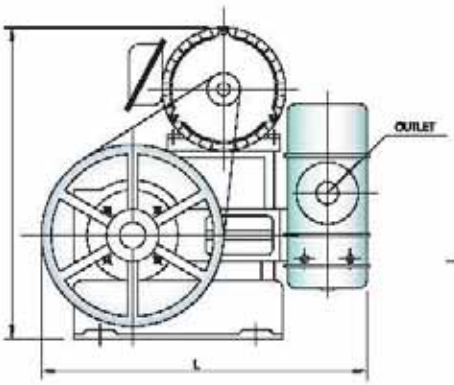


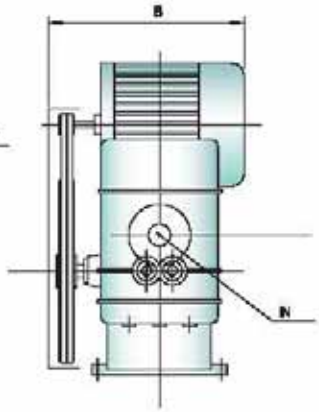
MODEL	CAPACITY	A	B	C	D	INLET	OUTLET	OIL OUT
GRS-20.25N	2.0,2.5M³/HR	1,610	700	700	400	JIS5K-25A	JIS5K-25A	JIS5K-25A
GRS-50N	5.0M³/HR	1,810	700	700	400	JIS5K-40A	JIS5K-40A	JIS5K-40A
GRS-100N	10.0M³/HR	1,870	840	840	400	JIS5K-50A	JIS5K-50A	JIS5K-25A



OILY BILGE PUMP(Piston Type)





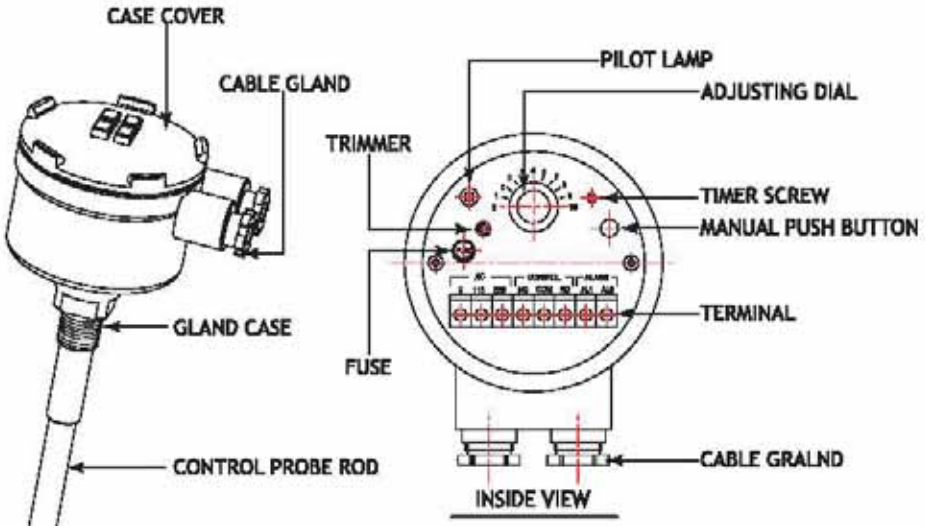


MODEL	UNIT	1015C	1015	1015B	101A	101B	101C	101D	102	103
CAPACITY	m³/hr	0.15	0.2	0.3	0.5	1.0	2.0	2.5	5.0	10.0
MOTOR	kw	0.4x4p	0.4x4p	0.4x4p	0.4x4p0	.4x4p	0.75x4p	0.75x4p	1.5x4p	2.2x6p
PUMP	R.P.M	420	420	420	280	280	280	280	220	240
L	mm	510	510	510	450	450	450	450	745	770
B	mm	300	300	300	284	284	284	284	410	430
H	mm	420	420	420	480	480	480	480	570	570
IN/OUTLET	15A5K	15A5K	20A5K	20A5K	25A5K	25A5K	25A5K	25A5K	50A5K	50A5K
WEIGHT	kg	45	45	45	80	80	80	80	168	198

MODEL	GRP15	GRP20	GRP30	GRP40	GRP50	GRP60
CAPACITY	15m³/hr	20m³/hr	30m³/hr4	0m³/hr	50m³/hr	60m³/hr

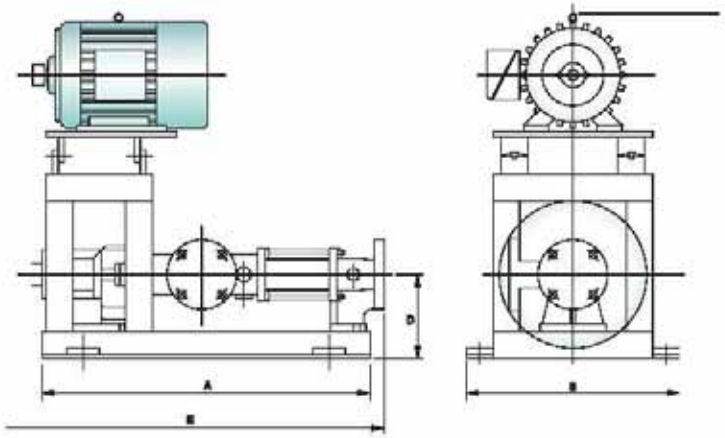
O.L.D (Oil Level Detector)





SLUDGE PUMP(Single Screw Pump / mono type)





MAX : 200m³/hr

MODEL	UNIT	DRF32-1	DRF40-1	DRF50-1	DRF65-1	DRF80-1
CAPACITY	m3/hr	1.0	2.0	3.0	5.0	10.0
MOTOR	Kw	0.75x6p	0.75x6p	1.5x6p	2.2x6p	3.75x6p
PUMP	R.P.M	360	380	350	350	350
A	mm	610	820	850	860	1040
B	mm	410	490	490	490	540
C	mm	630	670	680	710	830
D	mm	160	180	180	190	200
E	mm	750	950	970	1100	1180
IN/OUTLET		32A10K	40A10K	50A10K	65A10K	80A10K
WEIGHT	kg	80	120	180	270	350

OUR PRODUCT RANGE













Oily water separator unit for diesel power plant



Oily water separator unit for diesel power plant



Oily water separator unit for diesel power plant



Oily water separator unit for diesel power plant



Oily water separator unit for diesel power plant



Filter(Coalescer)for Oily Bilge Separator



BILGE PUMP
(Piston reciprocating, double acting pistion)
Capacity : 0.2~30m3/h



BILGE PUMP
(Piston reciprocating, double acting pistion)
Capacity : 40,50,60m3/h



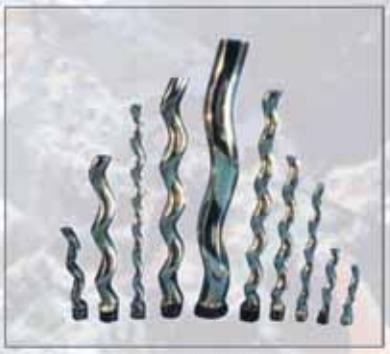
SLUDGE PUMP
(Single screw, mono pump)
Capacity : 40,50,60m3/h



Manual 3-Way Ball Valve



Stator for Sludge Pump



Rotor for Sludge Pump





*WPS CERTIFIED LIST : ABS,BV,GL,DNV,KR

Clean Sea, The Better Environment

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