

## Bilge water deoiler DEOILER 2000

Flow rate: 1 m<sup>3</sup>/h to 10 m<sup>3</sup>/h

### 1. Function

The system is intended for separating oil out of oil-water mixtures, in particular bilge water. Solids are also separated. The system is certified in accordance with IMO resolution MEPC.107(49). It also has a 5 ppm certificate. The Deoiler 2000 is a two-stage separator with continuous, reliable operation.

#### Stage 1: Multiphase separator MPS (PPT-BWS)

In the first stage (MPS) multiphase mixtures (water, oil and solids) are separated. This is achieved through flow along the profiled MPS plates and through adhesion forces. Large oil drops form and float upwards into the oil collecting dome. Solids and other heavy substances slide downwards along the profiled MPS plates and collect as sludge at the bottom of the tank.

#### Stage 2: Mechanical emulsion and foam breaker MESB

In the second stage (MESB) the emulsion from the first stage flows through coalescing elements from the inside to the outside. The finest oil droplets ( $\geq 1 \mu\text{m}$ ) coalesce in a microfibre bed to form large oil drops which rise up into the oil dome. The medium is nearly oil-free at the MESB tank outlet.



## 2. Certification

Classification	Germanischer Lloyd type approval certificate in accordance with IMO resolution MEPC.107(49) module B
Other certificates	RMRS USCG 5-ppm-Approval Germanischer Lloyd
Acceptance classification society	Upon request by customer

## 3. Designated use

Medium	Bilge water in accordance with IMO resolution MEPC.107(49)
Inlet oil content	max. 100 % (temporary)
Outlet oil content	max. 5 ppm

## 4. Operating parameters

Deoiler 2000 Type	1.0	2.5	5.0	10.0
Flow rate [m³/h]	1	2.5	5	10
Ambient temperature [°C]	min. 10 - max. 40			
Operating temperature [°C]	min. 15 - max. 50			
Operating pressure [bar]	min. 0.7 - max. 3.5			
Pressure loss <sup>1</sup> [bar]	max. 1.5			

<sup>1</sup> Not included: 0.7 bar pressure maintaining valve

## 5. Dimensions and weights

Deoiler 2000 Type	1.0	2.5	5.0	10.0
Size HxWxL [mm]	1400x1550x1550	1850x1700x2250	2000x2100x2300	2000x2100x2300
Service space HxWxL [mm]	1650x2550x1800	1850x2200x3250	2000x2600x3200	2000x2600x3200
Volume [l]	460	980	1710	1710
Weight empty/in operation [kg]	550/1010	700/1680	1150/2860	1200/2910

## 6. Technical data

6.1 Electrical data/control				
Deoiler 2000 Type	1.0	2.5	5.0	10.0
Tension	3x 400 VAC/50 Hz			
Protection type	min. IP55			
Power consumption <sup>2</sup>				
Operation [kW]	pump + 2x oil dome heaters			
	max. 3.3	max. 3.6	max. 4	max. 5.2
Standby [kW]	2x oil dome heaters + 1x standstill heater			
	max. 1.5	max. 8.0	max. 8.0	max. 8.0
Operating modes	auto-stop			
Potential-free contacts	- pump operation - oil-in-water alarm + common alarm			
Switchgear cabinet colour	RAL 7035			

<sup>2</sup> Depending on the operating/ambient temperature, oil dome or standstill heaters may be switched on automatically

<b>6.2 Tank</b>	
Design pressure [bar]:	3.5
Design temperature [°C]:	60
Test pressure [bar]:	5.25
Safety valve [bar]:	3.8
Design Code:	GL
Material:	steel
Corrosion allowance [mm]:	1
Tank exterior	sandblasted SA 2½, coated*
Tank interior	- sandblasted SA 2½ - zinc sacrificial anodes
Coating:	RAL 5019

\* double coating comprising primer coat and top coat – dry layer thickness: 120 µm

<b>6.3 Pump</b>				
<b>Deoiler 2000 Type</b>	<b>1.0</b>	<b>2.5</b>	<b>5.0</b>	<b>10.0</b>
	built-on			
Dry run protection	optional			
Flow rate [m³/h]	1	2.5	5	10
Suction height [m]	max. 6			
Discharge pressure [bar]	max. 3			

<b>6.4 Built-in components</b>				
1st stage PPT-BWS	profiled phase separator plates (no consumables)			
2nd stage MESB	coalescing elements order numbers			
	70806205	70806202	70806199	70806196

<b>6.5 Options available upon request</b>	
3x 440 VAC/60 Hz or 3x 690 VAC/50 Hz	
Fine filter unit	
Colour/coating	
Transfer pump	
Control and cabling options	
ICA - options	
Piping package (oil drain, safety valve, sludge discharge/drain)	



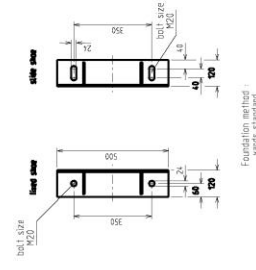
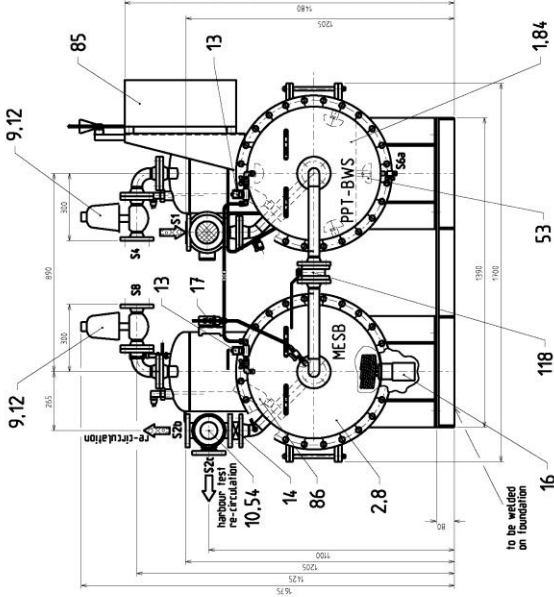
Design and construction in accordance with: GL-Building code rules 1-1-2, Chapter 8

Approved by: Notified body

Design data	
Capacity	9800 L
Weight (empty)	760 kg
Weight (operating)	550 kg
Max. operating pressure	3.5 bar
Temperature, operating	20 °C
Temperature, design	60 °C
Test pressure	5.75 bar
Medium	water/oil

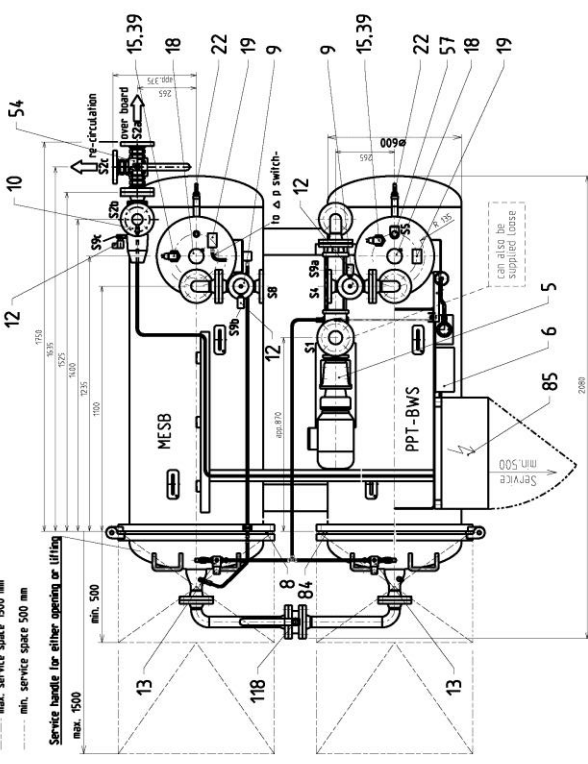
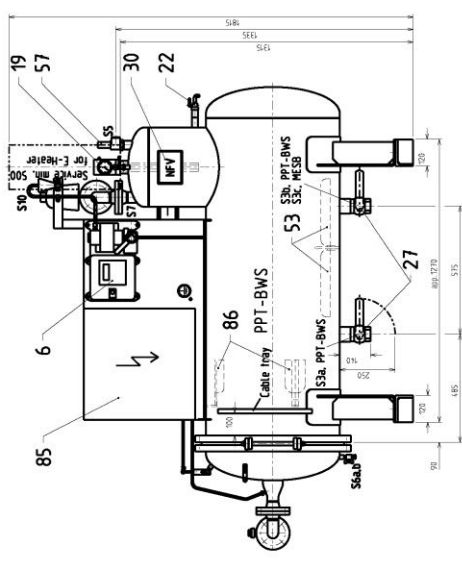
### Approvals and Certificates

Russian Maritime Register of Shipping	06.0070.272
United States Coast Guard	92.050/79043/0
See-Berufsgenossenschaft	330 185
Typenzulassungsnummer	20 697 - 04 Lux
EC Type Examination Certificate (GL)	Certificate No.
Preliminary test GL	0-NM-05 7046
Standard 2009	0-NM-04 6899.5
Production drawing	4-NM-00 6899.15
Assembly drawing	4-NM-00 6899.16
Main drawing	0-NM-04 6898
EC Type Examination Certificate (GL)	4-NE-95 6113.0
Part list of main components	1-NM-07 7939.2 SL



### Connections

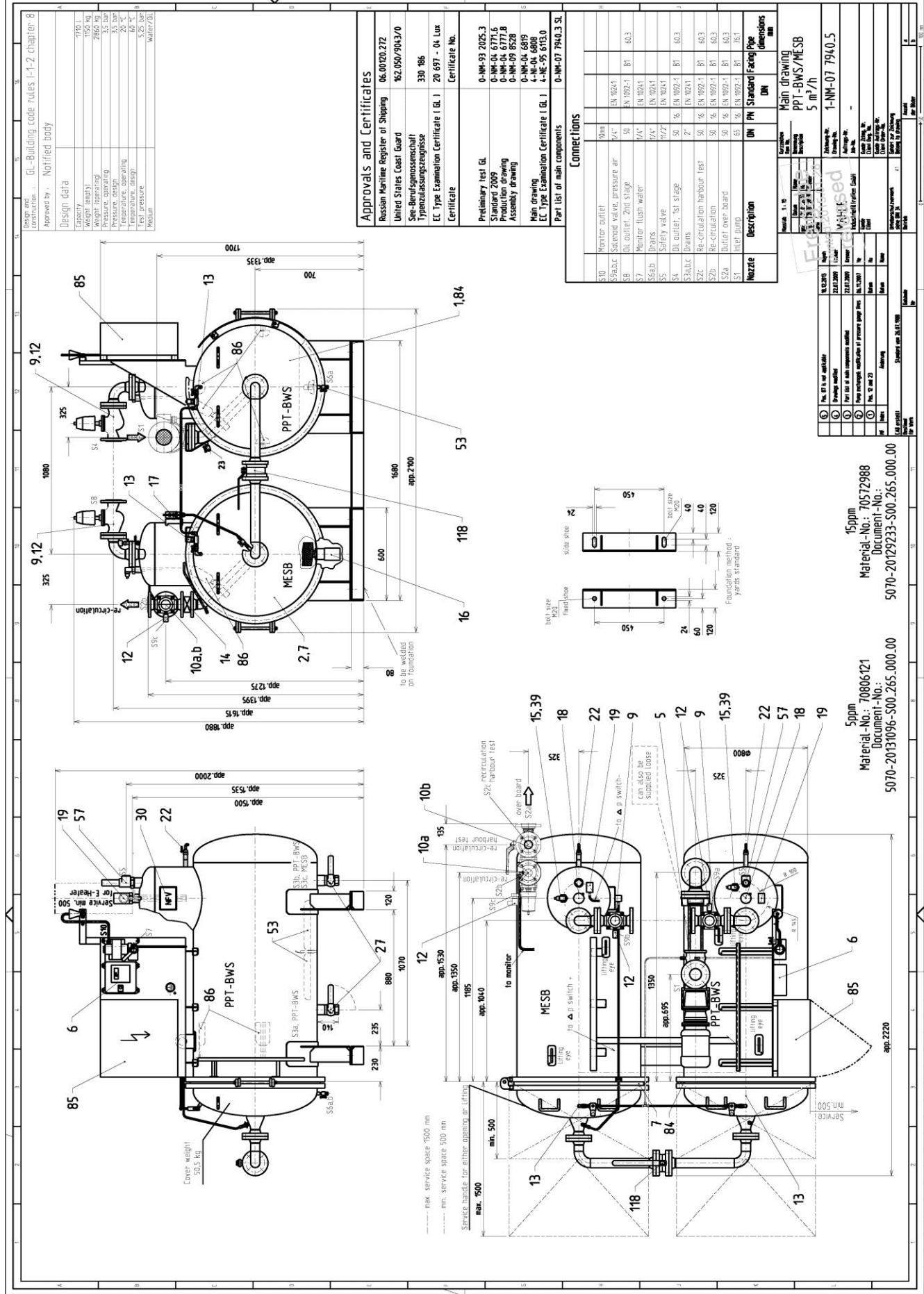
Symbol	Description	Dimensions
S10	Monitor outlet	10mm
S3a,b,c	Safety valve, pressure air	7/4" FN 1024
S8	Oil outlet, 2nd stage	40 1/8 FN 1022-1 B1 48.3x2.6
S7	Monitor flush water	7/4" FN 1024
S6a,b	Drains	7/4" FN 1024
S5	Safety valve	7" FN 1024
S4	Oil outlet, 1st stage	40 1/8 FN 1022-1 B1 48.3x2.6
S3a,b,c	Drains	7" FN 1024
S2c	Re-circulation harbour test	40 1/8 FN 1022-1 B1 48.3x2.6
S2b	Re-circulation	40 1/8 FN 1022-1 B1 48.3x2.6
S2a	Outlet over-board	40 1/8 FN 1022-1 B1 48.3x2.6
S1	Outlet pump	50 1/8 FN 1022-1 B1 65.3x2.6



Main drawing	
PPT-BWS/MESB	2.5 m³/h
1-NM-07 7939.3	
Material-No.: 70572987	Document-No.: 5070-20131725-S00.265.000.00
Material-No.: 70806118	Document-No.: 5070-20129345-S00.265.000.00

15ppm  
Material-No.: 70572987  
Document-No.: 5070-20131725-S00.265.000.00

5ppm  
Material-No.: 70806118  
Document-No.: 5070-20129345-S00.265.000.00



### Approvals and Certificates

Russian Maritime Register of Shipping	06.00120.272
United States Coast Guard	'62.050/9043/0
See-Berufsgenossenschaft Typenzulassungsgewerbe	330 86
EC Type Examination Certificate (EU) 20 697 - 04 Lux	
Certificate No.	
Preliminary test EU	0-NM-09 2025-3
Service drawing	0-NM-04 6771.2
Production drawing	0-NM-04 6771.8
Assembly drawing	0-NM-09 8528
Main drawing	0-NM-04 6809
EC Type Examination Certificate (EU) 1	4-NI-04 6808
	4-NE-05 6113.0
Part list of main components	0-NM-07 7940.3 SL

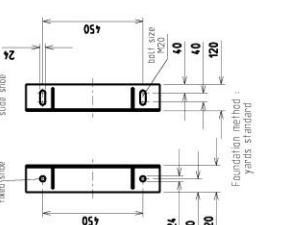
### Connections

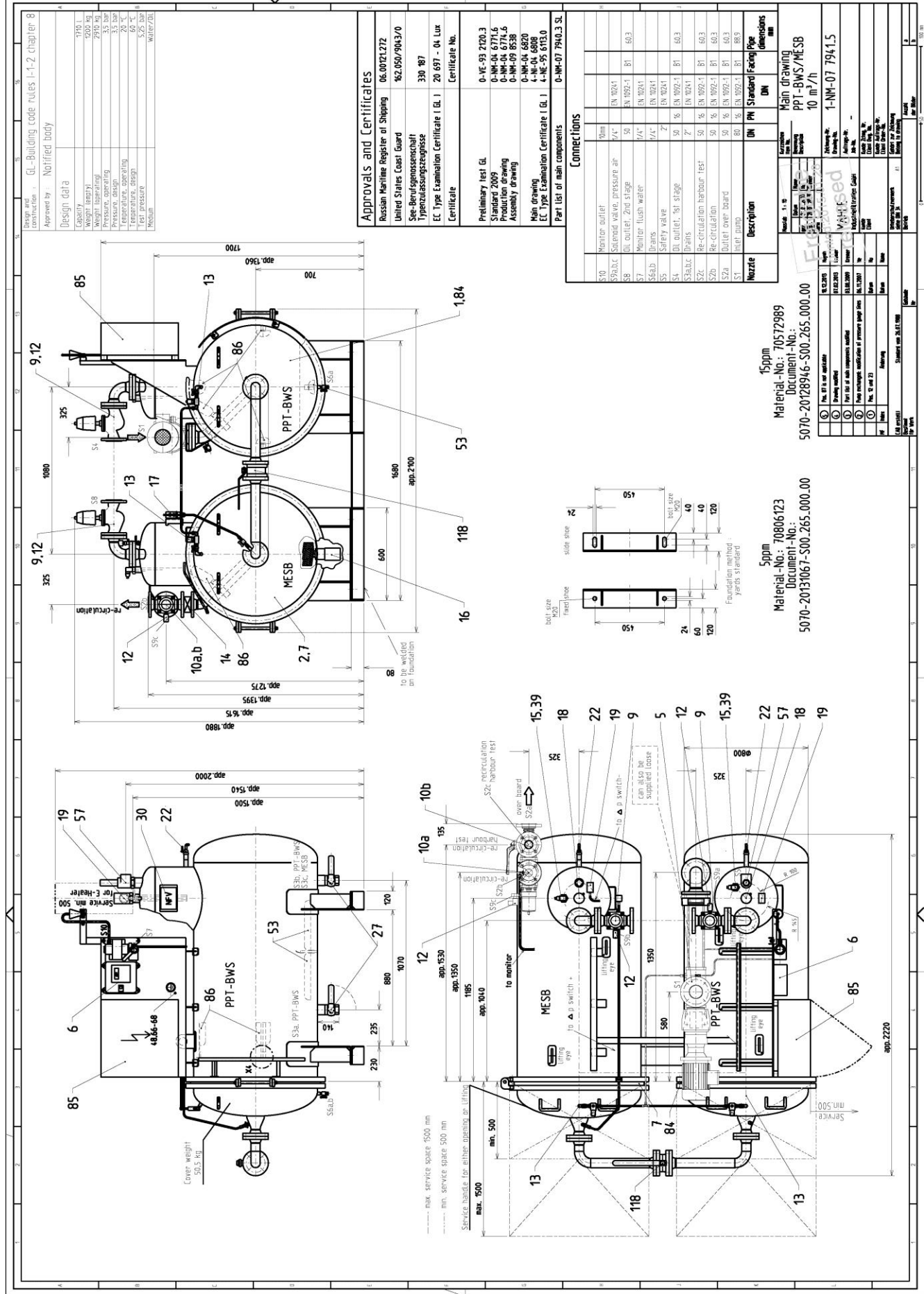
Nozzle	Description	DN	PN	Standard	Facing	Flange	Dimensions (mm)
S70	Monitor outlet	40mm					
S3a/b/c	Standard valve, pressure air	1/2"	EN 10241				
S8	Oil outlet, 2nd stage	3/8	EN 1052-1	RF			60.3
S7	Monitor flush water	1/4"	EN 10241				
S3a/b	Drains	1/4"	EN 10241				
S5	Safety valve	1/2"	EN 10241				
S4	Oil outlet, 1st stage	50	EN 1052-1	RF			60.3
S3a/b/c	Drains	2"	EN 10241				
S2c	Re-circulation harbour test	50	EN 1052-1	RF			60.3
S2b	Re-circulation	50	EN 1052-1	RF			60.3
S2a	Blow-off over board	50	EN 1052-1	RF			60.3
S1	Water pump	65	EN 1052-1	RF			76.1

### Main drawing

PPT-BWS/MESB  
5 m³/h  
1-NM-07 7940.5

Scale	1:10
Material	15ppm
Document-No.	70572988
Material-No.	5070-20129233-S00-265-000.00
Document-No.	5070-20131096-S00-265-000.00





**Approvals and Certificates**

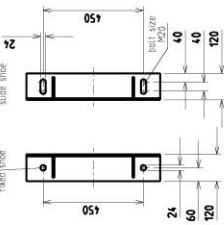
Russian Maritime Register of Shipping	06.00121.272
United States Coast Guard	'62.050/9043/0
See-Berufsgenossenschaft Typenzulassungszugabe	330 87
EC Type Examination Certificate   GL 1	20 697 - 04 Lux
Certificate No.	
Preliminary test GL	0-NE-63 2120.3
Standard 2009	0-NM-04 6791.6
Product drawing	0-NM-04 6771.6
Assembly drawing	0-NM-09 8538
Main drawing	0-NM-04 6820
EC Type Examination Certificate   GL 1	4-NI-04 6808
	4-NE-95 6113.0
Part list of main components	0-NM-07 7940.3 SL

**Connections**

Symbol	Description	Dimensions	Standard
S70	Monitor outlet	Ø 90mm	
S9abc	Saturated valve, pressure air	1/2"	EN 10241
S8	Oil outlet, 2nd stage	3/4"	EN 1092-1 B1 60.3
S7	Monitor flush water	1/2"	EN 10241
S6ab	Drains	1/2"	EN 10241
S5	Safety valve	2"	EN 10241
S4	Oil outlet, 1st stage	2"	EN 1092-1 B1 60.3
S3abc	Drinks	2"	EN 10241
S2c	Re-circulation harbour test	50	EN 1092-1 B1 60.3
S2b	Re-circulation	50	EN 1092-1 B1 60.3
S2a	Re-circulation	50	EN 1092-1 B1 60.3
S1	Outlet over board	50	EN 1092-1 B1 60.3
S1	Water pump	60	EN 1092-1 B1 60.3

**Material Data**

Material-No.: 70572989	50ppm
Document-No.: 5070-20728946-S00-265-000.00	15ppm
Material-No.: 70806123	50ppm
Document-No.: 5070-20131067-S00-265-000.00	15ppm



Foundation method:  
yards S1 standard