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Bilge water separator PPT-BWS/MESB-VT

Flow rate: 0.5 m3/h up to 10 m3/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 PPT-BWS/MESB-VT is a compact built, two-stage separator with continuous, reliable operation. The separation takes place consecutively

in two different pressure tanks.

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-VT

In the second stage (MESB-VT) the emulsion from the first stage flows through coalescing elements from the inside to the outside. The finest oil droplets (\geq 1 µm) 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-VT tank outlet.





2. Certification

Classification

Acceptance classification society

Other certificates

Germanischer Lloyd type approval certificate in accordance with IMO resolution MEPC.107(49) module B RMRS USCG Germanischer Lloyd 5 ppm certificate Upon request by customer

3. Designated use

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

0.5	1.0	2.5	5.0	10.0
0.5	1	2.5 5		10
min. 10 - max. 40				
min. 15 - max. 50				
min. 0.7 - max. 3.5				
max. 1.5				
			0.5 1 2.5 min. 10 - max. 40 min. 15 - max. 50 min. 0.7 - max. 3.5	0.5 1 2.5 5 min. 10 - max. 40 min. 15 - max. 50 min. 0.7 - max. 3.5

¹Not included: 0.7 bar pressure maintaining valve

5. Dimensions and weights

PPT-BWS/MESB-VT Type	0.5	1.0	2.5	5.0	10.0	
Size H×W×L [mm]	Place of installation					
1st stage	is variable	1350x800x1300	1650x810x2000	1800x1000x2050	1800x1000x2050	
2nd stage	see drawing	1650x500x650	1750x1200x800	1900x1150x1100	2400x1150x1100	
Service space H×W×L [mm]						
1st stage	see drawing	1550x1300x1650	1800x1300x3100	1950x1500x3100	1950x1500x3100	
2nd stage		1650x500x950	1850x1200x1200	2000x1150x1550	2400x1150x1550	
Volume [I]						
1st stage	55	230	490	855	855	
2nd stage	34	47	260	500	750	
Weight empty/in operation [kg]						
1st stage	85/140	150/460	370/860	455/1310	455/1310	
2nd stage	66/100	73/120	190/530	250/750	300/1050	

6. Technical data

6.1 Electrical data/Control			
Tension	3x 400 VAC/50 Hz		
Protection type	min. IP55		
Power consumption ²			
Operation [kW]	max. 5.2 (pump + 2x oil dome heaters)		
Standby [kW]	max. 8 (2x oil dome heaters + 1x standstill heater)		
Operating modes	auto-stop		
Potential-free contacts	- pump operation - oil-in-water alarm + common alarm		
Switchgear cabinet colour	RAL 7035		

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

6.2 Tank				
Design pressure [bar]:	3.5			
Design temperature [°C]:	60			
Test pressure [bar]:	5.25			
Safety valve [bar]:	3.8			
Design Code:	GL			
Material:	Stahl			
Corrosion allowance [mm]:	1			
Tank exterior	sandblasted SA 21/2, coated*			
Tank interior	- sandblasted SA 2½ - zinc sacrificial anodes			
Coating:	RAL 5019			

 * (double coating comprising primer coat and top coat – dry layer thickness: 120 $\mu m)$

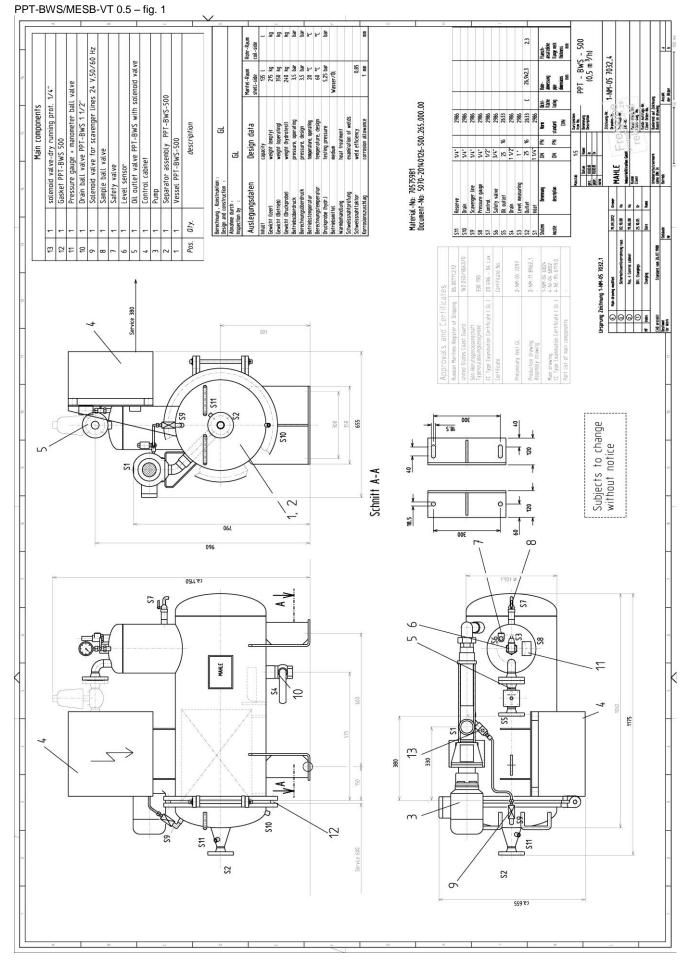
6.3 Pump								
PPT-BWS/MESB-VT Type	0.5 1.0 2.5 5.0 10.0							
	built-on							
Dry run protection	optional							
Flow rate [m ³ /h]	0.5	1	2.5	5	10			
Suction height [m]	max. 6							
Discharge pressure [bar]	max. 3							

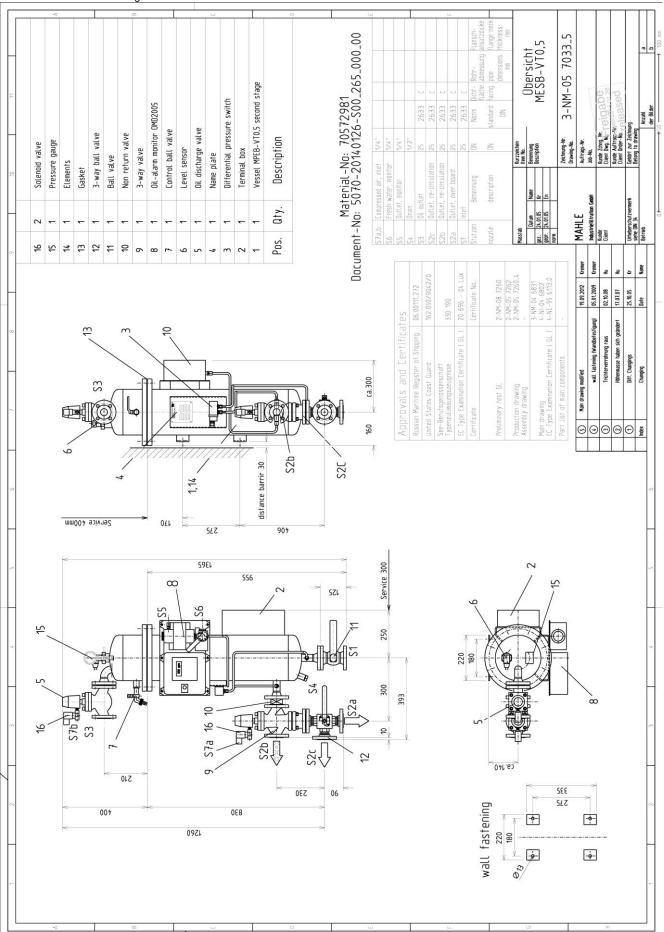
6.4 Built-in components						
1st stage PPT-BWS	profiled phase separator plates		no consumables			
2nd stage MESB-VT	coalescing elements order numbers					
	72344112	72344110	70806	6193	70806190	70806187

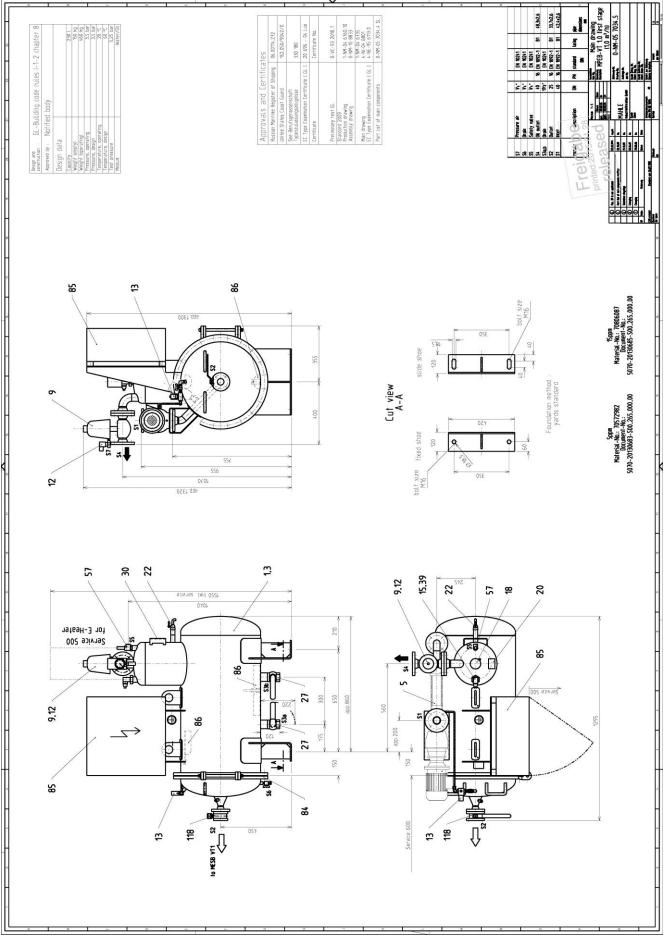
6.5 Options available upon request
3x 440 VAC/60 Hz or 3x 690 VAC/50 Hz
Fine filter unit
Colour/coating
Assembly on frame
Transfer pump
Control and cabling options
ICA - options
Piping package (tank piping ³ , oil drain, safety valve, sludge discharge/drain)

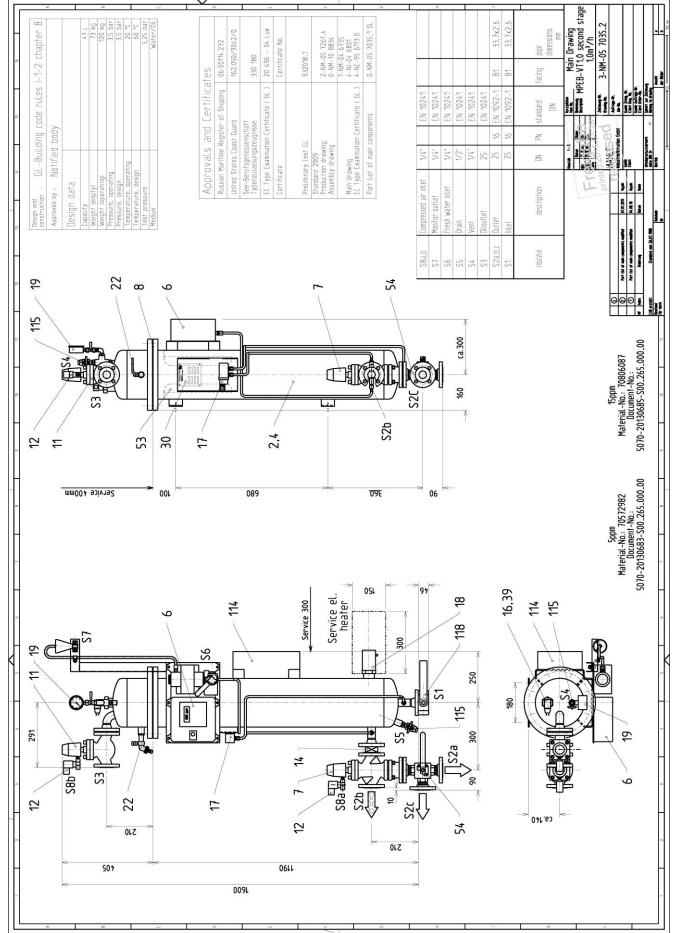
³Only with frame assembly

7. Drawings

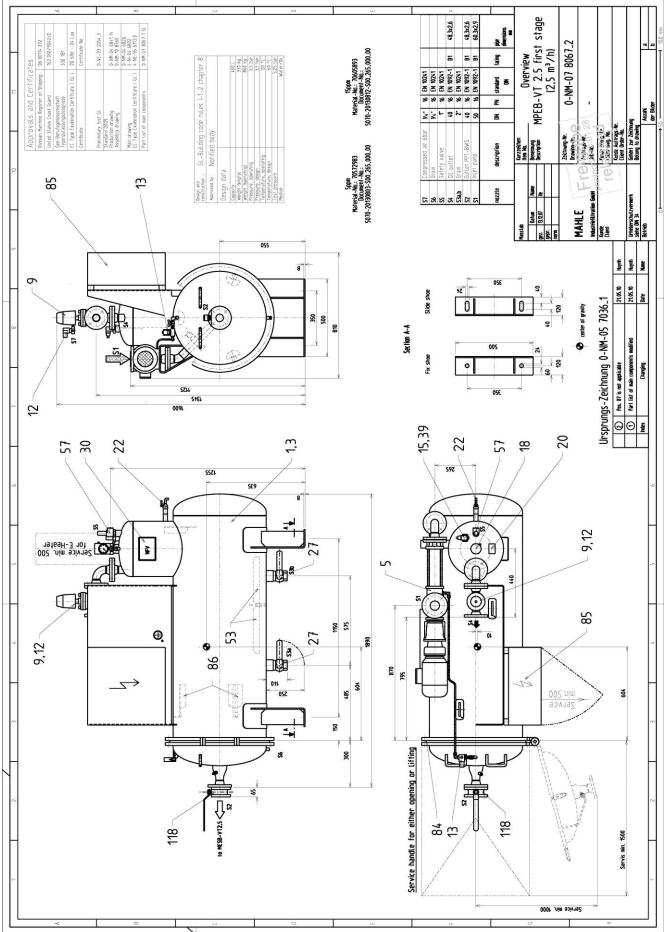




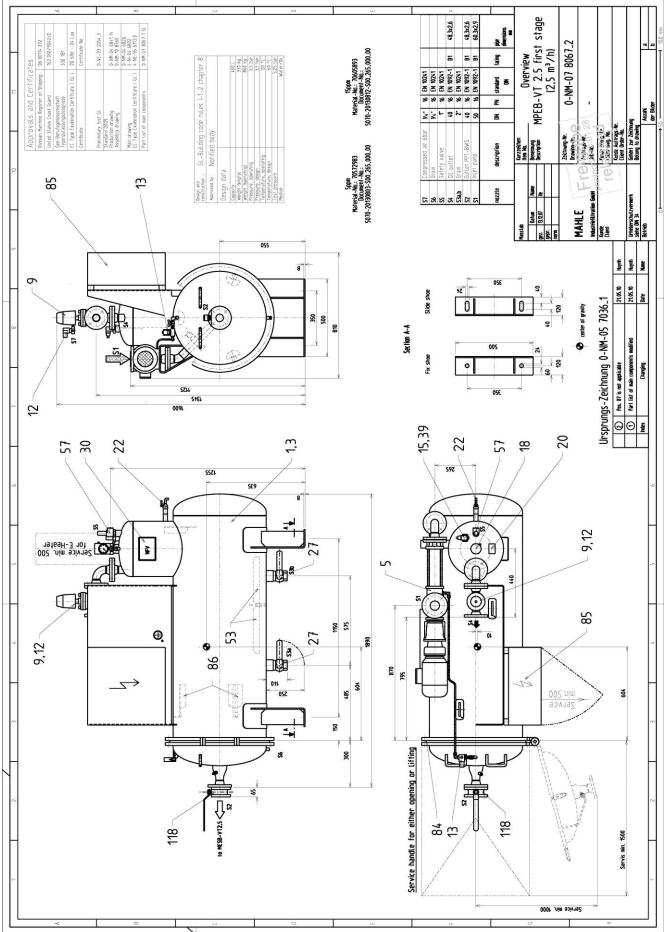




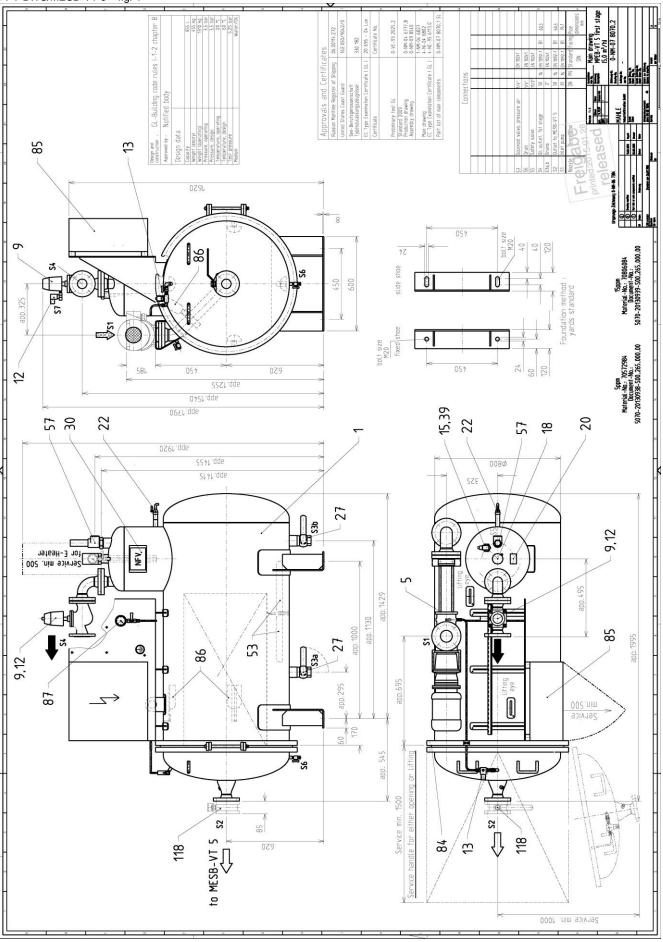
PPT-BWS/MESB-VT – fig. 2

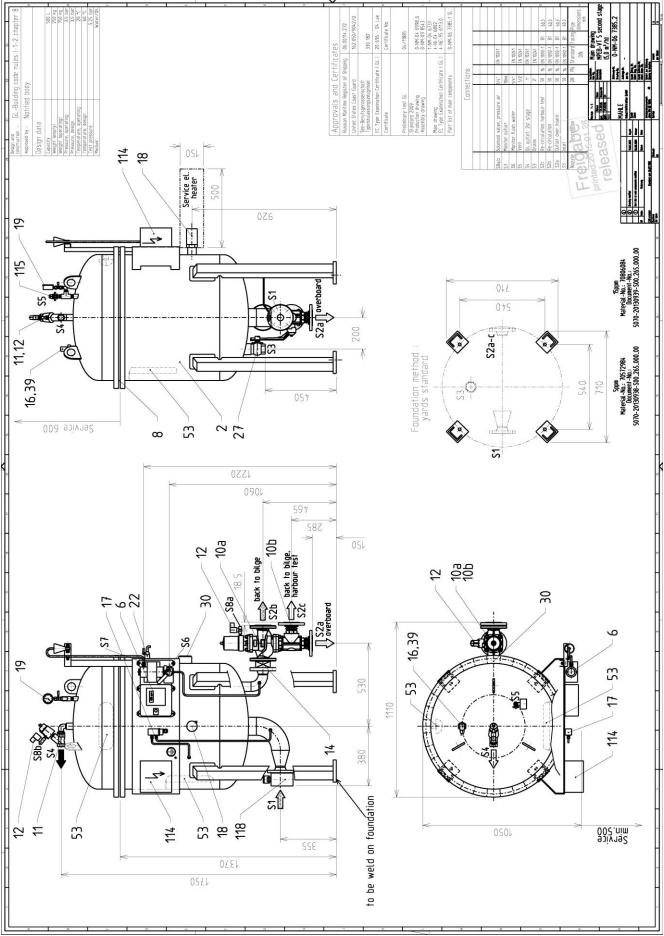


PPT-BWS/MESB-VT 2.5 - fig. 1

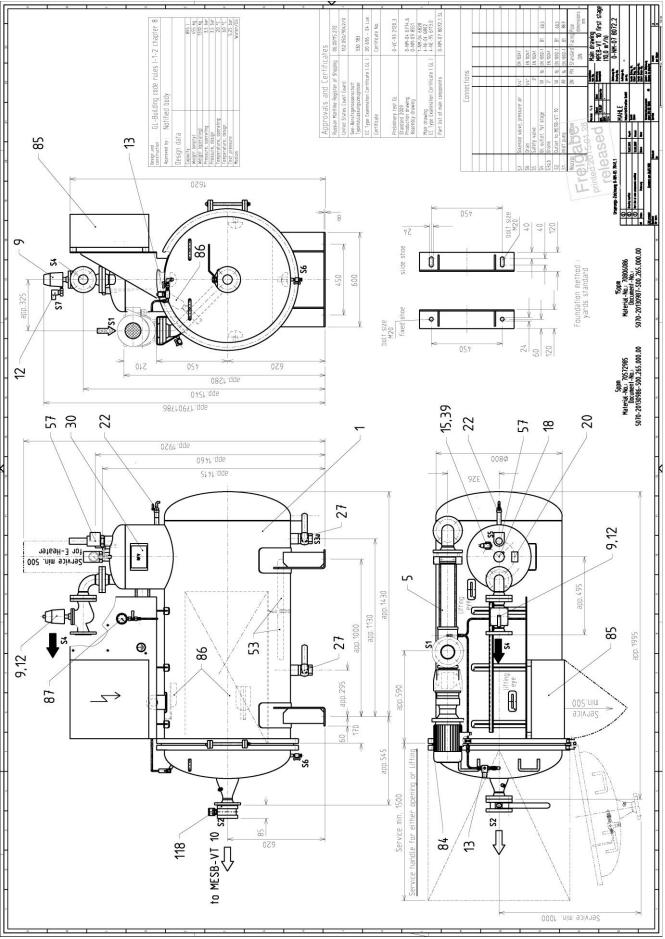


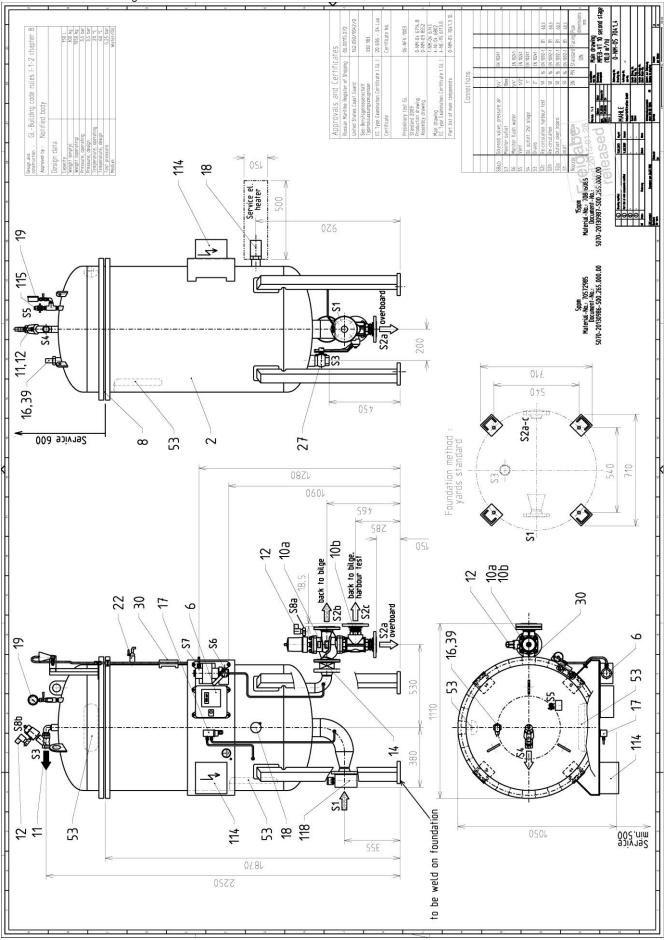
PPT-BWS/MESB-VT 5 - fig. 1





PPT-BWS/MESB-VT 10 - fig. 1





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