

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 ($\geq 1 \mu\text{m}$) 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-VT tank outlet.



2. Certification

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

3. Designated use

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

4. Operating parameters

PPT-BWS/MESB-VT Type	0.5	1.0	2.5	5.0	10.0
Flow rate [m³/h]	0.5	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 ¹ [bar]	max. 1.5				

¹ Not 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 HxWxL [mm]	Place of installation is variable see drawing				
1st stage		1350x800x1300	1650x810x2000	1800x1000x2050	1800x1000x2050
2nd stage		1650x500x650	1750x1200x800	1900x1150x1100	2400x1150x1100
Service space HxWxL [mm]	see drawing				
1st stage		1550x1300x1650	1800x1300x3100	1950x1500x3100	1950x1500x3100
2nd stage		1650x500x950	1850x1200x1200	2000x1150x1550	2400x1150x1550
Volume [l]					
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 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)

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 [m³/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	70806193	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)	

³ Only with frame assembly

PPT-BWS/MESB-VT 0.5 – fig. 1





















