Turbulo-MPB

Bilge Water Separator

General description
- Turbulo-MPB (Mechanical Phase Breaker) designed, type-tested and approved pursuant to resolution MEPC 107(49)
- TMPB fulfils 5ppm criteria
- TMPB can treat oil/water-mixtures and emulsions pursuant to resolution MEPC 107(49)
- 6 capacities: 0.25 / 0.5 / 1.0 / 2.5 / 5.0 / 10.0 m³/h
- BWS is pressure type – pump can be installed as loose supply for new building and retro-fitting
- No use of chemicals or charcoals
1 Control switch box – Operational controls and alarm cabinet for safe and easy handling.
2 Dry-run protection – Avoids dry-running of the pump.
3 Helical rotary pump with low r/min – Feeds the bilge water into the 1st stage of the separator.
4 1st stage: High efficiency coalescer (HEC) – Retention of bigger solids, free oil and separation of oil by coalescence. The HEC is cleanable.
5 Oil-level probe – Detects oil level in the 1st stage for automatic discharging.
6 Heating device – Heats the oil for optimised oil discharge.
7 Oil discharge valve – Automatic oil discharge initialised by the oil-level probe.
8 2nd stage: Deep-filtration unit – Protection of 2nd stage HycaSep elements by permanently reducing the solid matter concentration and to some extent the turbidites.
9 2nd stage: HycaSep element for retention of finest oil droplets – Securing the required oil content (ppm) at the effluent before passing the oil content monitor to overboard.
10 Bilge alarm (Tamper-proofed oil content monitor) – Permanent monitoring of cleaned bilge water. Ensures 18-month recording according to MEPC.
11 Sea/bilge valve – Solenoid valve for routing of water to overboard or recirculation to bilge tank. Manual valve for port state testing.
12 Skit frame – Fully assembled and delivered skit mounted for easy installation.
13 Analogue pressure gauges – Visualisation of pressure conditions for monitoring and maintenance.
14 1st and 2nd stage isolation valve – Maintenance-friendly, draining of 1st or 2nd stage.
15 Cover plate of 1st and 2nd stage – Access to all components by removing the top plates. No piping to be removed, for easy service access.
16 Pressure safety valve – Prevents overpressurisation of the pressure vessel.
Applications

- Ex-proof design for hazardous areas
- Booster pump for higher counter-pressure
- NORSOK standard
- Special coating and design
- Taylor-made design on customer demand
- Shock-proof design on demand
- Own laboratory
- NR 13

Technology
Advantages

Design
• Compact two-stage separator – reliable separation of oily mixtures in a capacity range of 0.25 m³/h to 10 m³/h
• Type approval pursuant to IMO Resolution MEPC 107.(49) issued by: USCG; CCS; RMRS; BG Verkehr
• Fulfils special requirements such as the 5ppm criteria for: Environmental passport (GL) / Clean Design (DNV) / Canadian Coast Guard (CCG)
• Oil content monitor – type-tested and approved pursuant to IMO Resolution MEPC.107(49)
• MARPOL: Sea to bilge (three-way valve) – Safe routing of clean water overboard or back to bilge or holding tank. Manual valve for testing when requested by port state control.

Installation
• Reliable components and DIN ISO 9001/MED certified production process at SKF Marine
• Final manufactured unit, fully tested and delivered ready-to-use to any shipyard worldwide
• Retrofit and customized solutions available:
  – Small footprint
  – Easy to install – skit mounted for convenient handling
  – Simplified installation procedure
  – No OEM commissioning engineer necessary
  – No chemicals required for commissioning

Operation
• Reliable and operator-friendly technology:
  – Automatic operation (oil drain by level electrode / discharge by pneumatic oil discharge valve)
  – Continuous oil-content measuring and status recording
  – Approved alarm and monitoring concept
  – Dry-run protection of pump
• Operator-friendly maintenance and handling:
  – Easy access to inside of separator from top
  – No need to dismount pipes and fittings
  – Precise condition monitoring and condition-based maintenance of elements
• Low operational costs:
  – No chemicals, charcoals or absorber
  – No sludge through chemicals
  – No back-flushing required (low freshwater consumption)
  – Protection of top HycaSep elements

Service
• Documentation for TMPB:
  – Simple and clear installation and commissioning procedure
  – Operating instructions
  – Troubleshooting advice
  – Type approval and test certificates in accordance with requirements
• Worldwide service network and availability of spares and consumables

SKF Marine GmbH
Hermann-Blohm-Straße 5
20457 Hamburg, Germany

skf.com | skf-marine.com

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