
PART I GENERAL**1.01 GENERAL**

- A. THE OIL/WATER SEPARATOR SHALL BE AN ABOVE GROUND COALESCING TYPE SEPARATOR TESTED IN ACCORDANCE WITH THE GUIDELINES OF THE GERMAN DIN 1999 AND THE EUROPEAN EN 858 STANDARD. THE SEPARATOR SHALL ALSO BE EQUIPPED WITH AN AUTOMATIC OIL DRAW-OFF DEVICE (NOT AN OIL "SKIMMER"), DESIGNED AND MADE SPECIFICALLY FOR THE PROPOSED SEPARATOR BY THE SEPARATOR MANUFACTURER. NOMINAL SIZING OF THE SEPARATOR SHALL BE GREATER OR EQUAL TO ___GPM. THE SEPARATOR SHALL BE HOUSED IN A RECTANGULAR, ANODIZED STAINLESS STEEL TANK..
- B. THE SEPARATOR SYSTEM SHALL BE DESIGNED TO PERFORM AS SPECIFIED FOR VARIABLE AND CONTINUOUS FLOW RATES UP ___ GALLONS PER MINUTE AND ALSO INCLUDE PEAK, INTERMITTENT FLOW RATES UP TO AND INCLUDING ___ GALLONS PER MINUTE.
- C. THE UNIT SHALL HAVE A FOREBAY OR GRIT CHAMBER PRECEDING THE OIL SEPARATORS INLET FOR CONTAINING AND DISSIPATING TURBULENCE IN INFLUENT WATER. THIS GRIT CHAMBER SHALL PRETREAT THE INFLUENT BY SEPARATING GRITS AND FLOATABLE DEBRIS FROM THE WASTE STREAM PRIOR TO INFLUENT ENTERING THE OIL SEPARATOR.
- D. THE CENTRAL PORTION OF THE UNIT SHALL ENABLE THE REMOVAL OF FINE AND WIDELY DISPERSED OIL DROPLETS BY MEANS OF GRAVITY DISPLACEMENT TO A "DEAD" WATER LAYER IN THE UNIT ITSELF AND WITHSTAND SUBSEQUENT DETACHMENT AND RE-ENTRAINMENT INTO THE FLOWING WATER BY CONTROLLING THE FLOW OF INFLUENT INTO THE VESSEL.

1.02 QUALITY ASSURANCE

- A. ACCEPTED OIL/WATER SEPARATOR & MANUFACTURER:
 - 1. **ECOTOP™ ABOVE GRADE OIL/WATER SEPARATOR** AS MANUFACTURED BY:
 - A. ECOTECHNIC GMBH, A-4673 GASPOLTSHOFEN, AUSTRIA.
- B. GOVERNING STANDARDS
 - 1. MATERIALS:
 - A. **GRIT CHAMBER:** STAINLESS STEEL TANK (1.4301 ACCORDING TO DIN 17 440 AND ACCORDING TO THE AISI STANDARD GRADE 304 STAINLESS STEEL) AND ANODIZED AFTER WELDING.
 - B. **SEPARATION CHAMBER:** STAINLESS STEEL TANK (1.4301 ACCORDING TO DIN 17 440 AND ACCORDING TO THE AISI STANDARD GRADE 304 STAINLESS STEEL) AND ANODIZED AFTER WELDING.
 - C. **COALESCING MEDIA:** DURABLE, LASTING, SOFT AND OPEN PORED POLYURETHANE-POLYETHER-FOAM, WHICH SHALL BE RESISTANT TO ALL COMMON ORGANIC SOLVENTS AND PETROLEUM BYPRODUCTS. THE MATERIAL MAY BE EMPLOYED AT TEMPERATURES UP TO 100 °C WITHOUT SIGNIFICANT DETERIORATION OF THE PHYSICAL PROPERTIES. THE MEDIA CARTRIDGE CAN BE LIFTED FOR INSPECTION OR MAINTENANCE CLEANING.
 - D. **GASKETS:** OIL RESISTANT NEOPRENE. (NBR).

E. VENTING: BOTH THE GRIT CHAMBER AND THE SEPARATOR SHALL BE VENTED TO ONE (1) COMMON VENT PIPE, WHICH WILL EXHAUST NOXIOUS VAPORS TO THE ATMOSPHERE FROM ONE (1) DISCHARGE POINT.

2. DESIGN AND TESTING:

A. DESIGNED AND TESTED TO MEET ALL "DIN 1999" (PART 4-6) REQUIREMENTS FOR OIL/WATER SEPARATORS.

1.03 WARRANTY

A. ALL PARTS AND LABOR FOR ONE YEAR FROM THE DATE UNIT IS PUT ONLINE, UNDER NORMAL CONDITIONS.

1.04 SUBMITTALS

A. PRODUCT DATA: CATALOG CUTS WITH DIMENSIONS, SPECIFICATIONS AND INSTALLATION INSTRUCTIONS. INCLUDE ONE COPY OF OPERATIONS AND MAINTENANCE FOR INFORMATIONAL PURPOSES.

B. PERFORMANCE: "DIN 1999" (PART 5) TESTING CERTIFICATE FOR INFLUENT AND EFFLUENT OIL CHARACTERISTICS

D. ACCESSORY SENSORS AND ALARMS: SCHEMATIC WIRING DIAGRAMS AND BILL OF MATERIALS FOR EACH COMPONENT OF EACH SENSOR/ALARM SYSTEM.

E. CONTRACT CLOSEOUT SUBMITTALS: PROVIDE TWO ADDITIONAL COPIES OF OPERATION AND MAINTENANCE AND TWO COPIES OF AN OPERATION AND MAINTENANCE INSTRUCTION TO THE OWNER'S REPRESENTATIVE.

PART 2 PRODUCTS

2.01 OIL SEPARATOR

A. STANDARDS:

1. THE OIL WATER SEPARATOR SHALL BE DESIGNED AND TESTED IN ACCORDANCE WITH "DIN1999" (PART 5 EUROPEAN STANDARD).

B. DESIGN STANDARDS:

1. FERNCO COUPLED INLET AND OUTLET CONNECTIONS.

2. SEDIMENT CHAMBER.

3. INTERNAL INLET VELOCITY DIFFUSION BAFFLE ON SEDIMENT CHAMBER INLET.

4. FLOATABLE SOLIDS BAFFLE ON SEDIMENT CHAMBER OUTLET.

5. THE OIL WATER SEPARATOR SHALL CONTAIN A REMOVABLE "MEDIA PACK" (POLYETHER-POLYURETHANE COALESCER) DESIGNED TO INTERCEPT OIL GLOBULES GREATER THAN 20 MICRONS FOR OILS WITH A SPECIFIC GRAVITY OF 0.95 OR LESS.

6. THE OIL WATER SEPARATOR SHALL BE TESTED AND CERTIFIED TO ACHIEVE AN OIL REMOVAL EFFICIENCY OF 5 PPM FOR EFFLUENT OIL CONTENT FOR NON EMULSIFIED FREE OILS, IN FRESH WATER, WITH A SPECIFIC GRAVITY OF 0.86 OR LESS.

7. THE OIL WATER SEPARATOR SHALL BE TESTED AND CERTIFIED TO ACHIEVE AN OIL REMOVAL EFFICIENCY OF 5PPM FOR EFFLUENT OIL CONTENT FOR NON EMULSIFIED FREE OILS, IN FRESH WATER, WITH A SPECIFIC GRAVITY OF 0.86 OR LESS. OIL REMOVAL EFFICIENCY ARE BASED ON A 5000PPM INFLUENT OIL CONCENTRATION, INTRODUCED AT PEAK FLOW RATING FOR A SPECIFIC MODEL SIZE.
8. THE SEPARATOR SHALL HAVE AN INTEGRAL / INDEPENDENT STAINLESS STEEL OIL RECIPIENT FOR THE STORAGE OF SEPARATED FREE OIL. RECIPIENT WILL BE EQUIPED WITH AN EXTERIOR "STAND PIPE" AND A GASOLINE AND PRESSURE RESISTANT HOSE THAT WILL FACILITATE THE PUMPING OF THE RECIPIENT CONTENTS (FROM GRADE) WHEN FULL.
9. **(OPTIONAL)** AN AUTOMATIC OIL DRAWOFF DEVICE (NOT A SKIMMER) SHALL BE INCLUDED IN THE INDEPENDENT STAINLESS STEEL OIL RECIPIENT. AT STATIC OR LOW FLOW CONDITIONS, THIS AUTOMATIC OIL DRAWOFF DEVICE DRAWS OIL AND WATER INTO ITS SEPARATION COMPARTMENT AND THROUGH A SERIES OF WEIRS AND FLOATS, SEPARATES OIL FROM THE MIXTURE AND DEPOSITS THE OIL TO THE STAINLESS STEEL OIL RECIPIENT. THE SEPARATED WATER IS THEN DISCHARGED BACK TO THE OUTLET EFFLUENT LINE.
10. ALL PARTS SHALL BE MANUFACTURED FROM PICKLED STAINLESS STEEL, PVC, AND HIGH DENSITY POLTETHYLENE.

2.02 ACCESSORIES

- A. INTERFACE AND LEVEL SENSOR: INTRINSICALLY SAFE OIL LEVEL CONTROLS TO ACTIVATE HIGH LEVEL ALARM AT A PREDETERMINED OIL LEVEL AS MANUFACTURED BY OMNTEC / ELECTRO LEVELS MFG., INC.
- B. ALARM/CONTROL PANEL (PER MANUFACTURER'S RECOMMENDATION): TO MONITOR LEVEL SENSOR AND TRIP A REMOTE MOUNTED VISUAL AND AUDIBLE ALARM AS MANUFACTURED BY OMNTEC / ELECTRO LEVELS MFG., INC.
 1. REMOTE MOUNTED AUDIBLE ALARM TO HAVE ALARM SILENCE SWITCH BUT LEAVE ALARM LIGHT LIT UNTIL PROBLEM HAS BEEN CORRECTED.
 - A. ALARM SHALL HAVE NAMEPLATE IDENTIFICATION.
 2. SEPARATE ALARM LIGHT FOR HIGH OIL LEVEL (RED) SELF-TEST BUTTON.
 3. LABELED IDENTIFICATION FOR EACH LIGHT, SWITCH, ETC.
 4. NAMEPLATE IDENTIFICATION FOR THE ALARM PANEL AS FOLLOWS, "OIL SEPARATOR - OIL LEVEL".

PART 3 EXECUTION

3.01 INSTALLATION

- A. PERFORM TEST AS PER MANUFACTURER'S RECOMMENDATIONS.
- B. INSTALL TANK IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS..
- D. CONNECT TANK SENSORS TO THE CONTROL PANEL. FIELD LOCATE THE CONTROL PANEL IN THE AREA WHERE DIRECTED. PROVIDE NEW ELECTRICAL SERVICE TO THE NEW CONTROL PANEL AS DIRECTED. ELECTRICAL WORK TO CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC).

THE OWNER OR OWNER'S AGENT SHALL BE THE SOLE JUDGE OF THE INTERPRETATION OF THESE RULES AND REQUIREMENTS.

- E. INSTALL REMOTE ALARM PANEL WHERE DIRECTED BY THE OWNER'S REPRESENTATIVE.