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Engineering Specification – Tube Type Oil Skimmer

Part 1 – GENERAL

1.1 SUMMARY

- A. This section includes equipment and accessories for a frame mounted tube-type oil skimmer unit, as described herein.
- B. It is not the intent of these Standards to cover all items or details of design and construction, nor to unduly limit the bidder's design or responsibility to furnish complete and satisfactory equipment.

1.2 SUBMITTALS

- A. Product Data: Include all dimensional and performance data.
- B. Installation Drawings: Provide installation drawings indicating location and mounting details for skimmer and support mount.
- C. Maintenance Data: Provide 1 copy of operation & maintenance manuals for the specified equipment.

1.3 QUALITY ASSURANCE

- A. Product options: Products or materials differing from project drawings and specification may be considered. Deviations or exceptions from these specifications must be noted by the bidder in the submittal documents.

1.4 QUALIFICATIONS

- A. Skimmer shall be the standard product of a manufacturer regularly engaged in the production of such equipment for industrial applications.

PART 2 - PRODUCTS

2.1 TUBE TYPE OIL SKIMMER

A. GENERAL:

1. Provide one (1) tube-type oil skimmer unit, as described herein. Skimmer shall be designed for the removal of free oils from the surface of water in a sump.
2. The skimmer shall be mounted on a pre-engineered stand with adjustable height that elevates the unit such that the elevation of the oil discharge pipe is approximately 22". An oil collection/sludge pan with removable debris screen shall be provided on the stand beneath the separator to collect the free product from the skimmer.

B. DESIGN:

1. Oil skimmer shall operate by skimming surface oils with a 1" diameter floating continuous loop collector tube. This tube shall be safety orange in color and manufactured of a material that attracts free oils and grease, while being resistant to abrasion. Oil is removed from this tube as it passes through replaceable scrapers made of a synthetic material that will not crack or chip and is highly abrasive resistant.
2. Operational characteristics: Skimmer shall operate at a fixed speed, with the following minimal design removal rate:
 - Heavy oils - 160 GPH
 - Medium oils - 68 GPH
 - Light oils - 28 GPH
3. Collector tube length shall be 86 feet.

C. CONSTRUCTION:

1. Skimmer main frame shall be constructed of all corrosion resistant materials.
2. Floor mounting stand shall be constructed of aluminum and include a sludge pan made of the same material with flush mounted 3" NPT oil discharge connection. Floor frame shall be designed include a skimmer support bracket with synthetic anti-friction slide to allow the skimmer to be moved into the maintenance position without lifting the unit. Sludge pan shall include a stainless steel debris screen with handle and integral support pieces for the same. All assembly hardware shall be included.

3. Skimmer shall be supplied with an OSHA compliant safety guards. Skimmer shall have safety features that release all energy from the collector tube when the safety guarding is removed from the main frame of the skimmer. Safety cover shall have integral collector tube pressure blocks and top collector tube scraper made of a synthetic abrasive resistant material that will not crack or chip during normal operation and usage. Unit shall be designed such that it cannot operate properly without the safety guarding installed.
3. Skimmer shall be manufactured with internally lubricated for life components that do not require additional lubrication to be added to the unit. Internal drive shafts shall be driven by a timing belt with tensioning device that is assessable by removing a safety guard.
4. Drive motor shall be _ horsepower, TEFC, 230 Volt, IP54 rated three phase, ball bearing motor. A sealed lubed for life gear reducer shall be provided to operate the skimmer collector tubing drive system at the appropriate speed.
5. The skimmer parts in contact with the collector tube, including the tube scrapers, pressure blocks, tube guide, pulley wheel and drive wheel shall be made of hard, abrasion resistant synthetic material that will not crack or chip. The wheels shall be covered by an OSHA compliant safety cover.

PART 3 – EXECUTION

3.1 WARRANTY:

- A. The manufacturer shall warrant its product to be free from defects in material and workmanship for a period of one year from the date of shipment.