



Date: September 19, 2019

To: All Vendors

Subject: Addendum #1

**REFERENCE: B 063-19, Rio Grande Substation Construction**

This Addendum forms part of the contract and clarifies, corrects or modifies original bid document.

**Question 1:** Stancor Sump pump SE50 has several options and differences among them. Are there drawings or specifications, or a complete part number?

**Answer 1:** Please see attached cut sheet with specifications highlighted in yellow.

**Question 2:** There are warning signs in both Spanish and English. What are they supposed to say, what color/material, etc?

**Answer 2:** Please refer to applicable portions of the latest versions of **ANSI Z535, NESC Section 11 and OSHA 1926.200 & 1910.145** standards for details regarding substation warning sign requirements.

**Question 3:** There are copper bars in the plan. What are these being used for and how many?

**Answer 3:** These are for the underground cable terminations. Please refer to electrical details 4 and 9 on drawing RG-11A, B and C.

The signature of the company agent, for the acknowledgement of this addendum, shall be required. **Complete information below and return via e-mail at [hlopez@brownsville-pub.com](mailto:hlopez@brownsville-pub.com) or via fax (956) 983-6367.**

I hereby acknowledge receipt of this addendum.

**Company:** \_\_\_\_\_

**Agent Name:** \_\_\_\_\_

**Agent Signature:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

If you have any further questions about the Bid, call 956-983-6375.

*Hugo E. Lopez*

BY: Hugo E. Lopez  
Purchasing

# STANCOR



## Oil-Minder® Control System

### Spill Prevention, Control, and Countermeasure Plan



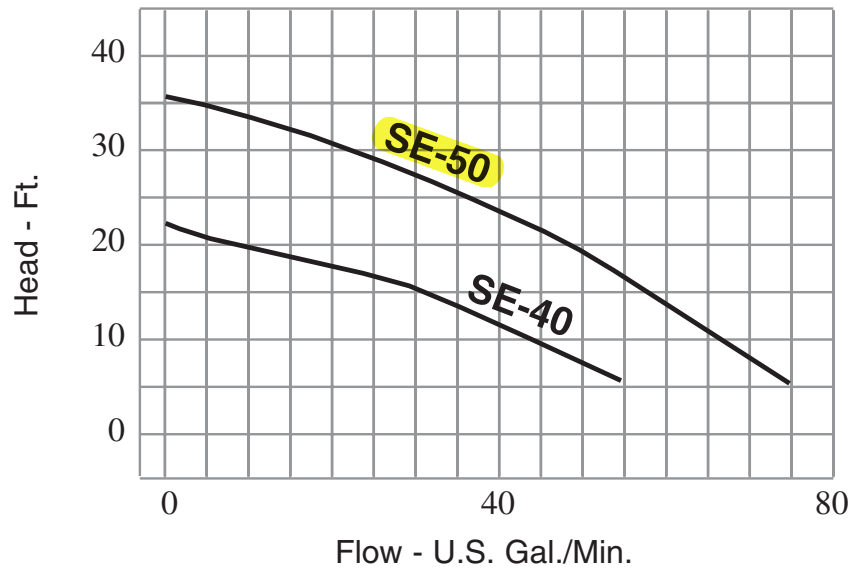
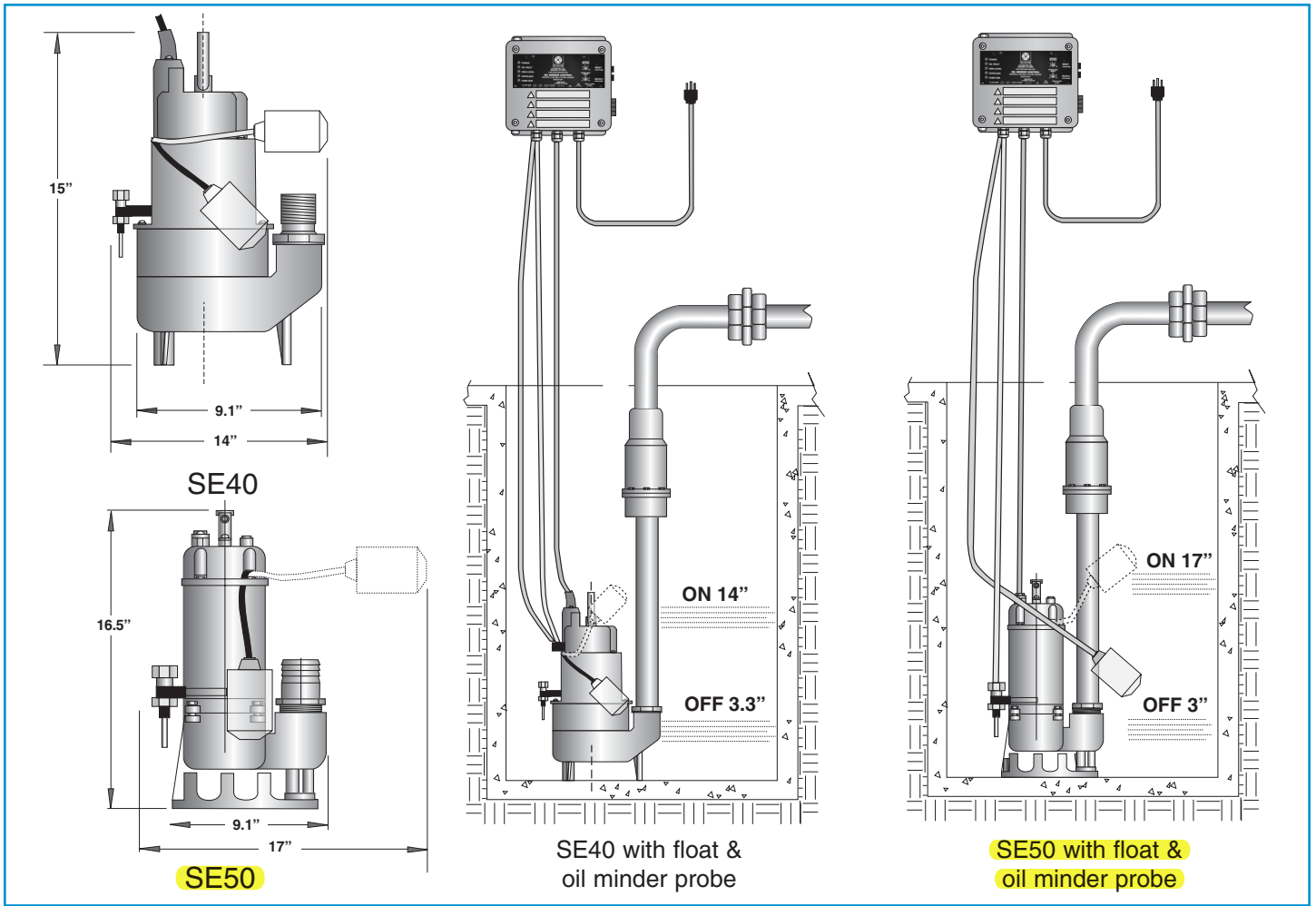
SE50 with Float  
& Oil-Minder Probe

The Stancor Oil-Minder Control System, when combined with a pump, allows water to be automatically pumped from transformer vaults, leachate wells, and sumps without danger of ejecting potentially harmful oily substances into sewers, rivers and waterways. The product is engineered for efficient and trouble free pumping, even under the most severe conditions. The patented oil-minder system has a proven record of protecting valuable equipment and the environment while being extremely cost effective.

## Features

- NEMA 4x weathertight corrosion resistant fiberglass enclosures
- Stainless steel sensor probe
- Direct plug-in power source
- Alarms, lights, and remote monitoring circuit
- Complete packaging insures quality of entire control pump system
- Patented - Pat. #4,715,785, #4,752,188, #6,203,281 and others pending
- Oil-minder system can be combined with a variety of different pumps and valves
- Choice of: 115v or 220v (1 phase) OR 230v/460v/575v (3 phase)

## Quality You Can Believe In

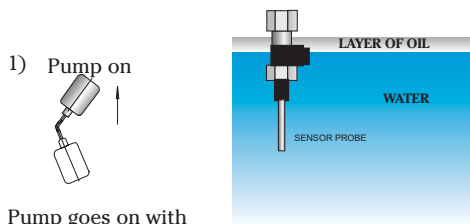


General & Electrical Specifications (Special voltages available upon request)

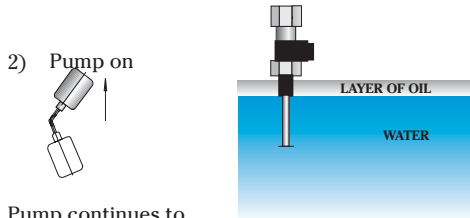
Model	H.P.	Voltage	RPM	Rated Full-Load Amps	Discharge Size	Max Head Ft.	Max Flow GPM	Weight Lbs.	Height In.	Width In.
SE50	0.5	115 or 230	3600	8/4	2"	37'	74	30.8	16.2"	9.1"
SE-40	0.4	115	3600	5/2.5	2"	22'	64	24.2	14.96"	9.1"

# Stancor SE50 Pump with Float & Oil-Minder

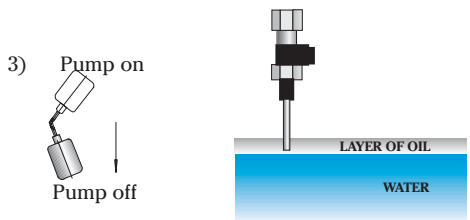
## How the Stancor Oil Minder System Works:



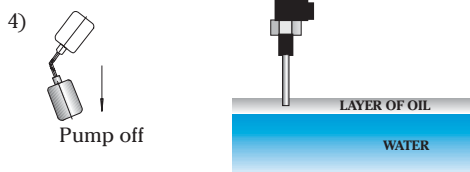
Pump goes on with water in contact with sensor probe.



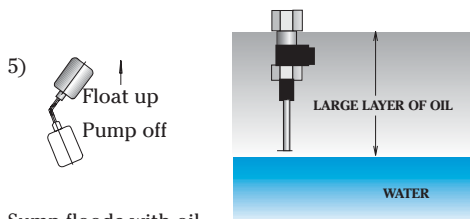
Pump continues to pump down water



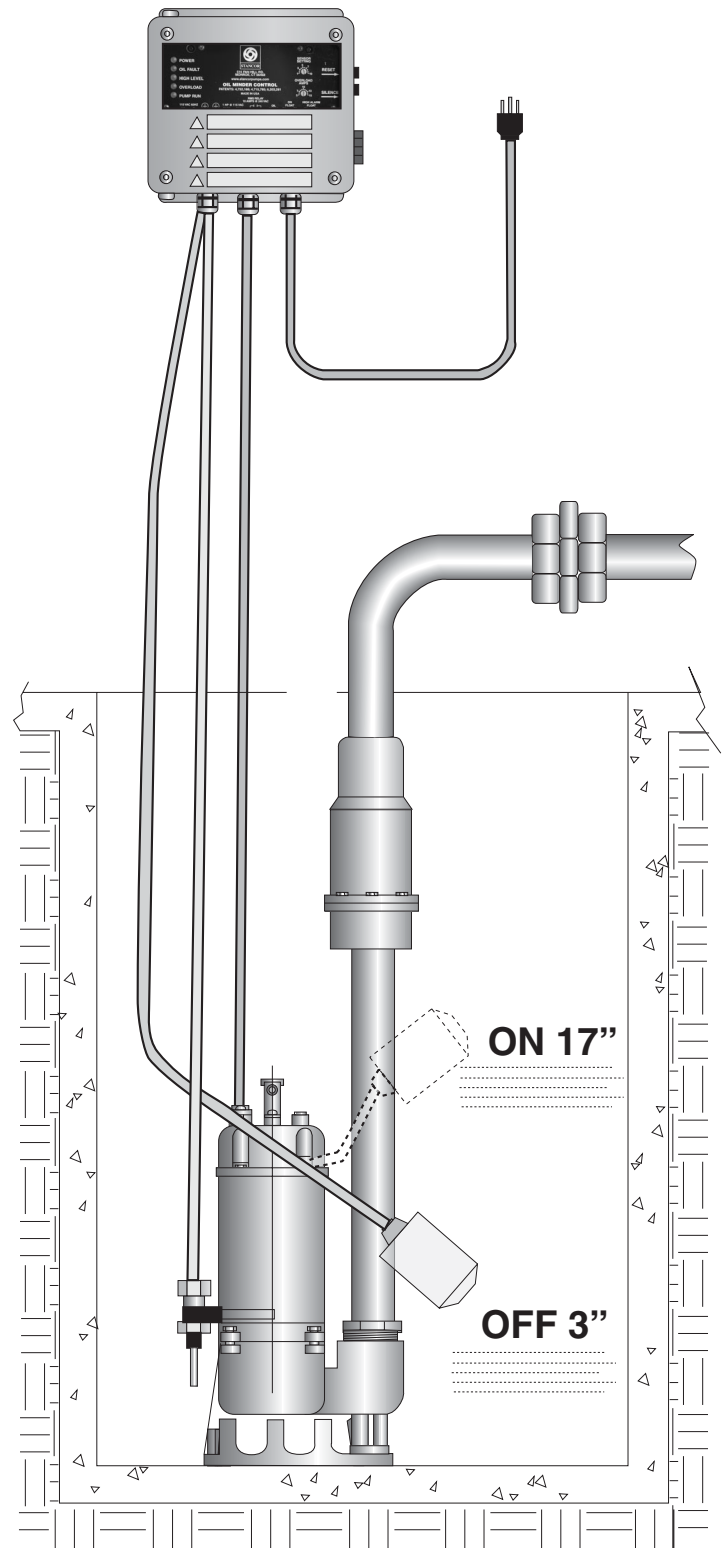
Pump will continue to run, pumping water only until  
1) water level drops below tip of sensor probe or  
2) only oil is in contact with sensor probe, eliminating electrical conductivity



Pump shuts off before oil is pumped, leaving approximately 3" of liquid in bottom of sump.

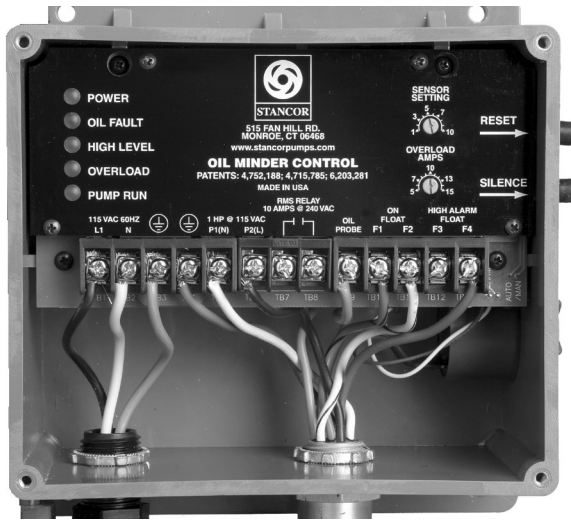


Sump floods with oil, sensor probe overrides pump switch and pump remains off. (Oil is contained).



\*Caution: Tip of oil minder probe must be below off level of float and above center line of volute inlet to insure proper functioning of oil minder.

## Sump Pump Diagram - Hydraulic Elevator Diagram



## A Commitment to Quality and Reliability

Thousands of Stancor Oil-Minder systems are used by environmentally conscious companies throughout the world. Major electric utilities have discovered that the best way to protect transformers and electrical equipment in underground vaults and above ground substations is with the Stancor Oil-Minder System. Applications also include hydrocarbon sumps, elevator pits, washdown tanks, and manufacturing facilities.

As a leading designer and manufacturer of electric submersible pumps and controls, Stancor is qualified to provide both standard and customized systems to meet virtually any specification. Packaged systems, complete with heavy duty tanks, covers, and internal plumbing are available from our factory. Our engineering staff will help you design the right control and pump for special applications. Stancor pumps are available from 1/2 HP to 45 HP, so we always have the right equipment for the job.



**Stancor, Inc.**

**515 Fan Hill Road • Monroe, CT 06468**

**Phone 203-268-7513 • Fax 203-268-7958 • [www.stancorpumps.com](http://www.stancorpumps.com)**



# Oil-Minder® II Control System

The Stancor Oil-Minder Control System, when combined with a pump, allows water to be automatically pumped from transformer pits without danger of ejecting potentially harmful oily substances into sewers, rivers and waterways. The product is engineered for efficient and trouble free pumping, even under the most severe conditions. The patented Oil-Minder system has a proven record of protecting valuable equipment and the environment while being extremely cost effective. This multi-option system can also be used in any variety of applications where oil must be contained.

## Features

- NEMA 4x weathertight corrosion resistant polycarbonate enclosures
- Stainless steel sensor probe
- Single direct plug-in power source for efficient, economical hook-up
- Alarm, light, and remote monitoring circuit for hydraulic oil alert
- Complete factory packaging insures quality of entire control and pump system
- Patented - Pat. #4,715,785, #4,752,188, #6,203,281
- Oil-Minder system can be combined with a variety of different pumps and valves to meet non-standard requirements
- Choice of: 115v or 220v (1 phase) OR 230v/460v/575v (3 phase)



**WARNING:** Risk of electric shock - this pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.



**ATTENTION:** When required by local code, electrical connection shall be made using UL listed rigid metal conduit with water tight seal.



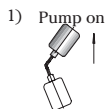
**CAUTION:** This control is equipped with an automatic reset overload relay, pump motor may start automatically when the relay is in the automatic reset position.



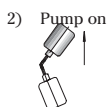
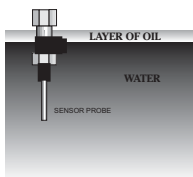
**CAUTION :** This pump has been evaluated for water use only. Read all instructions before installing the system.



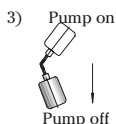
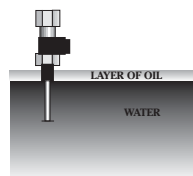
## How the Stancor Oil Minder System Works:



Pump goes on with water in contact with sensor probe.



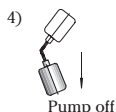
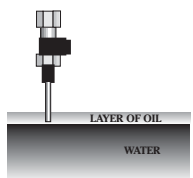
Pump continues to pump down water



Pump off

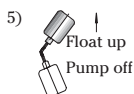
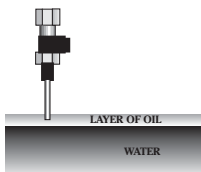
Pump will continue to run, pumping water only until

- 1) water level drops below tip of sensor probe or
- 2) only oil is in contact with sensor probe, eliminating electrical conductivity



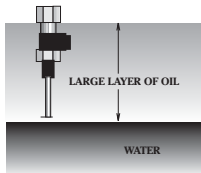
Pump off

Pump shuts off before oil is pumped, leaving approximately 3 of liquid in bottom of sump.



Pump off

Sump floods with oil, sensor probe overrides pump switch and pump remains off. (Oil is contained).



If the water level in the elevator pit increases, the oil (which is lighter than water) **will** rise above the oil-sensing probe and allow the pump to function in the normal manner until the water is pumped down and oil, once again, comes into contact with the probe.

## Stancor Oil-Minder System Description

The Stancor Oil-Minder System is a submersible pump and control package designed to pump water out of transformer sumps without the danger of ejecting hydraulic fluid into sewers and waterways. This patented product has been used in thousands of applications for more than 15 years.

The Oil-Minder System consists of a watertight, corrosive-resistant control panel, a properly sized electric submersible pump and an oil-sensing probe and solid-state electrical relay components. The submersible pump is permanently installed at the base of the elevator pit and designed to turn on and off automatically when the built-in level switch is activated.

A self-cleaning, hermetically sealed, stainless steel oil-sensing probe is mounted on the side of the pump. The probe is positioned at a point above the pump inlet, so that it sends a signal to a relay that shuts the pump off if oil is encountered before pollutants are ejected. If the water level in the elevator pit increases, the oil (which is lighter than water) **will** rise above the oil-sensing probe and allow the pump to function in the normal manner until the water is pumped down, and oil, once again, comes in contact with the probe.



## WARNING!

**Please read all installation and start-up instructions before proceeding to install the enclosed Stancor Oil-Minder Pump and Control system. Failure to properly install and test this product can result in personal injury or equipment malfunction.**

**Special attention should be directed to the following procedures:**

1. The tip of the oil detection probe must be **above** the center-line of the pump volute. Failure to position the oil detection probe above the center-line of the volute may cause the pump to activate even when oil is present in the sump. The probe is installed on standard systems by the factory and should not be altered.
2. The teeter float switch should be positioned such that the “off “ activation point is **above** the tip of the oil detection probe and the “on” point is at or above the top of the pump. This will assure that the oil detection probe reacts to water or oil before the pump has the opportunity to turn on. The float is properly preset at the factory.
3. All wiring should be in accordance with state and local codes. If internal control rewiring becomes necessary, be sure to follow the wiring schematic provided with these instructions.
4. Any technical questions should be directed to the technical department at Stancor, Inc. at 203-268-7513.



Oil-Minder Control System

SE50 with Float &  
Oil-Minder Probe



The Oil-Minder System is available standard with a 1/2 horsepower, submersible pump that is prewired with a National Electrical Manufacturers Association (NEMA) 4X control panel.

Installation is as follows:

1. The pump is set in the base of the sump pit. (The pump is equipped with its own intake stand and, therefore, does not need external support.)
2. The control panel is secured to the wall in a convenient location, usually near the pump, with four mounting screws.
3. The electrical cord from the panel is plugged into the standard outlet, thereby activating the pump and control.

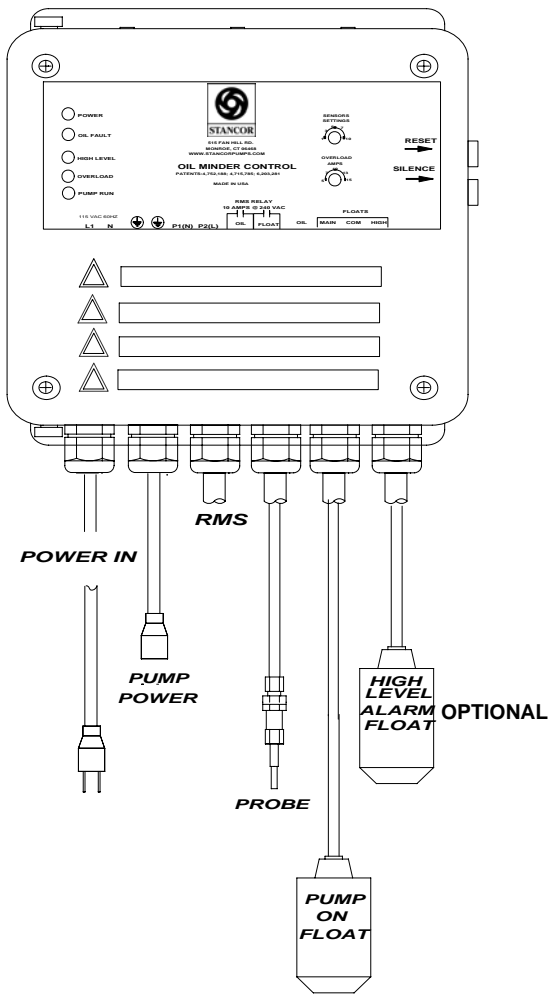
The system is designed to withstand water, oil and moisture and requires minimal maintenance. Stancor recommends only **that the probe is cleaned of any debris, calcium or iron** deposits once every year (more frequently under severe conditions) and that the float switch is turned on to check pump operation during normal elevator maintenance, or every six months.

The Oil-Minder System includes high-level alarms and remote monitoring circuits.

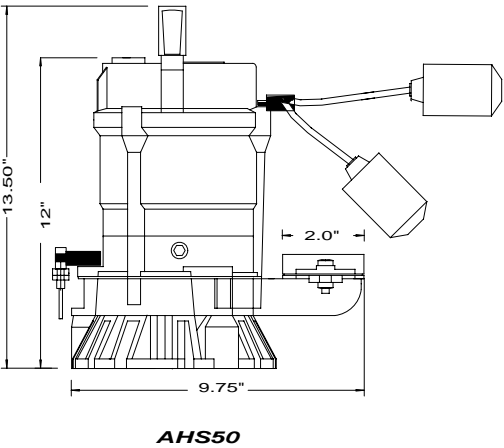
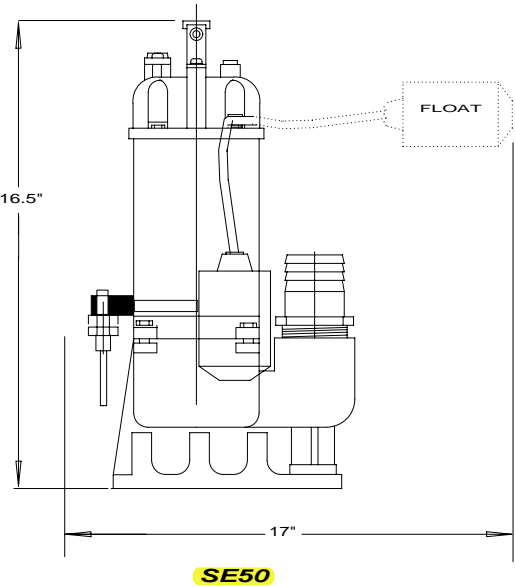
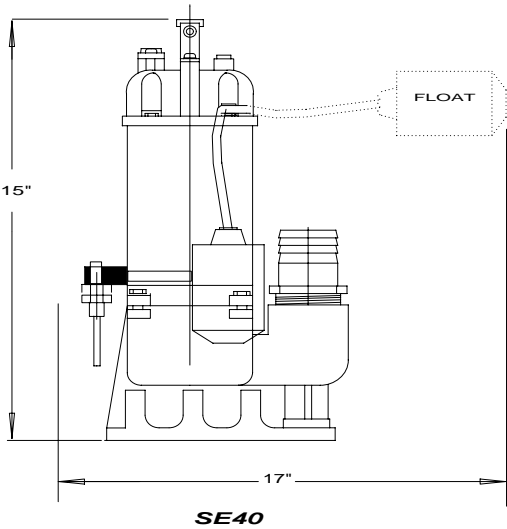
The standard elevator Oil-Minder system is supplied as a complete package as detailed on the following page. The illustrated package is shown with our most popular utility pumps. However, the same physical layout applies to the full range of pumps available through your Stancor dealer.

# SUMP PUMP TYPES AND OPTIONS

## CONFIGURATION OF STANCOR OIL-MINDER CONTROL



## STANDARD PUMP SELECTION CHART



# Oil-Minder System Test Procedure with

## RMS and High Level Alarm

**CAUTION:** Before energizing Oil-Minder System, open control box and remove packing material; make sure all Oil-Minder Modules are seated and have not come ajar due to rough handling during shipping.

### Pump Test

1. Verify Oil-Minder's sensitivity setting: set at 5.
2. Insert electrical plug into wall outlet. Power indicator will light.
3. Short Oil-Minder probe to pump housing with screw driver or shorting jumper
4. With short in place, manually raise Pump On float. Pump should turn on. Pump Run indicator will light.
5. Lower float. Pump will continue to run.
6. Remove short. Pump will then turn off.

### Oil Fault/RMS Test

1. Manually raise Pump On float with NO short on probe. The RMS System should then be activated. Oil Fault indicator will light. Alarm will sound.
2. To silence alarm, depress Silence button.
3. Lower float. RMS warning system will then turn off.

### High Alarm/RMS Test

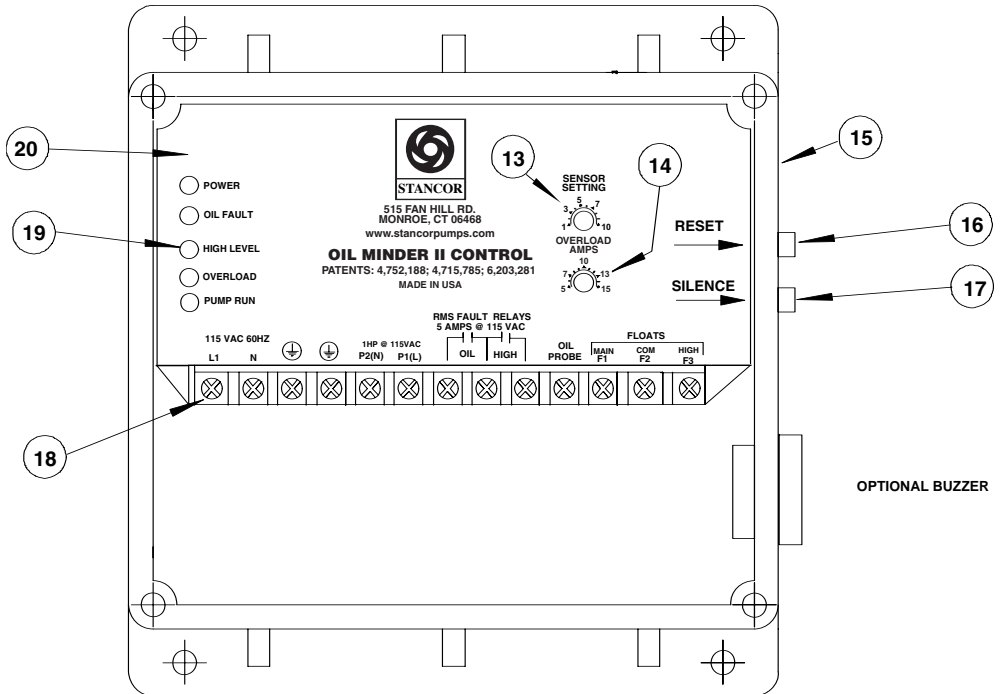
1. Manually raise alarm float. The high level alarm will sound and the RMS system will activate. (High Level indicator will light.)
2. Depress Reset button to reset the system.
3. Lower alarm float.

### Overload Setting

1. Verify that Overload Amp setting is set at 5 for SE40, 8 for SE-50 and 8 for AHS05 pump.

No.	Description
1	NEMA-4X Control Panel
2	Reset button
3	Silence button
4	Piezo buzzer 85DB optional
5	RMS
10	High level float optional

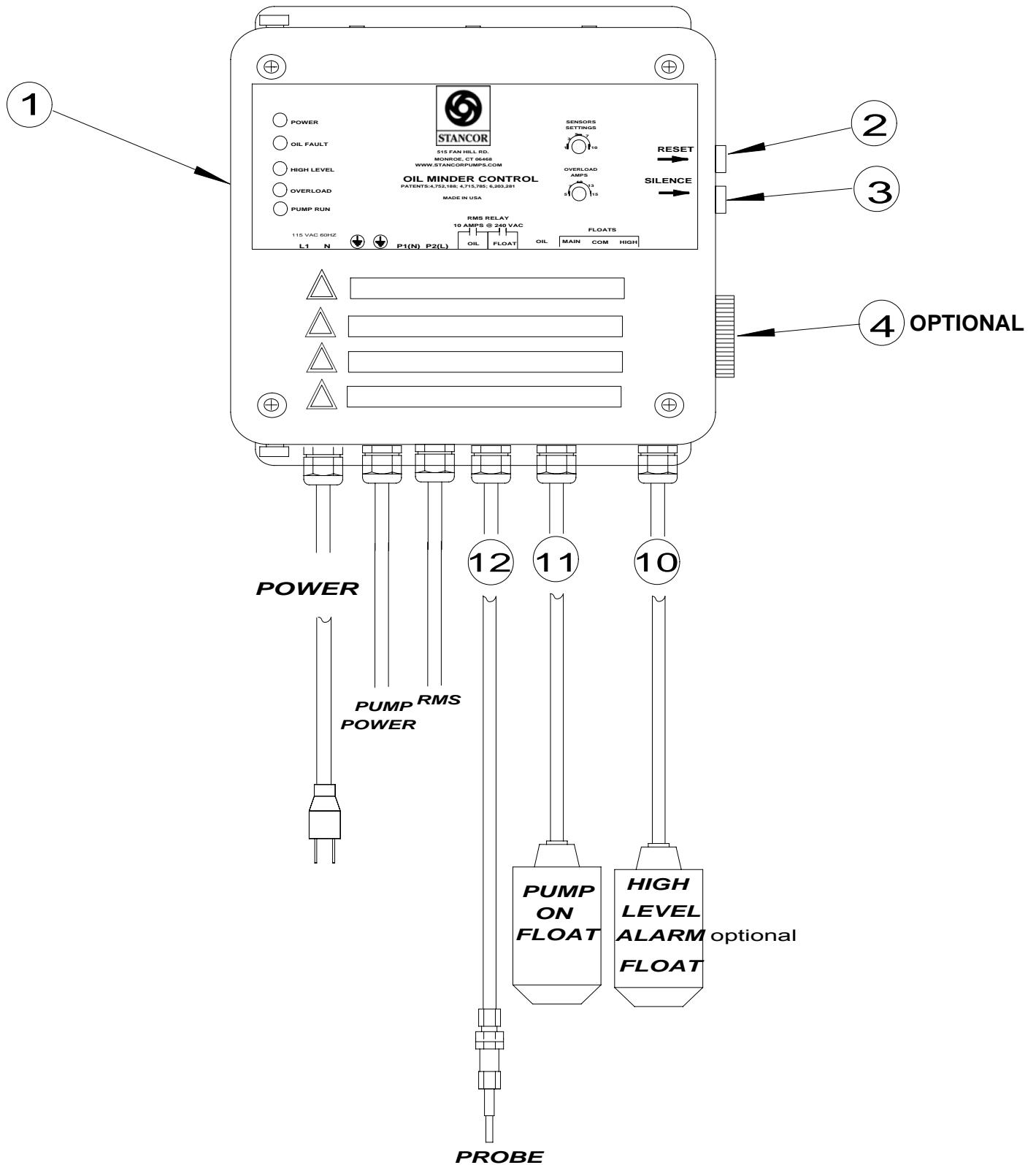
No.	Description
11	Pump on float
12	Oil-Minder probe
13	Oil-Minder probe sensitivity setting
14	Pump overload setting
15	NEMA-4X control panel
16	Reset button
17	Silence button
18	Terminal board
19	LED lights
20	PC board



# STANCOR

## OIL-MINDER SYSTEM

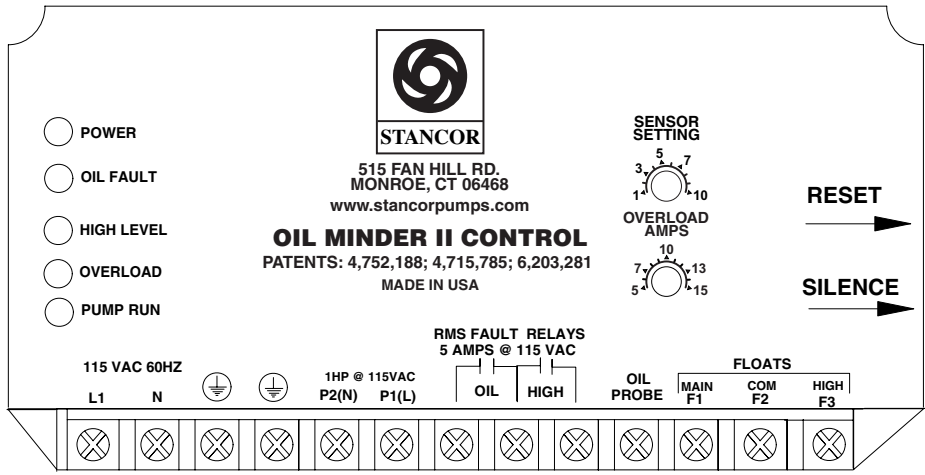
### TRANSFORMER SUMPS



# Stancor Oil Minder Controller Board Specifications

## Inputs

- 1. Oil sense input. Ground referenced 50K-200K ohms, 5VDC source.
- 2. Motor overload current measurement. Isolated from power system. Measurement range 3-100 amps. Trip class 5 (fixed).
- 3. Motor overload set point adjustment pot. Range 5-15 amps (linear adjustment).
- 4. Main float input. (>2K ohms = open; <300 ohms = closed; 12VDC source.)
- 5. High alarm float input. (>2K ohms = open; <300 ohms = closed; 12VDC source.)
- 6. Oil sensor sensitivity adjustment pot. (Range 1-10; 1=50K ohms; 10=200K ohms).
- 7. Automatic/Manual overload reset selector. (Header Jumper on p.c. board).
- 8. System reset button. (P.c. button actuated from side of enclosure). Allows reset of system after an overload condition.
- 9. Alarm silence button. (P.c. button actuated from side of enclosure).





## Outputs

1. Motor/pump control relay. (Rated 1Hp@115VAC; 2Hp@230VAC.)
2. Audible alarm output. (12VDC, 30mA. Two pin locking header on p.c. board.)
3. Alarm relay output. (Dry N.O. contacts rated 5amps@115/230VAC general purpose.)
4. Power LED (green).
5. Oil alarm LED (red).
6. Overload LED (red).
7. High level alarm LED (red).
8. Pump Run LED (green).
9. Oil sensor output, 15 millivolts at pump motor shutdown; 1 second time delay when liquid level reaches probe tip off point.

Terminal Blocks: U.L. recognized 300VAC, 20 amps. Three side barrier with capture/pressure plate; combination head.

Input: Standard: 90-125VAC (1 phase, 50-60Hz)

Optional: 180-240VAC (1 phase, 50-60Hz)

## Performance/Operating Specifications

Stancor's Oil Minder product is intended to control a submersible pump for the purpose of maintaining sump pit liquid levels. The unique features offered by the Oil Minder System are the ability to sense oil floating on the top of the water, and preventing the pump from ejecting this oil into sewers, rivers, and waterways. In addition, the system provides for separate alarms in the event of an oil spill, high liquid level condition, or overcurrent condition due to a pump fault.

The main float will rise (close) when the liquid level increases in the sump pit. The main pump relay should close to allow the pump to discharge the liquid as long as the oil sensor has a resistance to ground lower than the set point (i.e., the oil sensor is in conductive water and normal operation is allowed). The pump relay will open when the liquid level drops below the oil sensor probe tip (pump off). There is a one (1) second time delay after the liquid level drops below the oil sensor probe tip. At this point, the oil sensor probe voltage drops from 5VDC to 15 millivolts DC until the "pump-on" float rises again, at which point the oil sensor input voltage returns to 5VDC. The 15 millivolt input greatly reduces the potential field and subsequent metal ion exchange, thus preventing build up of foreign matter on the probe surface.

If either float is closed, and the oil sensor measures a higher resistance than its set point, the pump is disabled and the oil LED, audible alarm, and remote alarm relay are energized. This failure condition is non-latching, and is automatically cleared by returning the oil sensor to a conductive fluid, or by lowering the floats.

Other system features include overload protection and high level liquid alarming.

The overload feature measures the motor current to determine if a locked rotor or other high-current condition exists. The maximum acceptable normal running amperage is user selected on the product faceplate. The NEMA trip class 5 overload curve is followed for tripping in the event that the motor amperage exceeds its trip point. In the event of an overload; the motor is disabled, while the overload LED, audible alarm, and the remote alarm relay are energized. Automatic reset operation is configured via a p.c. Board jumper header. Systems configured in manual reset will allow a reset only after a loss of power or by depressing the reset button. Systems configured in automatic mode will reset after 10 minutes. The 10 minute restart may be bypassed by removing and reapplying power or by depressing the reset button. Automatic mode is visually indicated by a flashing overload LED, while manual mode will have a solid overload LED.

The high level liquid alarm is enabled by an additional float placed at a level in the pit above normal acceptable liquid levels. The rising of this float (closing) will cause the controller to energize the audible alarm, remote alarm relay, and the high level LED. The high level alarm will only be de-energized after the high level float drops to its normal state (open). The high level liquid alarm will not disable the pump motor from normal operation.

An additional silence alarm button is provided to de-energize the audible alarm for the convenience of maintenance personnel. Depressing this button will not clear any fault, but merely silence the alarm for 5 minutes. If a fault is removed and returns, the audible alarm will reenergize as expected.

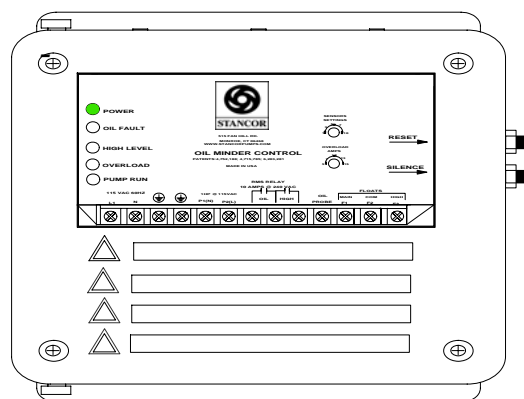
## **OIL-MINDER WITH TEST MODE REVISION 2.01**

The OIL-MINDER II starting with version 2.01 now incorporates new test mode firmware. The upgrade allows field personnel to test the oil-minder and pump without having to short the probe and lift the float as indicated in the existing test procedure. The new test works as follows:

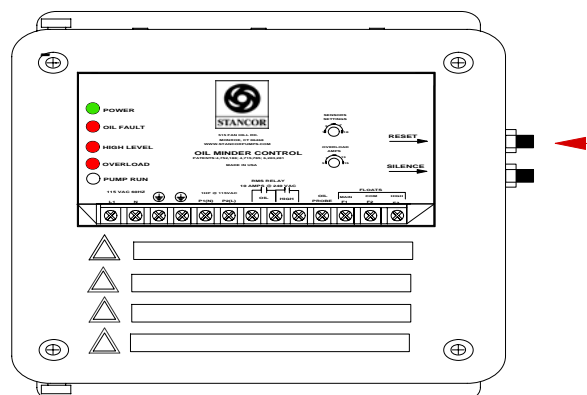
Power up the oil-minder, the power on led will light up green; depress the reset button and continue to hold, oil fault, high level and overload led will light up red. After 5 seconds the pump run led will light up green and power will be supplied to pump for a 5 second interval; if oil, air or dirt (dirt, calcium or iron deposits on the probe) is present the pump will still be powered up for 5 seconds, however, the oil fault led will light up (RED). This new feature gives maintenance personnel the ability to quickly check the functioning of the pump, oil-minder and control.

## STANCOR OIL-MINDER VERSION 2.01 WITH TEST MODE

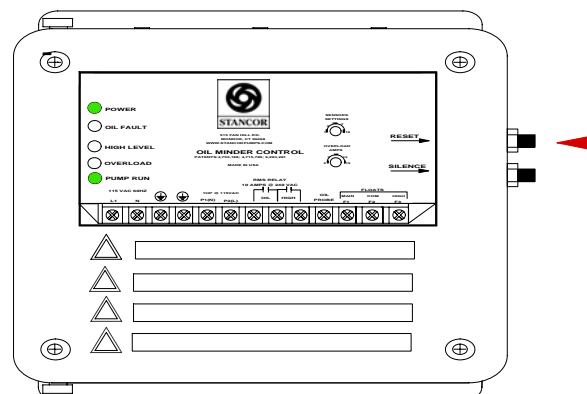
1 - POWER UP THE OIL-MINDER, THE POWER ON LED WILL LIGHT UP GREEN



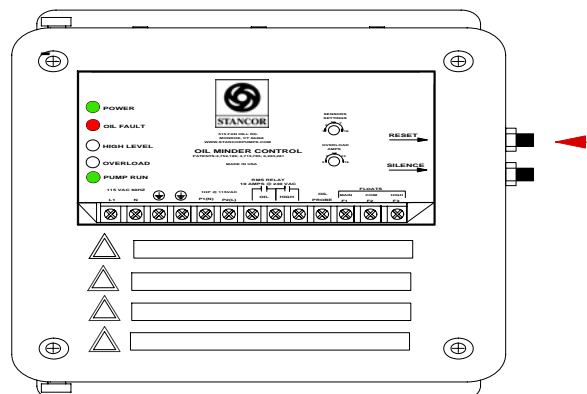
2 - DEPRESS THE RESET BUTTON AND CONTINUE TO HOLD, OIL FAULT, HIGH LEVEL AND OVERLOAD LED WILL LIGHT UP RED.



3 - AFTER 5 SECONDS (CONTINUE TO DEPRESS RESET BUTTON) THE PUMP RUN LED WILL LIGHT UP GREEN, IF WATER IS PRESENT POWER WILL BE SUPPLIED TO PUMP FOR A 5 SECOND INTERVAL

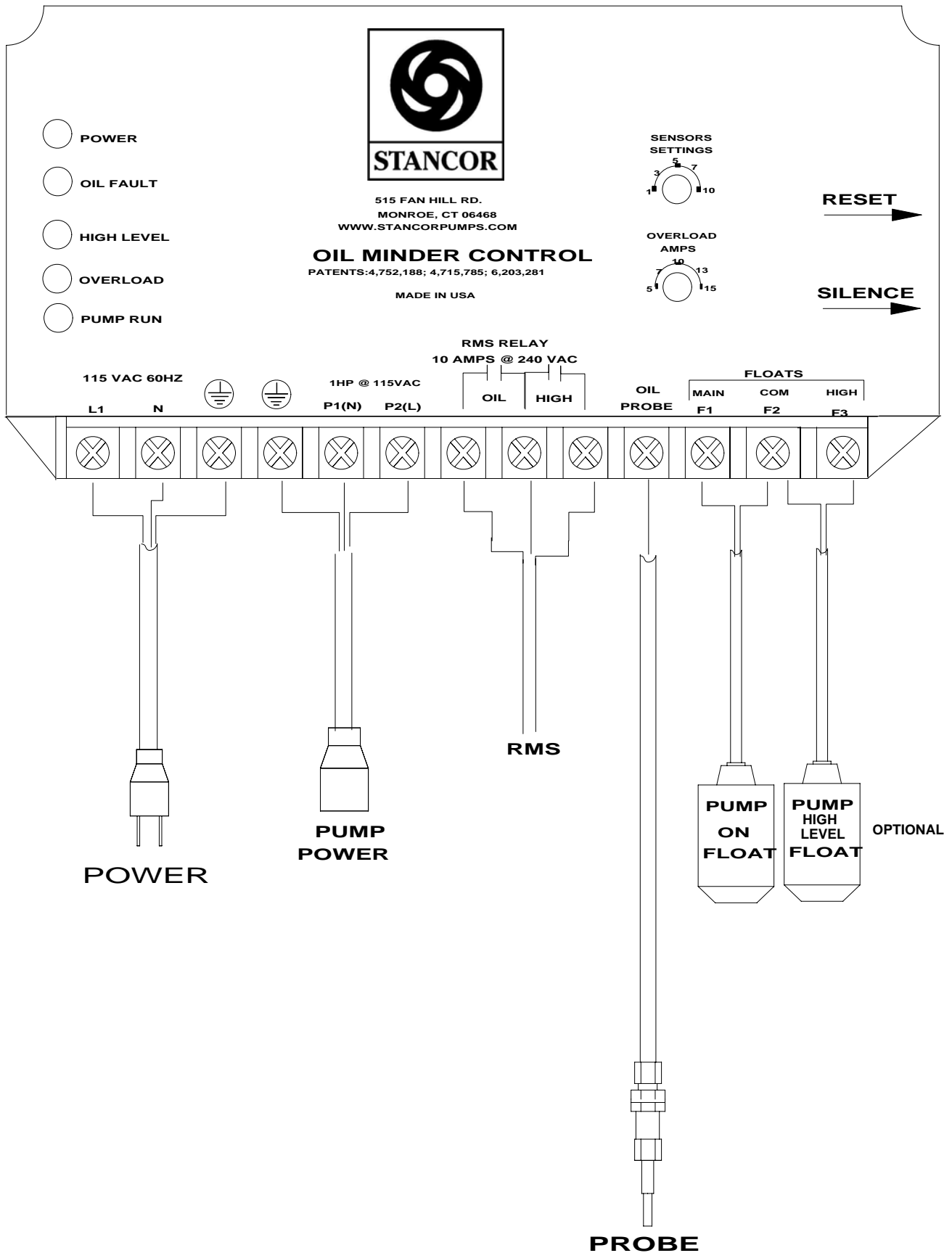


4 - IF OIL IS PRESENT THE PUMP WILL STILL BE POWERED UP FOR 5 SECONDS, HOWEVER, THE OIL FAULT LED WILL LIGHT UP RED.



5 - AFTER 5 SECONDS PUMP SHUTS OFF AND POWER ON LED IS GREEN

# OIL-MINDER CONTROL FIELD WIRING



# Care and Maintenance

## Safety Precautions

Before starting work on the Oil-Minder System make sure that the system is isolated from the power supply and cannot be energized.

## Inspection

Regular inspection and preventive maintenance ensure more reliable operation. The system is designed to withstand water, oil, and moisture and requires minimal maintenance. Stancor recommends that the probe and connecting bracket be cleaned of any debris, calcium or iron deposits once every year (more frequently under severe conditions) and that the float switch is turned on to check pump operation during normal maintenance or every six months.

1. To clean probe use alcohol and an abrasive pad or steel wool.
2. To clean connecting bracket use a rag and alcohol.

Remove all debris or iron deposits so as to prevent the possibility of shorting the probe.





**Stancor, Inc.**

515 Fan Hill Rd • Monroe, CT 06468

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