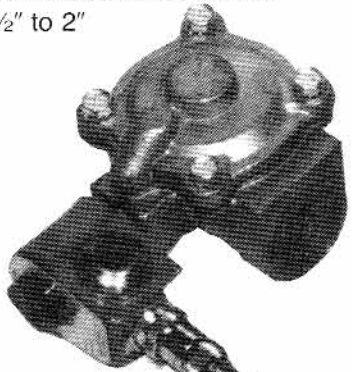




# OIL TEMPERATURE CONTROLLER INSTALLATION/INSTRUCTION

FULL FLOW DIAPHRAGM VALVE  
RM350-X 1/2" to 2"



OT-120-2

TEMPERATURE & LEVEL SENSOR

OTL-XX-2-XX

TEMPERATURE SENSOR

OT-XX-2-XX

MODEL #	POWER:	VOLT:	25 WATT MAXIMUM
SERIAL #	INSTALLATION DATE:	BY:	

### CONTROL FUNCTIONS:

- 0-100% infinite resolution wave proportioning
- 5°F under temperature relay (warm up)
- 5°F over temperature audio warning
- 10°F over temperature automatic shut down relay
- Automatic low oil level shut down
- Audio reset switch (5 minutes)



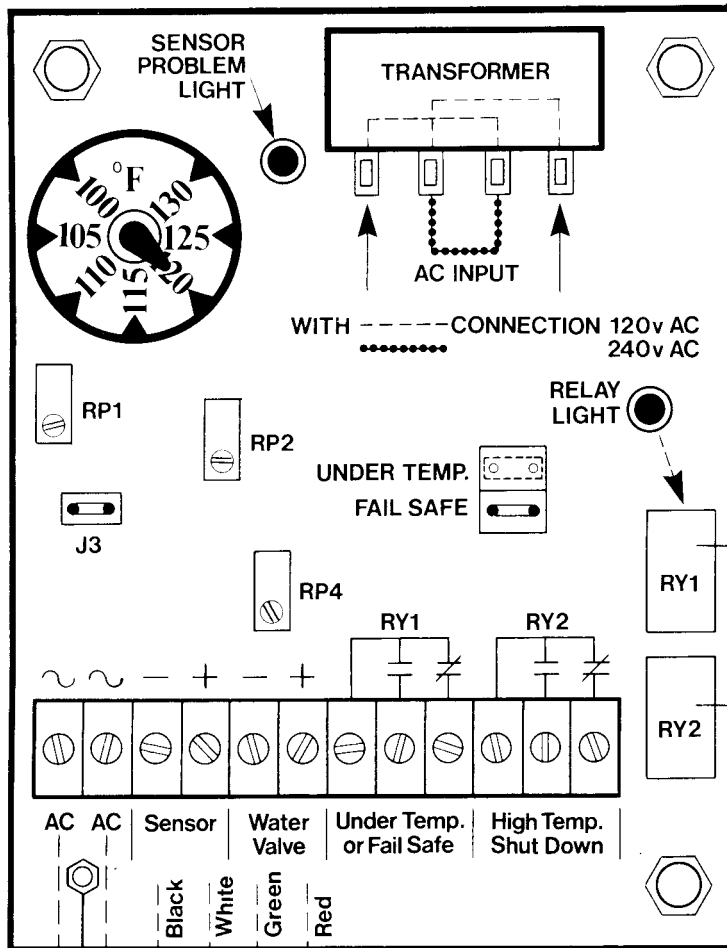
N8779 Hwy X - P.O. Box 90, Watertown, WI 53094 U.S.A. Phone: (414) 261-2606 - FAX: (414) 261-1350

# OilTemp CONTROLLER INSTALLATION/INSTRUCTION

Mount OilTemp controller permanently on a vibration free surface such as side of electrical control cabinet, machine frame or back of platen. Connect controller directly to power source. Place sensor in oil tank to obtain an active oil temperature reading. Select valve size using a port as large or larger than the heat exchanger port size.

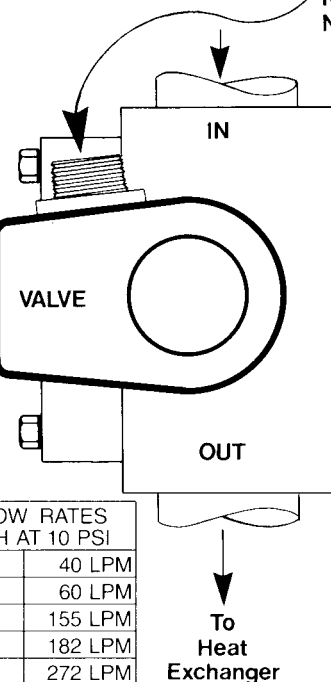
## SPECIFICATIONS:

- POWER:** 120v or 240v AC — see transformer connection.
- CONTROL POINT ADJ:** 100 to 130 F (38 to 54 C) — Follow pump and oil manufacturers recommendations.
- OPERATION TEMPERATURE:** 0 to 160° F — 98% relative humidity.
- UNDER TEMPERATURE RELAY:** 5° F below control point.
- AUDIO ALARM:** 5° F over control point.
- SELF PROTECTION:** When sensor is shorted or there is an open circuit, valve will be activated to cool the oil and the audio alarm and high temperature shut down will be activated.
- TO TEST OilTemp:** Disconnect sensor; this will activate control circuits.
- TO CHECK SENSORS:** Disconnect and check resistance which should read 12,240 ohm + 1% at 98° F.
- LOW OIL LEVEL INDICATION:** LED light on outside of control box will be lit.
- SENSOR PROBLEM:** LED light on inside of control box will be lit.
- AUDIO RESET:** Push reset button and audio will be "OFF" for 5 minutes and then automatically reset.
- ALARM SPAN:** When changing setpoint (dial at inside upper left hand corner of control box), span on alarm and on under temperature output will remain.

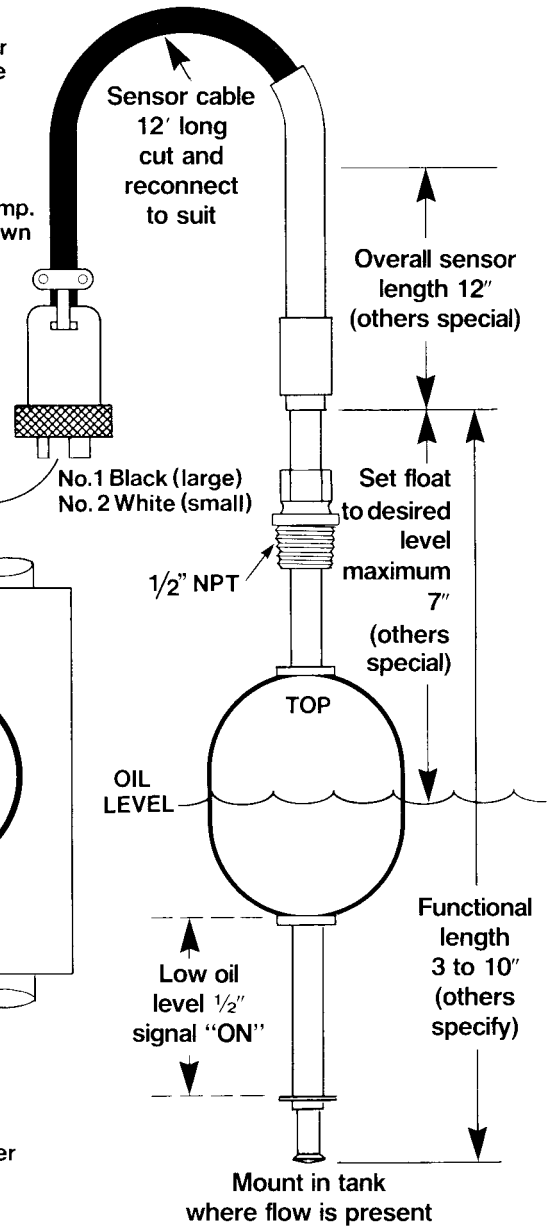


Connect to permanent power source 120v AC 1 phase 50/60 Hz Check transformer connection

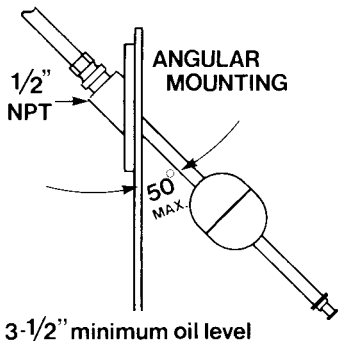
Valve connection cable 12' long Cut and reconnect to suit



To Heat Exchanger



### OPTIONAL SIDE MOUNT



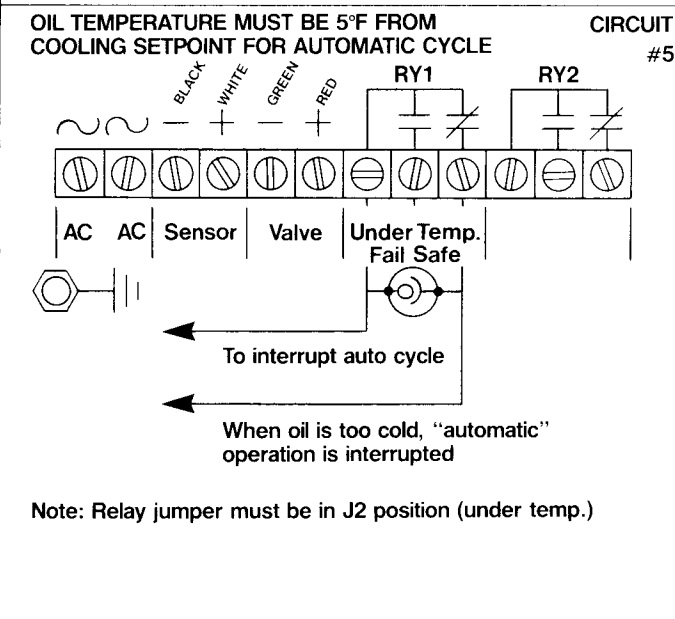
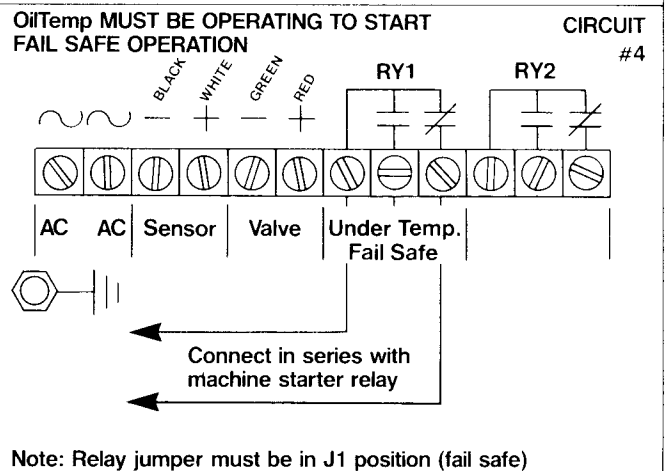
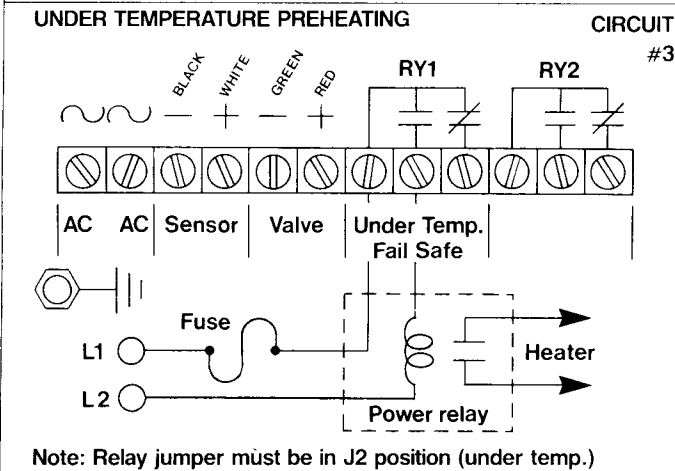
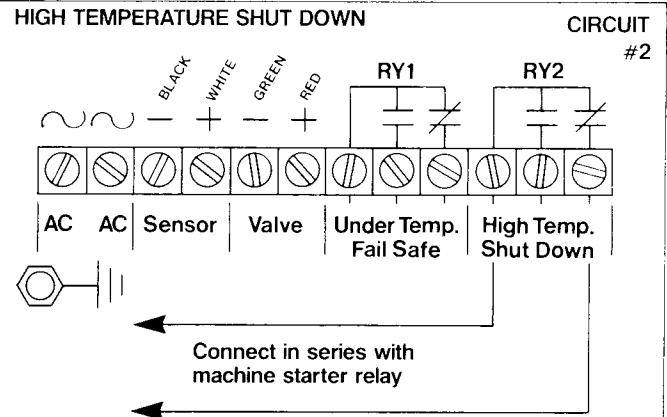
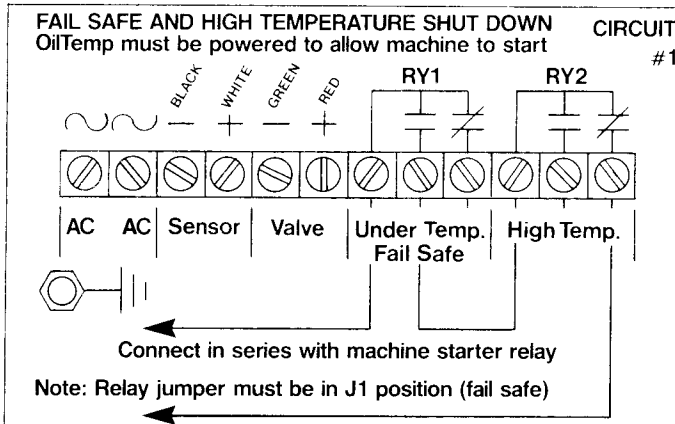
FLOW NPT	WATER Cv	FLOW RATES GPH AT 10 PSI	
1/2"	4	12	40 LPM
3/4"	5	16	60 LPM
1"	13	41	155 LPM
1 1/4"	15	48	182 LPM
1 1/2"	22.5	72	272 LPM
2"	43	301	1,137 LPM
3"	101	840	3,812 LPM

3-1/2" minimum oil level

Mount in tank where flow is present

The OilTemp controller is shipped with temperature dial set at 120°F (49°C). The relay jumper is in the J2 position (under temperature). At less than 115°F the relay light (LED) is "ON" indicating that the RY1 relay is energized. At setpoint of 120°F, cooling valve and LED light will be "ON"

(this factory set may be changed). At 125°F, over temperature LED light and audio alarm will be "ON". To reset audio alarm, push reset button briefly and alarm will then automatically reset in 5 minutes. At 130°F, high temperature shut down LED light and RY2 relay will be "ON".



### OPEN OR SHORTED SENSOR

Sensor problem LED (inside control cabinet) will be "ON"  
Cooling LED will be "ON"  
Water valve will be "ON"  
Over temperature LED will be "ON"  
Audio alarm will be "ON"  
High temperature shut down will be "ON"  
RY2 high temperature relay will be "ON"  
RY1 under temperature/fail safe relay will be "ON"

### LOW OIL LEVEL FLOAT SENSOR ONLY

Low oil LED will be "ON"  
Cooling LED will be "ON"  
Water valve will be "ON"  
Over temperature LED will be "ON"  
Audio alarm will be "ON"  
High temperature shut down will be "ON"  
RY2 high temperature relay will be "ON"  
RY1 under temperature/fail safe relay will be "ON" when jumper is in J1 position

**NOTE:** Internal hydraulic leaks cause excessive heat to be generated. Check hydraulic return line for flow when machine is idle.

**DURING NORMAL OPERATION** — Cooling light should turn "OFF" periodically. If alarm sounds, check for: Insufficient cooling, low supply pressure, high return line pressure, clogged or restricted cooling lines, clogged or restricted heat exchanger.

# ELEVEN

## THE ~~TEN~~ COMMANDMENTS OF HYDRAULIC SYSTEM MAINTENANCE

1. STOP leaks.
2. LOOK at fluid daily — to see if free from contaminants, water, foam.
3. LISTEN for unusual sounds.
4. Keep fluid at moderate temperature probably between 90 and 120°F.
5. Check fluid level — keep reservoir full.
6. Clean or change filters and strainers when required . . . also clean magnets.
7. Add only clean new oil — through a strainer or filter.
8. Use only fluids that meet pump specifications.
9. Use only clean, well-marked containers for adding oil.
10. Have your fluid tested periodically — to see if it needs to be filtered or changed.
11. Use an OilTemp to maintain proper oil temperature and warn when something has gone wrong.

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### PROBLEMS AND SOLUTIONS CHECK LIST

#### NO POWER LIGHT ON

Check power source for proper voltage and connection.

**Note:** Power should be taken from a permanent source on machine.

#### COOLING VALVE DOES NOT TURN ON

Oil temperature has not reached set point. Valve may be stuck open (thus cooling oil continuously). Disassemble the valve and check for contamination.

**Note:** The bleed hole in diaphragm must be clean. Clean strainer and check supply line for source of contamination.

#### OVER TEMPERATURE ALARM SOUNDS

Temperature is at least 5°F higher than set point.

CHECK . . .

1. if water supply is turned off or restricted
2. if water pressure is sufficient to meet cooling requirement
3. for high back pressure
4. if heat exchanger is clogged or restricted
5. for internal hydraulic leak (dumping of excess oil)
6. valve solenoid for magnetism. Slide valve assembly up and down . . . valve must turn on and off. Disassemble, clean valve, and check strainer for source of contamination.

#### SENSOR PROBLEM LIGHT "ON"

Sensor may be disconnected. Check connections and condition of cable and connector.

Disconnect sensor and check resistance which should read:

at 68°F, 24,984 ohm  $\pm$  1%

at 77°F, 20,000 ohm  $\pm$  1%

at 86°F, 16,113 ohm  $\pm$  1%

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