

HI-MSP STERILIZER INSTALLATION INSTRUCTION SHEET

CAUTION: NEVER LOOK DIRECTLY AT THE ULTRAVIOLET LIGHT WITH THE NAKED EYE. View through a piece of ordinary glass or optical glasses. ULTRAVIOLET LIGHT may cause eye irritation if eye is not properly protected. You should never have to look directly at the ULTRAVIOLET LIGHT when installing or trouble-shooting one of our HI-MSP STERILIZERS!

STANDARD COMPONENT FEATURES OF THE HI-MSP STERILIZERS:

1. Durable PVC cylinder lined with Stainless Steel
2. High efficiency germicidal lamp emitting 2537 angstroms of UV energy
3. Quartz germicidal lamp housing
4. Durable Ballast
5. Light sensor with relay and alarm
6. On/Off test switch
7. Auxiliary wiring for optional electronic shut-off, external alarm or warning light

INSTALLATION:

- A. The HI-MSP unit should be installed after the pressurized well tank and any water treatment equipment (softeners, filters). Always install an In-Line Sediment Filter before the HI-MSP unit to eliminate the possibility of a dirt build-up inside the purification chamber. A complete water test is recommended to determine if any pre-treatment equipment is necessary for iron removal, hardness removal or pH correction.
- B. Pre-drill 1/4" holes in the mounting bracket. Use lag screws to secure the HI-MSP unit to a wall or the rafters. The front of the HI-MSP cabinet should be facing you. This allows the installer to pipe the inlet and outlet from the top or the bottom of the unit (see Figure 1 on separate sheet). Leave ample clearance on either side of the HI-MSP unit to allow for germicidal lamp replacements and quartz housing cleanings.
- C. Pipe the inlet into either stainless steel nipple. Always install unions on the inlet and outlet piping for servicing the unit. A stop and waste valve, or comparable valve, should be piped into the inlet and outlet line of the HI-MSP unit (an optional bypass valve can be installed). See Figure 2 on separate sheet. When using sweat fittings, use torch in such a way as to eliminate direct contact with the PVC Purification Chamber.

- D. A flow control is provided to be piped into the inlet piping of the HI-MSP unit. This flow control will restrict the GPM flow rate to the designed service flow rate of your particular HI-MSP unit. Two wires, located inside the HI-MSP cabinet, are provided to energize an optional solenoid valve when the alarm is activated.

This optional solenoid: (If used)

*will prevent untreated water from entering the treated water lines.

*should be installed on the outlet piping.

- E. Plug the HI-MSP unit's electrical plug into a properly grounded 115 volt/60 hertz single phase AC receptacle. DO NOT USE EXTENTION CORD. Always unplug the HI-MSP unit's electrical connections before servicing the unit. The switch on the front of the HI-MSP cabinet should be at the ON position. TO PREVENT ELECTRICAL DAMAGE TO RELAY AND LIGHT SENSOR FROM POWER SURGES, INSTALL A POWER SURGE PROTECTOR ON YOUR ELECTRICAL OUTLET.

- F. Loosen the union on the inlet piping and turn the HI-MSP unit towards you.

*Fill the HI-MSP unit with standard household bleach.

*Connect the union on the inlet piping and open all faucets in the house or commercial facility.

Allow the water to run at each faucet until a chlorine smell or taste is detected.

*Close all faucets and keep closed overnight. The chlorine will destroy any bacteria located in the house piping. In the morning, open the faucets and flush the chlorinated water into the drain. All water entering the piping should be bacteria free, having passed through the HI-MSP sterilizer.

SERVICE AND MAINTENANCE:

Germicidal Lamp:

1. The lamp should be replaced on an annual basis.
2. Before removing the germicidal lamp, unplug the HI-MSP unit's electrical connection.
3. Pull the black wire on the right side of PVC chamber away from the chamber. This will release the electrical connector from the right side of the germicidal lamp.
 - *Pull the black wire on the left side of the PVC chamber until the lamp is exposed.
 - *Pull the white electrical connector away from the germicidal lamp.

- *Remove germicidal lamp and discard properly.
THE LAMP IS GLASS AND WILL BREAK
- 4. Wipe replacement germicidal lamp with standard alcohol. This will remove any dirt or finger prints.
 - *Slide germicidal lamp into the left side of the PVC chamber.
 - *Connect the white electrical connector to the end of the germicidal lamp.
 - *Push black stopper until it is secured into the gray nut on the left side of the PVC chamber.
 - *Push black wire through the black stopper until the germicidal lamp is exposed on right side of PVC chamber.
 - *Connect the white electrical connector to the right side of the germicidal lamp.
 - *Push the black stopper on the right side of PVC chamber while gently pulling on the black wire on the left side of the PVC chamber.
 - *Follow this procedure until both black stoppers are secured into its respective gray nut.

Quartz Housing:

1. The quartz housing may periodically become fouled with dirt from the water supply and need cleaning. The following steps will provide you with detailed procedures for cleaning your quartz housing.
THE QUARTZ HOUSING IS FRAGILE SO HANDLE WITH CARE!!!
2. Close the inlet and outlet stop and waste valves.
3. Disconnect the HI-MSP unit's electrical connection from receptacle.
4. Remove the germicidal lamp by following the previously mentioned procedure.
5. Loosen the gray nuts on each side of the PVC chamber. Water will drain from the nut until the internal water pressure has been eliminated. This can take approximately 3 minutes.
 - *Carefully remove the gray nuts, one at a time.
 - *Remove the O'rings from each end of the quartz housing.
 - *Slowly pull the quartz housing away from the PVC chamber.
6. Clean the quartz housing with standard alcohol to remove any dirt or finger prints. When the quartz housing is clean, slowly slide it into the PVC chamber.

7. There should be approximately 1/2 inch of quartz exposed on each side of the PVC chamber when the quartz housing is in the proper position.
*Place silicon lubricant on the O'rings before securing them to the quartz housing (the silicon lubricant is provided). Slowly secure the gray nuts to each end of the PVC chamber.
HAND TIGHTEN THE GRAY NUTS IN A CLOCKWISE DIRECTION!!!
8. Slide the germicidal lamp into the PVC chamber by following the previously mentioned procedure.

Quartz eye and relay.

1. ALL WATER SHOULD BE SHUT OFF.
2. DISCONNECT THE HI-MSP UNIT FROM THE RECEPTACLE BEFORE TOUCHING ANY ELECTRICAL COMPONENTS!!
3. Remove the four screws that secure the HI-MSP cabinet to the PVC chamber.
*Disconnect the two wires from the black sensor.
*Unscrew the white adapter and sensor relay assembly from the quartz eye piece.
*Unscrew the quartz eye while securing the 3/4" nipple with a wrench.
*Clean the quartz eye with standard alcohol and replace, using teflon tape.
4. If quartz eye is clean, replace relay assembly.

Ballast Replacement:

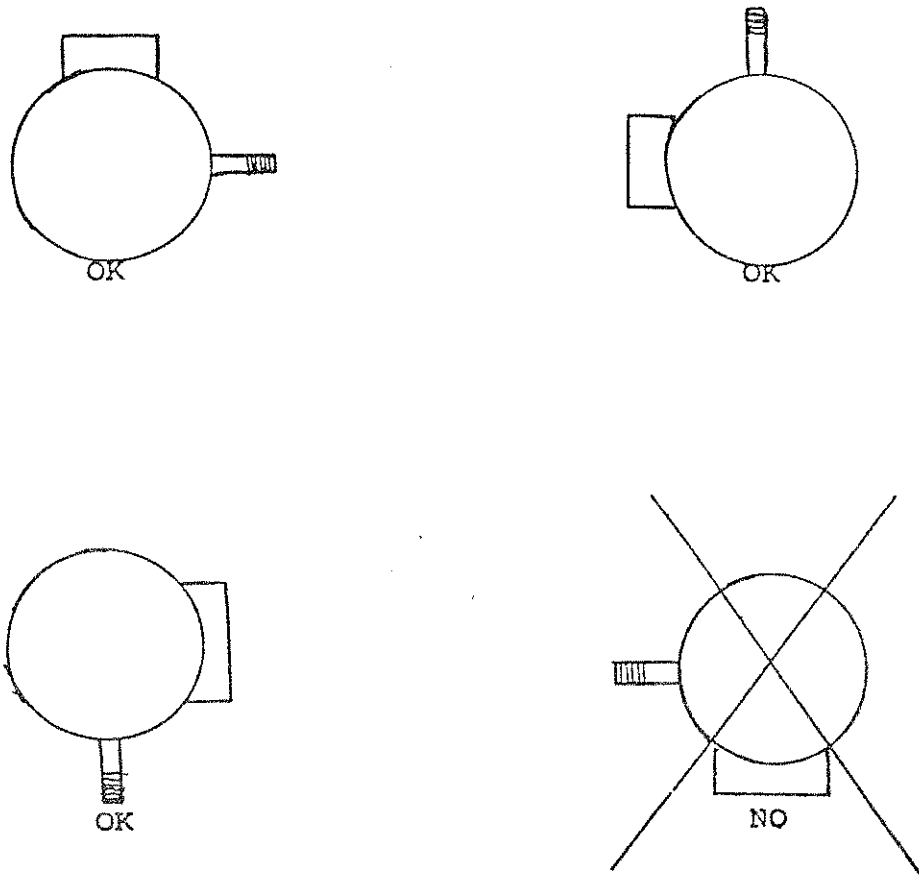
1. UNPLUG THE HI-MSP UNIT'S ELECTRICAL CONNECTION FROM THE RECEPTACLE.
2. Remove the four screws that secure the HI-MSP cabinet to the PVC chamber.
3. Remove the two nuts and bolts that secure the ballast to the HI-MSP cabinet.
4. Remove the electrical connections from the germicidal lamp.
5. Remove the wire nuts on the leads connected to the ballast.
6. Secure the new ballast to the HI-MSP cabinet with the 2 nuts and bolts.
7. Secure the wires to the appropriate wire nut connectors.
8. Pull the black wires with the white electrical connectors through each side of the HI-MSP cabinet.
9. Secure the cabinet to the PVC chamber with the

- 4 screws provided.
10. Attach the white electrical connectors to the germicidal lamp.

Follow the previous instructions dealing with germicidal lamp replacements.

TROUBLE SHOOTING:		
PROBLEM	POSSIBLE CAUSE	SOLUTION
1. Alarm ringing	A. ON/OFF switch	Switch should be on.
	B. Germicidal lamp out.	Replace lamp. See germicidal lamp service section.
	C. Dirty quartz housing.	Clean quartz. See housing service section.
	D. Dirty quartz eye.	Clean quartz eye. See quartz eye service section.
	E. Defective ballast.	Replace ballast. See ballast service section.
2. Alarm ringing with lamp on.	A. Defective relay assembly.	Replace relay assembly. See relay service section.
3. No alarm when lamp is out.	A. Defective relay assembly.	Replace relay assembly. See relay service section.

NOTE: UNDER NO CIRCUMSTANCES SHOULD THIS UNIT BE INSTALLED WITH THE MSP CABINET FACING THE FLOOR!!



NOTE: SILICONE LUBRICANT ENCLOSED WITH MOUNTING SCREWS IS TO BE USED ON O'RINGS WHEN THE QUARTZ HOUSING IS REMOVED FOR CLEANING OR SERVICE. DETAILED QUARTZ HOUSING CLEANING PROCEDURES ARE PROVIDED IN THE ATTACHED MSP STERILIZER INSTALLATION INSTRUCTION SHEETS.

FIGURE 1

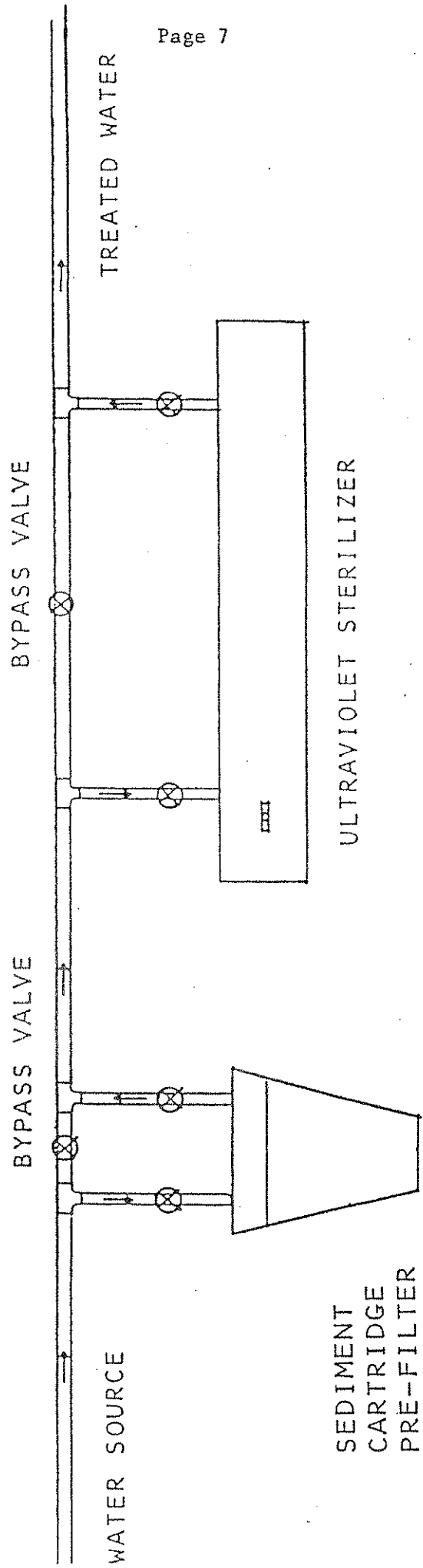
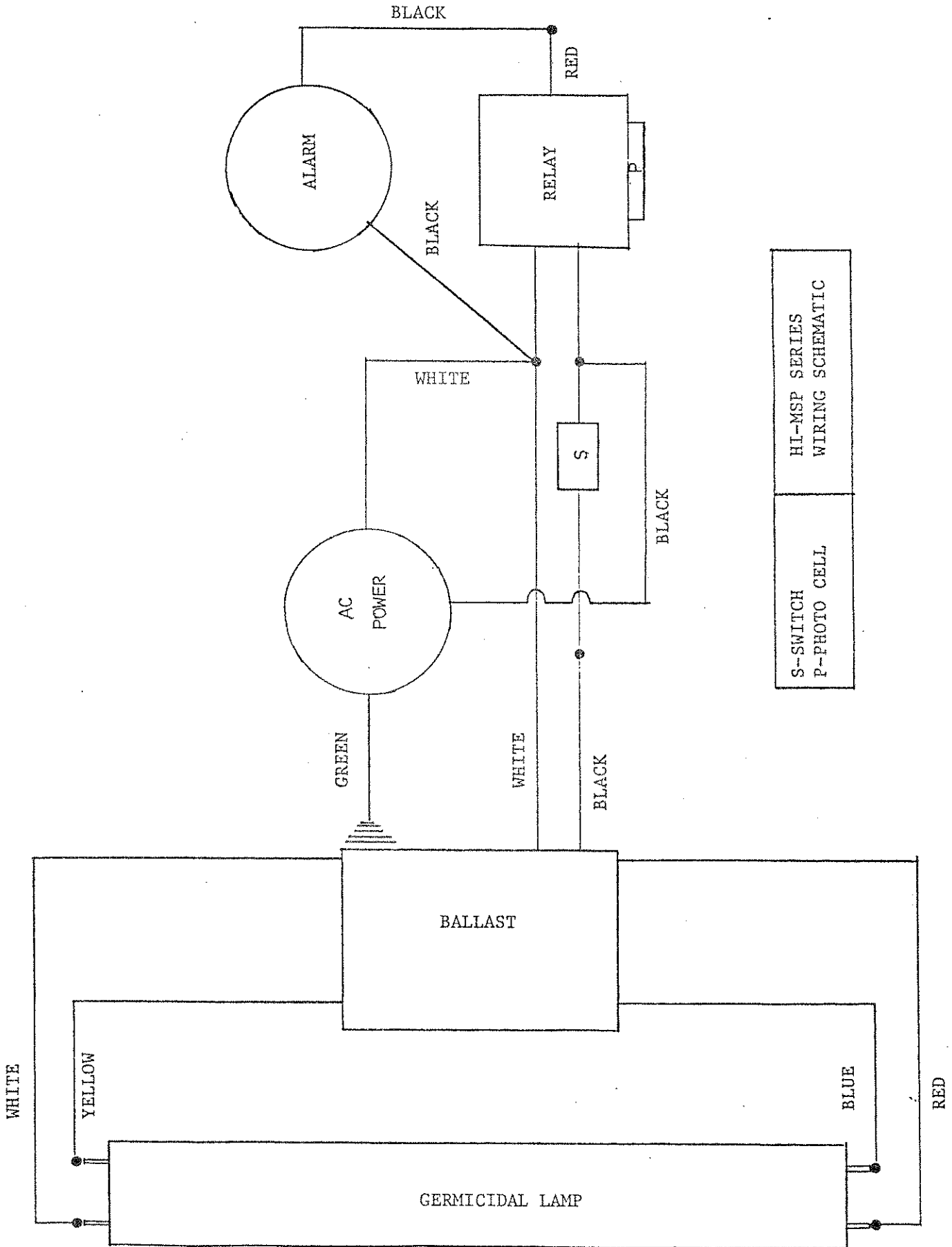


FIGURE 2



S-SWITCH
P-PHOTO CELL

HI-MSP SERIES
WIRING SCHEMATIC