INSTALLATION INSTRUCTIONS

UNIT DESCRIPTION AND OPTIONS

Model Number: SR-24A-PB Serial Number: 040907

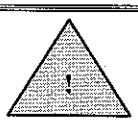
ASME Serial Number: 5902-92 National Board Number: 5062

Controller Series: PB

Steam Source: Electric Steam Generator

Options on this machine:

☒	Jacket Blow Down	☐	Electric Door Interlock	☐	Streaming Steam
☒	Generator Blow Down	☐	Alarm Warning System	☐	Low Temp. Cycle
☒	Waste Water Cooling	☐	Double Door	☐	Load Probe
☐	Feed Water Pump	☐	Biological Seal	☐	RS-232 Serial Port
☐	Hi-Vac (Vac Pump)	☐	Remote Start	☐	Flood Switch
☐	Hi-Vac (Water Ejector)	☐	Printer w/ take-up spool	☐	



WARNING: RISK OF SEVERE INJURY OR DEATH

If this sterilizer is not installed and used in a manner specified by the manufacturer, the protection provided by the equipment may be impaired.

Sterilizer Environmental Ranges:

Indoor Use Only	Altitudes up to 2000 m	Temperature 5 C to 40 C
Mains Supply Voltage Fluctuations ±10% of Nominal Voltage	Max Relative Humidity 80% at 31° C	Pollution Degree 2

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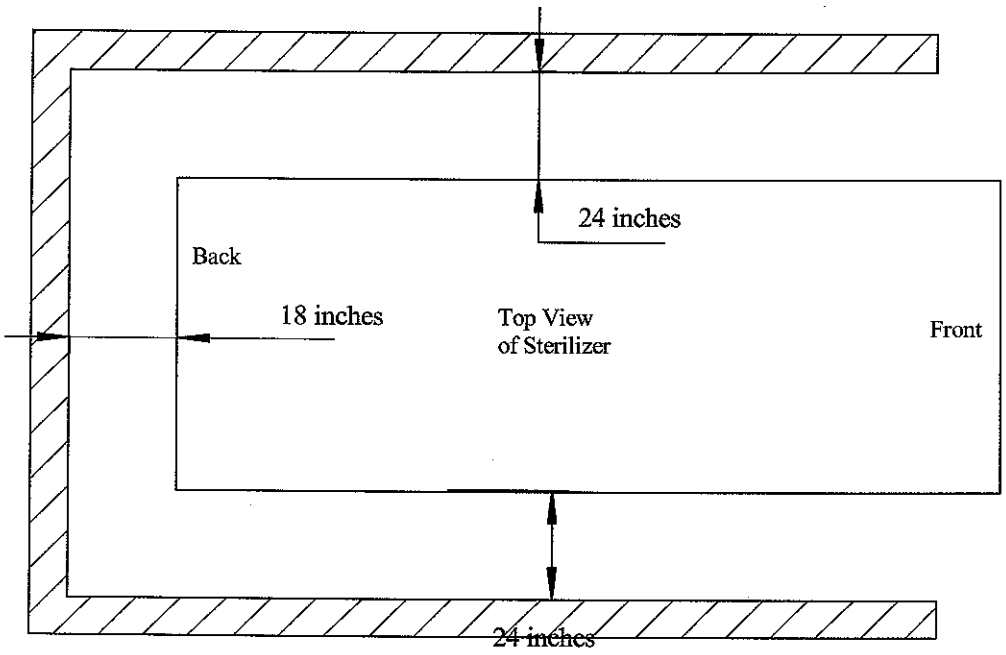
1. ASSEMBLY, LOCATION, & MOUNTING

1. The room in which this sterilizer is to be installed ***MUST*** be vented and cooled. The sterilizer will not perform well in a hot environment.

2. Steam, water, and power service are always clearly labeled for the sub-trades responsible for their connection.

3. Allow a minimum of 24 inches on both sides and 18 inches at the back of the sterilizer for service and installation access.



4. Installation should be made in accordance with tagging instructions on the sterilizer. Uncrate and place unit in its final position. Adequate space must be allowed at the sides and rear of unit for maintenance and service (see above). As an aid for servicing, shut-off valves should be installed in steam and water service lines easily accessible and adjacent to the sterilizer.

5. Using a spirit level on one vertical side, plumb unit to vertical using the four (4) leveling screws - one in each corner of the steel angle frame of the sterilizer inside the stainless steel outer cabinet. Then place spirit level on front side of sterilizer at one corner and raise the back end of the sterilizer equally with both back-leveling feet so that the whole sterilizer has a slight pitch forward. This is to allow a grade for any liquid within the chamber to drain into the drain hole at the front bottom of

the chamber. To check if sufficient grade is provided, slowly pour a glass of water on the back bottom surface of the sterilizer chamber and note if it runs freely to and down the drain hole.

6. If exhaust steam is to be vented to a stack, the ductwork should be at least one pipe size larger than the exhaust line at the sterilizer and must not include any 90 degrees angles.

2. PLUMBING

1. All plumbing connections must be made by a licensed plumber, from a service organization authorized by CSS, according to local plumbing codes.

2. Authorization from CSS is required for any extra-ordinary waste connections.

3. Shut-off valves and unions must be installed to meet serviceability requirements.

4. For safety, all shut-off valves must be reachable when standing on floor at equipment site. This includes all water, steam, and compressed air (if necessary) shut-off valves. Unions must be installed at point of connection to equipment. This includes drain, vent from safety relieve valve, water, steam, and compressed air (if necessary) valves. A 12-inch standpipe is required on water supply lines.

5. All ***direct steam*** units should be provided with a 3/4-inch steam line with a pressure of 50-PSI minimum to 80-PSI maximum. This steam line should be equipped with a shut-off valve (easily accessible to the user) ***and*** a float type inverted bucket trap to provide dry steam to the sterilizer. Dry steam is essential in obtaining best sterilization results.

6. All ***Vacuum equipped*** sterilizers should be supplied with a suitable grade of feed water ***free of calcium deposits***. If water quality is a concern at the installation site, a ***water*** filter must be installed in line with the water ring vacuum pump or the water booster pump depending on the sterilizer vacuum system selected.

7. Exhaust lines entering the funnel waste must be kept out of the funnel to avoid possible siphoning.

8. When connecting to a steam return system, connect the steam return line to a ***GRAVITY SYSTEM***, piped to a vented receiver. Do not connect to a system that could cause backpressure in the return line.

9. When piping the generator drain on electrically heated sterilizers, consideration should be given as to the placement of the manual ball valve. This valve should be piped so as to facilitate easy access when draining the generator on a regular basis.

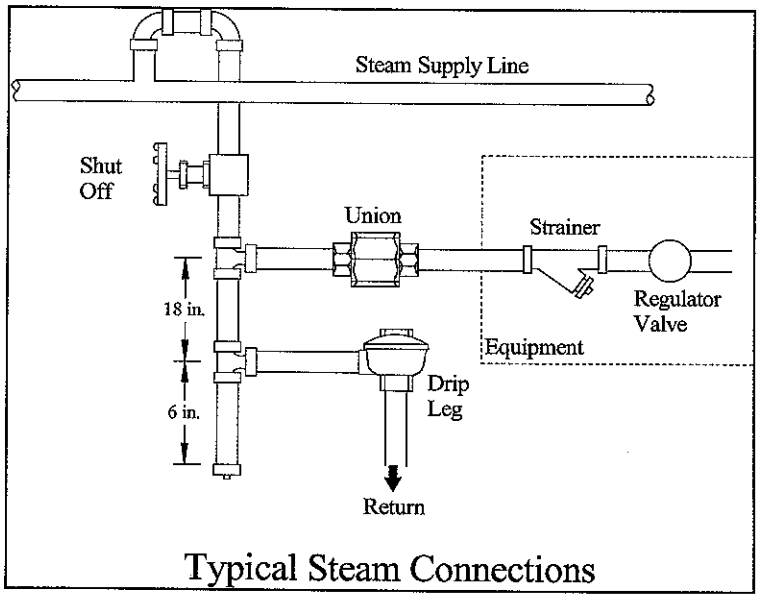
10. When waste connection is made to anything other than a floor drain, and piping changes are required, **make sure that the chamber steam trap is gravity-fed to open waste - IT MUST NOT BE PIPED UPHILL.**

11. When new steam lines are run into the sterilizer, blow out lines before connecting to sterilizer to eliminate thread chips, excess pipe compound and dirt. When new piping is involved it is not uncommon for the steam traps to become fouled. If lines are not pre-cleaned it will cause the sterilizer to malfunction.

12. As per our tagging instructions, water supply pressure to sterilizer should be a minimum of 45 PSI and a maximum of 65 PSI.

2.1 Incoming Steam

A thermostatic trap (Drip Leg) should be installed in the steam supply line to provide condensate-free steam between 97% and 100% saturated. See Diagram below. (Direct Steam units only)



Typical Steam Connections

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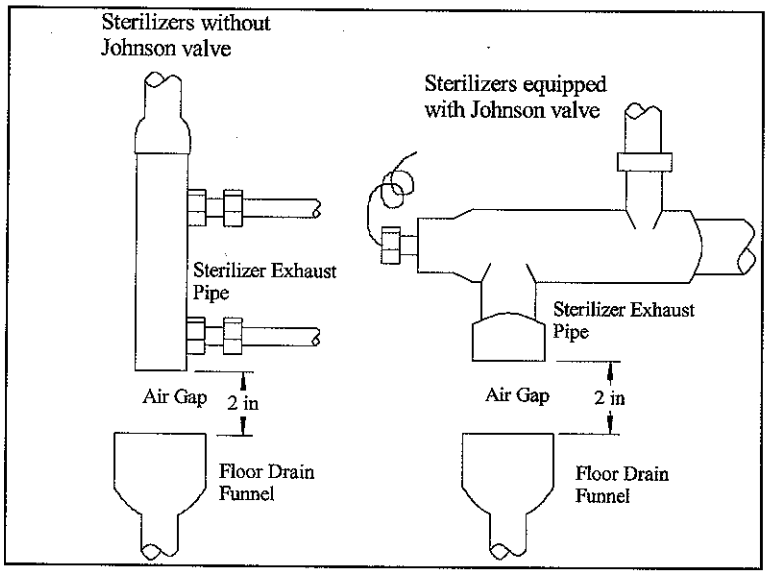
2.3 Drain Connection

Make sure that the drain (waste) connection is plumbed per the diagram below with a minimum of 2-inch air gap between the sterilizer drain line and the floor drain opening. All other drain connection for the sterilizer (e.g. low water cut-off drain, generator drain, jacket safety drain, generator safety drain) must be piped to open waste with a minimum of 2-inch air gap.



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2.3 Piping Sizes & Information

Hot or treated water supply to Generator: 1/2" I.P.S. (45 – 65 PSI)
(Generator-equipped units only – Feed water purity in excess of 2 megohm not recommended)

Cold water supply to condensate Exhaust: 1/2" I.P.S. (45 – 65 PSI)

Waste connection: 2" Nominal Copper
(Connect to a 3" Min. Floor Drain Funnel, with a 2½" Air Gap, See Diagram in section 2)

Steam supply (Direct Steam Units Only): N/A N/A
(Installation required the addition of a Thermostatic Trap for the Drip Leg, See Diagram in section 2)

Steam return (Direct Steam Units Only): N/A
(Check valve on return line may be required)

Generator/low water cutoff drain: 3/4" I.P.S
(Generator-equipped units with external low water cut-off)

Automatic generator drain (Generator-equipped units only): N/A

Safety discharge from Jacket: 1" I.P.S.

Safety discharge from Chamber: N/A

Safety discharge from Generator (Generator-equipped units only): 1" I.P.S.

Water supply to waste water cooling: 1/2" I.P.S. (60 PSI Max.)
Temperature Probe Installation: Insert the capillary tube (temperature probe) into the drain line. Tighten the connector, and then tighten the small gland nut. ***Avoid sharp bends or kinks in the capillary tube.***

Water Supply to water ring vacuum pump: N/A
(Vacuum Pump equipped Hi-Vac units only)

Water supply to booster pump for water ejector: N/A
(Water Ejector Valve equipped Hi-Vac units only)

Compressed Air Supply: N/A (Min 100 PSI)
(Constant Pressure Exhaust equipped)

Water Supply to Chamber: N/A (Min 40 PSI)
(Rapid Cool equipped units only)

3. ELECTRICAL

WARNING: DEGRADATION HAZARD

If you are using a 110-volt supply voltage for the valves and solenoids, make certain that the supply voltage is either 110 volt 50 Hz or 120 volt 60 Hz. Use of any other combination of voltage and frequency (for example 120 volts 50 Hz) will cause degradation of the coils on the solenoids and will lead to failure.

If you are using a 220-volt supply voltage for the valves and solenoids, make certain that the supply voltage is either 220 volt 50 Hz or 240 volt 60 Hz. Use of any other combination of voltage and frequency (for example 240 volts 50 Hz) will cause degradation of the coils on the solenoids and will lead to failure.

1. All electrical connections must be made by a licensed electrician, from a service organization authorized by CSS, according to local electrical code.

2. A convenient disconnect switch must be provided for quick electrical disconnect at the equipment. This switch must be reachable when standing on floor at the equipment. A ground conductor is required at connection.

3. This equipment is connected to earth ground once you plug in the supplied power cord into the power source.

4. If your machine is equipped with an integral steam generator, the generator and contactor's electrical connection diagrams are attached to this document.

5. If your machine is equipped with a vacuum pump, the pump and contactor's electrical connection diagrams are attached to this document.

6. All ***electrically heated units*** must have an easily accessible power shut-off switch. While making the necessary wiring connections to the contactor, make sure all the wires are far enough away from the contactor's moving parts to prevent any obstruction. If a wire should become entangled and cause an obstruction, it is very possible that the contacts could get stuck in a closed position, which will result in a melt down in a low water situation.

7. On all ***electrically heated units*** the terminal screws on the electrical contactor for the generator's elements must be torque measured to 20 lb.in. and the lug set screw to 40 lb.in. This is critical to ensure long life for the contactor, wiring and the heating elements.

3.1 Electrical Specifications for Controller

3.1.1 PB/Steromaster/Steroflash Series Sterilizers

120 V, 60 Hz, Single Phase, 2 Amps

The sterilizer will be grounded through the power cord plug when plugged in. Simply plug the power cord supplied into the proper power source to power the sterilizer.

3.1.2 MC Series Sterilizers

3.1.2.1 Controls Electrical Req.

N/A V, N/A Hz, N/A, N/A Amps

3.1.2.2 Opto-22 Relays Electrical Req.

N/A V, N/A Hz, N/A, N/A Amps

Both the Control and Opto-22 Relay connections for the "MC" Series are plugged into the surge suppressor supplied with the machine. The surge suppressor is then plugged into a dedicated line. See Figure 3.1.

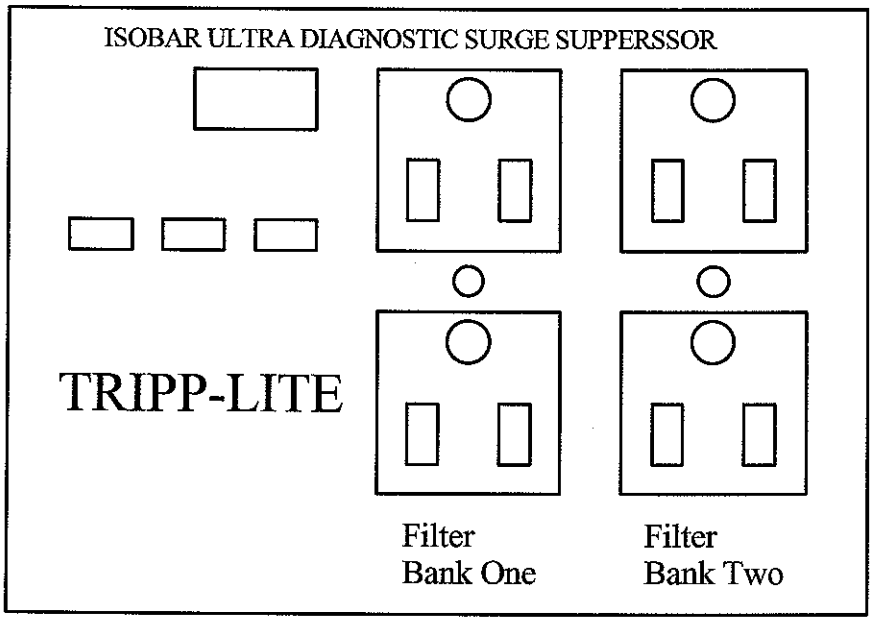


Figure 3.1 ISOBAR Surge Suppressor

1. Connect the microprocessor controller power cord into isolated filter bank two on the ISOBAR®.

2. Plug the valves and solenoids power cord into isolated filter bank one on the ISOBAR®.

3.2 Electrical Specifications for Generator and Pumps

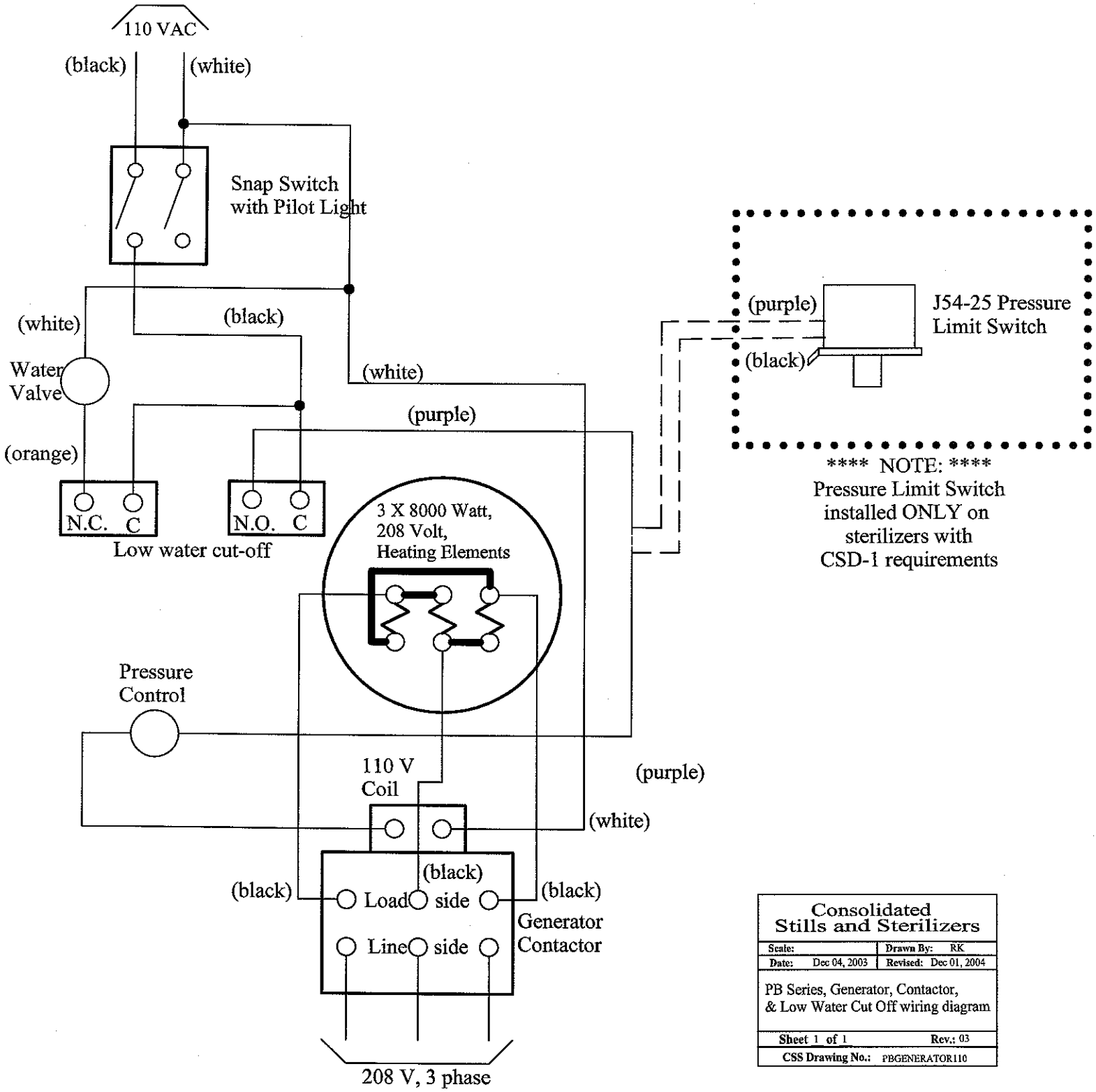
Heater Circuit 24,000 Total Wattage 208 Volts
3 Phase 67 Amps
ASME No. SEB50-308 National Board No. 5065

Overcurrent Protection: Minimum Protection Required is: 84 Amps

Water ring vacuum pump: _____ Volts _____ Phase _____ Amps
(Vacuum pump equipped H-Vac units only)

Booster pump for water ejector: _____ Volts _____ Phase _____ Amps
(Water ejector valve equipped Hi-Vac units only)

Feed water pump – ⅓ H.P. Oberdorfer: _____ Volts _____ Phase _____ Amps



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Scale:	Drawn By: RK
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PB Series, Generator, Contactor, & Low Water Cut Off wiring diagram	
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CSS Drawing No.: PBGENERATOR110	