



PRESSURE POWERED, HIGH TEMPERATURE TYPE PP-HT

Caution: This Unit is designed for atmospheric operation. DO NOT
Pressurize Receiver.

IOM MANUAL

INSTALLATION, OPERATION AND MAINTENANCE (IOM) INFORMATION



PLEASE LEAVE THIS MANUAL FOR OWNER'S USE



SAFETY INSTRUCTIONS

Read this manual carefully to learn how to safely install and operate your pump. Throughout this manual there are a number of SAFETY HAZARDS that must be read and adhered to in order to prevent possible personal injury and/or damage to the equipment.

Three keywords, "DANGER", "WARNING", and "CAUTION", are used to indicate the potential severity of the hazard, and are preceded by a SAFETY ALERT SYMBOL. Failure to follow the safety-related instructions may result in a safety hazard.

DANGER Indicates an imminently hazardous situation which, if not avoided, WILL result in serious injury or death.

WARNING Indicates a potentially hazardous situation which, if not avoided, COULD result in serious injury or death.

CAUTION Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

THOROUGHLY REVIEW ALL INSTRUCTIONS AND WARNINGS PRIOR TO PERFORMING ANY WORK ON THIS PUMP.



Introduction:

Because pump installations are seldom identical, this manual cannot possibly provide detailed instructions and precautions for each specific application. Therefore, it is the responsibility and the duty of all personnel involved in the installation, operation and maintenance of the equipment to ensure that applications not addressed in this manual are performed only after establishing that neither operator safety nor pump integrity is compromised by the installation.

Description of Equipment:

A Model PP-HT pump is designed to transfer high temperature water up to 338°F in applications. Also used in environments that are potentially explosive or hazardous and environments that are wet or extremely humid that would require use of special motors. Tanks are black steel receivers ASME code-stamped for 150 PSIG. Units are available in either simplex or duplex configurations with a variety of options including gauge glass, cycle counter assembly, and insulation.

Pre-Installation Check:

Open all cartons and inspect for shipping damage. Report any damage to your shipping carrier or SHIPCO® sales representative immediately.

Site Inspection:



The pump should be of the proper size and capacity for the proposed installation. Refer to nameplate for rated capacities. Check motor voltage against available power supply.

Installation:



Electrical connections are to be made by a qualified electrician in accordance with the National Electrical Code (NEC) or the Canadian Electrical Code, as well as all national, state and local codes. Code questions should be directed to your local electrical inspector. Failure to follow electrical codes and OSHA safety standards may result in personal injury or equipment damage. Failure to follow manufacturer's installation instructions may result in electrical shock, fire hazard, personal injury or death, damaged equipment, provide unsatisfactory performance, and may void the manufacturer's warranty.

Operating personnel should be trained in the operation of the pump and any associated system.

Unit and/or Pump Location:



Units are typically designed with NEMA 1 controls. Locate unit only in areas of the proper classification.

Piping (General):

Pipe the unit per the Typical Piping Diagram (see Figure 1). Locate and support piping so as to not load the pump discharge.

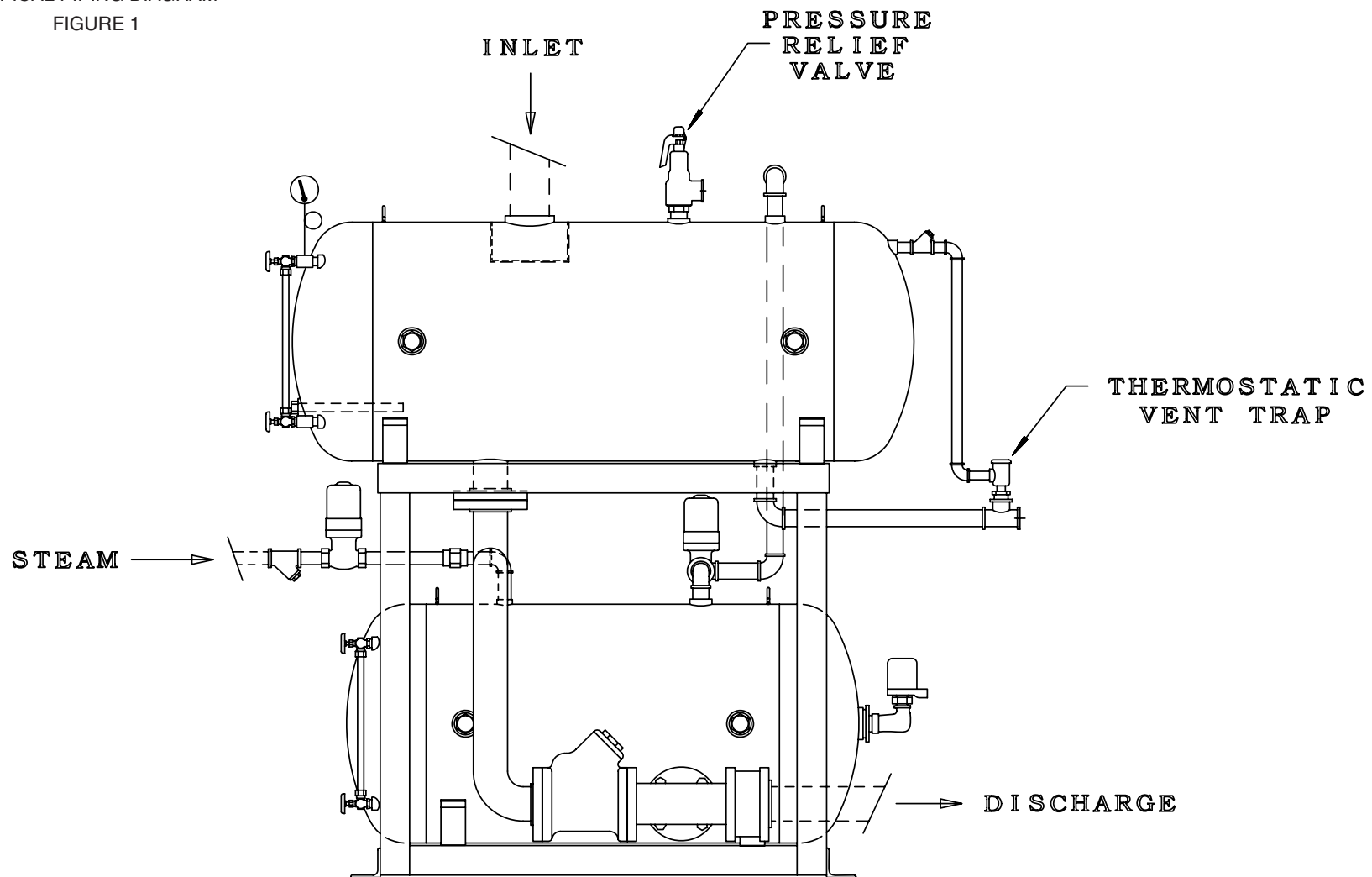
Piping (Relief Valve):



The discharge from the relief valve should be piped to a location safe for potential full flow steam. There must also be provision for drainage of the liquid discharged.

For safe operation the system requires a relief valve set at 125 PSIG or less. The relief valve discharge must be piped to a location where

TYPICAL PIPING DIAGRAM
FIGURE 1



WARNING: The manufacturer will not be liable for any malfunction, damage, or destruction of the equipment if the equipment is not installed properly or is not installed by professionals, licensed and registered as required. Failure to follow and install the equipment according to job specific drawings, made by professionals who are licensed and registered as required and are familiar with the equipment, and failure to have the equipment installed by professionals, who are licensed and registered as required, in accordance with local, state, and federal codes will void all warranties and will void any liability upon the manufacturer. In addition, all warranties, including warranties of merchantability and fitness for a particular purpose are null and void for failure to follow job specific drawings made by professionals who are licensed and registered as required and are familiar with the equipment, and failure to have the equipment installed by professionals, who are licensed and registered as required, in accordance with local, state, and federal codes.

125 PSIG steam can be safely discharged. Do not restrict, reduce or valve the relief valve discharge line. Failure to follow these instructions could result in death or serious injury.

The pressure relief valve supplied on the unit may not be sufficient to relieve rated capacity of the unit or full output of the boiler. Relief valve supplied is normally rated at 1900 lbs/hr of steam. The tank is rated to withstand 125 PSIG, but the operating pressure must not exceed 125 PSIG. Professional system design or evaluation, by others, must evaluate the upstream and provide for necessary additional protection. Discharge thru the pressure relief valve is a symptom of a system failure. The unit must be valved off immediately. Failure to follow these instructions could result in death or serious injury.

Suction Piping:



An isolation valve will be installed in the suction piping between the receiver and pump suction for servicing the pump. The valve will be sized to allow an adequate flow of water to meet the Net Positive Suction Head (NPSH) requirement of the pump.

Thermostatic Vent Trap or Atmospheric Vent:



Connect piping from drain line, thermostatic vent trap, and mechanical drain valve (if so equipped) to drain. Occasionally, units are furnished fully vented, without thermostatic vent trap. Oversize vent openings are then supplied; install full size vent pipe to atmosphere.

Float Switch:

When the float switch in the lower tank rises, the solenoid valve opens and the condensate in the lower tank discharges. Should readjustments be required consult float switch manufacturer's literature.

Floats are locked in place to prevent damage during shipment. Remove shipping locks. Check factory settings. Floats are adjustable for various levels of operation.



Switch is shipped with a bracket attached to the mounting plate to prevent the float from moving in the tank during shipment. When installing the unit, this bracket, clearly marked with a tag, **MUST** be removed for float switch to operate.

Electrical Wiring:

Confirm that the nameplate data on the control panel[s] matches the supply current. If the nameplate data does not match the power source, consult factory.

Verify controls match the control voltages before installing.

Wire in accordance with the National Electrical Code, state and local codes where applicable. A variety of electrical controls are available to meet system specifications. Wiring diagrams are enclosed in electrical panel when the panels are furnished as part of the unit. Consult wiring diagram for specific electrical control information.

PUTTING THE PUMP INTO SERVICE:

(See Step 2 below)



Don't exceed 125 PSIG pressure rating of the unit.

Don't modify or bypass the pressure relief valves. Open all valves slowly.

Failure to follow instructions and safety procedures could result in serious injury or death.

(See Step 4 below)



Disconnect and lock out power before connecting or servicing this unit.

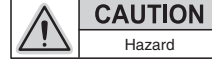
Failure to follow these instructions and lock-out/tag-out procedures could result in death or serious injury.

(See Step 11 below)



Do not flood the bottom pumping unit.

(See Step 12 below)



Flooding the top receiver could cause the venting cycle of the unit to be delayed, causing sluggish operation or system failure.

1. Make sure the unit is piped per the Typical Piping Diagram (Figure 1)
2. Check system pressure rating.
3. Check float switch to insure free-floating operation.
4. Check incoming power lines in accordance with wiring diagram enclosed on the control cabinet (when supplied).
5. Reinstall any drain plugs removed during shipping.
6. Level switch setting—the level switch is preset at the factory to utilize the maximum float capacity in the receiver. Should the float require resetting refer to manufacturer's instruction sheets for switch adjustment.
7. Adjust the incoming steam or air supply pressure.
8. Check unit operation by manually filling the unit and completing a cycle. Avoid extreme cold, freezing, conditions after the unit has been primed and checked.
9. **Pneumatic control (Optional)** Provide clean air to the regulator. **Set regulator at rated pressure of valve actuator (normally 20 PSIG).**
10. **Probe control** Probe lengths are preset at the factory.
11. **Do not flood the bottom pumping unit.** An air space or pocket is required at the top of the receiver to create a "pushing or pumping" area to evacuate the water from this receiver. Flooding this unit will not allow the inlet motive force, steam or air, enough surface area to evacuate the water from the unit.
12. **Flooding the top receiver could cause the venting cycle of the unit to be delayed, causing sluggish operation or system failure.**

OPERATION AND MAINTENANCE

Operators must be familiar with all sections of this manual to understand the operation of the unit.



Hot water, steam and electricity can be hazardous.

Don't exceed 125 PSIG pressure rating of the unit. Don't modify or bypass the pressure relief valves. Open all valves slowly. Failure to follow instructions and safety procedures could result in death or serious injury.



Disconnect and lock out power before connecting or servicing this unit. Failure to follow these instructions and lock-out/tag-out procedures could result in serious injury or death.

A properly installed unit should function unattended for long periods of time. Periodic checking of the unit to insure proper operation is highly recommended. Refer to the troubleshooting section when necessary.

The inlet strainer (when supplied) is intended to protect the system. Periodic maintenance and cleaning the strainer is required.



A unit with symptoms of potential problems (overflow, noise, leaks, vibration, etc.) must be corrected immediately. Failure to follow this instruction may result in minor or moderate injury.

Operating Sequence

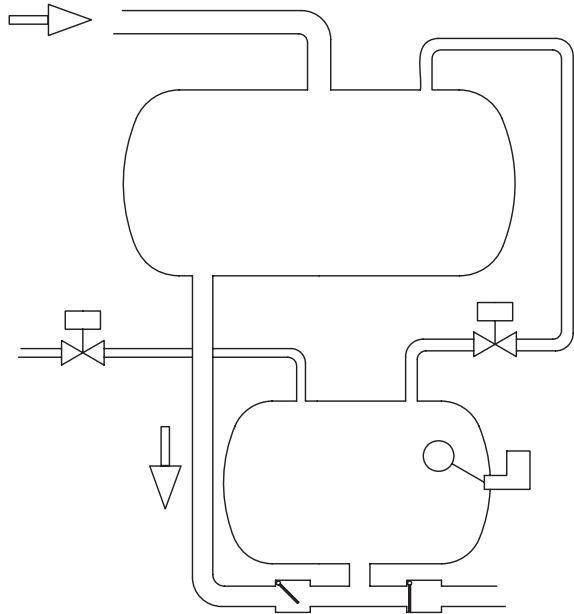


FIGURE A: Condensate returns flow into the top receiver and flows by gravity to the receiver by interconnecting pipe. When the level in the lower receiver rises to close a switch, the steam valve is opened and the equalizing valve is simultaneously closed.

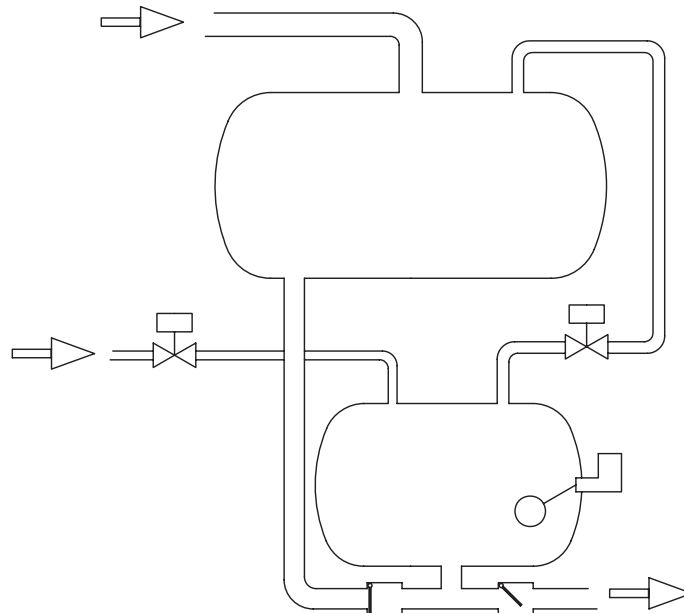


FIGURE C: Now that the level in the lower receiver has fallen to open the switch, the steam valve is closed and the equalizing valve is simultaneously opened. (Pressure is again equalized between the two receivers when the valve is opened.) Condensate is allowed to enter the lower receiver once more and the steam in the lower receiver is displaced into the upper receiver through the equalizing line.

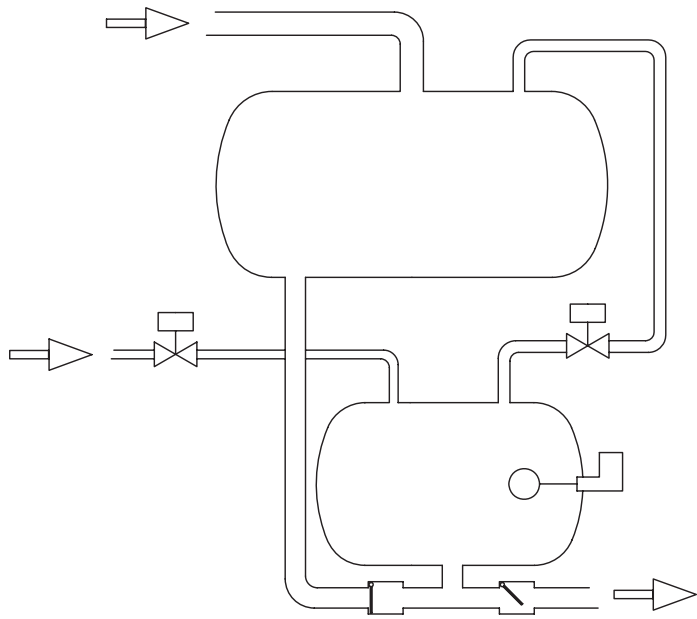


FIGURE B: Now that the steam valve is opened and the equalizing valve is closed, steam enters the lower receiver and pushes the condensate out the discharge check valve. This action continues until the level drops to the lower switch position.

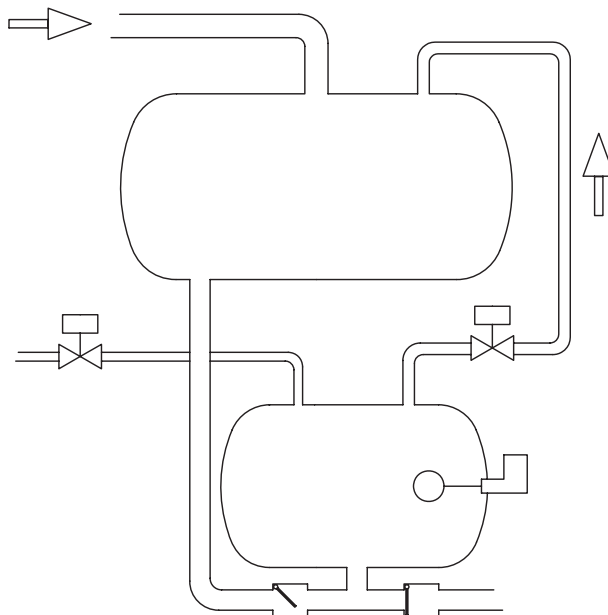


FIGURE D: The discharge check valve will be closed now; the discharge line back pressure and the inlet check valve will allow condensate to enter the lower receiver.

TROUBLESHOOTING CHECKLIST

All units are thoroughly tested at the factory before shipment. They should operate satisfactorily without further adjustment if properly installed and not been damaged by rough handling in transit. If system or unit performance is not satisfactory, refer to the following check list.

UNIT WILL NOT START

1. The electrical power supplied to the unit has been interrupted, disconnect switch is open or the unit is improperly positioned.
2. Wiring to the control cabinet is wrong or wiring connections are loose. Check the inside panel cover and/ or wiring diagram for proper voltage requirements.
3. (Pneumatic units) Air supply off or inadequate.
4. Input steam valve is closed or PRV is not operational.
5. Float in lower tank not working properly or requires adjustment. Refer to manufacturer's information sheet.
6. Solenoid valves not wired correctly.
7. Bottom pumping unit is flooded beyond normal starting height. Drain bottom receiver and allow unit to start under normal conditions.

PUMP OPERATES SLOWLY—UNIT FLOODS

1. Vent line valve not operating properly or vent line valve closed.
2. Thermostatic air vent inoperative (most obvious on cold startups). Assure free path to vented drain.
3. Excessive input pressure or defective dispersal nozzle permits input steam to mix with the water thereby condensing the steam. Reduce input pressure.
4. Steam pressure inadequate to overcome discharge line back pressure. **Increase steam pressure to 20 PSIG** over discharge back pressure.
5. Float misadjusted. Readjust float per manufacturer's instructions.
6. (Pneumatic systems) Control air inadequate to open valves.
7. Defective check valve or vent line valve permitting steam to flow to the top tank. Repair as required.

LOWER TANK DRAINS COMPLETELY

1. Input steam valve stuck open with steam continually entering lower tank.
2. System pressure blowing through into discharge line due to low back pressure in the discharge line. Install back pressure valve.
3. Extremely high steam inlet pressure causes pressure buildup in lower tank. This pressure will dissipate after the steam input valve closes by pushing all the condensate from the lower tank. Adjust inlet pressure.

CONDENSATE DOESN'T TRANSFER TO THE LOWER RECEIVER

1. Vent line inoperative. The pressure in the bottom tank must equalize with the pressure of the upper receiver. Open valves or repair solenoid as required.
2. Check valve in piping between the upper and lower receiver stuck closed. Repair the valve.

SYSTEM IS NOISY

1. "Banging" in the steam mains is usually caused by steam "implosion" in the low points in the lines. These problems can be eliminated by dripping low points, properly supporting the pipe or by increasing the pitch of the lines.
2. Piping is too small to drain properly.
3. Excessive input steam pressure causing blow-through into the discharge line.
4. Extreme steam input pressure causes mixing and reboiling of the water in the lower tank. Reduce the input steam pressure.

Representative Servicing:

If trouble occurs that cannot be rectified, contact your local SHIPCO® representative who will need the following information in order to provide assistance:

1. Complete nameplate data on the unit. See rating nameplate.
2. Fill and discharge cycle times.
3. Tank levels through a complete cycle.
4. Motive pressure and discharge line pressure when the unit is discharging.

UNIT MODEL				
MANUFACTURED BY		P.O. BOX 279, SHIPPENSBURG, PA 17257		
SHIPCO® PUMPS		PHONE: (717) 532-7321 • FAX: (717) 532-7704		
		WWW.SHIPCOPUMPS.COM		
RATED		GPM @		PSIG
MOTOR HP		VOLTAGE		
UNIT SERIAL NO.				
PUMP TYPE				

Notes/Comments

Notes/Comments

TERMS AND CONDITIONS OF SALE

AGREEMENT

By entering your order or requesting a quote, you confirm that the following terms and conditions of sale are the legal agreement governing your purchase, and that no changes or additional or different terms will apply unless you have previously established a different written contract for these purchases with Shippensburg Pump Company, Inc., hereafter referred to as the Seller.

ORDER ACCEPTANCE

All orders are subject to acceptance by Seller at its general office in Shippensburg, Pennsylvania. Acceptance will be evidenced by Seller issuing its Sales Acknowledgement Form. The Sales Acknowledgement Form, together with any documents incorporated therein, shall constitute the entire agreement and may not be changed except in writing signed by Seller and Buyer. Publication and circulation of current price lists, catalogues and related literature by Seller shall not be deemed an offer to sell, but rather an invitation for offers to buy. Acceptance by Seller of the Buyer's order is expressly limited to the Terms and Conditions stated herein; any additional, inconsistent or different terms and conditions contained in the Buyer's purchase order or other documents supplied by Buyer are expressly rejected.

PAYMENT TERMS—PRICES

Payment terms are as follows: If the Buyer is a Credit Card Customer, the Buyer agrees to pay at the time of purchase the price, shipping and handling charges, taxes and duties quoted by the Seller. If the Buyer is an Account Holder, the Buyer agrees to pay invoices with payment terms of net thirty (30) days after date of invoice unless otherwise specifically agreed to in writing. If the Seller believes that the Buyer's financial condition requires it, the Seller reserves the right to require full or partial payment prior to manufacture or shipment. If the Buyer fails to make any payment when due, (1) the seller reserves the right to suspend performance and the Buyer agrees that any charges incurred prior to the suspension will be assessed to the Buyer and payable to the Seller; (2) the Buyer further agrees to pay a charge on the amount past due at the rate of 1½% per month (18% per year) or the maximum lawful rate, whichever is less. In the event of non-payment, the Buyer agrees to pay the Seller reasonable attorney's fees and court costs, if any incurred by the Seller to collect payment and interest charges. These terms shall apply to partial, as well as complete shipments of Product. Published prices are subject to change without notice and the right is reserved to invoice at prevailing prices at time of shipment unless otherwise specifically agreed to in writing. All quotations are conditional on 30 days acceptance unless stipulated otherwise in writing and to approved credit rating or reference, otherwise payment terms are cash with order or C.O.D.

DELIVERY—DELAYS

Shipping dates represent estimates only and are based on projected production schedules and commitments by suppliers. Seller shall not be liable for failure or delay in manufacturing or shipping Products, nor shall such failure or delay constitute grounds for cancellation if such failure or delay is directly or indirectly due to shortages of fuel or energy; acts of omissions of the Buyer; acts of God; war, riot, civil disturbances; labor difficulties; accident; inability to reasonably obtain materials; acts of transportation companies; or other causes of any kind whatever beyond the control of Seller. In the event of such delays, Seller reserves the right to make adjustments in price and delivery schedules.

FREIGHT TERMS

Prices are f.o.b. factory unless otherwise stated. Seller's responsibility ceases upon delivery to the transportation company at shipping point. It is the Buyer's responsibility to examine shipment upon arrival to ascertain if in good order. Any shortage or damage claims must be pursued by the Buyer. All weights shown on price sheets and literature are approximate. All packaging is standard domestic boxing, slat and wire crating and/or skidding. An additional charge will be made for full wooden crating or special packaging when specified on the order.

Seller will make every effort to consolidate orders and backorders wherever possible. Seller will not be responsible for excess charges due to their inability to consolidate shipments.

When requested by Buyer, shipments may be routed using premium carriers such as express or airfreight or the Buyer may specify the method or route of shipment. In such cases the shipment will be made on a "collect" basis and where applicable the freight allowance will appear as a separate line item on the product invoice, Seller reserves the right to select the transportation company where freight is allowed.

TAXES

In addition to the price stated, the amount of any present or future sales, use, excise or other similar tax applicable to the production, sale, use or transportation of the Products shall be paid by Buyer. In lieu of paying such taxes to Seller, Buyer may furnish Seller a Tax Exemption Certificate or Certificates acceptable to appropriate taxing authorities at any time prior to Seller's shipment of the Products.

CANCELLATIONS

Any order placed with Seller may be cancelled by the Buyer only upon payment of reasonable cancellation charges that shall include but not be limited to expenses already incurred, as well as material and labor commitments made by Seller.

SHIPMENT—TITLE—RISK OF LOSS

Shipment terms are f.o.b. Seller's facility, unless otherwise specifically agreed to in writing. Notwithstanding the granting of any allowances for shipping, title to and risk of loss for Products will pass to the Buyer when delivered to the Common carrier at the Seller's facility.

BACK CHARGES

All invoices shall be due and payable when submitted for payment in accordance with the provision entitled "Payment Terms—Prices." No withholding of funds, back charges, or credits against amounts otherwise due Seller will be permitted unless specifically agreed to in writing by Seller. Settlement of any amounts due Buyer will be negotiated as separate items and not as offsets against amounts otherwise due Seller from Buyer for Products sold hereunder.

RETURNED GOODS

Unused material of current manufacture can only be returned for credit with the written consent of Seller, under return goods policies existing at the date of the return. Products that are obsolete or made to special order are not returnable.

PATENT INDEMNITY

a. Patent Indemnity by Seller to Buyer

Seller agrees to indemnify and hold harmless the Buyer from and against all legal expenses which may be incurred, as well as all damages and costs (except all consequential and special damages and costs) which may be finally assessed against Buyer in any action for infringement of any United States Letters Patent by the Products delivered to Buyer hereunder; provided that the Buyer shall give Seller prompt written notice of any action, claim or threat of patent infringement suit, either oral or written, or of the commencement of any patent infringement suit against Buyer relating to Products sold by Seller to Buyer hereunder; and provided Buyer shall give Seller opportunity to elect to take over, settle, or defend any such claim, action or suit through counsel of Seller's own choice and under

its sole direction, and at its sole expense, and provided that in the event Seller elects to take over, defend or settle same. Buyer will make available to Seller all defenses against any such claim, action, suit or proceeding known to or available to Buyer; and provided further that Seller shall have the right to substitute for any such Product or any part thereof claiming to infringe the patent right of others, non-infringing Products which will give equally good service. If the use of any such Product or any part thereof should be enjoined, Seller shall have the right at its own expense, to take any of the following courses of action:

- i. To procure for Buyer the right to continue using such Product;
- ii. To replace said Product with a non-infringing Product;
- iii. To modify the Product so that it becomes non-infringing; or
- iv. To remove said Product and refund the purchase price, transportation costs and installation costs thereof.

b. Limitation

The foregoing provisions as to patent protection by Seller to Buyer shall not apply to any of the following:

- i. To any Product manufactured to the design or specification furnished by the Buyer;
- ii. To orders for special non-commercial Products which Seller has not sold or offered for sale to the public on the open commercial market;
- iii. To any infringement occasioned by modification by Buyer of any Product without Seller's written consent, or any infringement arising from the use of a Product with any adjunct or device added by the Buyer without Seller's written permission.

c. Patent Indemnity by Buyer to Seller

To the extent that Products delivered hereunder are manufactured pursuant to detailed designs furnished by Buyer, Buyer agrees to indemnify Seller and hold Seller harmless from all legal expenses which may be incurred, as well as all damages and costs, which may finally be assessed against Seller in any action for infringement of any United States Letters Patent by such Products delivered hereunder. Seller agrees to promptly inform the Buyer of any claim for liability made against Seller with respect to such Products and Seller agrees to cooperate with the Buyer in every way reasonably available to facilitate the defense against any such claim.

GOVERNING LAW

The validity, interpretation and performance of any order shall be governed by the Uniform Commercial Code ("UCC") as adopted by the state in which the Products are manufactured by Seller.

WARRANTY AND LIMITATION OF LIABILITY

Seller warrants for a period of eighteen (18) months from date of shipment from its factory or one (1) year from date of installation, whichever occurs first, that all Products furnished by it are free from defects in materials and workmanship.

Seller's liability for any breach of this Warranty shall be limited solely to replacement or repair, at the sole option of Seller, of any part or parts found to be defective during the Warranty period providing the Product is properly installed and is being used as originally intended. Buyer must notify Seller of any breach of this Warranty within the aforementioned Warranty period; defective parts must be shipped by Buyer to Seller, transportation charges prepaid.

IT IS EXPRESSLY AGREED THAT THIS SHALL BE THE SOLE AND EXCLUSIVE REMEDY OF THE BUYER. UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR ANY COSTS, LOSS, EXPENSE, DAMAGES, SPECIAL DAMAGES, INCIDENTAL DAMAGES OR CONSEQUENTIAL DAMAGES ARISING DIRECTLY OR INDIRECTLY FROM THE DESIGN, MANUFACTURE, SALE, USE OR REPAIR OF THE PRODUCT WHETHER BASED UPON WARRANTY, CONTRACT, NEGLIGENCE OR STRICT LIABILITY. IN NO EVENT WILL LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT.

THE WARRANTY AND LIMITS OF LIABILITY CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY SELLER AND EXCLUDED FROM THIS WARRANTY.

Seller neither assumes, nor authorizes any person to assume for it, any other Warranty obligation in connection with the sale of the Product. This Warranty shall not apply to any Product or parts of Products which (a) have been repaired or altered outside of Seller's facilities; or (b) have been modified or damaged through misuse, abuse, accident, neglect or mishandling by Purchaser or Purchaser's customer, erroneous voltage, modification, acts of God, or any other act not specifically stated; or (c) have been used in a manner contrary to Seller's instructions.

Products covered by this warranty are for the intended uses as described in the corresponding seller's instructions. Before using for any other application, user shall determine the suitability of the product for its intended use and user assumes all risk and liability in connection therewith.

No oral statement made by the seller, its agents, employees, or other representatives, concerning the product, its value, description, condition, design, specifications, performance, capability, durability, adaptability, or accuracy, shall be relied upon by the purchaser and is specifically and expressly excluded and invalidated as the basis for any bargain or warranty.

In the case of Products not manufactured by Seller, there is no Warranty from Seller, but Seller will extend to the Buyer any Warranty of Seller's supplier of such Products.

FORCE MAJEURE

Seller shall have no liability in respect of failure to deliver or perform, or delay in delivering or performing any obligations due to causes such as acts of omissions of Buyer; acts of God, fire, flood, war and civil disturbances; riot, acts of governments, currency restrictions, labor shortages or disputes, unavailability of materials, fuel, power, energy or transportation facilities, failures of suppliers or subcontractors to deliver on time and every other circumstance outside the reasonable control of Seller.

MODIFICATIONS

Unless otherwise provided, Seller reserves the right to modify the specifications of Products ordered by the Buyer providing that the modification will not materially affect the performance.

STORAGE CHARGE

If Buyer is unable to accept products in accordance with the applicable shipping schedule then Seller may arrange to store ordered Products and the cost of storage will be charged to Buyer.

ENTIRE CONTRACT

These provisions constitute all the terms and conditions agreed upon by the parties and shall replace and supersede any provisions on the face and reverse side of Purchase Order and any attachment thereto, or any prior general agreement inconsistent with the provisions hereof except that orders by Representatives with whom Seller has an Agreement shall be subject to the provisions of the Agreement. No modification hereof shall be valid unless in writing and duly signed by a person authorized by Seller. The provisions hereof shall not be modified by any usage of trade, or any course of prior dealings or acquiescence in any course of performance.