

# QHPR Series

(5, 10 & 15 SCFM)

Compact /Climate Control  
Refrigerated Compressed Air Dryers

## Instruction Manual

This manual contains important safety information and should be made available to all personnel who operate and/or maintain this product. Carefully read this manual before attempting to operate or perform maintenance on this equipment.

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# QHPR Installation & Operating Instructions

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## STANDARD WARRANTY

### QHPR Compact /Climate Control Refrigerated Compressed Air Dryers

The manufacturer warrants the product manufactured by it, when properly installed, operated, applied, and maintained in accordance with procedures and recommendations outlined in manufacturer's instruction manuals, to be free from defects in material and workmanship for a period of one (1) year from the date of shipment to the buyer by the manufacturer or manufacturer's authorized distributor, or eighteen months from the date of shipment from the factory, whichever occurs first, provided such defect is discovered and brought to the manufacturer's attention within the aforesaid warranty period.

The manufacturer will repair or replace any product or part determined to be defective by the manufacturer within the warranty period, provided such defect occurred in normal service and not as a result of misuse, abuse, neglect or accident. Normal maintenance items requiring routine replacement are not warranted. The warranty covers parts and labor for the warranty period. Repair or replacement shall be made at the factory or the installation site, at the sole option of the manufacturer. Any service performed on the product by anyone other than the manufacturer must first be authorized by the manufacturer.

Unauthorized service voids the warranty and any resulting charge or subsequent claim will not be paid.

Products repaired or replaced under warranty shall be warranted for the unexpired portion of the warranty applying to the original product.

The foregoing is the exclusive remedy of any buyer of the manufacturer's product. The maximum damages liability of the manufacturer is the original purchase price of the product or part.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, OR STATUTORY, AND IS EXPRESSED IN LIEU OF THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. THE MANUFACTURER SHALL NOT BE LIABLE FOR LOSS OR DAMAGE BY REASON OF STRICT LIABILITY IN TORT OR ITS NEGLIGENCE IN WHATEVER MANNER INCLUDING DESIGN, MANUFACTURE OR INSPECTION OF THE EQUIPMENT OR ITS FAILURE TO DISCOVER, REPORT, REPAIR, OR MODIFY LATENT DEFECTS INHERENT THEREIN.

THE MANUFACTURER, HIS REPRESENTATIVE OR DISTRIBUTOR SHALL NOT BE LIABLE FOR LOSS OF USE OF THE PRODUCT OR OTHER INCIDENTAL OR CONSEQUENTIAL COSTS, EXPENSES, OR DAMAGES INCURRED BY THE BUYER, WHETHER ARISING FROM BREACH OF WARRANTY, NEGLIGENCE OR STRICT LIABILITY IN TORT.

The manufacturer does not warrant any product, part, material, component, or accessory manufactured by others and sold or supplied in connection with the sale of manufacturer's products.

# QHPR Installation & Operating Instructions

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## Safety Precautions



### Pressurized Devices

This equipment is a pressure containing device.

- Do not exceed maximum operating pressure as shown on equipment serial number tag.
- Make sure equipment is depressurized before working on or disassembling it for service.



### Electrical

This equipment requires electricity to operate.

- Install equipment in compliance with all applicable electrical codes.
- Standard equipment is supplied with electrical enclosures not intended for installation in hazardous environments.
- Disconnect power supply to equipment when performing any electrical service work.



### Breathing Air

- Air treated by this equipment may not be suitable for breathing without further purification.

Refer to applicable standards and specifications for the requirements for breathing quality air.

## Receiving, Unpacking and Moving

### Receiving

This shipment has been thoroughly checked, packed and inspected before leaving our plant. It was received in good condition by the carrier and was so acknowledged.

Check for visible loss or damage. If this shipment shows evidence of loss or damage at time of delivery to you, insist that a notation of this loss or damage be made on the delivery receipt by the carrier's agent.

### Unpacking

Check for Concealed Loss or Damage. When a shipment has been delivered to you in apparent good order, but concealed damage is found upon unpacking, notify the carrier immediately and insist on his agent inspecting the shipment. Concealed damage claims are not our responsibility as our terms are F.O.B. point of shipment.

### Moving

In moving or transporting dryer, do not tip dryer onto its side.

### Storage

**IMPORTANT:** Do not store dryer in temperatures above 130°F (54.4°C).

## Installation

### Ambient Air Temperature

Locate the dryer indoors where the ambient air temperature will be between 40°F and 100°F. Intermittent operation at ambient temperatures up to 113°F will not damage the dryer but may result in a higher dewpoint or dryer shutdown due to high refrigerant discharge pressure (see Field Service Guide).

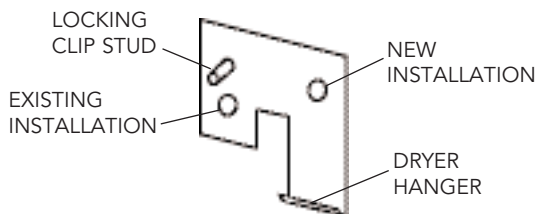
Do not operate air-cooled dryers at ambient air temperatures below 40°F. Such operation may result in low suction pressure, causing freeze-up.

Call your local distributor if prolonged operation at ambient temperatures above 100°F or below 40°F is unavoidable.

### Location and Clearance

Mount the dryer on a level base. Install the dryer in a clean, well-ventilated area to reduce fouling of the condenser coils with dirt and dust.

Wall Mounting - Dryer may be wall mounted by using an optional wall mounting bracket. Clearance must be maintained on all other sides as indicated.



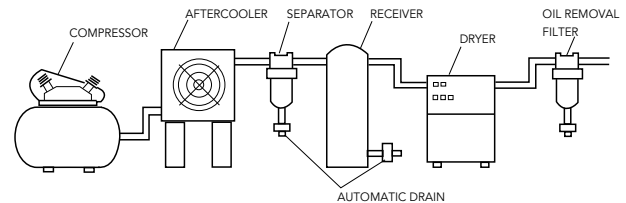
### Optional Wall Mounting Bracket

Vapors and contaminants corrosive to copper and aluminum must not be in the area of the dryer or air compressor intake. Allow at least 6 inches clearance from the front and from the condenser coil service access. Install the dryer with the frame level. Anchor bolts are not required.

### System Arrangement

Liquid water in the inlet air will adversely affect the performance of the dryer. Install the dryer downstream of an aftercooler or separator so that the temperature of the dryer inlet air does not exceed 122°F and the inlet air does not contain any liquid water.

Most compressed air systems require filters for removal of solid and liquid contaminants. When an oil-removal filter is used, it should be installed downstream of the refrigerated dryer. The dryer will remove some entrained dirt, extending the life of the replaceable filter element. Outlet air temperature may be 10°F to 30°F higher than inlet air temperature. This is normal. Consult your distributor if a lower outlet air temperature is required.



### Typical Compressed Air System

### Piping and Connections

Piping must be furnished by the user unless otherwise specified. Connections and fittings must be rated for the maximum operating pressure given on the dryer data plate and must be in accordance with applicable codes. Support all piping; do not allow the weight of any piping to stress the dryer or filters. Inlet and outlet shutoff valves and a bypass valve are recommended. Piping should be at least the size of the inlet and outlet connections to minimize pressure drop in the air system. See Engineering Data section for dryer inlet and outlet connections.

# QHPR Installation & Operating Instructions

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## Removing Condensate

A separator with an automatic drain valve is supplied with each dryer. The user must install a separate discharge line at the drain connection to discharge condensate to an environmentally approved condensate collection/disposal system. Securely anchor drain line to prevent whipping.

If clogging of the automatic drain is a problem, install a particulate filter before the dryer to keep solid particles from entering the dryer. Contact your local distributor for the appropriate particulate filter.

## Electrical Connections

The dryer is designed to operate on the voltage, phase and frequency listed on the serial number tag. Reference the tag prior to making an electrical connection. Dryers are supplied with a cord and plug. Install in receptacle of proper voltage.



### **CAUTION!**

Operation of dryers with improper line voltage constitutes misuse and could affect the dryer warranty.

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## Instrumentation

### ON/OFF Switch

QHPR dryers are equipped with an ON/OFF switch on the front panel. A light signals when the dryer is on.

### Condensate Drain Valve

A float operated drain housed in a metal bowl will automatically drain the condensate on all QHPR model dryers.



## Start-up & Operation

Follow the procedure below to start your dryer. Failure to follow the prescribed start-up procedure will invalidate the warranty. If problems arise during start-up, call your distributor.

### **NOTICE!**

Refer to Serial Number Tag for dryer operating capacity. Do not exceed recommended capacity.

### **NOTICE!**

Drain connections must be made before the dryer can be operated. The dryers are fully automatic and require no auxiliary controls.

1. Connect inlet and outlet lines to the dryer. Reference dryer indentations and instruction tag for appropriate inlet and outlet connections.
2. Route drain connections to a condensate separator or approved collection point.
3. Turn the on/off switch to on. Double check connections.

4. After the dryer has been running for 30 minutes:

- a. Check that on/off lighted switch is glowing. If light is not glowing, unplug unit and refer to Field Service Guide for additional information or call your local distributor.
- b. Confirm that condensate is discharging from the drain. This can only be done when there is air flow through the dryer.

Reference Serial Number Tag for appropriate power requirement/connection rating. Make other dryer connections prior to connecting power source.

The dryer is designed to run continuously. Let the dryer run even when the demand for compressed air is interrupted; the dryer will not freeze up.

### Operating Check Points

1. Power light is on, light is illuminated
2. Condensate is discharging properly

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## Shutdown

When the dryer must be shutdown for maintenance or other reasons, use the following procedure:

1. Turn the power on/off switch to off.
2. Disconnect the main power supply.

If mechanical repairs are to be made or service is performed, vent the internal pressure of the dryer to atmospheric

pressure. Restart the dryer according to the start-up instructions.

Disconnect power supply and depressurize dryer before servicing. Dismantling or working on any component of the compressed air system under pressure may cause equipment failure and serious personal injury.

# QHPR Installation & Operating Instructions

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## Maintenance

QHPR dryers require little maintenance for satisfactory operation. Good dryer performance can be expected if the following routine maintenance steps are taken.

### Daily Maintenance

Check the separator for condensate discharge. If no discharge is evident, depressurize, dismantle and clean separator housing with mild soap and water. Discard the automatic float drain and replace.

### Monthly Maintenance

Inspect the condenser coils. Remove accumulated dust and dirt with a soft brush or with air from an OSHA approved compressed air nozzle that limits the discharge pressure to 30 psig.

### General

For continued good performance of your refrigerated dryer, all refrigeration system maintenance should be performed by a competent refrigeration mechanic.

### **NOTICE!**

**Before corrective maintenance is done during the warranty period, call your local distributor and proceed according to instructions. Refer to the warranty for limits of your coverage.**

### Maintenance Parts List

ITEM	QHPR-5/10	QHPR-15
ON/OFF SWITCH	3245021	3245021
FLOAT DRAIN KIT	3090900	3090900

# QHPR Installation & Operating Instructions

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## Returns to Manufacturer

If the dryer or a component of the dryer must be returned to the manufacturer, first call your local distributor for a return authorization number and shipping address. Your distributor will inform you

whether the dryer or only a component must be returned. Mark the package with the return authorization number and ship freight prepaid as directed by your local distributor.

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## Field Service Guide

Problems most frequently encountered with refrigerated dryers are water downstream of the dryer and excessive pressure drop. Most causes can be identified and remedied by following this guide.

Closed refrigeration systems are potentially dangerous. Work on the refrigeration system must be done only by a competent refrigeration mechanic.

Do not release fluorocarbon refrigerants to the atmosphere. All refrigerants must be recovered per EPA requirements.

Do not smoke when a refrigeration leak is suspected. Burning materials may decompose refrigerants, forming a toxic gas or acids that may cause serious injury and property damage.

Before dismantling any part of the dryer or compressed air system, completely vent the internal pressure to the atmosphere.

## Appendix A - Troubleshooting

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### Problem: Water Downstream of Dryer

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Symptoms:	Possible Causes:	Remedy:
NO DISCHARGE FROM SEPARATOR DRAIN TRAP	FAILURE OF DRAIN TRAP	REPLACE FLOAT MECHANISM.
DRYER INLET AIR TEMPERATURE TOO HIGH	AFTERCOOLER MALFUNCTION	CHECK AFTERCOOLER DISCHARGE TEMPERATURE AND REDUCE TO DRYER DESIGN CONDITION (122°F MAX).
REFRIGERANT COMPRESSOR STOPPED	LEAK IN REFRIGERANT SYSTEM	CONSULT LOCAL DISTRIBUTOR.
	COMPRESSOR OVERHEATED	TURN DRYER OFF, WAIT 30 MINUTES; TURN DRYER ON. (MOTOR THERMOSTAT SELF-STARTING.)
	COMPRESSOR BURNED OUT	CONSULT LOCAL DISTRIBUTOR.
	INLET AIR TEMPERATURE TOO HIGH	REDUCE AFTERCOOLER DISCHARGE TEMPERATURE TO DESIGN CONDITIONS.
	EXCESSIVE AIRFLOW	CHECK AIRFLOW & SYSTEM CAPACITY. REDUCE AIRFLOW OR RESIZE AND REPLACE SYSTEM.
	CONDENSER FOULED OR CLOGGED	CLEAN CONDENSER.
	HIGH AMBIENT TEMPERATURE	VENTILATE AREA.
IMPROPER ADJUSTMENT OF EXPANSION VALVE	CONSULT FACTORY.	

### Problem: High Pressure Drop

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Symptoms:	Possible causes:	Remedy:
LOW OUTLET PRESSURE	DRYER UNDERSIZED (MAY CAUSE WATER DOWNSTREAM OF DRYER)	CHECK AIRFLOW AND DRYER CAPACITY. REDUCE AIRFLOW OR RESIZE AND REPLACE DRYER.
	BLOCKED SEPARATOR	DISMANTLE & CLEAN OR REPLACE SEPARATOR.
	DRYER FREEZING UP	CONSULT LOCAL DISTRIBUTOR.

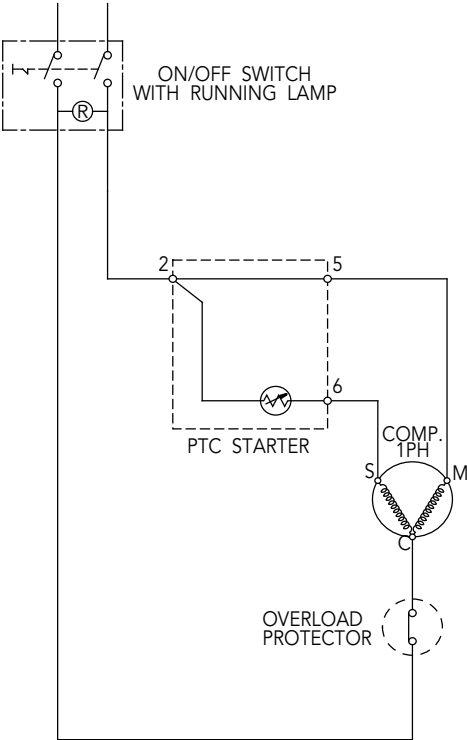
## Appendix B - Technical Data

SCFM	10	15
SPECIFICATIONS		
RATED CAPACITY <sup>A</sup> - (SCFM)	10	15
INLET /OUTLET CONNECTIONS - (INCHES)	3/8	3/8
DIMENSIONS		
HEIGHT - (INCHES)	15.4	15.4
LENGTH - (INCHES)	12.6	12.6
WIDTH - (INCHES)	12.6	12.6
POWER SUPPLY - (V/PH/Hz)	115/1/60	115/1/60
REFRIGERANT COMPRESSOR RATING - (HP)	1/8	1/7
INPUT POWER - (kW)	0.21	0.24
REFRIGERANT TYPE <sup>B</sup>	R-134A	R-134A
MINIMUM/MAXIMUM OPERATING CONDITIONS		
MIN/MAX INLET AIR PRESSURE (COMPRESSED AIR AT INLET TO DRYER)	30 - 250 PSIG	30 - 250 PSIG
MIN/MAX INLET AIR TEMPERATURE (COMPRESSED AIR AT INLET TO DRYER)	40°F - 122°F	40°F - 122°F
MIN/MAX AMBIENT TEMPERATURE	40°F - 113°F	40°F - 113°F

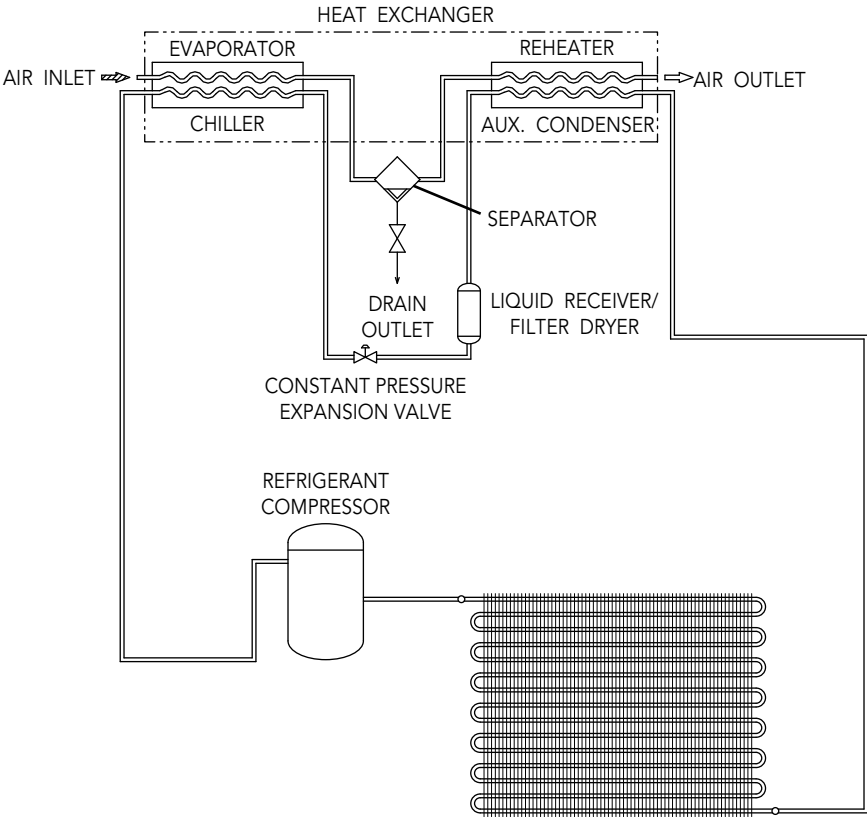
<sup>A</sup> RATING CONDITIONS ARE 100°F INLET TEMPERATURE, 100 PSIG INLET PRESSURE, 100% INLET RELATIVE HUMIDITY, 100°F AMBIENT TEMPERATURE @ 60Hz. PER CAGI ADF-100

<sup>B</sup> REFER TO DRYER DATA PLATE FOR REFRIGERANT CHARGE.

**Electrical Schematic**



**Air & Refrigerant Flow Schematic**



## STANDARD TERMS AND CONDITIONS

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### QUINCY COMPRESSOR AND ORTMAN FLUID POWER DIVISIONS

**TITLE & LIEN RIGHTS:** The equipment shall remain personal property, regardless of how affixed to any realty or structure. Until the price (including any notes given therefore) of the equipment has been fully paid in cash, Seller shall, in the event of Buyer's default, have the right to repossess such equipment.

**PATENT INFRINGEMENT:** If properly notified and given an opportunity to do so with friendly assistance, Seller will defend Buyer and the ultimate user of the equipment from any actual or alleged infringement of any published United States patent by the equipment or any part thereof furnished pursuant hereto (other than parts of special design, construction, or manufacture specified by and originating with Buyer), and will pay all damages and costs awarded by competent court in any suit thus defended or of which it may have had notice and opportunity to defend as aforesaid.

**STANDARD WARRANTY:** Seller warrants that products of its own manufacture will be free from defects in workmanship and materials under normal use and service for the period specified in the product instruction manual. Warranty for service parts will be ninety (90) days from date of factory shipment. Electric Motors, gasoline and diesel engines, electrical apparatus and all other accessories, components and parts not manufactured by Seller are warranted only to the extent of the original manufacturer's warranty.

Notice of the alleged defect must be given to the Seller, in writing with all identifying details including serial number, type of equipment and date of purchase within thirty (30) days of the discovery of the same during the warranty period.

Seller's sole obligation on this warranty shall be, at its option, to repair or replace or refund the purchase price of any product or part thereof which proves to be defective. If requested by Seller, such product or part thereof must be promptly returned to seller, freight prepaid, for inspection.

Seller warrants repaired or replaced parts of its own manufacture against defects in materials and workmanship under normal use and service for ninety (90) days or for the remainder of the warranty on the product being repaired.

This warranty shall not apply and Seller shall not be responsible or liable for:

- (a) Consequential, collateral or special losses or damages;
- (b) Equipment conditions caused by fair wear and tear, abnormal conditions of use, accident, neglect or misuse of equipment, improper storage or damage resulting during shipping;
- (c) Deviation from operating instructions, specifications or other special terms of sale;
- (d) Labor charges, loss or damage resulting from improper operation, maintenance or repairs made by person(s) other than Seller or Seller's authorized service station.

In no event shall Seller be liable for any claims whether arising from breach of contract or warranty or claims of negligence or negligent manufacture in excess of the purchase price.

THIS WARRANTY IS THE SOLE WARRANTY OF SELLERS AND ANY OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED IN LAW OR IMPLIED IN FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE ARE HEREBY SPECIFICALLY EXCLUDED.

**LIABILITY LIMITATIONS:** Under no circumstances shall the Seller have any liability for liquidated damages or for collateral, consequential or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, whether resulting from delays in delivery or performance, breach of warranty, negligent manufacture or otherwise.

**ENVIRONMENTAL AND OSHA REQUIREMENTS:** At the time of shipment of the equipment from the factory, Quincy Compressor / Ortman Fluid Power will comply with the various Federal, State and local laws and regulations concerning occupational health and safety and pollution. However, in the installation and operation of the equipment and other matters over which the seller has no control, the Seller assumes no responsibility for compliance with those laws and regulations, whether by the way of indemnity, warranty or otherwise.



## STANDARD TERMS AND CONDITIONS

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### QUINCY COMPRESSOR AND ORTMAN FLUID POWER DIVISIONS

LEGAL EFFECT: Except as expressly otherwise agreed to in writing by an authorized representative of Seller, the following terms and conditions shall apply to and form a part of this order and any additional and/or different terms of Buyer's purchase order or other form of acceptance are rejected in advance and shall not become a part of this order.

The rights of Buyer hereunder shall be neither assignable nor transferable except with the written consent of Seller.

This order may not be canceled or altered except with the written consent of Seller and upon terms which will indemnify Seller against all loss occasioned thereby. All additional costs incurred by Seller due to changes in design or specifications, modification of this order or revision of product must be paid for by Buyer.

In addition to the rights and remedies conferred upon Seller by this order, Seller shall have all rights and remedies conferred at law and in equity and shall not be required to proceed with the performance of this order if Buyer is in default in the performance of such order or of any other contract or order with seller.

TERMS OF PAYMENT: Unless otherwise specified in the order acknowledgment, the terms of payment shall be net cash within thirty (30) days after shipment. These terms shall apply to partial as well as complete shipments. If any proceeding be initiated by or against Buyer under any bankruptcy or insolvency law, or in the judgment of Seller the financial condition of Buyer, at the time the equipment is ready for shipment, does not justify the terms of payment specified, Seller reserves the right to require full payment in cash prior to making shipment. If such payment is not received within fifteen (15) days after notification of readiness for shipment, Seller may cancel the order as to any unshipped item and require payment of its reasonable cancellation charges.

If Buyer delays shipment, payments based on date of shipment shall become due as of the date when ready for shipment. If Buyer delays completion of manufacture, Seller may elect to require payment according to percentage of completion. Equipment held for Buyer shall be at Buyer's risk and storage charges may be applied at the discretion of Seller.

Accounts past due shall bear interest at the highest rate lawful to contract for but if there is no limit set by law, such interest shall be eighteen percent (18%). Buyer shall pay all cost and expenses, including reasonable attorney's fees, incurred in collecting the same, and no claim, except claims within Seller's warranty of material or workmanship, as stated below, will be recognized unless delivered in writing to Seller within thirty (30) days after date of shipment.

TAXES: All prices exclude present and future sales, use, occupation, license, excise, and other taxes in respect of manufacture, sales or delivery, all of which shall be paid by Buyer unless included in the purchase price at the proper rate or a proper exemption certificate is furnished.

ACCEPTANCE: All offers to purchase, quotations and contracts of sales are subject to final acceptance by an authorized representative at Seller's plant.

DELIVERY: Except as otherwise specified in this quotation, delivery will be F. O. B. point of shipment. In the absence of exact shipping instruction, Seller will use its discretion regarding best means of insured shipment. No liability will be accepted by Seller for so doing. All transportation charges are at Buyer's expense. Time of delivery is an estimate only and is based upon the receipt of all information and necessary approvals. The shipping schedule shall not be construed to limit seller in making commitments for materials or in fabricating articles under this order in accordance with Seller's normal and reasonable production schedules.

Seller shall in no event be liable for delays caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond Seller's control. No provision for liquidated damages for any cause shall apply under this order. Buyer shall accept delivery within thirty (30) days after receipt of notification of readiness for shipment. Claims for shortages will be deemed to have been waived if not made in writing within ten (10) days after the receipt of the material in respect of which any such shortage is claimed. Seller is not responsible for loss or damage in transit after having received "In Good Order" receipt from the carrier. All claims for loss or damage in transit should be made to the carrier.







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