



**INSTALLATION,  
OPERATION AND  
MAINTENANCE MANUAL  
FOR MODEL RH  
REMOTE HORIZONTAL  
AIR COOLED  
HEAT EXCHANGERS**

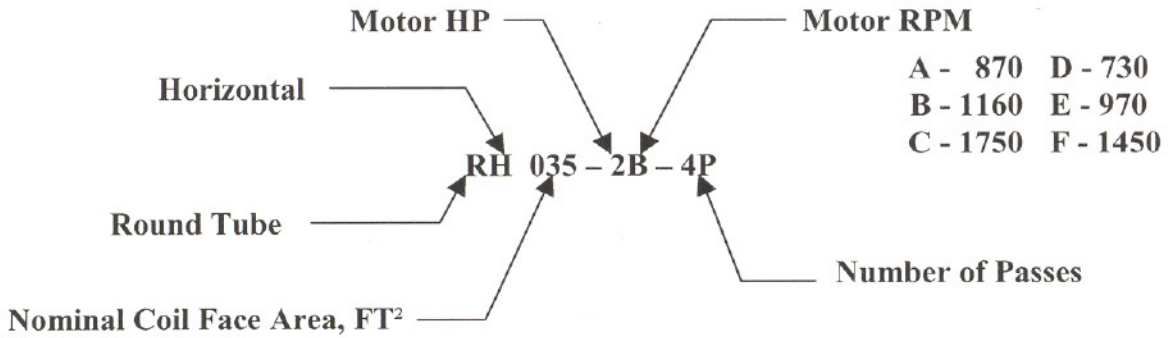
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**MODEL RH**  
**REMOTE HORIZONTAL AIR COOLED**  
**HEAT EXCHANGERS**

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## MODEL NOMENCLATURE



## INSPECTION

Upon receiving the equipment, all items should be checked against the bill of lading to insure that everything has been received. The entire unit should then be carefully inspected for damage. Any visible or concealed damage should be immediately reported to the carrier and a damage claim filed. Also, the unit nameplate should be checked to make sure the unit construction and electrical characteristics match the order specifications. Any discrepancy should be immediately called to the attention of Rocore.

## HANDLING AND MOVING

The exact method of handling and moving a unit depends upon the size of the unit, final location, available equipment and other variables. To facilitate ease of handling and shipping, each unit is made and shipped in modules; one module for the RH-035 and RH-045, two modules for the RH-055, RH-070 and RH-085. And, as a preventative measure to guard against transportation damage, each module is shipped on its side with the legs removed and crated on heavy duty skids. It is advisable to move the modules as close as possible to its final location before uncrating. It is up to the unit riggers and movers as to what method they use to handle a unit.

RH units are provided with lifting lugs in all four corners of each module. Modules can also be lifted with properly sized slings. Reference Figures 1a and 1b for suggested lifting methods. Note: Only individual modules should be lifted, not a completely assembled unit with both modules of a unit assembled together.

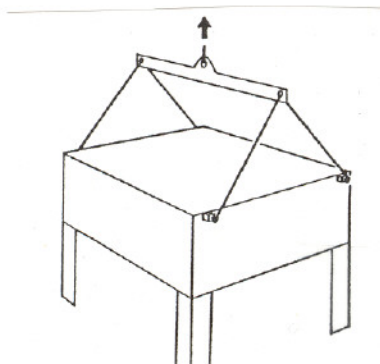


Fig. 1a  
Lifting an RH module by  
the lifting lugs

Fig. 1b  
Lifting an RH module with slings.

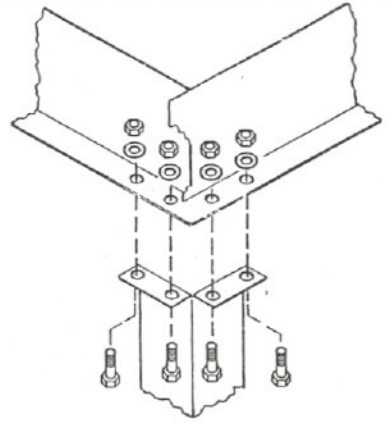
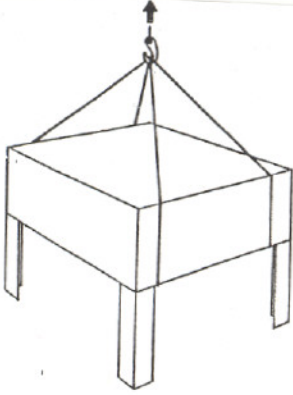


Fig. 2

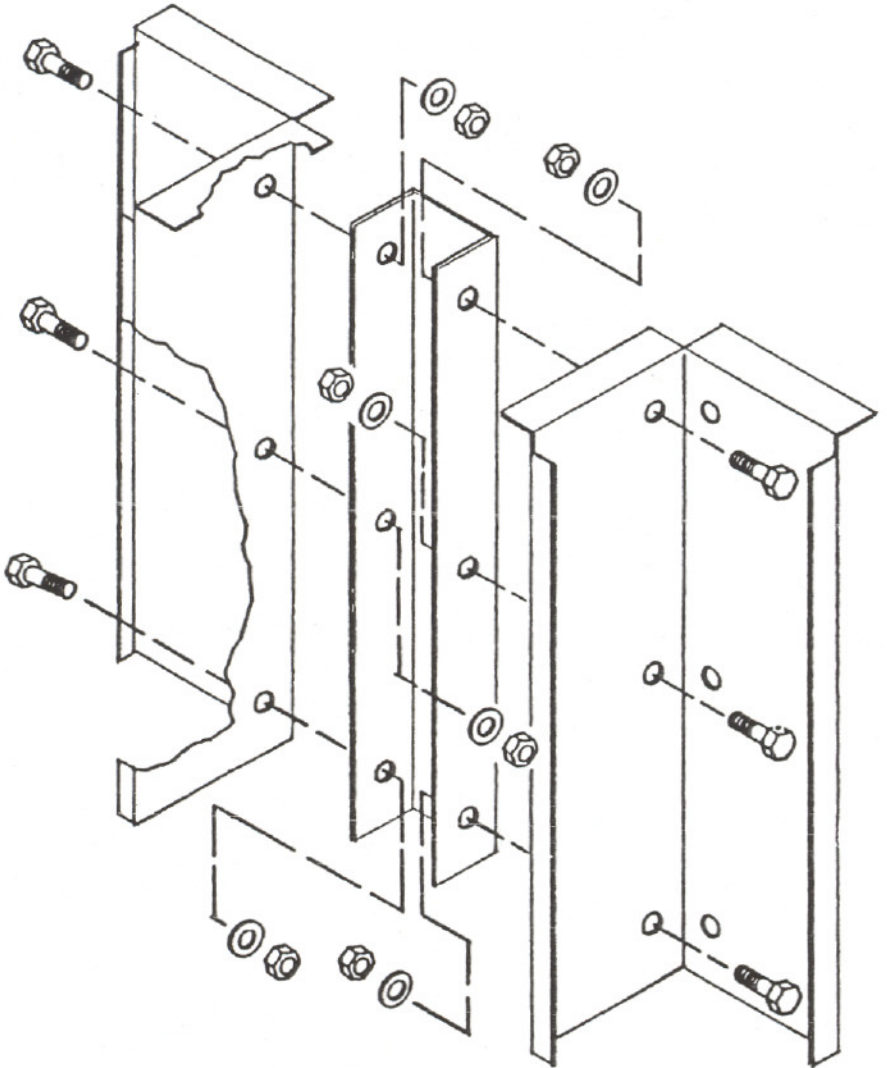


Fig. 3

| NET DRY WEIGHT – LBS. (Kg.) |               |              |
|-----------------------------|---------------|--------------|
| Model Number                | Module Weight | Total Weight |
| RH015                       | 475 (215)     | 475 (215)    |
| RH025                       | 950 (432)     | 950 (432)    |
| RH035                       | 1200 (544)    | 1200 (544)   |
| RH045                       | 1475 (669)    | 1475 (669)   |
| RH055                       | 950 (431)     | 1900 (862)   |
| RH070                       | 1200 (544)    | 2400 (1089)  |
| RH085                       | 1475 (669)    | 2950 (1338)  |
| RH105                       | 1200 (544)    | 3600 (1636)  |

### **LOCATION**

The RH Models are designed for outdoor use and if installed indoors precautions should be taken to insure a free flow of air to and from the unit and also to prevent recirculation of the heated exhaust air from the unit back into its intake stream. It is also important to locate the unit no closer than one unit width from a wall, another unit, or any other obstruction which would restrict air movement.

### **ASSEMBLY OF UNIT**

RH Models are shipped completely assembled, except for the mounting legs. Mounting legs are furnished with the necessary bolts, nuts and washers. The legs are not adjustable and are most easily assembled to the unit when the unit is still laying on its side as shipped. Each leg is fastened to the bottom of the coil plenum by four bolts furnished with the unit, Reference Figure 2.

The larger RH Models (RH055 and up) are delivered as two separate modules which must be jointed together to make the total unit. After the legs have been attached to each module, the modules should be moved as close as possible to each other side by side on the mounting pad; moving the modules in accordance with the instructions given under Handling and Moving. The modules should then be nudged together with the joining channel placed between the inside legs and bolted in place, Figure 3. The joining channel and necessary bolts, nuts and washers are supplied with the unit.

After the legs have been attached and the unit has been moved into place check to make sure the coil is level to ensure proper coolant drainage. If it is level bolt the unit to its foundation.

### **ELECTRICAL WIRING**

The electrical installation should be in accordance with National Electrical Code, local codes and regulations. Proper fuse protection, starters, disconnect switches, etc., for the fan motors must be provided in the field.

Electrical leads from each motor terminate at the unit junction box. Field connections must be made from these leads thru a starter, fuse and disconnect in accordance with local, state and national codes.

Three phase motors must be connected to three-phase power and voltage to agree with motor nameplate.

### **PIPING**

The design of the RH air-cooled heat exchangers is such that the cooling coil can be either single or multi-pass. In a single pass unit the coolant journeys only once through the coil. Connections are made to the male NPT connectors on one end of the unit and the outlet connections are made at the other end of the unit. If the unit is multi-pass the inlet connections should be made to the higher of the two openings supplied per module, the outlet connection is made with the lower of the openings. This piping arrangement is necessary to insure a cross-counterflow coolant passage thru the unit for maximum heat transfer.

In most RH applications a surge tank is recommended to maintain a safe coolant level in the system and allow entrained air to escape from the coolant.

### **START-UP AND OPERATION**

Check all electrical connections to be sure that they are secure and safe. Start fan motors and check each fan for proper rotation. Proper rotation should be counter-clockwise looking from beneath the unit. The air is discharged vertically through the top of the unit.

Check all fluid connections for leaks after filling and pressurizing the system.

After the above items are checked unit may be started and put into operation.

### **FREEZE PROTECTION**

When installed in areas where freezing temperatures occur, precautions must be taken for adequate anti-freeze protection of the radiator to prevent damage. Normal protection consists of a 50% Ethylene Glycol and H<sub>2</sub>O solution. Water used should be neutral or slightly alkaline with a PH of eight or more. Water should be treated with a reputable inhibitor to forestall corrosion. The permanent type antifreeze and the inhibitor must be compatible.

## MAINTENANCE

The RH Models are relatively maintenance free. Electric motor bearings are prelubricated and should be lubricated as shown below.

### Relubricate Intervals

The following intervals are suggested as a guide.

| Hours of Service Per Year   | Suggested Relube Interval |
|---|---------------------------|
| 5000  | Every 5 years             |
| Continuous<br>Normal Application  | Once a year               |
| Continuous<br>In high ambient, or dirty or moist location; or<br>where motor is idle for six months or more,<br>and applications with high vibration or where<br>shaft end is hot (pumps – fans). | Every 6 months            |

### Lubricant

Use high grade ball bearing grease. Use consistency of grease suitable for class of insulation stamped on nameplate, as follows:

| Insulation Class | Consistency | Type         | Typical Grease   |
|------------------|-------------|--------------|------------------|
| B or F           | #3          | Lithium Base | Shell Cyprina #3 |

### Procedure

If motor is equipped with Alemite fitting, clean tip of fitting and apply grease gun. Use one to two full strokes on motors.

### CAUTION

*Keep grease clean! Do not mix petroleum grease and silicone grease in motor bearings.*

The cooling coils may become clogged with leaves, paper, incineration ash or other airborne dirt. Normal rainfall will generally clean the coil, but if not, clean with compressed air or if oil is involved in the fouling use steam.

## **REPLACEMENT PARTS**

If it becomes necessary to order parts, please mention all identifying numbers, such as model number or part number as found on the Rocore nameplate.