

EngA[®]

ENGINEERED AIR[®]

**INSTALLATION, OPERATION
AND MAINTENANCE MANUAL
FOR
HYDRONIC HEATING AND COOLING
EQUIPMENT**



**CANADIAN
HEAD OFFICE
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SALES OFFICES ACROSS CANADA AND USA

Retain instructions with unit and maintain in a legible condition.
Please give model number and serial number when contacting
factory for information and/or parts.

www.engineeredair.com

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Warning:

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

YOU HAVE RESPONSIBILITIES TOO

This installation, operation and maintenance manual cannot cover every possibility, situation or eventuality. Regular service, cleaning and maintaining the equipment is necessary. If you are not capable of performing these tasks, hire a qualified service specialist. **Failure to perform these duties can cause property damage and/or harm to the building occupants and will void the manufacturers' warranty.**

INTRODUCTION

Engineered Air units are high quality products designed and manufactured to provide many years of trouble-free operation. We recommend that this manual be read thoroughly to ensure proper installation, efficient operation and proper maintenance of this equipment. The submittal record is considered to be part of the Installation, Operation and Maintenance Manual. Please report any omissions to the national service manager.

WARRANTY

LIMITED WARRANTY ENGINEERED AIR will furnish without charge, F.O.B. factory, freight collect, replacement parts for, or repairs to products covered herein which prove defective in material or workmanship under normal and proper use for a period of twelve (12) months from the initial start-up or eighteen (18) months from the date of shipment, whichever expires sooner, provided the customer gives ENGINEERED AIR written notice of such defects within such time periods and provided that inspection by ENGINEERED AIR establishes the validity of the claim and all pertinent invoices have been paid in full. The repairs or replacements will be made only when the complete product(s) or part(s) claimed to be defective are returned to ENGINEERED AIR or a depot designated by ENGINEERED AIR, transportation charges prepaid. Repairs or replacements as provided for by this paragraph shall constitute fulfillment of all ENGINEERED AIR's obligations with respect to this warranty. The refrigerant charge is not included in any part of this warranty. This warranty does not apply to any products or parts thereof that have been subject to accident, misuse or unauthorized alterations, or where ENGINEERED AIR's installation and service requirements have not been met.


The foregoing warranty is in lieu of all other warranties, express or implied. ENGINEERED AIR specifically disclaims any implied warranty of merchantability and/or fitness for purpose. Under no circumstances shall ENGINEERED AIR be liable to, nor be required to indemnify, Buyer or any third parties for any claims, losses, labour, expenses or damages (including special, indirect, incidental, or consequential damages) of any kind, resulting from the performance (or lack thereof) of this Agreement or the use of, or inability to use the goods sold hereunder, including, but not limited to, damages for delay, temporary heating/cooling costs, loss of goodwill, loss of profits or loss of use. Furthermore, the parties agree that the Buyer's sole remedy under this Agreement shall be limited to the limited warranty set forth in the preceding paragraph relating to the repair or replacement of any defective goods. Under no circumstances shall any claim or award against ENGINEERED AIR exceed the original contract price whether awarded through arbitration, litigation or otherwise.

ENGINEERED AIR Warranty is void if:

1. The unit is not installed in accordance with this manual.
2. The start-up and operation of the unit is not performed in accordance with this manual.
3. The unit is operated in an atmosphere containing corrosive substances.
4. The unit is allowed to operate during building construction.

PARTS

Warning: Any replacement part must be of equivalent listing or certification and be functionally equivalent. The replacement part must meet the original's specification in terms of functionality including certifications, timing, input and output range, accuracy and operation.

 Failure to replace parts or components with equivalent parts can cause property damage, injury or death.

Contact the nearest Engineered Air sales office or factory. Be sure to include Model Number, Serial Number, date of installation and nature of failure along with the description of the parts required. Some parts may not be stocked items that must be made or ordered.

RECEIVING

Refer to the back of the packing slip for receiving unit instructions.

On receipt of the unit, check for damage. Inspect protective covers for punctures or other signs that there may be internal damage.

INSTALLATION

Warning: This unit is not rated for hazardous locations and cannot be installed in areas requiring any hazardous location rating.



Caution: All wiring, piping and fuel line installation must be completed by qualified persons in accordance with all federal, state, provincial and/or local codes.



Note: Installation shall be in accordance with this manual and all other associated component and control Installation, Operation and Maintenance Manuals.

FINNED TUBE RADIATION (ALL STYLES)

No maintenance is required other than to vacuum out dust from the heating element annually.

CAUTION:

Coil fins are easily damaged. The finned surfaces of coils can be cleaned using a low pressure water spray. When using cleaning additives or solutions they must be compatible with the coil materials or coatings. Where possible clean coils reverse to airflow so dirt is pushed back out rather than deeper into the coil.

CABINET UNIT HEATERS (ALL MODELS)

Mount cabinet unit heaters securely in the required orientation. Fasten the cabinet unit heater to solid structural elements using all attachment points with washers and #8 wood screws or equivalent. Pipe the supply and return and/or steam and condensate connections using good piping practice. Isolation valves and unions can facilitate maintenance and replacement. Provide for expansion and contraction of piping. Refer to project installation details and requirements if any. Connect power wire to motor using factory mounted junction box. All power supply and control wiring to this unit must be installed in accordance with the latest edition of the Canadian Electrical Code, Part 1 – C.S.A. Standard C22.1, Provincial and Local Codes and in accordance with the local authorities having jurisdiction or the National Electrical Code (ANSI/NFPA 70), state and local codes and in accordance with the local authorities having jurisdiction. Consult project requirements for controls.

No maintenance is required other than to clean the coil fins annually and occasional motor lubrication. Motors are permanently lubricated and should require no maintenance for 5,000 hours. Should a motor require lubrication, only S.A.E. 20 oil should be used. If filters are supplied, they should be cleaned or replaced each heating season.

CAUTION:

Coil fins are easily damaged. The finned surfaces of coils can be cleaned using a low pressure water spray. When using cleaning additives or solutions they must be compatible with the coil materials or coatings. Where possible clean coils reverse to airflow so dirt is pushed back out rather than deeper into the coil.

UNIT HEATERS (VERTICAL AND HORIZONTAL MODELS)

Suspend unit heaters securely from building structure with allowance for maintenance and removal. Hang unit heaters from all $\frac{3}{8}$ " NC hangers connections provided using $\frac{3}{8}$ " NC threaded rod or equivalent to the attachment points. Pipe the supply and return or steam and condensate connections using good piping practice. Isolation valves and unions can facilitate maintenance and replacement. Provide for expansion and contraction of piping. Refer to project installation details and requirements if any. Connect power wire to factory mounted junction box if supplied. Consult project requirements for controls.

If not supplied, and the disconnect is to be unit mounted, disconnects on Horizontal unit heaters may be mounted on the back or side of the casing. The disconnect installation must not interfere with the coil connection or airflow. Wiring from the disconnect to motor must be in conduit.

Ensure louvres are open for correct airflow prior to operation.

No maintenance require lubrication, only S.A.E. 20 oil should be used. In dirty areas, such as welding shops, periodic inspections and cleaning of heating coils and fan blades should be made is required other than to clean the coil fins annually and occasional motor lubrication. Motors are permanently lubricated and should require no maintenance for 5,000 hours. Should a motor require lubrication, only S.A.E. 20 oil should be used. In dirty areas, such as welding shops, periodic inspections and cleaning of heating coils and fan blades should be made.

CAUTION:

Coil fins are easily damaged. The finned surfaces of coils can be cleaned using a low pressure water spray. When using cleaning additives or solutions they must be compatible with the coil materials or coatings. Where possible clean coils reverse to airflow so dirt is pushed back out rather than deeper into the coil.

Warning:

This unit is connected to high voltages. Electrical shock or death could occur if instructions are not followed. This equipment contains moving parts that may start unexpectedly. All work should be performed by a qualified technician. Always disconnect and lock out power before servicing. DO NOT bypass any interlock or safety switches under any circumstances.

All power supply and control wiring to this unit must be installed in accordance with the latest edition of the Canadian Electrical Code, Part 1 – C.S.A. Standard C22.1, Provincial and Local Codes and in accordance with the local authorities having jurisdiction or the National Electrical Code (ANSI/NFPA 70), state and local codes and in accordance with the local authorities having jurisdiction.