

**EngA**<sup>®</sup>

**ENGINEERED AIR**<sup>®</sup>

**INSTALLATION, OPERATION  
AND MAINTENANCE MANUAL  
FOR  
STEAM COILS**



UNIT MODEL NO. \_\_\_\_\_  
UNIT SERIAL NO. \_\_\_\_\_  
SERVICED BY: \_\_\_\_\_  
TEL. NO: \_\_\_\_\_

**CANADIAN  
HEAD OFFICE  
AND FACTORY**

**USA  
HEAD OFFICE  
AND FACTORY**

**CANADIAN  
EASTERN FACTORY**

**1401 HASTINGS CRES.  
SE  
CALGARY, ALBERTA  
T2G 4C8  
Ph: (403) 287-2590  
Fx: 888-364-2727**

**32050 W. 83<sup>rd</sup> STREET  
DESOTO, KANSAS  
66018  
Ph: (913) 583-3181  
Fx: (913) 583-1406**

**1175 TWINNEY DRIVE  
NEWMARKET,  
ONTARIO  
L3Y 5V7  
Ph: (905) 898-1114  
Fx: (905) 898-7244**

**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  
the factory for information and/or parts.

[www.engineeredair.com](http://www.engineeredair.com)

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## **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, labor, 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.

## **RECEIVING**

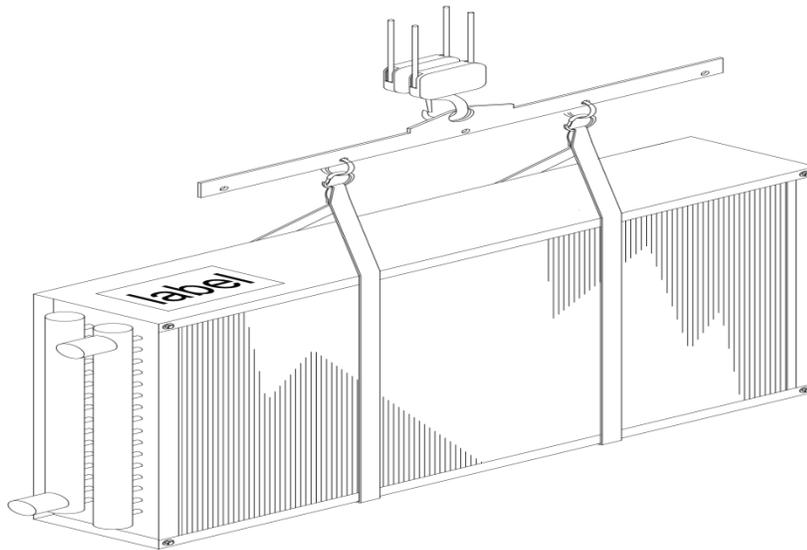
All Engineered Air coils are inspected and factory tested prior to shipment. All coils should be inspected upon receipt to determine that all items on the bill of lading are received and are in an undamaged condition. If there is any damage or shortage it should be reported immediately and a claim filed with the carrier. Should hidden damage be found upon uncrating or during installation, file a concealed damage claim with carrier. Several coils may be shipped within a single crate. Refer to the important freight procedure notice located on the back of the packing slip.

## COIL TYPES

Engineered Air coils are custom designed for a particular application. While two coils may look similar, there may be variances in the fin spacing, circuiting pattern, and header design. Steam coils may be designed for horizontal or vertical configurations. Note the tag number on each coil for reference.

## RIGGING

Coils must not be lifted by the connections, headers or tubing. Move and lift coil using only the outer frame, and lift using a sling.



## INSTALLATION

### GENERAL

Carefully remove the coil from the shipping container to avoid damage to the finned surface and tubing. Damaged fins can be straightened using a fin comb. The coil should be cleaned prior to installation. Ensure the coil and all connections have sufficient working clearance and component access.

Always use a back-up wrench for all threaded coil connections. The supply connection is typically in the middle of the coil, with the return at the lower connection. Steam coils must be properly mounted for condensate removal.

Utilize a vacuum breaker on each coil. Failure to install a vacuum breaker will allow the heat exchanger shell to operate at a negative pressure, which can cause condensate to be retained causing water hammer and creating a potential freezing hazard. Trap each coil independently.

Steam supply to coil should be free of condensate.

Install strainers upstream of control valves, traps and steam coils to catch dirt and scale. Piping should have provisions for eliminating non-condensable gases.

Steam piping must be installed in accordance with all national and local codes, and in accordance with the local authorities having jurisdiction. The supply pressure of the steam must not exceed the maximum pressure noted on the coil label. After installation, the coil must be pressure tested. If the coil is found to be leaking, contact Engineered Air prior to attempting a repair. Damage to the coil incurred on site is not warrantable.

## **MOUNTING**

The perimeter of the coil must be sealed to the surrounding enclosure to prevent air from bypassing the coil. Air entering the face of the coil must be uniform for proper heat transfer.

Do not locate the coil near fan outlets, duct elbows or transitions which could affect the airflow. Ensure the coil and all connections have sufficient working clearance and component access.

## **PIPING**

All piping is to be installed by a qualified pipe fitter, using good steam piping practices. Always use a back-up wrench for all threaded coil connections to avoid damaging the header and spigots.

All piping must be self-supporting and allow for thermal expansion and contraction. Manual valves should be installed to isolate the coil for servicing.

Steam coils must be protected from freezing. They should not be used with a throttling valve when entering air temperatures are below freezing.

## **STARTUP**

To prevent plugging of tubes, clean the piping system and blow down all strainers prior to initial startup.

Once the system has stabilized at operating temperature recheck all bolted connections and tighten if necessary.

On startup, feed steam to the coil slowly to avoid thermal shock.

Ensure the coil has been operating for at least 15 minutes before starting fans or opening dampers.

## **SHUTDOWN**

Drain coil to prevent corrosion during shutdown. Remove all condensate to prevent freezing damage.

## **MAINTENANCE**

Regularly inspect the coil for signs of corrosion or leaks. All associated steam traps, vacuum breakers, strainers and control valves must be regularly inspected and functional.

**WARNING:**

Follow the cleaning instructions and recommended inspection schedule to reduce the risk of mold or other bacterial growth. Property damage or personal injury claims may result from mold or bacterial growth arising from improper installation, inadequate maintenance, or failure to inspect. The manufacturer has no responsibility for and makes no express or implied warranties regarding mold or bacterial growth or any other indoor air quality issues. If mold or bacterial growth is present determine and fix the cause and remove the contamination. Properly clean and sanitize the affected area using only approved sanitizer's approved for HVAC equipment. Moisture carry over can also result from dirty coils.

**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. Use of high pressure steam or water may damage the coil.

**HERESITE® MAINTENANCE**

See Heresite coating supplement manual for information.