



## MicroChannel Heat Exchanger Installation Guidelines



Replacement Coil for York YLAA & YVAA Chillers

# Introduction

USA Coil & Air replacement condenser coils are an alternative for York brand chillers, specifically for the York YLAA, and York YVAA. These replacement coils are designed as near perfect drop-in, with higher quality, longer life construction and Epoxy coated for improved corrosion protection.

The USA Coil & Air WM2-83-4525-407-EC is designed as an alternative replacement coil for:

- **Microchannel coils manufactured by Sanhua and others for York**
- **Fin/Tube coils manufactured by York**

## What is different?

There are several important USA Coil & Air features, based on field experience that make the design more robust and easier to install. These features allow the contractor and end user to replace damaged or failed condenser coils with an alternative solution, upgraded for longer life and to restore the York chiller to operating condition.



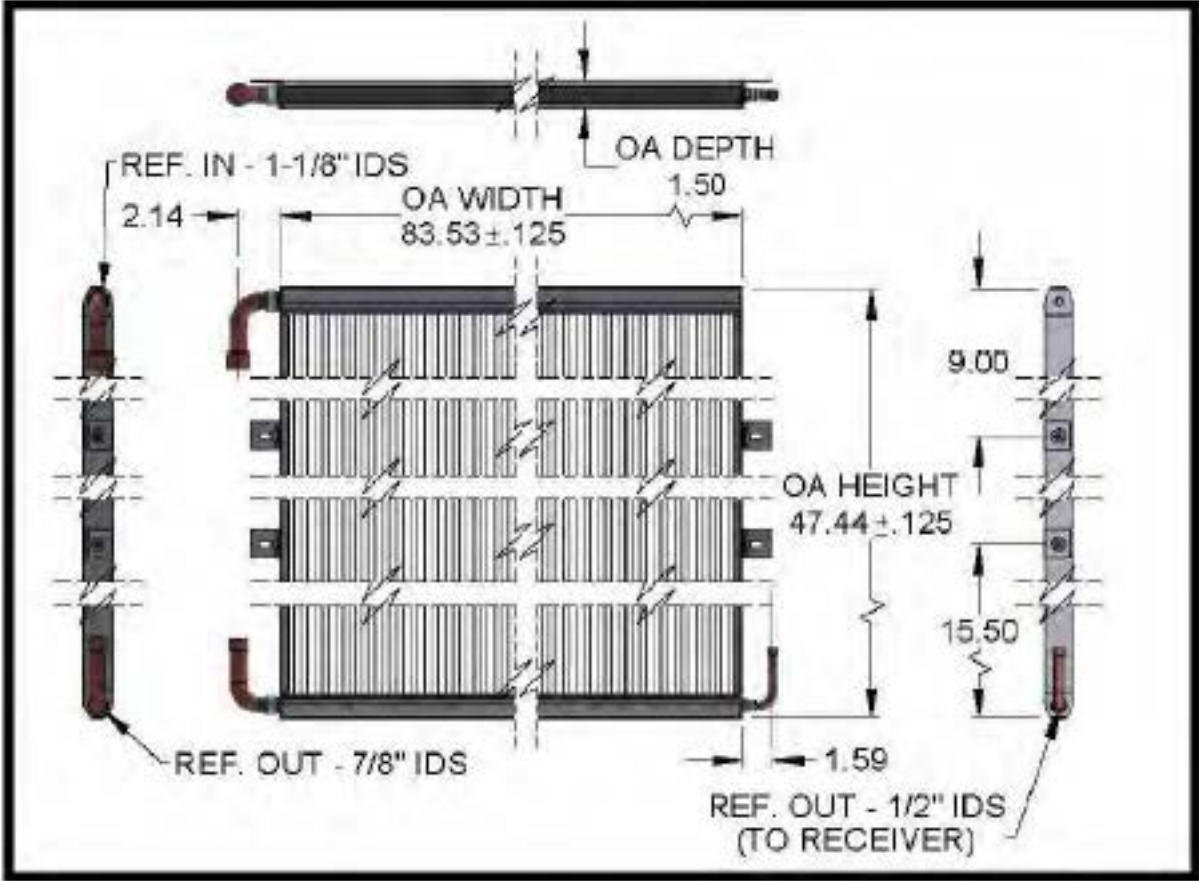
1. Non-Automotive, industrial design with 25-30% Thicker tube walls
2. Epoxy Coating for superior corrosion protection
3. Lower Refrigerant Pressure drop for improved operation and oil return
4. Built-in Mini-receiver (in lower header) to make it easier to charge
5. Equivalent Design & Performance

### Notice to Installer & User:

USA Coil & Air alternative replacement coils have not been endorsed by York as a factory authorized part. All coil replacements should be performed by a trained and qualified HVAC/R Service Technician. Proper installation, procedures, handling of refrigerants, start-up and operation of the equipment is the responsibility of the installing contractor and end user.

Note: York YLAA and YVAA are registered trademarks of Johnson Controls Inc.

# Product Drawing



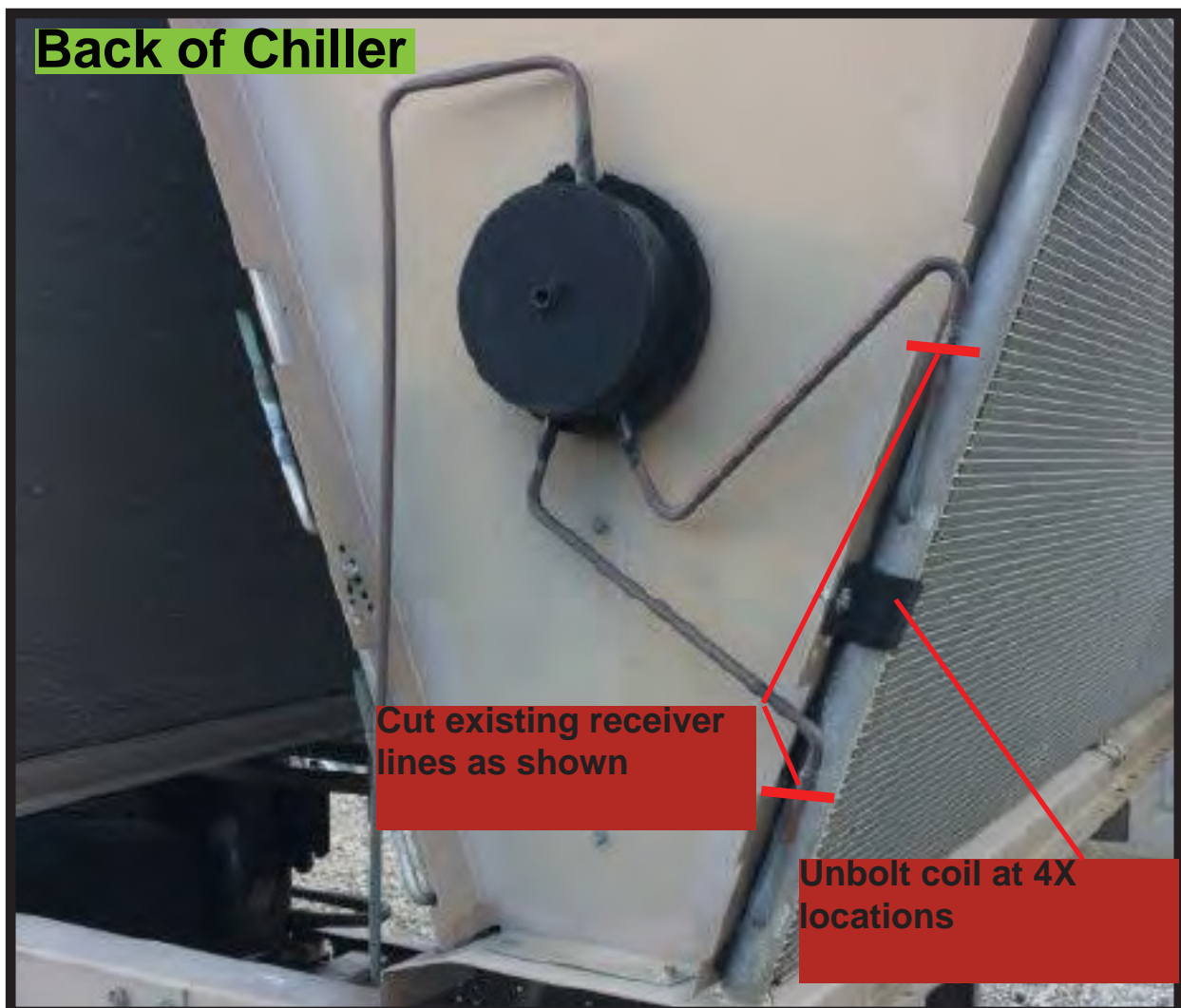
Model: WM2-83-4525-407-EC (Epoxy Coated)

# Installation

1. Remove existing coil(s) using standard industry practices and in accordance with refrigerant recovery regulations.
2. Cut existing discharge, liquid, at the positions shown in the images below.



3. Cut existing receiver lines, at the positions shown in the images below.
4. Unbolt coil at 4X locations, remove coil. This is a two person lift.



5. Lift new coil into place. Use existing hardware to fasten coil at 4X locations. Use care to not damage coil face while handling. Lift the coil by the headers only. DO NOT lift the coil by the copper connections!!
6. Each coil is shipped with 10-15 PSI nitrogen. Remove rubber charge plugs while listening to discharge of nitrogen. If the coil is no longer holding charge, contact the factory.
7. Connect 1-1/8" discharge line to single 1-1/8" coil inlet connection (top.)
8. Connect 7/8" Liquid line to 7/8" coil connection (bottom.)
9. Solder copper connections using Silver solder or Phos-Copper method. Use wet rag on Al side of connections to protect the Al/Cu joint from overheating and damage to the Al/Cu joint.



10. Connect 3/8" receiver lines (where applicable) to coil rear 1/2" connection. Where there is no receiver, solder a 1/2" Cap on rear coil connection.
11. Solder copper connections using Silver solder or Phos-Copper method. Use wet rag on Al side of connections to protect the Al/Cu joint from overheating and damage to the Al/Cu joint.
12. Leak check all connections. Re-charge the system using the original OEM's recommended refrigerant charge quantity, then adjust using site glass (minimal bubbles) and sub-cooling at 5F to 10F.



# Maintenance & Care

**Routine inspection and general cleaning of the Microchannel coil(s) is required for proper life expectancy and to maintain warranty status.**

1. Inspection and general cleaning is recommended quarterly, or more frequently depending upon install location, debris and scale build up, both visible and microscopic.
2. Coil Cleaning.

Coils may exhibit a build-up of dirt, grass, ragweed and many other airborne contaminants. Avoid pushing or driving materials deeper into the coil while cleaning. Use a soft bristle brush and/or a shop vac to remove as much debris as possible from the surface of the coil. If necessary, wash the face of the coil using a pressure washer with a maximum pressure of 900 psi at the spray tip. This should be done at a distance of 8"–16" and in the direction of the fin stock.

Followup by applying commercial cleaner approved for MicroChannel coils and rinsing the coil with water depending on the cleaner instructions and manufacturer's recommendations

Installations with exposure to salt air:

Apply CHLOR\*RID DTS directly onto the substrate. Sufficient product must be applied uniformly across the substrate to thoroughly wet the surface, with no areas missed. This may be accomplished by various

methods such as airless sprayer, roller, brush, pump-up sprayer, or conventional spray gun.

The method does not matter if the entire area to be cleaned is wetted. For most applications, an application rate of approximately 300 sq. ft. per gallon is satisfactory. After the substrate has been thoroughly wetted, the salts will have been solubilized and now it is necessary to rinse them off. It is highly recommended that a pressure washer, max pressure 900 psi to be used for the rinse off step, but a hose may be used if a pressure washer is not available. The water to be used for the rinse is recommended to be of potable quality. A dilution ratio of

50:1 is recommended for potable water, dependent upon water quality.

Follow MSDS Safety Precautions prior to use.

3. Repairs.

If the coil face becomes moderately damaged, the coil fins can be manually adjusted with a dental pick. If a tube is cut or breached, causing a leak, in most cases, the tube can be repaired using "RED EPOXY" brand repair kit, available from most local refrigeration wholesalers. DO NOT attempt a coil repair using tin, zinc or othersolders, since these will not work or bond with the coil materials.





## 5 YEAR EXPRESS WARRANTY

Applies to USA Coil & Air Microchannel Coils

### MANUFACTURER'S EXPRESS WARRANTY

USA Coil & Air warrants the unit identified above against failure caused by defects in materials and workmanship for five (5) years from the date of shipment by USA Coil & Air. This warranty includes all structural components, tubes, fins, headers and connections. Labor costs associated with any repair work performed under the terms of the warranty are NOT included within the warranty. Damage caused by misuse of the product, including without limitation failure to properly install or maintain the product, is NOT covered by the warranty.

In addition to the unit warranty above, USA Coil & Air warrants the thermal performance of the unit as shown on the certified drawings delivered to the customer for a period of one-year from the date installation is completed in accordance with good engineering practices, but in no event shall such warranty period exceed eighteen (18) months from the date the unit is shipped by USA Coil & Air. If after installation and start-up there is any question regarding thermal performance of the equipment, at the owner's request USA Coil & Air will send its engineers to the job-site to conduct a performance test. This test may be observed by the owner and the consulting engineer or by their authorized representatives. If the results of the evaluation show the equipment to be deficient, USA Coil & Air will make the necessary repairs or alterations to correct the deficiency subject to the limitations set forth below. If the equipment is found to be performing in accordance with its certified capacity, the owner will reimburse USA Coil & Air for all direct expenses incurred in connection with such performance test.

### EXCLUSIONS

The above warranty shall not apply to any product that has been modified or repaired contrary to USA Coil & Air recommendations or generally accepted practices or procedures in the industry, or operated under conditions which may cause product failure. USA Coil & Air shall not be responsible for any costs associated with the product damage, loss or replacement due to freeze-up, improper water treatment, improper cleaning, fluid chemistry exceeding USA Coil & Air's recommendations, clogging and debris, fouling, corrosion, galvanic induced corrosion, vibration, thermal cycling, hydraulic shock, over-pressurization, compressor failure, system contamination, loss of protective coating (where applied) and any other operating or system condition which may cause product failure.

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