



WRAP-AROUND HEAT PIPE HEAT EXCHANGER

Overview

The ACT-Heat Pipe-Wrap Around Heat Exchanger (ACT-HP-WAHX) system has two basic components: a pre-cool coil and a re-heat coil that are connected by heat pipes and placed around the existing air handler’s cooling coil (chilled water or DX). The two major benefits of the ACT-HP-WAHX system are increased levels of dehumidification and tonnage savings by the WAHX pre-cooling coil and reduced energy costs from the WAHX’s re-heat coil by savings in gas or resistive heating providing neutral air temperature discharge.

Benefits

- Provides pre-cooling of incoming air stream to increase the AHU’s ability to remove moisture (latent energy)
- Accomplishes system re-heat passively or with control-saving gas or resistive reheat cost
- Sizes as large as coils can be built
- Generally easy to retrofit without major duct work
- Low Maintenance (no moving parts)
- No plugging, belts, or bearings
- Small drop in static pressure, typically 0.15 to 0.45 inches of water (2-6 Row WAHX)
- Conforms to UL Standard 207 for heat pipe based HVAC system

Ideal Applications

Dedicated outside air facilities with >70% outside air and areas with high-variable heat loads, such as:

- Universities
- Hospitals, Labs
- Condos/Hotels
- Government Facilities
- Convention Centers
- Prisons
- Food & Restaurant Facilities

Configurations

Pipe-to-Pipe Connection (Every Row Every Pipe)

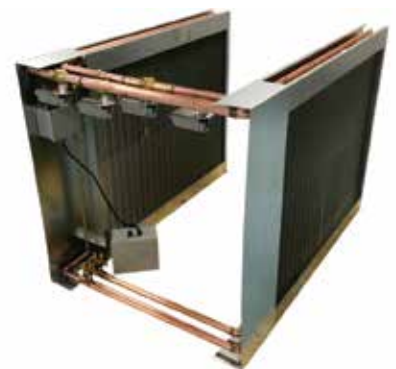
- Any coil dimension
- Stackable
- Optional passive or active reheat control
- Optional Electrofin® or Heresite® coatings

Split Loop Thermosyphon (2 Pipes Per Row)

- Any length coil
- Height stackable in 36” segments
- Optional reheat control
- Optional Electrofin® or Heresite® coatings



Pipe-to-Pipe Connection



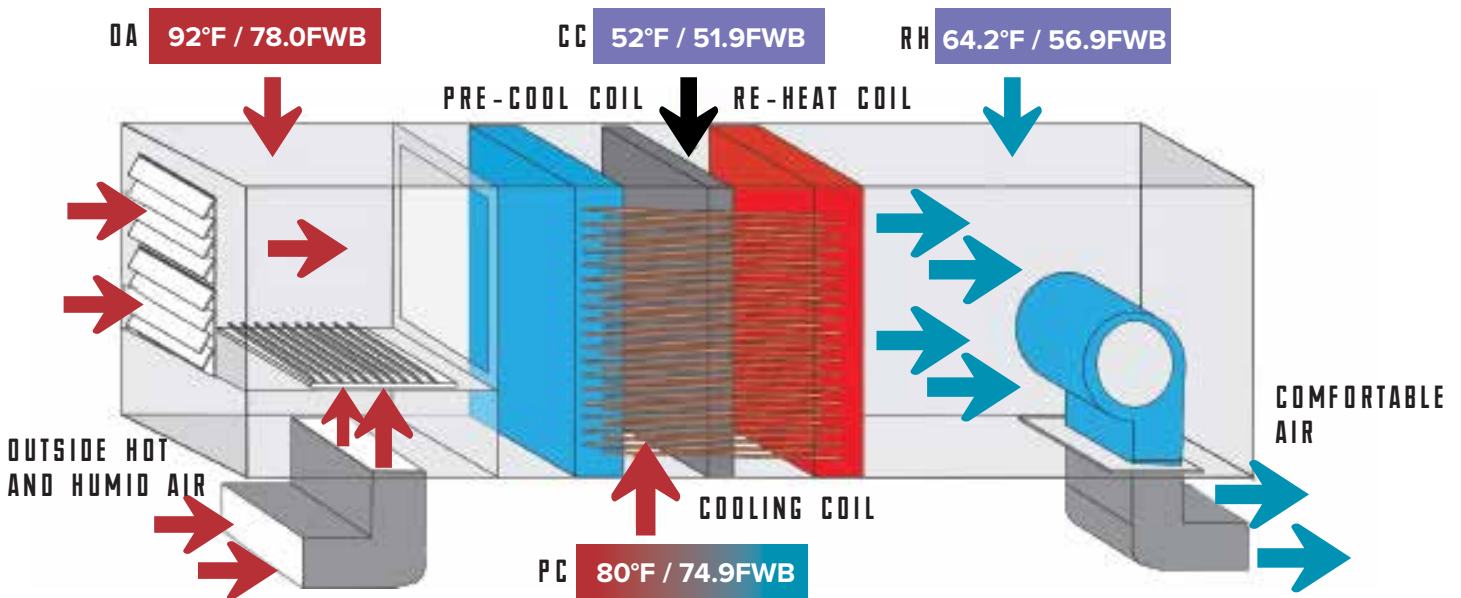
Split Loop Thermosyphon
(shown with reheat control)

When to Apply WAHX

- Any new or retrofitted AHU requiring reheat
 - Even if only 2 or 3 degrees
 - Neutral Supply Air
 - DOAS units
- All chilled water neutral air temperature discharge AHUs
 - WAHX meets on board energy recovery requirement
 - Hot gas reheat not available with CW units
- Split DX neutral air temp discharge AHUs
 - No hot gas reheat
 - No hot gas reheat piping from condensing unit
 - Tonnage savings
 - Meets on board energy recovery requirement
 - Reduces the complexity of the Split DX control system



Typical WAHX Application



HVAC Online Selection Tool: Wrap-Around Heat Pipe Heat Exchanger

Our Online Selection Tool will assist the HVAC design engineer with the proper selection of a WAHX and provide energy savings estimates. The tool provides the designer with the capability to perform a preliminary design selection and to evaluate the WAHX performance at design point and part load conditions. It is also intended to be used as a tool to communicate project requirements to ACT for additional evaluation. Check out the ACT HVAC Online Selection Tool for WAHX systems at 1-ACT.com/HVAC/WAHX/.