# A65 CRAH Precision Air Handler

The ThermalWorks A65 CRAH Precision Air Handler provides high capacity air cooling with high delta T and energy efficient operation. It is a modular, floor-mounted unit engineered to serve both data halls and equipment rooms with dual upflow and downflow designs that enable flexible installation on raised floors and slab.

The unit features custom micro-channel coils, an efficient ECM fan, variable flow valves and onboard programmable logic control that dynamically adjusts fan speeds and flow valve position for real-time optimization.


## Upflow Configuration

The upflow configuration of the CRAH unit is designed to deliver conditioned air from the bottom of the unit to a raised floor plenum or directly into the space. This configuration is ideal for data centers with or without raised floor systems, allowing the cooled air to be distributed evenly through floor tiles or grilles. The primary characteristics of the upflow configuration include:

### Air Distribution

- Conditioned air is discharged from the bottom of the unit.
- Air is evenly distributed under the raised floor or through bottom supply grilles to cool the equipment.

### Installation

- The unit is typically installed on the raised floor with a direct connection to the underfloor plenum.
- Flexible ducting or plenums can be used to guide the air to specific areas if needed.

### Maintenance and Accesibility

- Easy access to filters, fans, and other components for routine maintenance.
- Service panels are accessible from the front and sides of the unit.

### Efficiency

- Efficient cooling due to direct air delivery to the equipment.
- Reduced energy consumption due to minimized air resistance through ThermalWorks micro-channel coils.


## Downflow Configuration

The downflow configuration of the CRAH unit is designed to draw return air from the top of the unit and discharge it downwards into the room. This configuration is suitable for data centers without raised floors, where air distribution can be managed through overhead ducts or diffusers. The primary characteristics of the downflow configuration include:

### Air Distribution

- Conditioned air is discharged from the top of the unit.
- Air can be distributed through overhead ductwork, diffusers, or directly into the room for even cooling.

### Installation

- The unit is typically installed on a solid floor with ducts or diffusers arranged overhead.
- Can be integrated with existing duct systems for flexible air distribution.

### Maintenance and Accesibility

- Convenient access to filters, fans, and other components for routine maintenance.
- Service panels are accessible from the front and sides of the unit.

### Efficiency

- Effective cooling for open environments without raised floors.
- Optimized air distribution for maximum efficiency with minimized air resistance through ThermalWorks micro-channel coils.

## Main Components

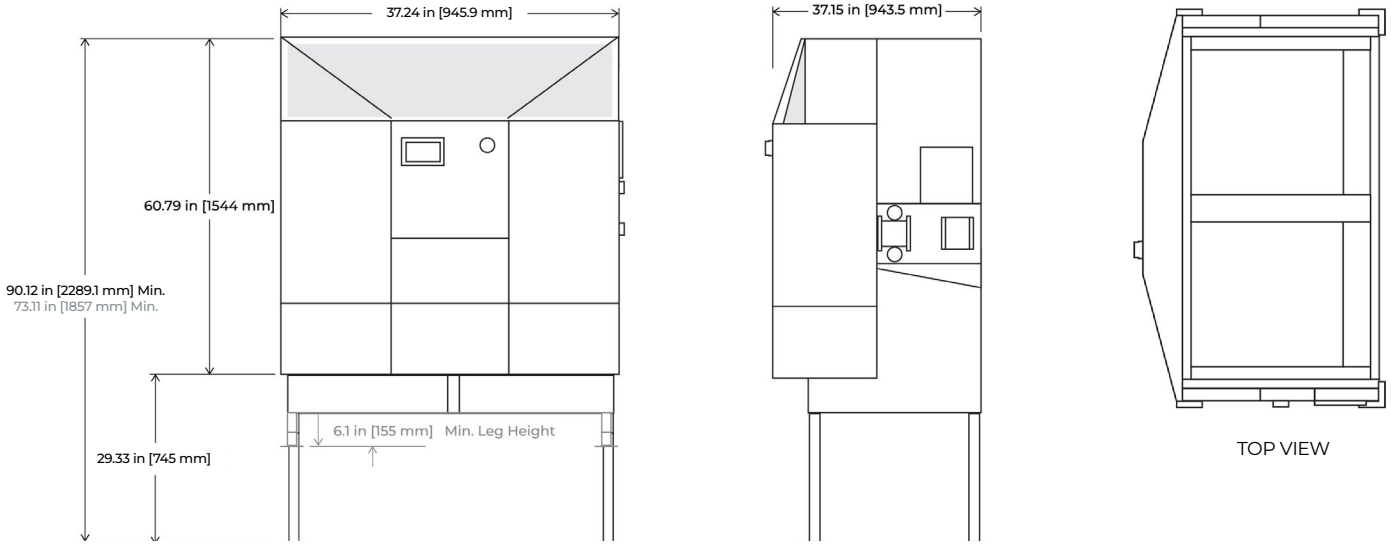
- Multi-pass microchannel coil
- ECM fan (2)
- Hydronic fluid (glycol) flow control valve-supplied with unit, field installed
- Power and control panel with field-installed control devices
- Produced and wired in accordance with UL and CE standards
- Wiring from power and control panel to associated control devices furnished by the manufacturer and installed by the installing contractor(s).
- Redundant, 3-phase 460 VAC, 60 Hz or 400 VAC, 50Hz power sources A and B for reliable operation.

| Overall Dimensions, Weights, Electrical and Performance Ratings | | |
|---|---|---|
| **LOCATION** | | North America |
| **MANUFACTURER'S DATA** | Selection Manufacturer | ThermalWorks™ |
| | Model No. | Air Handler A65 CRAH |
| **AIR FLOW** | | 7,500 CFM **[3.5 $m^3/s$]** |
| **EXTERNAL STATIC PRESSURE** | | 0.5 in. H20 **[125 Pa]** |
| **COOLING CAPACITY** | | 35 kW |
| **WORKING PRESSURE** | Selection Manufacturer | ThermalWorks™ |
| | Model No. | Air Handler A65 CRAH |
| **FLUID** | Fluid Type | 30% propylene glycol/water by volume |
| | Entering Fluid Temperature | 62 °F **[16.7 °C]** |
| | Leaving Fluid Temperature | 81 °F **[27.2 °C]** |
| | Entering Air Temperature | 85 °F **[29.4 °C]** |
| | Leaving Air Temperature | 70 °F **[21.1 °C]** |
| | Fluid Flowrate | 13 gpm **[49 lpm]** |
| | Fluid Pressure Drop | 12.5 psi **[86 ]** |
| **COIL CONNECTION SIZE** | Supply - NPS | 1.25 in **[32 DN mm]** |
| | Return - NPS | 1.25 in **[32 DN mm]** |
| **FAN** | Type | Centrifugal |
| | Quantity | 2 |
| | FLA | 2.3 @ 400 VAC ea<br>2.0 @ 460 VAC ea |
| **ELECTRICAL** | Volts/Ph/Hz | 400/3/50 or 460/3/60 |
| **PHYSICAL DATA** | Length x Width x Height (max) | 39.5 x 60.5 x 81.55 in<br>**[1,003 x 1,537 x 2,071 mm]** |
| | Length x Width x Height (min) | 39.5 x 60.5 x 64.6 in<br>**[1,003 x 1,537 x 1,641 mm]** |
| | Operating Weight | 735 lb **[333 kg]** |

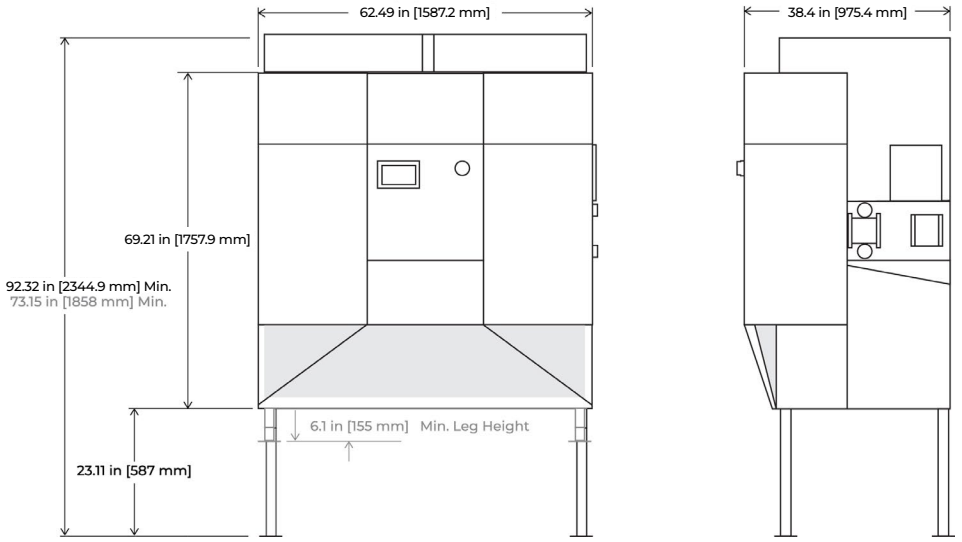
The performance of the equipment is based on normal operation ±5%. Lower ΔT and/or lower supply temperature may impact performance. Reach out to Thermal Works for failure mode operation.

## Dimensional Drawings

### Upflow Configuration




### Downflow Configuration




## Service Clearance