



## RH-CUBE 18 DEHUMIDIFIER DATA SHEET



The RH-Cube 18 is a high efficiency, high capacity, split-air dehumidifier which has a broad range of applications, from residential, to commercial, to industrial.

The RH-Cube 18 can deliver up to 623 pounds (283 litres) per day of water removal. It can be ordered with either a DX (direct expansion) or water chilled coil.

With a DX coil, the RH-Cube 18 can be paired with condensers varying in size from 1.5 to 5.0 ton. Multiple RH-Cube 18's can be ganged off of a single condenser.

### FEATURES

RH-Cube 18 features include:

- Split-air architecture - the RH-Cube does not add to the air conditioner's heat load.
- High capacity - removes up to 623 lbs (283 litres) per day.
- High efficiency - up to 3.6 liters/kWh.
- Economic – Can cut total air conditioning bill in half, extend the life of the air conditioning system, and prevent costly repairs due to mold damage.

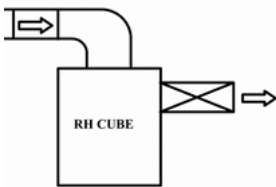
- Decoupled operation for easy integration into existing HVAC systems – It operates independently of the air conditioner and can dehumidify twenty four hours a day whether or not the air conditioner is running.
- Modular for easy installation – can be disassembled into three sections so that it can be maneuvered through narrow openings and tight spaces, and be installed by a single technician.
- Versatility - Four choices for delivery air ducts locations simplifies installation
- Serviceability - Completely serviceable for cleaning and maintenance from the front of the unit.
- Inexpensive to service - Built from easily sourced off-the-shelf air conditioning components. Serviceable by any certified HVAC technician without the need for specialized training.

## DUCTING

Briefly outlined below are three ducting methods recommended for integrating an RH-Cube into an HVAC system: Stand-alone, Parallel, and Cascade. For details please refer to Dewair's application note on ducting.

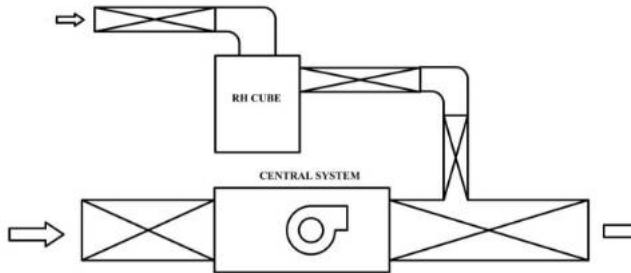
### STAND ALONE

The Stand-Alone configuration is the most basic and requires the least amount of ducting. Air is drawn from the immediate surroundings and a simple ducting system connects the RH-Cube's delivery air to the living space.



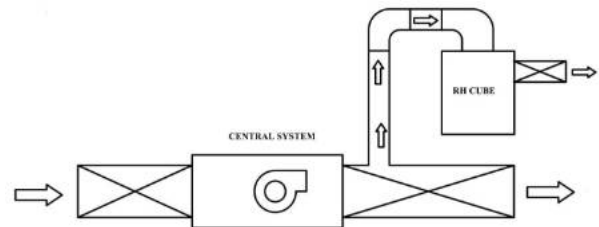
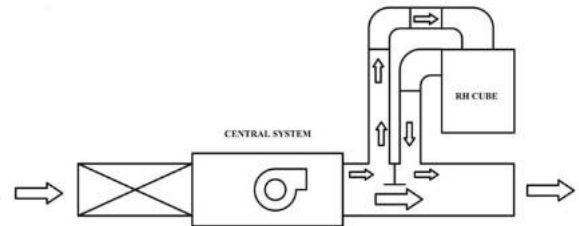
### PARALLEL

The Parallel configuration combines the RH-Cube's delivery air with the central system's delivery air.



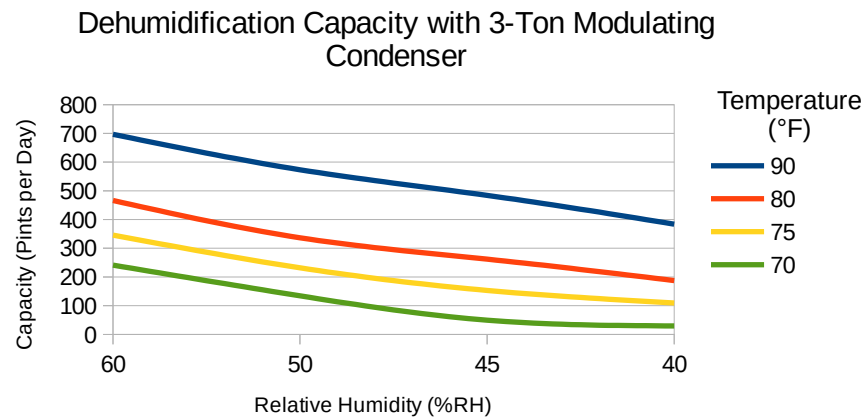
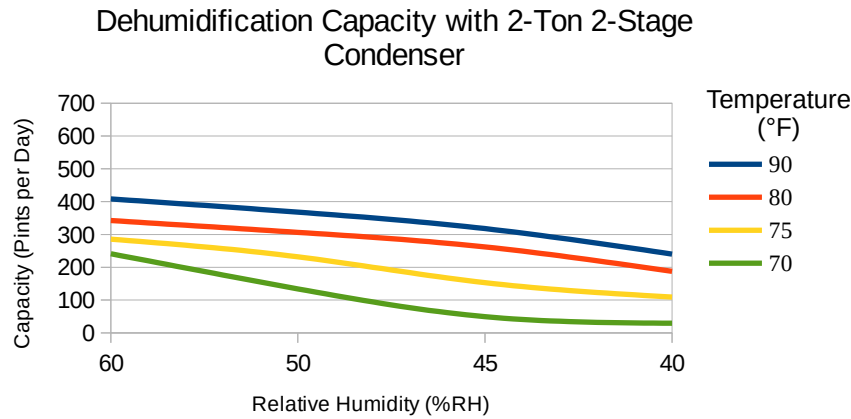
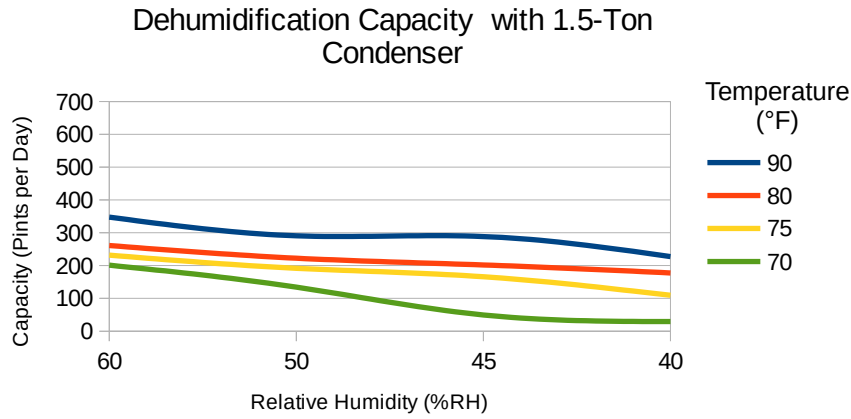
### CASCADE

For Cascade configurations, the RH-Cube's return air is taken directly from the delivery air of the central HVAC system. The RH-Cube's delivery air can either be ducted directly into the living space, or can be recombined with the central HVAC system's delivery air. These configurations deliver the highest performance.



# DEHUMIDIFICATION PERFORMANCE

The graphs below show RH-Cube 18 water removal capacity with 1.5 ton to 3 ton condensers over a range of ambient air conditions.



# SPECIFICATIONS

## Unit Parameters

Model ..... **DA18-DX-V1M1F1**  
Part number ..... **DA-900-0001**  
Cabinet Finish ..... **Painted**  
Refrigerant Type ..... **R410A**

## Dimensions and Weight

Length ..... **44 in**  
Width ..... **28 in**  
Height ..... **38 in**  
Equipment Weight ..... **310 lbs**  
Shipping Weight ..... **350 lbs**  
Minimum maneuvering weight ..... **80 lbs**

## Electrical Data

Voltage.....**110/120 - 1 - 60 V-P-Hz**  
Fan Motor FLA\* .....**3.2 Amps**  
MCA\* .....**2.9 Amps**  
Max Fuse.....**15 Amps**  
Typical Power Consumption..... **340 Watts**

\*FLA - full-load amperage MCA - Minimum Current Ampacity (0.8 FLA)

## Fan Performance

Blower power..... **336 W**  
STP performance @ 0" wg ..... **650 cfm** ,  
STP performance @ 0.2" wg ..... **595 cfm**  
STP performance @ 0.35 wg ..... **540 cfm**

## Plumbing / Refrigerant

Refrigerant ..... **R410A**  
Liquid Line Diameter ..... **3/8 in**  
Suction Line Diameter ..... **3/4 in**  
Drain connection ..... **3/4 in NTP female**

## Output Control

Supplied Voltage ..... **24 VAC**  
Supplied Current .....**30 Amps**  
Power ..... **40 VA**  
Blower Switch ..... **Auto / Always On**

## Ducting

Return Duct Opening ..... **12 x 18 in**  
Minimum Return Duct ..... **3 ft**  
Supply Duct Opening ..... **8 x 14 in**  
Supply Duct Location ..... **left, right, top, or back**

## Condenser

Type ..... **DX**  
Supported Condensers ..... **1 Ton to 5 Ton**

## Servicing

Front access for all serviceable components.

## Example:

Dehumidification Performance with a 3 Ton Modulating Condenser

### 80 °F / 60% RH

Water Removal Efficiency ..... **3.5 liters/kWh**  
Water Removal Capacity ..... **484 ppd**  
Ent Air DB ..... **80.0 °F**  
Ent Air WB ..... **68.9 °F**  
Ent Enthalpy ..... **33.7 BTU/lb**  
Lvg Air DB ..... **75 °F**  
Lvg Air WB ..... **56 °F**  
Lvg Enthalpy ..... **24.1 BTU/lb**

### 90 °F / 60% RH

Water Removal Efficiency ..... **3.2 liters/kWh**  
Water Removal Capacity ..... **830 ppd**  
Ent Air DB ..... **90.0 °F**  
Ent Air WB ..... **74.2 °F**  
Ent Enthalpy ..... **41.7 BTU/lb**  
Lvg Air DB ..... **85 °F**  
Lvg Air WB ..... **60 °F**  
Lvg Enthalpy ..... **26.6 BTU/lb**

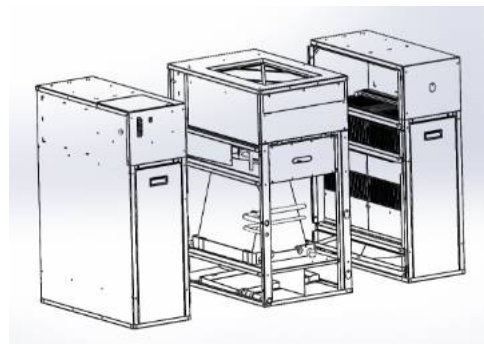
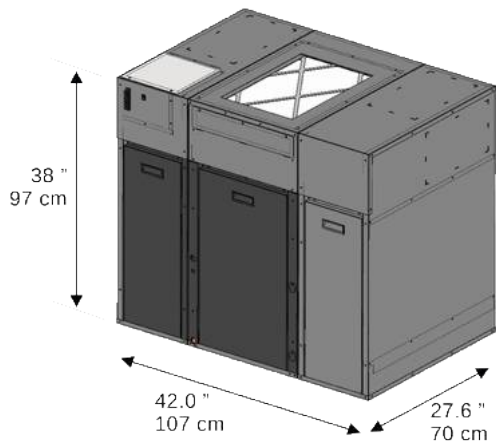
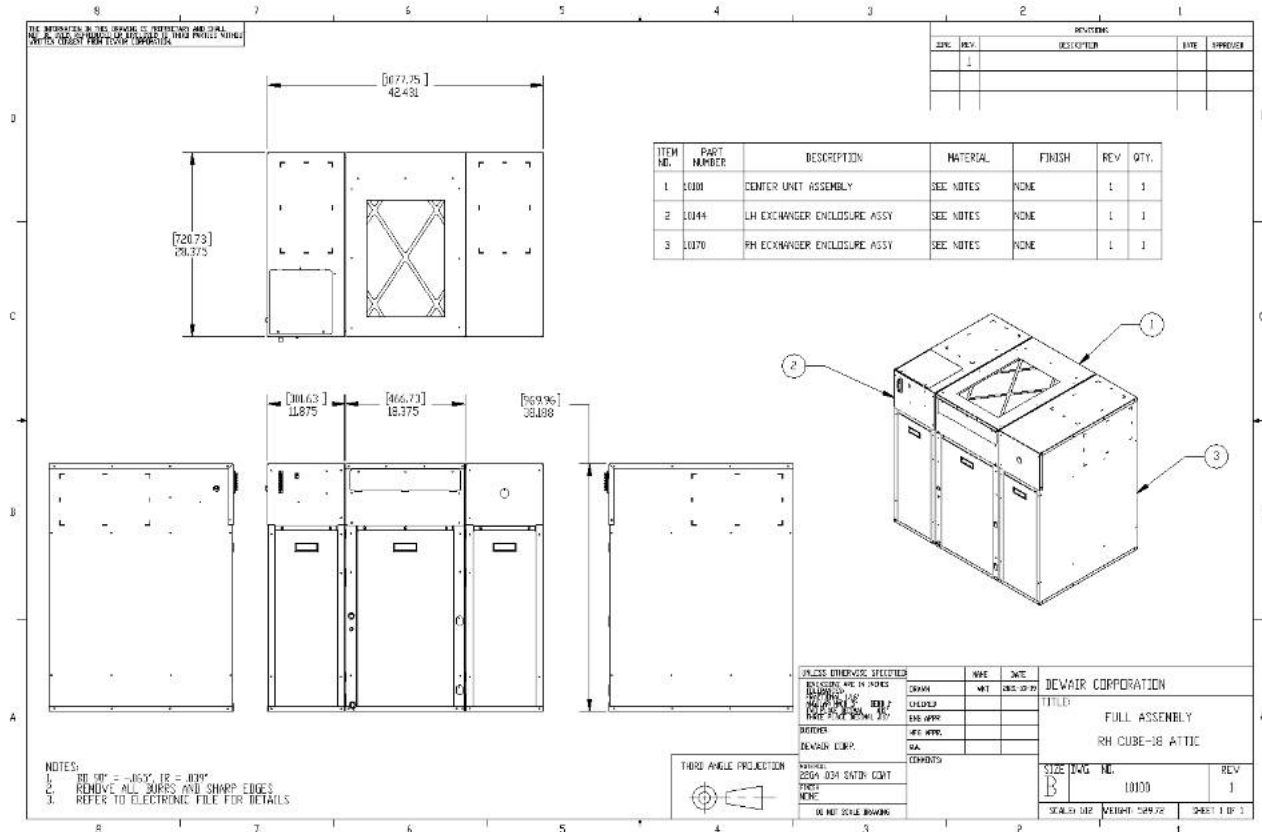
## Warranty

The warranty period is one (1) year on all parts. The warranty is for the original owner only and is not available for subsequent owners.



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*RH-Cube 18 can be disassembled into 3 sub-sections to facilitate installation.*

Installed Dimensions and Weights	
Length	42.43 in.
Width	28.38 in
Height	38.18 in
Weight	310 lb

Shipping Dimensions and Weights	
Length	47 in.
Width	33 in
Height	46 in
Shipping Weight	350 lbs

