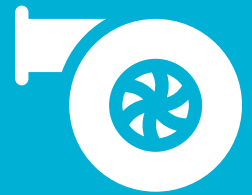
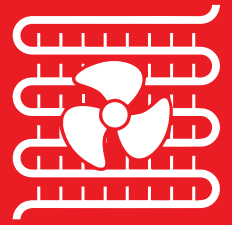




**DeltaT** *presents*  
**DUO-DEL Two Stage  
Evaporative Cooling Unit**



**DeltaT**  
SYSTEMS PVT LTD

*Your Trusted Partner for Optimal Climate Solutions*

**DUO-DEL TWO STAGE  
EVAPORATIVE COOLIG UNIT**

## About DUO-DEL

- The Two-Stage evaporative cooling system is an eco-friendly way of cooling that constantly renews and filters indoor air. This system introduces clean, cool air while removing foul smells, smoke, and gases, maintaining a comfortable living or working environment.
- The system uses a Sensible heat exchanger and an Adiabatic heat exchanger to provide greater efficiency than conventional Evaporative cooling. The Supply Air is pre-cooled in the Sensible heat exchanger, reducing Dry bulb and Wet bulb temperature without adding moisture.
- The air is then further cooled in the Adiabatic heat exchanger, allowing it to cool below the ambient Wet bulb temperature. For units with \*CT-SHX as Sensible Heat Exchangers, secondary Adiabatic heat exchangers are necessary.

## Application



Green Buildings



Warehouses / Storages



Institutions / Classrooms / Libraries



Religious Places



Manufacturing Industries



Kitchens / Restaurants / Banquet Halls



Theaters / Auditorium



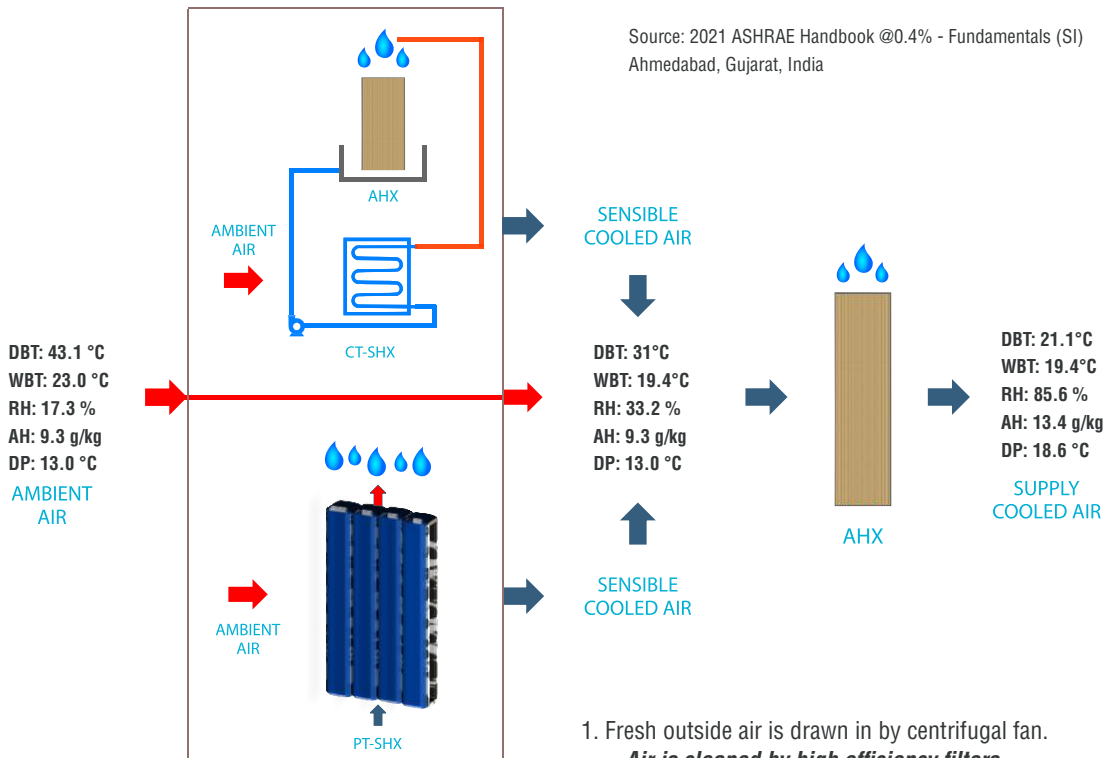
Museums / Sport complexes

## Benefits

- At least 30% more effective than conventional single stage evaporative cooling systems.
- Supply air temperature is possible below ambient WBT.
- System saves energy up to 60% over conventional air conditioning, leading to lower operational costs.
- 100% fresh and filtered air ensures excellent indoor air quality.
- Cooling system offers excellent ROI - return on investment as it has low life cycle cost.
- Only filtration and positive pressurization is possible.
- Avoidance of CFCs results in zero ozone-depletion, reduces greenhouse gases & earns carbon credits.

# Indirect-Direct Evaporative Cooling System

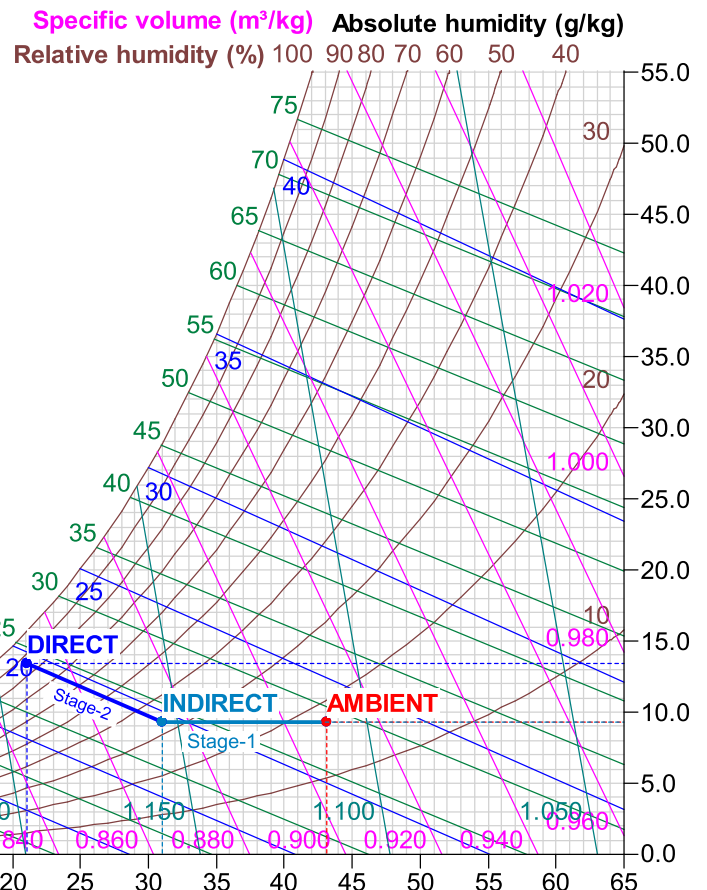
Source: 2021 ASHRAE Handbook @0.4% - Fundamentals (SI)  
Ahmedabad, Gujarat, India



1. Fresh outside air is drawn in by centrifugal fan.  
- **Air is cleaned by high efficiency filters.**
2. Filtered air passes through Sensible Heat exchanger [CT-SHX/PT-SHX]  
- **Air is cooled without adding humidity.**
3. Precooled air is further passes through Adiabatic Heat exchanger [AHX]  
- **Fresh, Clean, Cool air delivered to needed Space.**

City	Ambient DBT (°C)	Ambient WBT (°C)	* D U O - D E L Outlet DBT (°C)
AHMEDABAD	43.1	23.0	21.1
BHOPAL	42.0	21.9	20.0
BIKANER	44.1	21.6	19.3
DELHI	43.8	22.2	20.1
GWALIOR	43.8	23.4	21.6
HYDERABAD	41.0	22.0	20.2
INDOR	40.8	22.9	18.9
JAIPUR	42.7	20.9	18.6
NAGPUR	44.2	22.6	20.6
PUNE	38.5	19.9	17.9
RAIPUR	43.2	22.5	20.6
RAJKOT	41.1	22.1	20.2
SURAT	38.2	22.6	21.2

\*Conditions apply



Density (kg/m<sup>3</sup>)  
Wet bulb temperature (°C)  
Enthalpy (BTU/lbs)  
Dry bulb temperature (°C)

□ Dry bulb temperature □ Absolute humidity ■ Relative humidity ■ Enthalpy ■ Wet bulb temperature ■ Specific volume ■ Density

# DUO-DEL Two Stage Evaporative Cooling Unit

Model No.	DUO-DEL-20	DUO-DEL-40	DUO-DEL-60	DUO-DEL-80	DUO-DEL-100
Airflow Capacity-CFM	2000	4000	6000	8000	10000
TSP (mm-wg)	65	65	65	65	65
Unit construction	Double Skin Panel with PUF Insulation				
Outer / Inner skin	PPGI / GI (Wet section in SS 304)				
Type of Blower	DIDW Forward / Backward Curve Centrifugal Fan (Plug / EC Fan option available)				
Blower Standard	AMCA Certified				
Type of Drive	Belt Driven (Direct driven Option also available)				
Motor Specifications	IE2 / IE3 / IE5 Efficiency				
Total Connected Load- kW CT-SHX / PT-SHX	3.3 / 2.5	4.6 / 4.7	7.0 / 7.0	9.5 / 7.0	10.3 / 9.0
Sensible Heat exchanger	Coil Type (CT-SHX) / Plate Type (PT-SHX)				
Adiabatic Heat exchanger	Cooling Pad- Honeycomb Cellulose Paper (AHX)				
Sump	Stainless Steel-SS 304 Grade				
Filtration	Pre Filter Efficiency 90% down to 10 micron (Combination / Fine Filter option Available)				
Dimension (mm)					
Length (CT-SHX / PT-SHX)	3450 / 3350	3630 / 3600	3800 / 3720	3920 / 3910	4010 / 4040
Width (CT-SHX / PT-SHX)	1030 / 1280	1620 / 1760	1700 / 2260	1800 / 2640	2070 / 2790
Height (CT-SHX)	1100 + 1100	1100 + 1100	1400 + 1400	1600 + 1400	1700 + 1700
Height (PT-SHX)	1180	1380	1480	1580	1860

Model No.	DUO-DEL-20	DUO-DEL-40	DUO-DEL-60	DUO-DEL-80	DUO-DEL-100
Airflow Capacity-CFM	12000	15000	20000	25000	30000
TSP (mm-wg)	65	65	65	65	65
Unit construction	Double Skin Panel with PUF Insulation				
Outer / Inner skin	PPGI / GI (Wet section in SS 304)				
Type of Blower	DIDW Forward / Backward Curve Centrifugal Fan (Plug / EC Fan option available)				
Blower Standard	AMCA Certified				
Type of Drive	Belt Driven (Direct driven Option also available)				
Motor Specifications	IE2 / IE3 / IE5 Efficiency				
Total Connected Load- kW CT-SHX / PT-SHX	12.3 / 12.5	15.5 / 13.0	21.0 / 17.0	23.5 / 24.0	28.5 / 24.0
Sensible Heat exchanger	Coil Type (CT-SHX) / Plate Type (PT-SHX)				
Adiabatic Heat exchanger	Cooling Pad- Honeycomb Cellulose Paper (AHX)				
Sump	Stainless Steel-SS 304 Grade				
Filtration	Pre Filter Efficiency 90% down to 10 micron (Combination / Fine Filter option Available)				
Dimension (mm)					
Length (CT-SHX / PT-SHX)	4110 / 4230	4240 / 4380	4430 / 4510	4580 / 4230	4710 / 4380
Width (CT-SHX / PT-SHX)	2400 / 2460	2440 / 2940	2880 / 3620	3060 / 4020	3370 / 4620
Height (CT-SHX)	1850 + 1700	2000 + 2000	2000 + 2000	2300 + 2300	2360 + 2300
Height (PT-SHX)	2260	2260	2260	2260	2260

**Note:**

- Above data is based on standard selection, subjected to change based on application / requirement.
- Customized model available on demand.
- Specification may change without prior notice due to continuous design optimizations



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