

HY-DEL HYBRID COOLIG UNIT

Your Trusted Partner for Optimal Climate Solutions



About HY-DEL

- Hybrid Unit is a system that combines Evaporative Cooling and Refrigerated Air Conditioning for smooth year-round operation.
- It achieves maximum efficiency with Single / 2-stage at Lower RH & High Wet bulb depression.
- During Monsoon, when RH is higher and Wet bulb depression is lower, Conventional Air Conditioning takes over.
- The Hybrid unit can function as an Indirect/Direct Evaporative Air Cooling Unit / Conventional AHU depending on ambient conditions.
- The dampers on the machine enable complete Fresh Air for Single / 2-stage and Re-circulated Air from the room for the Air Conditioning stage.
- All the components in the system can be automatically operated using Smart Control by switching between the modes of operation (as shown below) based on ambient & indoor conditions.

HY-DEL Different Modes Of Operation

- Ventilation mode: Only fresh air
- Indirect Evaporative cooling mode: Only sensible heat exchange
- Indirect+ Direct Evaporative cooling: Sensible + Adiabatic heat exchange
- Treated fresh air cooling mode: Sensible heat exchange + refrigerant cooling
- Air Conditioning mode: Refrigerant cooling with re-circulation air.
- Smart Controller: Automatic mode selection based on ambient conditions.

Modes of Operation

Modes of Operation	100% Fresh Air Damper	10% Fresh Air Damper	90% Return Air Damper	By-Pass Damper	Primary Blower	CT-SHX Pump	Refrigerant Coil	AHX Cooling Pad Pump	Secondary Blower	DX / VRF System
Ventilation	ON	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
Indirect Evaporating Cooling	ON	OFF	OFF	ON	ON	ON	OFF	OFF	ON	OFF
Direct Evaporating Cooling	ON	OFF	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
Indirect+Direct Evaporating Cooling	ON	OFF	OFF	ON	ON	ON	OFF	ON	ON	OFF
Treated Fresh Air Cooling	ON	OFF	OFF	ON	ON	ON	ON	OFF	ON	ON
Air Condiioning	OFF	ON	ON	OFF	ON	OFF	ON	OFF	OFF	ON



Supreme Cooling



100% Fersh Air



Energy Saving



Hygienic Indoor Air Quality



Eco Friendly

Low Life Cycle Cost





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.



HY-DEL Hybrid Cooling Unit



Model No.	HY-DEL-20	HY-DEL-40	HY-DEL-60	HY-DEL-80	HY-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 Certied						
Type of Drive	Belt Driven (Direct driven Option also available)								
Motor Specications	IE2 / IE3 / IE5 Efficiency								
Total Connected Load- kW CT-SHX / PT-SHX	3.3 / 2.5	4.6 / 4.7	4.6 / 4.7 7.0 / 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)	3700 / 3850	3880 / 4100	4050 / 4220	4170 / 4410	4260 / 4540				
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.	HY-DEL-20	HY-DEL-40	HY-DEL-60	HY-DEL-80	HY-DEL-100				
Model No. Airflow Capacity-CFM	HY-DEL-20 12000	HY-DEL-40 15000	HY-DEL-60 20000	HY-DEL-80 25000	HY-DEL-100 30000				
Model No. Airflow Capacity-CFM TSP (mm-wg)	HY-DEL-20 12000 65	HY-DEL-40 15000 65	HY-DEL-60 20000 65	HY-DEL-80 25000 65	HY-DEL-100 30000 65				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction	HY-DEL-20 12000 65	HY-DEL-40 15000 65 Double 3	HY-DEL-60 20000 65 Skin Panel with PUF In	HY-DEL-80 25000 65 sulation	HY-DEL-100 30000 65				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin	HY-DEL-20 12000 65	HY-DEL-40 15000 65 Double 3 PPGI	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS	HY-DEL-80 25000 65 sulation 304)	HY-DEL-100 30000 65				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower	HY-DEL-20 12000 65 DIDW	HY-DEL-40 15000 65 Double 3 PPGI Forward / Backward Cu	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P	HY-DEL-80 25000 65 sulation 3 304) lug / EC Fan option ava	HY-DEL-100 30000 65 ilable)				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard	HY-DEL-20 12000 65 DIDW	HY-DEL-40 15000 65 Double S PPGI Forward / Backward Cu	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied	HY-DEL-80 25000 65 sulation 304) lug / EC Fan option ava	HY-DEL-100 30000 65 ilable)				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Type of Drive	HY-DEL-20 12000 65 DIDW	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al	HY-DEL-80 25000 65 sulation 304) lug / EC Fan option ava so available)	HY-DEL-100 30000 65 ilable)				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Type of Drive Motor Specications	HY-DEL-20 12000 65 DIDW	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency	HY-DEL-80 25000 65 sulation 5 304) lug / EC Fan option ava so available)	HY-DEL-100 30000 65 ilable)				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Type of Drive Motor Specications Total Connected Load- kW CT-SHX / PT-SHX	HY-DEL-20 12000 65 DIDW 12.3 / 12.5	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (15.5 / 13.0	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0	HY-DEL-80 25000 65 sulation 304) lug / EC Fan option ava so available) / 23.5 / 24.0	HY-DEL-100 30000 65 ilable) 28.5 / 24.0				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Type of Drive Motor Specications Total Connected Load- kW CT-SHX / PT-SHX Sensible Heat exchanger	HY-DEL-20 12000 65 DIDW 12.3 / 12.5	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (15.5 / 13.0 Coil Type	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0 (CT-SHX) / Plate Type	HY-DEL-80 25000 65 sulation 3 304) lug / EC Fan option ava so available) / 23.5 / 24.0 (PT-SHX)	HY-DEL-100 30000 65 ilable) 28.5 / 24.0				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Blower Standard Type of Drive Motor Specications Total Connected Load- kW CT-SHX / PT-SHX Sensible Heat exchanger Adiabatic Heat exchanger	HY-DEL-20 12000 65 DIDW 12.3 / 12.5	HY-DEL-40 15000 65 Double 3 PPGI Forward / Backward Cu Belt Driven (1 15.5 / 13.0 Coil Type Cooling Pad-	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0 (CT-SHX) / Plate Type Honeycomb Cellulose	HY-DEL-80 25000 65 sulation 304) lug / EC Fan option ava so available) / 23.5 / 24.0 (PT-SHX) Paper (AHX)	HY-DEL-100 30000 65 ilable) 28.5 / 24.0				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Type of Drive Motor Specications Total Connected Load- kW CT-SHX / PT-SHX Sensible Heat exchanger Adiabatic Heat exchanger	HY-DEL-20 12000 65 DIDW 12.3 / 12.5	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (15.5 / 13.0 Coil Type Cooling Pad- Sta	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0 (CT-SHX) / Plate Type Honeycomb Cellulose inless Steel-SS 304 Gr	HY-DEL-80 25000 65 sulation 304) lug / EC Fan option ava so available) / 23.5 / 24.0 (PT-SHX) Paper (AHX) ade	HY-DEL-100 30000 65 ilable) 28.5 / 24.0				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Type of Drive Motor Specications Total Connected Load- kW CT-SHX / PT-SHX Sensible Heat exchanger Adiabatic Heat exchanger Sump Filtration	HY-DEL-20 12000 65 DIDW 12.3 / 12.5 Pre Filter	HY-DEL-40 15000 65 Double 3 PPGI Forward / Backward Cu Belt Driven (15.5 / 13.0 Coil Type Cooling Pad- Sta Efficiency 90% down to	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0 (CT-SHX) / Plate Type Honeycomb Cellulose inless Steel-SS 304 Gr	HY-DEL-80 25000 65 sulation 304) lug / EC Fan option ava so available) / 23.5 / 24.0 (PT-SHX) Paper (AHX) ade tion / Fine Filter option	HY-DEL-100 30000 65 ilable) 28.5 / 24.0 Available)				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Type of Drive Motor Specications Total Connected Load- kW CT-SHX / PT-SHX Sensible Heat exchanger Adiabatic Heat exchanger Sump Filtration Dimension (mm)	HY-DEL-20 12000 65 DIDW 12.3 / 12.5 Pre Filter	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (15.5 / 13.0 Coil Type Cooling Pad- Sta Efficiency 90% down to	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0 (CT-SHX) / Plate Type Honeycomb Cellulose inless Steel-SS 304 Gr o 10 micron (Combinat	HY-DEL-80 25000 65 sulation 3 304) lug / EC Fan option ava so available) / 23.5 / 24.0 (PT-SHX) Paper (AHX) ade tion / Fine Filter option	HY-DEL-100 30000 65 ilable) 28.5 / 24.0 Available)				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Type of Drive Motor Specications Total Connected Load- kW CT-SHX / PT-SHX Sensible Heat exchanger Adiabatic Heat exchanger Sump Filtration Dimension (mm) Length (CT-SHX / PT-SHX)	HY-DEL-20 12000 65 DIDW 12.3 / 12.5 Pre Filter 4360 / 4730	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (15.5 / 13.0 Coil Type Cooling Pad- Sta Efficiency 90% down to 4490 / 4880	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0 (CT-SHX) / Plate Type Honeycomb Cellulose inless Steel-SS 304 Gr o 10 micron (Combinal 4682 / 5010	HY-DEL-80 25000 65 sulation 3 304) lug / EC Fan option ava so available) / 23.5 / 24.0 (PT-SHX) Paper (AHX) ade tion / Fine Filter option	HY-DEL-100 30000 65 ilable) 28.5 / 24.0 Available) 4960 / 4880				
Model No. Airflow Capacity-CFM TSP (mm-wg) Unit construction Outer / Inner skin Type of Blower Blower Standard Blower Standard Type of Drive Motor Specications Total Connected Load- kW CT-SHX / PT-SHX Sensible Heat exchanger Adiabatic Heat exchanger Sump Filtration Dimension (mm) Length (CT-SHX / PT-SHX)	HY-DEL-20 12000 65 DIDW 12.3 / 12.5 Pre Filter 4360 / 4730 2400 / 2460	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (15.5 / 13.0 Coil Type Cooling Pad- Sta Efficiency 90% down to 4490 / 4880 2440 / 2940	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0 (CT-SHX) / Plate Type Honeycomb Cellulose inless Steel-SS 304 Gr to 10 micron (Combinat 4682 / 5010 2880 /3620	HY-DEL-80 25000 65 sulation 3 304) lug / EC Fan option ava so available) / 23.5 / 24.0 (PT-SHX) Paper (AHX) ade tion / Fine Filter option - 4830 / 4730 3060 / 4020	HY-DEL-100 30000 65 ilable) 28.5 / 24.0 Available) 4960 / 4880 3370 / 4620				
Model No.Airflow Capacity-CFMTSP (mm-wg)Unit constructionOuter / Inner skinType of BlowerBlower StandardType of DriveMotor SpecicationsTotal Connected Load- kW CT-SHX / PT-SHXSensible Heat exchangerAdiabatic Heat exchangerSumpFiltrationDimension (mm)Length (CT-SHX / PT-SHX)Width (CT-SHX / PT-SHX)	HY-DEL-20 12000 65 DIDW 12.3 / 12.5 Pre Filter 4360 / 4730 2400 / 2460 1700 + 1700	HY-DEL-40 15000 65 Double : PPGI Forward / Backward Cu Belt Driven (15.5 / 13.0 Coil Type Cooling Pad- Sta Efficiency 90% down to 4490 / 4880 2440 / 2940 1850 +1700	HY-DEL-60 20000 65 Skin Panel with PUF In / GI (Wet section in SS urve Centrifugal Fan (P AMCA Certied Direct driven Option al E2 / IE3 / IE5 Efficiency 21.0 / 17.0 (CT-SHX) / Plate Type Honeycomb Cellulose inless Steel-SS 304 Gr 0 10 micron (Combinat 4682 / 5010 2880 /3620 2000 + 2000	HY-DEL-80 25000 65 sulation 304) lug / EC Fan option ava so available) / 23.5 / 24.0 (PT-SHX) Paper (AHX) ade tion / Fine Filter option 4830 / 4730 3060 / 4020 2300 + 2300	HY-DEL-100 30000 65 ilable) 28.5 / 24.0 28.5 / 24.0 4960 / 4880 3370 / 4620 2360 + 2300				

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



FACTORY ADDRESS

Plot No 4/B, Survey No 408, TD Industrial Estate B/H Ashwamwgh Estate, Village Changodar, Gujarat 382213

CORPORATE ADDRESS

B2-1201 Westgate Business Bay, Opp. Andaz Party Plot, SG Highway, Makarba, Ahmedabad-380051



🌾 +91 079-4890266 / +91 99789 73094



🕽 www.deltat.co.in