

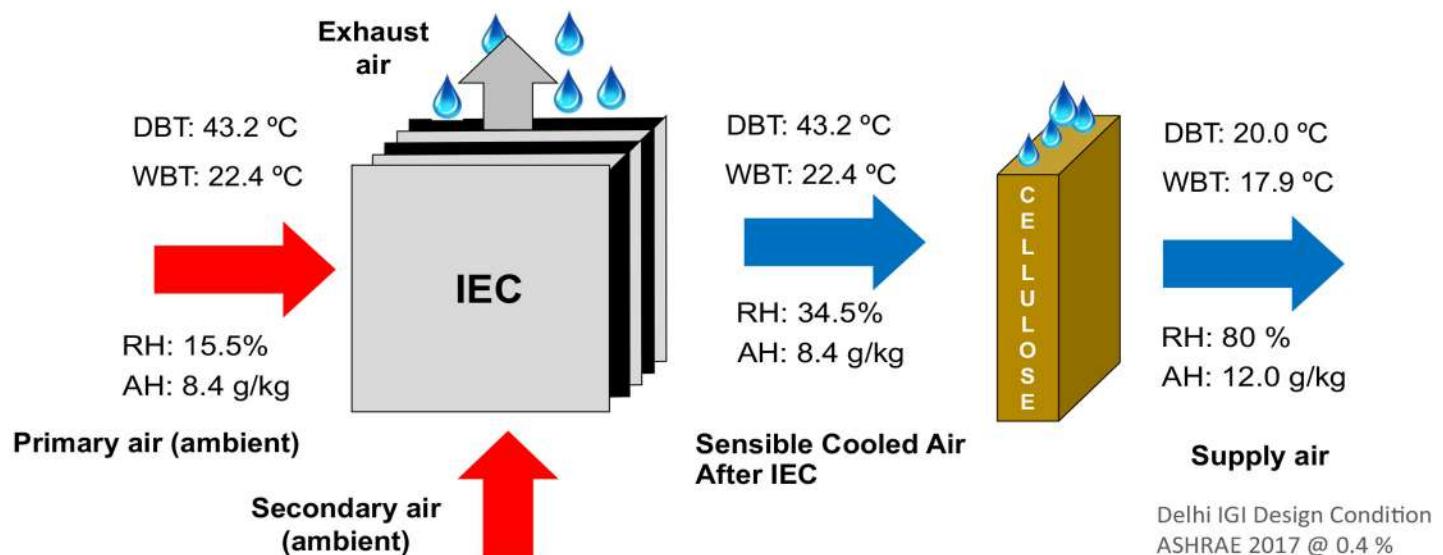
TWO STAGE RBK AIRCOOLING



RBK
Aircooling

TWO SYAGE RBK COOLING

How it Works:



1. Fresh out-side air is drawn in by centrifugal fan.

Air is cleaned by high efficiency filters.

2. Filtered air enters Sensible Heat Exchanger.

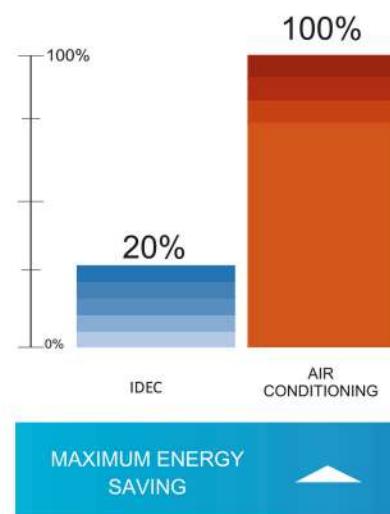
Air is cooled without adding humidity

3. Precooled air is further cooled by wet Cellulose pads.

Fresh, Clean, Cool air delivered to needed Space

A SUSTAINABLE & ENERGY SAVING COOLING SYSTEM

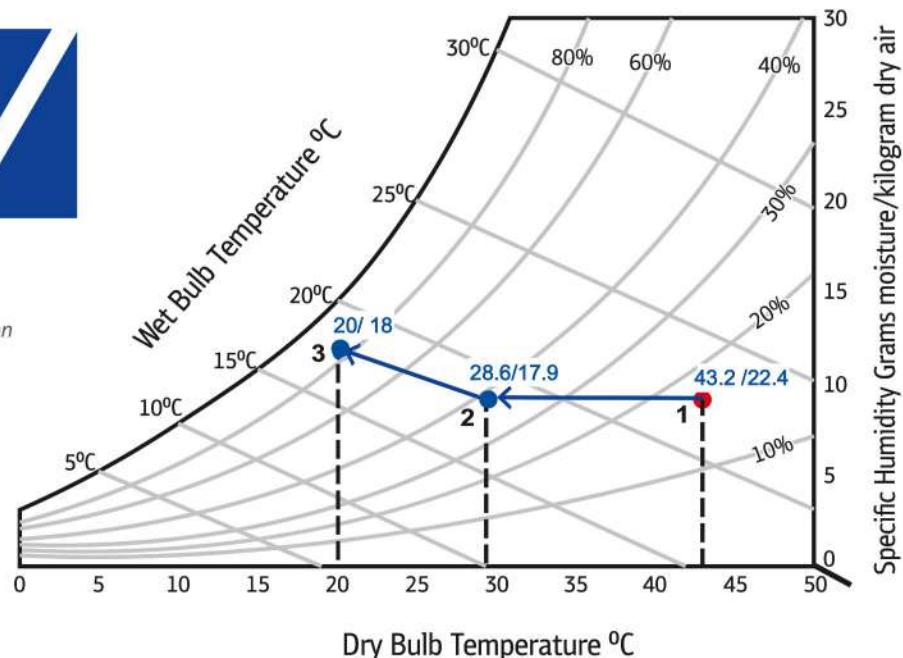
The Two Stage evaporative cooling system is a natural way of cooling. In addition its economic, healthy and ecological. This system allows constant renewal of air, improving indoor air quality as it introduces clean, filtered, cool air inside the space, evacuating bad odours, smoke & gases, helping to maintain comfortable working and living space.



PSYCHROMETRIC REPRESENTATION

Delhi IGI Design Condition
ASHRAE 2017 @ 0.4 %

Psychrometric Chart



Benefits of RBK two Stage Cooling System



Upto 5°C better Cooling than direct **RBK cooling**



Cooling Capacity and efficiency increases as temperature increases



No moisture added to air in first (IEC) stage



Consumes upto 80% less electricity than air conditioning



Delivers 100 % fresh ,filtered ,healthy cool air



Improves indoor air quality by removing dust ,fumes and odours



No chemical refrigerants or compressor used



Improves Productivity in industries through 100% fresh ,clean & cool air



Low Capex and low opex



Combined Cycle cooling efficiency nearly 120%

RETURN ON INVESTMENT

- Up to 80% less running cost than mechanical air conditioning
- Quick investment pay back period
- Low cost of ownership

RUNNING COST COMPARISON WITH AIR CONDITIONING

| TYPE | RBK-IDEK -170 | Air Conditioning |
|--------------------------------------------------------------------|--------------------------|------------------|
| Capacity | 10000 CFM | 20 TON |
| Area Covered | 2000 Sqft | 2000 Sqft |
| Motor / Compressor Wattage | 5.5 Kw | 22 Kw |
| Total kw (incl. pump etc) | 5.6 Kw | 27.5 Kw |
| Electricity Unit Consumption * per Year (12 hrs, 240 days) | 16,128 Kw | 79,200 Kw |
| Total Electricity Cost (in Rs.) (Assuming Rate @ Rs 8/Unit) | Rs. 1,29,024/- | Rs. 6,33,600/- |
| Saving on Electricity Cost per year (in Rs.) | Rs. 5,04,576/- | Nil |
| Running cost saving (%) | 80 % | Nil |
| Payback Period | 7 Months (One Season) | |

* 8 months, (March-October)



APPLICATIONS



Showrooms/
Outlets/Shops



Manufacturing
Plant / Industry



Packaging &
Printing Industry



Kitchen & dining
areas in factories/
restaurants



Server Rooms /
Data Centres



Auditoriums/
Movie theatres

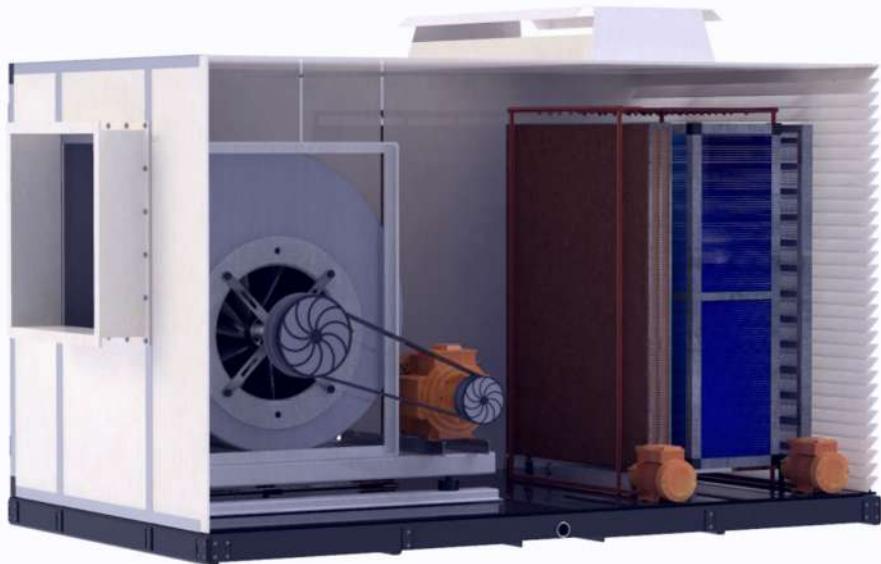


UPS Rooms



Common areas in
hotels/ hospitals

FEATURE & SPECIFICATIONS



Range Available Upto 100000 CFM



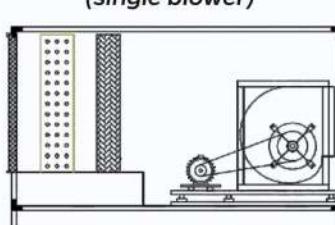
Robust Single Speed Controller With
Wired Remote

FEATURES:

- ★ Overload Protection
- ★ Short Circuit Protection
- ★ Single Phasing Protection

Fan Features:

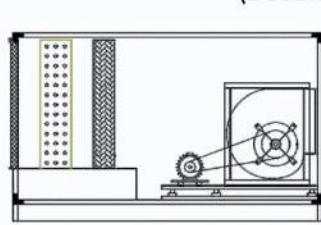
- ★ The fans are of international standard and are AMCA certified.
- ★ Centrifugal blower forward / backward curved as per static pressure requirements.
- ★ The fans are static and dynamically balanced.



SIDE VIEW

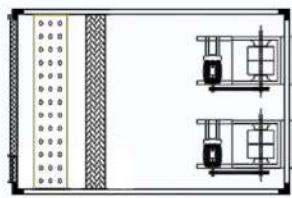
Electric Motors:

- ★ TEFC Squirrel Cage Induction Motor , IP 55 Protected VFD Compatible induction motor of Standard make siemens/CG/Havells /ABB etc.
- ★ Energy efficient Electric Motors



SIDE VIEW

(Double blower)



TOP VIEW

COOLING PADS :

High quality Honey-Comb Cooling Pads made of cellulose paper and with High **RBK AIRCOOLING** efficiency are used. The thickness of pads used is 100 / 200 mm and flute height is 5 mm / 7mm , as per requirement .

Filters:

The standard filters are of box type with extruded aluminium frame and synthetic media. The filter efficiency is 90% down to 10 microns. Depending on application fine filters of various efficiencies can be provided as per custom requirement.

Technical specifications

| DESCRIPTION | DETAILS | | | |
|--------------------------|------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------|
| Model No. | RBK-IDECK-85 | RBK-IDECK-170 | RBK-IDECK-250 | RBK-IDECK-340 |
| Discharge Type | Side | Side | Side | Side |
| Airflow (CMH/CFM) | 8500 / 5000 | 17000 / 10000 | 25000 / 15000 | 34000 / 20000 |
| Construction | Double skin AHU box. Extruded Aluminium profile structure with Nylon connectors. | | | |
| Cabinet | Puff insulated double skin panels of 0.6mm powder coated Galvanised Plain Sheet Base Frame of GI 16 SWG | | | |
| Type of Blower | Forward / Backward Curved DIDW Centrifugal Blower | | | |
| Blower Make | Nicotra / Kruger / Equivalent | | | |
| Fan Speed | 3-Phase, Single Speed | | | |
| Static Pressure (mmwg) | 30 | 40 | 50 | 50 |
| Blower Motor Spec. | IE2 Efficiency, 4 Pole, IP55 Protection | | | |
| Blower Motor Power (kW) | 2.2 | 5.5 | 7.5 | 11 |
| Power Resource (V/Hz) | 415/50 | | | |
| Motor Make | ABB / Siemens / CG | | | |
| Drive Type | V-Belt Drive | | | |
| Noise (dBA) | ≤ 70 | | | |
| Adiabatic Heat Exchanger | Cellulose Pad , Make: Munters / EcoCool/ HuTeK | | | |
| Sensible Heat Exchanger | Polymeric Plate / Multi Row Copper tube , with Al Fins | | | |
| Pre Filter | Box type Pre-Filter (EU-4) Efficiency 90% down to 10 -micron | | | |
| Media of Filter Used | HDPE Sandwiched | | | |
| Dimension (L x W x H) | 2000 x 1150 x 1400 (±150) | 2300 x 1700 x 1590 (±150) | 2300 x 1700 x 1890 (±150) | 2900 x 2620 x 1890 (±150) |
| Pump Make | Little / Indoma | | | |
| Water Tank Material | Stainless Steel – 304 Grade | | | |
| Controller Type | Manual Switch Gear Controller | | | |
| Remote | Corded Remote | | | |
| Overload Protection | Yes | Yes | Yes | Yes |
| Short Circuit Protection | Yes | Yes | Yes | Yes |
| Single Phase Preventer | Yes | Yes | Yes | Yes |



SITE INSTALLATIONS

Ideal for:



Industry



Office



Warehouse



Hospital



School



Hotel



Temple



Home

R.B.K. Air Cooling

Manufacturer & Specialist In

- * Air Cooling * Plant Docketing * Insulation
- * Wholesle A/C Type Grill * Moving Grill * AC Piping
- * Industrial Air Washer Cooling * Blower
- * Kitchen Hood * Wholesale Imported Cellulose Ped

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