



## Indirect/Direct Evaporative Cooling System



### DESCRIPTION OF IDEC UNIT

The indirect cooling module (ICM) is a pre-cooler used in 2-Stage or Indirect/Direct evaporative cooling. The ICM cools the air without adding any additional moisture.

It accomplishes this by circulating water through a sensible heat exchanger, while a fan draws air through the heat exchanger. This air and water are cooled by evaporation and in turn cool the walls of the heat exchanger. The removed heat is exhausted from the unit with the moist air. Hot, dry outside air is pulled horizontally through the cooled walls of the heat exchanger by the attached evaporative cooler. This air is cooled and since it does not come in contact water, there is no moisture added. The dry-air cooled by the ICM is then cooled further by the direct evaporative cooler. The dry bulb temperature of the air after going past the ICM drops as does the wet bulb or saturation temperature.

This cooled dry air from the ICM is pulled through wet evaporative media in the direct evaporative cooler which cools the air and adds moisture. In a design summer ambient conditions, the IDEC can lower the incoming air temperature below the existing ambient wet bulb conditions.

### ADVANTAGES

- PROVIDES A COOL, DRY ENVIRONMENT
- CONSUMES LOW ENERGY. APPROX. 20% OF CONVENTIONAL AC SYSTEM.
- LOW MAINTENANCE AND NO COSTLY REPAIRS.
- NO OZONE DEPLETING SUBSTANCES.
- NO COMPRESSORS AND REFRIGERANTS.
- HIGH IAQ AS NO RE-CIRCULATION OF AIR.
- OPERATES ON 100% FRESH AIR.
- EASE OF INSTALLATION.

### CAUTION

- INSIDE CONDITIONS NOT COMPARABLE WITH AC SYSTEMS DURING THE DAYS IT IS HOT AND HUMID OUTSIDE.
- RECOMMENDED ONLY FOR DRY AND MODERATE CLIMATES



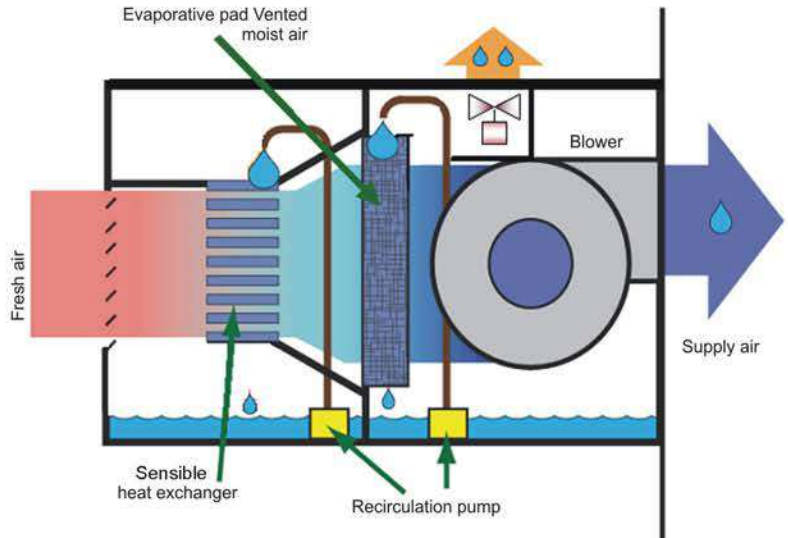
INDIAN GREEN BUILDING COUNCIL



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### PRODUCT RANGE

- Available from 2000 cfm upto 100000 cfm in modular construction.
- Available in high static pressure based on its application.
- Available in high filtration options based from 20 micron to 0.3 micron.
- Available in variable speed drives.
- Available in robust and sturdy construction.
- Available with turnkey solution including engineering, installation and commissioning of the complete **system**.

### INDUSTRIAL VENTILATION, PRESSURISATION AND DUST PREVENTION

- General shop floor cooling and ventilation
- Spot cooling of work stations and process lines
- Spot cooling of hot spot and hot zones
- Paint booths and paint lines
- Laundries and Dry-cleaning Establishments
- Generator rooms and gas turbine inlets
- Warehouses and stores
- Pre-coolers for refrigeration compressors

### APPLICATION VERSATILITY

#### COMFORT COOLING AND VENTILATION

- Centralised residential units
- Retail shop and department S tores
- Commercial kitchens
- Banks, Theatres and auditoriums
- School, colleges and universities
- Libraries and museums
- Airports and railway stations

