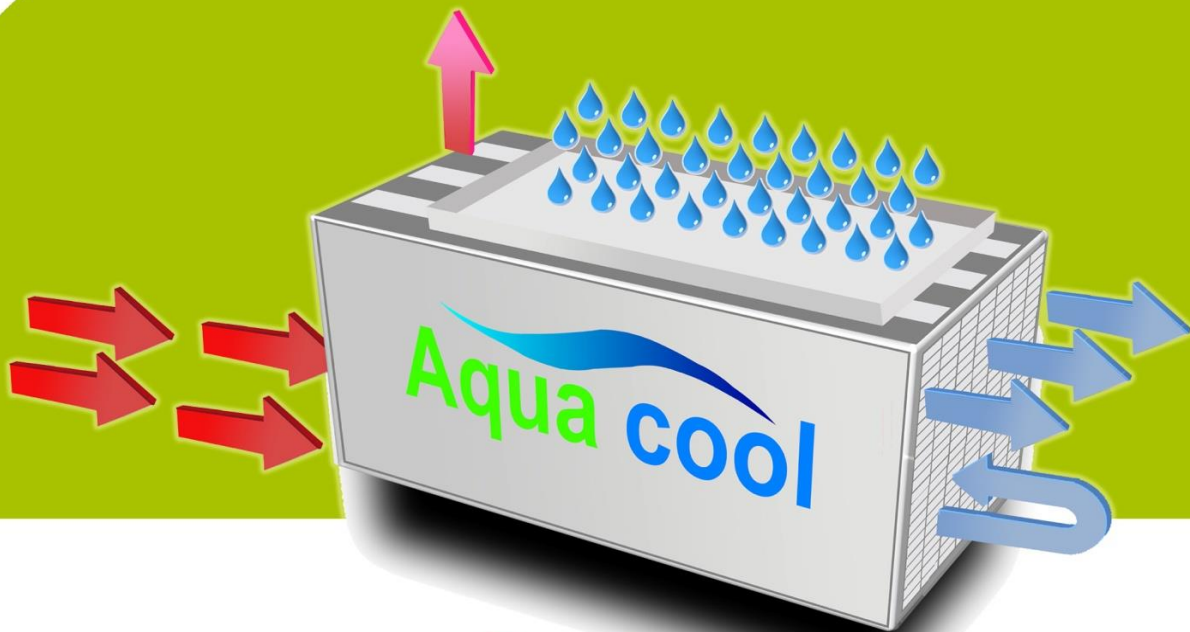


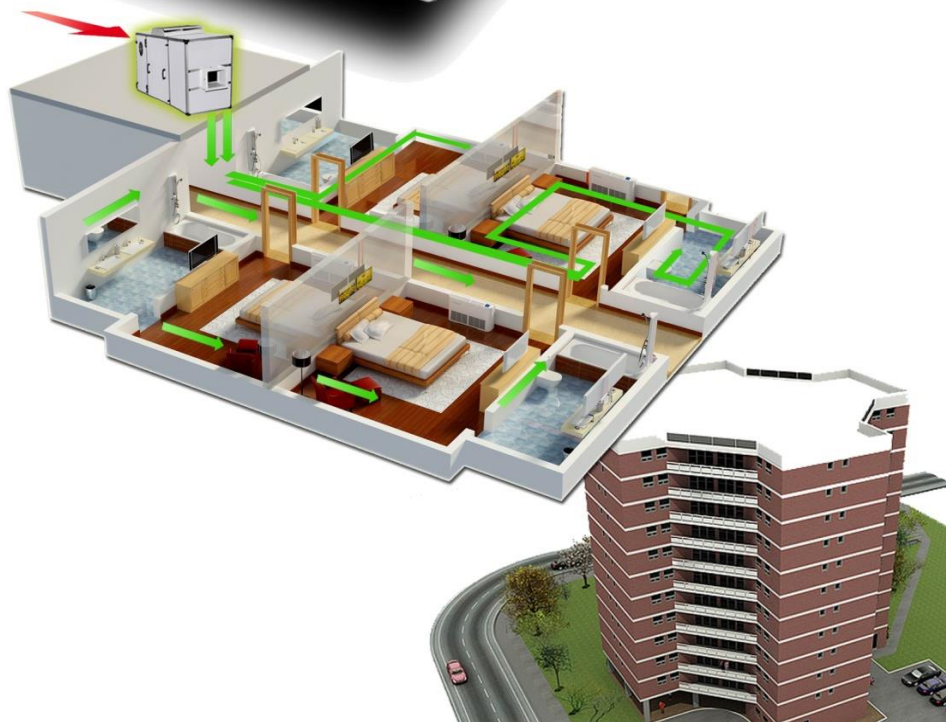
The Breakthrough of the Century in Cooling Technology

Aqua cool
healthy fresh air

60%
Energy saving cost!

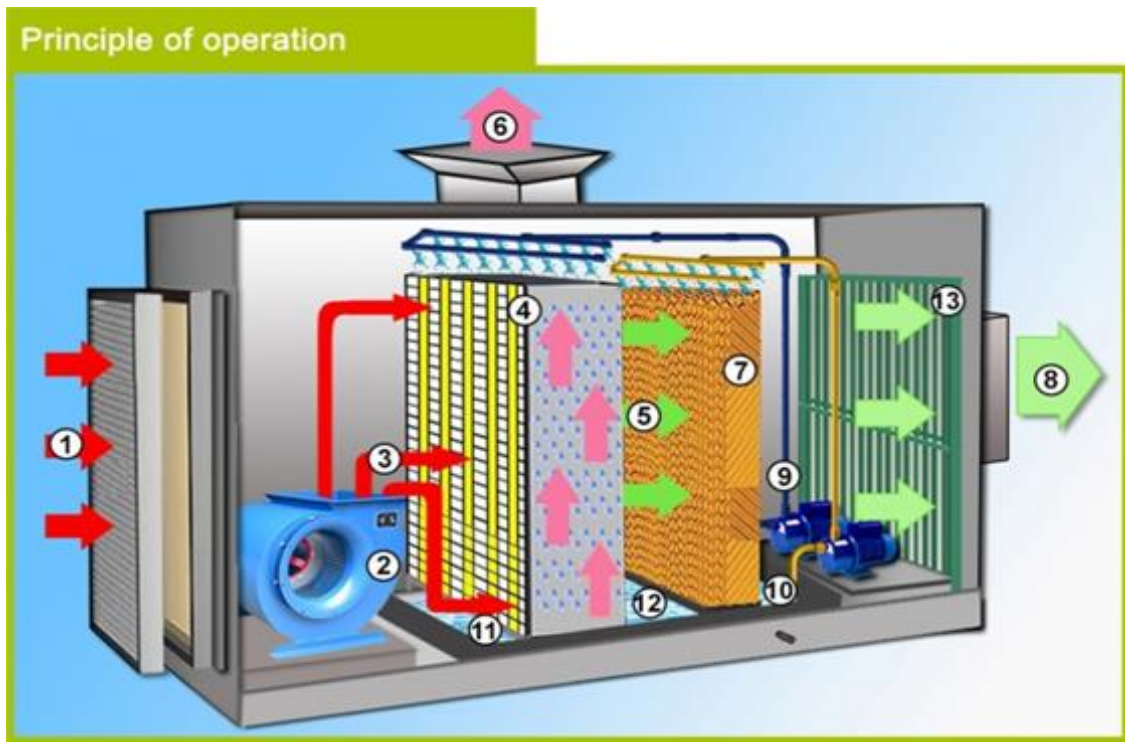


Aqua cool cools air with indirect evaporative cooling with water as a refrigerant as per required moisture level.



The core of Aqua cool-Cooler technology is IDEC (Indirect Evaporative Cooling) a new generation patented sensible heat exchanger.

Aqua cool-Coolers have huge energy saving potential – about 60% over conventional air conditioners, Aqua cool-Coolers filter air for particles in the range of 5 – 20 microns. For hospitals and other mission critical applications, Aqua cool can also offer Coolers with HEPA (high efficiency particulate air) filters to filter particles upto 0.3 microns in diameter with 99.97% efficiency



- 1) Air pre-filter. 2) Air blower. 3) Filtered ambient air. 4) HE1 – sensible heat exchanger for cooling air without adding water.
- 5) Primary supply air is cooled without addition of water. 6) Secondary exhaust air used to cool primary supply air in sensible heat exchanger
- 7) HE2 – adiabatic heat exchanger for cooling air 8) Conditioned air at machine outlet 9) Water supply pump for HE1. 10) Water supply pump for HE2. 11) Water sump. 12) Return of water from HE1 and HE2 to sump. 13) Mist Eliminator.

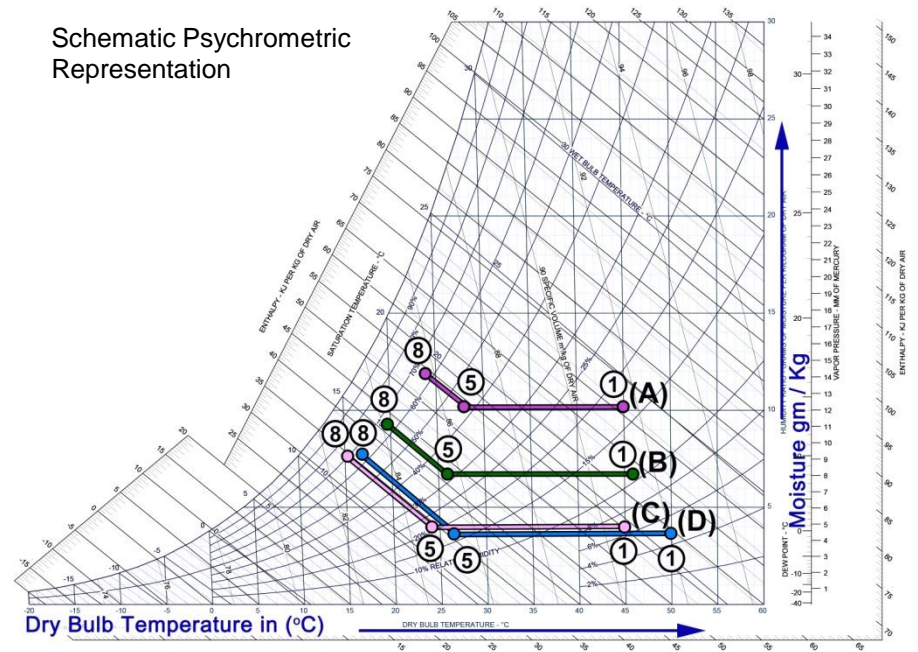
| | AMBIENT (1) | | | HE1 (IDEC) (5) | | | HE2 (CELDECK PAD) (8) | | |
|------------|-------------|--------|-----|----------------|--------|-----|-----------------------|--------|-----|
| | DBT °C | WBT °C | RH% | DBT °C | WBT °C | RH% | DBT °C | WBT °C | RH% |
| (A) DUBAI | 45 | 24 | 18 | 28 | 19.4 | 45 | 24 | 19.4 | 65 |
| (B) AL-AIN | 46 | 22 | 12 | 26 | 15.5 | 35 | 19.7 | 15.5 | 65 |
| (C) RIYADH | 45 | 19.7 | 7 | 24.7 | 12.7 | 22 | 15.1 | 12.7 | 70 |
| (D) KUWAIT | 50 | 21 | 5 | 26.8 | 13.3 | 17 | 17 | 13.3 | 65 |

Aqua cool-Coolers are available in various capacities
 Small upto 10,000 CFM; Medium 10,000 to 30,000 CFM; Large 30,000 CFM onwards

Options
 Aqua cool-Coolers can be offered with an integrated control panel with several options such as , Variable speed drives; PLC/micro controller base control systems ; Remote monitoring; Integration with existing control systems / building management systems / energy management systems

Project and engineering
 We offer turnkey solutions, including engineering, installation and commissioning; Aqua cool-Coolers can be integrated with other air handling systems and air conditioning systems to optimize power consumption.

Schematic Psychrometric Representation



Technical Specifications of Aqua cool-Cooler

| MODEL | | AQ-3K | | AQ-5K | | AQ-10K | | AQ-15K | | | AQ-20K | | |
|--------|--|--|-----|---------------------------|-----|---------------------------|-----|---------------------------|------|------|---------------------------|------|------|
| | | Total static Pr. in mm Wg | | Total static Pr. in mm Wg | | Total static Pr. in mm Wg | | Total static Pr. In mm Wg | | | Total static Pr. In mm Wg | | |
| S. No. | Description | 45 | 55 | 45 | 55 | 45 | 55 | 55 | 65 | 75 | 55 | 65 | 75 |
| 1 | Make and origin | Hi-Equipments Dubai U.A.E. | | | | | | | | | | | |
| 2 | Model type | Aqua cool "B" series (basic)-front throw only | | | | | | | | | | | |
| 3 | Primary side air capacity (CFM/CMH) | 3000/5100 | | 5000/8500 | | 10000/17000 | | 15000/25500 | | | 20000/34000 | | |
| 4 | Secondary side air capacity (CFM/CMH) | 1000/1700 | | 1750/2975 | | 3500/5950 | | 5250/8925 | | | 7000/11900 | | |
| 5 | Construction | Double skin AHU box | | | | | | | | | | | |
| 6 | Type of blower | Backward curve DIDW, dynamically balanced | | | | | | | | | | | |
| 7 | Make of motor | ABB/Siemens/Equivalent | | | | | | | | | | | |
| 8 | Blower motor specifications | IE2/EFF1, TEFC 4P, Class F insulation, Duty-S1 continuous, IP55 protection | | | | | | | | | | | |
| 9 | Type of drive | V-Belt drive | | | | | | | | | | | |
| 10 | Make & material of sensible heat exchanger | Aqua cool Engineering polymer with thermally fused non-woven fabric-cartridges | | | | | | | | | | | |
| 11 | Material of adiabatic heat exchanger/ make | Treated and impregnated special cellulose material with saturation upto 90%. Munters/Eccocool/Ambcool/Equivalent | | | | | | | | | | | |
| 12 | Make / type / size of filters | AAF /Spectrum/Sogefi MNR/Equivalent Panel filter of 90% efficiency down to 20microns, /610x610x50 | | | | | | | | | | | |
| 13 | Make of pump | Mieco / Alfa /Equivalent | | Mieco / Alfa /Equivalent | | Ebara/ Alfa Equivalent | | Ebara/ Alfa Equivalent | | | Ebara/ Afla Equivalent | | |
| 14 | Pump quantity (Nos) | 2 | | 2 | | 2 | | 2 | | | 2 | | |
| 15 | Dimensions W x D x H (mm) | 900x2400x (1400+300) | | 1300x2800x (1550+500) | | 2000x3500x (1850+500) | | 2300x4150x (2250+500) | | | 2300x4400x (2600+500) | | |
| 16 | Weight, static load/ operating load (kg) | 500/650 | | 800/1000 | | 1500/1875 | | 1925/2450 | | | 2620/3275 | | |
| 17 | Whether single/ three phase | Single/Three | | Three | | Three | | Three | | | Three | | |
| 18 | Limit switch/ mechanical door guard | Provided in the machine | | | | | | | | | | | |
| 19 | UV treatment unit | 8W, 250 lph capacity | | | | | | | | | | | |
| 20 | GA drawing with plumbing details | Will be provided on finalization or order. (Note: The dimensions of the machine are subject to minor change) | | | | | | | | | | | |
| 21 | Total power consumed in (kW) | 1.5 | 1.9 | 2.4 | 2.8 | 5.4 | 6.1 | 7.8 | 9.3 | 10 | 10.5 | 11.8 | 13.3 |
| 22 | Total connected load in (kW) | 2.0 | 2.0 | 3.8 | 3.8 | 6.5 | 6.5 | 11.5 | 11.5 | 11.5 | 11.5 | 15.5 | 15.5 |
| 23 | Average water consumption (l/h) | 25 | | 40 | | 80 | | 120 | | | 160 | | |

Higher capacity available on request (Design specifications and technical characteristics are subject to change without prior notice.)

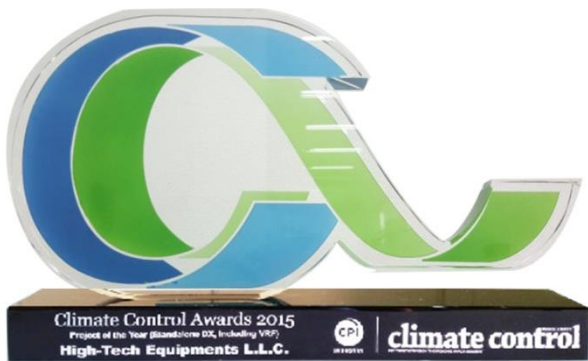
Outlet temperature chart for Aqua cool-Cooler

| Ambient DBT (°C) | Relative Humidity (%) | | | | | | | | | | |
|------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|
| | 10% | 15% | 20% | 25% | 30% | 35% | 40% | 45% | 50% | 55% | 60% |
| 32 | 9.3 | 11.3 | 13.2 | 15.2 | 16.8 | 18.3 | 19.9 | 21.2 | 22.4 | 23.8 | 24.8 |
| 34 | 10.3 | 12.4 | 14.5 | 16.3 | 18.3 | 19.9 | 21.5 | 22.9 | 24.1 | 25.5 | 26.6 |
| 36 | 11.3 | 13.6 | 15.6 | 17.7 | 19.8 | 21.4 | 23.1 | 24.3 | 25.8 | 27.2 | 28.4 |
| 38 | 12.3 | 14.7 | 17.0 | 19.1 | 21.0 | 22.0 | 24.5 | 26.2 | 27.6 | 28.8 | 30.2 |
| 40 | 13.3 | 15.9 | 18.3 | 20.5 | 22.5 | 24.5 | 26.2 | 27.9 | 29.3 | 30.6 | 32.0 |
| 42 | 14.8 | 17.1 | 19.6 | 21.9 | 24.0 | 25.9 | 27.9 | 29.4 | 31.0 | 32.2 | 33.7 |
| 44 | 15.4 | 18.4 | 21.0 | 23.3 | 25.5 | 27.5 | 29.4 | 31.1 | 32.7 | 33.9 | 35.5 |
| 46 | 16.0 | 19.3 | 22.1 | 24.6 | 25.1 | 25.5 | 31.1 | 32.6 | 34.3 | 35.9 | 37.7 |
| 48 | 17.1 | 20.5 | 23.5 | 24.0 | 28.4 | 30.5 | 36.5 | 34.3 | 36.1 | 37.7 | 39.2 |

The reduction in temperature possible with Aqua cool-Coolers depends on coincidental Dry Bulb Temperature (DBT) and Relative Humidity (RH). The chart here indicates the temperature at Aqua cool-Cooler outlet against various combinations of DBT & RH.

Aqua cool, a business unit of Hi-Tech Equipments, designs and manufactures unique, energy-efficient, and eco-friendly products for space and process cooling for the industrial and commercial sectors, using its highly successful IDEC technology. The product range includes the Aqua cool-Cooler, and the fresh air pre-cooling units.

Applications



Recipient of Climate Control
Award 2015 for
Project of the Year
(Standalone DX, including VRF System)



Recipient of Green Middle East
Award 2012 for
Alternative Energy Project

www.hitechet.com



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