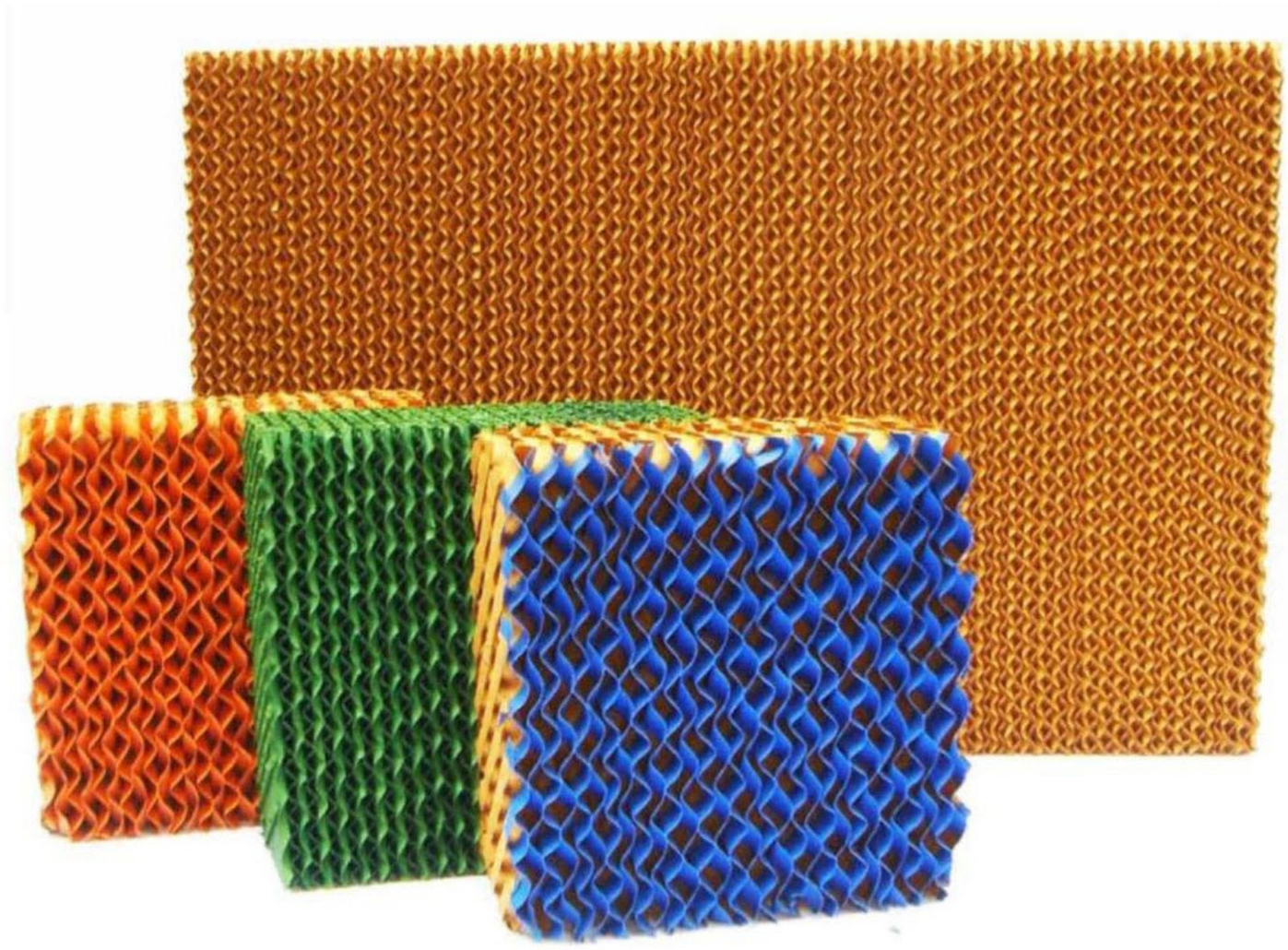
EVAPORATIVE COOLING SYSTEM

CoolTec

The More Efficient Cooling Pad



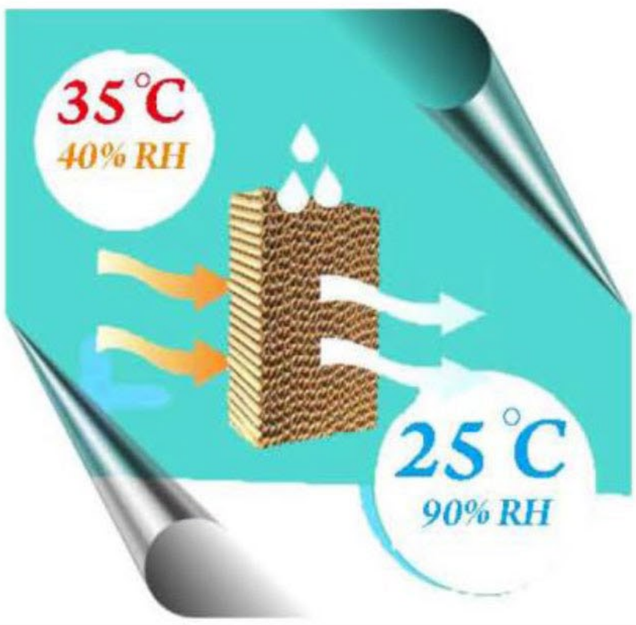
CoolTec Application

- Livestocks
- Greenhouses
- Gas Turbine
- Pre-cooler for Air-cooled condenser
- Spray Painting Booth
- Industrial Applications
- Commercial Applications
- Humidification

CoolTec Economical solutions for optimal cooling / humidification

CoolTec Evaporative Cooling Principal

When air contacts with water, water absorbs thermal energy from the air to evaporative. CoolTec amplifies and turns such a simple natural phenomenon into the most economical solution for providing optimal temperature and humidity. Made by specially-impregnated cellulose matrix, CoolTec rapidly absorbs water and provides massive contact surface between air and water. When hot and dry air pases through wet CoolTec, evaporation process takes place and the air is cooled down and humid.



The effectiveness of temperature reduction (△T) depends on how effective the evaporation process is, as shown by the following formula

$$\triangle T = \%E^* (T_{db} - T_{wb})$$

Wet Bulb Temperature

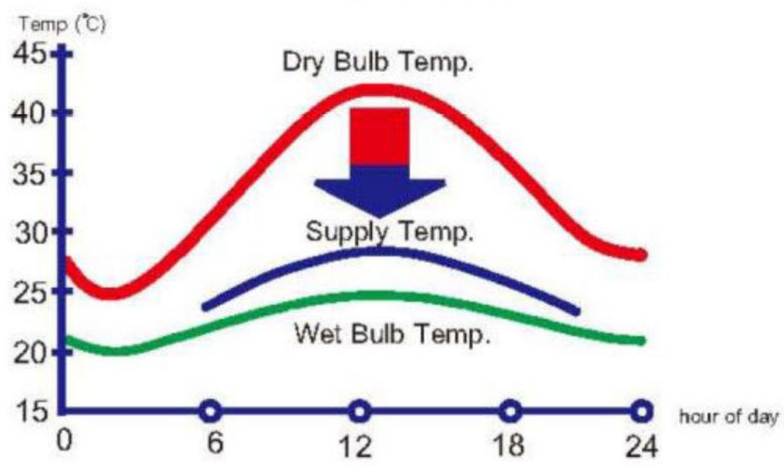
Dry Bulb Temperature

Saturation efficiency of

Temperature reduction at various relative humidity

Tdb (°C)	Twb (°C)	%RH	%E*	△T(°C)
35	22	30%	88%	12
35	24	40%	88%	10
35	26	50%	88%	8
35	28	60%	88%	6

*Based on 1.5 m/s air velocity, CoolTec 7090, 150 mm thickness.



Temperature reduction during the day by CoolTec system

CoolTec The more efficient cooling pad

Maximum Efficiency: CoolTec is designed to provide maximum ocntact surface between air and water. Such massive surface enables an optimum cooling and humidification effect from evaporation.

Maximum Freshnesss: CoolTec acts as a natural filters that purifies inlet air. Carefully designed flute angle directs water towards both the air inlet and outlet sidel the water then intrinsically flushes away dust, algae, and mineral build up on the evaporation surfaces.

Maximum Durability: CoolTec is made of special cellulose paper impregnated with insoluble chemical compounds to preserve its long working life in your system.

Maximum Toughness: CoolTec with proper water bled-off and regular brushing, can be used in imperfect water and air conditions.

Customization: CoolTec can be customized to any sizing, shape, and color of your choices.

Solutions to any applications: CoolTec has several configurations that can ensure the most suitable solutions to your various applications.

Ordering Key

Standard Height: up to 2000 mm.

(30 mm or 50 mm for water distribution pad)

Standard Width : 200 mm, 300 mm, 600 mm

Standard Depth : 50 mm, 75 mm, 100 mm, 150 mm, 200 mm, 300mm

*custom size available upon request.

Example:

CoolTec

Water distribution pad height

Green+ 7090-45/45 size (1800 + 30) x 600 x 150 mm

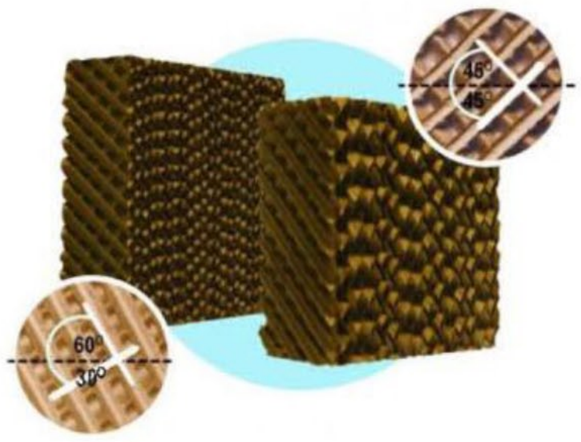
Height

Depth

Configuration

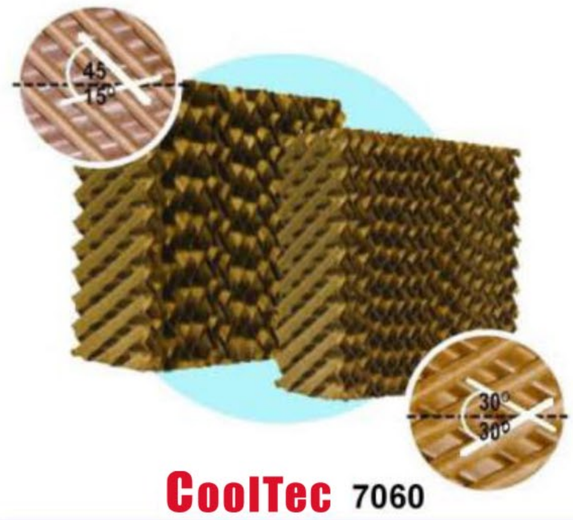
Width

Optional surface coating



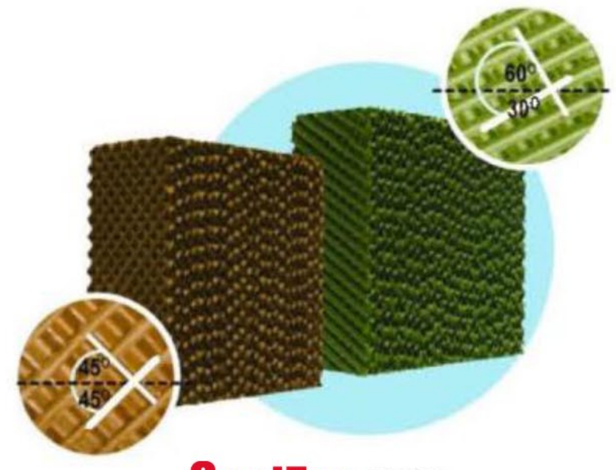
CoolTec 7090

For Maximum Efficiency



CoolTec 7060

For Minimum Static Pressure



CoolTec 5090

For Portable evaporative cooler

Specifications

Flute height: max 7 mm
7090-45/45 Cross angle: a=45", b=45"
7090-60/30 Cross angle: a=60", b=30"

Evaporation surface (per m^3) : 460 sqm.
Nominal efficiency*: 88%
Nominal Pressure drop*: 25 Pa

Specifications

Flute height: max 7 mm
7060-45/15 Cross angle: a=45", b=15"
7060-30/30 Cross angle: a=30", b=30"

Evaporation surface (per m^3) : 460 sqm.
Nominal efficiency*: 76%
Nominal Pressure drop*: 11 Pa

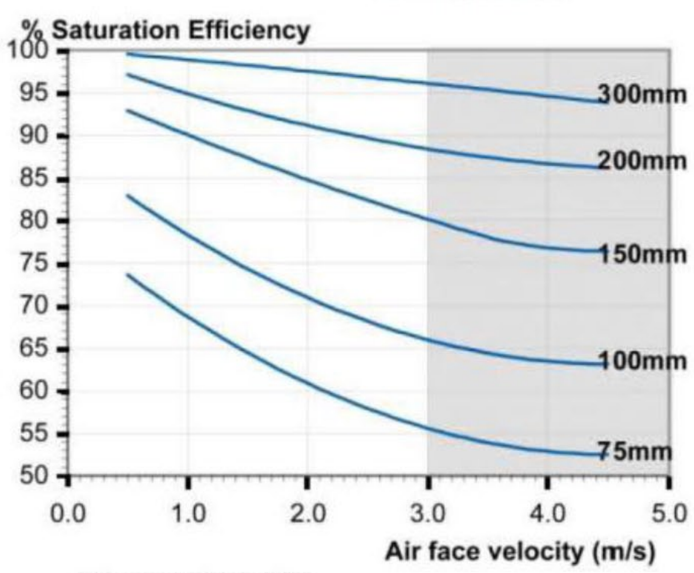
Specifications

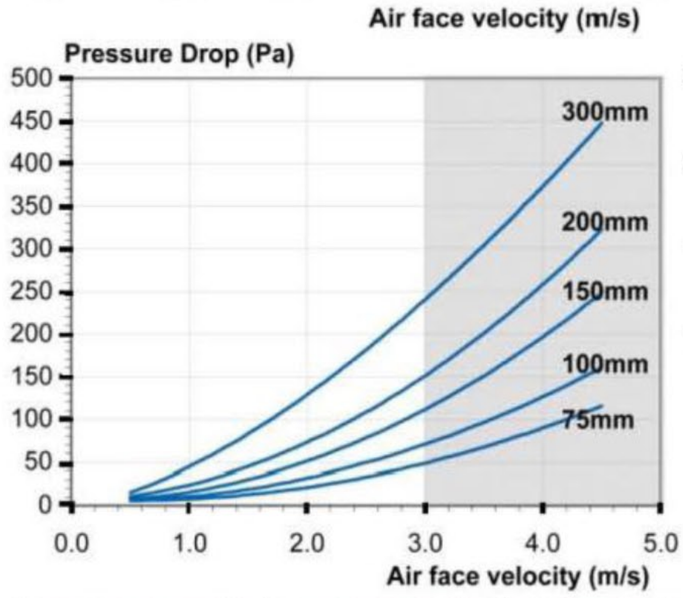
Flute height: max 5 mm
5090-45/45 Cross angle: a=45", b=45"
5090-60/30 Cross angle: a=60", b=30"

Evaporation surface (per m^3) : 690 sqm.
Nominal efficiency*: 97%
Nominal Pressure drop*: 44 Pa

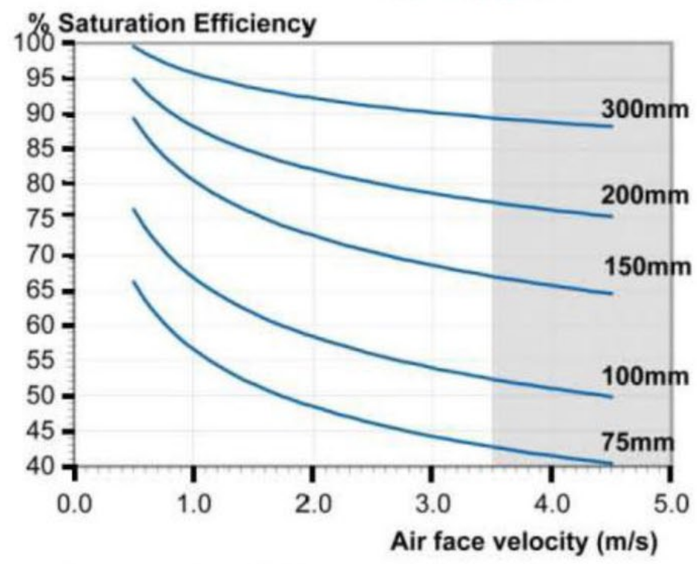
*Nominal efficiency / pressure drop calculated at 1.5 m/s air velocity, 150 mm pad thickness.

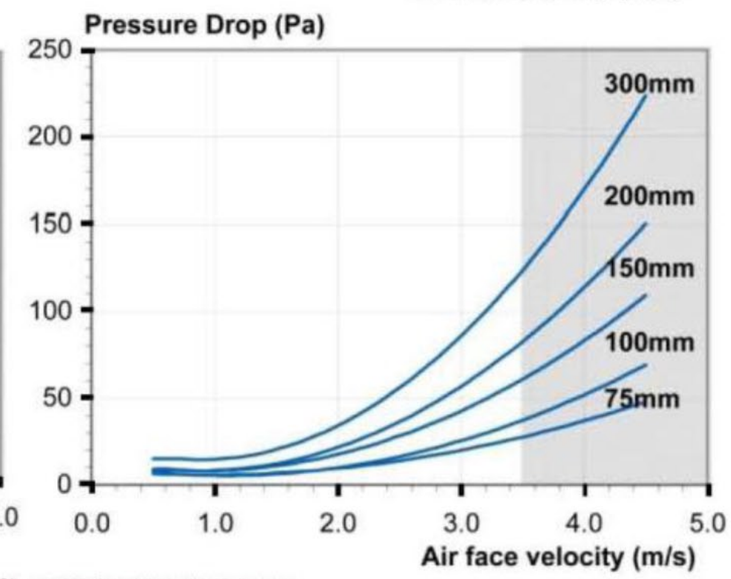
Performance Curve CoolTec 7090



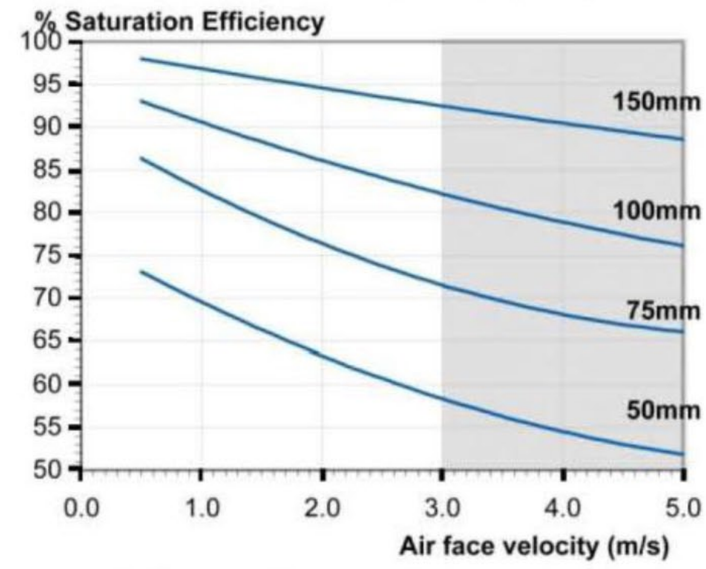


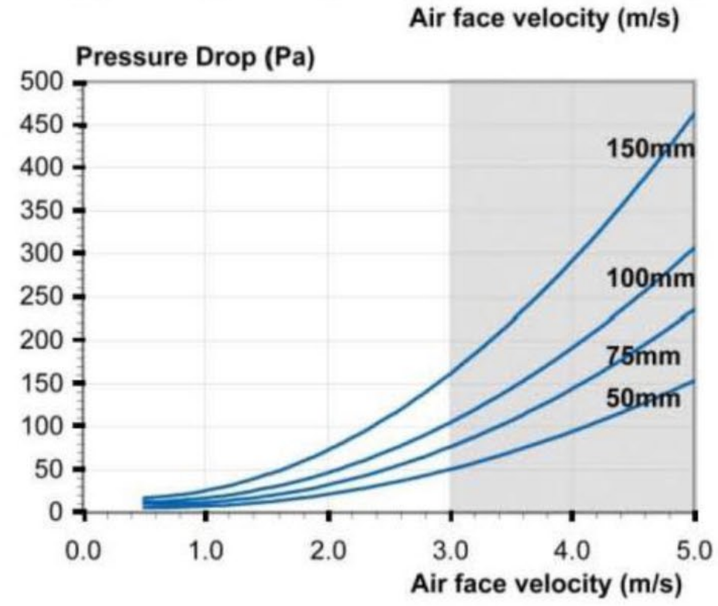
Performance Curve CoolTec 7060





Performance Curve CoolTec 5090





*Droplet separator is recommended for air velocity within shaded area

CoolTec Green+

Optional protective coating to prevent CoolTec surface from constantly exposing to tough environment.

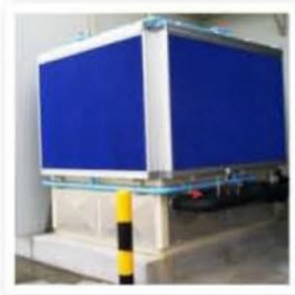
Prevent bacteria/algae/mineral deposits to anchor on CoolTec surface.

Special Anti-Friction modifier for easy cleaning

Harden CoolTec surface so that it can be repeatedly cleaned without damage.

Can be applied to any CoolTec configuration.

Color can be customized upon request.



E@cool Industries an ISO9001:2008

certified joint venture between Hong Kong & Swedish. We provide somplete solution for climate; ranging from dehumidification and humidification to evaporative cooling and energy recovery. We also provide consultation on how climate control can help to reduce costs, enhance productivity, and improve product quality. We provide solution to customers in more than 50 countries world-wide and hope that we can do the same for your business.

Please contact us for more details.

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