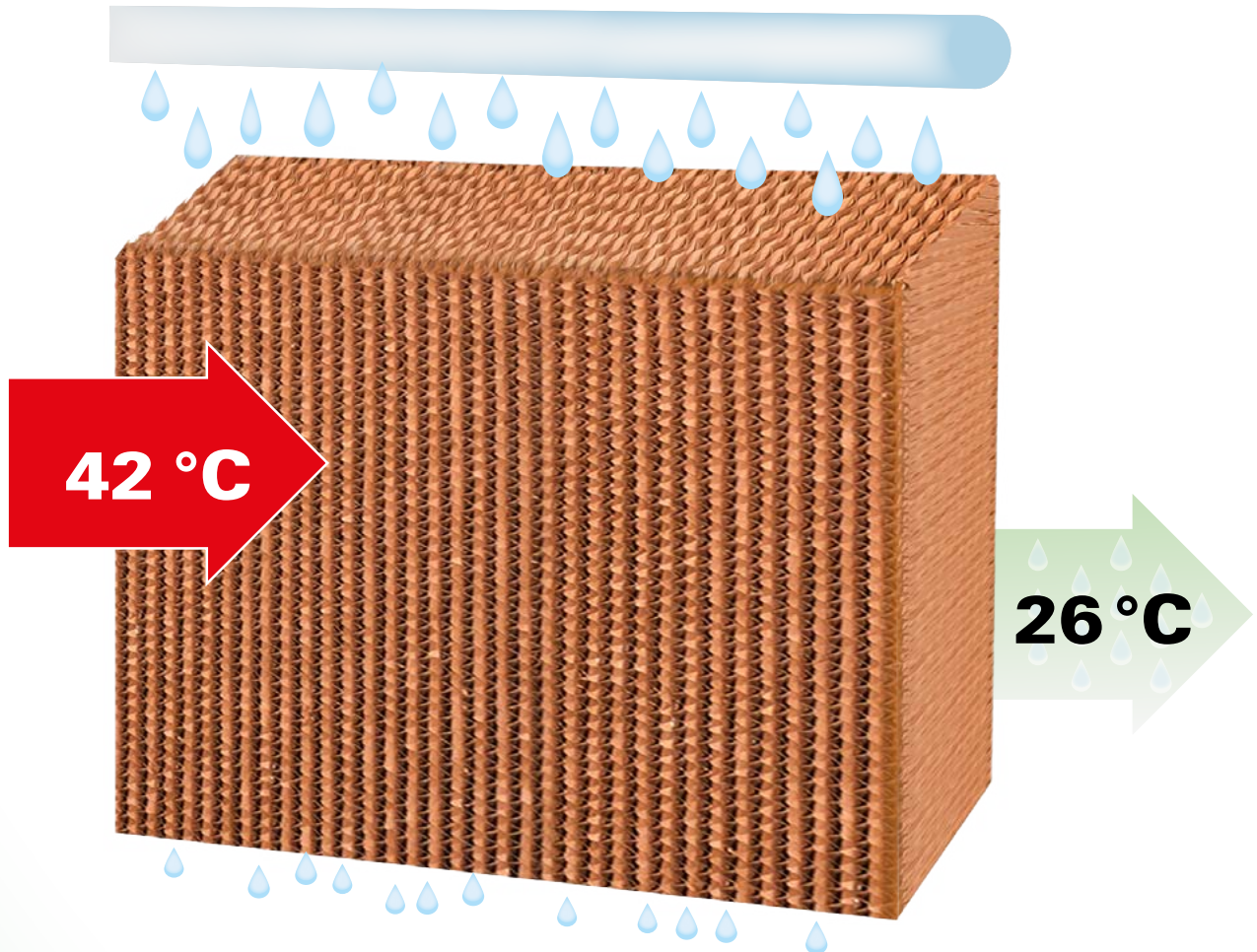




EVAPCOOL

cooling pads



EvapCool offers an economical and robust solution for large scale agricultural and industrial ventilation and cooling processes, with minimal energy costs utilizing the adiabatic process (transfers heat energy to latent energy needed to evaporate water). It is sometimes referred to as adiabatic cooling.

A water pump supplies water into a header pipe above the EvapCool pads so that the water can be distributed uniformly. The water is then absorbed by cellulose media (EvapCool pads). Air passing through the EvapCool pads is cooled as it transfers heat (energy) to evaporate some water from a liquid to a vapour. The EvapCool pads also have a filtration effect, removing some pollen and dust particles from the air as it passes through.

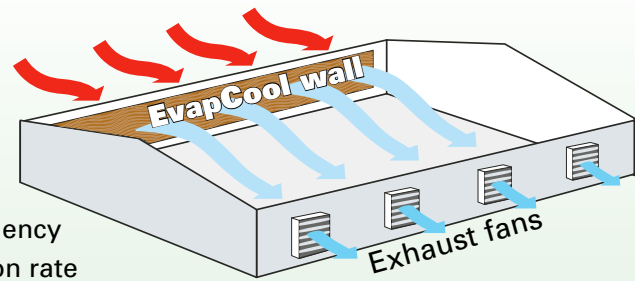
CFW has over 50 years' experience in climate control and evaporative cooling systems.

Benefits

- Economical and energy-wise
- Supply air is fresh and natural, not recirculated
- The conditioned space is kept under a slightly positive pressure which prevents ingress of dust from outside
- Doors and windows can (and must) be left open to allow stale air to ventilate to the outside.

Features

- Low pressure drop
- High saturation efficiency
- High water absorption rate
- High-quality cellulose material
- Cleanse using Cooling Pad cleanser
- Tested structure of resin and paper: tensile strength, compressive strength, cooling efficiency, anti-rot, and dimensional accuracy
- All ancillary products available: fans, gutter systems, sumpless systems, pumps, piping, etc.



Industries



Post harvest cooling



Broiler farm cooling



Livestock cooling

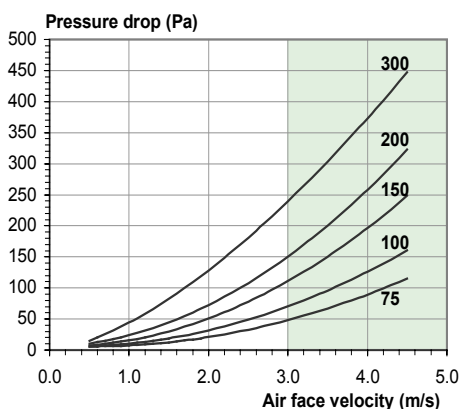
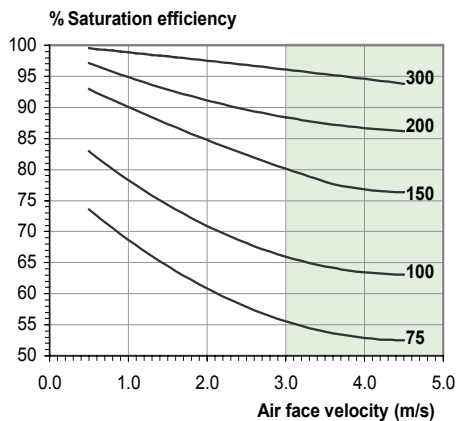


Industrial cooling

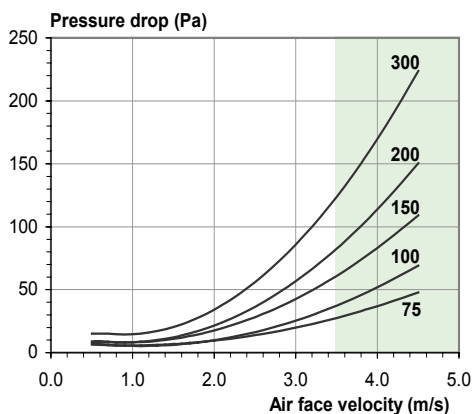
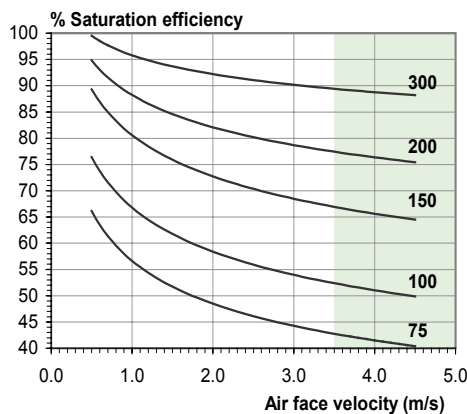


Agricultural cooling

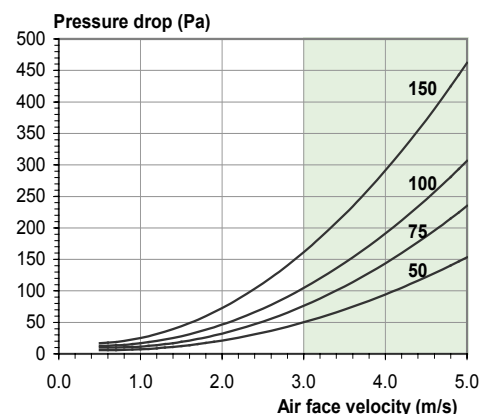
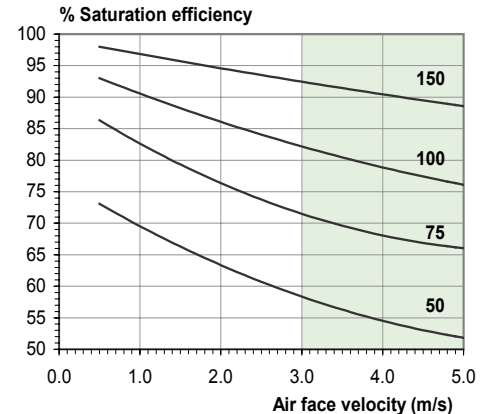
Evapcool 0790



Evapcool 0760



Evapcool 0590



Note: Shaded area – with air face velocity within shaded area, a droplet filter should be installed

Livestock & greenhouses

Table below shows recommended designed parameters for evaporative cooling systems for various types of animals/plants. Please consult our technical staffs for more details.

Livestocks	Stocking density (kg/m ²)	Air flow rate (A) (m ³ /h/kg)	Air change (Air change/hr)	Velocity (V) (m/s)
Broiler <= 2 kg	<=30	6.8–7.5	90 +/- 10%	2.0–2.5
Broiler 2–2.5 kg	26–30	7.0–8.5	90 +/- 10%	2.5–3.0
Broiler > 2.5 kg	22–26	8.0–10.0	90 +/- 10%	2.5–3.5
Duck	24–28	7.5–8.5	90 +/- 10%	2.0–3.5
Layer	<=25 birds/m ²	7.0–8.5	90 +/- 10%	3.0–4.0
Layer breeder	22–24	8.0–10.0	90 +/- 10%	2.0–3.0
Broiler breeder	20–22	8.5–10.5	100 +/- 10%	2.5–3.5
Swine	50–150	7.0–10.5	100 +/- 10%	2.0–3.0
Swine breeder/dairy cow	25–75	8.5–10.5	100 +/- 10%	2.0–3.0
Greenhouse	N/A	250 m ³ /h/m ²	N/A	1.0–1.5

Technical data

Specifications	Type	0790	0760	0590
Typical design face velocity (m/s)		1.5	2	1.5
Maximum face velocity (m/s)		3.0	3.5	3.0
Flute height (mm)		7	7	5
Flute angle (°)		45 / 45	45 / 15	45 / 45
Total angle (°)		90	60	90
Evaporation surface (m ² /m ³)		460	460	690
Nominal efficiency/pressure drop (%/Pa/thickness mm) ¹		88 / 25 / 150	76 / 11 / 150	88 / 25 / 100
Required water flow rate (litres/min/m ²) ²		60	60	90
Bleed-off ratio ³		1 to 1.5	1 to 1.5	1 to 1.5
Applicable widths (mm) ⁴		600	600	600
Applicable heights (mm) ⁴		1200, 1500, 1800	1200, 1500, 1800	1200, 1500, 1800
Applicable thicknesses (mm) ⁴		100, 150	100, 150	100, 150
Dry pad weight (kg/m ³)		25	25	25
Wet pad weight (kg/m ³)		52.5	52.5	52.5
Ordering key example		0790 (1800 + 30) × 600 × 150	0760 (1800 + 30) × 600 × 150	0590 (1800 + 30) × 600 × 150
Available in		Regular, black	Regular, black	Regular, black

¹ Based on 1.5 m/s face velocity.

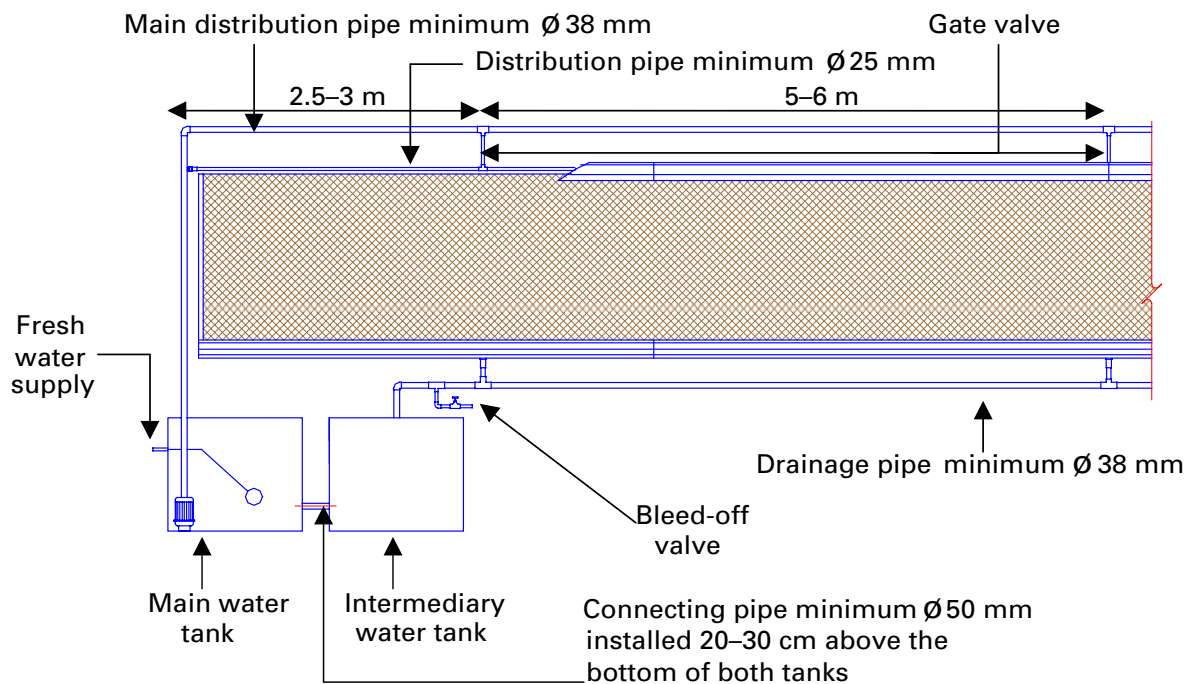
² Per m² of **top surface area**.

³ General rule-of-thumb ratio to reduce mineral and solids build-up. Bleed-off ratio (bleed-off : water evaporation).

⁴ Custom sizes available on request. Heights refer to the useful height through which air can pass and excludes the 30 mm water distribution pad above the main pad.



Typical wet wall layout



Information provided in this brochure was correct at the time of printing. However, due to continuous efforts to improve our products, CFW reserves the right to make changes without notice. Please check with your sales representative for the latest information before designing your system.

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