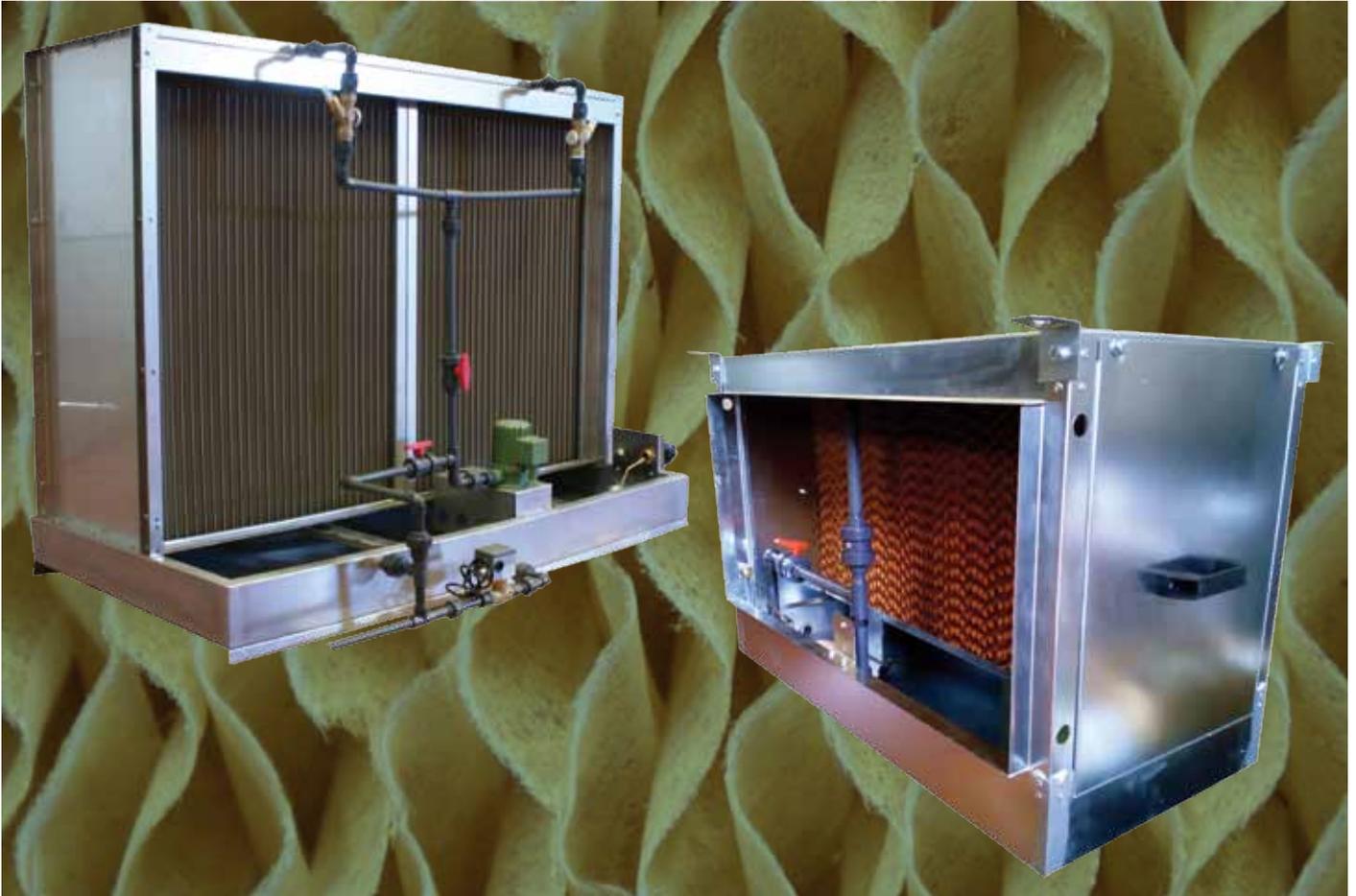


EVAPORATIVE MEDIA HUMIDIFIERS



HEK SERIES

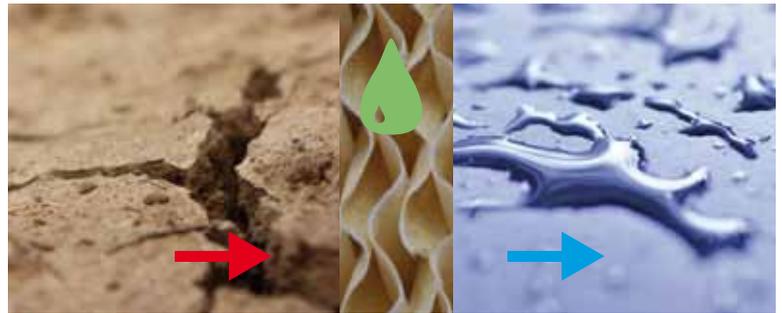
- ◆ Optimum performance, minimum energy cost
- ◆ Tailor-made construction, according to customer requirements
- ◆ Easy installation and simple maintenance



Operating Principle

The evaporative humidification process with KLICON adiabatic units is based in the natural effect of water evaporation when an air flowing through the wetted media is cooled and humidified. Water in liquid phase inside the media pad is evaporated and transformed into gas phase water, then the dry air to be treated is humidified and cooled.

In this process the liquid water sensible heat is transferred and no extra energy is required. It is an ancient method for air cooling which offers an economic system for air humidification.



Evaporative Media Pad

KLICON evaporative humidifiers are available in two versions of evaporative media pads, according to installation requirements:



- **CelPad:** organic corrugated media, cellulosic pad impregnated with chemical and water adsorbent additives which give it stability and durability.

- **GlasPad:** inorganic corrugated media, fiber glass pad with biocide chemical and water adsorbent additives. Incombustible material.

Both media pads are normally delivered as standard inside humidifiers assembled into metal frames for easy handling and maintenance.

Main Applications

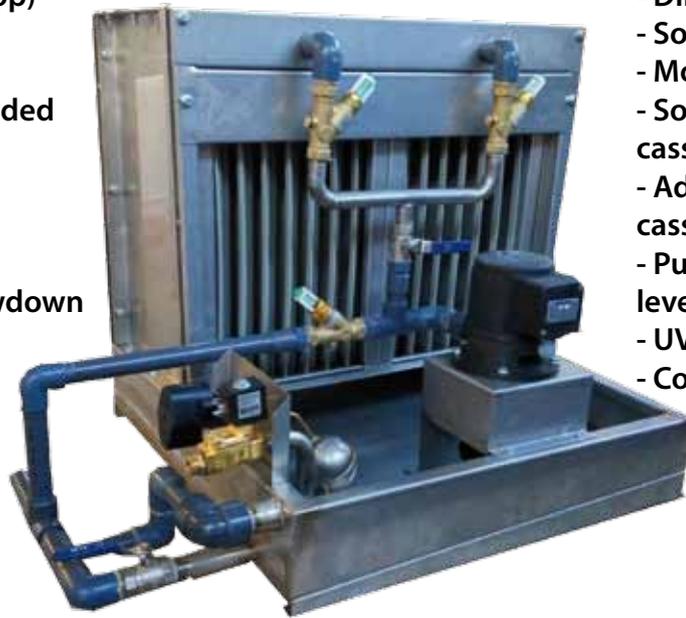
- Air conditioning systems in residential buildings, office, business centers, etc.
- Air handlings units for textile, wood, paper industries, etc.
- Air handling units in painting booths.
- Pre-coolers in air condensers or gas turbines.



Specifications and Parts

Standard components

- Humidifier frames (side and top)
- Water tank
- Evaporative media
- Droplet separator (recommended for air velocity > 3,5 m/s)
- Float valve
- Water pump
- PVC internal water piping
- Overflow and adjustable blowdown (Bleed-off)



Optional components

- Direct water configuration
- Solenoid inlet valve
- Motorized drain valve
- Solenoid valves on water supply cassettes for staged controls
- Adjustable flow controller for cassettes water supply
- Pump protection through level detector switch
- UV lamp
- Control panel

Dimensions

Height, mm	600-3000
Width, mm	600-3000
Thickness, mm	550-700
Water height, mm	100-150

Water connections

Water supply	3/4" // 1/2"
Drain	1"
Bleed-off	1"

Power supply

Pump voltage	230-400V/3Ph / 50 Hz
Solenoid valves for filling/irrigation/stages (if applicable)	230 V / 24 Vac
Motorized drain valve (if applicable)	230 V / 24 Vac

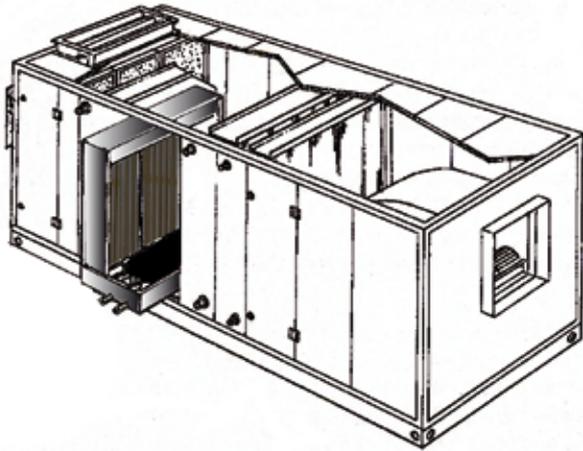
Model Codes

HEK-<i>WWWW</i>-<i>HHHH</i>-<i>TTT</i>-<i>M</i>-<i>C</i>-<i>D</i>-<i>P</i>-<i>S</i>	
<i>WWWW</i>	Width
<i>HHHH</i>	Height
<i>TTT</i>	Evaporative cassettes thickness 100/150/200
<i>M</i>	Media pad type GP/560/GP790/GP760/CP790/CP760
<i>C</i>	Construction I/G (stainless st./galvanized st.)
<i>D</i>	Droplet separator 0/1/2/3 (none/GlasPad/CelPad/PP)
<i>P</i>	Pump R/D (recirculated water/direct water)
<i>S</i>	Water connection side R/L (right/left)

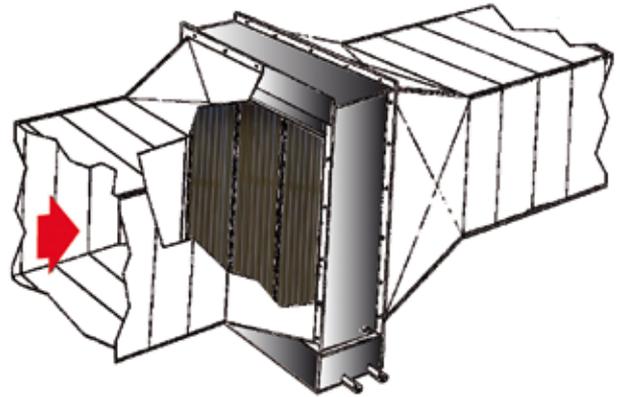


Assembly Examples

◆ AIR HANDLING INSTALLATION



◆ AIR DUCT INSTALLATION



Media pad Efficiency and Pressure drop

Fiber glass GlasPad560 media pad type efficiency and pressure drop

Face velocity, m/s	2.0			2.5			3.0			3.5			4.0		
Pad thickness, mm	100	150	200	100	150	200	100	150	200	100	150	200	100	150	200
Saturation efficiency, %	77	86	91	74	84	89	71	82	88	69	80	87	67	77	86
Pressure drop, Pa	19	28	46	29	42	73	42	59	108	57	78	152	75	100	205

Celulosic CelPad790 media pad type efficiency and pressure drop

Face velocity, m/s	2.0		2.5		3.0		3.5		4.0	
Pad thickness, mm	100	200	100	200	100	200	100	200	100	200
Saturation efficiency, %	71	91	68	89	65	88	63	87	61	86
Pressure drop, Pa	32	74	48	115	69	165	95	226	125	296

Available media pads: GlasPad560, GlasPad790, GlasPad760, CelPad790, CelPad760. Please check the performance charts for different media pads type and air face velocity.

HEKCALC Selection Tool

For the selection of the product, KLICON has a calculation software available to its customers.



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