LENNOX
EMEA

V-SHAPED COIL DRY COOLER

FOR AIR CONDITIONING OR PROCESS COOLING

Industrial process cooling
Use in free cooling on chiller installations

W GLYCOL

50 > **2200** kW

V-KING

V-KING "City" (VC)
Compactness and **high capacity**

V-KING "Industry" (VI)
Low pressure drop and **high performance**

- **High** and **sustainable performance**
- **5500 models** possible depending on the project
- **Smaller footprint**
- **Optimisation of noise levels** depending on the fans selected
- Possibility of **combined HV/LV circuits**

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V-KING - V-shaped coil dry cooler

FRIGA-BOHN HK REFRIGERATION

DESCRIPTION

Advantages

- Sustainable performance plus easy and efficient maintenance thanks to non-louvered fins to limit fouling.
- Large range of products and configurations (5500 models):
  - 2 different fin geometries,
  - 2 designs: inline or parallel.
  - 2 module sizes: 1200 mm or 1500 mm,
  - Numerous ventilations,
  - Units up to 12 m long,
- High performance with a small footprint.
- Reduction of noise level (EC motors, attenuator, etc.).
- Reduction of electricity consumption (low-speed motors or EC motors).
- Possibility of combined HT/LT circuits:
  - one product for 2 applications (one low-temperature circuit and one high-temperature),
  - single coil block to prevent any intermediate fouling.

Coil

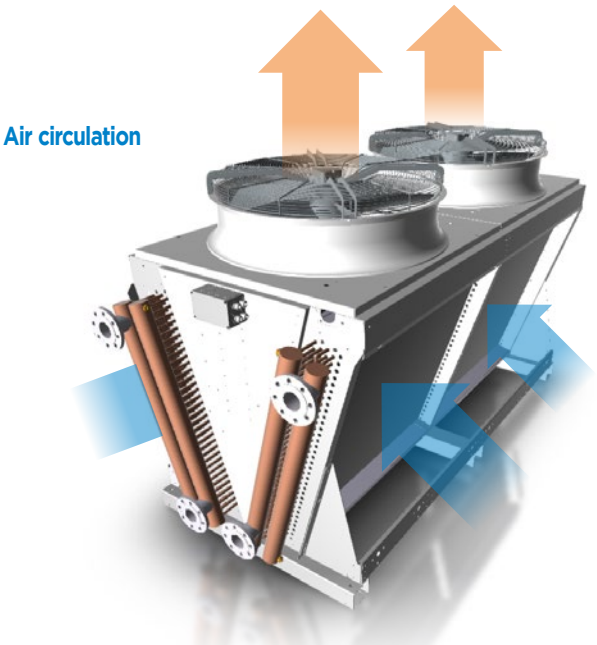
- Consisting of staggered copper tubes and embossed aluminium fins for optimal heat exchange.
- High and sustainable performance:
  - Non-louvered fins.
  - Stacked HT/LT circuits (can be selecting when ordering).
- Fin spacing 1.9 mm or 2.12 mm depending on application and conditions.

Casing

- Metal structure, epoxy painted (RAL 9003) for maximum corrosion resistance.

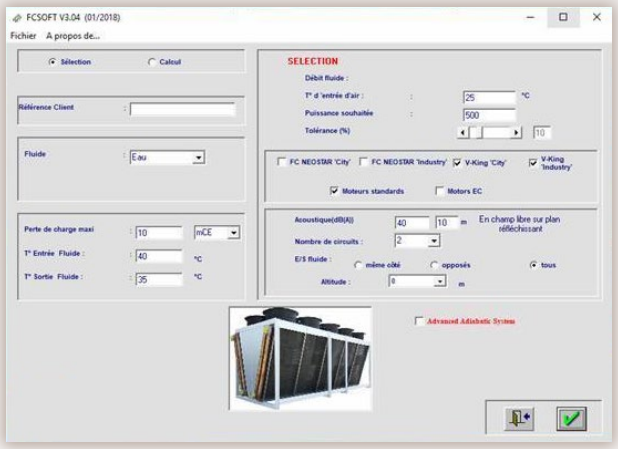
Maintenance

- Non-louvered fins for easy maintenance (limited fouling).



Selecting a V-KING

We provide you with a complete tool for maximum cost optimisation according to your needs. Enter your selection criteria and the optimum product will be offered.



Software advantages:

- Free software, updated regularly
- Several languages to chose from
- Ability to compare various data (footprint, noise level, electricity consumption, price).

Only the selection software provided for you at www.lennoxemea.com will allow you to select the best model for your requirements.

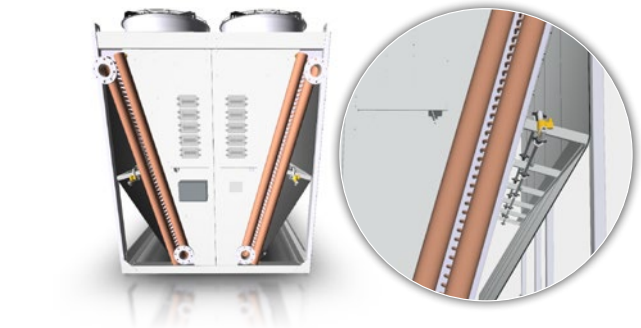
If need be, please do not hesitate to contact us, specifying: capacity, maximum day/night noise level, type of fluid, ambient temperature, fluid inlet temperature, fluid outlet (or flow) temperature, permissible pressure drop and other external constraints.

inline parallel

V-KING - VC/VI		POWER					SILENCE					
		PN	PU	PM	HPU	PU EC	SN	HSN	SU	SE	SE EC	SU EC
Max. air temperature		< 70°C < 75°C < 80°C	< 60°C	< 40°C < 60°C	< 80°C	60°C	< 80°C	< 80°C	< 80°C	< 80°C	< 60°C	< 60°C
Diameter		Ø 800	Ø 910	Ø 910	Ø 910	Ø 910	Ø 800	Ø 910	Ø 800	Ø 800	Ø 800	Ø 800
Poles		06P	06P	04P	06P	EC	08P	08P	12 - 16P	12P	EC	EC
400V/3/50Hz		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Delta (**D**)	**rpm**	880	885	1230	890	250 - 1195	680	650	-	430	250 - 1020	250 - 735
	dB(A)	82	89	95	85	91	73	75	-	68	88	78
Star (**Y**)	**rpm**	670	685	900	730	-	540	480	255 - 330	-	-	-
	dB(A)	75	81	87	80	-	69	68	48 - 61	-	-	-

PRESENTATION OF OPTIONS

AAS - Advanced Adiabatic System

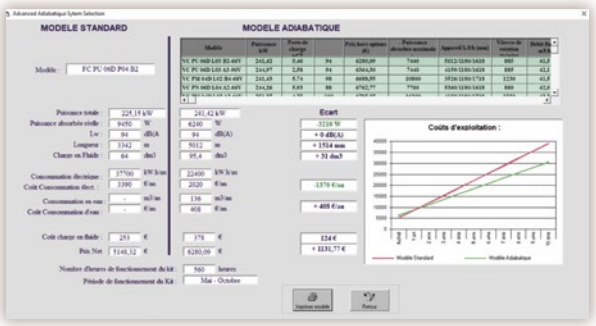


The **AAS** is an adiabatic system through indirect spraying of fine droplets of water onto a polypropylene curtain.
Compared to a traditional adiabatic system, this system:

- avoids degradation of the coil,
- reduces water consumption by 70% to 90%,
- reduces maintenance costs.

Using this system provides a power gain, which allows you to select a product with smaller footprint.
Possibility of providing installation and commissioning.

Our "Advanced Adiabatic System" selection tool



The selection tool contains a database of meteorological records enabling hourly estimation of dry cooler operation 365 days a year in over 60 different geographical zones.
Thus, the selection tool allows precise calculation of the operating costs and benefits of adiabatic cooling for your installation.
Please consult us for a detailed study!

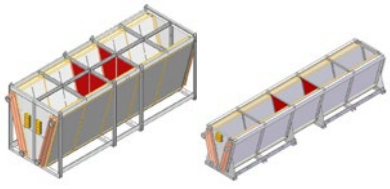
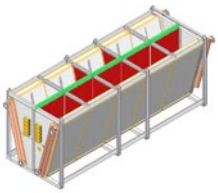
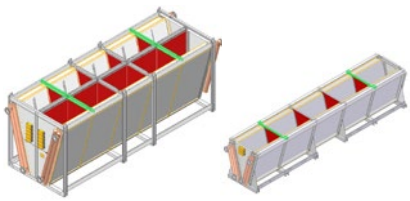
ATT - Noise level attenuator

(a)   (b)

A gain of 4 dB(A)!
Available as an accessory (a) or integrated in the motor (b).
Option available on all fans no matter what diameter.

CLV/CUV - Separation of fans

Option to avoid air intake when a fan stops, in case of RT1 control or multi-circuits.

Standard	CLV	CUV
		
Partitioning every 2 modules	**Longitudinal partitioning** (option only on parallel models)	**Unit partitioning** (one partition separating all the modules)

OPTIONS

Casing

PAV	Anti-vibration pads.
RAL	Paint: RAL other than RAL 9003 for the structure.

Coil

BAE	Polyester fin protection.
BXT	Blygold Polual XT coil protection.
MCI	Multi-circuit (to be defined according to the project).
VID	Special circuiting with gravity drain
BCB	Flange against flange.
VEX	Surge tank.

Ventilation

M60	400V/3/60Hz motor fan.
MTH	Thermal protection wiring.
IRP	Rotary proximity switch per motor.
C2V	2-speed factory wiring in an electrical box.
ATT	Noise level attenuator.
AAS	Advanced Adiabatic System: adiabatic system through spraying.
CLV	Longitudinal partitioning (on parallel models only).
CUV	Unit partitioning: one partition separating all the modules.

Control and protection box

AC motor

SCU	Without factory wiring.
APC	Wiring of power on terminal.
CMP	Motor protection cabinet.
RT1	CMP + control by cascade stopping of fans.
RT2	CMP + speed control by voltage variation.
RT3	CMP + speed control by frequency variation.

EC motor

SCM	Without motor wiring.
CSB	Wiring of power on terminals (default option if customer makes no selection).
CCE	Wiring of power in box and protection for each stage included.
SE1	Direct control of motors by duplicating the signal to each fan.
SE3	Direct control of master motor and duplication of signal to motors.
CE1	Preprogrammed electronic controller.
CE2	Preprogrammed electronic controller.
CE3	Preprogrammed electronic controller.
VMA	Maximum speed setting.
MJN	Ability to define a maximum speed for night-time.
ADR	Addressing motor only.

TECHNICAL DETAILS OF THE OPTIONS FOR THE AC MOTORS

AC MOTOR possible options			
WIRING AND BOX	**Power**	**SCU**	**Without motor wiring** (note: no possibility for control with this option).
		APC	**Wiring of power on terminal** (no integrated protection option with this option).
	Protection	**CMP**	**IP54 motor protection box**, including one breaker per motor, fault overview and general switch. Possibility of a floor mounting support kit: MSK Floor stand for upper cabinets, H = 800 x L = 1000
CONTROL	**Basic** Cascade ON/OFF	**RT1** (CMP included)	**Thermostatic cascade control** in an IP54 box allowing different control stages to be managed: **From 1 to 4 control stages** > ability to manage 2 circuits. **From 4 to 10 control stages** • Possible to set day/night operation. • Integrated clock. 1 or 2 temperature sensors depending on the number of circuits present and distinct.
	Advanced control by variation	**RT2** (CMP included) Voltage variation	**A ventilated IP54 control cabinet** including a voltage variator incorporating its fuse protection. A temperature sensor to manage one circuit.
		RT3 (CMP included) Frequency variator	**A ventilated IP54 control cabinet** including a frequency variator incorporating its fuse protection. A temperature sensor to manage one circuit.

TECHNICAL DETAILS OF THE OPTIONS FOR THE EC MOTORS

EC MOTOR possible options			
WIRING AND BOX	**Power**	**SCM**	**Without motor wiring.**
		CSB	**Wiring of power on terminals.** Wiring of bus is completed.
		CCE	**Wiring of power in box and protection per stage included (in L for each fan and in P for 2 fans).** Wiring of bus is completed.
CONTROL	**Basic** Cascade ON/OFF	**SE1** *	**Direct control of motors by duplicating the signal to each fan:** One 0-10V client signal and one single circuit possible (please consult us in case of multiple circuits)
		SE3	**Direct control of master motor and duplication of signal to slave motors:** One temperature sensor included (4-20 mA on master motor and slave motors in 0-10V) and one single circuit possible
	Advanced control by variation	**CE1**	**Preprogrammed electronic controller / 1 circuit:** One temperature sensor and one single circuit possible (please consult us in case of multiple circuits)
		CE2	**Preprogrammed electronic controller / 2 circuits:** 2 temperature sensors and 2 distinct circuits possible (please consult us in case of multiple circuits)
		CE3	**Preprogrammed electronic controller / signal comparison:** 2 temperature sensors and signal comparison (please consult us in case of multiple circuits)
ADDITIONAL FUNCTIONS	Only on **CCE** or **CSB**	**VMA**	**Maximum speed setting** (setting done by PC on each fan)
		MJN	**Ability to define a maximum speed for night-time** (clock by signal 0-10)
		ADR	**Addressing motor only** (setting of addresses by the BUS)

** By default delivered from the factory.*