Innovative Engineering

Catalogue

EKA KOOL Heat Exchangers

Evaporators

EKL1. Extra low temperature applications

www.eka-kool.com

Application areas

- **Freezer rooms**
- **Cold rooms**
- **Packaging rooms**
- **Processing rooms**
- **Humidity controled cold rooms**
- **Air conditioning**
- **Refrigerated Truck**

-20 °C cold room

Product range

Applicable for all HFC refrigerants

Double Fin Spacing series

Type	Finn spacing mm	Room temperature	Capacity kW
EKA1	8.4 / 4.2	-40 °C to +26 °C	1 to 120
EKL1	12 / 6	-45 °C to +0 °C	2 to 50
EKX	16 / 8	-45 °C to +0 °C	2 to 50
EDA	8.4 / 4.2	-30 °C to +26 °C	1 to 30
ELP	8.4 / 4.2	-30 °C to +26 °C	1 to 30

Single fin spacing

EKC	4.2	-10 °C to +26 °C	1 to 200

Product nomenclature

E KA1 050 3 5 E V

- **V** — Voltage code:
  V1: 230V 1ph 50/60Hz
  V2: 230V 1ph 50Hz;
  V3: 400V 3ph 50Hz
  V4: 480V 3ph 60Hz;
  V5: 230V 3ph 60Hz
- **E** — **E**lectrical Defrost, **A**ir Defrost, **H**ot gas Defrost
- **5** — Coil module code
- **3** — No. of fans
- **050** — Fan diameter code
- **KA1** — High performance evaporator
  KL1 — Low temperature evaporator
  KX1 — Extra low temperature evaporator
  LP — Low-profile evaporator
  DA — Dual air flow evaporator
  KC1 — Medium and high temperature evaporator
- **EKA-KOOL** Heat Exchanger series

Optional upon request:

DT: Double drain tray
BF: Epoxy coated Blue fin
Kx: Klixon. Defrost safety device
CF: Copper fin
SS: Stainless steel, 304, casing and drain tray

Capacity kW EKL1 Evaporator

Double fin spacing 12/6 mm

Model[1]	Freezer[2] Troom -20 °C 7TD	Chiller[2] Troom +3 °C 8TD	Tube Volume l	Surface m2	Air Flow m3/hr	Air throw m	Fan qty	Fan Blade dia. mm	Voltage code	Fan speed rpm	Input[3] Power W per fan	Power Amp	Heater kW	SoundPressure level DB(A) 3m
EKL1.030-15	1.8	2.4	4.2	10.1	1650	6	1	300	V1	1400	110	0.49	4 x 0.6	53
EKL1.030-16	2.2	2.9	5.7	12.6	1610	6	1	300	V1	1390	110	0.49	4 x 0.6	53
EKL1.030-25	3.4	4.7	8.4	20.3	3250	9	2	300	V1	1400	110	0.49	4 x 1.2	55
EKL1.030-26	4.3	5.9	10.0	25.1	3160	8	2	300	V1	1400	110	0.49	4 x 1.2	55
EKL1.030-35	4.8	6.6	11.7	28.5	4870	11	3	300	V1	1400	110	0.49	4 x 1.7	57
EKL1.030-36	5.9	8.3	14.0	35.2	4790	10	3	300	V1	1400	110	0.49	4 x 1.7	58
EKL1.030-46	8.4	11.9	21.1	52.7	6280	12	4	300	V1	1400	110	0.49	4 x 2.5	61
EKL1.040-15	3.3	4.4	7.6	18.6	3260	13	1	400	V2	1360	210	0.89	4 x 0.84	59
EKL1.040-16	4.0	5.7	9.1	23.1	3180	13	1	400	V2	1350	210	0.9	5 x 0.84	59
EKL1.040-25	6.9	9.4	15.3	37.6	6520	16	2	400	V2	1350	210	0.88	4 x 1.7	62
EKL1.040-26	8.6	11.8	18.6	46.2	6380	15	2	400	V2	1350	210	0.9	5 x 1.7	62
EKL1.040-35	9.6	13.3	23.1	56.7	9710	18	3	400	V2	1350	210	0.88	4 x 2.5	64
EKL1.040-36	11.9	16.7	27.7	69.8	9510	17	3	400	V2	1350	210	0.9	5 x 2.5	64
EKL1.040-46	15.5	21.3	35.6	90.5	12800	20	4	400	V2	1360	210	0.91	5 x 3.2	65
EKL1.050-15	6.7	9.2	15.4	36.9	6890	24	1	500	V3	1400	590	1.1	6 x 1.1	68
EKL1.050-16	8.3	11.4	18.5	44.8	6730	23	1	500	V3	1400	590	1.1	6 x 1.1	68
EKL1.050-25	13.3	18.3	30.8	68.3	13820	27	2	500	V3	1400	590	1.1	5 x 2.2	71
EKL1.050-26	16.8	22.9	37.0	88.6	13480	26	2	500	V3	1400	590	1.1	6 x 2.2	71
EKL1.050-35	20.7	28.1	46.3	101.8	21100	27	3	500	V3	1400	590	1.1	5 x 3.2	73
EKL1.050-36	25.0	34.0	55.2	132.1	20280	27	3	500	V3	1400	590	1.1	6 x 3.2	73
EKL1.050-45	23.8	32.5	51.3	116.8	27600	30	4	500	V3	1400	590	1.1	6 x 3.7	74
EKL1.050-46	29.1	39.9	61.6	148.8	26700	29	4	500	V3	1400	590	1.1	6 x 3.7	74

[1] Max operating pressure 32bar
[2] All capacities are based on 404A refrigerant, 35°C amb temp
[3] Operating power input

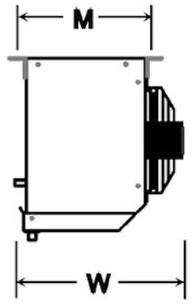
Dimension table EKL1

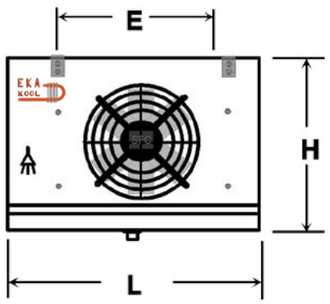
Model	H	L	E1	E2	W	M	Pipe connection		Weight kg	Drain	A[1]
							Liquid	Suction			
EKL1.030-15	480	760	525	N/A	495	390	12.7mm (1/2")	15.8mm (5/8")	24	3/4"	280
EKL1.030-16	480	760	525	N/A	495	390	12.7mm (1/2")	19.1mm (3/4")	25	3/4"	280
EKL1.030-25	480	1270	1025	N/A	495	390	12.7mm (1/2")	22.2mm (7/8")	38	3/4"	300
EKL1.030-26	480	1270	1025	N/A	495	390	12.7mm (1/2")	22.2mm (7/8")	40	3/4"	300
EKL1.030-35	480	1670	1425	N/A	495	390	12.7mm (1/2")	28.5mm (1 1/8")	63	1"	350
EKL1.030-36	480	1670	1425	N/A	500	390	12.7mm (1/2")	28.5mm (1 1/8")	68	1"	350
EKL1.030-46	480	2370	1050	1075	500	390	15.8mm (5/8")	28.5mm (1 1/8")	99	1"	450
EKL1.040-15	620	970	725	N/A	600	455	12.7mm (1/2")	22.2mm (7/8")	35	1"	350
EKL1.040-16	620	970	725	N/A	600	455	12.7mm (1/2")	22.2mm (7/8")	39	1"	350
EKL1.040-25	620	1670	1425	N/A	600	455	15.8mm (5/8")	28.5mm (1 1/8")	62	1"	400
EKL1.040-26	620	1670	1425	N/A	600	455	15.8mm (5/8")	28.5mm (1 1/8")	69	1"	400
EKL1.040-35	620	2380	700	725	600	455	15.8mm (5/8")	35mm (1 3/8")	106	1"	450
EKL1.040-36	620	2380	700	725	600	455	15.8mm (5/8")	35mm (1 3/8")	112	1"	450
EKL1.040-46	620	2980	1375	1350	600	455	22.2mm (7/8")	41.2mm (1 5/8")	129	1.1/4"	500
EKL1.050-15	900	1260	925	N/A	700	492	15.8mm (5/8")	28.5mm (1 1/8")	70	1"	500
EKL1.050-16	900	1260	925	N/A	700	492	15.8mm (5/8")	28.5mm (1 1/8")	74	1"	500
EKL1.050-25	900	2170	900	925	700	492	15.8mm (5/8")	35mm (1 3/8")	149	1.1/4"	600
EKL1.050-26	900	2170	900	925	700	492	22.2mm (7/8")	41.2mm (1 5/8")	158	1.1/4"	600
EKL1.050-35	900	3070	900	925	700	492	22.2mm (7/8")	41.2mm (1 5/8")	179	1.1/4"	700
EKL1.050-36	900	3070	900	925	700	492	22.2mm (7/8")	54mm (2 1/8")	195	1.1/4"	700
EKL1.050-45	900	3470	781	781	700	492	22.2mm (7/8")	54mm (2 1/8")	249	1.1/4"	750
EKL1.050-46	900	3470	781	781	700	492	22.2mm (7/8")	54mm (2 1/8")	249	1.1/4"	750

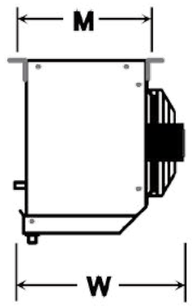
A[1]: Minimum distance between the wall and the fins air inlet for efficient air flow

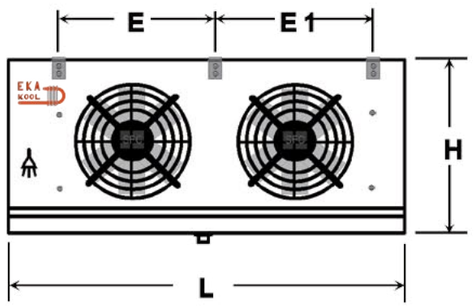
Please see page 10 for the dimension drawings

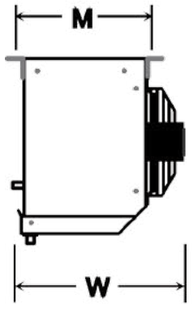
Dimension drawing

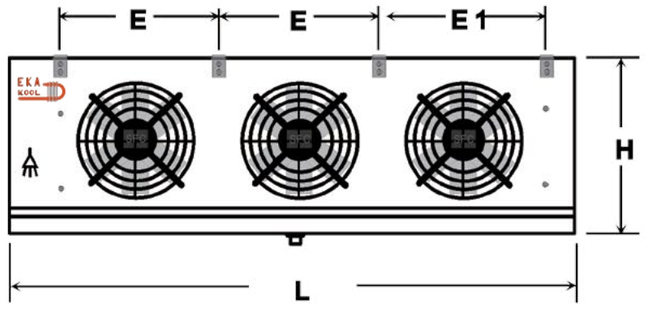


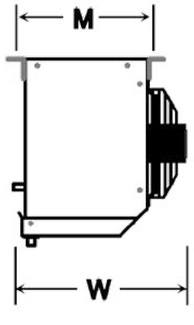


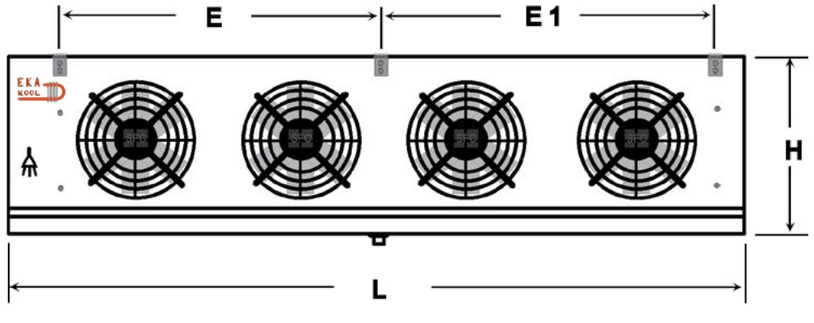












Conversion tables applied to all EKA-KOOL evaporator series

Capacity Multiplying Factors 7 TD Freezer					
Room Temp °C	-30	-25	-20	-15	-10
R404a	0.86	0.94	1.00	1.03	1.05
R507	0.88	0.96	1.02	1.03	1.04
R22	0.90	0.98	1.03	1.04	1.05

Capacity Multiplying Factors 8 TD Chiller					
Room Temp °C	-5	0	+3	+5	+10
R404a	0.93	0.97	1.00	1.02	1.03
R507	0.94	0.98	1.00	1.02	1.03
R22	0.95	0.99	1.01	1.02	1.03
R134a	0.85	0.87	0.89	0.92	0.93

Please download our EKA-Calc, selection software, for precise selection of EKA-KOOL evaporators at differnt TD, evaporating and room temperature
www.eka-kool.com

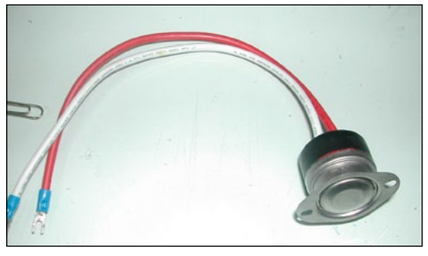
On request

EKX1 Heavy duty evaporator series:

- Double fin spacing, 16/8 mm fin spacing.
- Low temperature application, down to -45C room temperature.
- Capacity upto 40kW cooling capacity.
- Epoxy coated blue fin for all evaporator series.
- Copper fin for all evaprator series.
- Double insulated tray for all evaporator series.
- Stainless steel casing and drain tray.

We produce by specification for all other types of evaporators e.g. heating coils, coils for glycol application, cabinet blowers.
Consult with our technical department.

Klixon safety device



Safety device to prevent unit/room overheating.
The heater klixon is a bimetal T/stat. It will open to terminate the defrost heaters at approx 13 °C.
The Klixon T/Stat will reset in the closed position at approx -1 °C
Heater Safety Klixon must be wired in series with the power supply to the heaters.

Klixon is fitted as standard equipment for EU countries and Australia, to comply with local authority regulations.

General specification

All* EKA-KOOL *products are ISO 9001:2008 certified and all production processes undergo quality control procedures. All staff are well trained within their scope of competence and the company lives up to all authority regulations. The company respects local culture and value bringing harmony between work and private lives.

Capacity

All our capacities are calculated on R404A. The refrigerating capacities refer to an air inlet temparture difference which results from the difference between air inlet temperature T_{room} and evaporating temperature T_{eva} Please use our EKA-CALC for exact thermodynamic design in different operating conditions. All EKA-KOOL evaporators are applicable to all HFC refrigerants, glycol and water. Please consult with us for other media.

Coils

Fins are made of high quality aluminium alloy. All high grade copper tubes, 1/2".
Double fin spacing technology increased heat transfer surface, tested and proven to minimise icing issue resulting in huge energy saving due to longer running period, few defrosting cycles and shorter defrosting times.

All coils are leak tested with dry nitrogen ensuring leak free coils. All coils are delivered with a holding charge of dry nitrogen once the leak test has been approved by our quality control department.

Drain tray

Robust inter-locking aluminium drain tray designed for easy service and maintenance purposes. Drain nozzle mounted at an angle of 90°, with G-thread flat sealing according to DIN-ISO 228-1.
Powder coated white externally and also internally for greater corrosion protection.

Casing

Enhanced and well supported aluminium casing powder coated white. All rivets, screws and bolts are of stainless steel.

Well considered access to inlet and outlet pipe connections and electrical connection.

Fan Motors

German designed, low noise, internal rotor, axial fan motors in protection class IP44 for all fan diameters 250mm - 400mm and IP66 for all fan diameters 500mm-1000mm.
Winding temperature class for all motors is THCI 155 (IEC 60085). Electrical dimensioning is conducted according to regulation of rotating electrical machines DIN EN 60034-1 and internal balance with protection guard grill according to EN294.
Composite material fan blades (rotors), special Polyamide 6 (PA 6) strengthened with fibre glass.
Single phase 230V, 50/60HZ for all fans 250mm-400mm with optional of 3 phase 230V /400V 50Hz/60Hz.
Three phase 400V 50Hz or 480V 60Hz for all fans 500mm-1000mm optional available for all other voltages of 4poles, 6poles, 8 poles and 12 poles. Reliability and low power consumption.
Please refer to the nameplate for more information.
Admissible air temperature -40 °C to +60 °C .
All fans are pre-wired to the wheather proof terminal box, tested and approved by electrical department at factory to secure safety and optimal operation of the motors.

Sound

Comply to standard procedure for calculation of sound pressure level according to EN13487.

Defrosting

Powerful electrical defrost with long lasting heaters.

Type designation E : Electrical defrost. H: Hot gas defrost. A: Air defrost.

Pakaging

All EKA-KOOL's units delivered packaged in instalation position without mounted drain tray. The drain tray is set on the side to prevent any damage to the tray during transportation. With interlocking system, the tray can easily be mounted under the unit.
All units small than EKL1040-16 packaged in strong and robust carton box. All units larger than EKL1.040-16 packaged in a wooden case.

Accessories

Fan motors, fan blade (rotors), electrical heaters, drain tray, feet for floor mounting, wall brackets, electrical box.

Please consult with our technical department for more information

Your success is our success

EKA KOOL Heat Exchangers

EKA-KOOL® - the specialist in fin & tube heat exchangers technology proundly presents to the market its unique design evaporator series serving the refrigeration and air-conditioning industries.
EKA-KOOL® stands for efficiency, value for your investment, true performer and a trustworthy partner to your business.

EKA-KOOL heat exchangers in operation

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