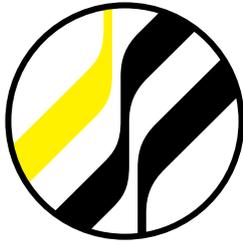


Kelvion

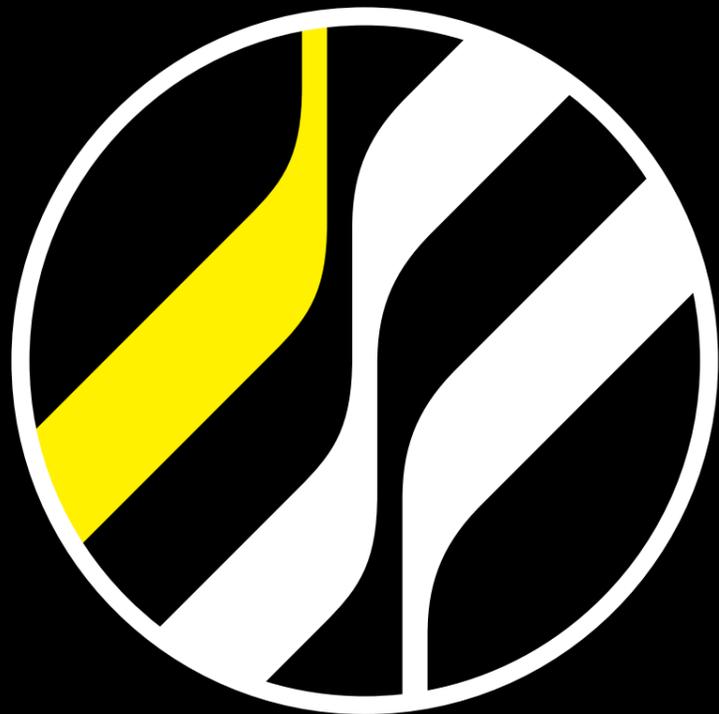


Customized air coolers

Kelvion CMK (Cu/Al) & CML (StSt/Al)

HIGH AIR VOLUME FOR BLAST CHILLING AND SHOCK FREEZING





EXPERTS IN HEAT EXCHANGE – SINCE 1920

Welcome to Kelvion! Where Heat Exchange is our Business. We are one of the leading global manufacturers of heat exchangers and have been providing solutions for almost every industrial application imaginable since the 1920s, specializing in customized solutions suitable for extreme environmental conditions - as of 2015 under the name of Kelvion.

With one of the most extensive selections of heat exchangers in the world, we are a well-known partner in many industries, including transportation, energy, oil and gas, the heavy industry, chemical and marine as well as sugar, food and beverage and the HVAC and refrigeration technology sector. Our products include Compact Fin Heat Exchangers, Plate Heat Exchangers, Single Tube Heat Exchangers, Transformer Cooling Systems, Cooling Towers and Shell & Tube Heat Exchangers.

Our many years of experience and in-depth expertise have made us specialists in this field. Our heat exchangers are designed specifically to meet the needs of the respective machine or equipment system, ensuring outstanding energy efficiency and reliability in any market segment. This gives our customers a cutting-edge over their competitors while also reducing operating costs over the long term.

As your heat exchange partner, we understand that outstanding and reliable after-sales services are critical for you, our customer, and we work alongside with you in close partnership supporting you throughout the full life cycle of your plant and equipment to ensure lasting business success.

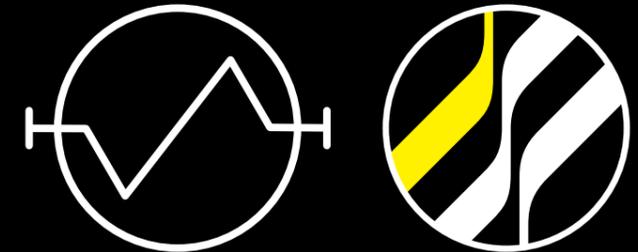
Kelvion – Experts in Heat Exchange.

KELVION – A TRIBUTE TO LORD KELVIN (1824 - 1907)

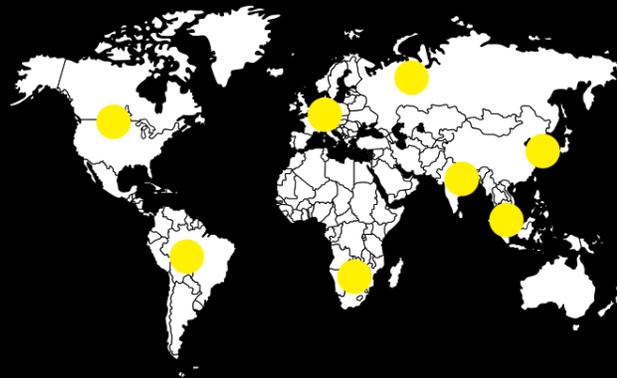


Lord Kelvin formulated the laws of thermodynamics and absolute units of temperature are stated in kelvin, in his honor.

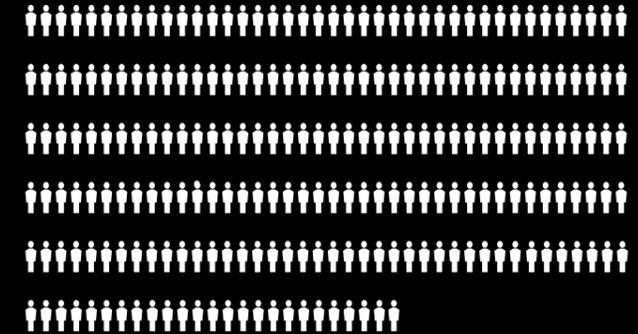
OUR LOGO – INSPIRED FROM THE SCHEMATIC FOR HEAT EXCHANGER



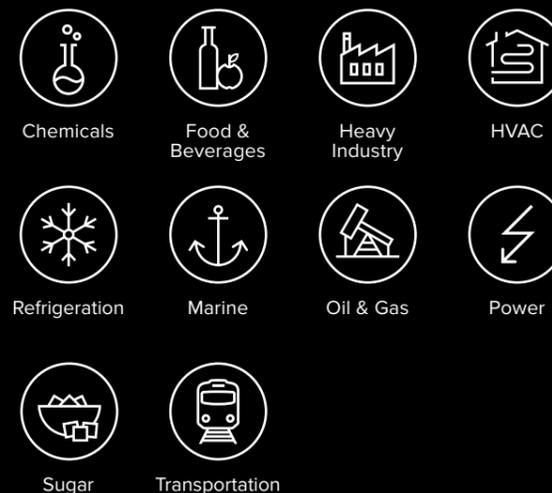
67 BRANCHES AND SALES PARTNERS WORLDWIDE



4,500 EMPLOYEES WORLDWIDE



YOUR MARKETS ARE OUR MARKETS



KELVION HAS A LONG HISTORY





Kelvion CMK / CML

HIGH-PERFORMANCE AIR COOLER FOR BLAST CHILLING AND SHOCK FREEZING



Kelvion CMK (Cu/Al)

Capacity range (for R404 DX - SC3)

13 kW    116 kW

Temperature range (t_{L1})

-40°C   +20°C

Kelvion CML (StSt/Al)

Capacity range (for NH₃ pump - SC3)

14 kW    126 kW

Temperature range (t_{L1})

-40°C   +20°C

NOMENCLATURE

1 2 3 4 5 6 7 8

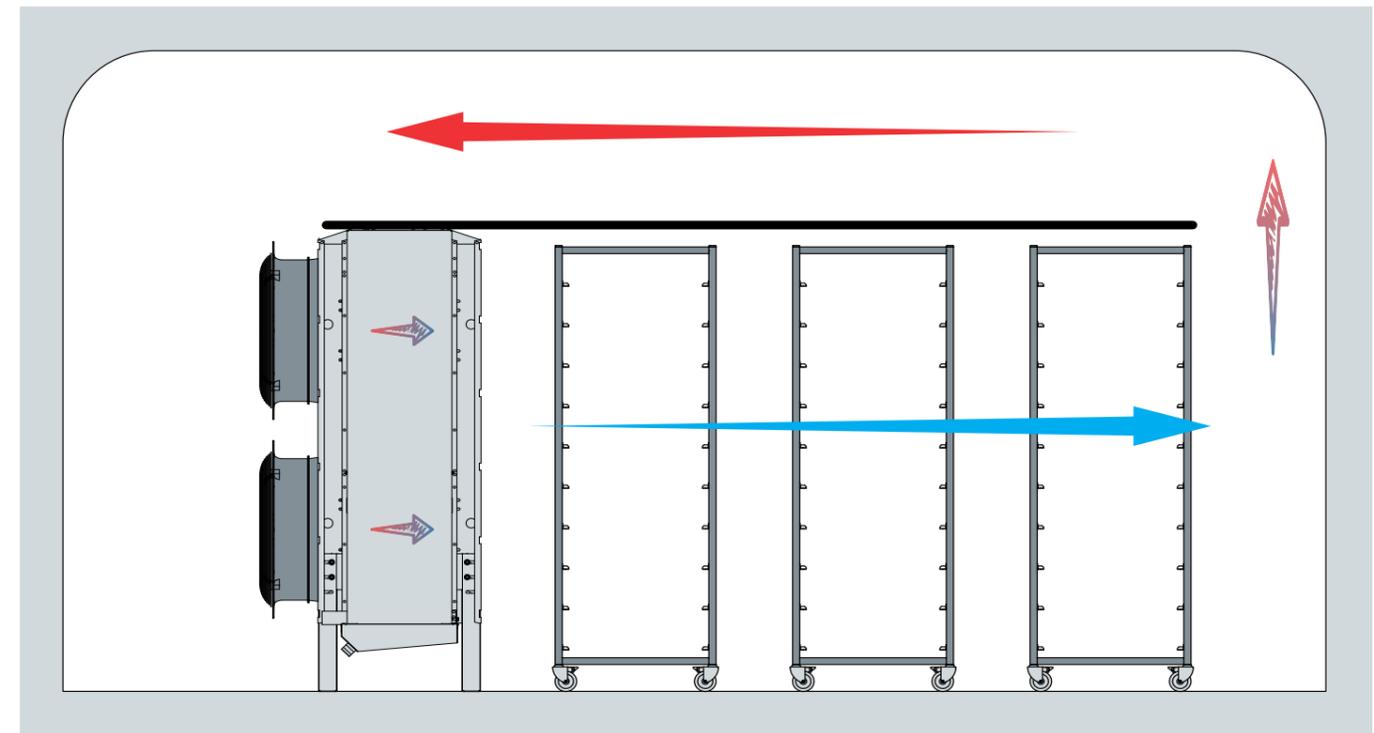
C M K - 56 4 - 6 L N

- | | |
|-------------------------|-----------------------|
| 1 Size of product | 5 Number of fans |
| 2 Case style of product | 6 Number of rows deep |
| 3 Coil block system | 7 Fin spacing |
| 4 Fan diameter | 8 Defrost system |

APPLICATION BENEFITS FOR CONTRACTORS AND OPERATORS

Application examples:

- ▶ Blast chilling
- ▶ Shock freezing



OPTIMAL AIR VOLUME FLOW

Shock freezing foodstuffs is technically extremely demanding on air coolers. The Kelvion CMK/CML blastfreezer meets these demands effortlessly. The technical specifications covering the cooling surface, the air volume, the tube-fin-system and the distribution of the refrigerant have all created benchmarks and guarantee the reliability of the process. Those specifications are precisely matched to each other to optimise blast freezing. Optimal air volume flow for shock freezing: Blow through fans guide the air flow horizontally through the heat exchanger. This creates maximum air velocity over refrigerated goods exposed to the air flow. The dimensions are designed to suit standard tray carts: perfect distribution of cold air directly onto the refrigerated goods. The optional height-adjustable floor mounting brackets are perfect for adjusting them to on-site conditions. High air circulation rate with indirect air flow over the chilled goods: This ensures high efficiency, preserves quality and reaching the core temperature of the produce in the shortest possible time.

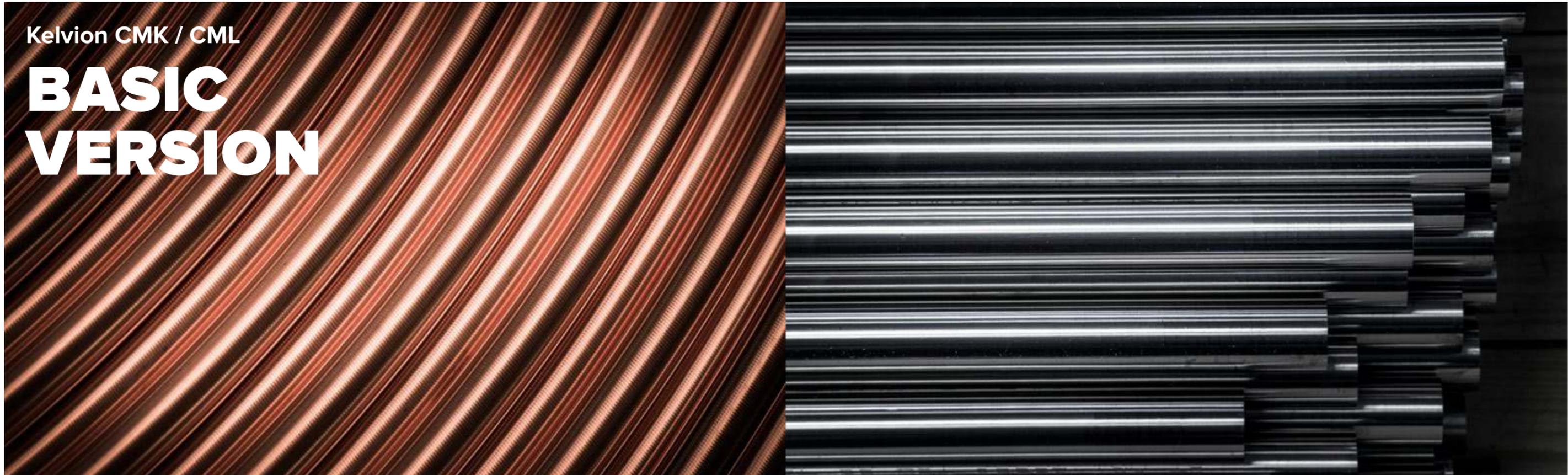
- ▶ **For blast chilling and freezing application:** Specially designed for quick chilling and freezing of food products; large scale kitchens, bakery products, pizza and vegetables meat or sausages, fish, poultry and the production of ice cream
- ▶ **Powerful:** High performance due to application-suited circuit design
- ▶ **Optimized heat exchanger geometry and an aerodynamically intergrated fan system:** Higher specific power, reduced fan speed and air velocity through the coil and significantly reduced current consumption
- ▶ **Blow-through fans** plug-and-play
- ▶ **Quick freezing process:** Minimize the weight loss and conserving the qualities of the food product. Standard 50 Pa or 100 Pa external pressure available
- ▶ CAL® distributor option available
- ▶ **Long-term assurance:** highly efficient, ErP fans
- ▶ **Construction** for adjustable floor mounting (optional)
- ▶ **Optimized ratio** price/kW

MORE POWERFUL MOTORS

- Even more flow optimised through precise matching of fans and heat exchangers:
- ▶ Improved distribution of air in the heat exchanger
 - ▶ Integrated full bell mouth
 - ▶ ErP 2020 compliant
 - ▶ Significantly improved energy efficiency
 - ▶ Suitable for 50 and 100 Pa external pressure

- Available as a variant:
Hinged fan system
- ▶ More stability while opening the cooler
 - ▶ Increased opening angle
 - ▶ To open the cooler only four screws have to be removed
 - ▶ Advantage: 30% less installation effort:
Fast, easy und thus cost-efficient cleaning

The electrical power consumption has been reduced considerably. The saved electrical energy is not absorbed by the evaporator. It contributes increasing the actual delivered cooling capacity.



Kelvion CMK / CML

BASIC VERSION

COIL BLOCK KELVION CMK

- ▶ Tube: Copper, internally enhanced, Ø 15 mm
- ▶ Fins: HFE-Fins® from Aluminium
- ▶ End plate: Aluminium
- ▶ Aligned tube system
- ▶ Fin spacing
B = 7 mm | K = 10 mm | L = 12 mm
- ▶ Copper tubes are mechanically expanded into fully collared aluminium fins.
- ▶ Internal purity according to EN 14276
- ▶ Inlet connections:
Distributor with copper tube for brazing connection, Multiple injections via CAL® distributor as option
- ▶ Outlet connections:
Copper tube for brazing connection with Schrader valve UNF 7/16", sealed

COIL BLOCK KELVION CML

- ▶ Tube: Stainless steel V2A, Ø 15 mm
- ▶ Fins: HFE-Fins® from Aluminium
- ▶ End plate: Aluminium
- ▶ Aligned tube system
- ▶ Fin spacing
B = 7 mm | K = 10 mm | L = 12 mm
- ▶ A good thermal contact is achieved by hydraulic expansion of the stainless steel tubes into the fin collars
- ▶ Internal purity according to EN 14276
- ▶ Inlet/Outlet connections:
Stainless steel tube for welding connection

CASING

- ▶ Sendzimir zinc-plated steel
- ▶ Blow-through or Draw-through execution
- ▶ Neutral finishing (no painting)
- ▶ Food-safe
- ▶ Smooth surfaces: Easy to clean
- ▶ Hinged drip tray, removable
- ▶ Standard fixed floor mounting brackets, height-adjustable optional on both sides, from 0 mm to 175 mm stepless

FAN UNIT

- ▶ AC or EC technology
- ▶ 2 speed operation
- ▶ Fan diameter: 560 and 630 mm
- ▶ Permissible fan motor operating temperatures from -40°C up to +60°C (50Hz) -40°C up to +40°C (60Hz)
- ▶ Connection voltage: 3/PE 400V 50/60Hz
- ▶ Motor protection: External thermocontact
- ▶ Protection class IP54
- ▶ Insulation class F
- ▶ 50Pa and 100Pa external pressure available
- ▶ Fans wired on 1 internal terminal box (blow-through)
- ▶ AC Motor Control:
Phase control
Transformer
Delta/Star
Frequency converter*
- ▶ EC Motor Control:
Adjustable via 0-10V interface
Modbus

* Note: An all-pole sine filter (phase-phase and phase-earth) has to be used

Please observe the manufacturer's information!

MOTOR LABEL DATA

Type	Fan ø mm	50Hz - AC					
		Δ min ⁻¹	Y min ⁻¹	Δ kW	Y kW	Δ A	Y A
CMK/L 56	560	1310	940	1,10	0,62	2,30	1,20
CMK/L 63	630	1400	1210	1,75	1,35	3,70	2,20

Type	Fan ø mm	60Hz - AC					
		Δ min ⁻¹	Y min ⁻¹	Δ kW	Y kW	Δ A	Y A
CMK/L 56	560	1470	950	1,70	0,80	2,90	1,40
CMK/L 63	630	1640	1330	2,80	2,00	4,60	2,90

Type	Fan ø mm	50/60Hz - EC		
		min ⁻¹	kW	A
CMK/L 56	560	1400	1,25	1,60
CMK/L 63	630	1270	1,85	2,40

Motor data per fan, provided by the fan manufacturer

TECHNICAL DATA

Kelvion CMK



Fin spacing 7 mm (B)

Type	Capacities Q _o at 50Hz, R404A			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage			Per Air Cooler
	kW	kW	kW	m ²	m ³ /h	m/s	dm ³	mm	mm	mm	dB(A)	400±10% V-3 50Hz	min ⁻¹ (Δ)	W(Δ)	A(Δ)
CMK-562-4B	23,0	16,6	13,6	82	18221	3,9	21	16	42	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-562-6B	30,3	22,0	18,1	123	17098	3,7	31	16	42	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-564-4B	45,8	33,2	27,1	163	36407	3,9	39	22	54	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-564-6B	60,4	44,0	36,1	244	34151	3,7	57	28	54	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-566-4B	67,5	50,3	41,5	244	54593	3,9	55	28	54	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-566-6B	89,8	65,5	54,3	366	51203	3,7	83	28	64	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-632-6B	-	32,7	26,9	172	26263	4,0	43	22	54	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-632-8B	-	38,7	31,9	229	24939	3,8	57	28	54	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-634-6B	-	65,3	53,7	343	52478	4,0	80	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-634-8B	-	77,3	63,8	457	49820	3,8	104	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-636-6B	-	98,0	80,4	514	78692	4,0	116	28	76	630	88	AC 400 V-3	1.400	10.500	22,2
CMK-636-8B	-	115,9	95,6	685	74701	3,8	153	28	76	630	88	AC 400 V-3	1.400	10.500	22,2



Fin spacing 10 mm (K)

Type	Capacities Q _o at 50Hz, R404A			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage			Per Air Cooler
	kW	kW	kW	m ²	m ³ /h	m/s	dm ³	mm	mm	mm	dB(A)	400±10% V-3 50Hz	min ⁻¹ (Δ)	W(Δ)	A(Δ)
CMK-562-4K	18,5	13,6	11,1	59	19273	4,2	21	16	35	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-562-6K	25,2	18,5	15,2	88	18489	4,0	31	16	42	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-564-4K	36,9	27,1	22,2	117	38523	4,2	38	22	42	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-564-6K	50,2	36,9	30,4	176	36944	4,0	57	28	54	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-566-4K	53,3	39,5	32,7	175	57772	4,2	55	28	54	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-566-6K	75,6	54,9	45,0	263	55399	4,0	83	28	64	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-632-6K	-	27,2	22,5	124	28138	4,3	42	22	42	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-632-8K	-	33,2	27,4	165	27183	4,2	57	28	54	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-634-6K	-	54,4	44,9	247	56242	4,3	80	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-634-8K	-	66,2	54,7	329	54323	4,2	104	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-636-6K	-	81,5	67,3	370	84344	4,3	116	28	76	630	88	AC 400 V-3	1.400	10.500	22,2
CMK-636-8K	-	99,2	82,1	493	81462	4,2	153	28	76	630	88	AC 400 V-3	1.400	10.500	22,2



Fin spacing 12 mm (L)

Type	Capacities Q _o at 50Hz, R404A			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage			Per Air Cooler
	kW	kW	kW	m ²	m ³ /h	m/s	dm ³	mm	mm	mm	dB(A)	400±10% V-3 50Hz	min ⁻¹ (Δ)	W(Δ)	A(Δ)
CMK-562-4L	17,1	12,5	10,3	50	19663	4,2	21	16	35	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-562-6L	23,5	17,3	14,3	75	19030	4,1	31	16	42	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-564-4L	34,0	25,0	20,6	99	39308	4,2	38	22	42	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-564-6L	47,0	34,6	28,5	149	38033	4,1	57	28	54	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-566-4L	49,3	36,2	29,9	149	58951	4,2	55	28	54	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-566-6L	70,8	51,7	42,4	223	57036	4,1	82	28	54	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-632-6L	-	25,4	20,9	105	28848	4,4	42	22	42	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-632-8L	-	31,0	25,8	140	28071	4,3	57	28	54	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-634-6L	-	50,7	41,8	209	57668	4,4	78	28	54	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-634-8L	-	61,9	51,6	279	56107	4,3	105	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-636-6L	-	75,9	62,7	314	86490	4,4	114	28	64	630	88	AC 400 V-3	1.400	10.500	22,2
CMK-636-8L	-	93,5	77,3	418	84143	4,3	153	28	76	630	88	AC 400 V-3	1.400	10.500	22,2

Capacities	t ₀	t _e	DT1	Correction factors for other refrigerants			Refrigerant	Changes subject to modification								
SC2	0	-8	8	R407A	1,24	1,28	1,32	Injection via Venturi Multiple Injection via CAL-Distributor on demand								
SC3	-18	-25	7	R407C	1,26	1,31	1,36									
SC4	-25	-31	6	R448A	1,26	1,28	1,31									
				R449A	1,23	1,24	1,26									

TECHNICAL DATA

Kelvion CMK



Fin spacing 7 mm (B)

Type	Capacities Q _o at 50Hz, R404A			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage			Per Air Cooler
	kW	kW	kW	m ²	m ³ /h	m/s	dm ³	mm	mm	mm	dB(A)	400±10% V-3 50Hz	min ⁻¹ (Δ)	W(Δ)	A(Δ)
CMK-562-4B	21,8	15,8	12,9	82	16356	3,5	21	16	42	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-562-6B	28,4	20,7	17,0	123	15314	3,3	31	16	42	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-564-4B	43,4	31,5	25,8	163	32678	3,5	39	22	54	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-564-6B	56,6	41,4	34,0	244	30586	3,3	57	28	54	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-566-4B	63,4	47,4	39,1	244	49001	3,5	55	28	54	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-566-6B	84,5	61,0	50,7	366	45859	3,3	83	28	64	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-632-6B	-	31,3	25,7	172	24210	3,7	43	22	54	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-632-8B	-	36,8	30,4	229	22962	3,5	57	28	54	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-634-6B	-	62,4	51,4	343	48373	3,7	80	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-634-8B	-	73,4	60,7	457	45869	3,5	104	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-636-6B	-	93,6	77,0	514	72536	3,7	116	28	76	630	88	AC 400 V-3	1.400	10.500	22,2
CMK-636-8B	-	110,1	91,0	685	68776	3,5	153	28	76	630	88	AC 400 V-3	1.400	10.500	22,2



Fin spacing 10 mm (K)

Type	Capacities Q _o at 50Hz, R404A			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage			Per Air Cooler
	kW	kW	kW	m ²	m ³ /h	m/s	dm ³	mm	mm	mm	dB(A)	400±10% V-3 50Hz	min ⁻¹ (Δ)	W(Δ)	A(Δ)
CMK-562-4K	17,4	12,8	10,5	59	17369	3,7	21	16	35	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-562-6K	23,5	17,3	14,3	88	16609	3,6	31	16	42	560	81	AC 400 V-3	1.310	2.200	4,6
CMK-564-4K	34,7	25,5	21,0	117	34716	3,7	38	22	42	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-564-6K	46,8	34,5	28,5	176	33187	3,6	57	28	54	560	81	AC 400 V-3	1.310	4.400	9,2
CMK-566-4K	50,0	37,0	30,6	175	52061	3,7	55	28	54	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-566-6K	70,8	51,6	42,4	263	49764	3,6	83	28	64	560	81	AC 400 V-3	1.310	6.600	13,8
CMK-632-6K	-	25,9	21,4	124	26023	4,0	42	22	42	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-632-8K	-	31,4	26,0	165	25090	3,9	57	28	54	630	88	AC 400 V-3	1.400	3.500	7,4
CMK-634-6K	-	51,8	42,8	247	52011	4,0	80	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-634-8K	-	62,8	52,0	329	50139	3,9	104	28	64	630	88	AC 400 V-3	1.400	7.000	14,8
CMK-636-6K	-	77,7	64,1	370	77999	4,0	116	28	76	630	88	AC 400 V-3	1.400	10.500	22,2
CMK-636-8K	-	94,1	77,9	493	75188	3,9	153	28	76	630	88	AC 400 V-3	1.400	10.500	22,2



Fin spacing 12 mm (L)

Type	Capacities Q _o at 50Hz, R404A			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)
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TECHNICAL DATA

Kelvion CML



Fin spacing 7 mm (B)

Type	Capacities Q ₀ at 50Hz, NH ₃ (R717) pump			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage	Per Air Cooler		
	kW	kW	kW					mm	mm				mm	dB(A)	400±10% V-3 50Hz
CML-562-4B	26,2	19,2	15,7	82	18221	3,9	21	1715	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-562-6B	33,7	24,5	20,0	123	17098	3,7	31	15,88	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-564-4B	52,4	38,4	31,3	163	36407	3,9	38	21,3	60,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-564-6B	67,2	48,9	40,0	244	34151	3,7	57	26,7	60,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-566-4B	77,9	54,4	44,4	244	54593	3,9	55	26,7	60,3	560	81	AC 400 V-3	1,310	6,600	13,8
CML-566-6B	100,8	73,7	60,1	366	51203	3,7	83	33,7	76,1	560	81	AC 400 V-3	1,310	6,600	13,8
CML-632-6B	-	36,5	29,8	172	26263	4,0	42	21,3	60,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-632-8B	-	42,1	34,3	229	24939	3,8	56	21,3	60,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-634-6B	-	72,2	59,0	343	52478	4,0	79	33,7	76,1	630	88	AC 400 V-3	1,400	7,000	14,8
CML-634-8B	-	84,1	68,5	457	49820	3,8	105	33,7	76,1	630	88	AC 400 V-3	1,400	7,000	14,8
CML-636-6B	-	109,4	89,3	514	78692	4,0	115	33,7	76,1	630	88	AC 400 V-3	1,400	10,500	22,2
CML-636-8B	-	125,8	103,1	685	74701	3,8	154	42,4	88,9	630	88	AC 400 V-3	1,400	10,500	22,2



Fin spacing 10 mm (K)

Type	Capacities Q ₀ at 50Hz, NH ₃ (R717) pump			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage	Per Air Cooler		
	kW	kW	kW					mm	mm				mm	dB(A)	400±10% V-3 50Hz
CML-562-4K	21,3	15,5	12,6	59	19273	4,2	21	15,88	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-562-6K	28,8	20,7	16,7	88	18489	4,0	31	15,88	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-564-4K	42,5	30,9	25,2	117	38523	4,2	38	21,3	48,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-564-6K	57,5	41,3	33,4	176	36944	4,0	57	21,3	60,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-566-4K	64,4	45,8	35,1	175	57772	4,2	55	26,7	60,3	560	81	AC 400 V-3	1,310	6,600	13,8
CML-566-6K	86,2	61,9	51,0	263	55399	4,0	83	26,7	60,3	560	81	AC 400 V-3	1,310	6,600	13,8
CML-632-6K	-	30,7	24,9	124	28138	4,3	42	21,3	48,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-632-8K	-	37,0	30,1	165	27183	4,2	56	21,3	60,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-634-6K	-	61,3	49,7	247	56242	4,3	78	26,7	60,3	630	88	AC 400 V-3	1,400	7,000	14,8
CML-634-8K	-	73,9	60,1	329	54323	4,2	105	33,7	76,1	630	88	AC 400 V-3	1,400	7,000	14,8
CML-636-6K	-	91,9	74,5	370	84344	4,3	115	33,7	76,1	630	88	AC 400 V-3	1,400	10,500	22,2
CML-636-8K	-	110,8	90,2	493	81462	4,2	153	33,7	76,1	630	88	AC 400 V-3	1,400	10,500	22,2



Fin spacing 12 mm (L)

Type	Capacities Q ₀ at 50Hz, NH ₃ (R717) pump			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage	Per Air Cooler		
	kW	kW	kW					mm	mm				mm	dB(A)	400±10% V-3 50Hz
CML-562-4L	19,8	14,3	11,7	50	19663	4,2	20	13,72	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-562-6L	27,2	19,6	15,9	75	19030	4,1	31	15,88	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-564-4L	39,5	28,5	23,3	99	39308	4,2	38	21,3	48,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-564-6L	54,2	39,1	31,7	149	38033	4,1	57	21,3	60,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-566-4L	59,9	42,9	34,7	149	58951	4,2	55	21,3	60,3	560	81	AC 400 V-3	1,310	6,600	13,8
CML-566-6L	81,3	58,6	47,6	223	57036	4,1	83	26,7	60,3	560	81	AC 400 V-3	1,310	6,600	13,8
CML-632-6L	-	28,9	23,5	105	28848	4,4	42	21,3	48,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-632-8L	-	35,3	28,7	140	28071	4,3	56	21,3	60,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-634-6L	-	57,8	46,9	209	57668	4,4	78	26,7	60,3	630	88	AC 400 V-3	1,400	7,000	14,8
CML-634-8L	-	70,4	57,4	279	56107	4,3	105	26,7	76,1	630	88	AC 400 V-3	1,400	7,000	14,8
CML-636-6L	-	86,6	70,4	314	86490	4,4	115	33,7	76,1	630	88	AC 400 V-3	1,400	10,500	22,2
CML-636-8L	-	105,6	86,1	418	84143	4,3	153	33,7	76,1	630	88	AC 400 V-3	1,400	10,500	22,2

Capacities	t ₁	t ₂	DT1
SC2	0	-8	8
SC3	-18	-25	7
SC4	-25	-31	6

Changes subject to modification
Injection via Venturi
Multiple Injection via
CAL-Distributor on demand

TECHNICAL DATA

Kelvion CML



Fin spacing 7 mm (B)

Type	Capacities Q ₀ at 50Hz, NH ₃ (R717) pump			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage	Per Air Cooler		
	kW	kW	kW					mm	mm				mm	dB(A)	400±10% V-3 50Hz
CML-562-4B	24,5	18,1	14,7	82	16356	3,5	21	1715	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-562-6B	31,6	22,8	18,7	123	15314	3,3	31	15,88	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-564-4B	48,9	36,0	29,4	163	32678	3,5	39	21,3	60,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-564-6B	63,0	45,4	37,2	244	30586	3,3	57	26,7	60,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-566-4B	73,7	50,9	41,4	244	49001	3,5	55	26,7	60,3	560	81	AC 400 V-3	1,310	6,600	13,8
CML-566-6B	94,4	68,8	56,2	366	45859	3,3	83	33,7	76,1	560	81	AC 400 V-3	1,310	6,600	13,8
CML-632-6B	-	34,7	28,4	172	24210	3,7	43	21,3	60,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-632-8B	-	39,9	32,6	229	22962	3,5	57	21,3	60,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-634-6B	-	67,8	56,0	343	48373	3,7	80	33,7	76,1	630	88	AC 400 V-3	1,400	7,000	14,8
CML-634-8B	-	79,7	65,1	457	45869	3,5	104	33,7	76,1	630	88	AC 400 V-3	1,400	7,000	14,8
CML-636-6B	-	103,9	84,9	514	72536	3,7	116	33,7	76,1	630	88	AC 400 V-3	1,400	10,500	22,2
CML-636-8B	-	118,2	97,4	685	68776	3,5	153	42,4	88,9	630	88	AC 400 V-3	1,400	10,500	22,2



Fin spacing 10 mm (K)

Type	Capacities Q ₀ at 50Hz, NH ₃ (R717) pump			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage	Per Air Cooler		
	kW	kW	kW					mm	mm				mm	dB(A)	400±10% V-3 50Hz
CML-562-4K	20,0	14,5	11,8	59	17369	3,7	21	15,88	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-562-6K	26,9	19,4	15,7	88	16609	3,6	31	15,88	42,4	560	81	AC 400 V-3	1,310	2,200	4,6
CML-564-4K	40,0	28,9	23,6	117	34716	3,7	38	21,3	48,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-564-6K	53,7	38,7	31,4	176	33187	3,6	57	21,3	60,3	560	81	AC 400 V-3	1,310	4,400	9,2
CML-566-4K	60,6	43,3	35,0	175	52061	3,7	55	26,7	60,3	560	81	AC 400 V-3	1,310	6,600	13,8
CML-566-6K	80,5	58,1	47,1	263	49764	3,6	83	26,7	60,3	560	81	AC 400 V-3	1,310	6,600	13,8
CML-632-6K	-	29,3	23,8	124	26023	4,0	42	21,3	48,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-632-8K	-	35,1	28,6	165	25090	3,9	57	21,3	60,3	630	88	AC 400 V-3	1,400	3,500	7,4
CML-634-6K	-	58,5	47,5	247	52011	4,0	80	26,7	60,3	630	88	AC 400 V-3	1,400	7,000	14,8
CML-634-8K	-	70,2	57,2	329	50139	3,9	104	33,7	76,1	630	88	AC 400 V-3	1,400	7,000	14,8
CML-636-6K	-	87,7	71,3	370	77999	4,0	116	33,7	76,1	630	88	AC 400 V-3	1,400	10,500	22,2
CML-636-8K	-	105,2	85,8	493	75188	3,9	153	33,7	76,1	630	88	AC 400 V-3	1,400	10,500	22,2



Fin spacing 12 mm (L)

Type	Capacities Q ₀ at 50Hz, NH ₃ (R717) pump			Surface	Air Volume 4p-fan(Δ)	Air Speed 4p-fan(Δ)	Volume	Connections		Fans (values at 50Hz)					
	SC2	SC3	SC4					In	Out	Fan	L _{WA} each fan	Motor Voltage	Per Air Cooler		
	kW	kW	kW					mm	mm				mm	dB(A)	400±10% V-3 50Hz

ELECTRIC DEFROST & WEIGHTS

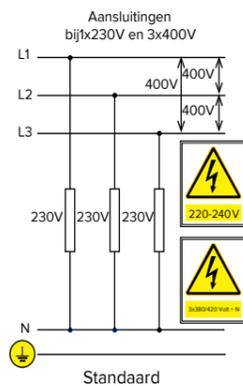
Kelvion CMK / CML

Model	Light Electrical Defrost 230V-1 / 400V-3-Y			Standard Electrical Defrost 230V-1 / 400V-3-Y			Weight (net) Unpacked		
	Coil kW	Drip Tray kW	Total kW	Coil kW	Drip Tray kW	Total kW	B kg	K kg	L kg
CMK-562-4x	6,02	1,04	7,06	7,74	1,04	8,78	200	200	200
CMK-562-6x	7,92	1,07	8,99	9,68	1,50	11,18	240	220	220
CMK-564-4x	10,05	1,69	11,73	12,92	1,69	14,60	330	320	320
CMK-564-6x	13,41	1,69	15,10	16,39	2,40	18,79	400	370	370
CMK-566-4x	14,00	2,18	16,18	18,00	2,18	20,18	480	450	450
CMK-566-6x	19,49	2,25	21,74	23,82	3,27	27,09	570	530	530
CMK-632-6x	9,32	1,21	10,53	11,39	1,73	13,12	310	290	290
CMK-632-8x	11,39	1,30	12,69	16,56	1,73	18,29	360	330	330
CMK-634-6x	16,20	2,00	18,20	19,80	2,95	22,75	550	510	510
CMK-634-8x	19,80	2,00	21,80	28,80	2,95	31,75	630	580	580
CMK-636-6x	21,78	2,06	23,84	26,62	4,11	30,73	800	740	740
CMK-636-8x	26,62	2,06	28,68	38,72	4,11	42,83	920	840	840

DIMENSIONS & DRAIN

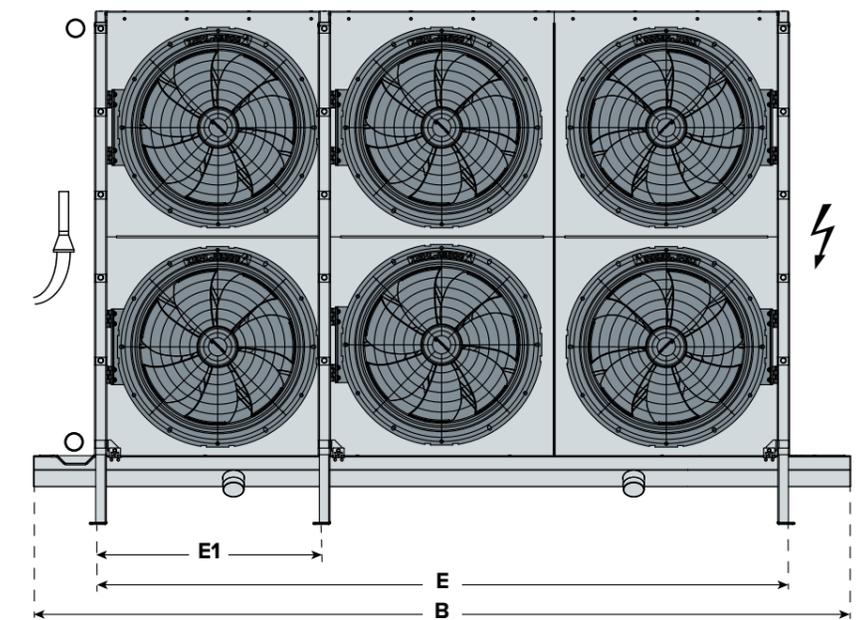
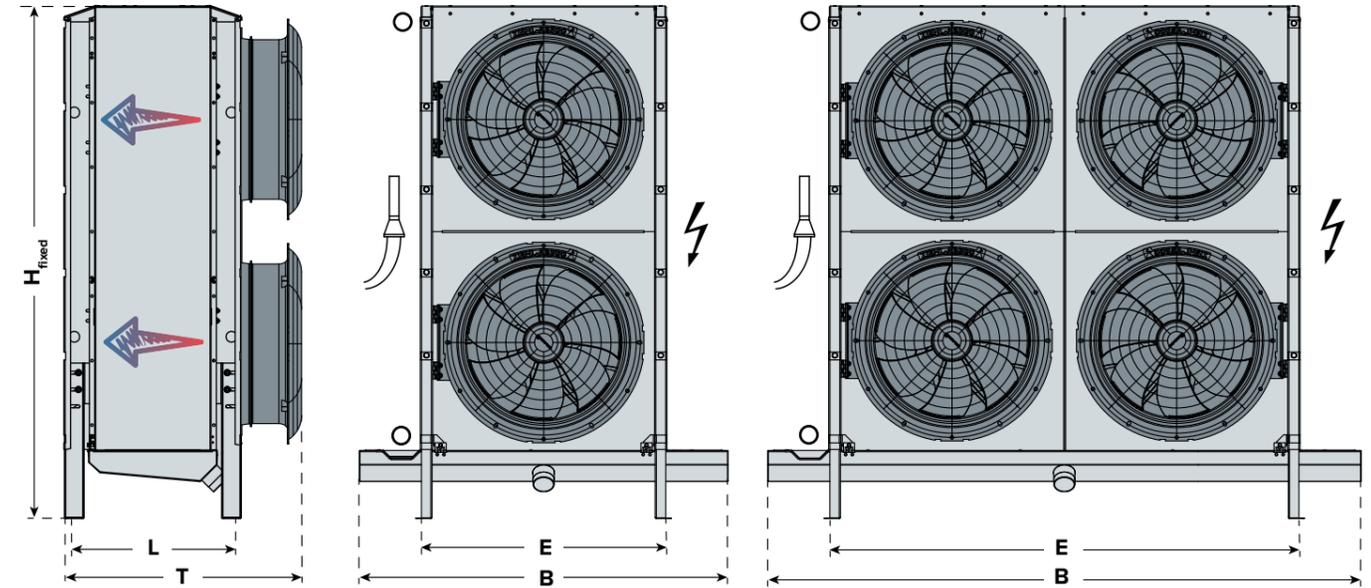
Kelvion CMK / CML

Type	Dimensions										Drain D
	B mm	T mm	H _{fixed} mm	H _{min} mm	H _{max} mm	L mm	E1 mm	E2 mm	W _{min} mm	W _{min1} mm	
CMK-562-4x	1316	881	1850	1792	1992	541	866	-	560	680	1 x 1/4
CMK-562-6x	1316	981	1850	1792	1992	641	866	-	560	680	1 x 1/4
CMK-564-4x	2116	881	1850	1792	1992	541	1666	-	560	680	1 x 1/4
CMK-564-6x	2116	981	1850	1792	1992	641	1666	-	560	680	1 x 1/4
CMK-566-4x	2916	881	1850	1792	1992	541	2466	798	560	680	2 x 1/4
CMK-566-6x	2916	981	1850	1792	1992	641	2466	798	560	680	2 x 1/4
CMK-632-6x	1516	1022	2050	1992	2192	661	1066	-	630	750	1 x 2
CMK-632-8x	1516	1122	2050	1992	2192	761	1066	-	630	750	1 x 2
CMK-634-6x	2516	1022	2050	1992	2192	661	2066	-	630	750	1 x 2
CMK-634-8x	2516	1122	2050	1992	2192	761	2066	-	630	750	1 x 2
CMK-636-6x	3516	1022	2050	1992	2192	661	3066	998	630	750	2 x 2
CMK-636-8x	3516	1122	2050	1992	2192	761	3066	998	630	750	2 x 2

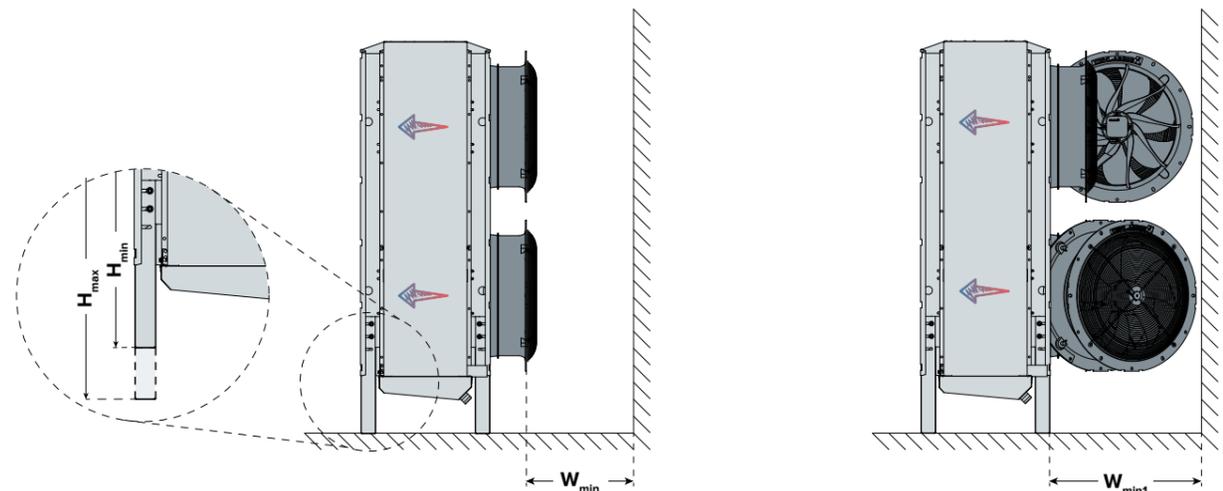


DRAWING

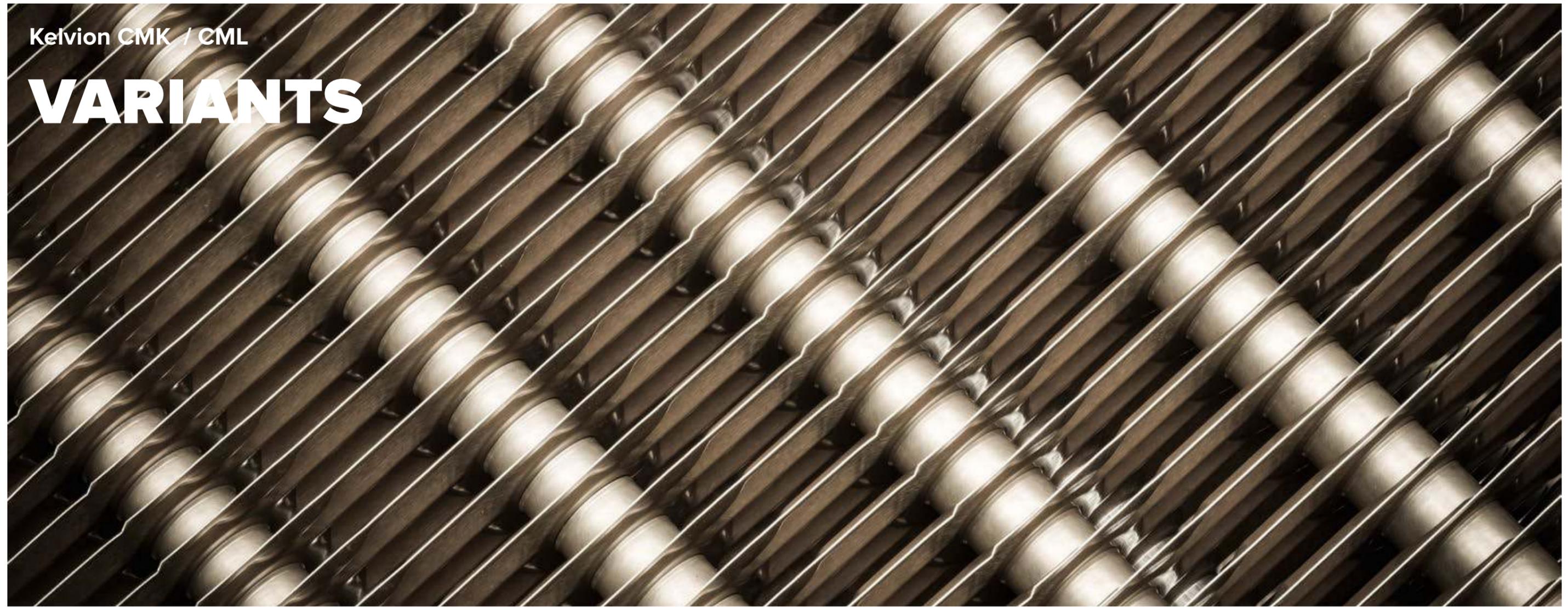
Kelvion CMK / CML



Stepples height-adjustable floor mounting brackets (optional) and wall clearance



VARIANTS



FAN VARIANTS

EC FAN WITH CONTROLLABLE SPEED

- ▶ 0-10V
- ▶ Modbus

CONSTRUCTION VARIANTS

WATER / BRINE CIRCULATION

Small and large pressure drop, 16 bar

FANS HINGED

For easy cleaning of the units, the fans swivel on stainless steel hinges

STEPLESS HEIGHT-ADJUSTABLE FLOOR MOUNTING BRACKETS

Flexible stepless adjustable floor mounting brackets on both sides, stepples from 0 mm to 175 mm

CO₂ VARIANTS*

CO₂-DIRECT EXPANSION

up to 40 bar operating pressure

CO₂-DIRECT EXPANSION

up to 60 bar operating pressure

* Please use our Product Selection Software GPC or RT SELECT for CMK/CML CO₂ specific data.

PROTECTION AGAINST CORROSION

CORROSION PROTECTION 1

Tubing: Copper (Kelvion CMK)
Stainless steel (Kelvion CML)
Fins: Aluminum
AlMg
Goldlack
End plates: Aluminum
AlMg
Casing: Aluminum/zinc coated steel,
protective coating on both sides

CORROSION PROTECTION 2

Tubing: Copper (Kelvion CMK)
Stainless steel (Kelvion CML)
Fins: Aluminum
AlMg
Goldlack
End plates: Aluminum
AlMg
Casing: Aluminum/zinc coated steel,
protective coating on one sides

CORROSION PROTECTION 3

Tubing: Copper (Kelvion CMK)
Stainless steel (Kelvion CML)
Fins: Aluminum
AlMg
Goldlack
End plates: Aluminum
AlMg
Casing: Aluminum/zinc coated steel,
pre-painted

STAINLESS STEEL CASING

For aggressive airborne particles which can arise in industrial cooling processes (salts, organic acids in pickle rooms; organic acids, amines in meat and sausage products).

ACCESSORIES

DEFROST SYSTEMS

For room temperatures where ice-build up can be expected and where the coil can not be defrosted by the room air, an defrost system is available.

Electrical defrost

- ▶ Heating elements made from stainless steel
- ▶ Connections steam-proof
- ▶ Connection voltage: 3/N/PE 400V 50/60Hz
- ▶ Wired to a terminal box, ready for connection
- ▶ An optimized heating element configuration ensure fast and even defrosting
- ▶ Standard defrost loads for low temperatures and light defrost load for higher temperatures (room temperature approximately 0°C).
- ▶ The stainless steel heating elements are fitted within aluminium tubes, which forms a highly conductive medium between heaters and fins, which ensure efficient defrosting cycles with optimized life cycle

The heater elements in the coil block are removable from the connection side, whilst the tray heater elements can be removed once the outer tray has been removed.

The exact number of elements and electrical power for light and heavy defrost each air cooler, you can find in our Goedhart selection program.

Heating section

The air cooler can be carried out with a heating section with electric heating elements to heat up again dehumidified air. The heating section is compared to the air flow placed after the coil block. The heating elements can be placed with holders against the coil block or completely integrated in the casing.

Hot gas defrost

The coil block is as standard suited for hot gas defrost (hot gas supply through the suction header). Against an extra price the drip tray can be provided with a copper hot gas spiral. This is enclosed in aluminium profiles that are rigidly secured to the under side of the aluminium inner drip tray. As a result, a very good heat transfer is realized. As with electric defrost a distinction is made with light defrost (room temperature around 0° C) and heavy defrost.

Water defrost

On top of the coil block a removable water defrost tray is mounted. The height of the water defrost tray is 80 mm, which increases the total height of the air cooler. The standard discharge head of the water in the water defrost tray is 25 mm, the maximum speed in the water supply line is 5m / sec. For an optimal functioning of the water defrost, the temperature of the defrost water must be between + 15°C and at + 30°C. The water defrost tray is executed with handles, easy for disassemble and cleaning.

FAN HEATING

The fan fan heating prevents ice build-up between the fan impeller and fan bellmouth during the defrost cycle. This prevent damaging of the fan.

We advise to use fan heating as option on your air cooler when the room temperature <-10 °C

Delivery

- ▶ Is mounted and connected to a junction box
- ▶ Covers almost the whole fan bellmouth periphery
- ▶ Executed with 8 mm foam insulation, less defrost time, better heat transfer
- ▶ Executed with limiter 70°C
- ▶ Can also be retrofitted



Fan diameter	Power at 230V
mm	kW
560	0,50
630	0,56

ACCESSORIES

SIDE COVER HOODS

Construction

- ▶ Standard material as air cooler casing
- ▶ White High-grade powder coating or spray painting optional
- ▶ Obligated in combination with electrical defrost
- ▶ Including plastic handles for easy removing



HINGED FANS

Construction

- ▶ More stability while opening the cooler
- ▶ Increased opening angle
- ▶ To open the cooler only four screws have to be removed



DEFROST HOOD

Build-up of heat during the defrost cycle in the air cooler. Reduces the defrost time by more than 50%. (combination with multi-dampers mandatory)

REPAIR SWITCH

Safety during repair and maintenance of single fan units

HEIGHT-ADJUSTABLE FLOOR MOUNTING BRACKETS

Can be adjusted to on-site conditions. (Brackets not compatible with defrost hood)

DRAW-THROUGH FAN VERSION

Better distribution of cold air, greater air throws and higher air velocities

DEFROST DAMPER / INSULATED FAN PLATES / INSULATED DRIP TRAY

The heat remains in the cooler block. This results in a low defrost termination temperature and leads to significant energy savings.

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