Goedhart® PAC commercial Cu/Al air coolers

WORKING IN A DRAFT-FREE ENVIRONMENT

Kelvion –
a tribute to
Lord Kelvin

Lord Kelvin (1824 – 1907) formulated the laws of thermodynamics

67 branches and sales partners worldwide

More than 4,000 employees worldwide

EXPERTS IN HEAT EXCHANGE - SINCE 1920

Welcome to Kelvion. As successor to the GEA Heat Exchangers Group, we continue to break new ground, making discerning customers more successful than ever with our integrated heat exchanger solutions.

Our solutions for your applications:
We offer our customers one of the world's largest product portfolios in the field of heat exchangers. It includes individual solutions for practically all conceivable applications and complex environmental conditions: plate heat exchangers, shell and tube heat exchangers, finned tube heat exchangers, modular cooling tower systems, and refrigeration heat exchangers.

Your markets are our markets, too:
The markets in which you and we together operate are among the most important in the world: energy, the oil and gas industry, the chemical industry, marine applications, food and beverages, climate and environment. We provide every single market segment with solutions of outstanding efficiency, safety, and sustainability.

We are highly committed to earning your trust:
We want to win your trust with everything we do and convince you with the solutions we offer. With this high aim in mind, we invest our extensive know-how, our great precision, and our passion in everything we do: including product development, manufacturing, installation, and after-sales support.

Seeing things from the customer perspective:
Your specific requirements count – and nothing else. Whatever we offer you, it must meet these requirements. Our entire way of thinking and working is geared towards this aim. Our customers truly appreciate this: after all, this is how we make their companies more efficient.

We are at your service.
Kelvion – Experts in Heat Exchange.

GOEDHART®
AIR COOLERS

Do not settle for compromise, but go for the best cooling solution to suit your situation. That is the philosophy which Kelvion makes himself hard. Since 1935 we develop, produce and deliver worldwide air coolers, air cooled condensers and composite systems for (semi) industrial applications and various markets. Our products are perfect for projects requiring a technical demand and involving a great deal of flexibility in terms of design, dimensions and accessories. Also our products are suitable for all thinkable cooling system types and methods.

To achieve the most optimal and cost efficient air cooler system we are using three levels of engineering:

- **Commercial products**: standard cooling systems available in different fixed sizes;
- **Flexible products**: custom made cooling systems built from standard modules;
- **Designed to order products**: extensive cooling systems and applications developed especially for the niche market.

Extensive theoretical and practical project analysis by our professional sales engineers will determine which configuration, materials, and level of engineering best fit your program requirements. Additionally, you can use the innovative 'Goedhart Product Catalogue (GPC), the digital design program for all Commercial and Customized industrial air coolers and air-cooled condensers.

For what level of engineering you choose; Your are with Goedhart in good hands in the field of refrigeration and freezing. This brochure provides information on the Goedhart® PAC, a copper/aluminium serie commercial product.

Do you have any further questions, we are happy to help you personally. We thank you in advance for the interest you have shown in Kelvion and its products.

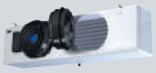
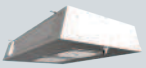
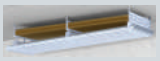
PRODUCT FAMILY

CUSTOMIZED AIR COOLERS

INDUSTRIAL DESIGNED TO ORDER & OEM AIR COOLERS

APPLICATION DRIVEN DESIGNS

COMMERCIAL AIR COOLERS

Cu/Al (38x33)	Goedhart FC38S Küba Market SP Küba SG Classic Küba SG Commer. Searle KEC/KECX Searle KME/KMEX 	~~Goedhart FC38D~~ ~~Küba Comfort DP~~ ~~Searle DSR/DSRX~~  Kelvion KDC (New)	Goedhart FC38L Küba Junior DF Küba Compact DF Küba DE Prof. Searle TEC/TECX 	Goedhart PAC 	Küba Gastro FM 	
Cu/Al (50x50)	Küba KVB Natur. 					

CONDENSERS

DRY COOLERS

RADIATORS

LIFE IS EASY
THE GOEDHART SELECTION PROGRAM

The Goedhart selection program provides an electronic catalogue covering the majority of product ranges offered by Kelvion. The range of products available to you is very broad with many options. This software provides the fastest and easiest way to select the most appropriate product for your specific needs. This selection program run on the latest versions of Windows (including both 32-bit and 64-bit versions of Vista, Windows 7, Windows 8 and Windows 10).

All four product types (Coolers, Condensers and Glycol Coolers) are available in a single program. The Goedhart selection program is an easy to use selection tool for contractors, consultants and every other thinkable user and gives you access to many advantages such as:

- Multilangual
- Pre-select buttons to application
- Spare parts
- Selections including drawings
- An extensive list of accessories
- Accurate capacities: During your selection a sophisticated capacity calculation program optimizes the circuits to the design conditions
- Selections possible on several criteria such as capacity, price, fan variations like noise and speed etc.

If you know the model number or the range you require (for example Goedhart® VCI-p 63457), you can type this into the Start area of the Goedhart selection program. This will make the selection faster and exclude models which may not be relevant for your needs.

You can start a selection by clicking the Start button, fill in the required heat exchanger data in the input area and produce PDF or Word files of your selection results. Also it is possible to print a drawing of the selected unit and make your choice belonging to your selected unit. The program normally operates using SI units.

What is important to you? - You can decide which features of the product are most important for each application: energy efficiency, footprint (physical size) and price. You adjust the slider controls to indicate the relative importance to you of each of these three elements. You can also choose to display all possible models, or just the 'top 10' which best meet your selection criteria. Once the selected models are displayed, the 'best' options in each category (energy efficiency, footprint and price) will be on top of the table.

Quality , Support and Website - Trained staff will advise you through every step of the selection process. Our customer service continues passes the product delivery, and we are always on hand to advise on any issues. Keep up to date with our products and latest news by visiting the website, **www.kelvion.com**

GOEDHART® CU/AL COMMERCIAL SERIES

STANDARD FLEXIBLE

For all Cu/Al models and series of the Goedhart® air coolers your schedule of requirements is leading. Depending on the application, our sales team searches for the optimal configuration in close cooperation with the customer. You have a free choice in the so-called level 1 and 2 versions:

- dimensions
- Air direction
- blow-through or draw-through
- model: with feet of suspension profiles
- cooling system: natural (NH3 and C02) and synthetic refrigerants
- materials: copper tubes/aluminium fins, Stainless steel tubes/aluminium fin, Stainless steel tubes and fins or steel tubes and fins / hot dipped galvanized
- accessories: eg defrost, coatings

LEVEL OF ENGINEERING - 'COMMERCIAL PRODUCTS'

The standard cooling systems available in different fixed sizes are so-called "Commercial products". Within this level of engineering, you can choose from air coolers consisting of copper tubes with aluminum fins (Cu / Al 38x33) and stainless steel tubes with aluminum fins (St / Al 38x33).

INNOVATION

We can not emphasize often enough that we can meet our "customized production" philosophy to every customer requirements. Common customer requirements lead to innovation of our products. A good example is the energy efficient Goedhart® VCe-p and VCe-i ranges in the copper / aluminum version of our air coolers and air-cooled condensers

FAN SYSTEM

Because of the flexible construction of the Goedhart® air cooler, in principle it is possible to deliver with different fans. We selected a standard fan range of Ziehl Abegg (we reserve the right to alter the manufacturer) which fits perfectly on the Goedhart® flexible air coolers. The fans can be supplied in both blow-through and draw-through executions. Against an extra price stainless steel guards and EC-fans are available.

Fan execution

The fans meet the ErP2015 directive. The fans have very good aerodynamic features because of the special impeller geometry. This special impeller geometry gives the fan a low noise level and a high efficiency.

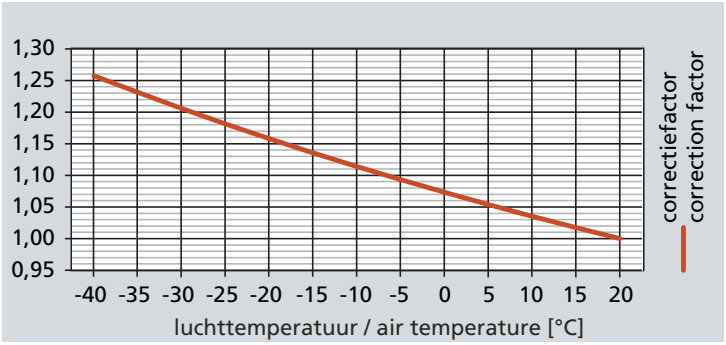
SPECIFICATIONS

Fan data

1x230V-AC	: till -25°C environment temperature
3x400V-AC	: till -40°C environment temperature (between -40°C en -50°C environment temperature on request)
1x230V-EC	: till -25°C environment temperature
3x400V-EC	: till -35°C environment temperature
Tension	: 1x230V-50Hz (60 Hz on request)
	: 3x400V-50Hz
	: 3x400V or 3x460V-60Hz
Protection class	: IP44 / IP54
Color	: RAL9005 (black)
Speed controlling	: 3 phase: 2 speeds by Δ-Y reconnection
	: frequency controller with all-pole sinus filter
	: 1 phase : phase-control
	: transformator

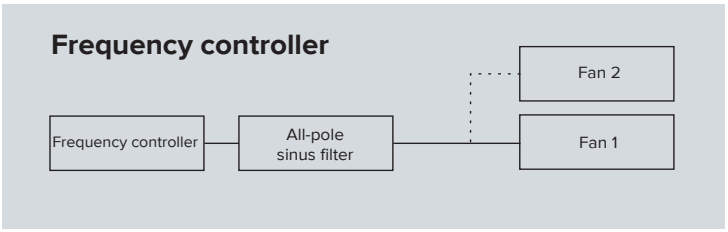
The motors are standard executed with a thermo contact and must be connected to prevent motor damages.

The maximum allowable working data in the table and on the name plate of the fans are to operate in an air temperature of +20 °C (air density of ρ = 1,2 kg/m³). For air temperatures lower then +20 °C, the current amperage can be calculated by using the diagram multiplication factor, suitable thermal overloads can then be selected. In our Goedhart GPC selection program also the values in the working point are indicated.



SOUND DATA

The mean sound pressure (LpA @ 3m ± 2 dB (A)) each air cooler is a calculated indication value according to the EN13487 standard parallel pipe. Kelvion uses the fan manufacturer's sound power level (LwA) at the inlet side of the fan. Changes to or by the fan or the product, affect the sound, in these cases, consult the manufacturer for the new indication value. In critical sound requirements, we advise you to consult an expert.



DATA ON THE NAME PLATES

Fan diameter	Tension	Single phase - 50 Hz				Single phase - 60 Hz			
		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min⁻¹	Watt	A	dB(A)	min⁻¹	Watt	A	dB(A)
6 pole (n=1000 min⁻¹ nom.)									
400	1x230	950	130	0,60	67	1110	170	0,78	68
450	1x230	-	-	-	-	-	-	-	-
500	1x230	900	270	1,25	74	900	380	1,75	75

Fan diameter	Tension	Three phase - 50Hz								Three phase - 60Hz			
		Δ			Y			Δ	Y	Δ			
		Speed	Nominal power	FLC	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min⁻¹	Watt	A	min⁻¹	Watt	A	dB(A)	dB(A)	min⁻¹	Watt	A	dB(A)
6 pole (n=1000 min⁻¹ nom.)													
400	3x400/690	-	-	-	-	-	-	-	-	-	-	-	-
450	3x400/690	900	180	0.50	630	100	0.24	66	59	1020	280	0,60	69
500	3x400/690	880	290	0.74	590	150	0.36	68	57	970	440	0,90	71

Mentioned data are for each fan according the supplier of the fans

CAPACITY OPTIMIZATION

To achieve the best possible combination of application, refrigerant and capacity, we can optimise the coil circuiting, depending on the specific conditions under which the products will be used. Goedhart® PAC is a standard product to ensure shorter delivery times. The circuiting of these evaporators has been optimized according to the most commonly used coolants/ refrigerants and conditions. Specific applications can vary from this, our sales department is there to assist you in selecting the best circuiting for your application. n order to do this, the following information is needed :

- Needed capacity
- Refrigerant
- Air on temperature
- Coolant temperature
- Evaporating temperature

CORRECTION FACTOR FOR COOLANTS

The nominal capacities of the Goedhart FC38p(G) air coolers are based on an air-on temperature of 12°C, a RH of 85% and:

R404A	: evaporation temperature	= +2°C
Water	: in / out temperatuur	= +1/+5°C
E-Glycol	: in / out temperatuur	= - 2/+3°C
P-Glycol	: in / out temperatuur	= - 2/+3°C
Pekasol	: in / out temperatuur	= - 2/+3°C
Freezium	: in / out temperatuur	= - 2/+3°C

Correction factors for various air-on temperatures and refrigerants or secondary coolants are as indicated in the tables below. The requested capacity must be multiplied by a correction factor from the table, so that a cooler with te resulting nominal capacity can be chosen from the selection tables.

Q nominal = faktor x Q requested

CALCULATION EXAMPLE

Fin spacing	: 4 mm	•	Correction factor = 1,057
Requested capacity	: 11 kW	•	Multiply requested capacity with correction factor.
Air-on temperature	: +13°C		
Coolant	: E-glycol 28%		11 kW x 1,057 = 11,63 kW
Temp. in/out	: 0 / 5 °C	•	Select air cooler from the tabel (type PAC 41454-S =11,7 kW)

R404A

in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
0	1,44	1,20	1,03	0,91	0,82	0,73	0,65	0,58	0,53
1	1,70	1,42	1,19	1,01	0,90	0,81	0,72	0,64	0,58
2	2,15	1,68	1,40	1,18	1,00	0,89	0,80	0,72	0,64
3	2,76	2,13	1,66	1,39	1,17	0,99	0,87	0,78	0,70
4	4,00	2,72	2,10	1,64	1,36	1,16	0,97	0,85	0,77

Water

in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
1 / 5	1,99	1,59	1,32	1,14	1,00	0,88	0,78	0,72	0,66
2 / 6		1,95	1,57	1,30	1,12	0,98	0,87	0,78	0,71
3 / 7			1,92	1,54	1,28	1,11	0,97	0,86	0,77
4 / 8				1,94	1,56	1,31	1,13	0,98	0,87
5 / 9					1,86	1,49	1,25	1,07	0,94

E-Glycol 28%

in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,81	1,46	1,34	1,16	1,00	0,88	0,82	0,81	0,69
-1 / 4	2,35	1,72	1,41	1,28	1,10	0,96	0,85	0,79	0,75
0 / 5	2,43	2,30	1,64	1,40	1,24	1,06	0,93	0,84	0,76
1 / 6		2,38	2,28	1,59	1,37	1,21	1,05	0,92	0,82
2 / 7			2,28	2,09	1,55	1,35	1,17	1,03	0,91

P-Glycol 28%

in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,66	1,45	1,26	1,11	1,00	0,91	0,83	0,76	0,70
-1 / 4	2,00	1,65	1,42	1,24	1,11	1,01	0,90	0,81	0,77
0 / 5	2,48	1,94	1,65	1,41	1,23	1,14	1,00	0,91	0,85
1 / 6		2,46	1,97	1,64	1,42	1,29	1,12	1,00	0,92
2 / 7			2,45	1,96	1,63	1,64	1,28	1,11	1,00

Pekasol 50%

in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,68	1,42	1,26	1,11	1,00	0,90	0,82	0,77	0,70
-1 / 4	2,02	1,65	1,42	1,24	1,10	0,98	0,89	0,81	0,76
0 / 5	2,39	1,96	1,62	1,39	1,22	1,07	0,96	0,87	0,80
1 / 6		2,36	1,93	1,60	1,37	1,20	1,06	0,94	0,86
2 / 7			2,32	1,89	1,57	1,35	1,18	1,05	0,94

Freezium 24%

in/out	Luchtintrede temperatuur (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,66	1,44	1,25	1,11	1,00	0,91	0,83	0,77	0,71
-1 / 4	1,94	1,62	1,42	1,23	1,09	0,98	0,89	0,82	0,76
0 / 5	2,38	1,91	1,59	1,39	1,21	1,07	0,97	0,88	0,81
1 / 6		2,34	1,88	1,57	1,37	1,20	1,06	0,95	0,86
2 / 7			2,30	1,86	1,55	1,35	1,18	1,05	0,94

Kelvion



GOEDHART® PAC AIR COOLERS

Pleasant Atmosphere Cooler

The range Goedhart® PAC (Pleasant Atmosphere Cooler) ceiling mounted air coolers is especially designed to take care for cooling with decreased draft. Because of that Goedhart® PAC is preeminently suitable for rooms that people are working in, like working room applications. The build-in height is low in order to maximize the use of the cooling room.The range consists of 22 types with a nominal capacity range between 5,3 and 63,8 kW (E-glycol 28%). The modular design incorporates 3 different sizes of fans (400, 450 and 500 mm).

Coil block

Tube distance	: 38x33 mm staggered
Fin spacings	: 4 and 7mm.
Material	: 12 mm o.d internally plain (p) or increased (i) copper tubes
	: aluminium HT-fins

The coil blocks have copper tubes mechanically expanded into fully collared aluminium fins. A good thermal contact is achieved by expansion of the tubes into the fin collars, that are also utilised as spacers to provide a constant distance between the fins. All coolers are pressure tested to 40 bar (lower by coolants) and are supplied with a light over pressure charge of dried air. The suction header is executed with a Schräder valve for testing applications. Suitable for the most known refrigerants and coolants, with the exception of NH3.

Casing

- Construction suitable for ceiling mounting
- Casing is made from galvanized sheet steel. (Stainless steel optional)
- Corrosion resistant white spray finish
- Header and bend side is easy accessible for maintenance.
- Executed with hinged drip trays
- Will be delivered under a little angle, so the condensation always carry away to the
- drains at one side.
- Fixing materials are made of stainless steel.

Goedhart® PAC features

- For cooling applications with reduced drafts
- Extremely suitable in processing areas where people are working
- Comprising 22 models
- Capacity range from 5,1 to 54,5kW (R404A).
- EC fan technology possible
- Fans are not wired as standard to a junction box (optional)
- Suitable for almost all known refrigerants and coolants, with the exception of NH3.
- Goedhart® PAC is delivered on a wooden frame, for easy mounting

1	Range	: Goedhart® PAC	
2	Execution tube	: p	= internal plain
		: i	= internal increased
3	Rows deep	: 4	
4	Number of fans	: 1 - 4	
5	Fan diameter	: 400, 450, 500 mm	
6	Fin spacing	: 4, 7 mm	
7	Power supply	: 1x230V, 3x400V fan	

1	2	3				
PAC	i	6	3	45	7	230
			4	5	6	7

GOEDHART® PAC

Technical data | Fin spacing 4 mm

Air-on temperature 12°C
Ø 400mm 1x230V-50Hz-6 pole, Ø 450 & 500mm 3x400V-50Hz-6 pole - Δ (1000 min^{-1} nom.)

Type	R404A	E-Glycol 28% -2 / 3 °C (in/out temp.)			Water 1 / 5 °C (in/out temp.)			P-Glycol 34% -2 / 3 °C (in/out temp.)			Pekasol 50% -2 / 3 °C (in/out temp.)			Freezium 24% -2 / 3 °C (in/out temp.)			Lucht-hoeveelheid	LpA @ 3 m (+/- 2 dB(A))*	Surfacde	Weight	Internal volume
	Capacity	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop					
Goedhart® PAC	kW	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	kg	dm³
4.1.40.4	6,6	5,3	0,98	29,37	7,3	1,55	29,37	5	0,91	29,37	8,7	1,48	29,37	8,6	1,68	29,37	1995	44,9	23	91	5
4.1.45.4	9,0	11,7	2,18	41,63	11,2	2,39	41,63	6,9	1,24	41,63	13,7	2,34	41,63	11,7	2,30	41,63	3266	43,9	29	107	6
4.1.50.4	13,2	14,3	2,66	46,75	14,9	3,17	46,75	9,9	1,80	46,75	18	3,09	46,75	17,8	3,50	46,75	4475	45,8	39	120	8
4.2.40.4	13,4	15,9	2,96	29,35	15,2	3,25	29,35	10,1	1,82	29,35	18,6	3,19	29,35	18,5	3,63	29,35	3988	47,6	46	148	9
4.2.45.4	19,9	23,2	4,32	41,64	22,3	4,76	41,64	12,3	2,22	41,64	27,2	4,67	41,64	27	5,30	41,64	6533	46,5	58	177	11
4.2.50.4	27,0	32,8	6,10	46,75	30,5	6,51	46,75	16,5	2,99	46,75	37,4	6,41	46,75	35,5	6,97	46,75	8950	48,4	77	198	15
4.3.40.4	20,3	25,4	4,73	29,35	23,1	4,94	29,35	13,6	2,46	29,35	28,5	4,89	29,35	27	5,29	29,35	5982	49,1	70	248	13
4.3.45.4	30,1	34,7	6,46	41,63	33,4	7,13	41,63	16,8	3,06	41,63	40,8	6,99	41,63	40,4	7,93	41,63	9799	47,9	87	248	16
4.3.50.4	36,7	50,7	9,43	46,75	45,2	9,66	46,75	23,1	4,19	46,75	56,7	9,73	46,75	54,8	10,75	46,75	13425	49,9	116	278	22
4.4.45.4	40,2	49,7	9,25	41,64	45,3	9,68	41,64	20,9	3,79	41,64	55,8	9,56	41,64	53,8	10,56	41,64	13066	48,8	116	320	22
4.4.50.4	54,5	65,3	12,14	46,75	60,8	12,99	46,75	29	5,27	46,75	74,6	12,80	46,75	72,4	14,21	46,75	17900	50,8	155	360	29

GOEDHART® PAC

Technical data | Fin spacing 7 mm

Air-on temperature 12°C
Ø 400mm 1x230V-50Hz-6 pole, Ø 450 & 500mm 3x400V-50Hz-6 pole - Δ (1000 min^{-1} nom.)

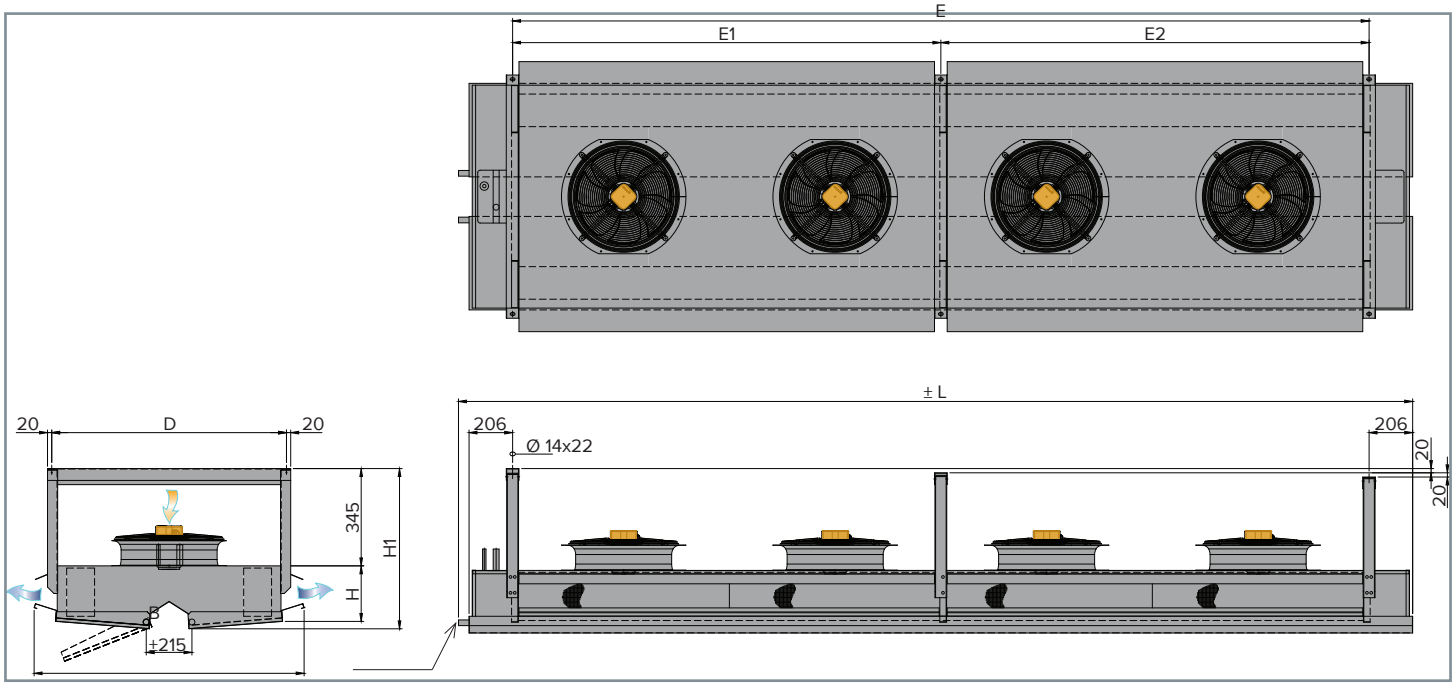
Type	R404A	E-Glycol 28% -2 / 3 °C (in/out temp.)			Water 1 / 5 °C (in/out temp.)			P-Glycol 34% -2 / 3 °C (in/out temp.)			Pekasol 50% -2 / 3 °C (in/out temp.)			Freezium 24% -2 / 3 °C (in/out temp.)			Lucht-hoeveelheid	LpA @ 3 m (+/- 2 dB(A))*	Surfacde	Weight	Internal volume
	Capacity	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop					
Goedhart® PAC	kW	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	kg	dm³
4.1.40.7	5,1	4,4	0,81	18,05	5,3	1,14	18,05	4,2	0,76	18,05	6,1	1,05	18,05	6,1	1,19	18,05	2215	44,9	14	86	5
4.1.45.7	6,1	6,1	1,13	26,25	8,4	1,80	26,25	5,8	1,06	26,25	10,2	1,76	26,25	10,1	1,99	26,25	3845	43,9	17	101	6
4.1.50.7	9,9	7,9	1,47	29,74	11	2,35	29,74	8,3	1,51	29,74	13,2	2,27	29,74	13,1	2,57	29,74	5149	45,8	23	113	8
4.2.40.7	10,1	8	1,48	18,06	11,3	2,41	18,06	8,4	1,52	18,06	13,7	2,35	18,06	13,6	2,67	18,06	4431	47,6	28	137	9
4.2.45.7	14,8	10,3	1,91	26,25	17,5	3,73	26,25	10,6	1,91	26,25	21,6	3,70	26,25	20,2	3,96	26,25	7691	46,5	35	166	11
4.2.50.7	19,8	14	2,60	29,75	23,3	4,99	29,75	15,1	2,75	29,75	27,7	4,75	29,75	27,4	5,39	29,75	10297	48,4	46	185	15
4.3.40.7	15,3	17,6	3,27	18,06	17,8	3,79	18,06	11,5	2,08	18,06	21,1	3,62	18,06	20,9	4,11	18,06	6646	49,1	42	189	13
4.3.45.7	23	27,7	5,16	26,25	25,8	5,52	26,25	15,8	2,87	26,25	31,8	5,45	26,25	31,5	6,19	26,25	11536	47,9	52	231	16
4.3.50.7	24,7	39	7,25	29,75	35	7,47	29,75	21,1	3,83	29,75	43,3	7,42	29,75	41,7	8,19	29,75	15446	49,9	69	257	22
4.4.45.7	29,7	38,9	7,23	26,25	34,9	7,45	26,25	19,5	3,54	26,25	43,1	7,39	26,25	41,6	8,17	26,25	15381	48,8	69	299	21
4.4.50.7	39,8	51,9	9,66	29,75	46,6	9,96	29,75	26,5	4,81	29,75	57,6	9,88	29,75	56	11,00	29,75	20595	50,8	93	332	29

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)) , free field conditions, according EN13487

GOEDHART® PAC
Dimensions

	Dimensions							Connections 4 mm						Connections 7 mm					
								R404A	E-Glycol 28%	Water	P-Glycol 34%	Pekasol	Freezium 24%	R404A	E-Glycol 28%	Water	P-Glycol 34%	Pekasol	Freezium 24%
Type	L	B	H	H1	D	E	E1 E2	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out	In/Out
Goedhart® PAC	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
4.1.40.*	1312	1150	280	760	1280	850		12/22	22/22	22/22	15/15	22/22	22/22	12/22	15/15	22/22	15/15	22/22	22/22
4.1.45.*	1512	1150	280	760	1280	1050		12/22	28/28	28/28	22/22	28/28	28/28	12/22	22/22	22/22	22/22	22/22	22/22
4.1.50.*	1512	1150	355	830	1280	1050		16/22	28/28	28/28	22/22	28/28	35/35	12/22	22/22	28/28	22/22	28/28	28/28
4.2.40.*	2112	1150	280	760	1280	1650		12/22	28/28	28/28	22/22	28/28	35/35	12/22	22/22	28/28	22/22	28/28	28/28
4.2.45.*	2512	1150	280	760	1280	2050		16/28	35/35	35/35	28/28	35/35	35/35	12/22	35/35	35/35	22/22	35/35	35/35
4.2.50.*	2512	1150	355	830	1280	2050		16/35	42/42	42/42	28/28	42/42	42/42	16/28	28/28	35/35	28/28	35/35	35/35
4.3.40.*	2912	1150	280	760	1280	2450		16/28	35/35	35/35	28/28	35/35	42/42	16/28	28/28	35/35	28/28	35/35	35/35
4.3.45.*	3512	1150	280	760	1280	3050		16/35	42/42	42/42	28/28	42/42	42/42	16/28	35/35	42/42	28/28	35/35	42/42
4.3.50.*	3512	1150	355	830	1280	3050		22/42	54/54	54/54	35/35	54/54	54/54	16/35	42/42	42/42	35/35	42/42	54/54
4.4.45.*	4512	1150	280	760	1280	4050	2025	16/35	54/54	54/54	35/35	54/54	54/54	16/35	42/42	42/42	35/35	42/42	42/42
4.4.50.*	4512	1150	355	830	1280	4050	2025	22/42	54/54	54/54	42/42	54/54	64/64	22/42	54/54	54/54	35/35	54/54	54/54

GOEDHART® PAC
Drawing



EC-Declarations for dx-R404A

Connection ≤ 35 mm	: Declaration of incorporation (SEP)
Connection 42mm and 54 mm	: module A
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

EC-Declarations for coolants

According	: Declaration of incorporation (SEP)
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

UVC DISINFECTION SYSTEM

UVC disinfection in food production means round-the clock hygiene. The UVC treatment of coil block fin surface destroys bacteria before they colonize your products and ensures consistent quality over the whole working day. UVC fin surface treatment on the Goedhart PAC air coolers enables to take residual free measures against bacteria right where they arise. Due to UVC radiation a slight discoloration is possible on spray painted surfaces.

- Available on Goedhart PAC air coolers
- UVC against bacteria, yeasts, viruses and mold
- Round-the-clock hygiene of the coil block surface
- Low energy costs through efficient ballasts
- Without chemicals and residue-free
- Shatterproof lamps according to HACCP and IFS standard
- Operating temperature 0 - 40°C
- UVC treatment ensures you a hygienic surface
- IP67 protected

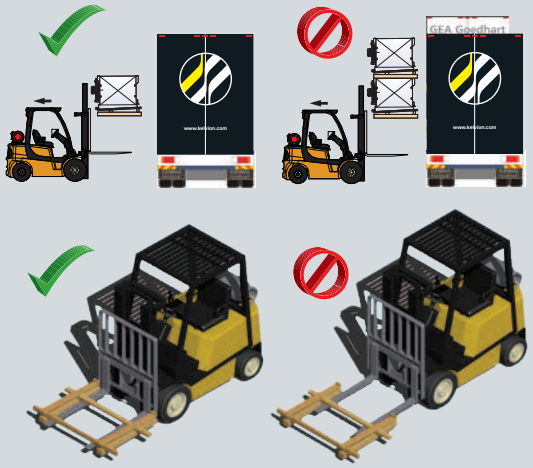
LIFTING INSTRUCTIONS

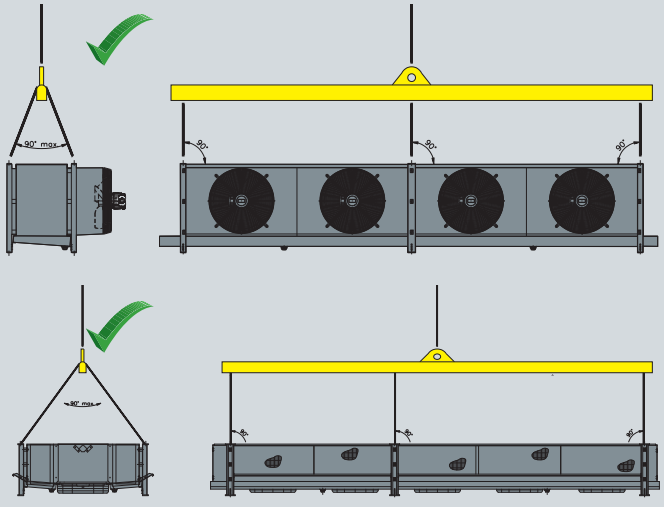
Lifting instructions are supplied with every product. Lifting and moving heat exchangers must be carried out by skilled personnel. Safety must always be assured. Contact us if in doubt about any lifting or moving instruction.

These instructions must always be followed in order to guarantee safety and to prevent any damage occurring to our product.

Heat exchangers mounted on a wooden frame can be unloaded by a forklift truck. When doing so, stacked heat exchangers may only be lifted off one at a time. A crane can also be used for unloading by positioning slings under the wooden frame.

Heat exchangers with transport legs must be unloaded using a crane with a balancer (see lifting instructions).





www.kelvion.com

Kelvion

ConBraze

NEW BENCHMARK IN HEAT TRANSFER

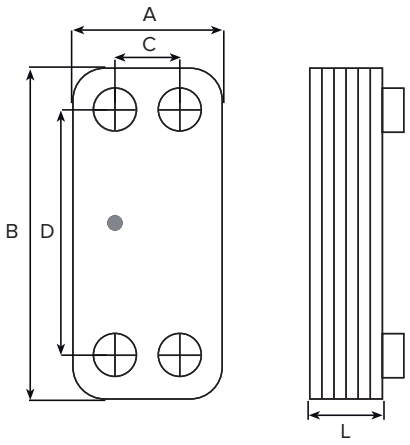
The new ConBraze
With the new ConBraze-Series highest efficiency, effective use of materials and absolute functionality are optimally combined in the form of brazed plate heat exchangers. With these features the ConBraze-Series lives up to the expectations of the ever-increasing demand for environmentally friendly, energy-efficient cooling and heating systems, because both in the production and in the operation of these units resources are systematically saved. In addition, efficiency and durability have top spot.

New shaped flow cells generate higher turbulence in the channel and improve heat transfer, thereby increasing efficiency. Thus, the units are ideal for requirements of minimum space and maximum capacity.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Example:
- heat pumps for heating and potable water heating
- central domestic water heating
- home stations
- district heating stations

Your advantages at a glance:
- increased efficiency – increased performance
- higher compressive strength
- distinctive reduced filling volume
- reduced operating costs



We need following information to select your optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litre/ Channel)	
Plate heat exchanger	**Pressure**	**A**	**B**	**C**	**D**	**L-Dimension N = number of plates**	**Mass N = number of plates**	**Volumes**	**Max. number of plates**
GK... 108H	45	74	204	40	170	12.95+1.00xN	0.33+0.035xN	0.010	50
GK... 228H	45	90	328	43	279	12,95+1,00xN	0.40+0.069xN	0.019	50
GK... 550M	50	124	532	73	478	11.00+1.75xN	1.76+0.210xN	0.070	100
GK... 550H	50	124	532	73	478	11.00+1.75xN	1.76+0.210xN	0.070	100
GK... 770M	45	278	539	200	460	13.00+1.75xN	9.60+0.540xN	0.170	200
GK... 770H	45	278	539	200	460	13.00+1.75xN	9.60+0.540xN	0.170	200
Also available as an advanced evaporator with a special “Delta Injection™” distribution system for the refrigerant inlet.									
GK... 550H-AE	50	124	532	73	478	11.00+1.75xN	1.76+0.210xN	0.070	100
GK... 770H-AE	45	278	539	200	460	13.00+1.75xN	9.60+0.540xN	0.170	200

GK...-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Cooper

Features

- Safety Chamber™ (model 108H, 228H, 770M, 770H)
- Delta Injection™ (model 550H, 770H)

Performance limits GKE

- working temperature: -196°C to +200°C/-321°F to + 392°F
- working pressure: up to 30 bar/435 psi

Performance limits GKS

- working temperature: -196°C to +200°C/-321°F to + 392°F
- working pressure: up to 40 bar/580 psi

Performance limits GKH

- working temperature: -196°C to +200°C/-321°F to + 392°F
- working pressure: up to 50 bar/725 psi

Approval

- PED (CE)
- ASME VIII-1

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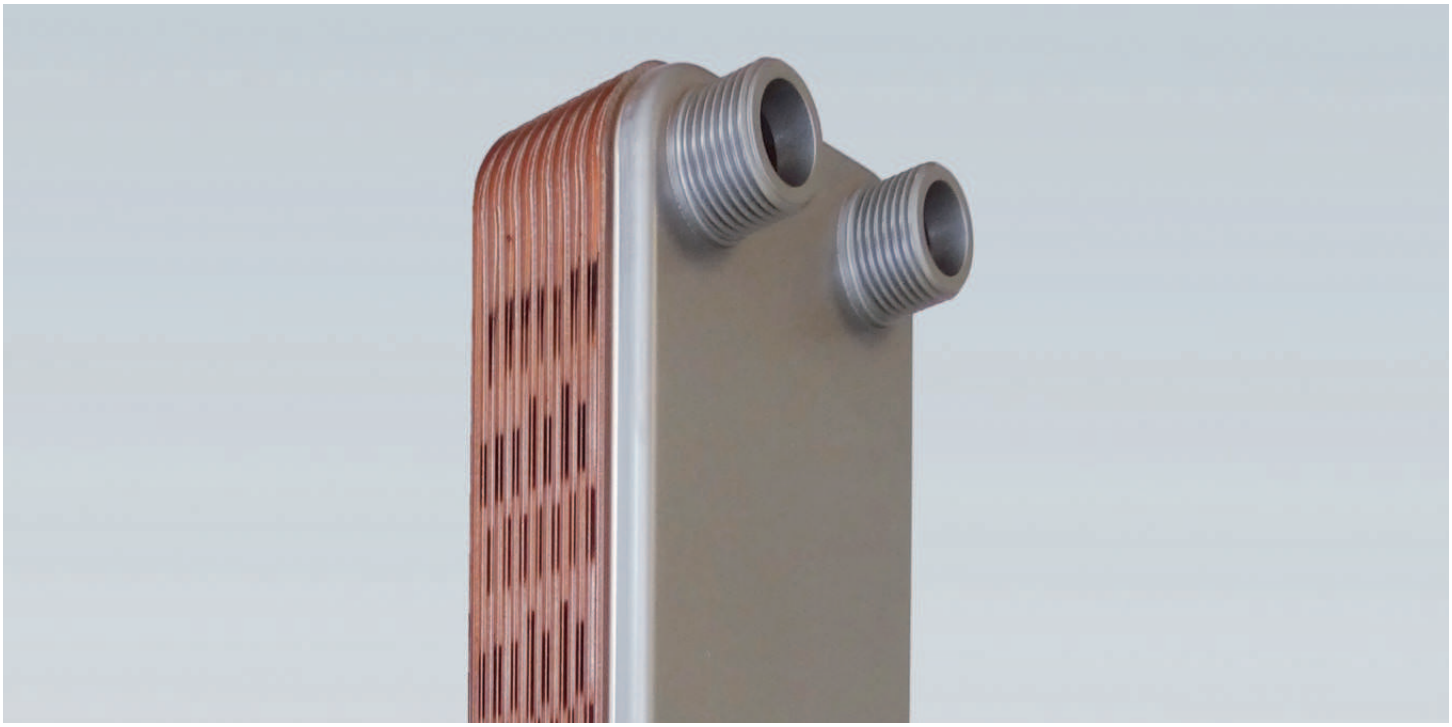
Kelvion

GB...-DW-Series

DOUBLE-WALLED FOR BETTER PROTECTION



GB...-DW-Series
The great demands, Kelvion has for developing individual solutions, form the basis for your applications with the highest safety standards. The heat exchangers of GB ... -DW-Series consist of double-walled, hermetically sealed plates. The system convinces with two stainless steel plates instead of one, at which the second wall not only separates the media from each other, but also makes the leak visible. Thus, the mixing of the media of primary and secondary side in case of a leakage is impossible. With the GB ... -DW-Series Kelvion offers reliability, efficiency and highest safety in one product.

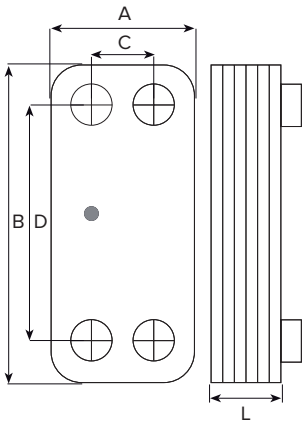
The robust plate construction and the optimized plate design ensure high pressure resistance. For requirements up to 140 bar/2031psi, a double-wall version with pressure frame was developed in addition.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

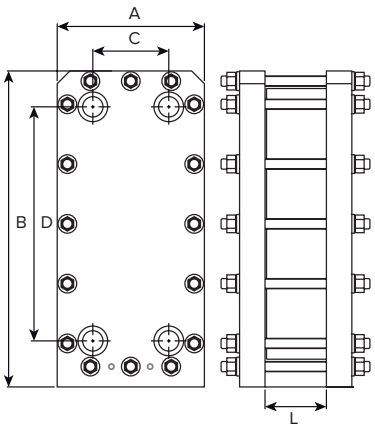
Examples:
- potable water heating
- applications for safety heat exchangers
- oil cooling

Your advantages at a glance:
- double-walled safety construction
- reliable media separation
- powerful
- space-saving

GBS-DW/GBH-DW



GBH-HP-DW



We need following information to select your optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litre/ Channel)	
Plate heat exchanger	Pressure	A	B	C	D	L-Dimension N = number of plates	Mass N = number of plates	Volume	Max. number of plates
GBS-DW 400H	16	124	335	73	281	12.00+2.40xN	1.62+0.170xN	0.065	100
GBH-DW 400H	45	124	335	73	281	12.00+2.40xN	1.62+0.170xN	0.065	100
GBS-DW 500H	16	124	532	73	478	12.00+2.40xN	2.02+0.270xN	0.100	100
GBH-DW 500H	45	124	532	73	478	12.00+2.40xN	2.02+0.270xN	0.100	100
GBH-HP-DW 400H	120	195	403	73	281	76,50+2,40xN	42,00+0,210xN	0,065	100
GBH-HP-DW 500H	140	195	600	73	478	12.00+2.40xN	77.8+0.270xN	0.100	100

GB...-DW-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Copper

Features

- Full Flow System™ (model 400, 500)

Performance limits

- working temperature: 0°C to +200°C / 32°F to +392°F
- working pressure: up to 140 bar / 2031 psi

Approval

- PED (CE)
- ASME VIII-1

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Kelvion

Brazed
plate heat exchangers

GKE/GBE

THE ECONOMICAL SOLUTION FOR FULL EFFICIENCY

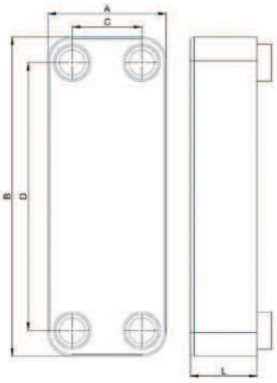
GKE/GBE-Series
The GKE/GBE-Series are compact brazed plate heat exchangers designed for hydronics, perfectly suitable for applications with up to 30 bar / 435 psi and max. 200°C / 392°F. They offer an economical solution for decentralized hot water systems, separating systems and various regenerative applications.

With these high thermal efficient plate heat exchangers, you can handle everything with minimal size and weight for maximal efficiency, quality and profitability.

Applications for the GKE/GBE-Series:
- underfloor and conventional heating
- potable water heating
- hydraulic applications with low pressures

Always a suitable solution
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of applications. We configure the most economically favorable model for you from our wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Your advantages at a glance:
- low investment costs
- high efficiency
- compact design
- ConBraze®-Design avialable
- modular design



We need following information to select the optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litre/ Channel)	
Plate heat exchanger	**Pressure**	**A**	**B**	**C**	**D**	**L-Dimension N = number of plates**	**Mass N = number of plates**	**Volume**	**Max. number of plates**
GBE									
GBE 100M	16/16	74	204	40	170	L=11.5+2.23xN	W=0.35+0.050xN	0.025	50
GBE 200H	16/16	90	231	43	182	L=14.18+2.24xN	W=0.48+0.060xN	0.030	50
GBE 220H	16/16	90	328	43	279	L=14.14+2.22xN	W=0.58+0.080xN	0.046	50
GBE 240H	16/16	91	464	43	415	L=14.10+2.20xN	W=0.79+0.140xN	0.070	50
GBE 400H	16/16	124	335	73	281	L=14.18+2.24xN	W=0.77+0.130xN	0.065	50
GBE 500H	25/16	124	532	73	478	L=14.11+2.23xN	W=1.10+0.210xN	0.100	100
GKE									
GKE 108H	16/16	74	204	40	170	L=12.95+1.0xN	W=0.33+0.035xN	0.010	50
GKE 228H	16/16	90	328	43	279	L=12.95+1.0xN	W=0.40+0.069xN	0.019	50
GKE 550M	30/25	124	532	73	478	L=9.35+1.75xN	W=1.00+0.210xN	0.070	150
GKE 550H	30/25	124	532	73	478	L=9.35+1.75xN	W=1.00+0.210xN	0.070	150

GKE/GBE-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Copper

Features

- Full-Flow System™ (models GBE 100, 200, 220, 240, 400, 500)
- ConBraze® Design (models 108, 228, 550)
- Safety Chamber™ (model 108, 228)

Performance limits

- working temperature: -196°C to +200°C / -321°F to +392°F
- working pressure: up to 30 bar / 435 psi

Approval

- PED (CE)
- ASME VIII-1

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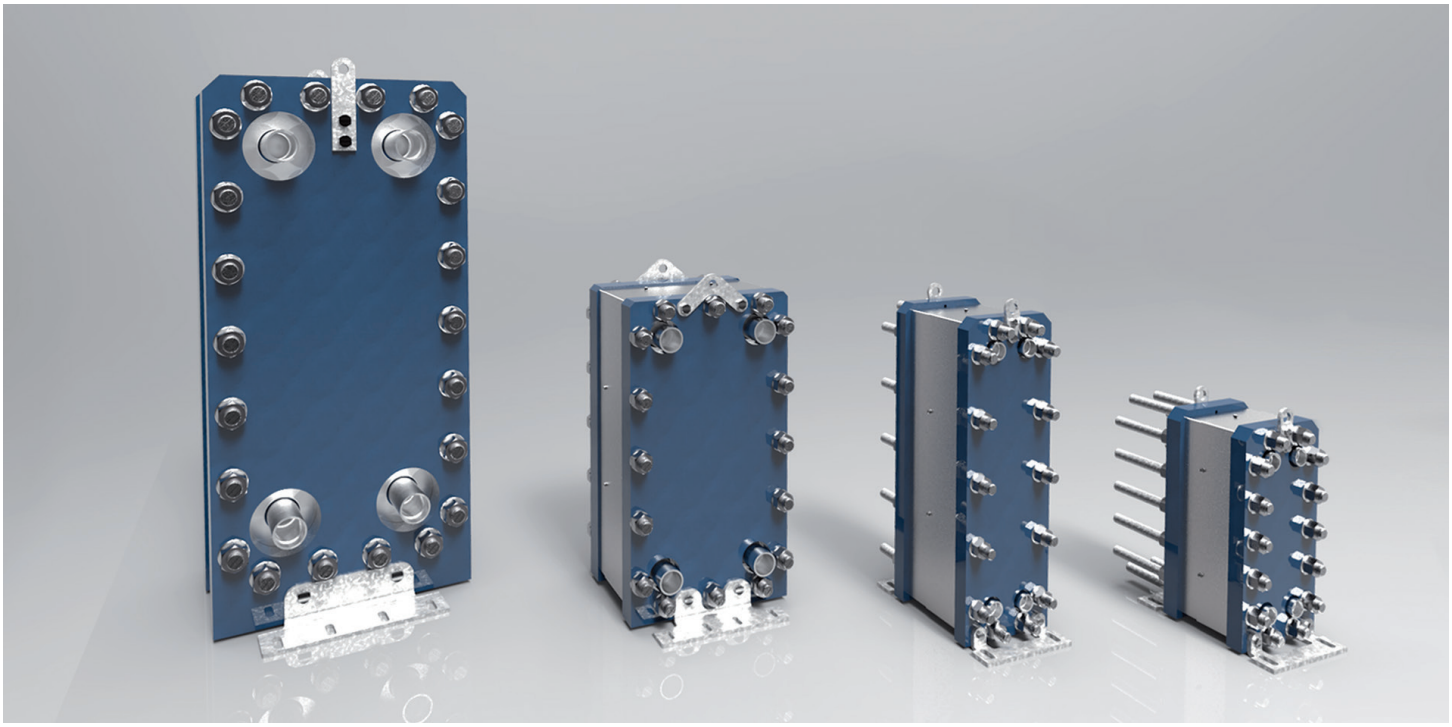
Kelvion

GBH-HP-Series

HIGH PRESSURE BRAZED PLATE HEAT EXCHANGERS



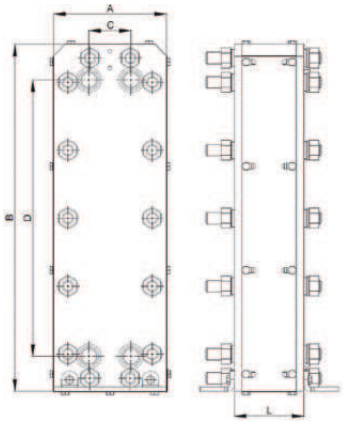
GBH-HP-Series
For the highest mechanical and thermal requirements.

The GBH-HP-Series are brazed plate heat exchangers with a pressure frame. They are designed for transcritical and subcritical CO_2 systems and industrial applications with system pressures up to 140 bar.

Examples
- CO_2 heat pumps
- CO_2 supermarket cooling
- oil cooling
- industrial heating and cooling
- power plant technology

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Your advantages at a glance:
- high permanent pressure resistance
- long lifetime
- low investment costs
- solid frame construction
- CO_2 in a transcritical area



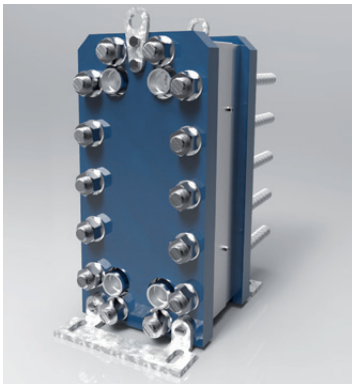
We need following information to select the optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litre/ Channel)	
Plate heat exchanger	**Pressure**	**A**	**B**	**C**	**D**	**L-Dimension N = number of plates**	**Mass N = number of plates**	**Volume**	**Max. number of plates**
GBH-HP 400H	140/140	195	410	73	281	L=78.5+2.40xN	W=43.0+0.21xN	0.065	100
GBH-HP-DW 400H	120/120	195	410	73	281	L=76.5+2.40xN	W=42.0+0.21xN	0.065	100
GBH-HP 500H	140/140	195	600	73	478	L=72.5+2.28xN	W=78.0+0.21xN	0.100	120
GBH-HP-DW 500H	140/140	195	600	73	478	L=75.0+2.40xN	W=77.8+0.27xN	0.100	100
GBH-HP 700L	140/130	340	621	200	460	L=114.0+2.34xN	W=179.0+0.54xN	0.230	150
GBH-HP 700M	140/130	340	621	200	460	L=114.0+2.35xN	W=179.0+0.54xN	0.230	150
GBH-HP 1000H	130/130	500	1050	237	723	L=163.3+2.31xN	W=652.0+1.25xN	0.600	360
Auch erhältlich mit integriertem Verteilsystem Delta Injection™.									
GBH-HP 500H-AE	140/140	195	600	73	478	L=72.5+2.28xN	W=78.0+0.21xN	0.100	120
GBH-HP 700M-AE	140/130	340	621	200	460	L=114.0+2.35xN	W=179.0+0.54xN	0.230	150
GBH-HP 1000H-AE	130/130	500	1050	237	723	L=163.3+2.31xN	W=652.0+1.25xN	0.600	360

GBH-HP-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Copper



Features

- Safety Chamber™ (model 700, 1000)
- Delta Injection™ (model 500, 700M, 1000)
- Full-Flow System™ (model 400, 500)
- Double-Wall-Safty-heat exchanger (type GBH-HP-DW 400 H, GBH-HP-DW 500 H)

Performance limits

- working temperature: -40°C to +150°C
- working pressure: up to 140 bar

Approval

- PED (CE)

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Kelvion

GBH-Series

KEEPING COOL – EVEN AT HIGH PRESSURES

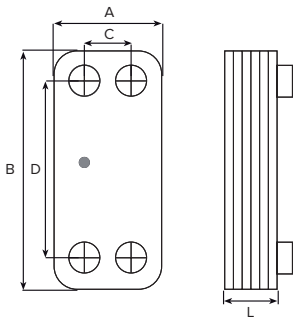
GBH-Series
These brazed plate heat exchangers were specifically designed for the efficient and environmentally friendly refrigerant R410a. At pressures up to 45 bar / 653 psi, the heat exchangers of the GBH-Series offer the widest variety and flexibility in terms of size, different connections, flow arrangements and accessories.

Equipped with the proven technical features such as Safety Chamber™, Delta Injection™ and Full Flow System™ heat exchangers of the GBH-Series are ideal for a variety of high-pressure applications in the fields of industry and refrigeration/air-conditioning to serve the highest customer requirements with its diversity.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Example:
- heat pumps for heating and hot water
- evaporators in air-conditioning systems
- process cooling
- economizer
- subcoolers and condensers

Your advantages at a glance:
- high pressure resistance
- compact design
- wide range of applications
- robust construction



We need following information to select your optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litres/ Channel)	
Plate heat exchanger	Pressure	A	B	C	D	L-Dimension N = number of plates	Mass N = number of plates	Volume	Max. number of plates
GBH 100M	45	74	204	40	170	8.00+2.23xN	0.70+0.050xN	0.025	50
GBH 200H	45	90	231	43	182	10.00+2.24xN	1.10+0.060xN	0.030	50
GBH 220H	45	90	328	43	279	10.00+2.22xN	1.30+0.080xN	0.046	50
GBH 240H	45	91	464	43	415	10.00+2.20xN	2.04+0.140xN	0.070	50
GBH 300H	45	124	173	73	120	12.30+2.22xN	1.20+0.060xN	0.030	50
GBH 400H	45	124	335	73	281	11.80+2.24xN	1.60+0.130xN	0.065	100
GBH 500H	45	124	532	73	478	9.50+2.23xN	1.76+0.210xN	0.100	100
GBH 700L/M	45	271	532	200	460	11.00+2.25xN	9.60+0.540xN	0.230	150
GBH 800H	45	271	532	161	421	13.80+2.34xN	10.00+0.540xN	0.221	260
GBH 900H	45	271	802	161	690	11.30+2.31xN	11.50+0.800xN	0.399	260
GBH 1000M/H	45	386	875	237	723	20.30+2.31xN	39.50+1.250xN	0.600	360
Also available as an advanced evaporator with a special “Delta Injection™” distribution system for the refrigerant inlet.									
GBH 400H-AE	45	124	335	73	281	11.80+2.24xN	1.60+0.130xN	0.065	100
GBH 500H-AE	45	124	532	73	478	9.50+2.23xN	1.76+0.210xN	0.100	100
GBH 700M-AE	45	271	532	200	460	11.00+2.25xN	9.60+0.540xN	0.230	150
GBH 800H-AE	45	271	532	161	421	13.80+2.34xN	10.00+0.540xN	0.221	260
GBH 900H-AE	45	271	802	161	690	11.30+2.31xN	11.50+0.800xN	0.399	260
GBH 1000H-AE	45	386	875	237	723	20.30+2.31xN	39.50+1.250xN	0.600	360

GBH-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Copper

Features

- Safety Chamber™ (model 700, 800, 900, 1000)
- Delta Injection™ (model 400, 500, 700, 800, 900, 1000H)
- Full Flow System™ (model 100, 200, 220, 240, 300, 400, 500)

Performance limits

- working temperature: -196°C to +200°C / -321°F to +392°F
- working pressure: up to 45 bar / 653 psi

Approval

- PED (CE)

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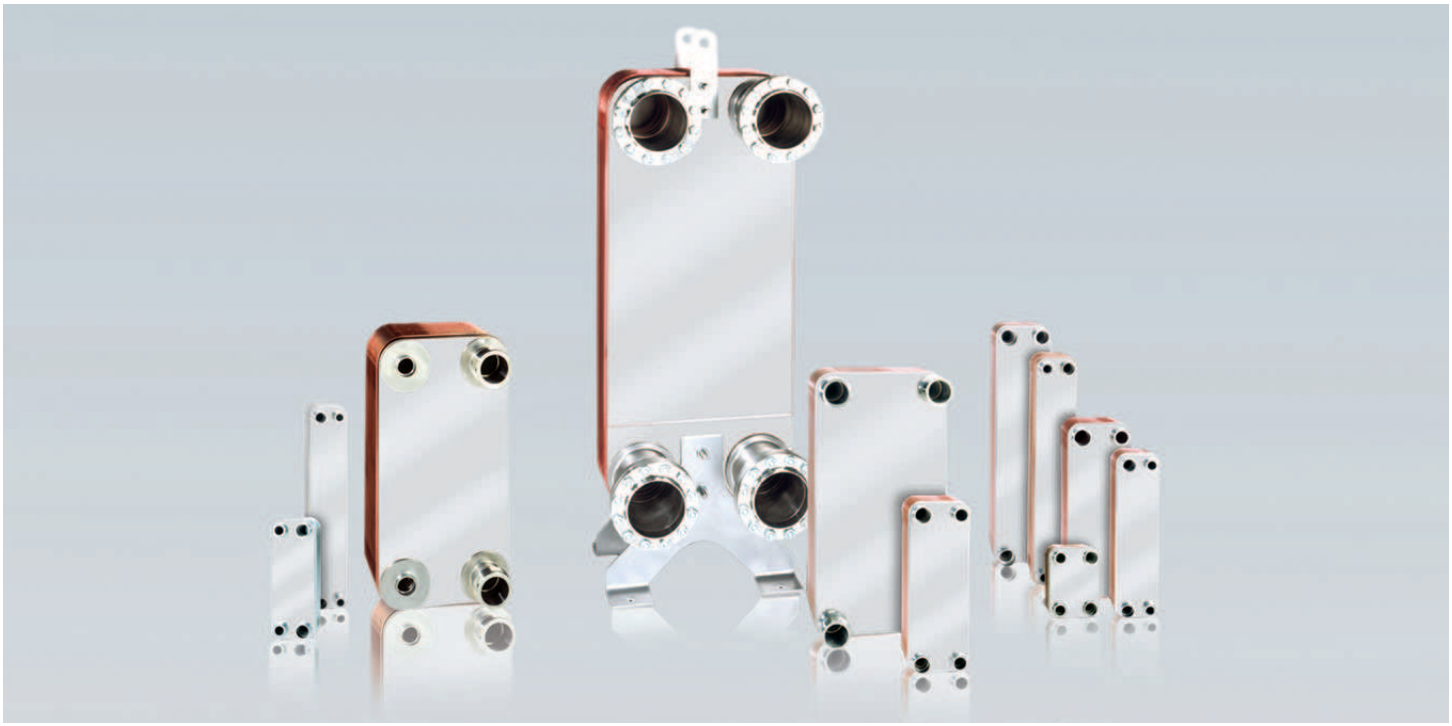
Kelvion

GBS-Series

POWERFUL MODELS IN A FLEXIBLE RANGE OF SIZES



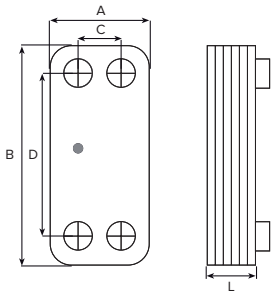
GBS-Series
Heat Exchangers of the GBS-Series are the solid all-rounders among all brazed plate heat exchangers from Klevion. The latest technology and decades of experience of successful applications guarantee highest quality, cost efficiency and reliability. Equipped with the proven technical features like Safety Chamber™, Delta Injection™ and Full Flow System™ the units are ideal for applications of all sizes with max. 200°C/392°F and up to 40 bar/580 psi.

The product range also offers the widest variety and flexibility in terms of sizes, different connections, flow arrangements and accessories. Thus heat exchangers of the GBS-series always serve the right solution for your operating conditions.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Example:
- heating water and industrial water systems
- underfloor heating
- subcoolers and condensers
- economizer
- refrigerant evaporators
- oil coolers

Your advantages at a glance:
- highest flexibility
- compact design
- wide range of applications
- solid construction



We need following information to select your optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litres/ Channel)	
Plate heat exchanger	Pressure	A	B	C	D	L-Dimension N = number of plates	Mass N = number of plates	Volume	Max. number of plates
GBS 100M	31	74	204	40	170	8.00+2.23xN	0.70+0.050xN	0.025	50
GBS 200H	31	90	231	43	182	10.00+2.24xN	1.10+0.060xN	0.030	50
GBS 220H	31	90	328	43	279	10.00+2.22xN	1.30+0.080xN	0.046	50
GBS 240H	31	91	464	43	415	10.00+2.20xN	2.04+0.140xN	0.070	50
GBS 300H	31	124	173	73	120	10.00+2.22xN	1.20+0.060xN	0.030	50
GBS 400H	31	124	335	73	281	9.50+2.24xN	1.60+0.130xN	0.065	100
GBS 418L/M	40	127	282	84	239	9.00+2.05xN	1.35+0.118xN	0.055	50
GBS 420L	31	127	282	68	223	9.00+2.76xN	1.35+0.118xN	0.076	150
GBS 500H	31	124	532	73	478	9.50+2.23xN	1.76+0.210xN	0.100	100
GBS 525L/M/H	36/34	118	525	69	476	9.00+2.58xN	2.55+0.210xN	0.125	100
GBS 700L/M	31	271	532	200	460	11.00+2.25xN	9.60+0.540xN	0.230	150
GBS 757L/M/H	35	281	543	198	460	11.50+2.65xN	13.20+0.500xN	0.310	160
GBS 760L	27/20	257	519	138	416	13.50+3.45xN	12.60+0.400xN	0.410	150
GBS 800H	31	271	532	161	421	11.50+2.34xN	10.00+0.540xN	0.221	260
GBS 900H	31	271	802	161	690	11.30+2.31xN	11.50+0.800xN	0.399	260
GBS 910M	36/32	318	783	225	690	14.00+2.54xN	20.00+0.853xN	0.480	200
GBS 1000M/H	31	386	875	237	723	20.30+2.31xN	39.50+1.250xN	0.600	360
GBS 1000L	31/16	386	875	237	723	22.65+2.35xN	39.50+1.250xN	0.466/0.733	360
Also available as an advanced evaporator with a special „Delta Injection™“ distribution system for the refrigerant inlet.									
GBS 400H-AE	31	124	335	73	281	9.50+2.24xN	1.60+0.130xN	0.065	100
GBS 500H-AE	31	124	532	73	478	9.50+2.23xN	1.76+0.210xN	0.100	100
GBS 700M-AE	31	271	532	200	460	11.00+2.25xN	9.60+0.540xN	0.230	150
GBS 800H-AE	31	271	532	161	421	11.50+2.34xN	10.00+0.540xN	0.221	260
GBS 900H-AE	31	271	802	161	690	11.30+2.31xN	11.50+0.800xN	0.399	260
GBS 1000H-AE	31	386	875	237	723	20.30+2.31xN	39.50+1.250xN	0.600	360

GBS-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Copper

Features

- Safety Chamber™ (model 700, 757, 800, 900, 1000)
- Delta Injection™ (model 400, 500, 700M, 800, 900, 1000H)
- Full Flow System™ (model 100, 200, 220, 240, 300, 400, 500)

Performance limits

- working temperature: -196°C to +200°C / -321°F to +392°F
- working pressure: up to 40 bar / 580psi

Approval

- PED (CE), ASME VIII-1, UL

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Kelvion

GML-Series

THE ENVIRONMENT FRIENDLY SOLUTION

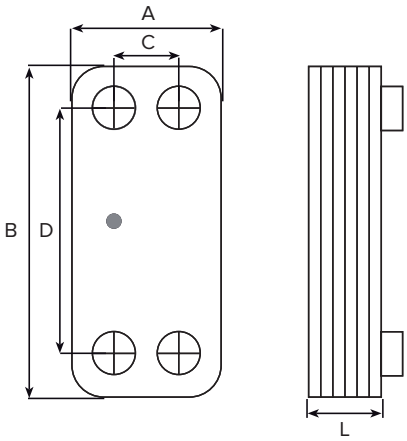
GML-Series
With the GML-Series Kelvion offers copper brazed plate heat exchangers, which are designed for the safe use of CO_2 . Thus, the GML-Series serves an important future market, because the excellent thermodynamic properties of CO_2 bring many benefits. And finally this refrigerant replaces bit by bit ozone containing CFCs. The GML-Series enables compact systems which can, despite their great performance, manage with smaller cable cross-sections. In the future, more than ever, effective and compact systems for refrigeration and air conditioning applications are required, where high pressures can be handled easily.

The used multi-layer technology is based on 2 stainless steel plates, which are fully soldered together with a copper foil and thereby withstand enormous pressure. The heat exchangers of the GML-Series are available in two sizes for pressures up to 75 bar/1088 psi.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Example:
- high-pressure refrigeration applications
- CO_2 applications

Your advantages at a glance:
- compact design
- environment friendly
- powerful plate design
- safe in high pressure applications



We need following information to select your optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litre/ Channel)	
Plate heat exchanger	Pressure	A	B	C	D	L-Dimension N = number of plates	Mass N = number of plates	Volume	Max. number of plates
GML 400H	75	124	335	73	281	12,00+2,40xN	2,50+0,185xN	0.065	100
GML 500H	75	124	532	73	478	12,00+2,40xN	3,85+0,300xN	0.100	100

GML-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Copper

Features

- Full Flow System™

Performance limits

- working temperature: -196°C to +200°C / -321°F to +392°F
- working pressure: up to 75 bar / 1088 psi

Approval

- PED (CE)
- ASME VIII-1

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Kelvion

Brazed
plate heat exchangers

GNS-Series

THE IDEAL ALTERNATIVE WHEN COPPER IS NO LONGER ENOUGH

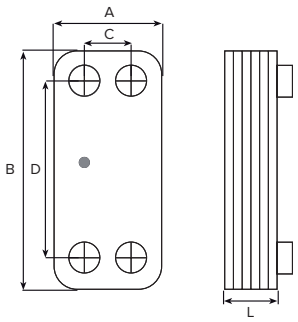
GNS-Series
Whenever the resistance of copper is not enough, nickel as brazing material is choosen. The units of the GNS-Series offer all the advantages of a brazed plate heat exchanger, but they are essentially more stable against corrosive medias such as ammonia, deionised water, sulphides and sulphates. But not every nickel-brazing is the same: only around 75% is made of pure nickel, the remaining 25% is our secret – and your benefit. Also units of the GNS-series have the proven technical features like Safety Chamber™, Delta Injection™ and Full Flow System™ available.

Thus, the products of the GNS-Series serve with its wide range of applications up to 200°C/392°F and 16 bar/232 psi the demands of the market.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Example:
- laser cooling
- semiconductor industry
- applications with deionised water
- ammonia systems
- corrosive fluids

Your advantages at a glance:
- high corrosion resistance
- compact design
- wide range of applications
- low investment costs



We need following information to select your optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litres/ Channel)	
Plate heat exchanger	Pressure	A	B	C	D	L-Dimension N = number of plates	Mass N = number of plates	Volume	Max. number of plates
GNS 100M	16	74	204	40	170	10.23+2.23xN	0.70+0.050xN	0.025	50
GNS 200H	16	90	231	43	182	12.24+2.24xN	1.10+0.060xN	0.030	50
GNS 220H	16	90	328	43	279	12.20+2.22xN	1.28+0.080xN	0.046	50
GNS 240H	16	90	464	43	415	12.20+2.20xN	2.04+0.139xN	0.070	50
GNS 300H	16	124	173	73	120	12.30+2.22xN	1.20+0.060xN	0.030	50
GNS 400H	16	124	335	73	281	11.80+2.30xN	1.58+0.130xN	0.065	100
GNS 500H	16	124	532	73	478	11.80+2.28xN	2.00+0.240xN	0.100	100
GNS 700L	16	271	532	200	460	13.30+2.34xN	9.60+0.540xN	0.230	150
GNS 700M	16	271	532	200	460	13.30+2.35xN	9.60+0.540xN	0.230	150
GNS 800H	16	271	532	161	421	13,80+2.34xN	10.02+0.540xN	0.221	150
Also available as an advanced evaporator with a special “Delta Injection™” distribution system for the refrigerant inlet.									
GNS 400H-AE	16	124	335	73	281	11.80+2.24xN	1.58+0.130xN	0.065	100
GNS 500H-AE	16	124	532	73	478	11.80+2.28xN	2.00+0.240xN	0.100	100
GNS 700M-AE	16	271	532	200	460	13.30+2.35xN	9.60+0.540xN	0.230	150
GNS 800H-AE	16	271	532	161	421	13.80+2.34xN	10.02+0.540xN	0.221	150

GNS-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Nickel-based-alloy

Features

- Safety Chamber™ (model 700, 800)
- Delta Injection™ (model 400, 500, 700M, 800)
- Full Flow System™ (model 100, 200, 220, 240, 300, 400, 500)

Performance limits

- working temperature: -196°C to +200°C / -321°F to +392°F
- working pressure: up to 16 bar / 232 psi

Approval

- PED (CE)
- ASME VIII-1

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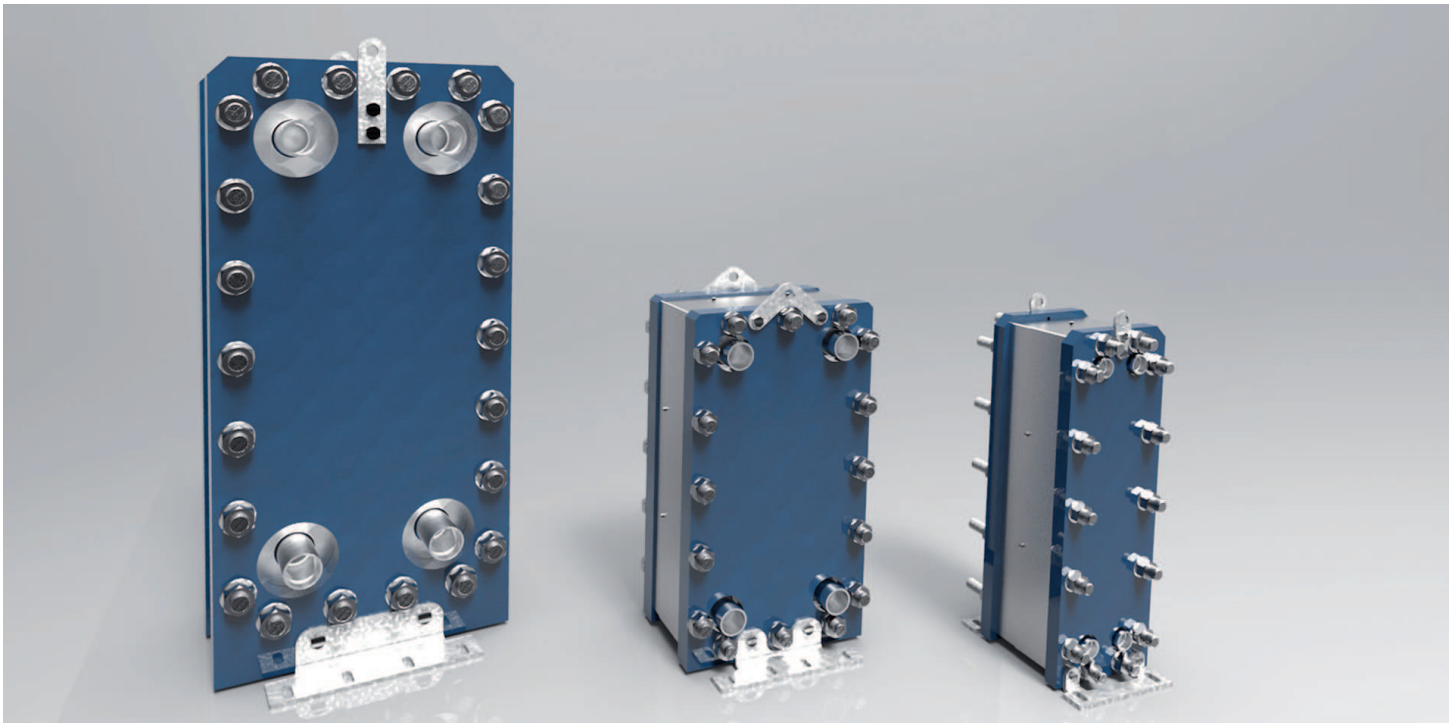
Kelvion

GVH-HP-Series

HIGH PRESSURE – NOW ALSO IN STAINLESS STEEL



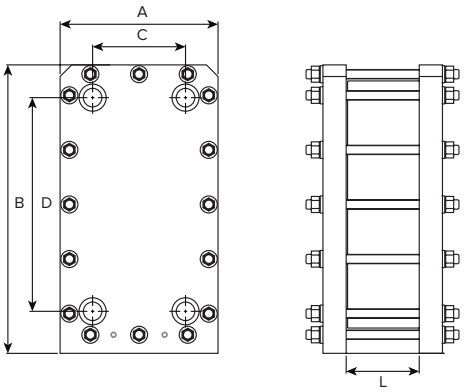
GVH-HP-Series
With the brazed plate heat exchangers of the GVH-HP-Series Kelvion offers the ideal solution for industrial applications with high operating pressures. VacInox, our especially developed, free of non-ferrous metals solder material is used, to meet the increased demands in relation to corrosion resistance, high temperature and pressure requirements. Thanks to this new, unique and revolutionary technology for the robust connection of stainless steel plates both a compact design and high corrosion resistance can be achieved. A pressure frame ensures maximum safety in mechanical and thermal requirements at pressures up to 46 bar/667 psi. The product range includes connection diameters from DN15 to DN100.

Copper-free, brazed plate heat exchangers of the GVH-HP-Series use the knowledge transfer within Kelvion and combine the advantages of brazed and gasketed heat exchangers.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Example:
- ammonia refrigeration plants
- evaporators and condensers in cascade systems

Your advantages at a glance:
- free of non-ferrous metals
- corrosion resistant
- high thermal efficiency
- high operating pressures



We need following information to select your optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litre/ Channel)	
Plate heat exchanger	**Pressure**	**A**	**B**	**C**	**D**	**L-Dimension N = number of plates**	**Mass N = number of plates**	**Volumes**	**Max. number of plates**
GVH-HP 500H	46	195	600	73	478	74.80+2.28xN	78.00+0.210xN	0.100	150
GVH-HP 700L	46	340	621	200	460	116.30+2.34xN	179.00+0.540xN	0.230	150
GVH-HP 700M	46	340	621	200	460	116.30+2.35xN	179.00+0.540xN	0.230	150
GVH-HP 1000L	46/30	500	1050	237	723	156.85+2.35xN	620.00+2.700xN	0.466/0.733	200
Also available as an advanced evaporator with a special "Delta Injection™" distribution system for the refrigerant inlet.									
GVH-HP 500H-AE	46	195	600	73	478	74.80+2.28xN	78.00+0.210xN	0.100	150
GVH-HP 700M-AE	46	340	621	200	460	116.30+2.35xN	179.00+0.540xN	0.230	150

GVH-HP-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Vaclnox

Features

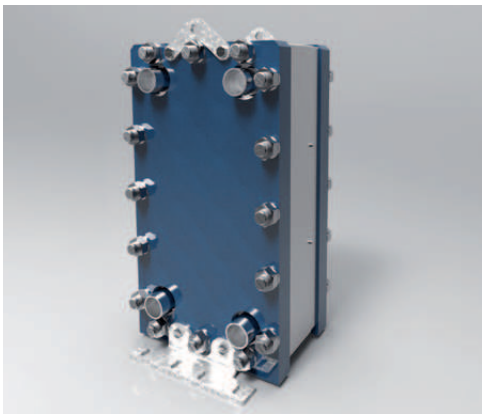
- Safety Chamber™ (model 700, 1000)
- Delta Injection™ (model 500, 700M)
- Full Flow System™ (model 500)

Performance limits

- working temperature: -40°C to +150°C / -40°F to +302°F
- working pressure: up to 46 bar / 667 psi

Approval

- PED (CE)



The specifications contained in this brochure are intended only to serve the non-binding description of our products and services and are not subject to guarantee. Binding specifications, especially pertaining to performance data and suitability for specific operating purposes, are dependent upon the individual circumstances at the operation location and can, therefore, only be made in terms of precise requests.

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Kelvion

GWH-Series

2ND GENERATION OF HIGH PRESSURE HEAT EXCHANGERS

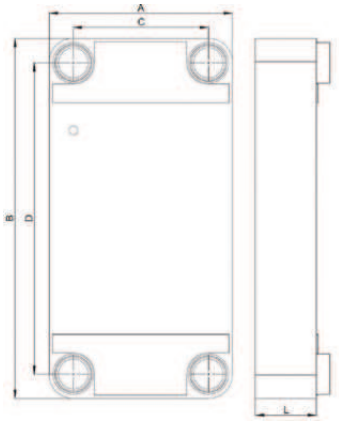
GWH-Series
Solid and compact design for extreme working conditions.

The GWH-Series are copper-brazed plate heat exchangers designed for industrial applications with pressures of up to 55 bar. Due to their solid and compact construction the units are especially suitable for applications with high mechanical and thermal loads.

They are designed for extreme working conditions, such as CO_2 cascade systems, refrigeration, railway and marine applications.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Your advantages at a glance:
- solid construction
- high permanent pressure resistance
- compact, space-saving design
- low weight
- low investment costs



We need following information to select the optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litre/ Chanel)	
Plate heat exchanger	**Pressure**	**A**	**B**	**C**	**D**	**L-Dimension N = number of plates**	**Mass N = number of plates**	**Volume**	**Max. number of plates**
GWH 220H	55	90	328	43	279	L=12,20+2,22xN	W=1,30+0,08xN	0,046	80
GWH 240H	55	91	464	43	415	L=12,20+2,20xN	W=2,04+0,14xN	0,070	80
GWH 500H	55	124	532	73	478	L=11,80+2,28xN	W=2,00+0,24xN	0,100	120
GWH 700L	55	271	532	200	460	L=13,30+2,34xN	W=9,60+0,54xN	0,230	150
GWH 700M	55	271	532	200	460	L=13,30+2,35xN	W=9,60+0,54xN	0,230	150
GWH 900H	55	271	802	161	690	L=13,60+2,31xN	W=11,50+0,80xN	0,399	300
Also available as an advanced evaporator with a special “Delta Injection™” distribution system for the refrigerant inlet.									
GWH 500H-AE	55	124	532	73	478	L=11,80+2,28xN	W=2,00+0,24xN	0,100	120
GWH 700M-AE	55	271	532	200	460	L=13,30+2,35xN	W=9,60+0,54xN	0,230	150
GWH 900H-AE	55	271	802	161	690	L=13,60+2,31xN	W=11,50+0,80xN	0,399	300

GWH-Series 2nd. Generation: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Copper

Features

- Safety Chamber™ (model 700, 900)
- Delta Injection™ (model 500, 700, 900)
- Full-Flow System™ (model 220, 240, 500)

Performance limits

- working temperature: -196°C to +200°C / -321°F to +392°F
- working pressure: up to 55 bar / 798 psi

Approval

- PED (CE)
- ASME VIII-1

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Kelvion

TD-Series

TRUE DUAL EVAPORATOR – TWO IN ONE

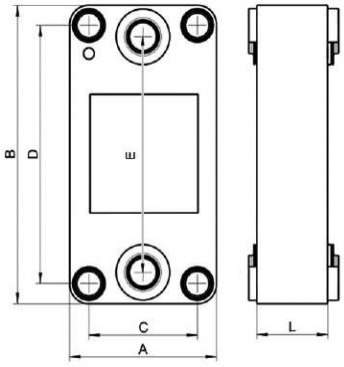
TD-Series
The TD True-Dual Evaporator: two evaporators or condensers in one device thanks to it having two separate refrigeration circulations and a central water/brine circulation. The TD always ensures full efficiency even when operating only one refrigeration circulation. Also available as an AE version and in the ConBraze design.

The respective refrigeration circulation is only 100% in contact with the water/brine circulation in the True-Dual, it thereby ensuring full efficiency – even if the other refrigeration circulation is taken out of operation (partial load). The refrigerant flow is carried out on the basis of the diagonal flow principle, thereby ensuring an optimal degree of utilisation of the heat transfer surface. The evaporator includes the Delta Injection™ – distribution system.

Always a suitable solution at hand
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of application. We configure the most economically favorable model for you from the wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Examples:
- Heating/service water systems
- Underfloor heating
- Subcoolers and condensers
- Economizers
- Refrigerant evaporators
- Oil coolers

Your advantages at a glance:
- highest degree of flexibility
- compact design
- wide range of applications
- robust design



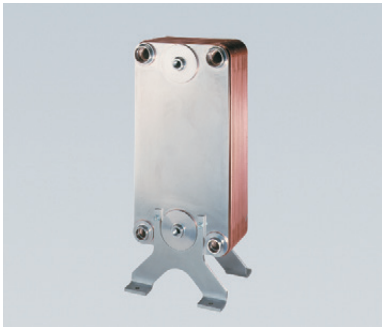
We need following information to select your optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)					(mm)	(kg)	(Litre/ Channel)	
Plate heat exchanger	**Pressure**	**A**	**B**	**C**	**D**	**E**	**L-Dimension N = number of plates**	**Mass N = number of plates**	**Volume**	**Max. number of plates**
WP 7M-TD	31	271	532	200	460	420	13.50+2.35xN	11.7+0.54xN	0.230	262
WP 9-TD	25	271	802	161	690	690	13.50+2.35xN	12.8+0.80xN	0.330	302
GKS 770H-TD	46/41	278	539	200	460	420	13.35+1.70xN	6.8+0.47xN	0.180	262
GKH 770H-TD	55/50	278	539	200	460	420	13.35+1.70xN	6.8+0.47xN	0.180	262
Also available as an advanced evaporator with a special “Delta Injection™” distribution system for the refrigerant inlet.										
WP-AE 7M-TD	31	271	532	200	460	420	13.50+2.35xN	11.7+0.54xN	0.230	262
WP-AE 9-TD	25	271	802	161	690	690	13.50+2.35xN	12.8+0.80xN	0.330	302
GKS 770H-TD-AE	46/41	278	539	200	460	420	13.35+1.70xN	6.8+0.47xN	0.180	262
GKH 770H-TD-AE	55/50	278	539	200	460	420	13.35+1.70xN	6.8+0.47xN	0.180	262

TD-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Copper



Features

- Safety Chamber™
- Delta Injection™
- ConBraze-Design (model 770)

Performance limits

- working temperature: -195°C to +200°C
- working pressure: up to 55 bar

Approval

- PED (CE)
- ASME VIII-1, UL

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Kelvion

Air cooled Condensers

Goedhart® Air Cooled Condensers KOAL-S, KOAL-C, INAL-S

ENCOURAGES GOOD DESIGN WITH TOP LEVEL ENGINEERING

WE ARE KELVION – THE NEW BRAND IN HEAT EXCHANGE

GEA Heat Exchangers has changed: another new standalone company has been created out of the former Heat Exchanger Division of the GEA Group AG. The name Kelvion is new, but we continue as global experts in heat exchange. As always, we remain committed to earning your trust.

You'll still recognize us. We continue to develop our products, manufacture them with precision and distribute globally. We continue to offer one of the world's largest heat exchanger product portfolios: Plate heat exchangers, shell & tube heat exchangers, finned tube heat exchangers, modular cooling towers and refrigeration heat exchangers for a wide range of applications.

We operate in global markets for power generation, oil and gas, chemistry, marine applications, climate and environment, and food and beverages. From us, you can expect products with outstanding levels of efficiency, safety, and sustainability. More importantly, we care about your business, like close, trusted partners.

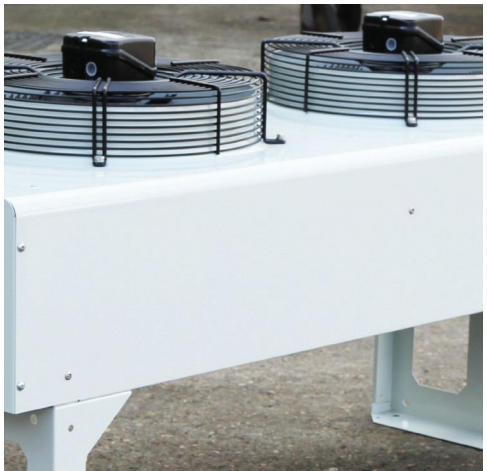
Customers rely on us to understand their needs, boost their performance, and deliver products that always get the job done. We compete for the toughest deals, in the harshest environments. But we're not too big to care. We're Kelvion – ready to take on the challenges of heat exchange. www.kelvion.com

Experts in Heat Exchange.

Goedhart® KOAL-S MSA refrigeration flatbed

RELIABLE AND EFFICIENT COOLING

Kevion has welcomed the introduction of the Goedhart® KOAL-S MSA range into our extensive air cooled condensers portfolio. By incorporating the latest engineering techniques the Goedhart® KOAL-S MSA range has been designed for quick and easy installation. Our smallest condenser is increasingly popular with refrigeration and air conditioning condenser applica- tions. The Goedhart® KOAL-S MSA range consists of 9 models, each with two fan speed options, giving 18 models in total. The unit can be installed either vertically or horizontally, floor or wall mounted by using the supplied mounting legs, which are also used to provide additional protection for header and return bends during transport. Fans are the high- est quality and efficient, which when matched to the case / orifice design offer extremely low noise levels. For ease of stocking, fans are supplied separately, individually packaged, for site mounting. Fan can be used with triac speed controllers, although noise levels may exceed catalogue rates.



Features

- Comprises of 9 models
- Available in 2, 3 and 4 coil rows
- 1, 2 or 3 fan configurations
- Eurovent Certified

Goedhart® KOAL-S MSA flatbed condenser

MSA RANGE PRODUCT PROFILE

1 CASEWORK

The casework manufactured from pre-galvanised steel has been specially designed with a unique small frame for quick and easy installation, and is most popular with small refrigeration applications. All external surfaces are oven cured at 180°C ensuring an even, flexible and durable gloss finish (grey RAL 7032) with excellent corrosion protection properties and tolerance to UV exposure. The fan plates wrap around the coil to make a one piece plate that is secured to the coil end plates creating a smooth continuous finish.

Each Unit has two legs that have been designed to adopted a vertical or horizontal position. When supplied the legs are in a transport position for easy stacking.

2 FANS

Kelvion supply two fan set options for the Goedhart® KOAL-S MSA range as standard, These are 4 or 6 pole single phase options, both AC axial fans offering an optimum balance between air volume, sound and power input.

- 4 & 6 pole single phase 50Hz as standard
- 350mm diameter fan sets
- Two fan speed options
- Fansets supplied with terminal boxes
- Guard: Metal Wire (Black)
- Motor rating: IP54
- Temperature Range: 60°C to -25°C
- Fans are supplied separately, individually packaged, for site mounting

3 COIL

The coils are manufactured from inner-grooved copper tube expanded into ripple fins with flat edges of aluminium, aluminium vinyl or copper. Fully collared holes in the fin ensure an efficient and permanent bond between the expanded tube and the fin. The coils are circuited to allow for horizontal or vertical installation.

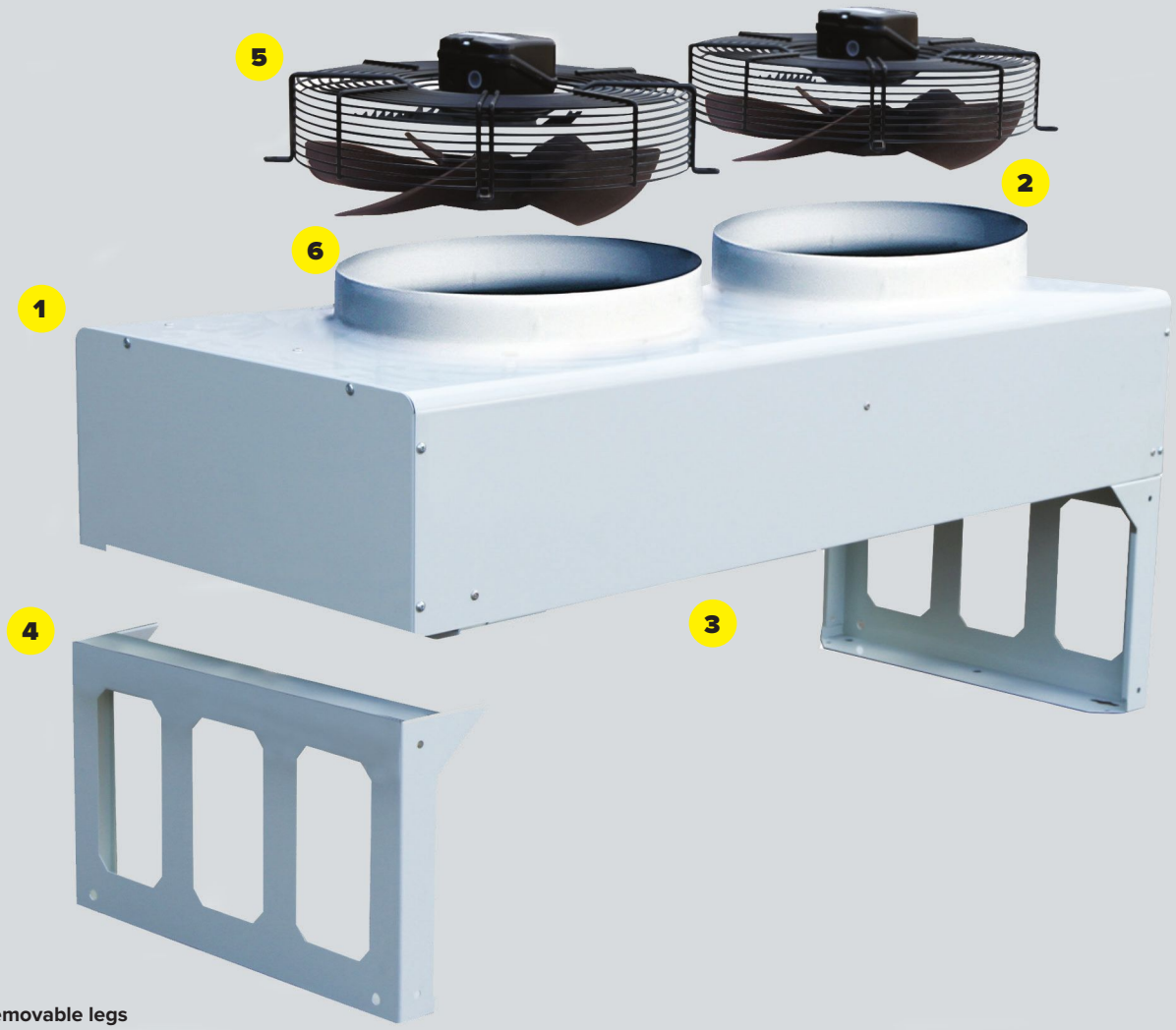
- 8mm copper tube
- 2.1mm (12.7 fpi) fin spacing
- Alternative fin materials available

OPTIONS

- **AC Fan Control** - Direct mount, phase cut AC control option (Triac)
- **EC Fan Control** - Low cost and easy to use 0-10V EC control
- **Isolators** - Fan Isolators
- **Alternative Fin Materials** - Epoxy coated aluminium, copper, Blygold, electro-tinned
- Optional header and return bend covers

Goedhart® KOAL-S MSA fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
3504 - 4 Pole	350mm	A	1295	-	0.75	-	1.2	-
3506 - 6 Pole		A	880	-	0.14	-	19	-



4 Removable legs

5 Metal wire guard

6 Wrap around fan plate

Nomenclature

MSA	1	1	2	-	35	04	AL

Product series: MSA
Bank of fans: 1
Fans per bank: 1, 2, 3
Coil row: 2, 3, 4
Fan type: 35
Motor speed: 04, 06
Fin material: AL = Aluminium

Capacities: R404A: 5.4 kW - 26.5 kW

Goedhart® KOAL-S MSA - Selection data

Model	No of fans	Rows deep	Duty @ 15KDT1 *	Air volume	Sound pressure mean **	Sound power	Power input	Efficiency rating	Current	Surface	Internal volume	Connections		Weight (Less fan)	Weight (Inc fan)
												Inlet	Outlet		
			kW	m^3/hr	dB(A)	dB(A)	W			m^2	dm^3	mm	mm	kg	kg
MSA112-0435	1	2	6.7	0.73	39	70	0.15	D	0.42	11.3	1.39	15	15	20	24
MSA113-0435	1	3	8.3	0.66	39	70	0.15	D	0.59	17	1.95	15	15	22	27
MSA114-0435	1	4	8.9	0.63	39	70	0.15	D	0.8	22.7	2.51	15	15	24	29
MSA122-0435	2	2	13.4	1.45	42	73	0.3	D	0.76	22.7	2.41	22	22	29	39
MSA123-0435	2	3	16.6	1.33	42	73	0.3	D	1.2	34	3.47	22	22	33	42
MSA124-0435	2	4	17.7	1.25	42	73	0.3	D	1.64	45.3	4.55	22	22	37	47
MSA132-0435	3	2	20.1	2.18	44	75	0.45	D	1.18	33.5	3.43	22	22	38	52
MSA133-0435	3	3	25	1.99	44	75	0.45	D	1.81	51	5.01	22	22	44	58
MSA134-0435	3	4	26.5	1.88	44	75	0.45	D	2.36	67.9	6.68	22	22	50	64
MSA112-0635	1	2	5.4	0.45	30	61	0.07	C	0.42	11.3	1.39	15	15	20	24
MSA113-0635	1	3	6.2	0.41	30	61	0.07	C	0.59	17	1.95	15	15	22	27
MSA114-0635	1	4	6.6	0.38	30	61	0.07	C	0.8	22.7	2.51	15	15	24	29
MSA122-0635	2	2	10.6	0.89	33	64	0.14	C	0.76	22.7	2.41	22	22	29	39
MSA123-0635	2	3	12.4	0.82	33	64	0.14	C	1.2	34	3.47	22	22	33	42
MSA124-0635	2	4	13.2	0.76	33	64	0.14	C	1.64	45.3	4.55	22	22	37	47
MSA132-0635	3	2	15.8	1.34	35	66	0.21	C	1.18	33.5	3.43	22	22	38	52
MSA133-0635	3	3	18.7	1.23	35	66	0.21	C	1.81	51	5.01	22	22	44	58
MSA134-0635	3	4	19.7	1.14	35	66	0.21	C	2.36	67.9	6.68	22	22	50	64

Note:

* Capacity quoted at 15 K DT1 Dew Point

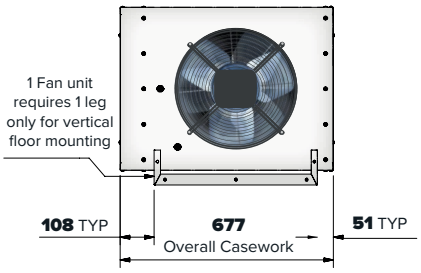
** Sound level quoted as mean pressure level at 10m according to EN13487

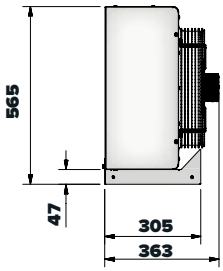
Goedhart® KOAL-S MSA - Dimensions

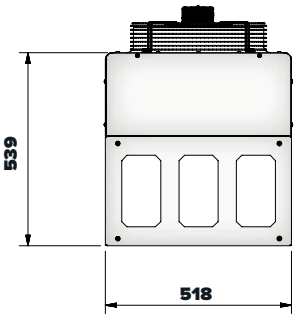
Vertical operation

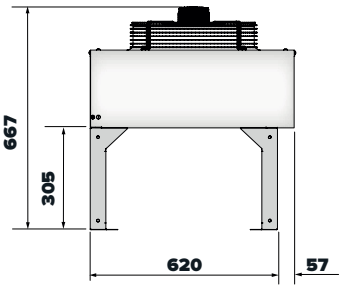
Horizontal operation

MSA 112, 113 & 114

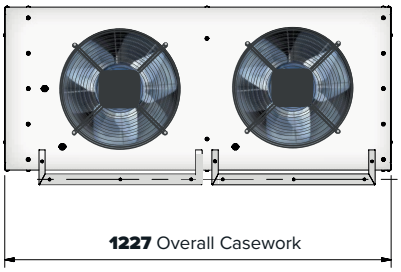




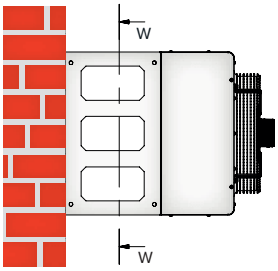


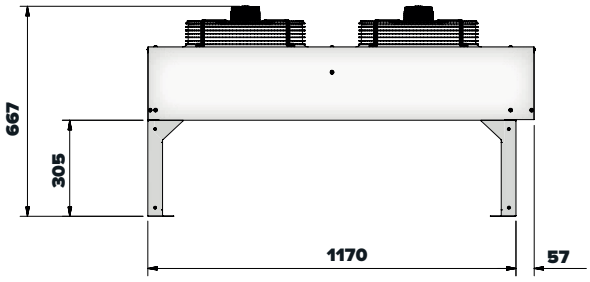


MSA 122,1 23, 124

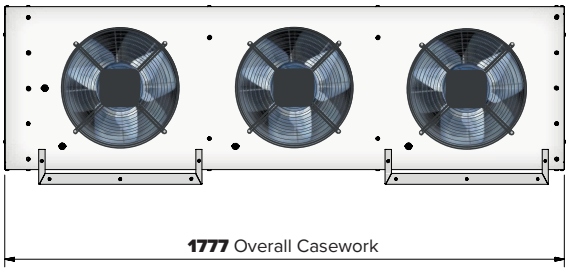


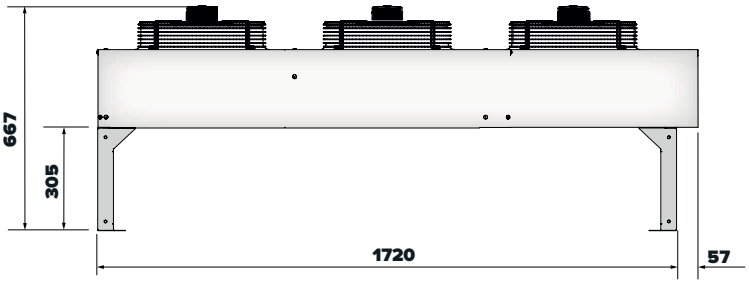
Wall mounted operation



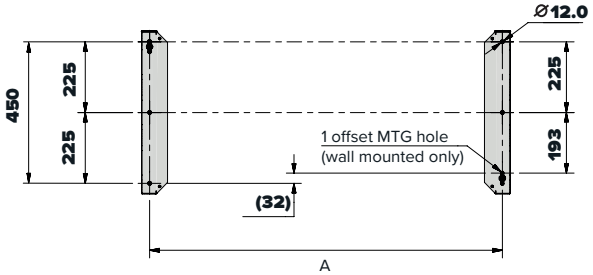


MSA 132, 133, 134

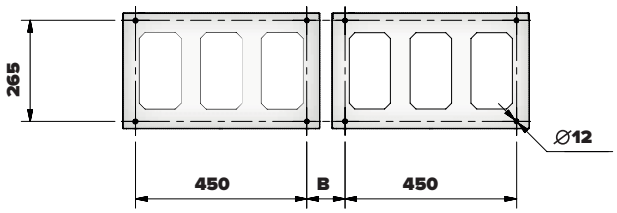




Wall & Horizontal floor mounted footprint



Vertical floor mounted footprint

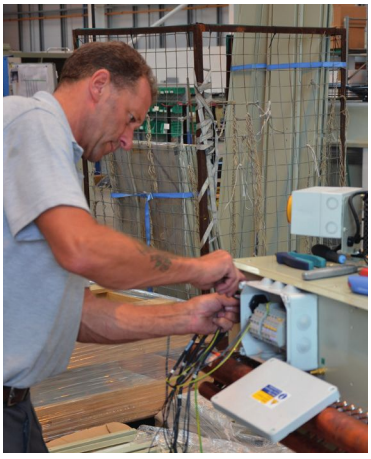


Model	Dim A mm	Dim B mm
MSA 112, 113, 114	570	N/A
MSA 122, 123, 124	1120	100
MSA 132, 133, 134	1670	650

Note: All dimensions in mm

Goedhart® KOAL-C RF-SJ refrigeration flatbed

ENCOURAGES GOOD DESIGN



Kelvion has designed, engineered and manufactured the Goedhart® KOAL-C RF-SJ, A medium condenser that brings a solution for customers who employ refrigeration as an essential part of their primary processes. The latest condenser development from Kelvion replaces the popular ME condenser with the Goedhart® KOAL-C RF-SJ. This product has been optimised for the capacity range between the Goedhart® KOAL-S MSA and the larger Goedhart® KOAL-S RF condenser. The Goedhart® KOAL-C RF-SJ uses the features from both product ranges, such as profiled side plates and versatile leg arrangements to ensure the high level of quality Kelvion's customers expect will be met. The popular EL-Fin has been configured for this range to achieve optimised thermal performance within a given footprint.

- Manufactures to Quality Standard ISO9001:2008
- Profiled side channel for increased strength
- Galvanised steel case and legs
- Legs designed for horizontal / vertical floor mounting and also wall mounting
- Pressure tested and sealed
- 'Pallet' sized units to optimise customers storage space
- Units stacked to reduce transport costs
- Minimal unit size options to enable easy stocking and delivery

Features

- Comprises of 12 models
- Available in 2.1mm fin spacing
- 1, 2, 3 or 4 fan configurations
- Eurovent Certified EN327 and EN13487

RF-SJ RANGE PRODUCT PROFILE

1 CASEWORK

The casework has been specially design by improving structural integrity whilst reducing the number of components. Each side plate is cold formed from a single piece of pre-galvanised sheet steel and powder coated RAL7032 on the outside.

Utilising the same leg design characteristics as the Goedhart® KOAL-S MSA the legs can be removed to enable easy stocking and delivery and can be floor or wall mounted horizontally or vertically.

2 FANS

Kelvion offer standard three phase AC options and EC single and three phase options. They are suitable for 50/60Hz operation and have inbuilt thermostatic protection.

- 4 ,6 and 8 pole single phase or 3 phase
- 650mm diameter fan sets
- 1 to 4 fans
- Motor rating: IP54
- Capacity Range with AC fan technology = 16kW to 181 kW
- Capacity Range with EC fan technology = 6kW to 158kW
- All fan sets are ErP2015 compliant
- Guard: Metal Wire (Black)
- Ambient temperature range -20°C to + 60°C

3 Coil

The coils incorporates 3/8”diameter inner grooved copper tube on equilateral spacing achieving a good balance of reduced refrigerant charge whilst maintaining appropriate thermal load to achieve good system stability.

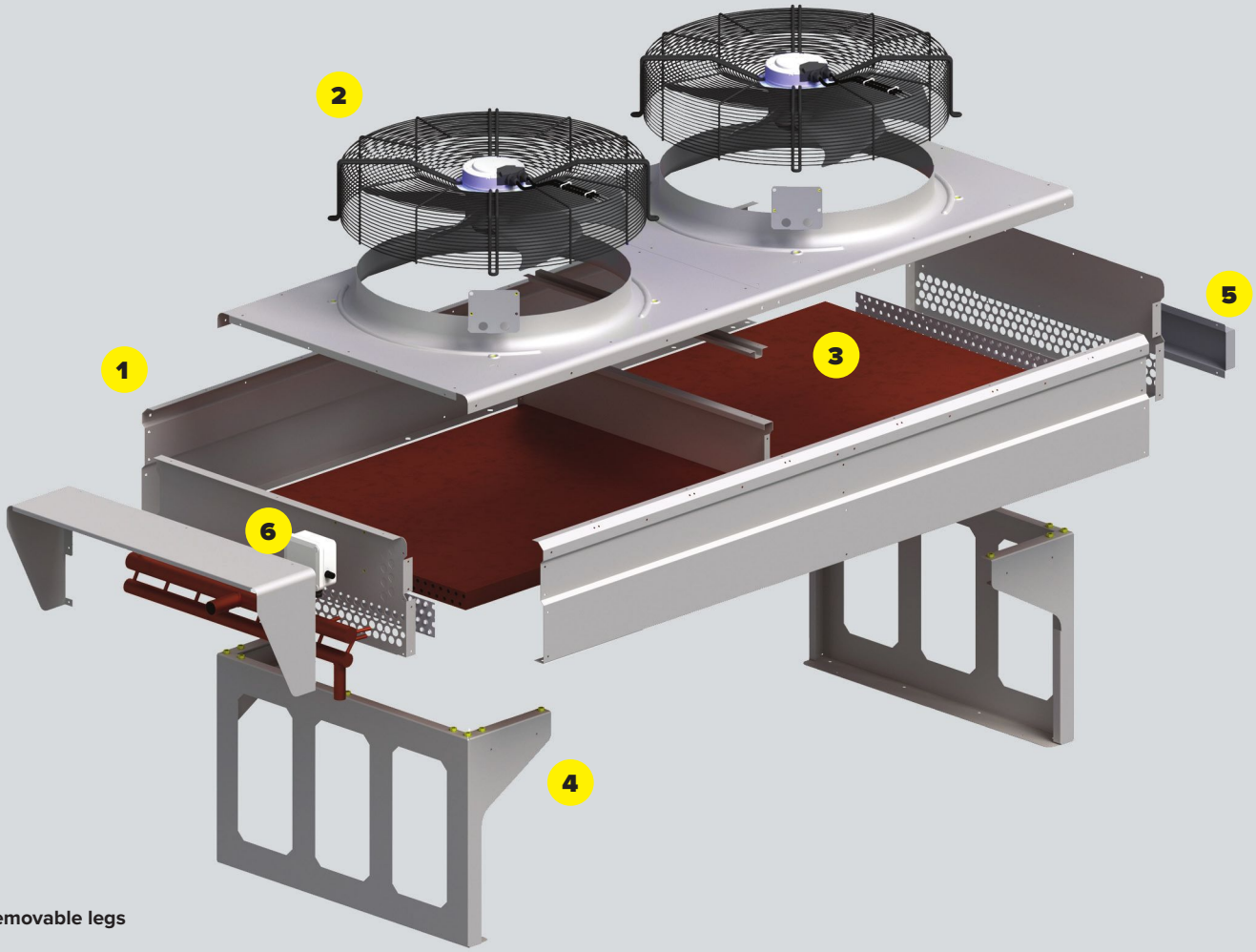
- 3/8” (9.5mm) tube diameter
- 2.1mm fin spacing (12 fpi) for all coils
- Achieving a duty from 9kW - 165kW.
- Aluminium fin as standard
- Coil tubes supported by aluminium or copper inserts

OPTIONS

- **AC Fan Control** - Direct mount, phase cut AC control option (Triac)
- **EC Fan Control** - Low cost and easy to use 0-10V EC control
- **Isolators** - Fan Isolators
- **Alternative Fin Materials** - Epoxy coated aluminium, copper, Blygold, electro-tinned
- **Sub-Cooling** - Built in sub-cooling upon request
- **Model option** - LF-SJ, GF-SJ or OF-SJ all available in these sizes

RF-SJ fan data

Fan type & Pole	Diameter	Speed (rpm)		FLC (Amp)		SC (Amp)	
		Δ	Y	Δ	Y	Δ	Y
063 H04 Pole 3Ph	630mm	1310	1020	-	-	-	-
063 N04 Pole 3Ph		1330	1035	5.2	3.3	19	6
063 N06 Pole 3Ph		900	700	1.8	1.1	5	2.5
063 N06 Pole 1Ph		860	-	2.6	-	4.9	-
063 N08 Pole 3Ph		640	440	1	0.5	3.1	1
063 M-EC 3Ph		1110	-	1.5	-	-	-
063 S-EC 1Ph		100	-	3.2	-	4.2	-
063 L-EC 1Ph		690	-	1.2	-	-	-



4 Removable legs

5 Header covers

6 Terminal box

ISO 9001 Quality Management

Nomenclature

R	F	-	S	J	1	01	L	2	H	-	063	N	04	D

Product series:	R = Refrigerant
Unit form:	F = Flatbed
Module width:	S = Nominal
Module length:	J = 1000mm
Fan rows:	1
Fans per row:	1 - 4
Fin type:	L = $^{3}/_{8}$“ (9.5mm) tube, G = Gas cooler
Coil rows:	2, 3, 4, 5, 6
Orientation:	H = Horizontal, V = Vertical
Fan Diameter:	063 = 630mm
Fan type:	S = EC Standard, N = AC Normal, H = AC high power, M = EC High power, L = EC Low power
Speed options:	1Ph: 6 pole, EC high and low power, 3Ph: 4,6,8 pole, EC High power
Motor wiring:	Delta, Star

Capacities: R404A: 9.4 kW - 165.2 kW

Goedhart® KOAL-C RF-SJ - Selection data

Fan Type	Model	No of fans	Capacity *		Air Volume		Sound pressure mean **		Sound power		Power input		Energy rating		Total Surface	Internal Volume	R404A
			Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ	Y	Δ dB (A)	Y dB (A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
4 pole N	RF-SJ101L2H-063N04	1	27.58	24.77	10944	8604	52	46	83	77	1163	794	E	E	31	6	2
	RF-SJ101L3H-063N04	1	35.35	30.6	10080	7776	53	46	84	77	1188	808	E	D	47	8	3
	RF-SJ101L4H-063N04	1	39.53	32.99	9396	7164	53	47	84	78	1247	822	E	D	62	10	3
	RF-SJ102L2H-063N04	2	55.16	49.54	178344	17208	55	49	86	80	2326	1588	E	E	62	12	4
	RF-SJ102L3H-063N04	2	70.7	61.2	220320	15552	56	49	87	80	2375	1615	E	D	93	17	6
	RF-SJ102L4H-063N04	2	79.06	65.98	237528	14292	56	49	87	81	2495	1644	E	D	125	22	7
	RF-SJ103L2H-063N04	3	82.74	74.31	267516	25812	57	50	88	82	3488	2383	E	E	93	17	6
	RF-SJ103L3H-063N04	3	106.05	91.8	330480	23328	57	50	89	82	3563	2423	E	D	140	25	8
	RF-SJ103L4H-063N04	3	118.59	98.97	356292	21456	57	51	89	83	3742	2465	E	D	190	32	10
	RF-SJ104L2H-063N04	4	110.32	99.08	356688	34416	58	51	89	83	4651	3177	E	E	1245	23	8
	RF-SJ104L3H-063N04	4	141.4	122.4	440640	31104	58	51	90	83	4750	3230	E	D	187	33	11
	RF-SJ104L4H-063N04	4	158.12	131.96	475056	28584	59	52	90	84	4990	3287	E	D	249	42	14
4 pole H	RF-SJ101L2H-063H04	1	28.4	25.33	91188	9036	56	49	87	80	1822	1237	E	E	31	6	2
	RF-SJ101L3H-063H04	1	36.62	31.88	114768	8352	56	49	87	80	1900	1264	E	E	47	8	3
	RF-SJ101L4H-063H04	1	41.3	34.91	125676	7776	57	50	88	81	1948	1314	E	E	62	10	3
	RF-SJ102L2H-063H04	2	56.8	50.66	182376	18072	59	52	90	83	3644	2473	E	E	62	12	4
	RF-SJ102L3H-063H04	2	73.24	63.76	229536	16704	59	52	90	83	3800	2527	E	E	93	17	6
	RF-SJ102L4H-063H04	2	82.6	69.82	251352	15552	60	53	91	84	3895	2628	E	E	125	22	7
	RF-SJ103L2H-063H04	3	85.2	75.99	273564	27108	60	53	92	85	5466	37117	E	E	93	17	6
	RF-SJ103L3H-063H04	3	109.86	95.64	344304	25056	60	53	92	85	5700	3791	E	E	140	25	8
	RF-SJ103L4H-063H04	3	123.9	104.73	377028	23328	61	54	93	86	5843	3942	E	E	190	32	10
	RF-SJ104L2H-063H04	4	113.6	99.08	356688	34416	61	51	93	83	7288	3177	E	E	125	23	8
	RF-SJ104L3H-063H04	4	146.48	127.52	459072	33408	61	54	93	86	7600	5054	E	E	187	33	11
	RF-SJ104L4H-063H04	4	165.2	139.64	502704	31104	62	55	94	87	7790	5255	E	E	249	42	14

Note:

* Capacity quoted at 15 K DT1 Dew Point

** Sound level quoted as mean pressure level at 10m according to EN13487

Goedhart® KOAL-C RF-SJ - Selection data

Fan Type	Model	No of fans	Capacity *		Air Volume		Sound pressure mean **		Sound power		Power input		Energy rating		Total Surface	Internal Volume	R404A
			Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ	Y	Δ dB (A)	Y dB (A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
6 pole N	RF-SJ101L2H-063N06	1	24.17	21.07	75852	6228	42	35	73	66	530	356	D	D	31	6	2
	RF-SJ101L3H-063N06	1	29.88	24.28	87408	5400	42	35	74	66	551	366	D	D	47	8	3
	RF-SJ101L4H-063N06	1	31.93	24.99	89964	4932	43	35	74	67	565	369	D	D	62	11	3
	RF-SJ102L2H-063N06	2	48.34	42.14	151704	12456	45	38	76	69	1060	713	D	D	62	12	4
	RF-SJ102L3H-063N06	2	59.76	48.56	174816	10800	45	38	77	69	1102	732	D	D	93	17	6
	RF-SJ102L4H-063N06	2	63.86	49.98	179928	9828	45	38	77	70	1131	737	D	D	125	21	7
	RF-SJ103L2H-063N06	3	72.51	63.21	227556	18684	46	39	78	71	1590	1069	D	D	93	17	6
	RF-SJ103L3H-063N06	3	89.64	72.84	262224	16200	47	39	78	71	1653	1097	D	D	140	25	8
	RF-SJ103L4H-063N06	3	95.79	74.97	269892	14724	47	40	79	71	1696	1106	D	D	187	32	10
	RF-SJ104L2H-063N06	4	96.68	84.28	303408	24948	48	40	79	72	2120	1425	D	D	125	23	8
	RF-SJ104L3H-063N06	4	119.52	97.12	349632	21600	48	40	80	72	2204	1463	D	D	187	33	11
	RF-SJ104L4H-063N06	4	127.72	99.96	359856	19656	48	41	80	73	2261	1475	D	D	249	42	14
8 pole N	RF-SJ101L2H-063N08	1	19.18	15.87	57132	3852	33	26	65	57	200	125	C	B	31	6	2
	RF-SJ101L3H-063N08	1	21.73	17.23	62028	3096	33	26	65	57	209	129	C	B	47	8	3
	RF-SJ101L4H-063N08	1	22.66	17.68	63648	3456	34	26	65	57	210	127	C	B	62	11	3
	RF-SJ102L2H-063N08	2	38.36	31.74	114264	7704	36	28	68	60	399	251	C	B	62	12	4
	RF-SJ102L3H-063N08	2	43.46	34.46	124056	6192	36	28	68	60	418	258	C	B	93	17	6
	RF-SJ102L4H-063N08	2	45.32	35.36	127296	6912	36	28	68	60	420	255	C	B	125	21	7
	RF-SJ103L2H-063N08	3	57.54	47.61	171396	11556	38	30	69	62	599	376	C	B	93	17	6
	RF-SJ103L3H-063N08	3	65.19	51.69	186084	9288	38	30	69	62	627	388	C	B	140	25	8
	RF-SJ103L4H-063N08	3	67.98	53.04	190944	10368	38	30	70	62	630	382	C	B	187	32	10
	RF-SJ104L2H-063N08	4	76.72	63.48	228528	15408	39	31	71	63	798	502	C	B	125	23	8
	RF-SJ104L3H-063N08	4	86.92	68.92	248112	12420	39	31	71	63	836	517	C	B	187	33	11
	RF-SJ104L4H-063N08	4	90.64	70.72	254592	13824	39	31	71	63	840	509	C	B	249	42	14

Goedhart® KOAL-C RF-SJ - 630mm EC L Fan Type Low power

Model	Capacity R404A *	Air Volume	Sound pressure mean **	Sound power	Power input	Energy rating	Total Surface	Internal Volume	R404A
		m^3/h	dB((A)	dB (A)	W	Y	m^2	dm^3	kg
RF-SJ101L2H-063L022	9.04	1764	10	33	6	A+	31	6	2
RF-SJ101L3H-063L022	9.15	1512	10	33	5	A+	47	8	3
RF-SJ101L4H-063L022	9.64	1440	10	34	5	A+	62	11	3
RF-SJ101L2H-063L025	10.02	2016	10	37	7	A+	31	6	2
RF-SJ101L3H-063L025	10.33	1764	10	37	7	A+	47	8	3
RF-SJ101L4H-063L025	10.73	1656	10	38	8	A+	62	11	3
RF-SJ101L2H-063L028	10.95	2268	10	40	11	A+	31	6	2
RF-SJ101L3H-063L028	11.18	1980	10	41	11	A+	47	8	3
RF-SJ101L4H-063L028	11.78	1872	10	41	12	A+	62	11	3
RF-SJ101L2H-063L031	11.84	2520	12	43	15	A+	31	6	2
RF-SJ101L3H-063L031	12.23	2196	13	44	16	A+	47	8	3
RF-SJ101L4H-063L031	12.47	2016	13	44	17	A+	62	11	3
RF-SJ101L2H-063L034	12.59	2736	14	45	21	A+	31	6	2
RF-SJ101L3H-063L034	13.42	2448	15	46	22	A+	47	8	3
RF-SJ101L4H-063L034	13.65	2268	16	47	23	A+	62	11	3
RF-SJ101L2H-063L038	13.73	3096	17	48	29	A+	31	6	2
RF-SJ101L3H-063L038	14.72	2736	18	49	30	A+	47	8	3
RF-SJ101L4H-063L038	14.80	2520	19	50	31	A+	62	11	3
RF-SJ101L2H-063L042	14.58	3384	20	51	37	A+	31	6	2
RF-SJ101L3H-063L042	15.96	3024	21	52	40	A+	47	8	3
RF-SJ101L4H-063L042	15.85	2808	22	53	41	A+	62	11	3
RF-SJ101L2H-063L047	15.76	3816	23	54	55	A+	31	6	2
RF-SJ101L3H-063L047	17.41	3384	24	55	57	A+	47	8	3
RF-SJ101L4H-063L047	17.55	3168	25	56	58	A+	62	11	3
RF-SJ101L2H-063L051	16.61	4140	25	56	64	A+	31	6	2
RF-SJ101L3H-063L051	18.49	3672	25	56	66	A+	47	8	3
RF-SJ101L4H-063L051	18.70	3420	26	57	67	A+	62	11	3
RF-SJ101L2H-063L055	17.43	4464	27	58	79	A	31	6	2
RF-SJ101L3H-063L055	19.81	4032	27	58	81	A+	47	8	3
RF-SJ101L4H-063L055	19.87	3708	28	59	84	A+	62	11	3
RF-SJ101L2H-063L059	18.07	4752	29	60	97	A	31	6	2
RF-SJ101L3H-063L059	20.81	4320	29	60	102	A	47	8	3
RF-SJ101L4H-063L059	21.28	4032	30	61	104	A	62	11	3
RF-SJ101L2H-063L064	18.71	5040	31	62	127	B	31	6	2
RF-SJ101L3H-063L064	21.49	4536	31	62	131	B	47	8	3
RF-SJ101L4H-063L064	21.90	4176	32	63	133	B	62	11	3
RF-SJ101L2H-063L069	19.84	5580	33	64	160	B	31	6	2
RF-SJ101L3H-063L069	22.68	4896	34	65	164	B	47	8	3
RF-SJ101L4H-063L069	23.25	4500	35	66	167	B	62	11	3
RF-SJ101L2H-063L075	20.75	6048	35	67	202	C	31	6	2
RF-SJ101L3H-063L075	23.71	5220	36	67	207	B	47	8	3
RF-SJ101L4H-063L075	24.70	4860	37	68	211	B	62	11	3
RF-SJ102L2H-063L022	18.08	3528	10	36	11	A+	62	12	4
RF-SJ102L3H-063L022	18.29	3024	10	36	10	A+	93	17	6
RF-SJ102L4H-063L022	19.27	2880	10	37	10	A+	125	21	7
RF-SJ102L2H-063L025	20.04	4032	10	40	13	A+	62	12	4
RF-SJ102L3H-063L025	20.66	3528	10	40	13	A+	93	17	6
RF-SJ102L4H-063L025	21.45	3312	10	41	15	A+	125	21	7
RF-SJ102L2H-063L028	21.9	4536	12	43	23	A+	62	12	4
RF-SJ102L3H-063L028	22.36	3960	13	44	23	A+	93	17	6
RF-SJ102L4H-063L028	23.56	3744	13	44	25	A+	125	21	7
RF-SJ102L2H-063L031	23.68	5040	15	46	30	A+	62	12	4
RF-SJ102L3H-063L031	24.46	4392	16	47	32	A+	93	17	6
RF-SJ102L4H-063L031	24.94	4032	16	47	34	A+	125	21	7
RF-SJ102L2H-063L034	25.18	5472	17	48	42	A+	62	12	4
RF-SJ102L3H-063L034	26.84	4896	18	49	44	A+	93	17	6
RF-SJ102L4H-063L034	27.3	4536	19	50	46	A+	125	21	7
RF-SJ102L2H-063L038	27.46	6192	20	51	57	A+	62	12	4
RF-SJ102L3H-063L038	29.44	5472	21	52	61	A+	93	17	6
RF-SJ102L4H-063L038	29.59	5040	22	53	63	A+	125	21	7

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Goedhart® KOAL-C RF-SJ - 630mm EC L Fan Type Low power

Model	Capacity R404A *	Air Volume	Sound pressure mean **	Sound power	Power input	Energy rating	Total Surface	Internal Volume	R404A
		m^3/h	dB((A)	dB (A)	W	Y	m^2	dm^3	kg
RF-SJ102L2H-063L042	29.16	6768	23	54	74	A+	62	12	4
RF-SJ102L4H-063L042	31.7	5616	25	56	82	A+	125	21	7
RF-SJ102L3H-063L042	31.92	6048	24	55	80	A+	93	17	6
RF-SJ102L2H-063L047	31.52	7632	26	57	110	A+	62	12	4
RF-SJ102L3H-063L047	34.82	6768	27	58	114	A+	93	17	6
RF-SJ102L4H-063L047	35.1	6336	28	59	116	A+	125	21	7
RF-SJ102L2H-063L051	33.22	8280	28	59	127	A+	62	12	4
RF-SJ102L3H-063L051	36.98	7344	28	59	131	A+	93	17	6
RF-SJ102L4H-063L051	37.4	6840	29	60	135	A+	125	21	7
RF-SJ102L2H-063L055	34.86	8928	30	61	158	A	62	12	4
RF-SJ102L3H-063L055	39.62	8064	30	61	162	A+	93	17	6
RF-SJ102L4H-063L055	39.74	7416	31	62	167	A+	125	21	7
RF-SJ102L2H-063L059	36.14	9504	32	63	194	A	62	12	4
RF-SJ102L3H-063L059	41.62	8640	32	63	203	A	93	17	6
RF-SJ102L4H-063L059	42.56	8064	33	64	207	A	125	21	7
RF-SJ102L2H-063L064	37.42	10080	34	65	255	B	62	12	4
RF-SJ102L3H-063L064	42.98	9036	34	65	262	B	93	17	6
RF-SJ102L4H-063L064	43.8	8352	35	66	266	B	125	21	7
RF-SJ102L2H-063L069	39.68	11160	36	67	319	B	62	12	4
RF-SJ102L3H-063L069	45.36	9792	37	68	329	B	93	17	6
RF-SJ102L4H-063L069	46.5	9000	38	69	334	B	125	21	7
RF-SJ102L2H-063L075	41.5	12096	38	70	405	C	62	12	4
RF-SJ102L3H-063L075	47.42	10440	39	70	414	B	93	17	6
RF-SJ102L4H-063L075	49.4	9720	40	71	422	B	125	21	7
RF-SJ103L2H-063L022	27.12	5292	10	38	17	A+	93	17	6
RF-SJ103L3H-063L022	27.44	4536	10	38	14	A+	140	25	8
RF-SJ103L4H-063L022	28.9	4320	10	39	14	A+	187	32	10
RF-SJ103L2H-063L025	30.06	6048	10	42	20	A+	93	17	6
RF-SJ103L3H-063L025	30.99	5292	10	42	20	A+	140	25	8
RF-SJ103L4H-063L025	32.17	4968	11	43	23	A+	187	32	10
RF-SJ103L2H-063L028	32.85	6804	13	45	34	A+	93	17	6
RF-SJ103L3H-063L028	33.54	5940	14	46	34	A+	140	25	8
RF-SJ103L4H-063L028	35.34	5616	14	46	37	A+	187	32	10
RF-SJ103L2H-063L031	35.52	7560	16	48	46	A+	93	17	6
RF-SJ103L3H-063L031	36.69	6588	17	49	48	A+	140	25	8
RF-SJ103L4H-063L031	37.41	6048	17	49	51	A+	187	32	10
RF-SJ103L2H-063L034	37.77	8208	18	50	63	A+	93	17	6
RF-SJ103L3H-063L034	40.26	7344	19	51	66	A+	140	25	8
RF-SJ103L4H-063L034	40.95	6804	20	52	68	A+	187	32	10
RF-SJ103L2H-063L038	41.19	9288	21	53	86	A+	93	17	6
RF-SJ103L3H-063L038	44.16	8208	22	54	91	A+	140	25	8
RF-SJ103L4H-063L038	44.39	7560	23	55	94	A+	187	32	10
RF-SJ103L2H-063L042	43.74	10152	24	56	111	A+	93	17	6
RF-SJ103L3H-063L042	47.88	9072	25	57	120	A+	140	25	8
RF-SJ103L4H-063L042	47.55	8424	26	58	123	A+	187	32	10
RF-SJ103L2H-063L047	47.28	11448	27	59	165	A+	93	17	6
RF-SJ103L3H-063L047	52.23	10152	28	60	171	A+	140	25	8
RF-SJ103L4H-063L047	52.65	9504	29	61	174	A+	187	32	10
RF-SJ103L2H-063L051	49.83	12420	29	61	191	A+	93	17	6
RF-SJ103L3H-063L051	55.47	11016	29	61	197	A+	140	25	8
RF-SJ103L4H-063L051	56.1	10260	30	62	202	A+	187	32	10
RF-SJ103L2H-063L055	52.29	13392	31	63	237	A	93	17	6
RF-SJ103L3H-063L055	59.43	12096	31	63	242	A+	140	25	8
RF-SJ103L4H-063L055	59.61	11124	32	64	251	A+	187	32	10
RF-SJ103L2H-063L059	54.21	14256	33	65	291	A	93	17	6
RF-SJ103L3H-063L059	62.43	12960	33	65	305	A	140	25	8
RF-SJ103L4H-063L059	63.84	12096	34	66	311	A	187	32	10
RF-SJ103L2H-063L064	56.13	15120	35	67	382	B	93	17	6
RF-SJ103L3H-063L064	64.47	13572	35	67	393	B	140	25	8
RF-SJ103L4H-063L064	65.7	12528	36	68	399	B	187	32	10

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Goedhart® KOAL-C RF-SJ - 630mm EC L Fan Type Low power

Model	Capacity R404A *	Air Volume	Sound pressure mean **	Sound power	Power input	Energy rating	Total Surface	Internal Volume	R404A
		m^3/h	dB (A)	dB (A)	W	Y	m^2	dm^3	kg
RF-SJ103L2H-063L069	59.52	16740	37	69	479	B	93	17	6
RF-SJ103L3H-063L069	68.04	14688	38	70	493	B	140	25	8
RF-SJ103L4H-063L069	69.75	13500	39	71	502	B	187	32	10
RF-SJ103L2H-063L075	62.25	18144	40	71	607	C	93	17	6
RF-SJ103L3H-063L075	71.13	15660	40	72	621	B	140	25	8
RF-SJ103L4H-063L075	74.1	14580	41	73	633	B	187	32	10
RF-SJ104L2H-063L022	36.16	7056	10	39	23	A+	125	23	8
RF-SJ104L3H-063L022	36.59	6048	10	39	19	A+	187	33	11
RF-SJ104L4H-063L022	38.54	5760	10	40	19	A+	249	42	14
RF-SJ104L2H-063L025	40.08	8064	11	43	27	A+	125	23	8
RF-SJ104L3H-063L025	41.32	7056	11	43	27	A+	187	33	11
RF-SJ104L4H-063L025	42.9	6624	12	44	30	A+	249	42	14
RF-SJ104L2H-063L028	43.8	9072	14	46	46	A+	125	23	8
RF-SJ104L3H-063L028	44.72	7920	15	47	46	A+	187	33	11
RF-SJ104L4H-063L028	47.13	7488	15	47	49	A+	249	42	14
RF-SJ104L2H-063L031	47.36	10080	17	49	61	A+	125	23	8
RF-SJ104L3H-063L031	48.92	8784	18	50	65	A+	187	33	11
RF-SJ104L4H-063L031	49.88	8064	18	50	68	A+	249	42	14
RF-SJ104L2H-063L034	50.36	10944	19	51	84	A+	125	23	8
RF-SJ104L3H-063L034	53.68	9792	20	52	87	A+	187	33	11
RF-SJ104L4H-063L034	54.6	9072	21	53	91	A+	249	42	14
RF-SJ104L2H-063L038	54.92	12384	22	54	114	A+	125	23	8
RF-SJ104L3H-063L038	58.88	10944	23	55	122	A+	187	33	11
RF-SJ104L4H-063L038	59.19	10080	24	56	125	A+	249	42	14
RF-SJ104L2H-063L042	58.32	13536	25	57	148	A+	125	23	8
RF-SJ104L3H-063L042	63.84	12096	26	58	160	A+	187	33	11
RF-SJ104L4H-063L042	63.4	11232	27	59	163	A+	249	42	14
RF-SJ104L2H-063L047	63.04	15264	28	60	220	A+	125	23	8
RF-SJ104L3H-063L047	69.64	13536	29	61	228	A+	187	33	11
RF-SJ104L4H-063L047	70.2	12672	30	62	232	A+	249	42	14
RF-SJ104L2H-063L051	66.44	16560	30	62	255	A+	125	23	8
RF-SJ104L3H-063L051	73.96	14688	30	62	262	A+	187	33	11
RF-SJ104L4H-063L051	74.8	13680	31	63	270	A+	249	42	14
RF-SJ104L2H-063L055	69.72	17856	32	64	315	A	125	23	8
RF-SJ104L3H-063L055	79.24	16128	32	64	323	A+	187	33	11
RF-SJ104L4H-063L055	79.48	14832	33	65	334	A+	249	42	14
RF-SJ104L2H-063L059	72.28	19008	34	66	388	A	125	23	8
RF-SJ104L3H-063L059	83.24	17280	34	66	407	A	187	33	11
RF-SJ104L4H-063L059	85.12	16128	35	67	414	A	249	42	14
RF-SJ104L2H-063L064	74.84	20160	36	68	509	B	125	23	8
RF-SJ104L3H-063L064	85.96	18108	36	68	524	B	187	33	11
RF-SJ104L4H-063L064	87.6	16704	37	69	532	B	249	42	14
RF-SJ104L2H-063L069	79.36	22320	38	70	638	B	125	23	8
RF-SJ104L3H-063L069	90.72	19584	39	71	657	B	187	33	11
RF-SJ104L4H-063L069	93	18000	40	72	669	B	249	42	14
RF-SJ104L2H-063L075	83	24192	41	73	809	C	125	23	8
RF-SJ104L3H-063L075	94.84	20880	41	73	828	B	187	33	11
RF-SJ104L4H-063L075	98.8	19440	43	74	844	B	249	42	14
RF-SJ104L4H-063L069	93.0	18000	40	72	668.8	B	249	42	14
RF-SJ104L3H-063L075	94.84	20880	41	73	828.4	B	187	33	11
RF-SJ104L4H-063L075	98.80	19440	43	74	843.6	B	249	42	14

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Goedhart® KOAL-C RF-SJ - 630mm EC M Fan Type High power

Model	Capacity R404A *	Air Volume	Sound pressure mean **	Sound power	Power input	Energy rating	Total Surface	Internal Volume	R404A
		m^3/h	dB (A)	dB (A)	W	Y	m^2	dm^3	kg
RF-SJ101L2H-063M020	9.33	1836	10	28	6	A+	31	6	2
RF-SJ101L3H-063M020	9.83	1656	10	30	6	A+	47	8	3
RF-SJ101L4H-063M020	10.19	1440	10	32	7	A+	62	11	3
RF-SJ101L2H-063M023	10.56	2160	10	31	8	A+	31	6	2
RF-SJ101L3H-063M023	10.99	1944	10	33	9	A+	47	8	3
RF-SJ101L4H-063M023	11.43	1800	10	36	10	A+	62	11	3
RF-SJ101L2H-063M025	11.21	2340	10	33	10	A+	31	6	2
RF-SJ101L3H-063M025	11.70	2088	10	36	10	A+	47	8	3
RF-SJ101L4H-063M025	11.96	1800	10	38	11	A+	62	11	3
RF-SJ101L2H-063M028	12.45	2700	10	37	15	A+	31	6	2
RF-SJ101L3H-063M028	12.91	2340	10	40	16	A+	47	8	3
RF-SJ101L4H-063M028	13.15	2160	11	42	17	A+	62	11	3
RF-SJ101L2H-063M032	13.63	3060	10	41	22	A+	31	6	2
RF-SJ101L3H-063M032	14.88	2772	12	43	23	A+	47	8	3
RF-SJ101L4H-063M032	14.80	2520	14	45	24	A+	62	11	3
RF-SJ101L2H-063M035	14.68	3420	12	43	29	A+	31	6	2
RF-SJ101L3H-063M035	16.12	3060	14	45	30	A+	47	8	3
RF-SJ101L4H-063M035	15.67	2880	17	48	31	A+	62	11	3
RF-SJ101L2H-063M039	15.67	3780	15	46	40	A+	31	6	2
RF-SJ101L3H-063M039	17.55	3420	17	48	42	A+	47	8	3
RF-SJ101L4H-063M039	17.23	3240	19	50	44	A+	62	11	3
RF-SJ101L2H-063M043	16.61	4140	18	49	56	A+	31	6	2
RF-SJ101L3H-063M043	18.77	3744	20	51	57	A+	47	8	3
RF-SJ101L4H-063M043	18.70	3600	22	53	59	A+	62	11	3
RF-SJ101L2H-063M048	17.67	4572	24	55	74	A+	31	6	2
RF-SJ101L3H-063M048	20.18	4140	24	55	77	A+	47	8	3
RF-SJ101L4H-063M048	20.17	3960	25	56	81	A+	62	11	3
RF-SJ101L2H-063M054	19.02	5184	27	58	103	A	31	6	2
RF-SJ101L3H-063M054	21.98	4680	28	59	108	A	47	8	3
RF-SJ101L4H-063M054	22.15	4320	28	59	114	A	62	11	3
RF-SJ101L2H-063M060	20.20	5760	30	61	143	B	31	6	2
RF-SJ101L3H-063M060	23.71	5220	31	62	152	B	47	8	3
RF-SJ101L4H-063M060	24.42	4680	31	62	157	B	62	11	3
RF-SJ101L2H-063M064	21.89	6696	32	63	162	B	31	6	2
RF-SJ101L3H-063M064	24.83	5580	32	63	182	B	47	8	3
RF-SJ101L4H-063M064	25.54	5040	33	64	190	B	62	11	3
RF-SJ101L2H-063M069	21.07	6228	34	65	226	C	31	6	2
RF-SJ101L3H-063M069	26.08	6012	34	65	230	B	47	8	3
RF-SJ101L4H-063M069	27.49	5760	35	66	237	B	62	11	3
RF-SJ101L2H-063M074	22.73	7200	36	67	242	C	31	6	2
RF-SJ101L3H-063M074	27.65	6588	37	68	256	C	47	8	3
RF-SJ101L4H-063M074	29.44	6120	38	69	266	B	62	11	3
RF-SJ101L2H-063M080	23.66	7812	38	69	302	C	31	6	2
RF-SJ101L3H-063M080	29.21	7200	39	70	322	C	47	8	3
RF-SJ101L4H-063M080	31.32	6840	40	71	334	C	62	11	3
RF-SJ101L2H-063M086	24.52	8424	40	71	380	D	31	6	2
RF-SJ101L3H-063M086	30.47	7740	41	72	399	C	47	8	3
RF-SJ101L4H-063M086	32.88	7200	42	73	413	C	62	11	3
RF-SJ101L2H-063M092	25.29	9000	42	73	461	D	31	6	2
RF-SJ101L3H-063M092	31.73	8280	43	74	487	D	47	8	3
RF-SJ101L4H-063M092	34.56	7560	44	75	504	D	62	11	3
RF-SJ101L2H-063M100	25.78	9396	44	75	570	D	31	6	2
RF-SJ101L3H-063M100	32.24	8532	45	76	610	D	47	8	3
RF-SJ101L4H-063M100	35.34	7920	45	76	627	D	62	11	3
RF-SJ101L2H-063M106	26.49	9972	46	77	676	D	31	6	2
RF-SJ101L3H-063M106	33.44	9108	47	78	720	D	47	8	3
RF-SJ101L4H-063M106	36.82	8280	47	78	741	D	62	11	3
RF-SJ101L2H-063M114	27.35	10728	49	80	861	E	31	6	2
RF-SJ101L3H-063M114	34.82	9792	50	81	898	D	47	8	3
RF-SJ101L4H-063M114	38.55	9000	50	81	922	D	62	11	3

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Goedhart® KOAL-C RF-SJ - 630mm EC M Fan Type High power

Model	Capacity R404A *	Air Volume	Sound pressure mean **	Sound power	Power input	Energy rating	Total Surface	Internal Volume	R404A
		m^3/h	dB (A)	dB (A)	W	Y	m^2	dm^3	kg
RF-SJ102L2H-063M020	18.66	3672	10	31	11	A+	62	12	4
RF-SJ102L3H-063M020	19.65	3312	10	33	11	A+	93	17	6
RF-SJ102L4H-063M020	20.37	3096	10	35	13	A+	125	21	7
RF-SJ102L2H-063M023	21.12	4320	10	34	15	A+	62	12	4
RF-SJ102L3H-063M023	21.98	3888	10	36	17	A+	93	17	6
RF-SJ102L4H-063M023	22.86	3600	10	39	19	A+	125	21	7
RF-SJ102L2H-063M025	22.42	4680	10	36	19	A+	62	12	4
RF-SJ102L3H-063M025	23.4	4176	10	39	21	A+	93	17	6
RF-SJ102L4H-063M025	23.91	3816	10	41	23	A+	125	21	7
RF-SJ102L2H-063M028	24.9	5400	10	40	30	A+	62	12	4
RF-SJ102L3H-063M028	25.82	4680	12	43	32	A+	93	17	6
RF-SJ102L4H-063M028	26.29	4320	14	45	34	A+	125	21	7
RF-SJ102L2H-063M032	27.26	6120	13	44	44	A+	62	12	4
RF-SJ102L3H-063M032	29.76	5544	15	46	46	A+	93	17	6
RF-SJ102L4H-063M032	29.59	5040	17	48	48	A+	125	21	7
RF-SJ102L2H-063M035	29.36	6840	15	46	57	A+	62	12	4
RF-SJ102L3H-063M035	32.24	6120	17	48	61	A+	93	17	6
RF-SJ102L4H-063M035	31.34	5508	20	51	63	A+	125	21	7
RF-SJ102L2H-063M039	31.34	7560	18	49	80	A+	62	12	4
RF-SJ102L3H-063M039	35.1	6840	20	51	84	A+	93	17	6
RF-SJ102L4H-063M039	34.46	6192	22	53	87	A+	125	21	7
RF-SJ102L2H-063M043	33.22	8280	21	52	112	A+	62	12	4
RF-SJ102L3H-063M043	37.54	7488	23	54	114	A+	93	17	6
RF-SJ102L4H-063M043	37.4	6840	25	56	118	A+	125	21	7
RF-SJ102L2H-063M048	35.34	9144	27	58	148	A+	62	12	4
RF-SJ102L3H-063M048	40.36	8280	27	58	154	A+	93	17	6
RF-SJ102L4H-063M048	40.34	7560	28	59	162	A+	125	21	7
RF-SJ102L2H-063M054	38.04	10368	30	61	205	A	62	12	4
RF-SJ102L3H-063M054	43.96	9360	31	62	217	A	93	17	6
RF-SJ102L4H-063M054	44.3	8496	31	62	228	A	125	21	7
RF-SJ102L2H-063M060	40.4	11520	33	64	287	B	62	12	4
RF-SJ102L3H-063M060	47.42	10440	34	65	304	B	93	17	6
RF-SJ102L4H-063M060	48.84	9540	34	65	314	B	125	21	7
RF-SJ102L2H-063M064	43.78	13392	35	66	323	B	62	12	4
RF-SJ102L3H-063M064	49.66	11160	35	66	365	B	93	17	6
RF-SJ102L4H-063M064	51.08	10152	36	67	380	B	125	21	7
RF-SJ102L2H-063M069	42.14	12420	37	68	452	C	62	12	4
RF-SJ102L3H-063M069	52.16	12024	37	68	460	B	93	17	6
RF-SJ102L4H-063M069	54.98	11160	38	69	473	B	125	21	7
RF-SJ102L2H-063M074	45.46	14400	39	70	485	C	62	12	4
RF-SJ102L3H-063M074	55.3	13176	40	71	511	C	93	17	6
RF-SJ102L4H-063M074	58.88	12240	41	72	532	B	125	21	7
RF-SJ102L2H-063M080	47.32	15624	41	72	604	C	62	12	4
RF-SJ102L3H-063M080	58.42	14400	42	73	644	C	93	17	6
RF-SJ102L4H-063M080	62.64	13320	43	74	669	C	125	21	7
RF-SJ102L2H-063M086	49.04	16848	43	74	760	D	62	12	4
RF-SJ102L3H-063M086	60.94	15444	44	75	798	C	93	17	6
RF-SJ102L4H-063M086	65.76	14256	45	76	827	C	125	21	7
RF-SJ102L2H-063M092	50.58	18000	45	76	922	D	62	12	4
RF-SJ102L3H-063M092	63.46	16560	46	77	975	D	93	17	6
RF-SJ102L4H-063M092	69.12	15336	47	78	1009	D	125	21	7
RF-SJ102L2H-063M100	51.56	18792	47	78	1140	D	62	12	4
RF-SJ102L3H-063M100	64.48	17028	48	79	1220	D	93	17	6
RF-SJ102L4H-063M100	70.68	15840	48	79	1254	D	125	21	7
RF-SJ102L2H-063M106	52.98	19944	49	80	1353	D	62	12	4
RF-SJ102L3H-063M106	66.88	18180	50	81	1440	D	93	17	6
RF-SJ102L4H-063M106	73.64	16848	50	81	1482	D	125	21	7
RF-SJ102L2H-063M114	54.7	21456	52	83	1721	E	62	12	4

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Goedhart® KOAL-C RF-SJ - 630mm EC M Fan Type High power

Model	Capacity R404A *	Air Volume	Sound pressure mean **	Sound power	Power input	Energy rating	Total Surface	Internal Volume	R404A
		m^3/h	dB (A)	dB (A)	W	Y	m^2	dm^3	kg
RF-SJ103L2H-063M020	27.99	5508	10	33	17	A+	93	17	6
RF-SJ103L3H-063M020	29.48	4968	10	35	17	A+	140	25	8
RF-SJ103L4H-063M020	30.55	4644	10	37	20	A+	187	32	10
RF-SJ103L2H-063M023	31.68	6480	10	36	23	A+	93	17	6
RF-SJ103L3H-063M023	32.97	5832	10	38	26	A+	140	25	8
RF-SJ103L4H-063M023	34.3	5400	10	41	29	A+	187	32	10
RF-SJ103L2H-063M025	33.63	7020	10	38	29	A+	93	17	6
RF-SJ103L3H-063M025	35.1	6264	10	41	31	A+	140	25	8
RF-SJ103L4H-063M025	35.86	5724	11	43	34	A+	187	32	10
RF-SJ103L2H-063M028	37.35	8100	10	42	46	A+	93	17	6
RF-SJ103L3H-063M028	38.73	7020	13	45	48	A+	140	25	8
RF-SJ103L4H-063M028	39.44	6480	15	47	51	A+	187	32	10
RF-SJ103L2H-063M032	40.89	9180	14	46	66	A+	93	17	6
RF-SJ103L3H-063M032	44.64	8316	16	48	68	A+	140	25	8
RF-SJ103L4H-063M032	44.39	7560	18	50	71	A+	187	32	10
RF-SJ103L2H-063M035	44.04	10260	16	48	86	A+	93	17	6
RF-SJ103L3H-063M035	48.36	9180	18	50	91	A+	140	25	8
RF-SJ103L4H-063M035	47.01	8262	21	53	94	A+	187	32	10
RF-SJ103L2H-063M039	47.01	11340	19	51	120	A+	93	17	6
RF-SJ103L3H-063M039	52.65	10260	21	53	125	A+	140	25	8
RF-SJ103L4H-063M039	51.69	9288	23	55	131	A+	187	32	10
RF-SJ103L2H-063M043	49.83	12420	22	54	168	A+	93	17	6
RF-SJ103L3H-063M043	56.31	11232	24	56	171	A+	140	25	8
RF-SJ103L4H-063M043	56.1	10260	26	58	177	A+	187	32	10
RF-SJ103L2H-063M048	53.01	13716	28	60	222	A+	93	17	6
RF-SJ103L3H-063M048	60.54	12420	28	60	231	A+	140	25	8
RF-SJ103L4H-063M048	60.51	11340	29	61	242	A+	187	32	10
RF-SJ103L2H-063M054	57.06	15552	31	63	308	A	93	17	6
RF-SJ103L3H-063M054	65.94	14040	32	64	325	A	140	25	8
RF-SJ103L4H-063M054	66.45	12744	32	64	342	A	187	32	10
RF-SJ103L2H-063M060	60.6	17280	34	66	430	B	93	17	6
RF-SJ103L3H-063M060	71.13	15660	35	67	456	B	140	25	8
RF-SJ103L4H-063M060	73.26	14310	35	67	470	B	187	32	10
RF-SJ103L2H-063M064	65.67	20088	36	68	485	B	93	17	6
RF-SJ103L3H-063M064	74.49	16740	36	68	547	B	140	25	8
RF-SJ103L4H-063M064	76.62	15228	37	69	570	B	187	32	10
RF-SJ103L2H-063M069	63.21	18630	38	70	678	C	93	17	6
RF-SJ103L3H-063M069	78.24	18036	38	70	690	B	140	25	8
RF-SJ103L4H-063M069	82.47	16740	39	71	710	B	187	32	10
RF-SJ103L2H-063M074	68.19	21600	40	72	727	C	93	17	6
RF-SJ103L3H-063M074	82.95	19764	41	73	767	C	140	25	8
RF-SJ103L4H-063M074	88.32	18360	42	74	798	B	187	32	10
RF-SJ103L2H-063M080	70.98	23436	42	74	906	C	93	17	6
RF-SJ103L3H-063M080	87.63	21600	43	75	966	C	140	25	8
RF-SJ103L4H-063M080	93.96	19980	44	76	1003	C	187	32	10
RF-SJ103L2H-063M086	73.56	25272	44	76	1140	D	93	17	6
RF-SJ103L3H-063M086	91.41	23166	45	77	1197	C	140	25	8
RF-SJ103L4H-063M086	98.64	21384	46	78	1240	C	187	32	10
RF-SJ103L2H-063M092	75.87	27000	46	78	1382	D	93	17	6
RF-SJ103L3H-063M092	95.19	24840	47	79	1462	D	140	25	8
RF-SJ103L4H-063M092	103.68	23004	48	80	1513	D	187	32	10
RF-SJ103L2H-063M100	77.34	28188	48	80	1710	D	93	17	6
RF-SJ103L3H-063M100	96.72	25542	49	81	1830	D	140	25	8
RF-SJ103L4H-063M100	106.02	23760	49	81	1881	D	187	32	10
RF-SJ103L2H-063M106	79.47	29916	50	82	2029	D	93	17	6
RF-SJ103L3H-063M106	100.32	27270	51	83	2160	D	140	25	8
RF-SJ103L4H-063M106	110.46	25272	51	83	2223	D	187	32	10
RF-SJ103L2H-063M114	82.05	32184	53	85	2582	E	93	17	6
RF-SJ103L3H-063M114	104.46	29376	54	86	2693	D	140	25	8

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Goedhart® KOAL-C RF-SJ - 630mm EC M Fan Type High power

Model	Capacity R404A *	Air Volume	Sound pressure mean **	Sound power	Power input	Energy rating	Total Surface	Internal Volume	R404A
		m^3/h	dB (A)	dB (A)	W	Y	m^2	dm^3	kg
RF-SJ104L2H-063M020	37.32	7344	10	34	23	A+	125	23	8
RF-SJ104L3H-063M020	39.31	6624	10	36	23	A+	187	33	11
RF-SJ104L4H-063M020	40.74	6192	10	38	27	A+	249	42	14
RF-SJ104L2H-063M023	42.24	8640	10	37	30	A+	125	23	8
RF-SJ104L3H-063M023	43.96	7776	10	39	34	A+	187	33	11
RF-SJ104L4H-063M023	45.73	7200	10	42	38	A+	249	42	14
RF-SJ104L2H-063M025	44.84	9360	10	39	38	A+	125	23	8
RF-SJ104L3H-063M025	46.8	8352	10	42	42	A+	187	33	11
RF-SJ104L4H-063M025	47.82	7632	12	44	46	A+	249	42	14
RF-SJ104L2H-063M028	49.8	10800	11	43	61	A+	125	23	8
RF-SJ104L3H-063M028	51.64	9360	14	46	65	A+	187	33	11
RF-SJ104L4H-063M028	52.59	8640	16	48	68	A+	249	42	14
RF-SJ104L2H-063M032	54.52	12240	15	47	87	A+	125	23	8
RF-SJ104L3H-063M032	59.52	11088	17	49	91	A+	187	33	11
RF-SJ104L4H-063M032	59.19	10080	19	51	95	A+	249	42	14
RF-SJ104L2H-063M035	58.72	13680	17	49	114	A+	125	23	8
RF-SJ104L3H-063M035	64.48	12240	19	51	122	A+	187	33	11
RF-SJ104L4H-063M035	62.68	11016	22	54	125	A+	249	42	14
RF-SJ104L2H-063M039	62.68	15120	20	52	160	A+	125	23	8
RF-SJ104L3H-063M039	70.2	13680	22	54	167	A+	187	33	11
RF-SJ104L4H-063M039	68.92	12384	24	56	175	A+	249	42	14
RF-SJ104L2H-063M043	66.44	16560	23	55	224	A+	125	23	8
RF-SJ104L3H-063M043	75.08	14976	25	57	228	A+	187	33	11
RF-SJ104L4H-063M043	74.8	13680	27	59	236	A+	249	42	14
RF-SJ104L2H-063M048	70.68	18288	29	61	296	A+	125	23	8
RF-SJ104L3H-063M048	80.72	16560	29	61	308	A+	187	33	11
RF-SJ104L4H-063M048	80.68	15120	30	62	323	A+	249	42	14
RF-SJ104L2H-063M054	76.08	20736	32	64	410	A	125	23	8
RF-SJ104L3H-063M054	87.92	18720	33	65	433	A	187	33	11
RF-SJ104L4H-063M054	88.6	16992	33	65	456	A	249	42	14

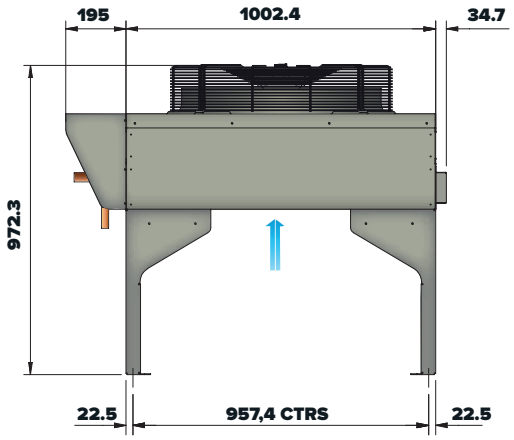
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

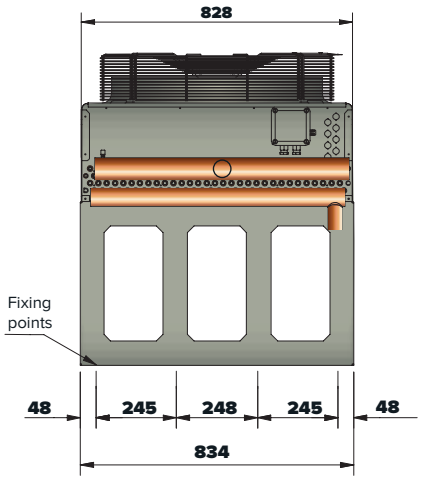
Goedhart® KOAL-C RF-SJ - 630mm EC M Fan Type High power

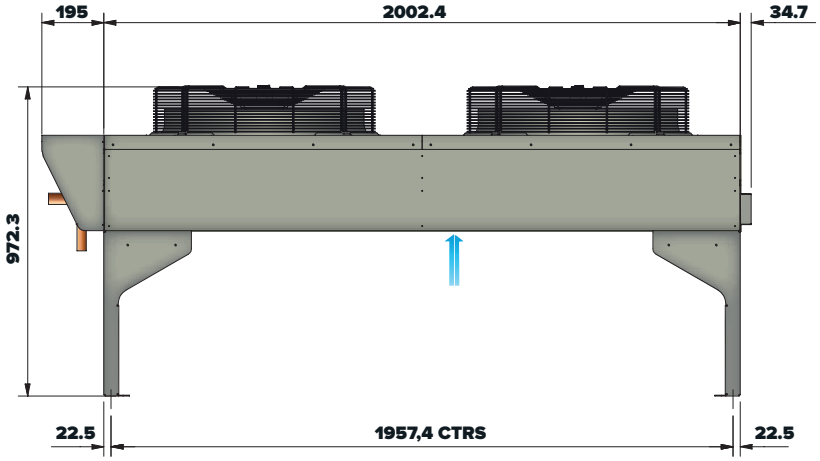
Model	Capacity R404A *	Air Volume	Sound pressure mean **	Sound power	Power input	Energy rating	Total Surface	Internal Volume	R404A
		m^3/h	dB (A)	dB (A)	W	Y	m^2	dm^3	kg
RF-SJ104L2H-063M060	80.8	23040	35	67	574	B	125	23	8
RF-SJ104L3H-063M060	94.84	20880	36	68	608	B	187	33	11
RF-SJ104L4H-063M060	97.68	19080	36	68	627	B	249	42	14
RF-SJ104L2H-063M064	87.56	26784	37	69	646	B	125	23	8
RF-SJ104L3H-063M064	99.32	22320	37	69	730	B	187	33	11
RF-SJ104L4H-063M064	102.16	20304	38	70	760	B	249	42	14
RF-SJ104L2H-063M069	84.28	24840	39	71	904	C	125	23	8
RF-SJ104L3H-063M069	104.32	24048	39	71	920	B	187	33	11
RF-SJ104L4H-063M069	109.96	22320	40	72	946	B	249	42	14
RF-SJ104L2H-063M074	90.92	28800	41	73	969	C	125	23	8
RF-SJ104L3H-063M074	110.6	26352	42	74	1022	C	187	33	11
RF-SJ104L4H-063M074	117.76	24480	43	75	1064	B	249	42	14
RF-SJ104L2H-063M080	94.64	31248	43	75	1208	C	125	23	8
RF-SJ104L3H-063M080	116.84	28800	44	76	1288	C	187	33	11
RF-SJ104L4H-063M080	125.28	26640	45	77	1338	C	249	42	14
RF-SJ104L2H-063M086	98.08	33696	45	77	1520	D	125	23	8
RF-SJ104L3H-063M086	121.88	30888	46	78	1596	C	187	33	11
RF-SJ104L4H-063M086	131.52	28512	47	79	1653	C	249	42	14
RF-SJ104L2H-063M092	101.16	36000	47	79	1843	D	125	23	8
RF-SJ104L3H-063M092	126.92	33120	48	80	1949	D	187	33	11
RF-SJ104L4H-063M092	138.24	30672	49	81	2018	D	249	42	14
RF-SJ104L2H-063M100	103.12	37584	49	81	2280	D	125	23	8
RF-SJ104L3H-063M100	128.96	34056	50	82	2440	D	187	33	11
RF-SJ104L4H-063M100	141.36	31680	50	82	2508	D	249	42	14
RF-SJ104L2H-063M106	105.96	39888	51	83	2706	D	125	23	8
RF-SJ104L3H-063M106	133.76	36360	52	84	2880	D	187	33	11
RF-SJ104L4H-063M106	147.28	33696	52	84	2964	D	249	42	14
RF-SJ104L2H-063M114	109.4	42912	54	86	3443	E	125	23	8
RF-SJ104L3H-063M114	139.28	39168	55	87	3591	D	187	33	11
RF-SJ104L4H-063M114	154.2	36108	56	87	3690	D	249	42	14

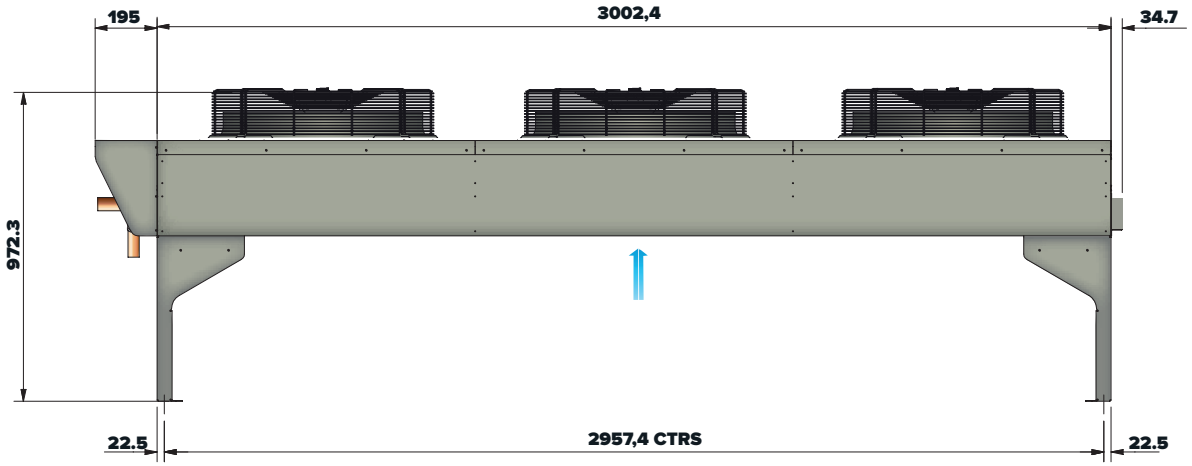
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

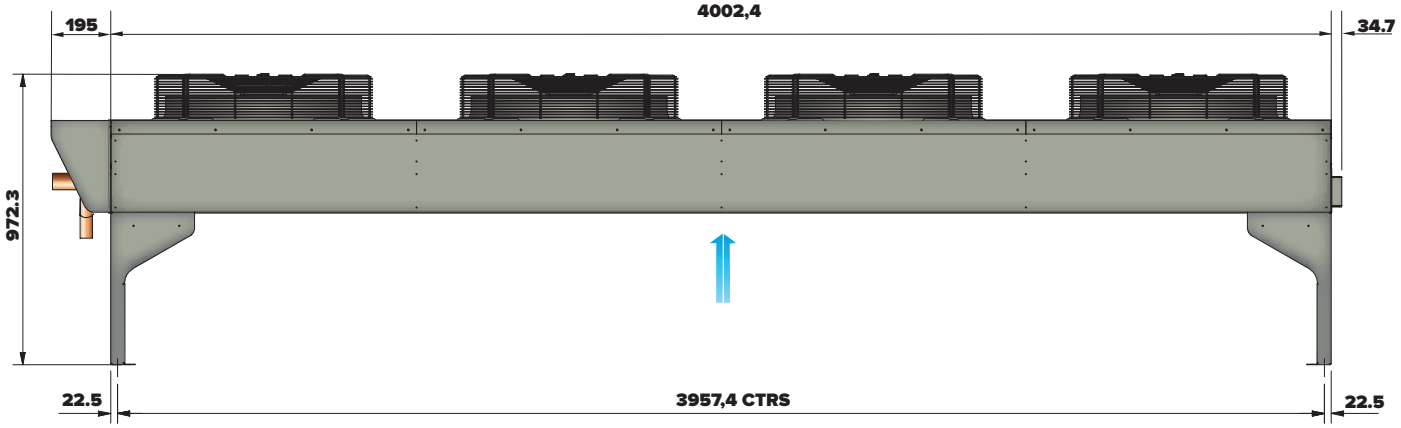
Goedhart® KOAL-C RF-SJ - Horizontal Dimensions



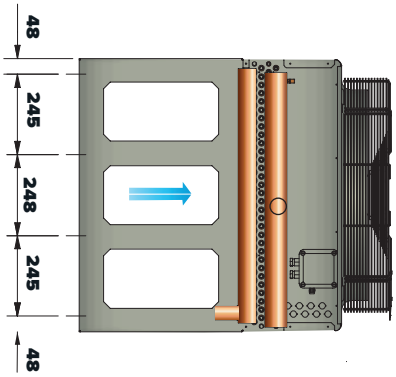


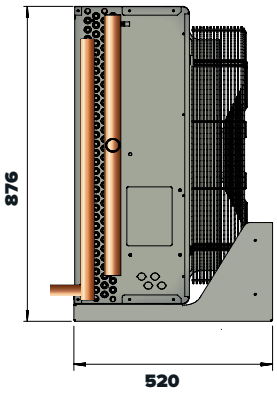




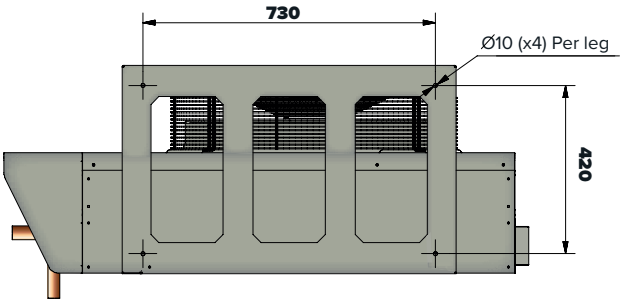


Goedhart® KOAL-C RF-SJ - Vertical Dimensions





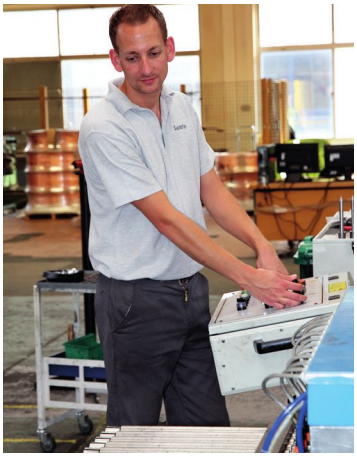
Transport Assembly

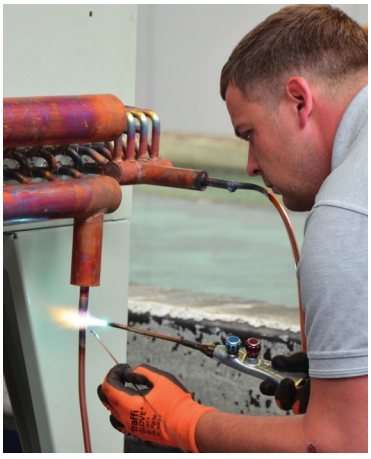


Unit	Fan per row	Total Unit Dry Weight (Approx)	
		AL (kg)	CU (kg)
RF-SJ101L2	1	79	90
RF-SJ101L2	1	70	81
RF-SJ101L2	1	68	79
RF-SJ101L2	1	68	79
RF-SJ101L3	1	86	102
RF-SJ101L3	1	77	93
RF-SJ101L3	1	74	91
RF-SJ101L3	1	75	91
RF-SJ101L4	1	92	114
RF-SJ101L4	1	83	105
RF-SJ101L4	1	81	103
RF-SJ101L4	1	81	103
RF-SJ102L2	2	101	123
RF-SJ102L2	2	92	114
RF-SJ102L2	2	90	112
RF-SJ102L2	2	90	112
RF-SJ102L3	2	114	147
RF-SJ102L3	2	105	138
RF-SJ102L3	2	102	135
RF-SJ102L3	2	103	136
RF-SJ102L4	2	118	170
RF-SJ102L4	2	109	161
RF-SJ102L4	2	106	159
RF-SJ102L4	2	107	159
RF-SJ103L2	3	123	156
RF-SJ103L2	3	114	147
RF-SJ103L2	3	112	145
RF-SJ103L2	3	112	145
RF-SJ103L3	3	142	192
RF-SJ103L3	3	133	182
RF-SJ103L3	3	131	180
RF-SJ103L3	3	131	181
RF-SJ103L4	3	161	227
RF-SJ103L4	3	152	218
RF-SJ103L4	3	150	215
RF-SJ103L4	3	150	216
RF-SJ104L2	4	146	190
RF-SJ104L2	4	136	181
RF-SJ104L2	4	134	179
RF-SJ104L2	4	135	179
RF-SJ104L3	4	172	238
RF-SJ104L3	4	162	228
RF-SJ104L3	4	160	226
RF-SJ104L3	4	161	227
RF-SJ104L4	4	197	285
RF-SJ104L4	4	188	275
RF-SJ104L4	4	185	273
RF-SJ104L4	4	186	274

Goedhart KOAL-S RF/NF refrigeration flatbed

PUSHING FORWARD WITH INNOVATIVE IDEAS





The Goedhart® KOAL-S range of RF modular condenser from Kelvion draws upon over 90 years of experience in the design, application and manufacture of heat exchangers. The Goedhart® KOAL-S RF ranges are made up of a comprehensive array of 4 module options with a duty range of 24kW - 1409kW, ensuring that a suitable balance of performance, size and efficiency can be found to suit all applications offering a greater choice to match your requirements. In order to guarantee the continued excellence of our products in terms of innovation, design and performance, our condensers can meet even the most stringent noise restrictions utilising the best fan technology in the market today.

The new Goedhart® INAL-S range of NF condenser from Kelvion have been specially designed with ammonia (NH3) as the working refrigerant. It is suitable for a wide range of applications with a duty range of 11kW to 1330kW. Energy efficiency has become a key industry issue and is increasingly important on the end-user criteria, this has created a platform for Kelvion to introduce the latest EC technology across the range which offers variable speed control and high efficiency.

Features

- Comprises of 4 module lengths
- Available in 2.1mm fin spacing
- 1 - 10 fans per row
- Eurovent Certified EN327 and EN13487

RF & NF RANGE PRODUCT PROFILE

1 CASEWORK

Through innovative design Kelvion successfully managed to reduce the number of components within the unit, maximising strength, easy assembly and creating a fully weather-proofed unit suitable for a wide variety of applications. The improved casework design has also contributed in reducing the total energy required to manufacture.

Each side plate is cold formed from a single piece of pre-galvanised sheet steel and powder coated RAL7032 (Pebble Grey) on the outside with an Interlock construction creating an 'I' frame structure. This special form, which can be manufactured up to 12m long, gives tremendous strength and forms an integral part of the heat exchanger support structure.

3 FANS

Kelvion offer three phase AC or EC axial fans for use as standard. The fan sets have been optimised for the range of module options, with the latest innovations such as AxiTop, ZA Plus and Flow grid all available through our selection program.

- 6, 8 , 12 and EC pole 3 phase
- 800mm, 900mm and 910mm diameter fan set options
- 1 to 20 fans
- Motor rating: IP54
- Rated Frequency: 50/60 Hz
- All fan sets are ErP2015 compliant
- Guard: Metal Wire (Black)
- Temperature Range: -30°C to +80°C (+50 for star or 230V)
- Temperature Range: -40°C to +70°C (+60 for 60Hz)

3 Coil

The Goedhart® KOAL-S RF range utilises 2 configurations for most applications the standard EL (12FPI) incorporates $^{3}/_{8}$" (9.5mm) tube diameter and the T-Fin (11FPI) incorporates 12mm tube. The coil is fully supported, through its length and depth, by tube sheets and internal fan baffles secured to the continuous one piece side plates creating an 'H' frame construction for strength. Positioning the tube equilaterally it achieves a good balance of reduced refrigerant charge whilst maintaining appropriate thermal load to achieve good system stability.

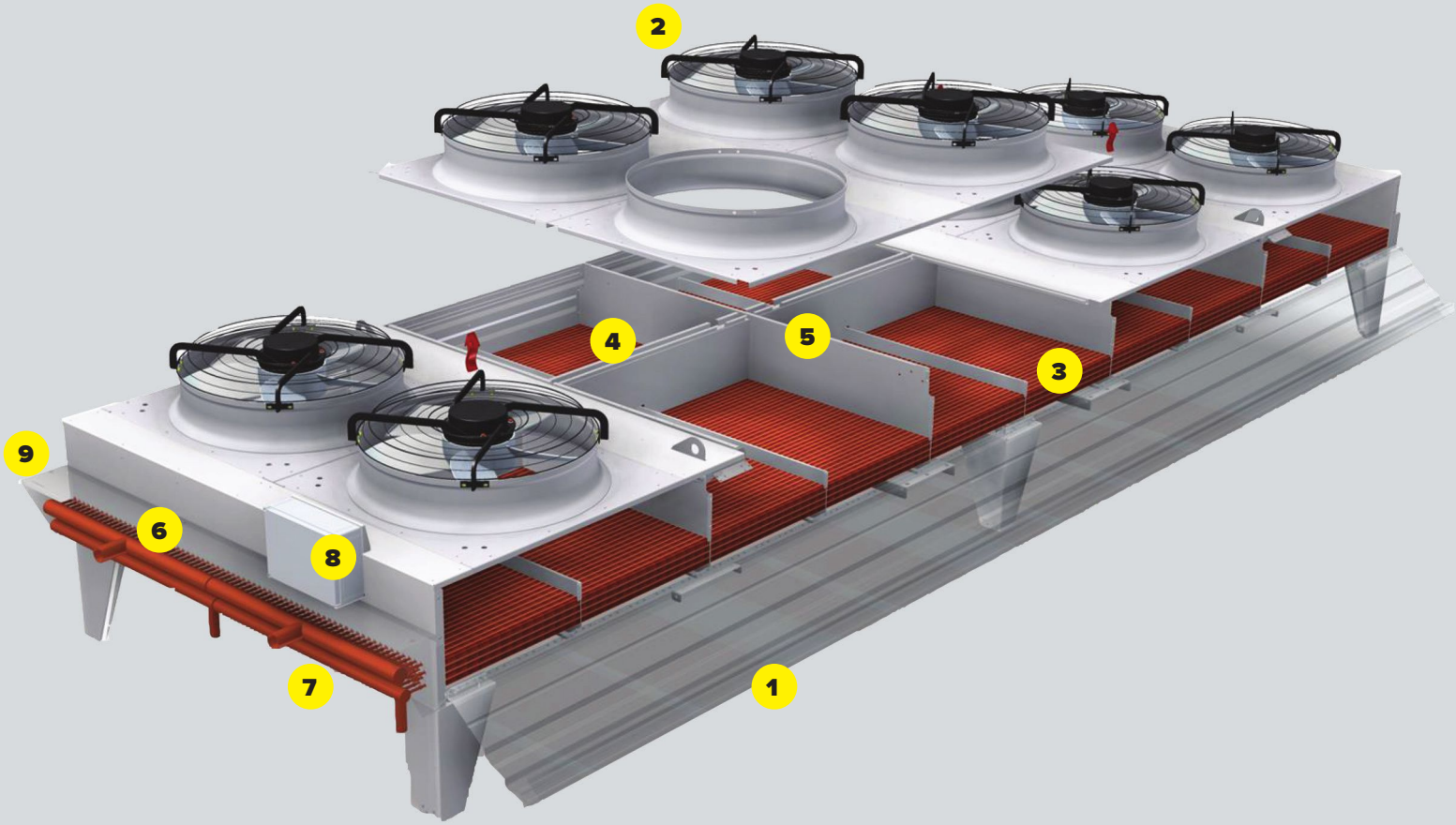
NF condensers with ammonia as the working refrigerant, offers Goedhart® KOAL-S RF range features with stainless steel coil tube and stainless steel header tube with T fin option only.

OPTIONS

- **Legs Extended** - 250mm, 500mm (Standard), 750mm, 1000mm
- **Isolators** - Fan Mounted isolators
- **Sub cooling/Multi sections** - 7K at 15K ΔT, 5K at 15K ΔT
- **Packing** - Open crate, Closed boarded crate, Pallet, Hardboard coil protection
- **Alternative Fin Material for RF** - Epoxy coated Aluminium, Copper, Blygold, Electro-tinned, Aluminium Magnesium
- **Alternative Fin Material for NF** - ST/AL , ST/AV, ST/BG, ST/AM, ST/MB, ST/CU, ST/ET.
- **Stacking** - Flatbed units can be stacked to reduce costs
- **Special Paint** - Alternative unit colours or C_5M Marine coating
- **Adiabatic System** - Copper or PCC piping
- **Terminal Box** - Terminal box for customer control
- **Control Box** - AC or EC fan motors using pressure or temperature control
- **Mounted Receivers & frames** - Receiver /frame mounting and piping
- **Customised Housing** - housings supplied separately or integrated with the air cooled condenser

RF & NF fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
0806 N6 Pole	800mm	A,B,C,D	920	730	4.2	2.3	14.0	4.0
0808 N8 Pole		A,B,C,D	670	550	2.5	1.3	6.2	2.2
091 H6 Pole	900mm	A,B,C,D	910	710	5.5	3.5	28.0	10.0
091 N6 Pole	910mm	A,B,C,D	905	640	5.7	3.3	19.0	11.0
091 N12 Pole		A,B,C,D	440	340	0.85	0.4	2.0	1.5
091 E - EC Technology		A,B,C,D	865-115	-	-	-	-	-
091 P - EC Technology		A,B,C,D	930-90	-	-	-	-	-



4	Centre Baffle	7	Outlet Header
5	Centre Plate	8	Control Box Optional
6	Inlet Header	9	Header Cover

ISO 9001 Quality Management

Nomenclature

R	F	-	P	A	2	04	T	2	H	-	080	N	06	D

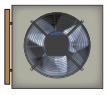
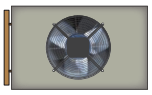
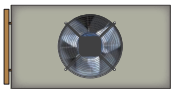
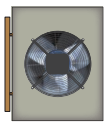
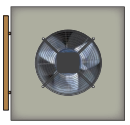
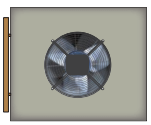
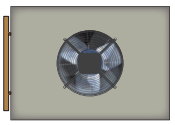
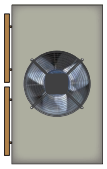
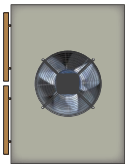
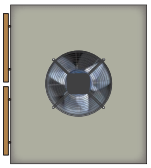
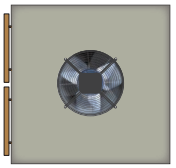
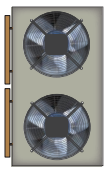
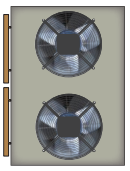
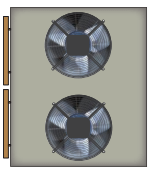
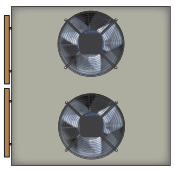
Product series:	**R = Refrigerant, N = NH3 (St/St tubes)**
Unit form:	**F = Flatbed**
Module width:	**M = Narrow, N = Medium, P = Wide**
Module length:	**A = 1200mm, B = 1500mm, C = 1800mm, D = 2100mm**
Fan rows:	**1 or 2**
Fans per row:	**1 - 10**
Fin type:	**L = 3/8" (9.5mm) tube, T = 12mm tube**
Coil rows:	**2, 3, 4**
Orientation:	**H = Horizontal, V = Vertical**
Fan Diameter:	**080 = 800mm, 090 = 900mm, 091 = 910mm**
Fan type:	**N = AC Normal, E = ebm EC, H = AC High power, P = Ziehl EC**
Speed options:	**6, 8, 12, EC**
Motor wiring:	**Delta, Star**

Capacities: R404A & R507A: 24 kW - 1409 kW NH3 (NF): 11 kW - 1330 kW

Goedhart® KOAL-S RF, L - Fin - 910mm 6 Pole, H Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

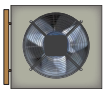
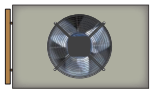
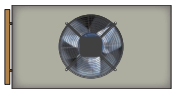
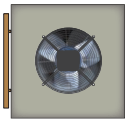
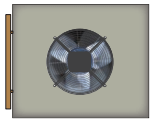
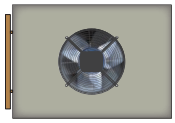
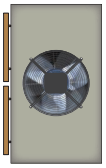
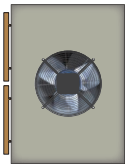
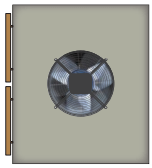
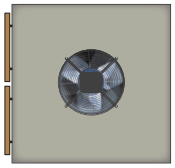
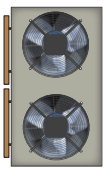
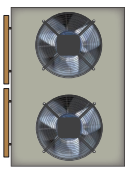
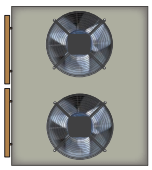
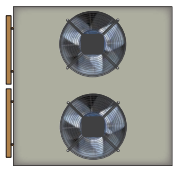
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
RF-MC101L4	94.8	81.9	23641	18563	57	52	89	82	2540	1790	D	C	151	25	8
RF-NB101L4	107.3	92.5	25237	19928	58	51	88	83	2500	1760	D	C	175	30	10
RF-PA101L4	115.7	100.2	26292	21028	58	52	89	82	2460	1750	C	C	201	36	12
RF-PB201L4	169.5	144.8	42436	32802	61	55	92	86	5130	3600	D	D	251	43	14
RF-MC102L4	190.1	164.2	47282	37127	60	54	92	85	5080	3590	D	C	301	48	16
RF-NB102L4	215.2	185.3	50474	39856	60	54	91	86	4990	3520	D	C	350	58	19
RF-PB102L3	225.4	199.8	56893	46369	61	55	93	87	4780	3500	C	C	377	60	20
RF-PA102L4	232.3	200.8	52584	42056	61	54	92	85	4920	3490	C	C	402	64	21
RF-NA103L3	236.6	210.0	73273	57725	62	56	94	88	7560	5340	D	D	315	53	17
RF-PC102L3	246.4	217.6	58536	47736	61	55	93	87	4770	3500	C	C	452	71	23
RF-PD102L3	263.2	232.8	59203	48726	61	55	93	87	4770	3510	C	C	527	81	26
RF-PC102L4	282.1	241.7	57276	46287	61	55	93	87	4780	3500	C	C	603	92	30
RF-NB103L4	323.1	278.1	75710	59784	62	56	94	88	7490	5290	D	C	526	84	27
RF-PA103L4	348.8	301.5	78876	63084	62	56	93	88	7380	5240	C	C	603	96	31
RF-PC103L3	370.0	326.7	87804	71604	63	57	95	89	7160	5250	C	C	678	106	34
RF-PC202L4	389.9	336.0	94565	74254	63	57	95	88	10160	7180	D	C	603	96	31
RF-PB103L4	390.5	335.4	83046	66710	63	56	95	88	7230	5240	C	C	753	117	38
RF-NC105L2	393.3	355.9	143247	117986	64	58	97	91	11950	8750	D	D	526	83	27
RF-PD103L3	395.1	349.4	88805	73088	62	56	95	89	7160	5260	C	C	791	122	39
RF-PA104L4	465.3	402.2	105168	84112	63	57	95	88	9840	6980	C	C	804	124	40
RF-MB107L3	508.3	451.4	162773	127435	65	59	97	92	17860	12600	E	D	659	97	31
RF-MD105L4	524.5	454.4	126357	99779	63	57	95	90	12480	8810	D	C	879	129	42
RF-MA108L4	548.1	472.8	144183	111702	68	62	99	93	20460	14000	E	D	804	118	38
RF-PA105L4	581.9	502.8	131459	105140	64	58	96	89	12300	8730	C	C	1005	154	50
RF-ND105L4	643.1	553.6	137780	110588	64	58	97	91	12080	8740	C	C	1226	180	58
RF-PD105L3	659.0	582.5	148008	121814	64	58	97	91	11930	8760	C	C	1318	197	64
RF-PB106L3	677.6	600.2	170680	139105	65	59	98	92	14350	10500	C	C	1130	171	55
RF-PA106L4	698.4	603.5	157751	126168	65	59	96	91	14760	10470	C	C	1205	182	59
RF-PC105L4	706.0	604.7	143190	115716	64	58	97	91	11950	8750	C	C	1507	223	72
RF-PD105L4	744.4	658.5	145082	118924	64	58	97	91	11940	8750	C	B	1758	257	83
RF-PA107L4	814.9	704.1	184043	147196	65	59	98	92	17220	12220	C	C	1406	209	68
RF-PC106L4	847.3	725.7	171828	138859	65	59	98	92	14340	10500	C	C	1808	264	86
RF-PA109L3	895.5	793.4	245204	198495	67	60	98	92	21840	15730	D	C	1356	202	65
RF-PB107L4	911.9	783.0	193773	155657	66	59	97	91	16880	12230	C	C	1758	257	83
RF-PA108L4	931.5	804.8	210335	168224	66	60	98	91	19680	13970	C	C	1607	237	77
RF-PA109L4	1048.0	905.5	236627	189252	66	60	99	93	22140	15710	C	C	1808	264	86
RF-PD205L4	1078.2	929.6	252715	199559	66	60	98	93	24950	17620	D	C	1758	257	83
RF-PA208L4	1127.4	965.6	288441	223483	71	65	102	96	40930	28800	E	D	1607	237	77
RF-PC206L4	1172.1	1009.2	283695	222762	67	61	100	94	30490	21530	D	C	1808	264	86
RF-PA209L4	1268.4	1086.3	324494	251418	71	65	104	98	46050	32400	E	D	1808	264	86

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		43.2 - 685.5 kW		51 - 658.5 kW		57.8 - 571.3 kW		63.6 - 524.5 kW
N		54.9 - 892.6 kW		63.3 - 854 kW		70.9 - 714.9 kW		77.2 - 643.1 kW
P1		68.9 - 1164.6 kW		78 - 1042.2 kW		85.3 - 847.3 kW		92.2 - 744.4 kW
P2		86.3 - 1409.4 kW		101.6 - 1362 kW		115 - 1172.1 kW		127.5 - 1078.2 kW

Goedhart® KOAL-S RF, L - Fin - 910mm 6 Pole, H Fan type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

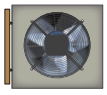
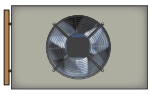
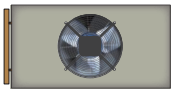
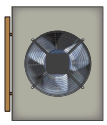
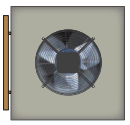
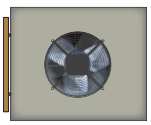
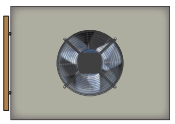
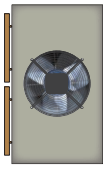
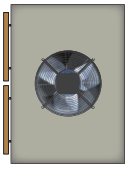
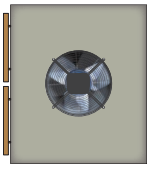
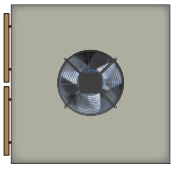
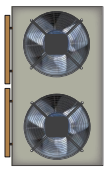
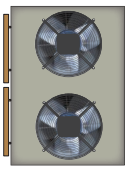
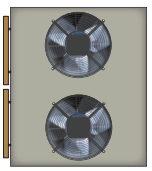
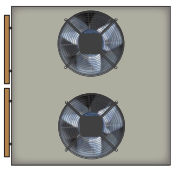
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
RF-NB101L4	101.2	85.2	22939	17642	52	45	84	75	2310	1520	D	C	174	29	10
RF-PA101L4	109.6	91.8	24096	18532	52	45	84	77	2230	1490	C	C	201	36	12
RF-PB101L4	123.4	103.2	25689	19982	52	45	84	76	2130	1450	C	B	250	43	14
RF-MC102L4	179.4	149.6	42839	32240	55	48	87	79	4770	3090	D	C	300	47	16
RF-PA102L4	219.8	183.9	48192	37028	55	48	87	80	4470	2990	C	C	402	63	21
RF-PC102L3	236.4	206.0	54536	43772	55	49	87	80	4060	2790	C	B	452	71	23
RF-PD102L3	253.2	220.2	55565	44940	56	49	88	80	3990	2760	C	B	526	81	25
RF-PA103L3	285.3	250.2	75518	59906	57	50	89	82	6500	4360	D	C	452	71	23
RF-PB103L3	325.4	281.7	79700	62980	57	50	89	81	6230	4270	C	C	565	91	28
RF-PB103L4	371.1	310.2	77068	59947	57	50	89	82	6400	4360	C	B	752	117	38
RF-MC105L3	396.0	345.1	114489	88167	58	51	91	82	11540	7590	D	C	565	86	28
RF-MD104L4	396.6	335.6	91868	70703	57	50	90	83	9210	6070	D	C	702	105	34
RF-MB106L3	415.2	358.6	126051	94509	59	52	92	83	14450	9300	E	D	565	84	26
RF-PB104L3	434.0	375.7	106266	83974	58	51	89	84	8310	5690	C	C	752	117	38
RF-MD105L3	440.1	383.5	120947	94627	58	51	91	84	11130	7420	D	C	658	97	30
RF-PC104L3	473.4	412.4	109073	87544	58	52	89	83	8120	5590	C	B	903	136	45
RF-PB105L3	542.7	469.7	132833	104967	59	52	90	85	10390	7120	C	C	942	146	48
RF-PA105L4	550.6	460.2	120480	92581	59	51	91	83	11160	7480	C	C	1004	153	50
RF-NC105L4	564.8	471.8	122287	94109	58	51	91	84	11050	7430	C	C	1050	156	49
RF-MA110L3	579.5	493.9	183433	134447	63	55	94	88	25180	15860	E	D	752	110	35
RF-PC105L3	591.9	515.6	136342	109430	59	52	90	84	10150	6980	C	B	1129	170	56
RF-ND105L4	611.4	511.8	127660	99213	58	51	91	83	10720	7290	C	B	1225	180	57
RF-PB105L4	618.9	517.1	128447	99912	58	52	91	83	10670	7270	C	B	1256	189	60
RF-PB106L3	651.3	563.7	159399	125961	59	53	92	84	12460	8540	C	C	1129	170	56
RF-PA106L4	660.9	552.3	144576	111094	59	52	92	83	13400	8970	C	C	1204	182	59
RF-NA108L4	681.9	566.3	164779	122914	61	53	92	86	19430	12450	D	C	1120	164	54
RF-PD105L4	708.5	611.2	135670	108472	59	52	90	84	10190	7010	C	B	1758	256	82
RF-PA108L3	761.4	667.6	201379	159749	60	53	93	85	17320	11640	D	C	1204	182	59
RF-PC106L4	801.2	693.3	158934	126221	59	53	92	85	12490	8530	C	B	1807	263	86
RF-PB107L4	866.7	724.1	179826	139876	60	53	91	86	14930	10180	C	B	1758	256	82
RF-PC205L4	920.5	765.4	214196	161207	61	54	94	86	23870	15440	D	C	1507	223	71
RF-PA208L3	928.1	790.2	293519	215127	65	57	96	90	40280	25370	E	D	1204	181	59
RF-PB206L4	963.9	793.5	231130	170856	63	55	96	88	29780	18900	D	D	1507	223	71
RF-PB207L3	969.0	836.9	294123	220536	63	55	94	88	33720	21700	E	D	1317	197	64
RF-PB108L4	990.6	827.6	205515	159859	60	53	93	85	17070	11630	C	B	2009	292	95
RF-PD205L4	1017.1	856.3	229672	176758	61	54	94	85	23030	15170	D	C	1758	256	82
RF-PA110L4	1101.9	920.7	240960	185154	61	54	94	87	22330	14950	C	C	2009	292	95
RF-PC206L4	1104.7	918.6	257036	193448	62	55	95	86	28650	18520	D	C	1807	263	86
RF-PB207L4	1124.7	925.8	269651	199331	63	56	95	89	34740	22050	D	D	1758	256	82
RF-PB208L4	1285.5	1058.1	308173	227806	64	56	97	88	39700	25200	D	D	2009	292	96

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		40 - 579.5 kW		48 - 623.8 kW		54.3 -538.9 kW		60.5 - 495.9 kW
N		51.8 - 843.5 kW		60.4 - 806.4 kW		67.6 - 677.9 kW		73.6 - 611.4 kW
P1		65.6 - 1101.9 kW		74.2 - 990.6 kW		81.7 - 801.2 kW		88.5 - 708.5 kW
P2		80 - 1161.8 kW		95.4 - 1285.5 kW		108.9 - 1104.7 kW		121.3 - 1017.1 kW

Goedhart® KOAL-S RF, L - Fin - 800mm 6 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

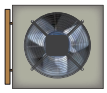
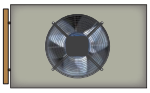
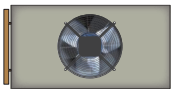
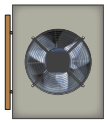
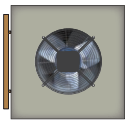
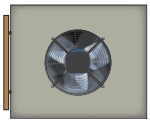
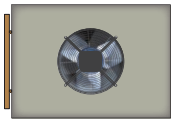
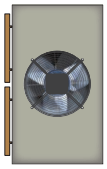
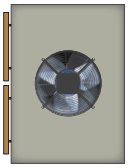
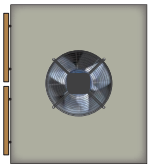
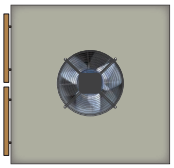
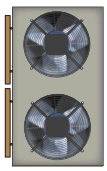
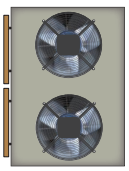
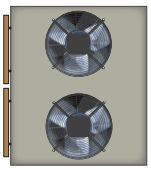
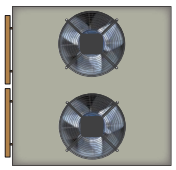
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
RF-MB101L3	62.3	53.2	17196	12908	50	42	80	74	1770	1100	D	C	93	17	6
RF-NB101L4	87.6	70.5	18385	13529	49	42	81	74	1720	1090	C	C	174	29	10
RF-PA101L4	94.1	75.7	19170	14234	49	43	81	75	1680	1080	C	B	201	36	12
RF-MA102L3	106.2	90.1	30855	22915	54	45	86	77	3720	2310	E	D	151	25	7
RF-MB102L3	124.9	106.6	34391	25816	52	45	83	77	3540	2190	D	C	187	29	10
RF-MA103L2	126.2	109.3	51485	38663	54	46	86	78	5310	3290	E	D	151	25	7
RF-MC102L3	141.0	118.9	36740	27434	52	45	84	77	3430	2180	D	C	226	34	10
RF-PB201L4	143.4	115.9	32240	23517	53	45	83	77	3640	2270	D	C	250	43	14
RF-MD102L3	154.6	129.5	38412	28832	52	46	84	78	3360	2160	C	C	264	42	14
RF-NC102L3	170.0	143.4	39797	30447	52	46	83	78	3280	2140	C	C	314	53	17
RF-NB102L4	175.5	141.1	36770	27057	52	45	84	77	3430	2180	C	C	349	58	19
RF-ND102L3	181.6	154.2	40318	31488	52	46	83	78	3250	2120	C	B	368	60	18
RF-PA102L4	188.5	151.7	38339	28468	52	46	84	78	3360	2160	C	B	402	63	21
RF-NA103L3	202.0	172.0	53735	40673	54	47	86	78	5210	3270	D	C	314	53	17
RF-PD102L3	209.1	178.1	41736	33442	53	45	85	77	3170	2080	C	B	526	81	25
RF-NB103L3	231.5	194.5	57578	43203	54	47	86	79	5040	3240	C	C	393	62	21
RF-PA103L3	248.4	208.3	59189	45059	54	48	86	80	4940	3220	C	C	452	71	23
RF-PB202L3	249.9	213.1	68783	51632	55	48	86	80	7070	4380	D	C	377	59	20
RF-PC202L3	281.9	237.7	73481	54868	55	48	87	80	6860	4360	D	C	452	701	23
RF-MC104L3	282.4	237.9	73480	54868	55	48	87	80	6860	4360	D	C	452	69	23
RF-PB202L4	287.3	235.6	64485	48074	55	48	86	80	7270	4470	D	C	501	78	24
RF-NA105L3	337.0	286.8	89557	67788	56	49	88	81	8680	5450	D	C	526	84	26
RF-MC105L3	353.1	297.5	91850	68585	55	49	88	81	8580	5440	D	C	565	86	28
RF-PA106L3	497.0	416.8	118379	90117	57	50	89	83	9890	6430	C	C	903	136	43
RF-NA108L3	539.5	459.0	143291	108461	57	50	90	83	13890	8720	D	C	841	127	41
RF-PB106L3	550.0	466.9	121297	94862	57	50	88	82	9720	6350	C	B	1129	170	56
RF-PC204L3	564.8	475.9	146961	109736	58	51	90	83	13730	8710	D	C	903	139	46
RF-PA107L3	579.9	486.3	138109	105137	57	51	90	83	11540	7500	C	C	1055	161	51
RF-PB106L4	615.3	513.2	118355	90801	56	50	89	83	9890	6420	C	B	1507	223	71
RF-PB107L3	641.7	544.7	141513	110672	57	50	90	83	11350	7410	C	B	1317	197	64
RF-PA107L4	660.6	531.5	134188	99640	57	50	88	83	11760	7580	C	B	1405	208	68
RF-PB205L4	719.2	589.5	161211	120185	59	51	90	84	18180	11180	D	C	1256	189	60
RF-PA108L4	755.1	607.5	153358	113874	57	51	90	84	13440	8660	C	B	1606	237	77
RF-PC205L4	807.3	650.3	174505	127671	58	51	90	84	17570	10970	C	C	1507	223	73
RF-PA109L4	849.5	683.5	172528	128109	58	51	91	84	15120	9740	C	B	1807	263	86
RF-PB206L4	863.1	707.4	193454	144222	60	52	91	84	21820	13420	D	C	1507	223	71
RF-PD205L4	878.4	706.2	184053	135455	58	51	91	84	17150	10900	C	C	1758	256	82
RF-PC206L4	968.9	780.5	209405	153205	59	52	92	84	21080	13170	C	C	1807	263	86
RF-PA208L4	974.9	793.3	226289	164717	63	53	94	86	31080	19040	D	D	1606	237	77
RF-PB207L4	1007.1	825.4	225696	168258	60	52	93	85	25450	15660	D	C	1758	256	82

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		36.2 - 594.8 kW		342.4 - 555.7 kW		47.7 - 473.6 kW		52.2 - 431.1 kW
N		45.5 - 752 kW		52 - 701.6 kW		57.4 - 573.7 kW		62.2 - 508 kW
P1		55.9 - 943.9 kW		62.7 - 820.5 kW		68.3 - 673.1 kW		73.4 - 584.4 kW
P2		72.4 - 1218.8 kW		84.4 - 1151 kW		95.3 - 968.9 kW		104.3 - 878.4 kW

Goedhart® KOAL-S RF, L - Fin - 800mm 8 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

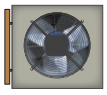
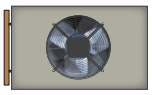
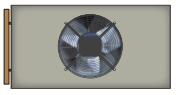
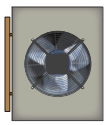
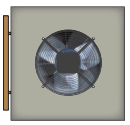
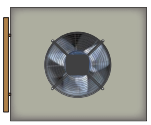
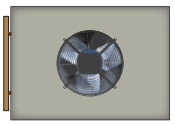
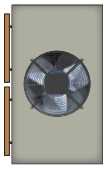
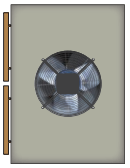
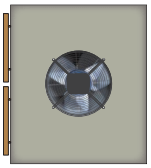
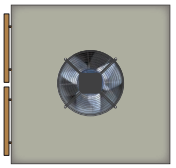
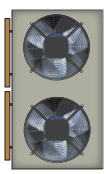
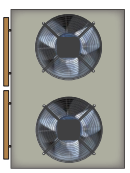
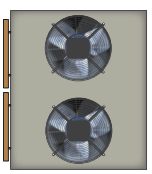
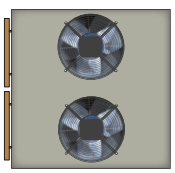
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
RF-MB101L3	53.0	43.1	12831	9252	42	35	74	66	850	530	C	B	93	17	6
RF-MB102L3	106.2	86.4	25663	18503	45	37	77	69	1700	1070	C	B	187	29	10
RF-NA102L3	113.7	92.9	26760	19473	46	38	76	70	1660	1060	C	B	209	35	10
RF-MC102L3	117.3	96.8	26961	19965	45	37	77	69	1650	1060	B	B	226	34	10
RF-PB201L4	118.3	93.0	24156	16860	45	37	75	69	1750	1080	C	B	250	43	14
RF-NB102L3	127.3	104.8	28011	20984	45	37	75	69	1620	1050	B	B	263	41	14
RF-PA102L3	135.4	110.8	28935	21865	44	37	75	69	1590	1040	B	B	300	48	16
RF-PD102L2	142.8	120.9	31157	25057	43	36	75	68	1530	960	B	A	352	56	17
RF-NA103L3	170.7	139.5	40140	29210	47	40	78	71	2490	1590	C	B	314	53	17
RF-PA202L3	181.9	145.6	46613	32608	48	40	78	72	3570	2170	C	C	300	49	15
RF-PA103L3	203.1	166.2	43403	32798	46	39	78	71	2390	1550	B	B	452	71	23
RF-PB202L3	212.4	172.8	51326	37001	48	40	80	72	3400	2140	C	B	377	59	20
RF-MB104L3	212.6	172.9	51325	37006	47	40	80	72	3400	2140	C	B	378	57	19
RF-PB103L3	224.7	188.7	45005	34682	45	38	76	70	2350	1520	B	A	565	85	28
RF-PC202L3	234.7	193.5	53923	39928	48	40	80	72	3310	2110	B	B	452	71	23
RF-MC104L3	235.0	193.7	53922	39930	47	40	80	72	3310	2110	B	B	452	69	21
RF-NB104L3	254.9	209.7	56023	41968	47	40	78	72	3240	2090	B	B	526	80	25
RF-PD202L3	255.2	209.8	56069	42013	47	40	78	72	3240	2090	B	B	526	81	25
RF-PA104L3	270.9	221.6	57870	43730	47	40	78	72	3180	2070	B	B	603	90	30
RF-PA105L2	272.8	232.9	75733	58202	47	40	80	73	3890	2530	B	B	501	76	25
RF-PD104L2	285.9	242.0	65670	50113	45	38	78	71	2980	1920	B	A	702	105	34
RF-PB203L3	318.8	259.4	76988	55511	49	42	80	74	5090	3200	C	B	565	89	29
RF-MB106L3	319.1	259.5	76988	55510	49	42	80	74	5090	3200	C	B	565	87	28
RF-PB204L3	425.3	345.9	102651	74015	50	43	83	75	6790	4270	C	B	752	117	38
RF-PB106L3	449.7	377.6	90009	69363	48	41	79	73	4690	3040	B	A	1129	167	53
RF-NA108L3	455.9	372.3	107039	77893	51	43	82	76	6640	4240	C	B	841	123	39
RF-MA110L4	496.5	377.1	106449	71986	51	43	84	76	9510	5500	C	C	1005	143	47
RF-PA205L4	503.6	383.1	106454	72036	52	43	84	76	9510	5500	C	C	1005	150	49
RF-PB205L3	531.7	432.4	128314	92519	51	44	84	76	8490	5340	C	B	942	146	46
RF-PA206L3	546.5	437.8	139837	98037	52	44	83	76	10720	6510	C	C	903	139	46
RF-NA110L3	569.9	465.4	133799	97367	52	44	83	77	8300	5300	C	B	1050	154	49
RF-PA208L2	582.2	500.0	205018	154566	53	46	86	78	13590	8490	D	C	804	125	41
RF-PC205L3	587.6	484.3	134806	99826	51	43	84	76	8270	5280	B	B	1129	170	56
RF-PB206L3	638.2	518.9	153976	111023	52	44	83	77	10190	6410	C	B	1129	170	56
RF-PD205L3	638.6	525.0	140171	105034	51	43	82	76	8100	5230	B	B	1317	197	64
RF-PA109L4	688.4	539.2	124856	93060	50	43	83	76	7330	4720	B	A	1807	263	86
RF-PA208L3	728.7	583.7	186449	130715	53	45	84	78	14290	8680	C	C	1206	182	59
RF-PA110L4	764.9	599.1	138729	103400	51	43	82	76	8140	5240	B	A	2009	292	95
RF-PA209L3	819.9	656.7	209756	147054	53	45	86	78	16080	9770	C	C	1355	201	66
RF-PB207L4	830.0	651.5	169094	117948	52	45	85	77	12280	7570	C	B	1758	256	82

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		31.1 - 496.5 kW		35.6 - 464.1 kW		39.9 - 381.6 kW		43.3 - 344.3 kW
N		38.1 - 612 kW		43.2 - 559.4 kW		47.5- 466.8 kW		51.3 - 410.9 kW
P1		46.4 - 764.9 kW		51.9 - 661.7 kW		56.5 - 525 kW		60.4 - 455.4 kW
P2		62.2 - 1008.2 kW		71 - 948.6 kW		79.1 - 777.5 kW		86.9 - 699.1 kW

Goedhart® KOAL-S RF, L - Fin - 910mm 12 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

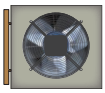
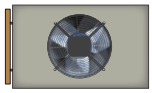
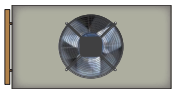
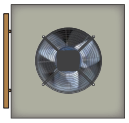
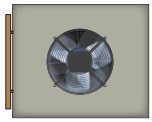
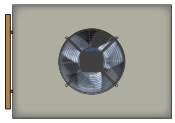
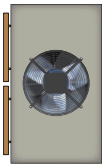
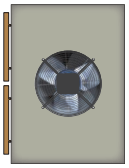
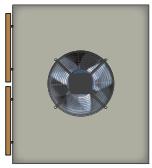
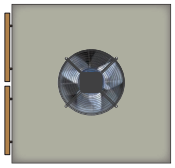
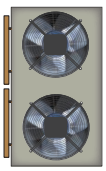
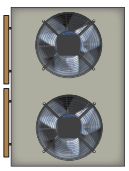
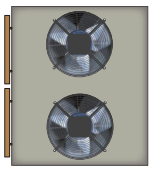
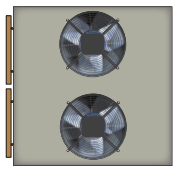
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
RF-MB101L3	40.9	33.5	8521	6442	32	26	62	57	320	200	A	A+	93	16	5
RF-MC101L3	45.6	38.1	9207	7167	32	26	62	58	320	190	A	A+	113	20	5
RF-MD101L3	49.7	42.1	9758	7660	32	26	62	58	310	190	A+	A+	132	22	6
RF-PA101L3	53.3	44.7	10234	8020	32	27	62	58	300	190	A+	A+	151	26	7
RF-MA102L2	59.0	50.1	17499	13327	35	29	65	60	640	390	B	A	101	18	6
RF-MC102L2	76.8	66.3	20448	16077	35	29	65	61	610	380	A	A+	151	25	8
RF-MB102L3	81.9	67.2	17041	12885	35	29	65	60	650	390	A	A+	187	30	10
RF-PA102L2	89.9	79.2	22037	17602	35	30	67	62	590	360	A	A+	201	34	10
RF-MC102L3	91.4	76.3	18414	14333	34	29	65	61	630	390	A	A+	226	34	10
RF-NB102L3	99.5	84.3	19492	15303	34	29	65	61	620	380	A+	A+	263	41	14
RF-MA103L3	104.3	85.6	22404	16773	38	30	68	62	990	600	B	A	226	34	10
RF-PA102L3	106.7	89.4	20468	16038	35	29	65	61	610	380	A+	A+	300	48	16
RF-NA103L3	131.5	108.9	26844	20631	36	30	68	62	960	590	A	A+	314	48	16
RF-PA103L2	135.0	118.8	33056	26403	37	32	69	64	880	550	A	A+	300	49	16
RF-PB103L2	152.6	130.8	34227	27422	37	32	69	64	850	540	A+	A++	377	58	18
RF-PA103L3	160.2	134.1	30702	24056	36	31	67	63	910	570	A+	A+	452	70	23
RF-PB202L3	163.7	134.4	34050	25762	37	31	68	63	1290	790	A	A+	377	60	18
RF-PB103L3	179.8	148.0	32648	25807	37	32	69	64	890	590	A+	A++	565	85	28
RF-PA104L2	180.1	158.5	44075	35204	38	33	70	65	1180	730	A	A+	402	64	21
RF-NB104L3	199.1	168.5	38983	30589	37	32	68	64	1240	770	A+	A+	526	80	25
RF-MD104L3	199.4	168.9	39031	30639	37	32	68	64	1240	770	A+	A+	526	79	26
RF-PB104L2	203.5	174.4	45635	36563	38	33	69	66	1140	710	A+	A++	501	76	25
RF-PA105L2	225.2	198.1	55094	44005	39	34	71	66	1470	910	A	A+	501	76	25
RF-MB107L2	240.4	206.2	67093	52037	39	34	71	66	2180	1350	A	A	440	67	22
RF-ND105L2	250.9	216.5	56918	45529	39	34	70	66	1420	890	A+	A++	612	92	29
RF-PA105L3	267.0	223.4	51170	40098	38	33	69	65	1510	1050	A+	A+	752	112	35
RF-NC105L3	274.0	228.9	51966	40698	38	33	71	65	1510	1050	A+	A+	787	110	39
RF-PC203L3	274.3	229.0	55243	43002	39	33	71	65	1890	1170	A	A+	678	102	33
RF-NA108L2	294.2	253.8	79984	62463	40	34	71	67	2450	1530	A	A+	561	87	29
RF-MA108L4	295.0	231.5	53012	39637	43	35	74	68	2690	1630	B	A	804	117	37
RF-PB105L3	299.8	246.7	54414	43012	38	34	71	66	1480	1050	A+	A+	942	139	44
RF-PB106L3	359.7	296.3	65296	51615	39	34	72	67	1770	1100	A+	A++	1129	167	53
RF-PB205L3	410.2	336.5	85225	64436	41	35	72	67	3230	1970	A	A+	940	141	45
RF-PA108L3	427.3	357.8	81872	64151	40	35	71	67	2420	1510	A+	A+	1204	177	56
RF-PC205L3	457.5	381.8	92072	71669	41	35	72	68	3160	1940	A	A+	1129	167	53
RF-PA208L2	468.4	405.2	139997	106637	43	37	74	69	5140	3140	B	A	804	122	40
RF-PD205L3	498.7	422.3	97578	76605	40	35	72	68	3090	1920	A+	A+	1317	194	63
RF-PA208L3	556.9	457.3	119515	89514	44	37	77	69	5280	3200	B	A	1204	182	59
RF-PB208L3	656.3	538.6	136359	103096	42	36	74	69	5170	3150	A	A+	1507	222	71
RF-PA210L4	736.9	579.9	132504	99078	46	39	78	72	6720	4070	B	A	2009	292	95

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		24.9 - 368.7 kW		29.3 - 343.6 kW		33.1 - 289.9 kW		36.5 - 264.3 kW
N		31.6 - 461.7 kW		36.4- 422.1 kW		40.4 - 347.3 kW		43.2 - 297.4 kW
P1		39.5 - 566.6 kW		43.5 - 479.7 kW		47.1 - 381 kW		49.9 - 330.8 kW
P2		50.4 - 736.9 kW		58.8 - 687.4 kW		66.1 - 580.6 kW		73 - 528.1 kW

Goedhart® KOAL-S RF, L - Fin - 910mm, N EC Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

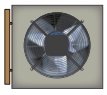
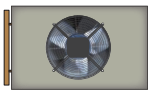
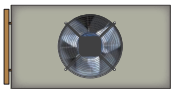
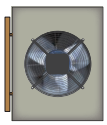
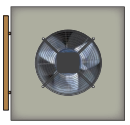
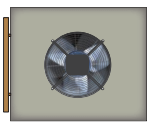
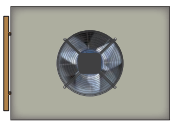
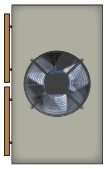
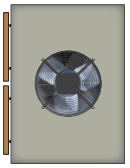
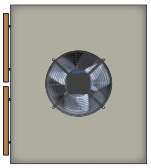
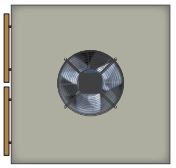
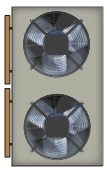
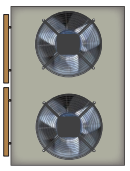
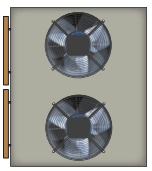
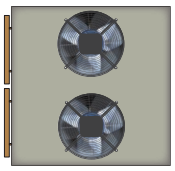
Model	Capacity R404A & R507A *	Air Volume	Sound Pressure Mean **	Sound Power	Power Input	Energy Rating	Total Surface	Internal Volume	R404A Charge
	kg	m³/h	dB(A)	dB(A)	W	Y	m²	dm³	kg
RF-NA101L2H-091E125	15.1	2650	15	32	30	A++	70	15	5
RF-PA101L2H-091E190	26.4	4945	15	45	40	A++	100	19	6
RF-NC101L2H-091E190	27.0	5019	15	45	40	A++	105	20	6
RF-MB101L3H-091P290	30.5	5580	23	55	70	A++	94	17	5
RF-MD101L3H-091P290	35.9	6285	21	53	70	A++	132	22	7
RF-PA102L2H-091E140	37.8	6897	15	40	60	A++	201	35	11
RF-NB102L2H-091E140	38.5	6727	15	40	60	A++	175	30	10
RF-NB101L3H-091E320	43.6	8027	27	59	140	A++	131	24	8
RF-MC101L2H-091P630	48.4	15496	40	72	530	B	75	14	5
RF-MC101L3H-091P510	52.8	11431	37	69	300	A+	113	19	6
RF-MD101L3H-091P510	57.5	11986	37	69	300	A+	132	22	7
RF-PB102L2H-091E200	59.4	10931	17	48	100	A++	251	42	14
RF-PA101L4H-091E450	64.4	11283	36	68	330	A+	201	33	11
RF-MC101L3H-091P770	69.6	18022	48	80	920	B	113	19	6
RF-MB102L2H-091P570	82.2	26592	43	73	810	B	126	21	7
RF-PD102L2H-091E290	94.2	17687	27	60	180	A++	352	56	18
RF-PC102L2H-091E400	111.5	23904	37	69	410	A++	301	49	16
RF-PD102L2H-091E400	118.3	24297	37	69	410	A++	352	56	18
RF-MA103L3H-091P510	123.9	29735	42	73	970	A	226	35	11
RF-PC201L4H-091P690	146.6	30376	48	80	1460	B	301	50	16
RF-PA102L3H-091E610	150.2	33833	47	78	1360	A	301	49	16
RF-PA103L3H-091E400	162.4	31499	38	70	670	A++	452	71	23
RF-PD102L3H-091E550	178.3	33487	46	79	970	A+	527	81	26
RF-PB103L3H-091E400	182.6	33324	38	70	650	A++	565	86	28
RF-PB102L4H-091E610	189.0	34215	47	78	1360	A	502	78	25
RF-PC103L3H-091E400	194.2	34323	38	70	640	A++	678	102	33
RF-PB104L3H-091E320	201.3	35104	33	65	540	A++	753	117	38
RF-PA102L4H-091E865	213.4	46036	58	90	3510	C	402	63	20
RF-PD102L3H-091E700	213.5	42990	52	83	1770	A	527	81	26
RF-MC105L2H-091P510	214.1	61499	42	75	1460	A	377	58	19
RF-PC103L3H-091E550	252.0	48961	47	80	1490	A+	678	102	33
RF-MD105L3H-091P460	265.3	53324	41	72	1100	A++	659	98	32
RF-PA103L4H-091E700	280.2	56739	53	83	2980	B	603	92	30
RF-PB103L4H-091E700	307.4	59152	53	85	2900	B	753	112	36
RF-PB106L4H-091E610	567.4	102646	51	84	4070	A	1507	223	72
RF-PD105L4H-091E865	681.4	128774	61	94	8260	B	1758	257	83
RF-PB106L4H-091E865	718.9	146942	62	93	10250	B	1507	223	72
RF-PB108L4H-091E865	958.6	195922	63	96	13670	B	2009	292	95
RF-PA109L4H-091E865	962.4	207161	63	96	15780	C	1808	264	86
RF-PD205L4H-091P930	985.5	218482	65	99	17360	C	1758	257	83

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		4.3 - 663.1 kW		11 - 624.4 kW		12 - 527.5 kW		12.7- 481 kW
N		10.7 - 828.69 kW		11.5 - 784.9 kW		11.5 - 657.3 kW		11.8 - 592 kW
P1		11.4 - 958.6 kW		11.8 - 958.6 kW		17.5 - 771.3 kW		18 - 681.4 kW
P2		8.1 - 1360.6 kW		21.2 - 1280.5 kW		20.2 - 1081 kW		24.3 - 985.5 kW

Goedhart® KOAL-S RF, T - Fin - 910mm 6 Pole, H Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

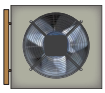
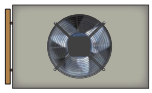
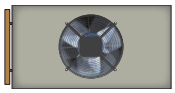
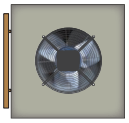
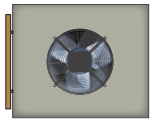
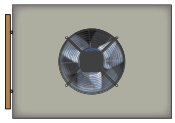
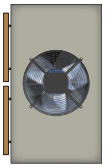
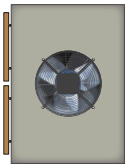
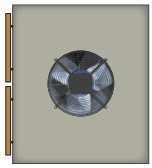
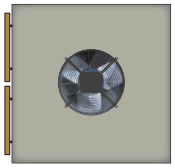
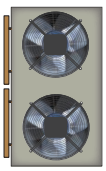
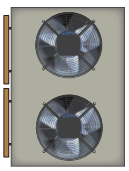
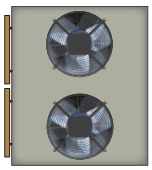
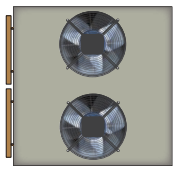
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
RF-MB101T4	79.6	68.1	23055	17747	58	53	89	84	2560	1800	D	D	150	26	9
RF-MC101T4	92.3	78.7	24913	19453	57	52	89	83	2500	1770	D	D	180	31	10
RF-PA101T4	103.3	89.8	26968	21629	58	52	89	83	2440	1750	D	C	240	44	14
RF-MB102T3	138.0	120.9	49463	38620	60	54	92	86	5020	3550	E	D	225	37	12
RF-PB201T4	156.1	133.5	46110	35494	61	55	92	87	5110	3600	D	D	300	53	17
RF-MD102T3	167.1	147.5	54298	43679	61	54	93	86	4860	3490	D	D	315	53	17
RF-NB102T4	194.9	168.5	52370	41602	60	54	92	86	4930	3490	D	C	424	72	23
RF-PD102T3	239.4	212.3	62462	51672	61	55	93	87	4770	3510	C	C	631	101	33
RF-PA103T3	269.2	238.9	83593	67947	63	56	95	88	7210	5250	D	C	541	88	28
RF-MD103T4	293.0	253.5	78387	62215	62	55	94	88	7400	5240	D	C	631	100	32
RF-NA104T3	294.9	258.5	103172	81355	63	57	95	89	9910	7010	E	D	509	86	28
RF-PA103T4	312.9	271.4	80905	64889	62	56	94	88	7310	5240	D	C	721	117	38
RF-MA106T3	349.1	303.4	133426	102408	65	60	98	92	15360	10800	E	E	541	87	28
RF-MC104T4	374.2	318.9	99654	77815	63	57	95	89	10020	7090	D	D	721	113	37
RF-ND104T3	404.3	358.7	115388	94840	64	58	96	90	9560	7000	D	C	891	139	45
RF-PB104T3	404.6	360.1	115574	95037	64	58	96	90	9560	7000	D	C	901	144	47
RF-MB105T4	404.8	345.9	115275	88737	64	59	96	91	12790	9000	D	D	751	117	38
RF-MB106T3	420.5	367.7	148390	115862	64	59	97	91	15060	10660	E	D	676	105	34
RF-NB105T3	422.4	373.1	135981	109470	64	58	97	90	12140	8740	D	D	795	125	40
RF-PC104T3	451.4	399.7	123068	101467	64	58	96	90	9540	7010	C	C	1082	170	55
RF-NC105T3	467.4	414.6	140636	114782	64	58	97	91	11970	8740	D	C	954	148	48
RF-MC106T4	565.6	481.8	149481	116723	64	58	97	91	15030	10640	D	C	1082	165	53
RF-ND105T4	585.6	511.2	140404	114579	64	58	97	91	11980	8740	C	C	1484	227	73
RF-PC105T4	649.0	566.2	150722	123868	64	58	97	91	11940	8750	C	C	1803	278	90
RF-NC106T4	652.9	567.2	163740	131959	65	58	97	91	14550	10480	D	C	1527	233	75
RF-MA110T4	671.1	565.4	199220	149311	68	63	101	95	25700	18000	E	D	1202	182	59
RF-PD204T3	673.7	595.1	217194	174718	66	60	99	92	19440	13980	D	D	1262	199	65
RF-PD105T4	691.6	603.3	153591	126763	64	58	97	91	11930	8760	C	C	2103	321	104
RF-NA108T4	692.0	593.8	194411	151498	66	60	98	92	20180	14280	D	D	1357	208	68
RF-PA107T4	738.5	640.2	188778	151409	65	59	98	92	17050	12230	D	C	1682	261	84
RF-PC205T3	771.3	678.5	262018	208111	67	60	99	93	24630	17450	D	D	1352	212	69
RF-PB107T4	825.1	720.1	196932	160829	66	59	98	92	16760	12240	C	C	2103	321	104
RF-PA108T4	845.4	733.5	215747	173039	66	60	98	92	19490	13970	D	C	1923	295	96
RF-PA207T4	931.8	785.7	278908	209036	70	64	103	97	35980	25200	E	D	1682	258	83
RF-PA208T3	939.1	814.1	355801	273090	69	64	102	97	40970	28800	E	E	1442	222	72
RF-PA109T4	953.6	827.2	242715	194669	66	60	99	93	21920	15720	D	C	2163	330	107
RF-PB206T4	956.0	816.6	276660	212969	68	62	100	95	30690	21600	D	D	1803	275	89
RF-PD205T4	985.5	852.2	261291	207386	66	60	99	93	24660	17450	D	C	2103	318	103
RF-PA208T4	1067.8	900.2	318752	238899	71	65.0	103	97	41120	28800	E	D	1923	295	96
RF-PB208T4	1282.6	1095.7	368881	283958	69	63	101	96	40910	28800	D	D	2403	365	118

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		37.7- 671.1 kW		45.2 - 654.1 kW		50 - 565.6 kW		55.4 - 492.8 kW
N		48.5 - 869.2 kW		55.7 - 794.5 kW		61.7 - 652.9 kW		67.2 - 585.6 kW
P1		59.4 - 1063.4 kW		67.8 - 945.8 kW		76 - 782.3 kW		82 - 691.6 kW
P2		75.3 - 1342.4 kW		88.6 - 1282.6 kW		100 - 1082 kW		110.9 - 985.5 kW

Goedhart® KOAL-S RF, T - Fin - 910mm 6 Pole, H Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

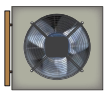
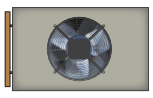
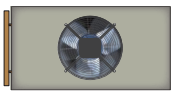
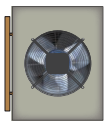
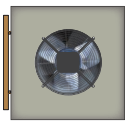
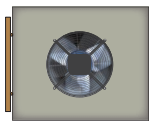
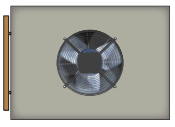
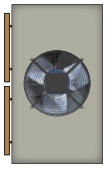
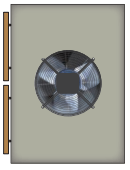
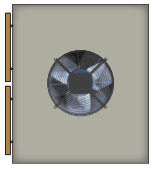
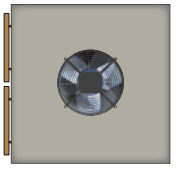
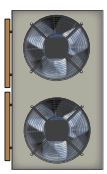
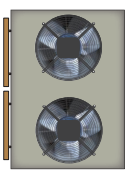
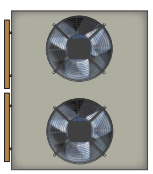
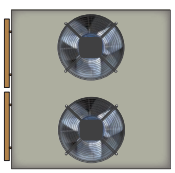
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
RF-MB101T4	74.9	61.9	20718	15209	53	46	85	76	2420	1560	D	D	150	26	9
RF-MC101T4	86.8	72.1	22593	17024	52	45	84	77	2330	1530	D	C	180	31	10
RF-NB101T4	91.6	77.6	23900	18456	52	45	84	75	2240	1500	D	C	212	38	12
RF-PA101T4	97.9	83.7	24806	19448	52	45	84	77	2190	1470	D	C	240	44	14
RF-MB102T3	131.1	111.8	44849	33706	55	48	87	80	4670	3060	E	D	225	37	12
RF-MD102T3	159.4	138.7	50062	39361	55	48	87	80	4350	2930	D	C	315	53	17
RF-NB102T3	159.9	139.1	50178	39478	55	48	87	80	4340	2920	D	C	318	56	18
RF-NC102T3	177.4	154.6	52395	41745	55	48	87	79	4200	2850	D	C	382	65	21
RF-ND102T3	192.1	168.0	53942	43396	55	49	86	81	4100	2800	C	C	445	74	24
RF-PB103T3	290.9	254.4	81072	65265	57	50	89	81	6140	4200	C	C	676	107	35
RF-PC103T3	324.2	284.3	86739	70518	57	51	88	83	5980	4120	C	C	811	129	42
RF-MA107T3	386.8	325.8	140191	102317	61	54	94	86	17160	10980	E	E	631	100	32
RF-PB104T3	389.4	340.4	108096	87020	58	51	89	84	8180	5600	C	C	901	144	47
RF-PA104T4	397.0	338.3	99223	77794	58	50	90	83	8750	5880	C	C	961	153	50
RF-PA105T3	432.4	377.4	129319	102629	59	52	91	84	10610	7190	D	C	901	144	47
RF-PC104T3	434.4	380.6	115652	94024	58	52	89	83	7980	5500	C	C	1082	170	55
RF-MC105T4	441.0	366.2	112964	85121	58	51	91	84	11630	7640	D	C	901	137	45
RF-PB104T4	445.5	381.1	104776	83428	58	51	90	82	8400	5710	C	C	1202	188	61
RF-PD104T3	466.0	408.5	117673	96421	58	52	91	83	7840	5430	C	B	1262	196	64
RF-PA105T4	497.5	423.9	124029	97242	59	51	91	84	10940	7350	C	C	1202	188	61
RF-NC105T4	515.5	440.2	126019	99375	58	51	91	84	10810	7290	C	C	1272	194	63
RF-MB107T4	535.3	442.1	145023	106463	61	53	92	86	16960	10910	D	D	1051	161	52
RF-ND105T4	558.0	477.5	130636	103947	58	51.0	91	83	10530	7150	C	C	1484	227	73
RF-PB105T4	558.6	477.9	130970	104285	58	52	91	83	10510	7140	C	C	1502	235	76
RF-NB106T4	559.6	473.3	143402	110737	59	52	92	83	13470	8980	D	C	1272	196	64
RF-NA108T4	651.3	543.2	175822	131619	61	53	92	86	18870	12300	D	D	1357	208	68
RF-PA107T4	700.1	596.7	173641	136139	60	52	91	85	15310	10290	C	C	1682	261	84
RF-PC205T3	733.7	633.9	239215	184900	61	54	94	85	22430	14960	D	D	1352	212	69
RF-NA109T4	734.2	612.3	197800	148071	61	54	94	85	21220	13840	D	D	1527	233	75
RF-PB205T4	745.2	615.1	207176	152090	62	55	95	86	24230	15590	D	D	1502	235	76
RF-PB206T3	782.7	667.6	269094	202236	62	55	95	86	28020	18370	E	D	1352	212	69
RF-PA108T4	802.1	683.6	198447	155588	60	53	93	86	17500	11760	C	C	1923	295	96
RF-PD205T3	807.9	702.7	250308	196807	61	54	94	87	21740	14630	D	C	1577	242	78
RF-PC205T4	846.6	708.1	225928	170243	61	54	94	87	23260	15280	D	C	1803	275	89
RF-PA208T3	886.5	746.6	320436	233868	65	57	96	90	39220	25100	E	E	1442	222	72
RF-PA109T4	904.6	771.0	223253	175036	61	53	92	85	19690	13230	C	C	2163	330	107
RF-PD205T4	930.9	786.8	238382	183891	61	54	94	85	22480	14990	D	C	2103	318	103
RF-PC206T4	1019.7	852.9	271114	204291	62	55	95	86	27910	18340	D	C	2163	327	106
RF-PA210T3	1113.4	938.1	400545	292334	66	58	97	91	49020	31370	E	E	1803	277	90
RF-PB208T4	1203.6	993.5	331482	243345	64	56	97	88	38770	24940	D	D	2403	365	118

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		36.1 - 556.7 kW		43.1 - 613.8 kW		47.9 - 531.3 kW		52.8 - 465.5 kW
N		45.8 - 817.9 kW		53.1 - 750.9 kW		58.9 - 620.9 kW		64.4 557.9 kW
P1		57.4 - 1007.6 kW		65.3 - 901.8 kW		73.3 - 747.2 kW		79.2 - 661.8 kW
P2		71.9 - 1113.4 kW		84.5 - 1203.5 kW		95.7 - 1019.7 kW		105.7 - 930.9 kW

Goedhart® KOAL-S RF, T - Fin - 800mm 6 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

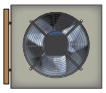
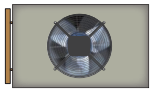
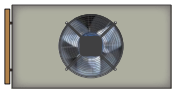
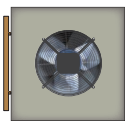
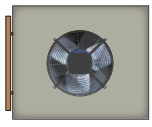
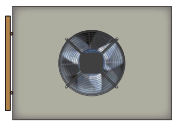
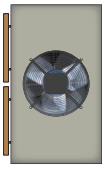
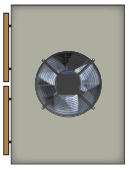
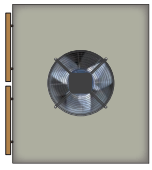
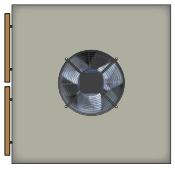
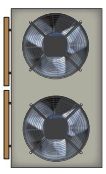
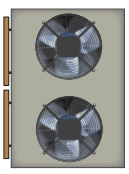
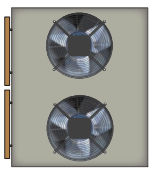
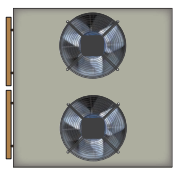
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
RF-MB101T3	58.3	49.3	17939	13422	50	42	80	74	1730	1090	D	C	113	21	7
RF-MC101T4	74.8	61.4	18041	13522	49	42	80	74	1730	1090	D	C	180	31	10
RF-PA101T4	83.7	69.7	19462	14977	49	43	81	75	1660	1070	C	C	240	41	13
RF-MC102T3	128.4	109.0	37913	28789	52	45	84	77	3380	2160	D	C	270	44	14
RF-MB102T4	132.8	109.2	33778	25012	54	45	84	77	3560	2200	D	C	300	48	16
RF-PA103T3	223.6	191.8	60008	47014	54	48	86	80	4900	3190	C	C	541	88	28
RF-PB202T3	229.7	193.6	71755	53687	55	48	86	80	6940	4370	D	D	451	75	24
RF-ND103T3	247.1	212.7	61648	49059	54	47	85	80	4800	3140	C	C	668	106	34
RF-PA103T4	253.1	210.8	58386	44931	54	47	86	78	4990	3220	C	C	721	114	37
RF-PB202T4	260.4	214.1	67556	50024	55	48	86	80	7120	4400	D	C	601	97	31
RF-NB104T3	281.6	240.1	78399	60622	55	49	87	81	6620	4280	D	C	636	104	34
RF-MA106T3	300.9	253.2	99055	72978	58	49	89	80	10790	6650	E	D	541	87	28
RF-MA106T4	338.3	276.3	90725	65980	59	50	91	82	11280	7080	E	D	721	113	37
RF-MB106T3	356.4	300.7	107632	80530	56	49	89	80	10410	6550	D	C	676	106	34
RF-MD105T4	400.7	331.2	94474	71554	55	48	88	81	8460	5410	C	C	1051	161	52
RF-MB106T4	403.7	332.1	101335	75036	58	49	89	80	10690	6600	D	C	901	139	45
RF-MB107T3	417.0	351.6	125571	93952	57	49	90	82	12140	7640	D	C	789	121	39
RF-NC105T4	437.0	365.3	98341	76266	56	49	88	82	8260	5340	C	C	1272	194	63
RF-PA106T3	451.1	386.8	120016	94029	57	50	89	83	9790	6370	C	C	1082	170	55
RF-PB204T3	463.1	390.9	143509	107374	58	50	89	83	13880	8730	D	D	901	144	47
RF-MB107T4	472.5	388.5	118223	87541	58	49	91	82	12470	7700	D	C	1051	159	52
RF-MB108T3	478.2	403.4	143509	107374	57	50	89	83	13880	8730	D	C	901	137	44
RF-PB106T3	501.1	431.4	123454	98303	57	50	88	83	9600	6280	C	C	1352	209	68
RF-NA108T3	502.3	424.9	149047	112563	57	50	90	83	13630	8680	D	C	1018	157	51
RF-PC204T3	517.3	438.6	151653	115155	58	51	90	83	13520	8640	D	C	1082	170	55
RF-PB204T4	524.3	431.5	135113	100047	58	50	89	83	14250	8800	D	C	1202	191	62
RF-PA107T3	527.1	452.3	140019	109700	57	51	90	82	11430	7430	C	C	1262	199	65
RF-NA108T4	568.3	469.3	141319	105679	58	50	89	83	13970	8750	D	C	1357	208	68
RF-PA108T3	604.6	518.1	160021	125372	58	51	89	84	13060	8490	C	C	1442	225	73
RF-NA109T4	640.8	529.1	158984	118889	58	50	91	83	15720	9840	D	C	1527	233	75
RF-PC205T3	649.6	550.4	189566	143944	58	51	91	84	16900	10800	D	C	1352	212	69
RF-PA109T3	681.2	583.8	180024	141043	58	52	91	85	14690	9560	C	C	1622	251	81
RF-PA108T4	683.7	569.5	155695	119816	57	51	90	84	13300	8580	C	C	1923	295	96
RF-PB206T3	698.8	589.6	215264	161061	59	52	92	83	20820	13100	D	C	1352	212	69
RF-PC205T4	735.3	606.6	180415	135216	58	51	90	84	17300	10910	D	C	1803	278	90
RF-PA109T4	771.1	642.3	175157	134793	58	51	91	83	14970	9650	C	C	2163	330	107
RF-PB206T4	791.7	651.1	202669	150071	60	52	91	83	21370	13200	D	C	1803	278	90
RF-PD205T4	801.2	662.6	188947	143108	58	51	91	84	16930	10810	C	C	2103	321	104
RF-PA110T4	858.8	715.3	194619	149770	58	52	91	85	16630	10720	C	C	2403	365	118
RF-PA208T4	906.6	740.6	241932	175945	63	53	94	85	30090	18880	D	D	1923	292	95

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		32 - 569.2 kW		38.1 - 541.6 kW		41.9 - 458.7 kW		46.2 - 400.7 kW
N		40.2 - 713.9 kW		46.4 - 645.7 kW		50.9 - 526.3 kW		55.1 - 466.6 kW
P1		49.4 - 858.8 kW		55.8 - 753.3 kW		61.9 - 615.6 kW		66.4 - 538.7 kW
P2		64.2 - 1138.4 kW		74.8 - 1062 kW		83.8 - 885.7 kW		92.4 - 801.2 kW

Goedhart® KOAL-S RF, T - Fin - 800mm 8 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

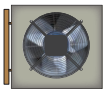
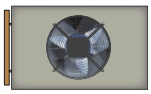
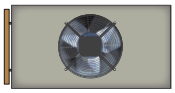
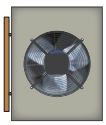
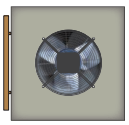
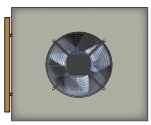
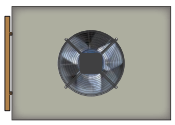
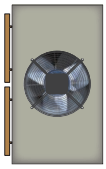
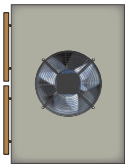
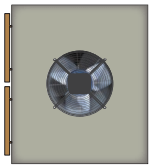
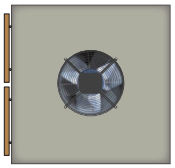
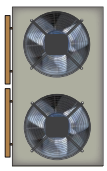
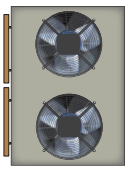
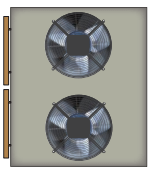
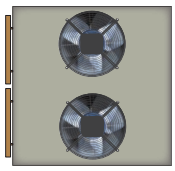
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
RF-MB101T4	54.2	43.9	12478	9219	42	34	72	66	860	530	C	B	150	26	9
RF-MC101T4	60.8	49.3	13335	10018	42	35	74	65	830	530	B	B	180	31	10
RF-MB102T3	98.0	81.9	26516	19878	45	37	77	68	1670	1060	C	B	225	37	12
RF-MC102T3	107.2	89.9	28038	21365	45	37	77	69	1620	1040	C	B	270	44	14
RF-PC102T2	119.3	102.7	33460	26437	43	36	74	68	1510	960	B	B	361	60	19
RF-PA102T3	123.4	103.6	29859	23041	44	37	75	69	1570	1020	B	B	361	61	20
RF-MA103T3	125.8	104.2	36568	26843	46	39	77	71	2620	1610	C	C	270	44	14
RF-NC102T3	127.1	106.3	30180	23338	44	37	76	69	1560	1010	B	B	382	62	20
RF-PD102T2	127.5	109.1	33793	26771	43	36	75	68	1500	950	B	A	421	69	22
RF-PB102T3	136.2	114.5	30892	24122	44	37	76	69	1540	990	B	A	451	74	24
RF-PA202T3	167.1	138.4	48757	35791	48	40	78	72	3490	2150	C	C	361	61	20
RF-PB202T3	192.1	160.7	53032	39757	48	40	80	71	3340	2110	C	B	451	75	24
RF-PB103T3	205.0	172.6	46338	36184	45	38	76	69	2310	1480	B	A	676	107	35
RF-PB202T4	213.8	173.3	49913	36877	48	40	78	72	3450	2140	C	B	601	97	31
RF-PC202T3	214.4	179.9	56075	42731	48	40	80	72	3240	2080	C	B	541	88	28
RF-MB104T4	219.7	178.0	49913	36878	47	40	78	72	3450	2140	C	B	601	94	30
RF-NB104T3	233.9	196.3	58234	44715	47	40	78	72	3170	2050	B	B	636	102	33
RF-PA104T3	248.5	208.3	59719	46082	47	40	78	72	3130	2030	B	B	721	114	37
RF-MA106T3	253.5	209.9	73136	53687	49	41	80	74	5240	3220	C	C	541	85	28
RF-MB107T2	271.7	232.0	99377	75894	49	42	82	75	5630	3630	C	C	526	84	27
RF-ND104T3	273.4	229.7	61690	48138	46	39	79	72	3080	1980	B	A	891	141	46
RF-PA203T4	278.2	221.5	67497	48341	50	41	82	74	5520	3260	C	C	721	114	37
RF-MD105T3	293.7	246.5	72664	55775	48	40	79	73	3970	2570	B	B	789	122	40
RF-PC104T3	301.0	251.5	65664	51449	47	39	78	70	3050	1940	B	A	1082	166	54
RF-MC105T4	309.0	250.7	66677	50089	48	41	81	72	4160	2640	B	B	901	139	45
RF-NC105T3	321.3	268.9	75450	58346	47	40	80	73	3900	2530	B	B	954	150	49
RF-PC203T3	323.0	271.1	84113	64096	49	42	80	74	4860	3130	C	B	811	131	43
RF-NB106T3	353.0	296.3	87352	67072	49	41	80	74	4760	3080	B	B	954	150	49
RF-PA106T3	374.8	314.3	89578	69123	48	41	81	74	4700	3050	B	B	1082	170	55
RF-PA108T2	392.8	339.2	123807	96478	49	42	82	75	6160	3960	C	B	961	152	49
RF-MB108T3	400.4	334.2	106064	79513	50	42	83	74	6670	4220	C	B	901	139	45
RF-NA107T4	406.9	330.9	91578	68487	50	42	82	75	5880	3710	C	B	1188	182	59
RF-PC105T4	411.9	337.1	80581	62723	47	40	80	73	3850	2470	B	A	1803	275	89
RF-PB106T3	413.8	348.4	92677	72367	48	41	79	72	4620	2970	B	A	1352	209	68
RF-PD105T4	433.1	353.2	82038	64069	47	40	78	71	3810	2440	A	A	2103	318	103
RF-PB205T3	486.0	405.6	132580	99392	51	44	84	75	8340	5280	C	B	1127	177	57
RF-PD205T3	587.3	493.1	145329	111550	51	43	82	76	7940	5140	B	B	1577	245	79
RF-PB108T4	609.1	502.3	120491	93665	49	42	82	75	6240	4040	B	A	2403	365	118
RF-PD205T4	650.7	531.5	139517	105966	51	44	84	77	8120	5220	B	B	2103	321	104
RF-PA209T3	766.0	634.6	219409	161061	53	45	86	77	15710	9650	C	C	1622	251	81

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		27.6 - 472.2 kW		32.6 - 444.7 kW		35.5 - 372 kW		38.6 - 325.3 kW
N		34.2 - 585.6 kW		38.7 - 524.4 kW		42.4 - 426.5 kW		46 - 376.8 kW
P1		41.1 - 697.2 kW		46.2 - 609.1 kW		51.1 - 496.2 kW		54.1 - 433.1 kW
P2		55.3 - 944.4 kW		63.9 - 872 kW		71.1 - 723.3 kW		77.3 - 650.7 kW

Goedhart® KOAL-S RF, T - Fin - 910mm 12 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

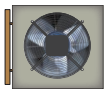
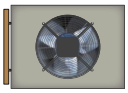
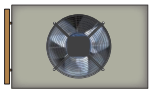
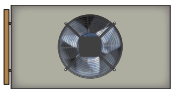
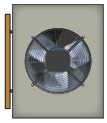
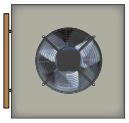
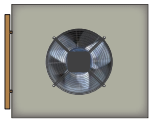
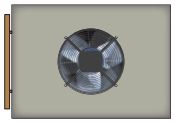
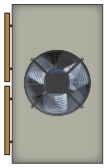
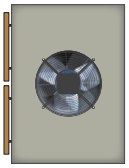
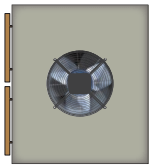
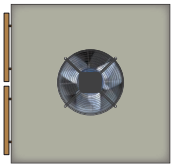
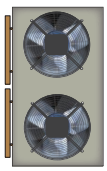
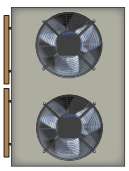
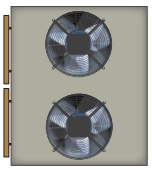
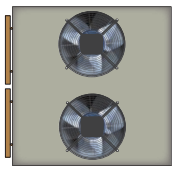
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
RF-MB101T3	38.7	32.8	9254	7246	32	26	62	56	320	190	A	A+	113	19	6
RF-MB101T4	41.7	34.4	8546	6611	32	25	64	57	320	200	A	A+	150	25	8
RF-MC101T3	42.3	36.1	9959	7926	32	26	62	58	310	190	A	A+	135	22	7
RF-PA101T3	48.9	41.9	10906	8781	32	27	62	57	300	180	A+	A+	180	32	10
RF-MC102T3	85.2	72.5	19919	15851	34	29	65	61	610	380	A	A+	270	43	14
RF-ND102T2	88.6	76.9	23383	19096	35	31	66	63	550	350	A+	A+	297	49	16
RF-NB102T3	92.6	79.8	21019	16971	34	29	65	61	600	370	A	A+	318	53	17
RF-NA103T3	123.1	105.0	29235	23141	36	30	68	61	930	580	A	A+	382	62	20
RF-PB202T3	151.8	128.9	37015	28984	37	31	68	62	1260	780	A	A+	451	74	24
RF-MB104T3	156.1	132.3	37015	28984	37	31	69.3	62	1260	780	A	A+	451	71	23
RF-PB103T3	163.2	138.7	34144	27555	37	32	69	64	850	530	A+	A++	676	106	34
RF-MD104T3	186.4	160.7	41930	33828	37	32	68	64	1200	740	A	A+	631	98	32
RF-MB105T3	195.8	165.7	46268	36230	38	32	69	63	1580	970	A	A+	563	88	29
RF-MA106T3	197.2	166.7	49395	38336	40	33	71	64	1950	1180	B	A	541	85	28
RF-PA104T3	197.8	170.1	43624	35125	37	32	68	63	1180	730	A+	A+	721	114	37
RF-PA105T2	199.8	177.5	56904	46307	39	34	71	66	1420	890	A	A+	601	96	31
RF-PA105T3	248.1	212.7	54530	43906	38	33	69	64	1480	910	A+	A+	901	140	45
RF-NA106T3	248.3	211.3	58469	46281	39	33	71	64	1850	1150	A	A+	763	120	39
RF-PC203T3	256.1	218.7	59757	47554	39	33	71	64	1840	1140	A	A+	811	127	41
RF-NC105T3	256.3	218.7	55330	44449	38	33	71	66	1460	900	A+	A++	954	148	48
RF-MC106T3	258.5	220.7	59757	47554	38	33	71	64	1840	1140	A	A+	811	124	40
RF-PB105T3	273.9	232.2	56907	45924	38	34	71	66	1420	890	A+	A++	1127	172	56
RF-NB106T3	281.4	242.4	63058	50913	38	33	71	66	1800	1110	A	A+	954	150	49
RF-PB204T3	306.2	259.5	74030	57968	40	34	71	65	2520	1550	A	A+	901	142	46
RF-PA107T3	349.6	298.5	76342	61469	39	34	72	67	2070	1270	A+	A+	1262	196	64
RF-PB205T3	384.1	324.8	92537	72461	41	35	72	66	3150	1940	A	A+	1127	177	57
RF-PA108T3	400.4	342.5	87248	70250	40	35	71	66	2360	1450	A+	A+	1442	222	72
RF-PC205T3	429.2	366.7	99594	79256	41	35	72	68	3060	1900	A	A+	1352	209	68
RF-PA108T4	431.9	361.5	83067	66438	39	34	71	67	2410	1490	A+	A++	1923	292	95
RF-PA109T3	451.2	385.8	98154	79032	40	35	73	68	2660	1640	A+	A+	1622	248	80
RF-PB206T3	462.4	391.2	111044	86953	42	36	73	67	3780	2330	A	A+	1352	209	68
RF-PD205T3	468.1	402.8	104824	84570	40	35	73	68	3000	1850	A	A+	1577	242	78
RF-PB206T4	498.2	410.5	102547	79329	42	35	75	68	3880	2360	A	A+	1803	275	89
RF-PC206T3	517.1	441.5	119514	95107	41	36	74	67	3680	2280	A	A+	1622	248	80
RF-PB207T3	540.2	457.2	129552	101445	42	36	75	69	4410	2720	A	A+	1577	245	79
RF-PA208T4	565.1	465.4	118894	91565	46	38	77	71	5290	3200	B	A	1923	295	96
RF-PB207T4	582.8	480.2	119638	92550	43	36	74	69	4520	2750	A	A+	2103	321	104
RF-PA209T3	595.8	503.8	148184	115008	44	37	76	70	5850	3550	B	A	1622	251	81
RF-PB208T3	620.0	524.9	148059	115937	42	36	74	68	5040	3100	A	A+	1803	277	90
RF-PA209T4	637.7	524.9	133756	103011	46	38	79	71	5950	3600	B	A	2163	330	107

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		23.1 - 354.9 kW		27.4 - 340.8 kW		30 - 285.1 kW		32.8 - 252.4 kW
N		28.8 - 449.6 kW		32.9 - 406.9 kW		35.9 - 333.6 kW		38.4 - 297.4 kW
P1		35 - 542.4 kW		38.3 - 478.7 kW		42.2 - 386.7 kW		45 - 335.5 kW
P2		46.1 - 709.9 kW		53.8 - 668.2 kW		60 - 557.2 kW		65.5 - 504.8 kW

Goedhart® KOAL-S RF, T - Fin - 910mm, N EC Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

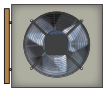
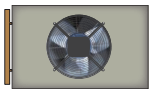
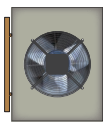
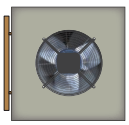
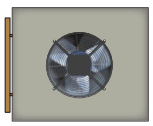
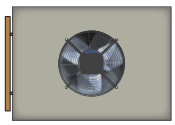
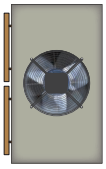
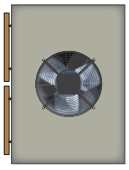
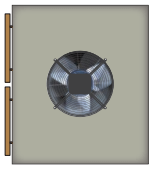
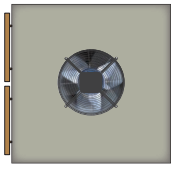
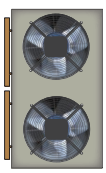
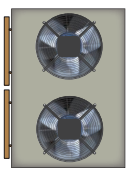
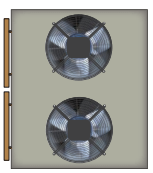
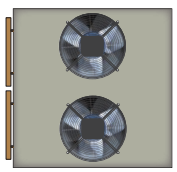
Model	Capacity R404A & R507A *	Air Volume	Sound Pressure Mean **	Sound Power	Power Input	Energy Rating	Total Surface	Internal Volume	R404A Charge
	kg	m^3/h	dB(A)	dB(A)	W	Y	m^2	dm^3	kg
RF-NA101T3H-091E115	11.8	2096	15	31	30	A++	127	25	8
RF-NB101T2H-091E125	16.1	3365	15	32	30	A++	106	21	7
RF-NB101T3H-091E140	19.8	3558	15	37	30	A++	159	29	9
RF-PA101T3H-091E160	23.1	4175	15	39	30	A++	180	32	10
RF-PA101T3H-091E170	24.7	4484	15	42	40	A++	180	32	10
RF-NC101T3H-091E190	28.0	5119	15	44.7	40	A++	191	34	11
RF-MB101T3H-091P290	29.2	6187	23	55	70	A++	113	21	7
RF-PA101T4H-091E200	29.4	5061	15	45	50	A++	240	41	13
RF-MD101T3H-091P290	33.9	6874	21	53	70	A++	158	27	9
RF-NB101T3H-091E320	40.3	8663	27	59	140	A++	159	29	9
RF-MC101T3H-091P410	41.0	9525	31	63	170	A++	135	24	8
RF-MB101T4H-091P460	45.0	9507	35	67	230	A+	150	26	9
RF-PA103T2H-091E125	50.1	10316	15	37	80	A++	361	60	19
RF-MC101T4H-091P510	54.3	11388	37	69	310	A+	180	31	10
RF-PC102T2H-091E190	54.9	11618	16	48	80	A++	361	60	19
RF-MC101T4H-091P690	68.1	15667	45	78	720	B	180	31	10
RF-NB101T4H-091E610	70.9	16171	45	75	700	B	212	37	12
RF-PD102T2H-091E260	79.3	17082	24	57	120	A++	421	69	22
RF-PB103T2H-091E200	82.8	17435	19	51	140	A++	451	74	24
RF-NB101T4H-091E865	88.9	22802	55	87	1760	C	212	37	12
RF-PC102T2H-091E500	116.7	32801	41	73	710	A+	361	60	19
RF-PA102T4H-091E450	119.1	24033	39	71	630	A+	481	79	25
RF-PA103T3H-091E290	119.1	24151	29	61	300	A++	541	88	28
RF-PD102T3H-091E550	164.8	35845	46	78	940	A+	631	101	33
RF-MA103T4H-091P930	187.8	54736	61	93	5720	D	361	57	18
RF-PD102T3H-091E700	195.4	45811	52	83	1710	A	631	101	33
RF-PC104T3H-091E320	205.4	40071	33	65	490	A++	1082	170	55
RF-PB103T3H-091E610	228.1	55152	49	81	1910	A	676	107	35
RF-PC103T3H-091E610	252.1	59017	50	82	1860	A	811	127	41
RF-PB104T4H-091E610	340.7	71223	50	81	2620	A	1202	188	61
RF-PC105T4H-091E700	520.0	109823	55	88	4510	A	1803	275	89
RF-PB106T4H-091E700	565.8	122240	55	88	5620	B	1803	275	89
RF-PB106T4H-091E760	601.5	133366	59	90	7140	B	1803	275	89
RF-PA107T4H-091E760	628.7	147375	58	91	8690	B	1682	261	84
RF-NA108T4H-091E865	634.8	168583	65	98	14710	D	1357	206	67
RF-PD105T4H-091E865	637.9	136940	61	94	8110	B	2103	318	103
RF-NA110T4H-091E865	797.2	210728	66	99	18390	D	1697	257	83
RF-PC205T4H-091P930	821.6	215093	65	98	17570	C	1803	278	90
RF-PD205T4H-091P860	847.4	205562	62	94	13030	C	2103	321	104
RF-PB207T4H-091P930	1032.2	282006	67	100	25670	D	2103	321	104

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		5 - 637.2 kW		12.3 - 603.6 kW		5.6 - 514.9 kW		13.4 - 448.2 kW
N		11.1 - 797.2 kW		11.7 - 728.5 kW		12.2 - 601.3 kW		12.6 - 539.8 kW
P1		11.9 - 977.8 kW		12.6 - 872.5 kW		18.4 - 720.6 kW		18.8 - 637.9 kW
P2		10.1 - 1274.4 kW		24.2 - 1183.5 kW		11.1 - 979.6 kW		26.9 - 896.3 kW

Goedhart® INAL-S NF, T - Fin - 910mm 6 Pole, H Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

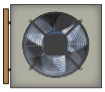
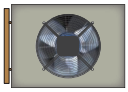
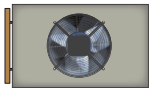
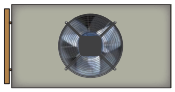
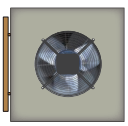
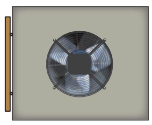
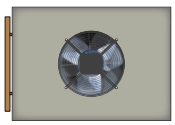
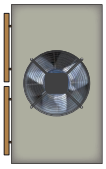
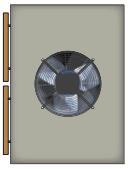
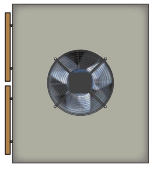
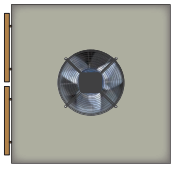
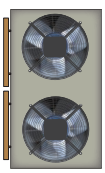
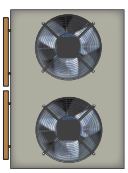
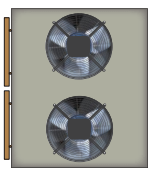
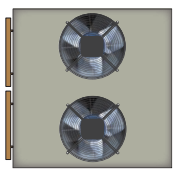
Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
NF-MB101T4	77.3	66.2	23055	17747	58	53	90	83	2560	1800	D	D	150	26	4
NF-MC101T4	87.5	75.1	24914	19454	57	52	89	82	2500	1770	D	D	180	31	5
NF-PA101T4	102.3	89.0	26968	21630	58	52	90	82	2440	1750	D	C	240	44	7
NF-MB102T3	136.8	119.9	49464	38621	60	54	92	85	5020	3550	E	D	225	37	6
NF-PB201T4	154.7	132.3	46110	35495	61	55	93	86	5110	3600	D	D	300	53	8
NF-MD102T3	168.8	149.0	54299	43680	61	54	93	85	4860	3490	D	D	315	53	8
NF-NB102T4	193.1	167.0	52371	41602	60	54	91	86	4930	3490	D	C	424	72	11
NF-PD102T3	242.0	214.5	62462	51672	61	55	93	87	4770	3510	C	C	631	101	16
NF-PA103T3	272.2	241.4	83594	67947	63	56	95	87	7210	5250	D	C	541	88	14
NF-MD103T4	290.3	251.2	78387	62216	62	55	94	88	7400	5240	D	C	631	100	16
NF-NA104T3	298.0	261.3	103173	81356	63	57	95	89	9910	7010	D	D	509	86	13
NF-PA103T4	310.0	269.0	80905	64890	62	56	93	88	7310	5240	D	C	721	117	18
NF-MA106T3	352.8	306.7	133426	102409	65	60	98	93	15360	10800	E	E	541	87	13
NF-MC104T4	354.7	304.6	99654	77816	63	57	95	88	10020	7090	D	D	721	113	18
NF-MB105T4	393.3	336.0	115276	88737	64	59	97	90	12790	9000	D	D	751	117	18
NF-ND104T3	408.6	362.6	115388	94841	64	58	96	90	9560	7000	D	C	891	139	22
NF-PB104T3	408.9	363.9	115574	95038	64	58	96	90	9560	7000	D	C	901	144	22
NF-MB106T3	416.6	364.4	148391	115863	64	59	97	91	15060	10660	E	D	676	105	16
NF-NB105T3	426.9	377.1	135981	109470	64	58	97	89	12140	8740	D	D	795	125	19
NF-PC104T3	456.3	404.0	123068	101467	64	58	96	90	9540	7010	C	C	1082	170	26
NF-NC105T3	472.4	419.1	140636	114782	64	58	97	91	11970	8740	D	C	954	148	23
NF-MC106T4	536.1	460.2	149482	116723	64	58	97	91	15030	10640	D	D	1082	165	26
NF-ND105T4	580.3	506.6	140405	114579	64	58	97	91	11980	8740	C	C	1484	227	35
NF-PC105T4	643.1	561.1	150722	123868	64	58	97	91	11940	8750	C	C	1803	278	43
NF-NC106T4	647.0	562.0	163741	131960	65	58	96	90	14550	10480	D	C	1527	233	36
NF-MA110T4	665.1	560.2	199221	149312	68	63	100	94	25700	18000	E	D	1202	182	28
NF-PD204T3	680.9	601.5	217194	174719	66	60	99	91	19440	13980	D	D	1262	199	31
NF-PD105T4	685.3	597.8	153592	126764	64	58	97	91	11930	8760	C	C	2103	321	50
NF-NA108T4	685.6	588.3	194411	151498	66	60	97	91	20180	14280	D	D	1357	208	32
NF-PA107T4	731.8	634.4	188779	151409	65	59	98	96	17050	12230	D	C	1682	261	41
NF-PC205T3	779.5	685.7	262018	208112	67	60	98	93	24630	17450	D	D	1352	212	33
NF-PB107T4	817.6	713.5	196932	160829	66	59	97	91	16760	12240	C	C	2103	321	50
NF-PA108T4	837.7	726.8	215747	173039	66	60	99	91	19490	13970	D	C	1923	295	46
NF-PA207T4	923.3	778.5	278909	209036	70	64	103	97	35980	25200	E	D	1682	258	40
NF-PA109T4	944.9	819.6	242716	194669	66	60	99	93	21920	15720	D	C	2163	330	51
NF-PB206T4	947.4	809.1	276661	212969	68	62	99	95	30690	21600	D	D	1803	275	43
NF-PA208T3	949.1	822.8	355802	273090	69	64	102	97	40970	28800	E	E	1442	222	35
NF-PD205T4	976.5	844.5	261291	207386	66	60	98	93	24660	17450	D	C	2103	318	49
NF-PA208T4	1058.1	892.1	318753	238899	71	65	102	96	41120	28800	E	D	1923	295	46
NF-PB208T4	1270.9	1085.7	368881	283959	69	63	102	95	40910	28800	D	D	2403	365	57

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		37.3 - 665.1 kW		43.9 - 635.5 kW		49.5 - 536.1 kW		54.9 - 488.3 kW
N		48.1 - 861.2 kW		55.2 - 787.2 kW		61.1 - 646.9 kW		66.5 - 580.3 kW
P1		58.9 - 1053.7 kW		67.2 - 937.2 kW		75.3 - 775.2 kW		81.2 - 685.3 kW
P2		74.6 - 1330.1 kW		87.7 - 1270.9 kW		99.1 - 1072.2 kW		109.9 - 976.5 kW

Goedhart® INAL-S NF, L - Fin - 910mm 6 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

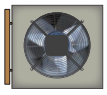
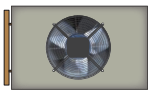
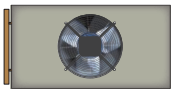
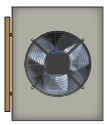
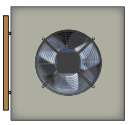
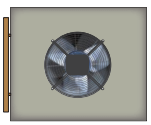
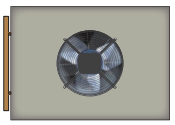
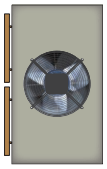
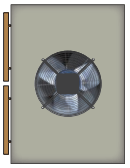
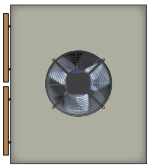
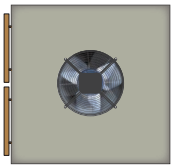
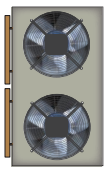
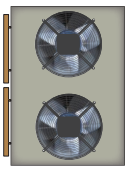
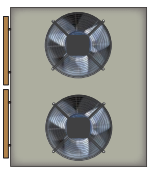
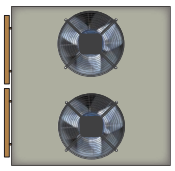
Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
NF-MB101T4	72.7	60.1	20718	15209	53	46	85	76	2420	1560	D	D	150	26	4
NF-MC101T4	82.5	69.0	22593	17024	52	45	84	77	2330	1530	D	C	180	31	5
NF-NB101T4	90.8	76.8	23900	18456	52	45	84	75	2240	1500	D	C	212	38	6
NF-PA101T4	97.0	83.0	24806	19448	52	45	84	77	2190	1470	D	C	240	44	7
NF-MB102T3	130.0	110.8	44849	33706	55	48	87	80	4670	3060	E	D	225	37	6
NF-MD102T3	161.2	140.2	50062	39361	55	48	87	80	4350	2930	D	C	315	53	8
NF-NB102T3	161.5	140.5	50178	39478	55	48	87	80	4340	2920	D	C	318	56	9
NF-NC102T3	179.2	156.2	52395	41745	55	48	87	79	4200	2850	D	C	382	65	10
NF-ND102T3	194.2	169.8	53942	43396	55	49	86	81	4100	2800	C	C	445	74	12
NF-PB103T3	293.9	257.2	81072	65265	57	50	89	81	6140	4200	C	C	676	107	17
NF-PC103T3	327.7	287.4	86739	70518	57	51	88	83	5980	4120	C	C	811	129	20
NF-MA107T3	390.9	329.3	140191	102317	61	54	94	86	17160	10980	E	E	631	100	16
NF-PA104T4	393.3	335.2	99223	77794	58	50	90	83	8750	5880	D	C	961	153	24
NF-PB104T3	393.7	344.0	108096	87020	58	51	89	84	8180	5600	C	C	901	144	22
NF-MC105T4	419.4	350.8	112964	85121	58	51	91	84	11630	7640	D	C	901	137	21
NF-PA105T3	437.0	381.4	129319	102629	59	52	91	84	10610	7190	D	C	901	144	22
NF-PC104T3	439.0	384.7	115652	94024	58	52	89	83	7980	5500	C	C	1082	170	26
NF-PB104T4	441.4	377.7	104776	83428	58	51	90	82	8400	5710	C	C	1202	188	29
NF-PD104T3	471.0	412.9	117673	96421	58	52	91	83	7840	5430	C	B	1262	196	31
NF-PA105T4	493.0	420.1	124029	97242	59	51	91	84	10940	7350	C	C	1202	188	29
NF-NC105T4	510.8	436.3	126019	99375	58	51	91	84	10810	7290	C	C	1272	194	30
NF-MB107T4	520.0	429.4	145023	106463	61	53	92	86	16960	10910	D	D	1051	161	25
NF-ND105T4	552.9	473.1	130636	103947	58	51	91	83	10530	7150	C	C	1484	227	35
NF-PB105T4	553.5	473.6	130970	104285	58	52	91	83	10510	7140	C	C	1502	235	36
NF-NB106T4	554.5	468.9	143402	110737	59	52	90	83	13470	8980	D	C	1272	196	31
NF-NA108T4	645.3	538.3	175822	131619	61	53	92	86	18870	12300	D	D	1357	208	32
NF-PA107T4	693.7	591.2	173641	136139	60	52	91	85	15310	10290	C	C	1682	261	41
NF-NA109T4	727.5	606.8	197800	148071	61	54	94	85	21220	13840	D	D	1527	233	36
NF-PB205T4	738.4	609.5	207176	152090	62	55	95	86	24230	15590	D	D	1502	235	36
NF-PC205T3	741.5	640.6	239215	184900	61	54	94	85	22430	14960	D	D	1352	212	33
NF-PB206T3	791.1	674.8	269094	202236	62	55	95	86	28020	18370	E	D	1352	212	33
NF-PA108T4	794.8	677.4	198447	155588	60	53	93	86	17500	11760	C	C	1923	295	46
NF-PD205T3	816.6	710.2	250308	196807	61	54	94	87	21740	14630	D	C	1577	242	38
NF-PC205T4	838.8	701.6	225928	170243	61	54	94	87	23260	15280	D	C	1803	275	43
NF-PA208T3	896.0	754.7	320436	233868	65	57	96	90	39220	25100	E	D	1442	222	35
NF-PA109T4	896.4	763.9	223253	175036	61	53	92	85	19690	13230	C	C	2163	330	51
NF-PD205T4	922.4	779.7	238382	183891	61	54	94	85	22480	14990	D	C	2103	318	49
NF-PC206T4	1010.4	845.2	271114	204291	62	55	95	86	27910	18340	D	C	2163	327	51
NF-PA210T3	1125.3	948.2	400545	292334	66	58	97	91	49020	31370	E	D	1803	277	43
NF-PB208T4	1192.6	984.5	331482	243345	64	56	97	88	38770	24940	D	D	2403	365	57

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		35.7 - 562.7 kW		41.8 - 596.3 kW		47.4 - 505.2 kW		52.3 - 461.2 kW
N		45.4 - 810.5 kW		52.6 - 743.9 kW		58.3 - 615.2 kW		63.8 - 552.8 kW
P1		56.8 - 998.4 kW		64.7 - 893.6 kW		72.6 - 740.3 kW		78.5 - 655.8 kW
P2		71.4 - 1125.3 kW		83.6 - 1192.6 kW		94.8 - 1010.4 kW		104.7 - 922.4 kW

Goedhart® INAL-S NF, T - Fin - 800mm 6 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

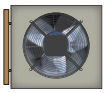
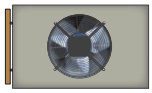
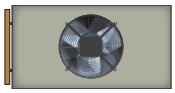
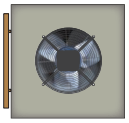
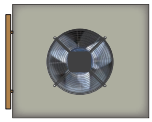
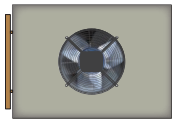
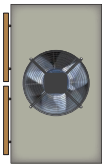
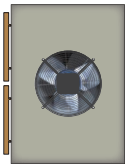
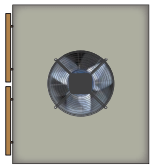
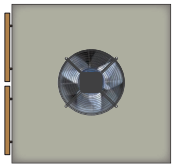
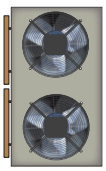
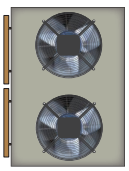
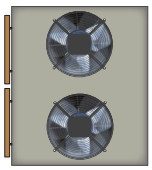
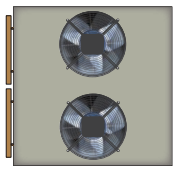
Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
NF-MB101T3	57.8	48.8	17939	13422	52	42	82	74	1730	1090	D	D	113	21	3
NF-MC101T4	71.6	59.1	18041	13522	51	42	82	74	1730	1090	D	C	180	31	5
NF-PA101T4	83.0	69.1	19462	14977	51	43	83	75	1660	1070	C	C	240	41	6
NF-MB102T4	129.0	106.1	33778	25012	55	45	85	77	3560	2200	D	C	300	48	8
NF-MC102T3	129.8	110.2	37913	28789	54	45	86	77	3380	2160	D	C	270	44	7
NF-PA103T3	226.0	193.9	60008	47014	56	48	88	80	4900	3190	C	C	541	88	14
NF-PB202T3	232.1	195.7	71755	53687	57	48	88	80	6940	4370	D	D	451	75	12
NF-ND103T3	249.7	214.9	61648	49059	56	47	87	80	4800	3140	C	C	668	106	17
NF-PA103T4	250.8	208.9	58386	44931	56	47	88	78	4990	3220	C	C	721	114	18
NF-PB202T4	258.0	212.1	67556	50024	57	48	88	80	7120	4400	D	C	601	97	15
NF-NB104T3	284.6	242.7	78399	60622	57	49	89	81	6620	4280	D	C	636	104	16
NF-MA106T3	304.1	255.8	99055	72978	59	49	90	80	10790	6650	E	D	541	87	13
NF-MA106T4	335.2	273.9	90725	65980	60	50	92	82	11280	7080	E	D	721	113	18
NF-MB106T3	353.1	297.9	107632	80530	58	49	91	80	10410	6550	D	C	676	106	17
NF-MB106T4	392.2	322.6	101335	75036	59	49	90	80	10690	6600	D	C	901	139	22
NF-MD105T4	397.0	328.3	94474	71554	57	48	90	81	8460	5410	C	C	1051	161	25
NF-MB107T3	413.2	348.4	125571	93952	59	49	92	82	12140	7640	D	C	789	121	19
NF-NC105T4	433.0	362.0	98341	76266	58	49	90	82	8260	5340	C	C	1272	194	30
NF-PA106T3	455.9	390.9	120016	94029	59	50	91	83	9790	6370	C	C	1082	170	26
NF-MB107T4	459.0	377.4	118223	87541	59	49	92	82	12470	7700	D	C	1051	159	25
NF-PB204T3	468.1	395.1	143509	107374	60	50	91	83	13880	8730	D	C	901	144	22
NF-MB108T3	473.9	399.7	143509	107374	59	50	91	83	13880	8730	D	C	901	137	21
NF-PB106T3	506.4	435.9	123454	98303	59	50	90	83	9600	6280	C	C	1352	209	33
NF-NA108T3	507.7	429.4	149047	112563	59	50	92	83	13630	8680	D	C	1018	157	24
NF-PB204T4	519.5	427.5	135113	100047	60	50	91	83	14250	8800	D	C	1202	191	30
NF-PC204T3	522.8	443.3	151653	115155	60	51	92	83	13520	8640	D	C	1082	170	26
NF-PA107T3	532.7	457.1	140019	109700	59	51	92	82	11430	7430	C	C	1262	199	31
NF-NA108T4	563.1	465.0	141319	105679	60	50	91	83	13970	8750	D	C	1357	208	32
NF-PA108T3	611.1	523.6	160021	125372	60	51	91	84	13060	8490	C	C	1442	225	35
NF-NA109T4	634.9	524.3	158984	118889	60	50	93	83	15720	9840	D	C	1527	233	36
NF-PC205T3	656.6	556.4	189566	143944	60	51	93	84	16900	10800	D	C	1352	212	33
NF-PA108T4	677.5	564.3	155695	119816	59	51	92	84	13300	8580	C	C	1923	295	46
NF-PA109T3	688.5	590.1	180024	141043	60	52	93	85	14690	9560	C	C	1622	251	39
NF-PB206T3	706.2	595.8	215264	161061	61	52	94	83	20820	13100	D	C	1352	212	33
NF-PC205T4	728.6	601.0	180415	135216	60	51	92	84	17300	10910	D	C	1803	278	43
NF-PA109T4	764.0	636.5	175157	134793	60	51	93	83	14970	9650	C	C	2163	330	51
NF-PB206T4	784.4	645.2	202669	150071	62	52	93	83	21370	13200	D	C	1803	278	43
NF-PD205T4	794.0	656.5	188947	143108	60	51	91	84	16930	10810	C	C	2103	321	50
NF-PA110T4	851.0	708.8	194619	149770	60	52	93	85	16630	10720	C	C	2403	365	57
NF-PA208T4	898.3	733.8	241932	175945	64	53	95	85	30090	18880	E	D	1923	292	45

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		31.8 - 563.9 kW		37.0 - 526.2 kW		41.5 - 438.8 kW		45.8 - 396.9 kW
N		39.8 - 707.3 kW		45.9 - 639.8 kW		50.4 - 521.5 kW		54.6 - 462.3 kW
P1		49 - 850.9 kW		55.3 - 746.5 kW		61.3 - 610.0 kW		65.8 - 533.7 kW
P2		63.6 - 1127.9 kW		74.1 - 1052.4 kW		83.1 - 877.6 kW		91.5 - 793.9 kW

Goedhart® INAL-S NF, L - Fin - 800mm 8 Pole, N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

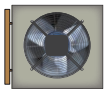
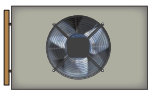
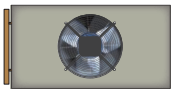
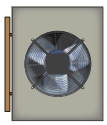
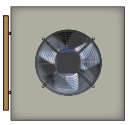
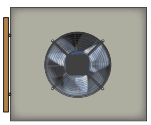
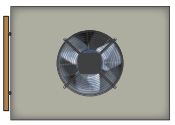
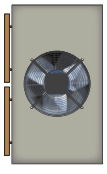
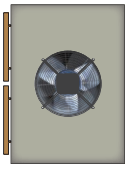
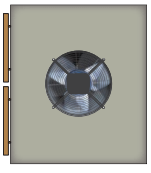
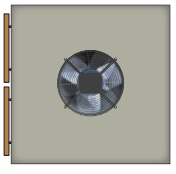
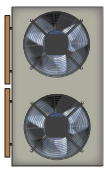
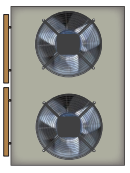
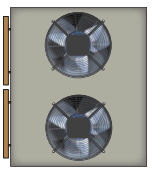
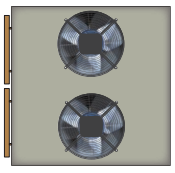
Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
NF-MB101T4	52.7	42.7	12478	9219	43	34	75	66	860	530	C	B	150	26	4
NF-MC101T4	58.5	47.7	13335	10018	43	35	75	65	830	530	B	B	180	31	5
NF-MB102T3	97.1	81.2	26516	19878	46	37	78	68	1670	1060	C	B	225	37	6
NF-MC102T3	108.4	90.9	28038	21365	46	38	78	70	1620	1040	C	B	270	44	7
NF-PC102T2	118.2	101.8	33460	26437	44	37	75	69	1510	960	B	B	361	60	9
NF-PA102T3	124.8	104.7	29859	23041	45	38	76	70	1570	1020	B	B	361	61	9
NF-PD102T2	126.3	108.1	33793	26771	44	37	76	69	1500	950	B	A	421	69	11
NF-MA103T3	127.1	105.3	36568	26843	47	39	78	71	2620	1610	C	C	270	44	7
NF-NC102T3	128.4	107.4	30180	23338	45	38	77	70	1560	1010	B	B	382	62	10
NF-PB102T3	137.6	115.8	30892	24122	45	38	77	70	1540	990	B	A	451	74	11
NF-PA202T3	168.9	139.9	48757	35791	49	40	81	72	3490	2150	C	C	361	61	9
NF-PB202T3	194.2	162.4	53032	39757	49	40	81	71	3340	2110	C	B	451	75	12
NF-PB103T3	207.2	174.4	46338	36184	46	39	76	70	2310	1480	B	A	676	107	17
NF-PB202T4	211.8	171.7	49913	36877	49	40	81	72	3450	2140	C	B	601	97	15
NF-MB104T4	213.5	172.9	49913	36878	48	40	81	72	3450	2140	C	B	601	94	15
NF-PC202T3	216.7	181.8	56075	42731	49	41	81	73	3240	2080	C	B	541	88	14
NF-NB104T3	236.4	198.4	58234	44715	48	41	79	73	3170	2050	B	B	636	102	16
NF-PA104T3	251.2	210.5	59719	46082	48	41	79	73	3130	2030	B	B	721	114	18
NF-MA106T3	256.2	212.1	73136	53687	50	41	81	74	5240	3220	C	C	541	85	13
NF-MB107T2	263.9	225.3	99377	75894	50	43	83	76	5630	3630	C	C	526	84	13
NF-PA203T4	275.7	219.5	67497	48341	51	41	83	74	5520	3260	C	C	721	114	18
NF-ND104T3	276.2	232.1	61690	48138	47	40	80	73	3080	1980	B	A	891	141	22
NF-MD105T3	296.8	249.1	72664	55775	49	41	80	74	3970	2570	B	B	789	122	19
NF-MC105T4	297.6	242.5	66677	50089	49	41	82	72	4160	2640	B	B	901	139	22
NF-PC104T3	304.2	254.3	65664	51449	47	40	78	71	3050	1940	B	A	1082	166	26
NF-NC105T3	324.7	271.8	75450	58346	48	41	81	74	3900	2530	B	B	954	150	23
NF-PC203T3	326.4	274.0	84113	64096	50	43	81	75	4860	3130	C	B	811	131	20
NF-NB106T3	356.8	299.5	87352	67072	50	42	81	75	4760	3080	B	B	954	150	23
NF-PA106T3	378.9	317.6	89578	69123	49	42	82	75	4700	3050	B	B	1082	170	26
NF-PA108T2	389.3	336.0	123807	96478	50	43	83	76	6160	3960	C	B	961	152	24
NF-MB108T3	396.7	331.1	106064	79513	51	42	84	74	6670	4220	C	B	901	139	22
NF-NA107T4	403.1	327.9	91578	68487	51	42	83	75	5880	3710	C	B	1188	182	28
NF-PC105T4	408.1	334.0	80581	62723	48	41	81	74	3850	2470	B	A	1803	275	43
NF-PB106T3	418.1	352.2	92677	72367	49	42	82	73	4620	2970	B	A	1352	209	33
NF-PD105T4	429.2	350.0	82038	64069	48	41	79	72	3810	2440	A	A	2103	318	49
NF-PB205T3	491.2	409.9	132580	99392	52	44	85	75	8340	5280	C	B	1127	177	27
NF-PD205T3	593.6	498.3	145329	111550	52	44	87	77	7940	5140	B	B	1577	245	38
NF-PB108T4	603.6	497.8	120491	93665	50	43	83	76	6240	4040	B	A	2403	365	57
NF-PD205T4	644.7	526.7	139517	105966	52	44	85	77	8120	5220	B	B	2103	321	50
NF-PA209T3	774.2	641.4	219409	161061	54	45	86	77	15710	9650	C	C	1622	251	39

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		33.8 - 580.2 kW		38.4 - 519.5 kW		35.2 - 358.3 kW		38.3 - 322.2 kW
N		33.8 - 580.2 kW		38.4 - 519.5 kW		42.1 - 422.6 kW		45.6 - 373.3 kW
P1		40.7 - 690.8 kW		45.8 - 603.6 kW		50.6 - 491.6 kW		53.6 - 429.1 kW
P2		54.8 - 935.7 kW		63.3 - 864 kW		70.4 - 716.6 kW		76.5 - 644.7 kW

Goedhart® INAL-S NF, T - Fin - 910mm N Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

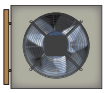
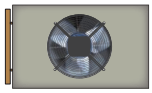
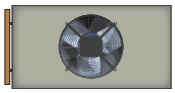
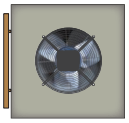
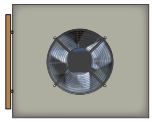
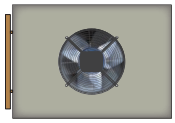
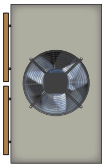
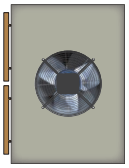
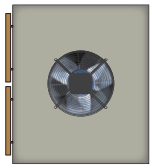
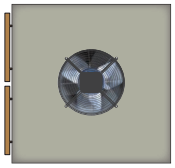
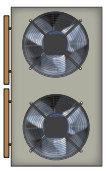
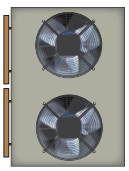
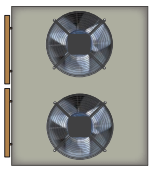
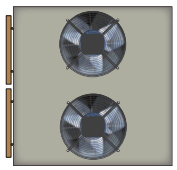
Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
NF-MB101T3	39.4	33.4	9254	7246	32	26	62	56	320	190	A+	A+	113	21	3
NF-MB101T4	42.5	35.0	8546	6611	32	25	64	57	320	200	A+	A+	150	26	4
NF-MC101T3	43.2	36.8	9959	7926	32	26	62	58	310	190	A+	A+	135	24	4
NF-PA101T3	49.9	42.8	10906	8781	32	27	62	57	300	180	A+	A+	180	32	5
NF-MC102T3	86.9	74.0	19919	15851	34	29	65	61	610	380	A+	A+	270	44	7
NF-ND102T2	90.4	78.5	23383	19096	35	31	66	63	550	350	A+	A+	297	49	8
NF-NB102T3	94.4	81.4	21019	16971	34	29	65	61	600	370	A+	A+	318	54	8
NF-NA103T3	125.5	107.1	29235	23141	36	30	68	61	930	580	A+	A+	382	65	10
NF-PB202T3	154.9	131.4	37015	28984	37	31	68	62	1260	780	A+	A+	451	75	12
NF-MB104T3	159.2	134.9	37015	28984	37	31	68	62	1260	780	A+	A+	451	72	11
NF-PB103T3	166.4	141.5	34144	27555	37	32	69	64	850	530	A+	A++	676	107	17
NF-MD104T3	190.2	163.9	41930	33828	37	32	68	64	1200	740	A+	A+	631	100	16
NF-MB105T3	199.7	169.0	46268	36230	38	32	69	63	1580	970	A+	A+	563	90	14
NF-MA106T3	201.2	170.0	49395	38336	40	33	71	64	1950	1180	B	A+	541	87	13
NF-PA104T3	201.7	173.5	43624	35125	37	32	68	63	1180	730	A+	A+	721	118	18
NF-PA105T2	203.8	181.0	56904	46307	39	34	71	66	1420	890	A+	A+	601	98	15
NF-PA105T3	253.1	216.9	54530	43906	38	33	69	64	1480	910	A+	A+	901	144	22
NF-NA106T3	253.3	215.5	58469	46281	39	33	71	64	1850	1150	A+	A+	763	120	19
NF-PC203T3	261.2	223.0	59757	47554	39	33	71	64	1840	1140	A+	A+	811	131	20
NF-NC105T3	261.4	223.0	55330	44449	38	33	71	66	1460	900	A+	A++	954	148	23
NF-MC106T3	263.7	225.1	59757	47554	38	33	71	64	1840	1140	A+	A+	811	124	19
NF-PB105T3	279.4	236.8	56907	45924	38	34	71	66	1420	890	A+	A++	1127	177	27
NF-NB106T3	287.0	247.2	63058	50913	38	33	71	66	1800	1110	A+	A+	954	148	23
NF-PB204T3	312.3	264.6	74030	57968	40	34	71	65	2520	1550	A+	A+	901	144	22
NF-PA107T3	356.6	304.5	76342	61469	39	34	72	67	2070	1270	A+	A+	1262	199	31
NF-PB205T3	391.8	331.3	92537	72461	41	35	72	66	3150	1940	A+	A+	1127	180	28
NF-PA108T3	408.4	349.3	87248	70250	40	35	71	66	2360	1450	A+	A++	1442	225	35
NF-PC205T3	437.8	374.0	99594	79256	41	35	72	68	3060	1900	A+	A+	1352	212	33
NF-PA108T4	440.5	368.8	83067	66438	39	34	71	68	2410	1490	A+	A++	1923	295	46
NF-PA109T3	460.3	393.6	98154	79032	40	35	73	68	2660	1640	A+	A+	1622	251	39
NF-PB206T3	471.6	399.0	111044	86953	42	36	73	67	3780	2330	A+	A+	1352	212	33
NF-PD205T3	477.5	410.9	104824	84570	40	35	72	68	3000	1850	A+	A+	1577	245	38
NF-PB206T4	508.2	418.7	102547	79329	42	35	75	68	3880	2360	A+	A+	1803	275	43
NF-PC206T3	527.4	450.3	119514	95107	41	36	74	67	3680	2280	A+	A+	1622	248	39
NF-PB207T3	551.0	466.4	129552	101445	42	36	75	69	4410	2720	A+	A+	1577	242	38
NF-PA208T4	576.4	474.7	118894	91565	46	38	77	71	5290	3200	B	A+	1923	292	45
NF-PB207T4	594.4	489.8	119638	92550	43	36	74	69	4520	2750	A+	A+	2103	318	49
NF-PA209T3	607.7	513.8	148184	115008	44	37	76	70	5850	3550	B	A+	1622	248	39
NF-PB208T3	632.4	535.4	148059	115937	42	36	74	68	5040	3100	A+	A+	1803	274	43
NF-PA209T4	650.4	535.4	133756	103011	46	38	79	71	5950	3600	B	A+	2163	330	51

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		23.5 - 362 kW		27.9 - 347.6 kW		30.6 - 290.8 kW		33.4 - 257.4 kW
N		29.4 - 458.6 kW		33.5 - 414.9 kW		36.6 - 340.2 kW		39.2 - 303.3 kW
P1		35.7 - 553.2 kW		39.1 - 488.3 kW		43.1 - 394.4 kW		45.9 - 342.2 kW
P2		47 - 724.1 kW		54.8 - 681.5 kW		61.2 - 568.3 kW		66.8 - 514.9 kW

Goedhart® INAL-S NF, T - Fin - 910mm N EC Fan Type

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Model	Capacity NH3 *	Air Volume	Sound Pressure Mean **	Sound Power	Power Input	Energy Rating	Total Surface	Internal Volume	R404A Charge
	kg	m^3/h	dB(A)	dB(A)	W	Y	m^2	dm^3	kg
NF-NA101T3H-091E115	11.9	2096	15	31	30	A++	127	21	3
NF-NB101T2H-091E125	15.9	3365	15	32	30	A++	106	19	3
NF-NB101T3H-091E140	20.0	3558	15	37	30	A++	159	27	4
NF-PA101T3H-091E160	23.3	4175	15	39	30	A++	180	30	5
NF-PA101T3H-091E170	25.0	4484	15	42	40	A++	180	31	5
NF-NC101T3H-091E190	28.3	5119	15	45	40	A++	191	32	5
NF-MB101T3H-091P290	28.9	6187	23	55	70	A++	113	19	3
NF-PA101T4H-091E200	29.1	5061	15	45	50	A++	240	40	6
NF-MD101T3H-091P290	34.3	6874	23	55	70	A++	158	26	4
NF-NB101T3H-091E320	40.7	8663	27	59	140	A++	159	27	4
NF-MC101T3H-091P410	41.5	9525	31	63	170	A++	135	22	3
NF-MB101T4H-091P460	43.7	9507	35	67	230	A+	150	25	4
NF-PA103T2H-091E125	49.6	10316	15	37	80	A++	361	57	9
NF-MC101T4H-091P510	52.4	11388	37	69	310	A+	180	31	5
NF-PC102T2H-091E190	54.4	11618	16	48	80	A++	361	57	9
NF-MC101T4H-091P690	65.3	15667	46	78	720	B	180	31	5
NF-NB101T4H-091E610	70.3	16171	46	76	700	B	212	37	6
NF-PD102T2H-091E260	78.6	17082	24	57	120	A++	421	66	10
NF-PB103T2H-091E200	82.1	17435	19	51	140	A++	451	70	11
NF-NB101T4H-091E865	88.1	22802	55	87	1760	C	212	38	6
NF-PC102T2H-091E500	115.6	32801	43	74	710	A+	361	60	9
NF-PA102T4H-091E450	118.0	24033	40	72	630	A+	481	79	12
NF-PA103T3H-091E290	120.3	24151	29	61	300	A++	541	87	13
NF-PD102T3H-091E550	166.6	35845	46	78	940	A+	631	100	16
NF-MA103T4H-091P930	186.0	54736	61	93	5720	D	361	59	9
NF-PD102T3H-091E700	197.5	45811	52	83	1710	A	631	101	16
NF-PC104T3H-091E320	207.6	40071	33	65	490	A++	1082	166	26
NF-PB103T3H-091E610	230.6	55152	50	82	1910	A	676	107	17
NF-PC103T3H-091E610	254.9	59017	50	82	1860	A	811	127	20
NF-PB104T4H-091E610	337.6	71223	51	82	2620	A	1202	188	29
NF-PC105T4H-091E700	515.4	109823	55	88	4510	A	1803	275	43
NF-PB106T4H-091E700	560.6	122240	56	89	5620	B	1803	278	43
NF-PB106T4H-091E760	596.1	133366	59	90	7140	B	1803	278	43
NF-PA107T4H-091E760	622.9	147375	59	92	8690	B	1682	261	41
NF-NA108T4H-091E865	629.0	168583	65	98	14710	D	1357	208	32
NF-PD105T4H-091E865	632.1	136940	61	94	8110	B	2103	321	50
NF-NA110T4H-091E865	789.9	210728	66	99	18390	D	1697	257	40
NF-PC205T4H-091P930	814.1	215093	65	98	17570	C	1803	275	43
NF-PD205T4H-091P860	839.7	205562	62	94	13030	C	2103	318	49
NF-PB207T4H-091P930	1022.7	282006	67	100	25670	D	2103	318	49

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		5 - 631.4 kW		12 - 586.3 kW		5.5 - 490.3 kW		13.3 - 444 kW
N		10.9 - 780 kW		11.6 - 721.9 kW		12 - 595.8 kW		12.4 - 534.9 kW
P1		11.8 - 968.9 kW		12.4 - 864.5 kW		18.2 - 714 kW		18.7 - 888.1 kW
P2		9.9 - 1262.7 kW		23.9 - 1172.7 kW		11 - 980.6 kW		26.6 - 888.1 kW

Goedhart® KOAL-S RF/ Goedhart® INAL-S NF- Dimensions

Unit	Module	Fan banks	Fan per banks	Dim A	Dim B1	Dim B2	Dim B3	Total Unit Dry Weight (Approx)							
								M		N		P1		P2	
								Al	Cu	Al	Cu	Al	Cu	Al	Cu
								kg	kg	kg	kg	kg	kg	kg	kg
_F_A_01T2	1200	1 or 2	1	1203	1123			214	239	258	294	315	366	365	416
_F_A_01T3	1200	1 or 2	1	1203	1123			226	265	276	330	340	416	390	466
_F_A_01T4	1200	1 or 2	1	1203	1123			239	290	293	366	365	467	415	517
_F_A_02T2	1200	1 or 2	2	2403	2323			369	421	454	526	552	655	649	752
_F_A_02T3	1200	1 or 2	2	2403	2323			394	471	489	597	685	756	699	853
_F_A_02T4	1200	1 or 2	2	2403	2323			419	522	524	669	652	857	749	954
_F_A_03T2	1200	1 or 2	3	3603	3523			525	602	650	758	790	944	934	1088
_F_A_03T3	1200	1 or 2	3	3603	3523			562	678	702	865	865	1095	1009	1239
_F_A_03T4	1200	1 or 2	3	3603	3523			600	753	755	972	939	1247	1083	1391
_F_A_04T2	1200	1 or 2	4	4803	4723			574	676	738	883	921	1126	1112	1316
_F_A_04T3	1200	1 or 2	4	4803	4723			624	777	808	1025	1020	1328	1211	1518
_F_A_04T4	1200	1 or 2	4	4803	4723			673	878	879	1168	1120	1529	1310	1720
_F_A_05T2	1200	1 or 2	5	6003	5923			695	823	900	1081	1124	1381	1362	1618
_F_A_05T3	1200	1 or 2	5	6003	5923			758	950	988	1259	1249	1633	1486	1871
_F_A_05T4	1200	1 or 2	5	6003	5923			820	1076	1075	1437	1373	1885	1611	2123
_F_A_06T2	1200	1 or 2	6	7203	7123	3562	3561	827	971	1061	1278	1328	1635	1613	1920
_F_A_06T3	1200	1 or 2	6	7203	7123	3562	3561	891	1122	1167	1492	1477	1938	1762	2223
_F_A_06T4	1200	1 or 2	6	7203	7123	3562	3561	966	1273	1272	1706	1626	2241	1911	2525
_F_A_07T2	1200	1 or 2	7	8403	8323	3562	4761	969	1149	1254	1507	1562	1921	1895	2254
_F_A_07T3	1200	1 or 2	7	8403	8323	3562	4761	1056	1325	1376	1756	1736	2274	2069	2607
_F_A_07T4	1200	1 or 2	7	8403	8323	3562	4761	1143	1502	1499	2005	1910	2627	2243	2960
_F_A_08T2	1200	1 or 2	8	9603	9523	4762	4761	1091	1296	1415	1705	1766	2176	2146	2555
_F_A_08T3	1200	1 or 2	8	9603	9523	4762	4761	1190	1497	1555	1989	1964	2579	2344	2959
_F_A_08T4	1200	1 or 2	8	9603	9523	4762	4761	1289	1699	1696	2274	2163	2982	2543	3362
_F_A_09T2	1200	1 or 2	9	10803	10723	4762	5961	1212	1443	1577	1902	1969	2430	2396	2857
_F_A_09T3	1200	1 or 2	9	10803	10723	4762	5961	1324	1670	1734	2223	2193	2884	2619	3311
_F_A_09T4	1200	1 or 2	9	10803	10723	4762	5961	1436	1897	1892	2543	2416	3338	2843	3765
_F_A_10T2	1200	1 or 2	10	12003	11923	5962	5961	1334	1590	1738	2100	2173	2685	2646	3159
_F_A_10T3	1200	1 or 2	10	12003	11923	5962	5961	1458	1842	1913	2456	2421	3189	2895	3663
_F_A_10T4	1200	1 or 2	10	12003	11923	5962	5961	1582	2094	2089	2812	2669	3694	3143	4167
_F_B_01T2	1500	1 or 2	1	1503	1423			233	265	281	327	353	417	405	469
_F_B_01T3	1500	1 or 2	1	1503	1423			248	296	303	371	384	480	436	532
_F_B_01T4	1500	1 or 2	1	1503	1423			264	328	326	416	415	543	467	595
_F_B_02T2	1500	1 or 2	2	3003	2923			408	472	500	591	629	757	729	857
_F_B_02T3	1500	1 or 2	2	3003	2923			439	535	544	680	691	883	791	983
_F_B_02T4	1500	1 or 2	2	3003	2923			470	598	588	769	753	1009	853	1110
_F_B_03T2	1500	1 or 2	3	4503	4423			454	550	591	727	776	968	925	1117
_F_B_03T3	1500	1 or 2	3	4503	4423			501	645	657	861	870	1158	1019	1307
_F_B_03T4	1500	1 or 2	3	4503	4423			547	740	723	994	963	1347	1112	1496
_F_B_04T2	1500	1 or 2	4	6003	5923			616	744	797	978	1039	1295	1237	1493
_F_B_04T3	1500	1 or 2	4	6003	5923			678	870	885	1156	1163	1548	1361	1745
_F_B_04T4	1500	1 or 2	4	6003	5923			740	997	973	1334	1288	1800	1485	1998
_F_B_05T2	1500	1 or 2	5	7503	7423	2962	4461	748	908	974	1200	1272	1592	1519	1839
_F_B_05T3	1500	1 or 2	5	7503	7423	2962	4461	826	1066	1083	1422	1428	1908	1674	2154
_F_B_05T4	1500	1 or 2	5	7503	7423	2962	4461	903	1224	1193	1645	1583	2223	1829	2469
_F_B_06T2	1500	1 or 2	6	9003	8923	4462	4461	880	1073	1150	1421	1505	1890	1800	2185
_F_B_06T3	1500	1 or 2	6	9003	8923	4462	4461	913	1262	1282	1688	1692	2268	1987	2563
_F_B_06T4	1500	1 or 2	6	9003	8923	4462	4461	1066	1451	1413	1956	1878	2646	2173	2941
_F_B_07T2	1500	1 or 2	7	10503	10423	4462	5961	1043	1267	1357	1674	1769	2218	2114	2562
_F_B_07T3	1500	1 or 2	7	10503	10423	4462	5961	1152	1488	15111	1985	1987	2659	2331	3004
_F_B_07T4	1500	1 or 2	7	10503	10423	4462	5961	1260	1709	1664	2297	2204	3100	2549	3445
_F_B_08T2	1500	1 or 2	8	12003	11923	5962	5961	1175	1431	1534	1895	2002	2515	2396	2908
_F_B_08T3	1500	1 or 2	8	12003	11923	5962	5961	1299	1684	1709	2251	2251	3019	2664	3413
_F_B_08T4	1500	1 or 2	8	12003	11923	5962	5961	1423	1936	1884	2607	2499	3524	3413	3917
_F_C_01T2	1800	1 or 2	1	1803	1723			252	290	305	359	357	433	410	487
_F_C_01T3	1800	1 or 2	1	1803	1723			271	328	331	413	394	509	447	562
_F_C_01T4	1800	1 or 2	1	1803	1723			289	366	358	466	431	585	485	638
_F_C_02T2	1800	1 or 2	2	3603	3523			446	523	547	656	636	790	740	893
_F_C_02T3	1800	1 or 2	2	3603	3523			483	599	600	763	711	941	814	1045
_F_C_02T4	1800	1 or 2	2	3603	3523			521	674	652	869	785	1093	889	1196
_F_C_03T2	1800	1 or 2	3	5403	5323			486	601	636	798	762	992	916	1146
_F_C_03T3	1800	1 or 2	3	5403	5323			542	715	715	959	874	1219	1027	1373
_F_C_03T4	1800	1 or 2	3	5403	5323			598	828	794	1119	985	1446	1139	1600
_F_C_04T2	1800	1 or 2	4	7203	7123	3562	3561	659	812	857	1074	1020	1327	1224	1531
_F_C_04T3	1800	1 or 2	4	7203	7123	3562	3561	733	964	962	1287	1169	1630	1373	1834
_F_C_04T4	1800	1 or 2	4	7203	7123	3562	3561	807	1115	1067	1501	1318	1933	1522	2137
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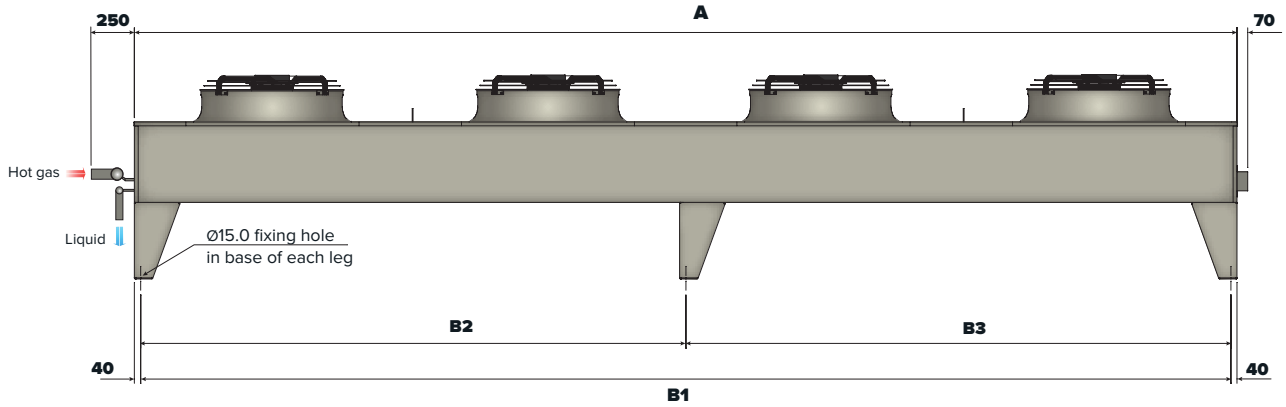
_F_C_06T2	1800	1 or 2	6	10803	10723	5362	5361	974	1204	1269	1594	1507	1968	1811	2272
_F_C_06T3	1800	1 or 2	6	10803	10723	5362	5361	1085	1431	1426	1915	1730	2421	2034	2726
_F_C_06T4	1800	1 or 2	6	10803	10723	5362	5361	1197	1658	1584	2235	1953	2875	2258	3180
_F_D_01T2	2100	1 or 2	1	2103	2023			271	316	328	454	395	484	450	539
_F_D_01T3	2100	1 or 2	1	2103	2023			293	360	359	454	438	573	493	628
_F_D_01T4	2100	1 or 2	1	2103	2023			404	404	390	516	482	661	537	716
_F_D_02T2	2100	1 or 2	2	4203	4123			365	454	474	601	593	772	699	879
_F_D_02T3	2100	1 or 2	2	4203	4123			408	542	536	725	350	949	786	1055
_F_D_02T4	2100	1 or 2	2	4203	4123			631	631	597	850	767	1125	873	1232
_F_D_03T2	2100	1 or 2	3	6303	6223			577	712	740	930	910	1179	1069	1338
_F_D_03T3	2100	1 or 2	3	6303	6223			643	844	832	1117	1041	1444	1199	1602
_F_D_03T4	2100	1 or 2	3	6303	6223			977	977	924	10304	1171	1709	1330	1861
_F_D_04T2	2100	1 or 2	4	8403	8323	4162	4161	731	910	946	1199	1168	1527	1378	1737
_F_D_04T3	2100	1 or 2	4	8403	8323	4162	4161	818	1087	1068	1448	1342	1880	1552	2090
_F_D_04T4	2100	1 or 2	4	8403	8323	4162	4161	1263	1263	1191	1697	1516	2233	1726	2443
_F_D_05T2	2100	1 or 2	5	10503	10423	4162	6261	884	1108	1152	1468	1426	1874	1688	2136
_F_D_05T4	2100	1 or 2	5	10503	10423	4162	6261	993	1329	1305	1780	1643	2316	1905	2578
_F_D_05T3	2100	1 or 2	5	10503	10423	4162	6261	1549	1549	458	2091	1861	2757	2122	3019



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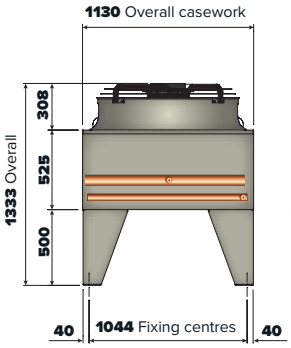

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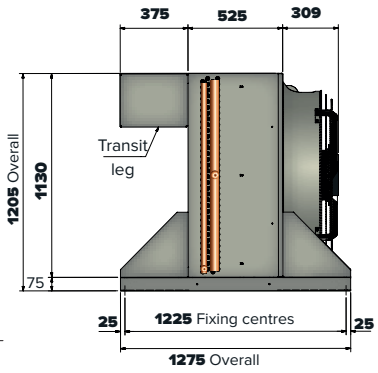

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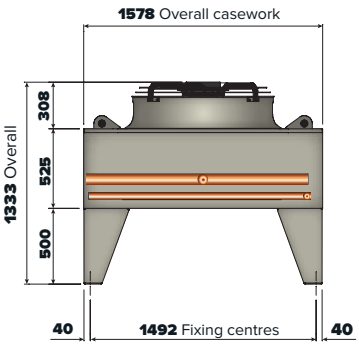

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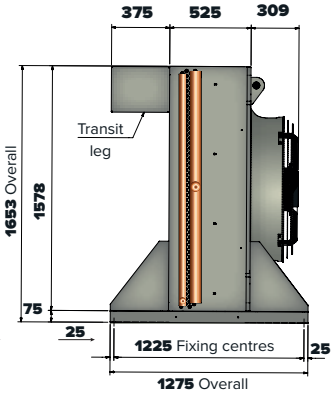
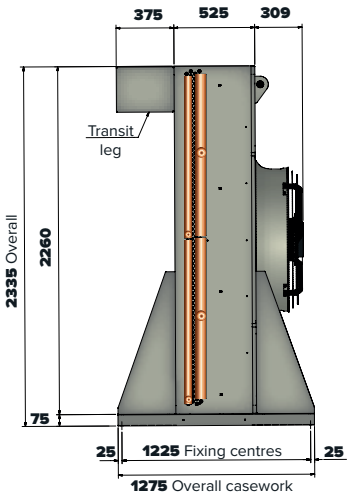
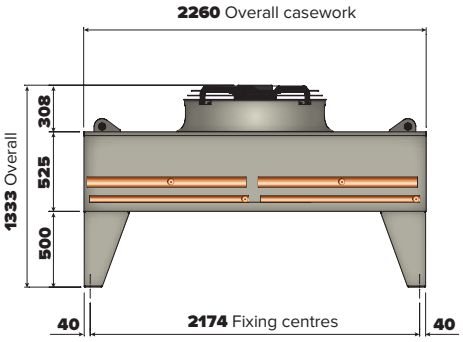


P-1 Vertical



P-1



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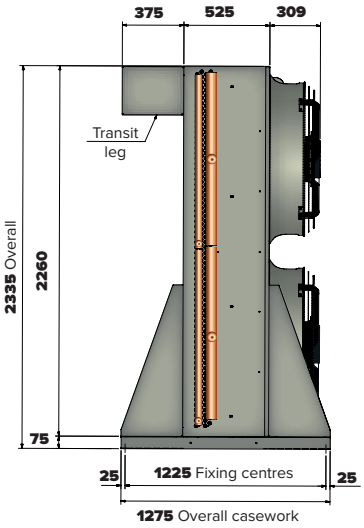
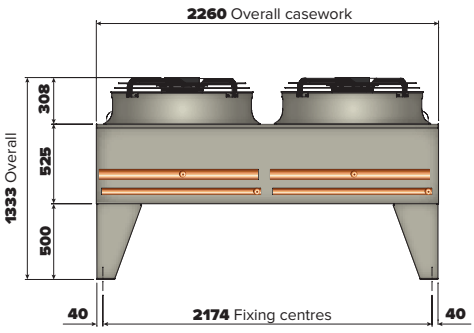


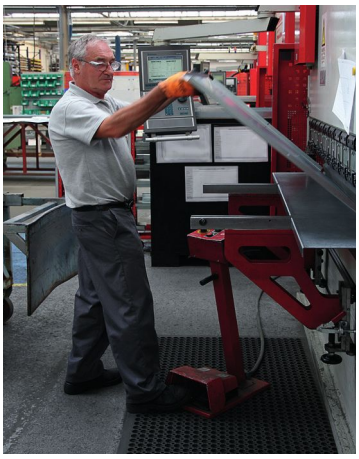
P-2



Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

Goedhart® KOAL-S GF Gas Cooler

MAKING THE FUTURE MORE GREENER



The Goedhart® KOAL-S GF range of gas coolers shares the same comprehensive module configurations as the Goedhart® KOAL-S RF range of condensers ensuring a suitable balance of performance, size and efficiency can be found to suit all applications. Kelvion's new Gas Coolers have been optimised specifically for use in Transcritical CO_2 applications, suitable to 120 Bar as standard, with optimised tube geometries, expansion gaps, extended tube ends and fin splits all ensuring optimised function and performance over the life cycle of the system. Kelvion believes in developing sustainable solutions that are flexible enough to suit a wide variety of applications. By offering high capacity density coils and the most efficient motor technology in the market, Goedhart® KOAL-S GF range from Kelvion is both environmentally and economically sustainable. The new range of CO_2 gas coolers has been developed as part of the Kelvion innovation strategy to optimise sustainable technology for the refrigeration industry. The range utilises the best fan technology available in the market to date, with AC and EC options all in accordance with the latest legislation. The comprehensive array of options ensures the best product for your application can always be found. Other features include:

- Manufactures to Quality Standard ISO9001:2008
- Formed side channel for strength
- Centre plates for 'H' frame construction
- Galvanized steel case, legs and centre plates
- Standard Copper (CU) tube, Aluminium (AL) fins
- Aluminium tube support

Features

- Comprises of 4 module lengths
- Available in 2.1mm fin spacing
- 1 - 10 fans per row
- Stainless steel inlet and outlet headers

Goedhart® KOAL-S GF Gas Cooler

GF RANGE PRODUCT PROFILE

1 CASEWORK

Designed to be fully weather-proofed suitable for a wide variety of environments, this special casework form, which can be manufactured up to 12m long, gives tremendous strength and forms an integral part of the heat exchanger support structure.

Displaying the same innovations and characteristics as the Goedhart® KOAL-S RF range each components is cold formed from a single piece of pre-galvanised sheet steel and powder coated RAL7032 (Pebble Grey) incorporating the same "I" frame structure.

3 FANS

Kelvion offer three phase AC or EC axial fans for use as standard. The fan sets have been optimised for the range of module options, with the latest innovations such as AxiTop, ZA Plus and Flow grid all available through our selection program.

- 6, 8 , 12 and EC pole 3 phase
- 800mm, 900mm and 910mm diameter fan set options
- 1 to 20 fans
- Motor rating: IP54
- Rated Frequency: 50/60 Hz
- All fan sets are ErP2015 compliant
- Guard: Metal Wire (Black)
- Temperature Range: -30°C to +80°C (+50 for star or 230V)
- Temperature Range: -40°C to +70°C (+60 for 60Hz)

3 Coil

Kelvion Standard coil for the Gas cooler range is manufactured from G -fin tube configuration which is suitable for most applications. The fin (12FPI) incorporates 8 mm hole on 25.4 mm equilateral centres, mechanically bonded to 8 mm OD Cu DHP tubes with aluminium fins.

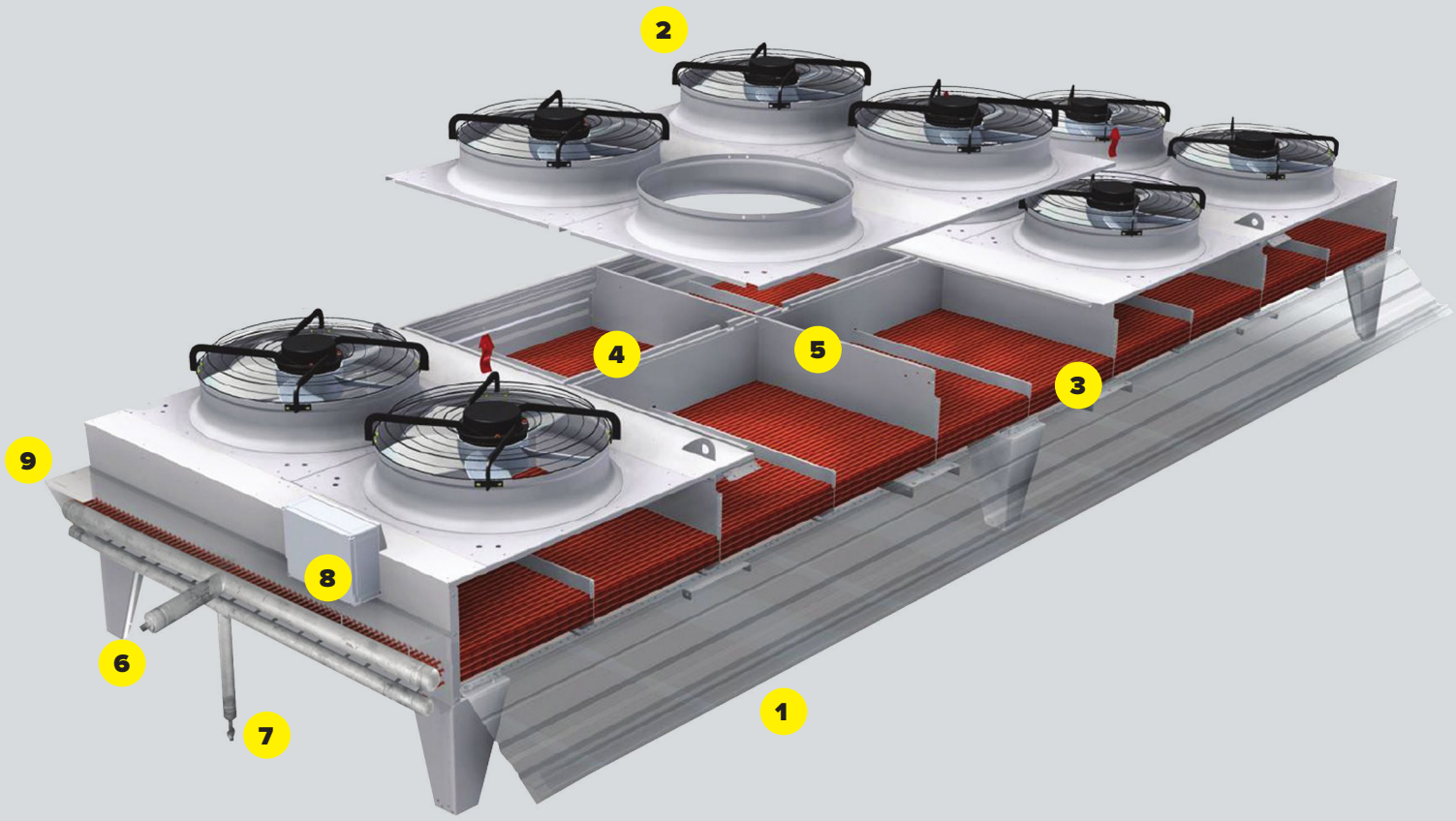
- Tube Diameter = 8mm
- Tube Pitch across the Airflow = 25.4mm
- Tube Pitch with the Airflow = 22m
- Fin Spacing = 12 FPI
- T-Fin configuration (with St/St tube) offered with units over 7.2m

OPTIONS

- **Legs Extended** - 250mm, 500mm (Standard), 750mm, 1000mm
- **Isolators** - Fan Mounted isolators
- **Packing** - Open crate, Closed boarded crate, Pallet, Hardboard coil protection
- **Stacking** - Flatbed units can be stacked to reduce costs
- **Alternative Fin Material** - Epoxy coated Aluminium, Copper, Blygold, Electro-tinned, Aluminium Magnesium
- **Special Paint** - Alternative unit colours or C_5M Marine coating
- **Terminal Box** - Terminal box for customer control
- **Vertical Arrangement** - Vertical units – no additional cost
- **Control Box** - AC or EC fan motors using pressure or temperature control
- **Model Options** - GF-SJ, GVM, GVL

GF fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
0806 N6 Pole	800mm	A,B,C,D	920	730	4.2	2.3	14.0	4.0
0808 N8 Pole		A,B,C,D	670	550	2.5	1.3	6.2	2.2
091 H6 Pole	900mm	A,B,C,D	910	710	5.5	3.5	28.0	10.0
091 N6 Pole	910mm	A,B,C,D	905	640	5.7	3.3	19.0	11.0
091 N12 Pole		A,B,C,D	440	340	0.85	0.4	2.0	1.5
091 E - EC Technology		A,B,C,D	865-115					
091 P - EC Technology		A,B,C,D	930-90					



4	Centre Baffle	7	Outlet Header
5	Centre Plate	8	Control Box Optional
6	Inlet Header	9	Header Cover

ISO 9001 Quality Management

Nomenclature

G	F	-	P	A	2	04	T	2	H	-	080	N	06	D

Product series:	G = Gas cooler
Unit form:	F = Flatbed
Module width:	M = Narrow, N = Medium, P = Wide
Module length:	A = 1200mm, B = 1500mm, C = 1800mm, D = 2100mm
Fan rows:	1 or 2
Fans per row:	1 - 10
Fin type:	G = 8mm tube, T = 12mm tube
Coil rows:	2, 3, 4
Orientation:	H = Horizontal, V = Vertical
Fan Diameter:	080 = 800mm, 090 = 900mm, 091 = 910mm
Fan type:	N = AC Normal, E = ebm EC, H = AC High power, P = Ziehl EC
Speed options:	6, 8, 12, EC
Motor wiring:	Delta, Star

Capacities: R744: 37.8 kW - 2068.3 kW

Goedhart® KOAL-S GF - Dimensions

Unit	Module	Fan banks	Fan per banks	Dim A	Dim B1	Dim B2	Dim B3	Total Unit Dry Weight (Approx)							
								M		N		P1		P2	
								Al	Cu	Al	Cu	Al	Cu	Al	Cu
								kg	kg	kg	kg	kg	kg	kg	kg
GF_A_01T2	1200	1 or 2	1	1203	1123			214	239	258	294	315	366	365	416
GF_A_01T3	1200	1 or 2	1	1203	1123			226	265	276	330	340	416	390	466
GF_A_01T4	1200	1 or 2	1	1203	1123			239	290	293	366	365	467	415	517
GF_A_02T2	1200	1 or 2	2	2403	2323			369	421	454	526	552	655	649	752
GF_A_02T3	1200	1 or 2	2	2403	2323			394	471	489	597	685	756	699	853
GF_A_02T4	1200	1 or 2	2	2403	2323			419	522	524	669	652	857	749	954
GF_A_03T2	1200	1 or 2	3	3603	3523			525	602	650	758	790	944	934	1088
GF_A_03T3	1200	1 or 2	3	3603	3523			562	678	702	865	865	1095	1009	1239
GF_A_03T4	1200	1 or 2	3	3603	3523			600	753	755	972	939	1247	1083	1391
GF_A_04T2	1200	1 or 2	4	4803	4723			574	676	738	883	921	1126	1112	1316
GF_A_04T3	1200	1 or 2	4	4803	4723			624	777	808	1025	1020	1328	1211	1518
GF_A_04T4	1200	1 or 2	4	4803	4723			673	878	879	1168	1120	1529	1310	1720
GF_A_05T2	1200	1 or 2	5	6003	5923			695	823	900	1081	1124	1381	1362	1618
GF_A_05T3	1200	1 or 2	5	6003	5923			758	950	988	1259	1249	1633	1486	1871
GF_A_05T4	1200	1 or 2	5	6003	5923			820	1076	1075	1437	1373	1885	1611	2123
GF_A_06T2	1200	1 or 2	6	7203	7123	3562	3561	827	971	1061	1278	1328	1635	1613	1920
GF_A_06T3	1200	1 or 2	6	7203	7123	3562	3561	891	1122	1167	1492	1477	1938	1762	2223
GF_A_06T4	1200	1 or 2	6	7203	7123	3562	3561	966	1273	1272	1706	1626	2241	1911	2525
GF_A_07T2	1200	1 or 2	7	8403	8323	3562	4761	969	1149	1254	1507	1562	1921	1895	2254
GF_A_07T3	1200	1 or 2	7	8403	8323	3562	4761	1056	1325	1376	1756	1736	2274	2069	2607
GF_A_07T4	1200	1 or 2	7	8403	8323	3562	4761	1143	1502	1499	2005	1910	2627	2243	2960
GF_A_08T2	1200	1 or 2	8	9603	9523	4762	4761	1091	1296	1415	1705	1766	2176	2146	2555
GF_A_08T3	1200	1 or 2	8	9603	9523	4762	4761	1190	1497	1555	1989	1964	2579	2344	2959
GF_A_08T4	1200	1 or 2	8	9603	9523	4762	4761	1289	1699	1696	2274	2163	2982	2543	3362
GF_A_09T2	1200	1 or 2	9	10803	10723	4762	5961	1212	1443	1577	1902	1969	2430	2396	2857
GF_A_09T3	1200	1 or 2	9	10803	10723	4762	5961	1324	1670	1734	2223	2193	2884	2619	3311
GF_A_09T4	1200	1 or 2	9	10803	10723	4762	5961	1436	1897	1892	2543	2416	3338	2843	3765
GF_A_10T2	1200	1 or 2	10	12003	11923	5962	5961	1334	1590	1738	2100	2173	2685	2646	3159
GF_A_10T3	1200	1 or 2	10	12003	11923	5962	5961	1458	1842	1913	2456	2421	3189	2895	3663
GF_A_10T4	1200	1 or 2	10	12003	11923	5962	5961	1582	2094	2089	2812	2669	3694	3143	4167
GF_B_01T2	1500	1 or 2	1	1503	1423			233	265	281	327	353	417	405	469
GF_B_01T3	1500	1 or 2	1	1503	1423			248	296	303	371	384	480	436	532
GF_B_01T4	1500	1 or 2	1	1503	1423			264	328	326	416	415	543	467	595
GF_B_02T2	1500	1 or 2	2	3003	2923			408	472	500	591	629	757	729	857
GF_B_02T3	1500	1 or 2	2	3003	2923			439	535	544	680	691	883	791	983
GF_B_02T4	1500	1 or 2	2	3003	2923			470	598	588	769	753	1009	853	1110
GF_B_03T2	1500	1 or 2	3	4503	4423			454	550	591	727	776	968	925	1117
GF_B_03T3	1500	1 or 2	3	4503	4423			501	645	657	861	870	1158	1019	1307
GF_B_03T4	1500	1 or 2	3	4503	4423			547	740	723	994	963	1347	1112	1496
GF_B_04T2	1500	1 or 2	4	6003	5923			616	744	797	978	1039	1295	1237	1493
GF_B_04T3	1500	1 or 2	4	6003	5923			678	870	885	1156	1163	1548	1361	1745
GF_B_04T4	1500	1 or 2	4	6003	5923			740	997	973	1334	1288	1800	1485	1998
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GF_B_05T4	1500	1 or 2	5	7503	7423	2962	4461	903	1224	1193	1645	1583	2223	1829	2469
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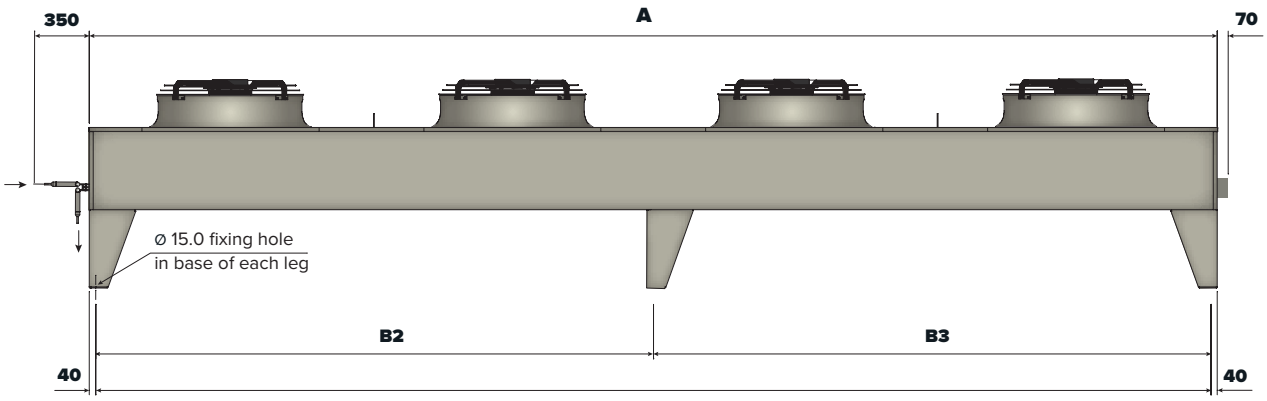
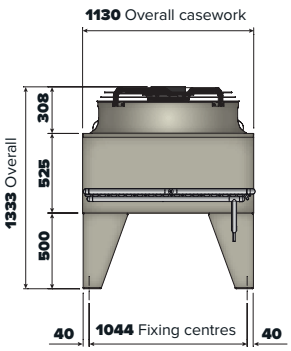
GF_B_06T3	1500	1 or 2	6	9003	8923	4462	4461	913	1262	1282	1688	1692	2268	1987	2563
GF_B_06T4	1500	1 or 2	6	9003	8923	4462	4461	1066	1451	1413	1956	1878	2646	2173	2941
GF_B_07T2	1500	1 or 2	7	10503	10423	4462	5961	1043	1267	1357	1674	1769	2218	2114	2562
GF_B_07T3	1500	1 or 2	7	10503	10423	4462	5961	1152	1488	15111	1985	1987	2659	2331	3004
GF_B_07T4	1500	1 or 2	7	10503	10423	4462	5961	1260	1709	1664	2297	2204	3100	2549	3445
GF_B_08T2	1500	1 or 2	8	12003	11923	5962	5961	1175	1431	1534	1895	2002	2515	2396	2908
GF_B_08T3	1500	1 or 2	8	12003	11923	5962	5961	1299	1684	1709	2251	2251	3019	2664	3413
GF_B_08T4	1500	1 or 2	8	12003	11923	5962	5961	1423	1936	1884	2607	2499	3524	3413	3917
GF_C_01T2	1800	1 or 2	1	1803	1723			252	290	305	359	357	433	410	487
GF_C_01T3	1800	1 or 2	1	1803	1723			271	328	331	413	394	509	447	562
GF_C_01T4	1800	1 or 2	1	1803	1723			289	366	358	466	431	585	485	638
GF_C_02T2	1800	1 or 2	2	3603	3523			446	523	547	656	636	790	740	893
GF_C_02T3	1800	1 or 2	2	3603	3523			483	599	600	763	711	941	814	1045
GF_C_02T4	1800	1 or 2	2	3603	3523			521	674	652	869	785	1093	889	1196
GF_C_03T2	1800	1 or 2	3	5403	5323			486	601	636	798	762	992	916	1146
GF_C_03T3	1800	1 or 2	3	5403	5323			542	715	715	959	874	1219	1027	1373
GF_C_03T4	1800	1 or 2	3	5403	5323			598	828	794	1119	985	1446	1139	1600
GF_C_04T2	1800	1 or 2	4	7203	7123	3562	3561	659	812	857	1074	1020	1327	1224	1531
GF_C_04T3	1800	1 or 2	4	7203	7123	3562	3561	733	964	962	1287	1169	1630	1373	1834
GF_C_04T4	1800	1 or 2	4	7203	7123	3562	3561	807	1115	1067	1501	1318	1933	1522	2137
GF_C_05T2	1800	1 or 2	5	9003	8923	3562	5361	801	993	1048	1319	1248	1633	1502	1887
GF_C_05T3	1800	1 or 2	5	9003	8923	3562	5361	894	1182	1179	1586	1435	2011	1689	2265
GF_C_05T4	1800	1 or 2	5	9003	8923	3562	5361	987	1372	1311	1853	1621	2389	1875	2643
GF_C_06T2	1800	1 or 2	6	10803	10723	5362	5361	974	1204	1269	1594	1507	1968	1811	2272
GF_C_06T3	1800	1 or 2	6	10803	10723	5362	5361	1085	1431	1426	1915	1730	2421	2034	2726
GF_C_06T4	1800	1 or 2	6	10803	10723	5362	5361	1197	1658	1584	2235	1953	2875	2258	3180
GF_D_01T2	2100	1 or 2	1	2103	2023			271	316	328	454	395	484	450	539
GF_D_01T3	2100	1 or 2	1	2103	2023			293	360	359	454	438	573	493	628
GF_D_01T4	2100	1 or 2	1	2103	2023			404	404	390	516	482	661	537	716
GF_D_02T2	2100	1 or 2	2	4203	4123			365	454	474	601	593	772	699	879
GF_D_02T3	2100	1 or 2	2	4203	4123			408	542	536	725	350	949	786	1055
GF_D_02T4	2100	1 or 2	2	4203	4123			631	631	597	850	767	1125	873	1232
GF_D_03T2	2100	1 or 2	3	6303	6223			577	712	740	930	910	1179	1069	1338
GF_D_03T3	2100	1 or 2	3	6303	6223			643	844	832	1117	1041	1444	1199	1602
GF_D_03T4	2100	1 or 2	3	6303	6223			977	977	924	10304	1171	1709	1330	1861
GF_D_04T2	2100	1 or 2	4	8403	8323	4162	4161	731	910	946	1199	1168	1527	1378	1737
GF_D_04T3	2100	1 or 2	4	8403	8323	4162	4161	818	1087	1068	1448	1342	1880	1552	2090
GF_D_04T4	2100	1 or 2	4	8403	8323	4162	4161	1263	1263	1191	1697	1516	2233	1726	2443
GF_D_05T2	2100	1 or 2	5	10503	10423	4162	6261	884	1108	1152	1468	1426	1874	1688	2136
GF_D_05T4	2100	1 or 2	5	10503	10423	4162	6261	993	1329	1305	1780	1643	2316	1905	2578
GF_D_05T3	2100	1 or 2	5	10503	10423	4162	6261	1549	1549	458	2091	1861	2757	2122	3019



M



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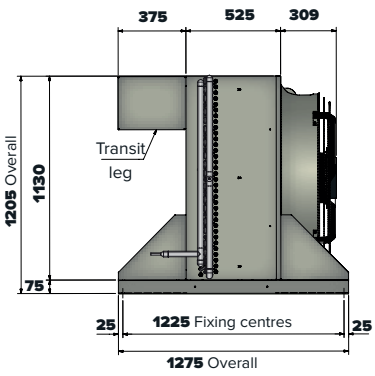

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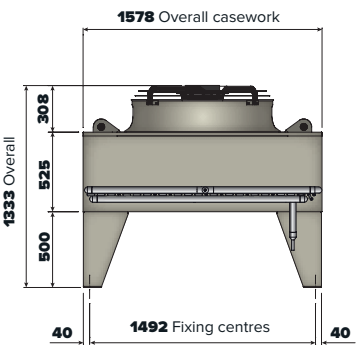

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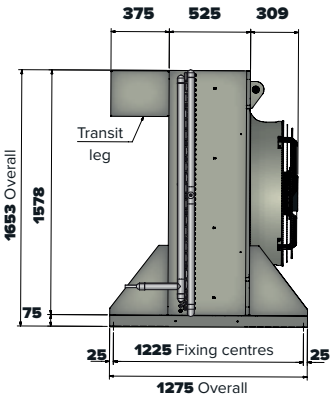
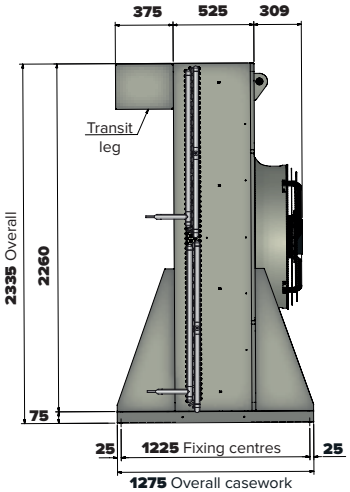
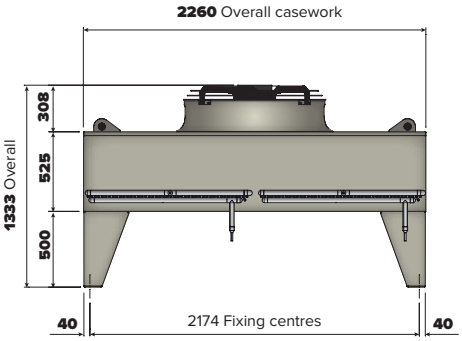


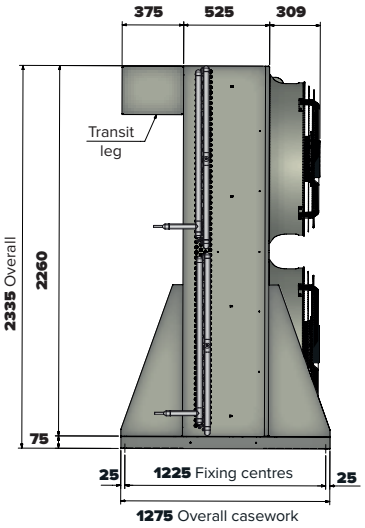
P-1 Vertical



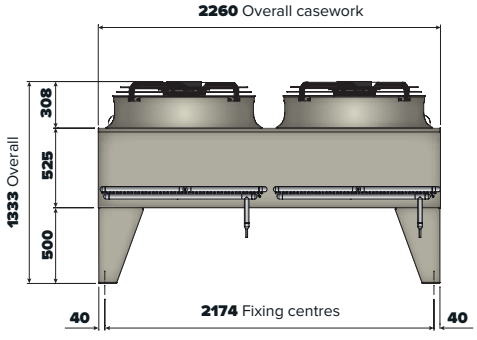
P-1



P-2 Vertical



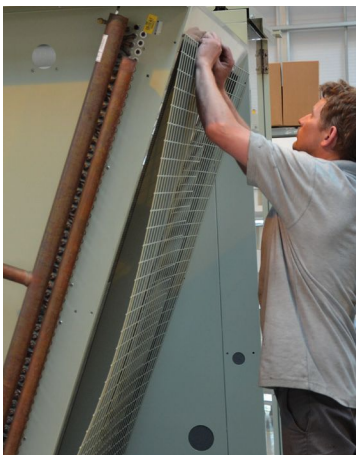
P-2



Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

Goedhart® KOAL-S MV Air cooled condenser

COMMITTED TO TECHNOLOGICAL INNOVATION



The Kelvion V-Bank configuration are suitable for all refrigeration and air conditioning applications and can also be configured as dry air liquid coolers. With a combination of 3 coil widths and 3 module lengths and 2 fans wide the available range can now achieve up to 12 metres long and has an option of 20 fans. The Goedhart® KOAL-S MV range extends the versatility of Goedhart® Air cooled condensers into a V-Bank configuration with a combination of 3 coil widths and 3 module lengths, 2 fans wide. The available range has a duty from 36kW to 1088kW. Kelvion achieves a close specification match by offering three module length options of 1200mm, 1440mm or 1800mm across three coil width options in the small footprint V-Bank formation.

The Goedhart® KOAL-S MV...M has 2 x 1524mm high coils and the Goedhart® KOAL-S MV...L has 2 x 1905mm high coils with 2 fans wide, both sizes offer the choice of 2 to 8 fans in length. Combined with coil sizes from 2 to 4 row coils and multiple standard fan options up to 910mm, this range of V configuration units is comprehensive.

Other features include:

- Grey powder coated casing RAL 7032
- Galvanised steel casing. EN 10327-DX51D-Z275 MB-
- Forklift channels
- Pressure tested and sealed
- Optional fins

Features

- Comprises of 3 coil widths and 3 module lengths
- Standard Copper tube, Aluminium fins
- 1 - 10 fans per row
- Eurovent approved EN 327 & EN 13487

Goedhart® KOAL-S MV Air cooled condenser

MV RANGE PRODUCT PROFILE

1 CASEWORK

The casework is fabricated from pre-galvanised sheet steel with grey polyester powder painted RAL7036 (Pebble Grey), oven cured at 180°C ensures an even, flexible and durable gloss finish, providing excellent corrosion protection, tolerant to UV exposure.

The casework is extended at both ends of the unit to provide protection for the return bends, headers and controls. Each fan chamber is separated by internal baffle plates to prevent induced windmilling of off-cycle fans.

3 Coil

The standard coil for the Goedhart® KOAL-S MV range is manufactured from seamless ½" diameter copper tube employing the latest extended inner surface technology, mechanically expanded into aluminium rippled fin spaced at 2.3mm. The fully collared holes in the fin ensure an efficient and permanent bond between the expanded tube and the fin, giving the most effective heat transfer characteristics.

3 FANS

Kelvion offer three phase AC or EC axial fans. The fan sets have been optimised for the range of module options, with the latest innovations such as AxiTop, ZA Plus and Flow grid all available through our selection program.

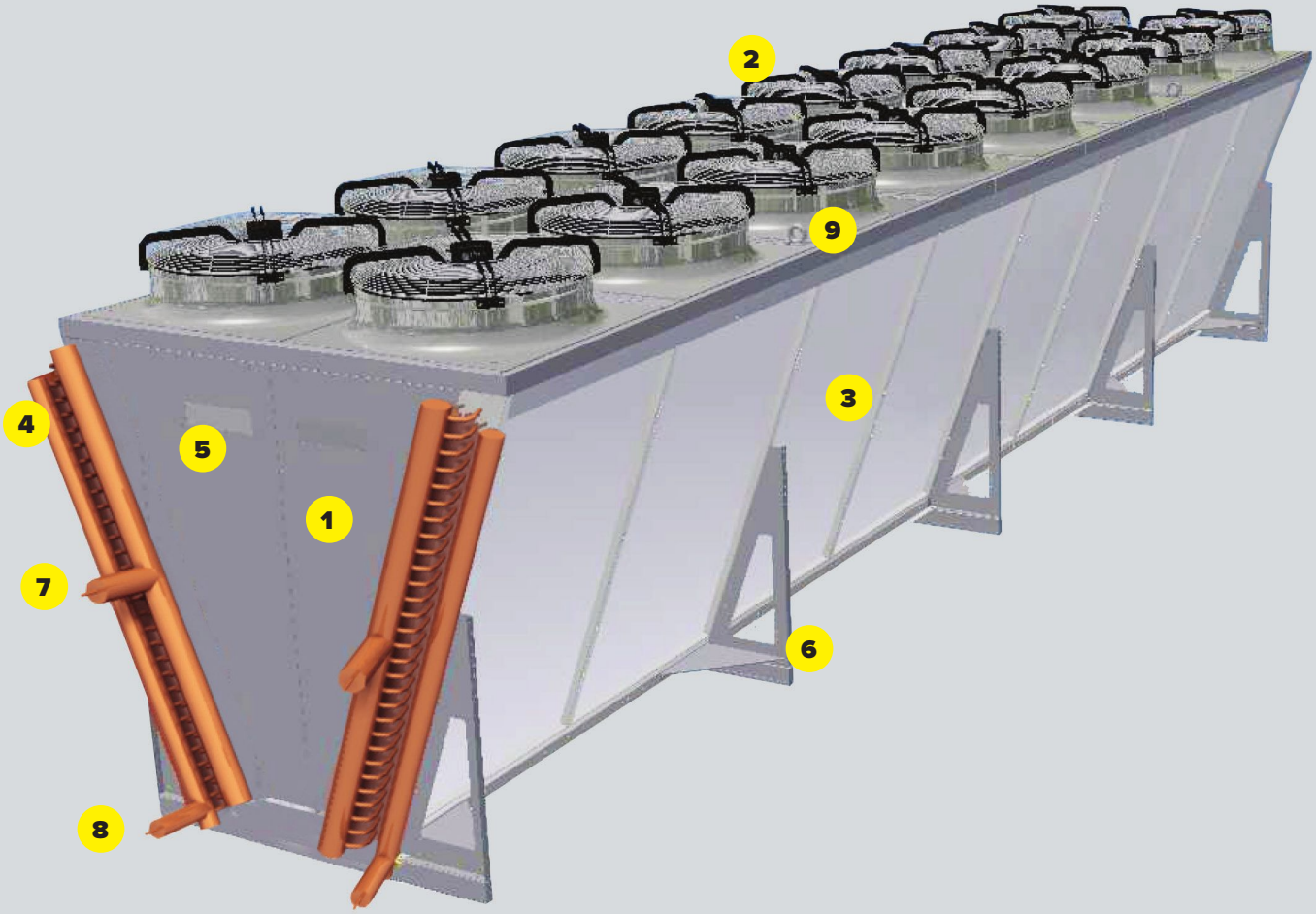
- AC fan sets 6, 8 and 12 2 speed, internal thermal protection as standard
- EC fan sets have a maximum speed of 855rpm
- 800mm, 900mm and 910mm diameter fan set options
- 2 to 20 fans
- Motor rating: IP54
- Rated Frequency: 50/60 Hz
- All fan sets are ErP2015 compliant
- Guard: Metal Wire (Black)
- All AC fan sets motor temperatures of -40°C up to 60°C
- All EC fan sets motor temperatures of -25°C up to 60°C

OPTIONS

- **Isolators** - Fan Mounted isolators
- **Alternative Fin Material** - Epoxy coated Aluminium, Copper, Blygold, Electro-tinned, Aluminium Magnesium
- **Special Paint** - Alternative unit colours or C_5M Marine coating
- **Adiabatic System** - Copper or PVC piping
- **Terminal box** - Terminal box for customer control
- **Control Box** - AC or EC fan motors using pressure or temperature control
- Anti-Vibration mounts
- **Inverter -** Inverter controls for AC fans
- **Mounted Receivers** - Receiver mounting and piping
- **Frames -** Mounting frames
- Special voltage and frequencies

MV fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
0806 N6 Pole	800mm	A,B,C,D	920	730	4.2	2.3	14.0	4.0
0808 N8 Pole		A,B,C,D	670	550	2.5	1.3	6.2	2.2
091 N6 Pole	910mm	A,B,C,D	905	640	5.7	3.3	19.0	11.0
091 N12 Pole		A,B,C,D	440	340	0.85	0.4	2.0	1.5
091 E - EC Technology		A,B,C,D	865-115	-	-	-	-	-
091 P - EC Technology		A,B,C,D	930-90	-	-	-	-	-



4	Header	7	Hot gas inlet
5	Control Box	8	Liquid Outlet
6	Legs	9	Lifting slots

bsi. ISO 9001 Quality Management FM590561

CE

Nomenclature

MV	A	2	6	2	M	-	N8	08	D	-	AL

Range:	**MV**
Module size:	**A = 1200mm,**
	B = 1440mm, C = 1800mm
Bank of fans:	**2**
Fans per bank:	**1 - 10**
Coil row:	**2, 3, 4**
Coil height:	**M = Medium, L = Large**
Fan type:	**refer to fan data**
Motor speed:	**06, 08, 12, EC**
Motor wiring:	**Delta, Star**
Coil material:	**AL** = copper tubes/ aluminium fins,
	AV = Copper tubes with epoxy/ epoxy polyurethane coated aluminium fins,
	CU = copper tubes/ copper fins, **ET** = copper tubes/copper fins electro-tinned,
	BG = copper tube/aluminium fin Blygold coated

Capacities: R404A: M = 29 kW - 1654 kW, L = 34 kW - 1889 kW

Goedhart® KOAL-S MV - Selection data - 910mm 6 pole

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
MVA212M	104.3	91.5	50472	39564	58	51	90	83	4.23	2.95	E	D	159	39	13
MVA222M	209.8	183.9	100980	79128	61	54	93	86	8.47	5.90	E	D	318	68	23
MVA224M	317.5	255.6	88380	64692	61	54	93	86	9.16	6.20	D	D	363	131	43
MVA233M	412.2	346.0	141012	105984	62	55	94	87	13.32	9.15	D	D	715	144	47
MVA264M	59.0	779.5	265176	194148	65	58	97	90	27.48	18.60	D	D	1908	350	113
MVB214M	177.6	144.8	47772	35748	58	51	90	83	4.39	3.04	D	C	382	81	27
MVB232M	351.4	308.6	159408	125964	63	55	95	87	12.24	7.21	E	D	572	118	40
MVB233M	458.1	388.8	149832	115128	62	55	94	87	12.80	8.95	D	D	858	168	55
MVB234M	534,2	436,2	143280	107280	62	55	94	87	13.18	9.13	D	C	1145	223	73
MVB244M	721.5	587.1	191052	143028	63	56	95	88	17.58	12.17	D	C	1526	285	92
MVB254M	895.8	734.2	238824	178812	64	57	95	89	21.98	15.22	D	C	1908	350	113
MVC212M	132.5	115.9	55512	44316	58	52	90	84	3.93	2.81	D	D	239	53	16
MVC222M	266.1	232.6	110988	88632	61	54	93	86	7.87	5.63	D	D	477	95	32
MVC234M	600.4	493.3	151920	117792	62	55	94	87	12.61	8.88	C	C	1431	268	88
MVC243M	694.4	591.4	211500	165672	63	56	95	88	16.39	11.60	D	C	1431	272	87
MVA212L	117.9	104.7	53640	42480	58	51	90	83	4.05	2.86	E	D	199	49	15
MVA223L	312.6	265.1	101124	77940	61	53	93	85	8.46	5.92	D	C	596	128	44
MVA233L	471.1	397.7	151704	116892	62	55	94	87	12.69	8.90	D	C	894	180	59
MVA234L	546.5	446.3	15552	109548	62	55	94	87	40.32	9.09	D	C	1192	229	74
MVA243L	627.3	528.8	202248	155880	64	56	96	88	1.69	11.87	D	D	1192	231	77
MVA264L	1088.9	904.5	290268	219096	65	57	97	89	26.16	18.19	D	C	2385	443	142
MVB213L	170.9	145.8	52884	41400	58	51	90	83	4.09	2.90	D	C	358	79	27
MVB222L	265.6	232.6	110988	88632	61	54	93	86	7.87	5.63	D	D	477	98	33
MVB224L	398.6	329.8	102024	78516	61	53	93	85	4.81	5.92	C	C	954	191	64
MVB243L	699.3	592.4	211500	165672	63	56	95	88	16.39	11.60	D	C	1431	272	90
MVB254L	1009.7	834.5	255096	196308	64	57	96	89	21.03	14.80	C	C	2385	443	142
MVC214L	219.2	183.8	53568	42012	58	51	90	83	4.05	2.88	C	C	596	121	39
MVC233L	573.3	489.1	165312	131148	63	56	95	88	11.89	8.49	C	C	1341	249	81
MVC243L	769.6	661.1	220428	174888	64	57	96	87	15.85	11.33	C	C	1788	334	110
MVC244L	889.9	745.0	214308	167976	63	56	95	88	16.23	11.53	C	C	2385	438	143

800mm 6 pole

MVA212M	95.7	84.9	43236	34740	54	50	86	82	3.13	2.14	D	D	159	39	13
MVA222M	192.4	170.6	86472	69480	57	53	89	85	6.27	4.28	D	D	318	68	23
MVA224M	288.3	245.4	77112	61092	57	51	89	83	6.65	4.41	D	C	636	131	43
MVA233M	373.7	284,2	121104	79380	59	53	91	85	9.75	6.57	D	D	715	144	47
MVA264M	875.2	751.1	231300	183312	61	55	93	87	19.97	13.25	D	C	1908	350	114
MVB214M	159.3	135.3	40752	32436	54	48	86	80	3.23	2.18	C	C	382	81	27
MVB232M	321.2	282.1	135900	107964	58	54	90	86	7.67	5.29	D	C	572	118	40
MVB233M	412.9	358.4	127260	101952	59	54	91	86	9.50	64.70	D	C	585	168	55
MVB234M	480.1	408.3	122292	97308	59	53	91	85	9.71	6.56	C	C	1145	223	73
MVB244M	646.5	548.5	163044	129744	60	54	92	86	12.95	8.75	C	C	1526	285	92
MVB254M	806.8	687.7	203832	162180	61	55	93	87	16.18	10.94	C	C	1908	350	113
MVC212M	120.9	104.3	47160	37152	54	49	86	81	3.16	2.09	D	C	239	53	16
MVC222M	242.7	209.1	94320	9468	57	52	89	84	6.32	4.18	D	C	477	95	32
MVC234M	530.9	449.5	129168	103032	58	54	90	86	9.42	6.45	C	B	1431	268	88
MVC243M	623.4	535.4	178992	142056	59	55	91	87	12.33	8.50	C	C	1431	272	87
MVA212L	107.4	95.3	45648	32616	54	50	86	82	3.05	2.11	D	C	199	49	15
MVA223L	281.5	243.1	85716	58580	57	52	89	84	6.30	4.30	C	C	596	128	44
MVA233L	422.5	364.3	128592	102888	58	54	90	86	9.45	6.45	C	C	894	180	59
MVA234L	489.1	414.1	123696	98532	59	53	91	85	9.65	6.54	C	C	1192	229	74
MVA243L	562.2	483.7	171432	137196	60	55	92	87	12.60	8.61	C	C	1192	231	77
MVA264L	989.1	842.2	247392	197028	61	56	93	88	19.31	13.09	C	C	2385	443	142
MVB213L	152.2	131.9	44748	35496	54	50	86	82	3.08	2.12	C	C	358	79	27
MVB222L	242.4	209.2	94320	74268	57	52	89	84	6.00	4.18	D	C	477	98	33
MVB224L	354.6	301.8	86112	68400	57	52	89	84	6.28	4.30	C	B	954	191	64
MVB243L	625.1	534.7	178992	142056	59	55	91	87	12.33	8.50	C	C	1431	272	90
MVB254L	897.7	763.5	215280	171720	60	56	92	88	15.71	10.75	C	B	2385	443	142
MVC214L	195.1	165.2	45144	35748	54	50	86	82	3.06	2.12	C	B	596	121	39
MVC233L	511.1	435.4	139644	110088	58	54	90	86	9.05	6.30	C	B	1341	249	81
MVC243L	689.9	591.0	186192	146772	59	55	91	87	12.07	8.40	C	B	1788	334	110
MVC244L	791.4	669.2	180612	143028	59	55	91	87	12.26	8.48	C	B	2385	438	143

Goedhart® KOAL-S MV - Selection data - 800mm 8 pole

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
MVA212M	82.7	70.0	33120	25308	47	40	79	72	1,58	0,99	C	B	159	39	13
MVA222M	166.0	140.3	66240	50400	50	43	82	74	3,16	1,98	C	B	318	68	23
MVA224M	231.5	189.8	6084	43092	51	44	83	76	3,31	2,08	C	B	366	131	43
MVA233M	311.3	259.4	90576	69336	52	45	84	77	4,83	3,07	C	B	715	144	47
MVA264M	709.9	584.6	169488	129276	55	48	87	80	9,95	6,24	B	B	1908	350	113
MVB214M	129.0	106.3	30384	23184	48	41	80	73	1,60	1,02	B	B	382	81	27
MVB232M	274.5	234.2	103248	79056	51	45	83	77	3,87	2,44	C	B	572	118	40
MVB233M	345.1	288.0	96408	73368	52	45	84	77	4,77	3,00	B	B	858	168	55
MVB234M	389.2	320.0	91116	69588	53	45	85	77	4,82	3,06	B	B	1145	223	73
MVB244M	522.6	429.2	121500	92772	55	46	87	78	6,43	4,08	B	B	1526	285	92
MVB254M	656.0	540.6	151884	115992	54	47	86	79	8,04	5,11	B	B	1908	350	113
MVC212M	101.8	87.3	35640	27432	46	40	78	72	1,50	0,95	C	B	239	53	16
MVC222M	204.0	174.3	71316	54864	49	43	81	75	3,01	1,91	C	B	477	95	32
MVC234M	432.3	354.3	97668	74160	52	44	84	76	4,75	2,99	B	A	1431	268	88
MVC243M	519.2	430.0	135504	103356	52	45	84	77	6,26	3,93	B	A	1431	272	87
MVA212L	92.9	79.3	34668	26568	47	40	79	72	1,54	0,97	C	B	199	49	15
MVA223L	234.7	195.5	65088	49500	50	43	82	75	3,17	1,99	B	B	596	128	44
MVA233L	264.3	216.9	61596	46980	51	43	83	75	3,20	2,03	B	B	795	180	59
MVA234L	351.4	292.0	97632	74232	52	45	84	77	4,76	2,99	B	B	894	229	74
MVA243L	395.0	324.1	92376	70488	53	45	85	77	4,81	3,05	B	B	1192	231	77
MVA264L	466.4	387.3	130176	98964	53	46	85	78	6,34	3,98	B	B	1192	443	142
MVB213L	804.2	661.9	184752	140976	55	48	87	80	9,62	6,10	B	B	2385	79	27
MVB222L	127.9	107.0	33876	25848	47	40	79	72	1,56	0,98	B	B	358	98	33
MVB224L	204.2	174.8	71316	4464	49	43	81	75	3,01	1,91	C	B	477	191	64
MVB243L	518.2	431.5	135504	103356	52	46	84	78	6,26	3,93	B	B	1431	272	90
MVB254L	734.6	600.5	162792	123588	54	46	86	78	7,93	4,98	B	A	2385	443	142
MVC214L	159.6	131.4	34128	26028	47	40	79	72	1,55	0,97	B	A	596	121	39
MVC233L	423.1	352.9	105516	80856	51	44	83	76	4,56	2,89	B	A	1341	249	79
MVC243L	574.5	480.7	140688	107820	52	45	84	77	6,08	3,86	B	A	1788	334	110
MVC244L	646.5	529.0	136512	104148	52	45	84	77	6,22	3,91	B	A	2385	438	143

800mm 12 pole (12 pole fan set option is not ERP compliant)

MVA212M	60.0	54.0	20016	15840	35	29	67	61	0.61	0.34	B	A	159	39	13
MVA222M	121.4	108.5	40032	32652	38	32	70	64	1.22	0.68	B	A	318	68	23
MVA224M	160.0	138.2	34128	27612	38	32	70	64	1.27	0.74	A	A	636	131	43
MVA233M	219.8	192.7	54612	44460	40	34	72	66	1.86	1.06	A	A	715	144	47
MVA264M	482.6	417.8	102384	82872	43	36	75	68	3.81	2.23	A	A	1908	350	113
MVB214M	88.0	76.0	18216	14832	35	29	67	61	0.62	0.35	A	A	382	81	27
MVB232M	201.8	180.4	62568	51228	39	34	71	66	2.01	0.84	A	A	572	118	40
MVB233M	242.4	213.5	57816	47160	39	33	71	65	1.84	1.04	A	A	858	168	55
MVB234M	264.9	228.5	54612	44496	40	34	72	66	1.86	1.06	A	A	1145	223	73
MVB244M	356.8	307.7	72792	59292	41	35	73	67	2.48	1.42	A	A	1526	285	92
MVB254M	444.1	384.4	91008	74124	42	32	74	64	3.10	1.77	A	A	1908	350	113
MVC212M	75.2	67.0	21636	17604	35	29	67	61	0.60	0.33	A	A	239	53	16
MVC222M	150.8	134.3	43272	35244	38	32	70	64	1.20	0.66	A	A	477	95	32
MVC234M	295.1	251.6	58644	47340	39	34	71	66	1.83	1.04	A	A	1431	268	88
MVC243M	365.5	317.9	81864	66456	40	34	72	66	2.43	1.36	A	A	1431	272	87
MVA212L	68.3	61.2	20988	17208	35	29	67	61	0.60	0.33	A	A	199	49	15
MVA223L	165.0	144.8	39024	31932	38	31	70	63	1.22	0.69	A	A	596	128	44
MVA233L	247.3	217.8	58536	47880	39	34	71	66	1.83	1.03	A	A	894	180	59
MVA234L	270.3	232.9	55368	45036	40	34	72	66	1.85	1.05	A	A	1192	229	74
MVA243L	330.5	290.0	78012	63864	40	35	72	67	2.45	1.38	A	A	1192	231	77
MVA264L	546.4	470.3	110736	90108	42	36	74	68	3.70	2.11	A	A	2385	443	142
MVB213L	90.2	78.5	20484	16596	35	29	67	61	0.60	0.34	A	A	358	79	27
MVB222L	150.7	134.2	43272	35244	38	32	70	64	1.20	0.66	A	A	477	98	33
MVB224L	196.7	167.8	39096	31536	37	32	69	64	1.22	0.69	A	A	954	191	64
MVB243L	366.1	319.0	81864	66456	40	35	72	67	2.43	1.36	A	A	1431	272	90
MVB254L	496.4	424.5	97776	78876	41	35	73	67	3.06	1.73	A	A	2385	443	142
MVC214L	107.1	92.8	20484	16596	39	29	71	61	0.60	0.34	A	A	596	121	39
MVC233L	298.2	258.6	63648	51696	40	33	72	65	1.81	1.01	A	A	1341	249	79
MVC243L	400.9	347.5	84852	68760	40	34	72	66	2.42	1.34	A	A	1788	334	110
MVC244L	433.5	374.2	81900	66312	40	34	72	66	2.43	1.36	A	A	2385	438	143

Goedhart® KOAL-S MV - Selection data

910mm 6 pole M High power

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
MVA212M	107.06	95.49	53244	42876	63	57	95	89	4.90	3.49	E	E	159	38	13
MVA222M	214.12	191.87	106488	85752	64	69	96	92	9.79	6.99	E	E	318	68	23
MVA232M	321.17	288.28	159732	128664	67	60	99	92	14.69	10.48	E	E	477	102	35
MVA224M	329.02	275.90	94932	73800	64	58	96	90	10.15	7.19	D	D	636	131	43
MVA233M	426.47	366.54	149940	118080	67	61	99	93	15.02	10.61	E	E	714	144	47
MVA252M	540.64	551.16	233220	227700	69	62	101	94	24.49	17.49	E	E	795	161	53
MVA264M	993.98	834.27	284796	221364	70	64	102	96	30.46	21.57	D	D	1908	349	113
MVA282M	865.03	769.53	425952	343080	71	65	103	98	39.18	27.94	E	E	1272	239	79
MVA292M	973.16	867.96	479196	385956	71	64	103	96	44.08	31.43	E	E	1431	265	88
MVB212M	119.32	106.07	55440	45108	63	57	95	89	4.81	3.50	E	E	191	45	15
MVB214M	183.79	154.63	51120	39888	62	55	94	87	4.97	3.52	D	D	382	81	27
MVB232M	359.60	319.49	166824	135360	66	60	98	92	14.44	10.49	E	E	571	117	40
MVB242M	486.15	430.04	222408	180468	67	61	99	95	19.25	13.99	E	E	763	150	51
MVB233M	473.24	406.36	158904	126180	67	61	99	93	14.72	10.47	D	D	857	167	55
MVB234M	552.70	465.70	153360	119700	65	61	97	93	14.92	10.57	D	D	1145	222	73
MVB243M	640.03	546.37	211860	168228	68	62	100	94	19.63	13.97	D	D	1145	221	71
MVB244M	746.98	627.19	204480	159624	66	62	98	94	19.89	14.09	D	D	1525	285	92
MVB253M	799.46	684.89	264816	210312	69	63	101	95	24.54	17.46	D	D	1431	266	90
MVB254M	927.34	782.39	255600	199512	67	63	99	95	24.86	17.62	D	D	1908	349	113
MVB274M	1303.95	1093.20	357840	279324	68	64	100	96	34.81	24.66	D	D	2671	485	157
MVB284M	1495.46	1249.37	408996	319248	70	63	102	95	39.78	28.19	D	D	3051	551	178
MVC212M	135.29	120.28	57672	47232	62	56	94	88	4.78	3.50	E	E	239	53	16
MVC222M	270.70	241.30	115344	94464	64	59	96	91	9.56	7.00	E	E	477	94	32
MVC234M	618.62	518.71	161820	128628	65	61	99	93	14.62	10.48	D	D	1431	267	88
MVC243M	713.17	610.96	221796	178668	67	61	99	93	19.28	13.98	D	D	1431	272	87
MVC234M	618.62	518.71	161820	128628	67	61	99	91	14.62	10.48	D	D	1431	267	88
MVC244M	832.39	701.86	215748	171504	68	62	100	94	19.49	13.97	D	D	1908	349	113
MVC254M	1032.32	877.03	269676	214344	69	63	101	95	24.36	17.46	D	D	2385	437	141
MVC264M	1250.49	1048.79	323604	257220	68	62	102	94	29.24	20.96	D	D	2860	518	166

Goedhart® KOAL-S MV - Selection data

910mm 6 pole L High power

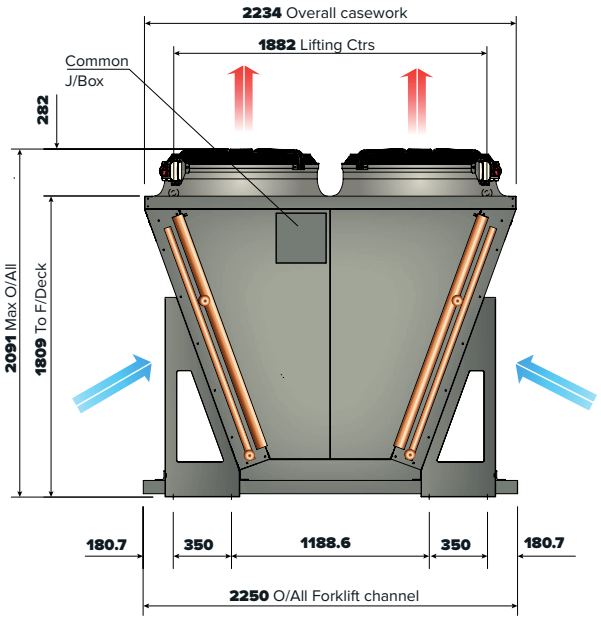
* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

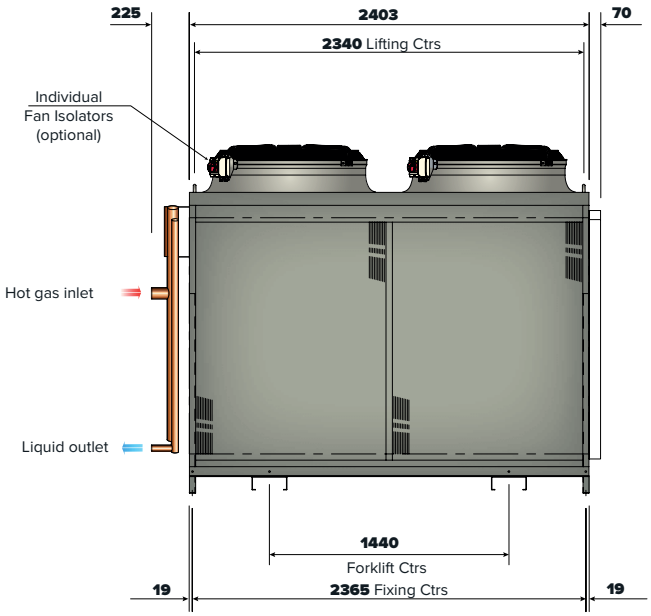
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy rating		Total Surface area	Internal Volume	Ref Charge
	Δ kW	Y kW	Δ m^3/h	Y m^3/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m^2	dm^3	kg
MVA212L	120.45	108.91	56016	45540	63	57	95	89	4.80	3.50	E	E	199	49	17
MVA222L	241.46	219.45	111996	91080	66	60	98	92	9.60	6.99	E	E	396	85	29
MVA232L	362.46	330.76	168012	136620	66	62	98	94	14.40	10.49	E	E	595	126	44
MVA224L	376.59	317.05	103428	81036	65	58	97	90	9.90	7.02	D	D	795	164	54
MVA233L	487.98	418.38	160416	127800	67	61	99	93	14.67	10.48	D	D	893	180	59
MVA254L	953.79	798.19	258516	202608	67	63	99	95	24.76	17.54	D	D	1986	368	121
MVA264L	1137.80	960.85	310248	243144	68	62	100	94	29.71	21.05	D	D	2383	444	142
MVA282L	974.55	871.77	448020	364320	71	64	103	96	38.39	27.98	E	E	1588	299	97
MVA292L	1097.71	989.96	504036	409860	70	66	102	98	43.19	31.48	E	E	1787	337	110
MVB212L	133.83	119.17	57672	47232	63	56	95	88	4.78	3.50	E	E	236	56	17
MVB214L	205.19	172.74	53928	42876	63	57	95	89	4.87	3.49	D	D	477	101	34
MVB232L	402.94	360.73	173016	141696	66	62	98	94	14.34	10.50	E	E	714	148	50
MVB242L	540.96	483.01	230688	188964	69	63	99	95	19.12	14.00	E	E	954	193	64
MVB233L	534.14	454.70	166356	134028	66	60	98	92	14.46	10.49	D	D	1073	215	71
MVB234L	618.52	520.91	161820	128628	67	61	99	93	14.62	10.48	D	D	1431	272	89
MVB243L	714.86	612.40	221796	178668	67	61	99	93	19.28	13.98	D	D	1431	271	90
MVB244L	819.29	695.00	215748	171504	68	61	100	93	19.49	13.97	D	D	1908	356	117
MVB253L	895.27	762.82	277272	223344	68	62	100	94	24.09	17.48	D	D	1787	334	110
MVB254L	1038.81	872.93	269676	214344	69	63	101	95	24.36	17.46	D	D	2385	444	142
MVB274L	1459.68	1221.24	377568	300096	70	64	102	96	34.11	24.45	D	D	3337	608	196
MVB284L	1659.86	1395.71	431496	342972	69	65	103	97	38.98	27.94	D	D	3814	705	224
MVC212L	150.23	133.63	59184	48636	70	57	102	89	4.77	3.49	D	D	297	65	22
MVC222L	301.44	267.22	118368	97272	73	58	105	90	9.54	7.14	D	D	595	124	40
MVC234L	675.05	573.99	168156	135792	66	60	98	92	14.39	10.49	C	C	1787	334	110
MVC243L	750.55	683.53	229464	187164	67	63	99	95	19.12	14.00	D	D	1787	334	110
MVC234L	675.05	573.99	168156	135792	66	60	98	92	14.39	10.49	C	C	1787	334	110
MVC244L	914.33	774.80	224208	181044	67	63	99	93	19.19	13.99	C	C	2385	438	143
MVC254L	1128.10	969.50	280296	226296	68	63	100	95	23.99	17.48	C	C	2981	545	175
MVC264L	1355.38	1158.07	336348	271584	70	64	102	96	28.78	20.98	C	C	3577	648	208

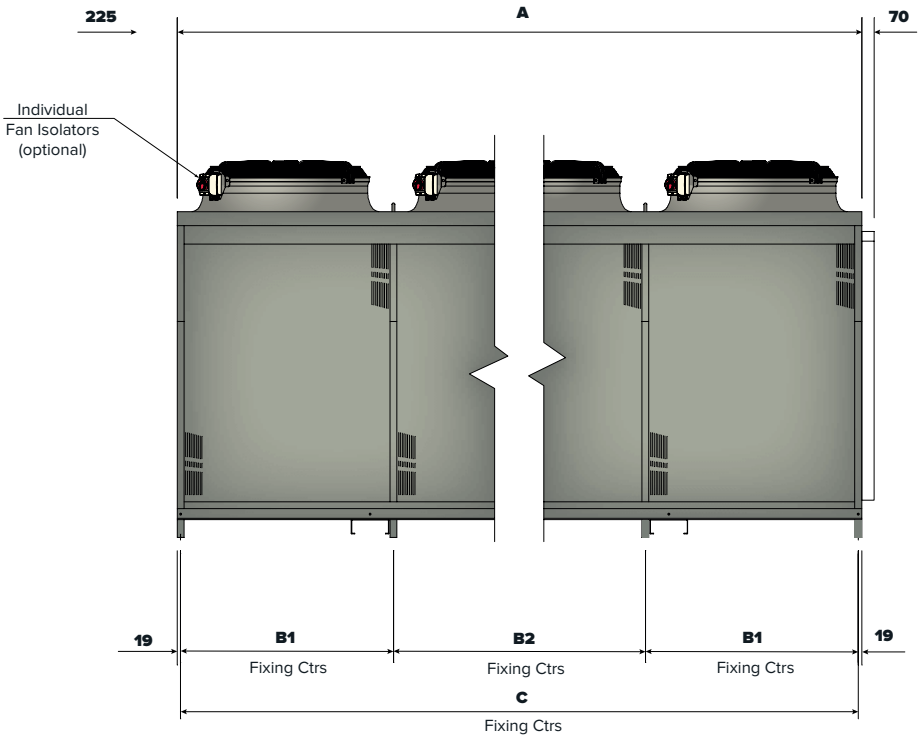
Goedhart® KOAL-S MV...M Dimensions

Model		Size	No. of fans	A Overall casework	B1	B2	C	Approx dry weight	
								AL/AV	CU/ET
				mm	mm	mm	mm	kg	kg
MVA	222	M	4	2403	N/A	N/A	2365	652	798
MVA	223	M	4	2403	N/A	N/A	2365	720	939
MVA	224	M	4	2403	N/A	N/A	2365	788	1081
MVA	232	M	6	3603	1183	1200	3565	986	1206
MVA	233	M	6	3603	1183	1200	3565	1089	1418
MVA	234	M	6	3603	1183	1200	3565	1191	1530
MVA	242	M	8	4803	1183	2400	4765	1316	1609
MVA	243	M	8	4803	1183	2400	4765	1453	1892
MVA	244	M	8	4803	1183	2400	4765	1589	2175
MVA	252	M	10	6003	2383	1200	5965	1646	2012
MVA	253	M	10	6003	2383	1200	5965	1817	2366
MVA	254	M	10	6003	2383	1200	5965	1987	2719
MVA	262	M	12	7203	2383	2400	7165	1976	2415
MVA	263	M	12	7203	2383	2400	7165	2181	2840
MVA	264	M	12	7203	2383	2400	7165	2385	3264
MVA	272	M	14	8403	3583	1200	8365	2307	2819
MVA	273	M	14	8403	3583	1200	8365	2545	3314
MVA	274	M	14	8403	3583	1200	8365	2784	3809
MVA	282	M	16	9603	3583	2400	9565	2637	3223
MVA	283	M	16	9603	3583	2400	9565	2910	3788
MVA	284	M	16	9603	3583	2400	9565	3183	4354
MVB	222	M	4	2883	N/A	N/A	2845	761	937
MVB	223	M	4	2883	N/A	N/A	2845	844	1107
MVB	224	M	4	2883	N/A	N/A	2845	926	1277
MVB	232	M	6	4323	1423	1440	4285	1144	1407
MVB	233	M	6	4323	1423	1440	4285	1267	1662
MVB	234	M	6	4323	1423	1440	4285	1390	1917
MVB	242	M	8	5763	1423	2880	5725	1527	1878
MVB	243	M	8	5763	1423	2880	5725	1690	2217
MVB	244	M	8	5763	1423	2880	5725	1854	2557
MVB	252	M	10	7203	2863	1440	7165	1908	2347
MVB	253	M	10	7203	2863	1440	7165	2113	2772
MVB	254	M	10	7203	2863	1440	7165	2317	3196
MVB	262	M	12	8643	2863	2880	8602	2291	2818
MVB	263	M	12	8643	2863	2880	8602	2536	3327
MVB	264	M	12	8643	2863	2880	8602	2782	3836
MVC	222	M	4	3603	1783	N/A	3565	918	1138
MVC	223	M	4	3603	1783	N/A	3565	1021	1350
MVC	224	M	4	3603	1783	N/A	3565	1123	1562
MVC	232	M	6	5403	1783	1800	5365	1379	1709
MVC	233	M	6	5403	1783	1800	5365	1533	2027
MVC	234	M	6	5403	1783	1800	5365	1686	2345
MVC	242	M	8	7203	1783	3600	7165	1840	2279
MVC	243	M	8	7203	1783	3600	7165	2045	2704
MVC	244	M	8	7203	1783	3600	7165	2249	3128
MVC	252	M	10	9003	3583	1800	8965	2301	2850
MVC	253	M	10	9003	3583	1800	8965	2557	3380
MVC	254	M	10	9003	3583	1800	8965	2813	3910

Note: For 12 metre units please refer to the selection software or call your Goedhart® air cooler representative. Total unit dry weight is dependent upon the coil material used (AL/AV = Copper tubes with Aluminium or Copper tubes with 2 pack epoxy coated aluminium fns, CU = Copper tubes with Copper fins or Copper fins electro-tinned).





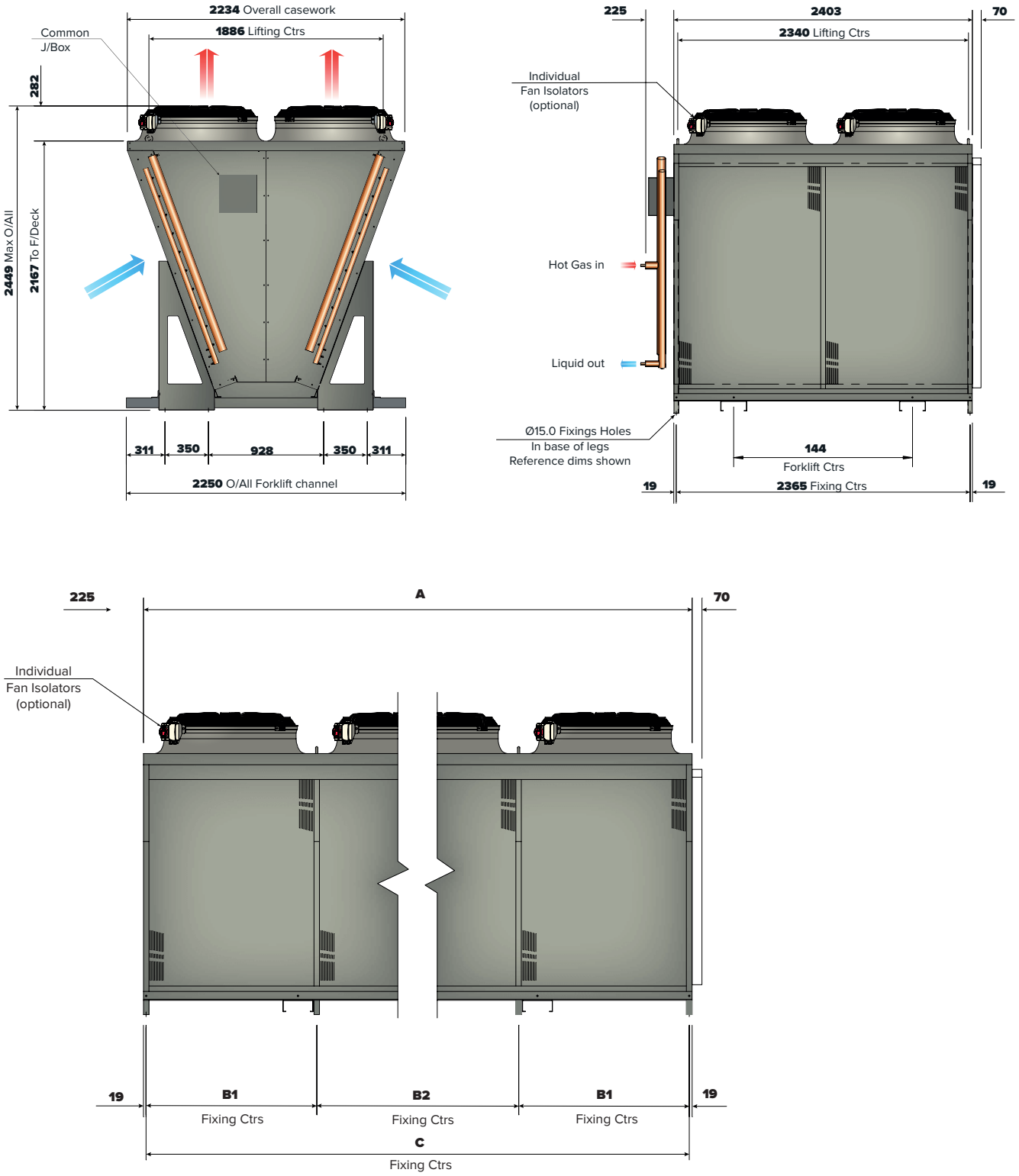


Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

Goedhart® KOAL-S MV...L Dimensions

Model		Size	No. of fans	A Overall casework	B1	B2	C	Approx dry weight	
								AL/AV	CU/ET
				mm	mm	mm	mm	kg	kg
MVA	222	L	4	2403	N/A	N/A	2365	781	964
MVA	223	L	4	2403	N/A	N/A	2365	867	1141
MVA	224	L	4	2403	N/A	N/A	2365	953	1319
MVA	232	L	6	3603	1183	1200	3565	1182	1456
MVA	233	L	6	3603	1183	1200	3565	1310	1721
MVA	234	L	6	3603	1183	1200	3565	1438	1987
MVA	242	L	8	4803	1183	2400	4765	1576	1942
MVA	243	L	8	4803	1183	2400	4765	1747	2296
MVA	244	L	8	4803	1183	2400	4765	1918	2649
MVA	252	L	10	6003	2383	1200	5965	1972	2429
MVA	253	L	10	6003	2383	1200	5965	2185	2871
MVA	254	L	10	6003	2383	1200	5965	2398	3313
MVA	262	L	12	7203	2383	2400	7165	2367	2916
MVA	263	L	12	7203	2383	2400	7165	2623	3446
MVA	264	L	12	7203	2383	2400	7165	2878	3976
MVA	272	L	14	8403	3583	1200	8365	2762	3413
MVA	273	L	14	8403	3583	1200	8365	3061	4021
MVA	274	L	14	8403	3583	1200	8365	3359	4639
MVA	282	L	16	9603	3583	2400	9565	3158	3890
MVA	283	L	16	9603	3583	2400	9565	3499	4598
MVA	284	L	16	9603	3583	2400	9565	3839	5303
MVB	222	L	4	2883	N/A	N/A	2845	918	1138
MVB	223	L	4	2883	N/A	N/A	2845	1021	1350
MVB	224	L	4	2883	N/A	N/A	2845	1124	1563
MVB	232	L	6	4323	1423	1440	4285	1379	1709
MVB	233	L	6	4323	1423	1440	4285	1533	2027
MVB	234	L	6	4323	1423	1440	4285	1687	2345
MVB	242	L	8	5763	1423	2880	5725	1841	2280
MVB	243	L	8	5763	1423	2880	5725	2045	2704
MVB	244	L	8	5763	1423	2880	5725	2250	3128
MVB	252	L	10	7203	2863	1440	7165	2299	2848
MVB	253	L	10	7203	2863	1440	7165	2554	3378
MVB	254	L	10	7203	2863	1440	7165	2810	3908
MVB	262	L	12	8643	2863	2880	8602	2760	3419
MVB	263	L	12	8643	2863	2880	8602	3067	4055
MVB	264	L	12	8643	2863	2880	8602	3374	4691
MVC	222	L	4	3603	1783	N/A	3565	1114	1388
MVC	223	L	4	3603	1783	N/A	3565	1242	1653
MVC	224	L	4	3603	1783	N/A	3565	1370	1919
MVC	232	L	6	5403	1783	1800	5365	1672	2084
MVC	233	L	6	5403	1783	1800	5365	1864	2481
MVC	234	L	6	5403	1783	1800	5365	2056	2879
MVC	242	L	8	7203	1783	3600	7165	2195	2744
MVC	243	L	8	7203	1783	3600	7165	2486	3310
MVC	244	L	8	7203	1783	3600	7165	2742	3840
MVC	252	L	10	9003	3583	1800	8965	2753	3439
MVC	253	L	10	9003	3583	1800	8965	3109	4138
MVC	254	L	10	9003	3583	1800	8965	3428	4800

Note: For 12 metre units please refer to the selection software or call your Goedhart® air cooler representative. Total unit dry weight is dependent upon the coil material used (AL/AV = Copper tubes with Aluminium or Copper tubes with 2 pack epoxy coated aluminium fns, CU = Copper tubes with Copper fins or Copper fins electro-tinned).



Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

ADIABATIC SYSTEMS PRODUCT PROFILE

The Adiabatic cooling system is designed to enhance the thermal performance of air-cooled condensers and dry air coolers by reducing the effective incoming air temperature. Temperature reduction is achieved by spraying water into the incoming air via a series of sparge pipes and nozzles located adjacent to the heat exchange coils. The energy used to evaporate the spray water results in a reduction in air temperature and an increase in humidity. We are offering the Behring technology ensuring a microbiologic control of water, in combining a destruction of biofilm (aggregate of solid particles potentially containing bacteria) by hydrodynamic cavitation, followed by a specific UV treatment suited to intermittent flows.

Adiabatic Features - The following benefits and features may be achieved when fitting adiabatic systems:

- Fluid temperatures lower than the ambient dry bulb can be achieved when conditions are suitable.
- Reduction in physical size of plant.
- Increasing the capacity on existing systems.
- Standby - used as emergency capacity on critical applications or upgrades.

A sequence of operation has been developed:

- To ensure no free standing water is left in the system when inactive for long periods.
- Water in the supply pipe flushes the system before high pressure nozzle spraying starts

SYSTEM DESCRIPTION

The adiabatic cooling systems are made up of two principal assemblies. The adiabatic control box, which can be factory fitted to air-cooled condensers and dry air coolers. The sparge and nozzle assembly is factory fitted to V bank units and supplied loose (for shipment) on flat bed units. These items are also available as a retro fit kit for site upgrades. Three versions of the adiabatic control box are available:

- **Option 1:** Low pressure spraying - Without a pressurisation pump where the supply water pressure, at design low rate, is not less than 5 bar.
- **Option 2:** Average pressure spraying - A low flow rate pressurisation pump where the supply water pressure, at design flow rate, is not less than 2 bar.
- **Option 3:** High pressure misting - A high pressurisation pump (>100bars) where the supply water pressure, at design flow rate, is not less than 2 bar.

All adiabatic control boxes are fitted with water strainer, mains inlet solenoid valve, vent solenoid valve, pressure regulator and pressure gauges, pressure switch, ultraviolet lamp, hydrodynamic cavitator, scale inhibitor and a 230-volt control panel. The electronic controls are mounted in a polycarbonate box and contain a mains isolator, adiabatic sequence controller and transformer. Water is sprayed into the air stream via a sparge system made of stainless steel pipes fitted with atomising nozzles and connected together with push fittings. A drain solenoid is fitted to the lowest part of the system.

ADIABATIC SEQUENCE

When water is passed through the ultra-violet lamp the dose of UV radiation received is lethal to pathogens - including Legionella - eliminating any health risks. Prior to this, all solid aggregates contained into the water (biofilm) have been destroyed by hydrodynamic cavitation, which will ensure an absolute effectiveness of the UV rays. The adiabatic cooling systems conform to the design requirements of ACOP L8 “control of Legionella bacteria in water systems”and NSF55 Class A. The adiabatic system is normally started from an external volt free signal provided by a capacity control system, BMS or emergency override. The ultraviolet lamp is switched on and the vent and drain solenoids are closed. After a set time delay the main solenoid is opened to flush the system before the pump is started.

The pressure in the system and operation of the ultraviolet lamp as well as cavitation are monitored. If the water flow falls below the required limit, or the lamp fails the system will be closed down. The ultraviolet lamp and vent/drain solenoids are cycled off at the end of the day’s operation, ensuring the lamp operates at full power and that flushing is not repeated unnecessarily, no free standing water is left in the system when inactive for extended periods. At the end of the sequence, the system (downstream of the main solenoid valve) has been fully drained and blown by compressed air.

Technical data

Unit designation	Fan designation models and speeds (Air speed codes)							
Module Ranges	**091H6D**	**091H6S**	**091N6D**	**091N6S**	**080N6D**	**080N6S**	**080N8D**	**080N8S**
RF-A module	A	A	A	B	A	B	B	C
RF-B module	A	A	A	B	A	B	B	C
RF-C module	A	B	A	B	B	B	B	C
RF-D module	A	B	A	B	C	C	C	C
MVA - M	A	B	A	B	A	B	B	C
MVB - M	A	B	A	B	B	B	B	C
MVC - M	B	B	B	B	B	C	C	C
MVA - L	A	B	A	B	B	B	C	C
MVB - L	B	B	B	B	B	C	C	C
MVC - L	B	C	B	C	C	C	C	C

Referring to the above tables choose the Dry Cooler/Condenser module designation and fan speed and then select the relevant letter (A, B or C) for the equivalent air velocity. Refer to the tables below for the selected letter and this will give you the adiabatic effective air on temperature for the specified ambient conditions.

Example 1 - Assume RFA with 080N6D fans = Table A. Assume ambient 32.0 ^{O}C dB / 50% RH / 23.6 ^{O}C dB = 27.0 ^{O}C WB effective adiabatic air on temperature

Example 2 - Assume MVA-L with 080N8D fans = Table C. Assume ambient 35.0 ^{O}C dB / 40% RH / 23.9 ^{O}C dB = 25.0 ^{O}C WB effective adiabatic air on temperature.

Table A - High air velocity

Ambient °C Dry Bulb	30% RH °C Wet Bulb	Effective air on temp °C dB	40% RH °C Wet Bulb	Effective air on temp °C dB	50% RH °C Wet Bulb	Effective air on temp °C dB	60% RH °C Wet Bulb	Effective air on temp °C dB
25.0	14.4	18.6	16.2	19.7	17.9	20.7	19.5	21.7
26.0	15.1	19.5	17.0	20.6	18.7	21.6	20.3	22.6
27.0	15.8	20.3	17.7	21.0	19.5	22.5	21.1	23.5
28.0	16.5	21.1	18.5	22.3	20.3	23.4	22.1	24.8
29.0	17.2	21.9	19.3	23.2	21.2	24.3	22.9	25.3
30.0	17.9	22.7	20.0	24.0	22.0	25.2	23.8	26.3
31.0	18.7	23.6	20.8	24.9	22.8	26.1	24.7	27.2
32.0	19.4	24.4	21.6	25.8	23.6	27.0	25.5	28.1
33.0	20.0	25.2	22.4	26.6	24.5	27.9	26.4	29.0
34.0	20.8	26.1	23.1	27.5	25.3	28.8	27.3	30.0
35.0	21.5	26.9	23.9	28.3	26.1	29.7	28.2	30.9

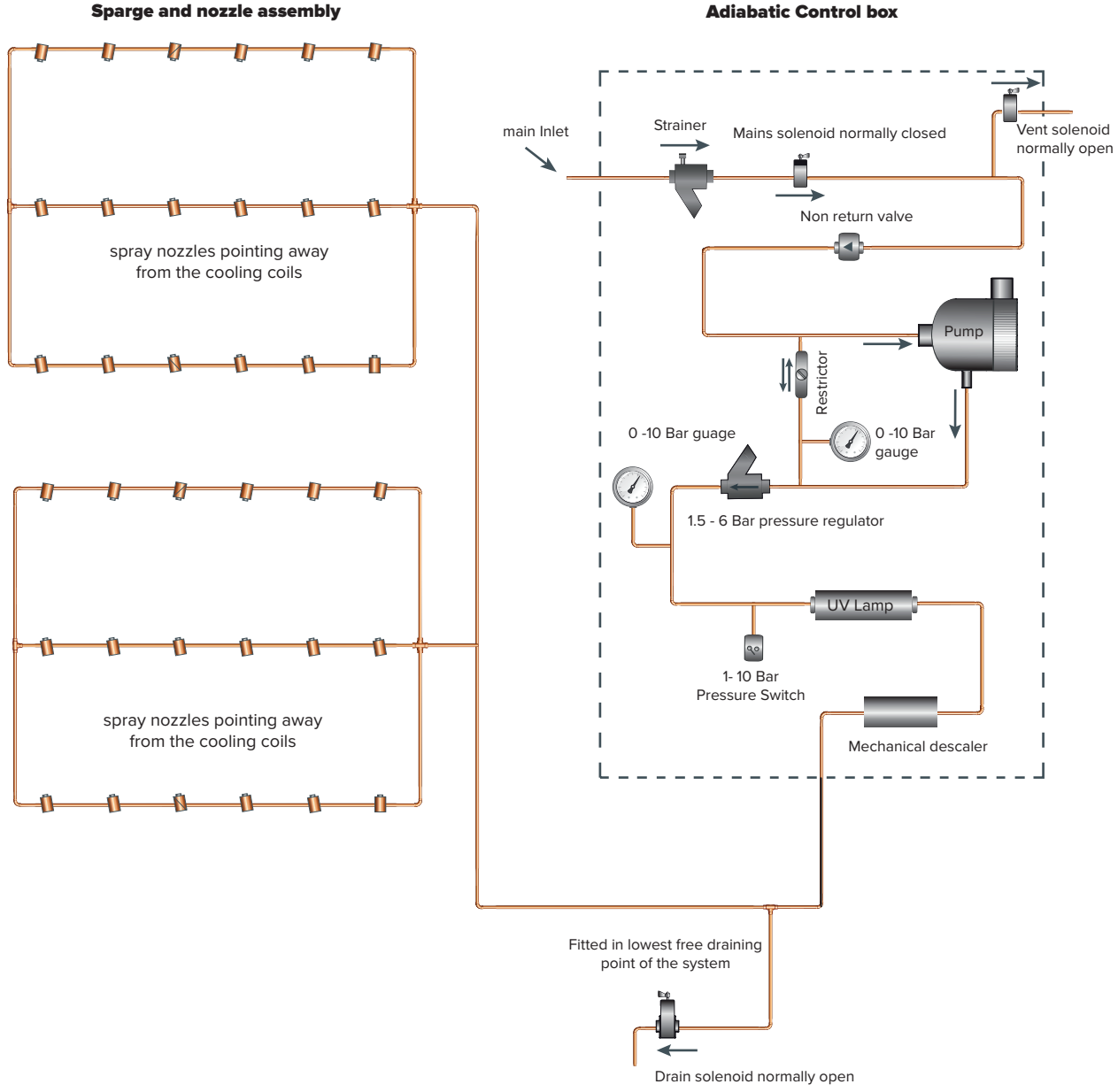
Table B - Medium air velocity

Ambient °C Dry Bulb	30% RH °C Wet Bulb	Effective air on temp °C dB	40% RH °C Wet Bulb	Effective air on temp °C dB	50% RH °C Wet Bulb	Effective air on temp °C dB	60% RH °C Wet Bulb	Effective air on temp °C dB
25.0	14.4	16.5	16.2	18.0	17.9	19.3	19.5	20.6
26.0	15.1	17.3	17.0	18.8	18.7	20.2	20.3	21.4
27.0	15.8	18.0	17.7	19.6	19.5	21.0	21.1	22.3
28.0	16.5	18.8	18.5	20.4	20.3	21.8	22.1	23.3
29.0	17.2	19.6	19.3	21.2	21.2	22.8	22.9	24.1
30.0	17.9	20.3	20.0	22.0	22.0	23.6	23.8	25.0
31.0	18.7	21.2	20.8	22.8	22.8	24.4	24.7	26.0
32.0	19.4	21.9	21.6	23.7	23.6	25.3	25.5	26.8
33.0	20.0	22.6	22.4	24.5	24.5	26.3	26.4	27.7
34.0	20.8	23.4	23.1	25.3	25.3	27.0	27.3	28.6
35.0	21.5	24.2	23.9	26.1	26.1	27.9	28.2	29.6

Table C - Low air velocity

Ambient °C Dry Bulb	30% RH °C Wet Bulb	Effective air on temp °C dB	40% RH °C Wet Bulb	Effective air on temp °C dB	50% RH °C Wet Bulb	Effective air on temp °C dB	60% RH °C Wet Bulb	Effective air on temp °C dB
25.0	14.4	15.5	16.2	17.1	17.9	18.6	19.5	20.1
26.0	15.1	16.2	17.0	17.9	18.7	19.4	20.3	20.9
27.0	15.8	16.9	17.7	18.6	19.5	20.3	21.1	21.7
28.0	16.5	17.7	18.5	19.5	20.3	21.1	22.1	22.7
29.0	17.2	18.4	19.3	20.3	21.2	22.0	22.9	23.5
30.0	17.9	19.1	20.0	21.0	22.0	23.6	23.8	24.4
31.0	18.7	19.9	20.8	21.8	22.8	23.6	24.7	25.3
32.0	19.4	21.9	21.6	23.7	23.6	24.4	25.5	26.2
33.0	20.0	21.3	22.4	23.5	24.5	25.4	26.4	27.1
34.0	20.8	22.1	23.1	24.2	25.3	26.2	27.3	28.0
35.0	21.5	22.9	23.9	25.0	26.1	27.0	28.2	28.9

Control box and pipe schematic



GENERAL INFORMATION AIR COOLED CONDENSERS

Controls and other Options

There are various optional Kelvion control packages available, including variable speed controlled products using Kelvion inverter control or the latest EC fan control systems. The control options include: EC speed control Inverter speed control, Triac speed control, Dual speed step control, Single speed step control. If a speed control method is utilised, Kelvion recommends adding the option of internal motor protection. Kelvion offers a wide range of accessories and additional options, including: anti-vibration mounts and leg extensions - to enhance air flow in difficult locations and Adiabatic cooling system (Please see Kelvion Adiabatic Sectionfor

further details or contact your Goedhart® air cooler representative)

Dewpoint

The capacities shown in this brochure are rated at dew point. This is the pressure/temperature condition at which a refrigerant gas begins to condense on the surface. As some refrigerants have significant glide (e.g. R407A/ 407C), the saturated gas and saturated liquid temperatures are not necessarily the same. It is important to ensure that all the components of a system are selected using the same rating method whilst the use of mid-point does make selection easier, it is difficult to measure on site. At the brochure rating point of 15K DT1, mid point capacities would be approximately 9% higher for R407C than the equivalent dew point figures shown in the tables. Units maybe specified as horizontal (standard) or vertical orientation. Sub-Cooling is achieved by the use of an integrated sub-cooling section which utilises approximately 10% of the coil surface. This provides up to 7K of sub-cooling at the standard rating condition of 15K DT1. Operating below 15K DT1, the amount of sub-cooling is reduced. The total heat rejection capacity, inclusive of sub-cooling, will be reduced by 5%.

Coils

Coils are manufactured from high-quality materials ensuring a quality product without compromise. These coils have been tested extensively in Kelvion's Research & Development facility to ensure performance. Standard coils are manufactured from copper tubes, which are mechanically expanded into fully collared holes in the fins. This ensures an effective and permanent bond between the tube and the fin, maximising heat transfer characteristics. Within the coil casework surround, each fan chamber is separated by internal baffe plates to prevent wind milling of off-cycle fan. Alternative fin materials are available to give added protection in polluted or saline atmospheres: -

- **CU/AV** - Copper tube / Aluminium fins
- **CU/CU** - Copper tubes / copper fins
- **CU/ET** - Copper tubes / electro tinned copper fins
- **CU/AL/BG** - Copper tubes / aluminium fins Blygold coated

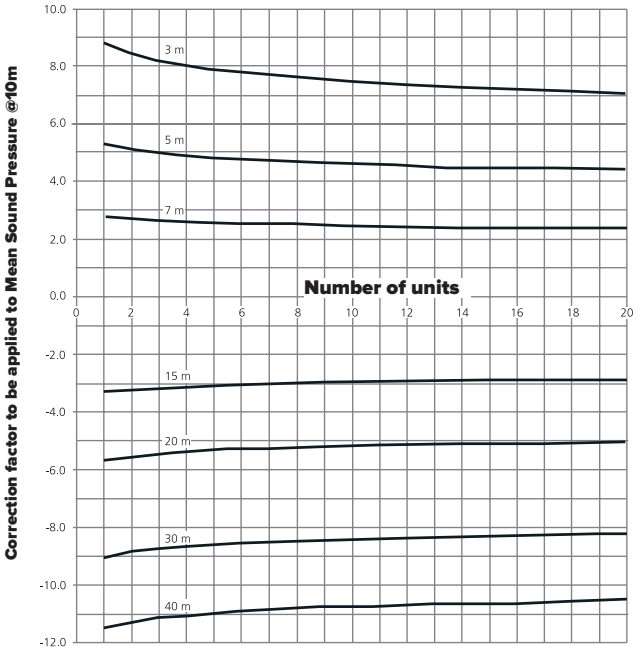
All standard coils are fully leak and strength tested to 36 bar for a maximum operating pressure of 27 bar.

Sound Pressure Correction for Distance

The chart gives correction factors estimating sound pressure values for a distance other than 10 m,
For example, for a 4 fan unit with the catalogue level of 62 dBA the correction factor for 3m is 8.0.
Therefore the sound pressure level at 3 m (mean across the width of the unit) for this unit is 70 dBA. The correction values are averages for all models so the tolerance for noise levels calculated with them is ±3 dBA. Results should be rounded to the nearest 1 dBA.

Formula for calculating noise data at specific distance

Sound power level-sound power correction + Correction factor for multiple fans



Noise Data & Multi-sectioning

The mean unit sound pressure data at 10m is given for each model in the catalogue and is certified as part of the Eurovent scheme. Sound power testing and sound pressure calculation are carried out in accordance with EN13487. Mean sound pressure levels are for a parallel piped surface surrounding the unit on a reflective plane. Power levels and sound spectrum are available on request. All models are suitable for multi-sectioning, permitting more than one refrigeration system to operate with a single condenser. All V-bank, RF units are twin section as standard. Larger V-bank models are manufactured in 4 sections, 2 per coil to ensure they conform to category 1 of the 'Pressure Equipment Directive'.

Fan sets

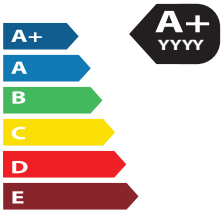
The fan sets chosen for the range offer the best combined performance for air volume, noise and efficiency available in the refrigeration industry, customers can select the latest EC technology, offering high efficiency and speed controllability.

Energy Labelling

Energy Labelling is now part of the Eurovent Certify-All scheme. Rating is based on the ratio of nominal duty to power input with banding as in the table below. Where R= Nominal Capacity Total fan power input.

Star Y

Delta Δ



Extremely low	R≥ 226
Very Low	69 ≤ R< 226
Low	109 ≤ R< 169
Medium	69 ≤ R< 109
High	37 ≤ R< 69
Very High	R< 37

Blygold® Coating

Blygold® coating is applied and cured to protect the finned coils against harsh environmental conditions such as erosion by sand or salt. It provides a barrier and avoids the risk of electrolytic reactions between the two metals involved.

INSTALLATION AND LOCATION GUIDANCE

Before locating the unit in its final location, appropriate load calculations should be completed, taking into consideration functional unit load. This is to ensure its operating platform will withstand the units distributed weight. It is the responsibility of the installer to ensure that the relevant national building legislations are met and the operating surface is suitable to withstand the supplied condenser. For efficient operation, the unit needs airflow to be unrestricted and inlet air to be at ambient temperature. Adjacent building styles, plant and prevailing winds can often cause air currents which, in turn can create down draughts, consequently forcing the discharge air back down into the air intake stream causing high air entering temperatures and subsequent loss of performance. Other adjacent plant, either requiring an air supply or dissipating air will affect the air flow onto the unit. To achieve unrestricted air at ambient temperature, it is necessary to avoid hazards such as:

- Local wind conditions causing warm outlet air to be mixed with the cool inlet
- Inlet air entraining warm exhaust air from other equipment
- Solar heat absorption from surrounding surfaces increasing the local ambient
- Vertical coils should be shaded from the sun

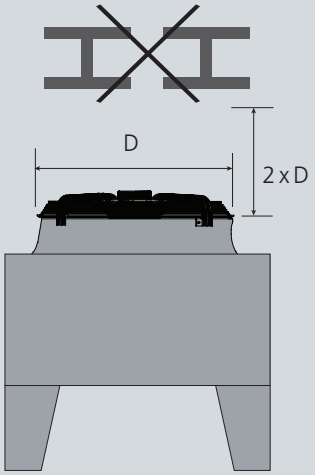
Adding effects together, it is not unusual for there to be a 5 K temperature increase in inlet air temperature over and above ambient. This obviously has a serious effect on the performance. Sound pressure levels away from the unit will be affected by its surrounding objects/obstructions such as solid walls resulting in higher than specified levels of sound pressure.

Vertical units with AC fan speeds <400 rpm are not available as wind can overcome the power of the motor, making it impossible to start.

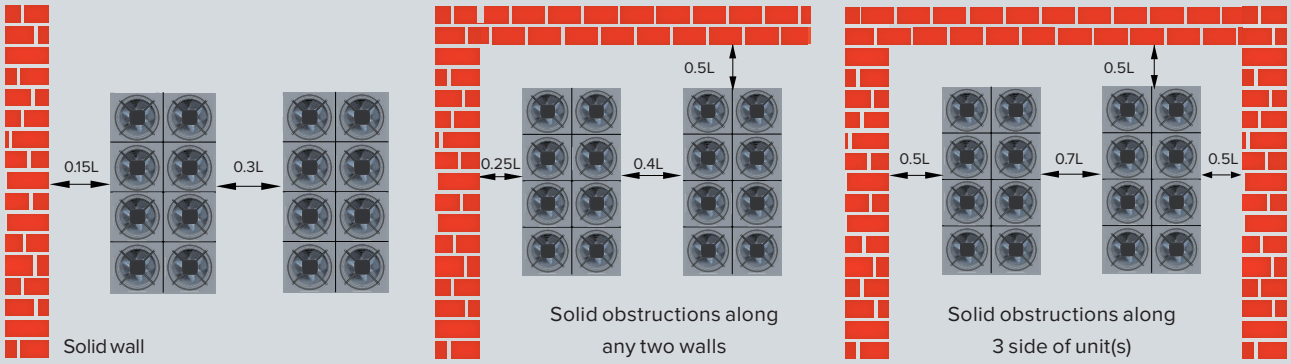
Detailed below are some guidelines for location and installation of the unit. These guidelines are applicable to flatbed and V bank units. It's recommended to allow maximum distance wherever space is available.

1. Avoid obstructions within 2 x diameter of the fan outlet
2. Recommended dimensions for location of units to avoid inlet or outlet restrictions objects such as walls. Extended legs offer a cost effective way to reduce warm air recirculation, reducing inlet flow velocities and increasing the average distance between warm and cool air.
3. Avoid wind creating additional pressure for fans to work, against, particularly at low speed - < 400 rpm
4. Avoid inlet air being drawn from above the height of the outlet.
5. Avoid outlet air pulled down between adjacent units.

1

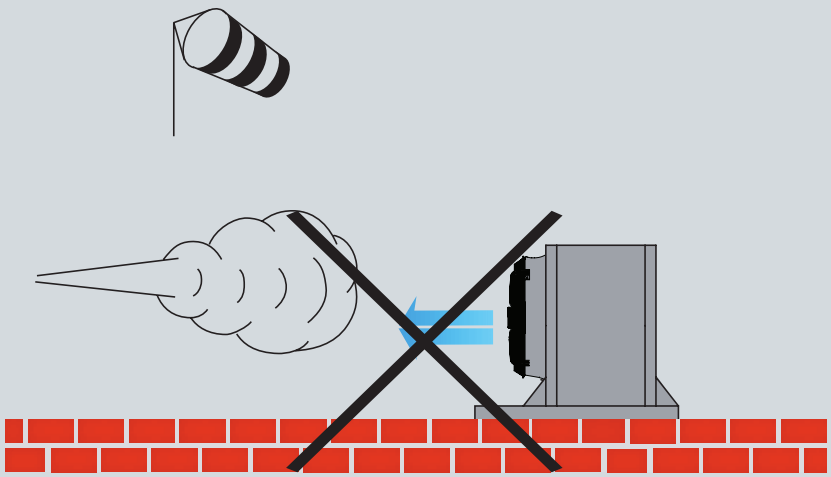


2



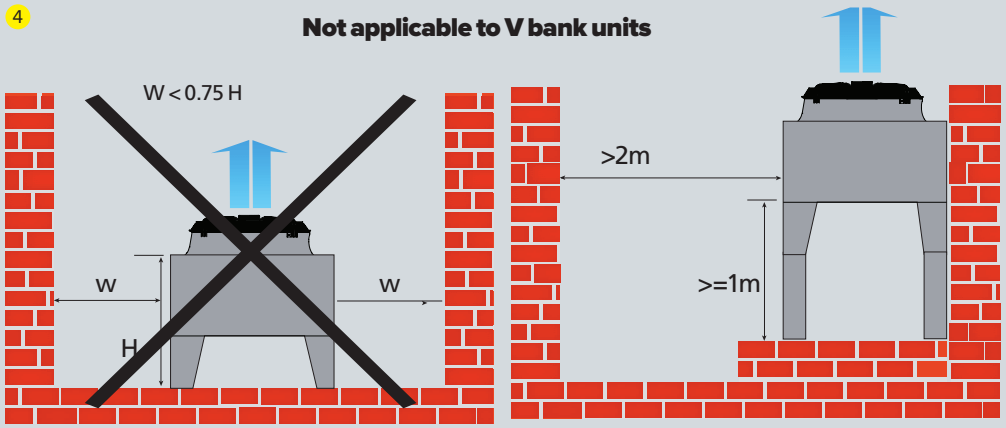
Note: L = Unit Length W= Width

3

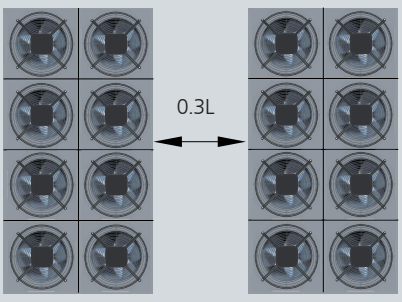


4

Not applicable to V bank units



5



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Kelvion

Searle DSR dual discharge cooler

RELIABLE, AFFORDABLE ENGINEERING

YOUR BENEFITS

- **The DSR range from Kelvion are ceiling mounted dual discharge coolers:** With low profile and low air velocity, they have been designed for cold rooms, laboratories, food preparation areas and are available for either low or high temperature applications.
- **The revolutionary design combines compactness with efficiency:** The range calls on the experiences and designs of previous Searle coolers and provides the opportunity for close temperature control, with minimum energy demands from a compact, unobtrusive unit.
- **Enhanced standard DSR range for CO_2 refrigeration applications.** Utilising the same coil configuration as other Kelvion unit coolers, such as the KME and KEC, the DSR is the ideal solution for compact dual discharge CO_2 applications. Factory tested to 1.43 x the rated maximum pressure to ensure the DSR is safe and leak free prior to delivery.
- **Eurovent certify-all:** independent certification for thermal performance, power consumption, sound data and unit air volumes for standard products under scheme limits.

CAPACITY RANGE

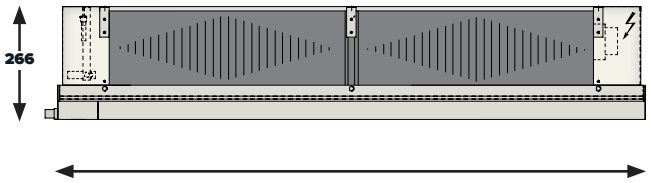
HFO/HFK **1.25 kW - 15 kW**

t_{L1}=0°C | t_0=-8°C | DT=8K [SC2] | R404A

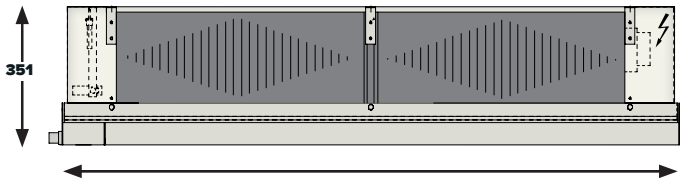
CO_2 **1.2 kW - 13 kW**

t_{L1}=0°C | t_0=8°C | DT=8K [SC2]

DIMENSIONS



870mm DSR 19, 22 | 1320mm DSR 36, 42 | 1820mm DSR 51, 62 | 2320mm DSR 68, 83



2320mm DSR 100, 116

FANS

▸ AC Standard		Ø 305 mm IP44 1 phase 50 &60 Hz

HEAT EXCHANGE

- ▸ **Fin Type: D, E**
- ▸ **Tube Diameter: [in mm]**
  D = 12 | E = 9.5
- ▸ **Standard Fin spacing: [in mm]**
  3 | 4 | 5 (CO_2 only) | 6
- ▸ **Fin Enhancements: Light Ripple**

DEFROST

DEFROST	FAN	COIL	DRIP TRAY
Standard Electric	✓	✓	✓
Heavy Electric	-	-	-
Hot gas		✓	✓

VARIANTS & ACCESSORIES

- ▸ **Condensate Pump With Remote Sensor**
- ▸ **Heater kits**
- ▸ **Fans**
- ▸ **'U' Bends**
- ▸ **Model options: DSR-LP, DSR-MP, DSR-LX, DSR-MX, DSR-HX**

MATERIALS

MATERIAL	TUBE	FINS	CASING	END PLATE
Copper (Cu)	☑	✓		
Aluminium (Al)		☑		☑
Aluminium Epoxy (AV)		✓		
Galvanised Steel			☑	

☑ Standard | ✓ Available as a variant

NOTE

Selection and Pricing can be performed on the Searle **Selection software** which can be downloaded from our website **www.kelvion.com**

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Searle GF Gas cooler

SUSTAINABLE TECHNOLOGY FOR THE REFRIGERATION INDUSTRY

YOUR BENEFITS

- **Using the latest innovative design:** the range can incorporate 8, 12, or 5mm tube diameters. Each optimized for specific operating conditions, the Kelvion selection software will balance application requirements to offer best possible product.
- **To align with the renewed interest in CO_2,** Kelvion products have been optimised specifically for use in Transcritical CO_2 applications, suitable for 120 Bar as standard
- **The GF range of gas coolers:** are available with all RF options such as EC fan technology, adiabatic spray systems and the popular Kelvion controls packages
- **This special form:** which can be manufactured up to 12m long, gives tremendous strength and powder coated in RAL7032 (pebble grey).
- **A comprehensive collection of fan sets** are available from various premium manufacturers. This ensures that the best fan is always selected and balanced against the model and application variant. High energy efficiency, low noise and flexible control options all ensure the best possible solution is offered.
- **CE Marked and PED compliant:** SEP to CAT IV depending upon refrigerant, operating temperatures, header sizes and internal volumes.

CAPACITY RANGE

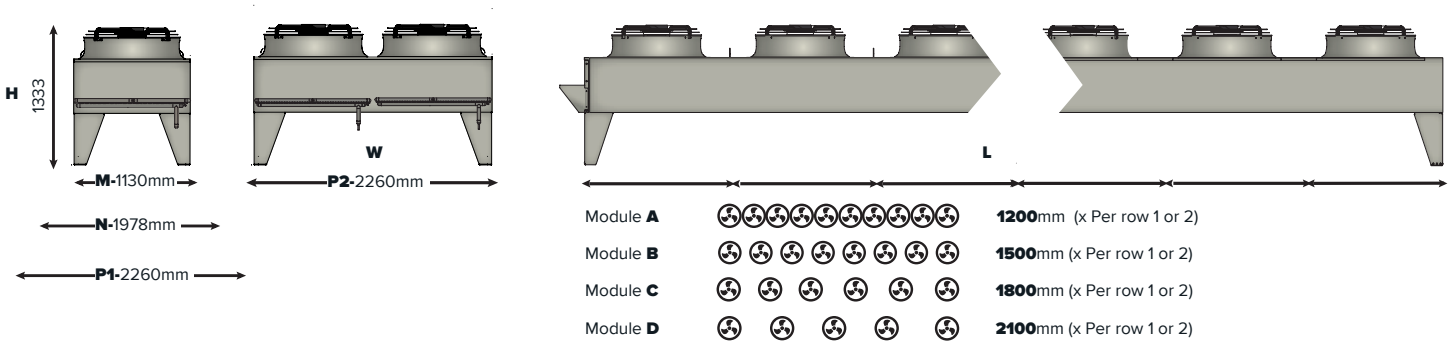
24 kW - 1409 kW

t_{L1}=30°C | P_{R1}=90 bar | t_{R1}=110°C | t_{R2}=35°C [SC10]

bsi. ISO 9001 Quality Management

CE

DIMENSIONS



FANS

▸ AC Normal	Ø 800 mm	▸ Min IP 54
▸ AC High power	Ø 900 mm	▸ 6, 8, 12 Pole and EC
▸ EC Standard	Ø 910 mm	▸ Single and 3 phase
▸ EC High power		▸ 50/60 Hz
▸ EC Low power		▸ 1 - 20 fans

HEAT EXCHANGE

- ▸ **Fin Type:** G, T, F
- ▸ **Standard Fin spacing: [in mm]**
  G = 2.1 I T = 2.3 I F = 2.1
- ▸ **Fin material:** Cu, Al, Av, AlMg, Bg, Et
- ▸ **Tube Diameter: [in mm]**
  G = 8 I T = 12 I F = 5
- ▸ **Tube material:** Cu, St

CONTROLS OPTIONS

OPTION	DESCRIPTION
Unwired	Installer wires directly to fan terminal boxes.
Junction Box	Single or twin according to unit model.
Staged Control	motor switchgear with or without controller.
Speed Control	EC, inverter or triac

VARIANTS & ACCESSORIES

- ▸ **Legs Extended**
- ▸ **Control Box & Isolators**
- ▸ **Sub cooling/Multi sections**
- ▸ **Packing & Stacking**
- ▸ **Alternative Fin Material**
- ▸ **Special Paint**
- ▸ **Adiabatic System**
- ▸ **Mounted Receivers, frames & Customised Housing**
- ▸ **Hinged fan plate**
- ▸ **Model Options - GF-SJ, GVM, GVL**

OPERATING ENVIRONMENT GUIDANCE

APPLICATION ATMOSPHERE	TUBE MATERIAL	FIN MATERIAL	TUBE PLATE
Commercial Application	Cu, or St/St	Al, AV, AlMg, Cu, Bg	Al/Cu
Industrial Application	Cu or St/St	Al, AV, AlMg, Cu, Bg	Al/Cu
Within 20 miles of the Sea	Cu	Cu, Bg, AlMg	Al/Cu
Waste Disposal	Cu	Al, AV, AlMg, Cu, Bg	Al/Cu

NOTE

Selection and Pricing can be performed on the Searle **Selection software** which can be downloaded from our website **www.kelvion.com**

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Kelvion

High efficiency, high performance

KELVION KEC COMMERCIAL AIR COOLER

Kelvion – a tribute to Lord Kelvin

Lord Kelvin (1824 – 1907) formulated the laws of thermodynamics

70 branches and sales partners worldwide

More than 4,000 employees worldwide

EXPERTS IN HEAT EXCHANGE – SINCE 1920

Welcome to Kelvion. As successor to the GEA Heat Exchangers Group, we continue to break new ground, making discerning customers more successful than ever with our integrated heat exchanger solutions.

Our solutions for your applications:
We offer our customers one of the world's largest product portfolios in the field of heat exchangers. It includes individual solutions for practically all conceivable applications and complex environmental conditions: plate heat exchangers, shell and tube heat exchangers, finned tube heat exchangers, modular cooling tower systems, and refrigeration heat exchangers.

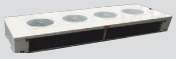
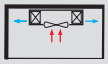
Your markets are our markets, too:
The markets in which you and we together operate are among the most important in the world: the chemical industry, food and beverages, the heavy industry, climate and environment, marine applications, the oil and gas industry, energy, refrigeration technology, sugar and transportation. We provide every single market segment with solutions of outstanding efficiency, safety, and sustainability.

We are highly committed to earning your trust:
We want to win your trust with everything we do and convince you with the solutions we offer. With this high aim in mind, we invest our extensive know-how, our great precision, and our passion in everything we do: including product development, manufacturing, installation, and after-sales support.

Seeing things from the customer perspective:
Your specific requirements count – and nothing else. Whatever we offer you, it must meet these requirements. Our entire way of thinking and working is geared towards this aim. Our customers truly appreciate this: after all, this is how we make their companies more efficient.

We are at your service.
Kelvion – Experts in Heat Exchange.

COMMERCIAL AIR COOLERS RANGE

MODEL		NO.FANS	CONFIGURATION	EUROVENT	SUPPLY	EC FANS	STANDARD ELECTRIC	HEAVY ELECTRIC DEFROST	HOT GAS A/B/C/D DEFROST	CO2	FIN MATERIAL	CAPACITY
TEC		1 - 3		✔	1 ph	✔	✔ Kit	X	X	✔	AL, AV	0.5 - 3.4kW (CO^2) 0.34- 3.8kW
KEC		1 - 3		✔	1 ph	✔	✔	X	✔	✔	AL, AV	1.2 - 10.7kW (CO^2) 1 - 9.9kW
KMe		1 - 4		✔	1 & 3ph	O	✔	✔	✔	✔	AL, AV	5.8 - 28kW (CO^2) 5.9 - 48.1kW
KDC		1 - 6		✔	1 ph	✔	✔	X	X	✔	AL, AV	1.4 - 23kW (CO^2) 1.7 - 23kW

✔ **YES** X **NO** O **OPTION**

KEC SPECIFICATION

CASEWORK: The casework is formed from galvanized steel and finished with oven cured white epoxy powder paint (RAL 9010). The construction is both rigid and versatile, giving the installer and users flexibility and confidence in service life. Connections and junction boxes for the unit are easily accessible through removable side panels which are fixed in place using easy-alignment keyhole slots.

The drain tray is fabricated from galvanised painted steel and is supplied loose, once the unit is installed on site the drain connection can be fitted to the tray and the tray fitted to the unit in its operating position.

FANS: The KEC cooler from Kelvion, utilises EC fan sets as standard. The EC motors can accept 196-253V 1Ph at 50/60Hz with built in thermal protection.

- Fan diameter: 300mm
- Number of Blades: 5
- Guard: Metal Wire (Black)
- Fan Rotation: Clockwise when facing air stream
- Motor Rating: IP54
- Aluminium orifice

Temperature Range :40°C to +40°C

COIL: The coil used in the KEC range balances surface and defrost efficiency and is the result of extensive R&D. The coil is assembled in one block, is available as either 4 or 6 rows deep and uses using aluminium fins as standard. The coil has inner groove tubes on 43mm equilateral centres mechanically bonded to the fin.

- Manufactured from ½" Tube
- Tube Pitch Across Airflow: 43mm
- Tube Pitch In Direction of Airflow: 37.2mm
- Fin Spacing (s): 4mm, 6mm and 8mm
- Fin Enhancements: Light Ripple
- Formed heater holes

CO_2 OPTION: Kelvion has delivered a new generation of environmentally friendly CO_2 unit coolers, with a capacity range of 0.9 - 9.9kW. Using the same robust case construction as the standard KEC range and utilising the same high efficiency fan sets, the difference lies in the coil itself. To develop this coil technology specifically for a range of CO_2 applications, extensive testing and analysis was essential to ensure they deliver the performance required across a wide range of potential operating conditions. All units are tested to 1.43 x maximum operating pressure before delivery, and 3 standard operating pressure are offered as standard:

- 57 Bar = KEC-LP
- 80 Bar = KEC - MP
- 90 Bar = KEC-HP.

KEC AIR COOLER

BENEFITS

- The KEC cooler is part of the next generation of Unit Coolers by Kelvion: with market leading performance, noise levels and energy efficiency.
- The popular KEC range: suitable for high, medium and low temperature applications in the commercial refrigeration sector.
- Fans are the highest quality and efficiency: The KEC Cooler from Kelvion utilises EC fan sets as standard. The EC motors can accept 196-253V 1Ph at 50/60Hz with built in thermal protection.
- Enhanced standard KEC range for CO_2 refrigeration applications. Environmentally friendly CO_2 unit coolers, with a capacity range of 0.9 - 9.9kW. Using the same robust case construction as the standard KEC range and utilising the same high efficiency fan sets, the difference lies in the coil itself.
- Casework: The construction is both rigid and versatile, giving the installer and users flexibility and confidence in service life.
- Eurovent certify-all: independent certification for thermal performance, power consumption, sound data and unit air volumes for standard products under scheme limits.

CAPACITY RANGE

HFO/HFK **1.2 kW - 10.5 kW**

t_{L1}=0°C | t_0=-8°C | DT=8K [SC2] | R404A

0.9 kW - 9.9 kW

t_{L1}=0°C | t_0=8°C | DT=8K [SC2]

HEAT EXCHANGE

- ▶ Fin Type: D
- ▶ Tube Diameter: [in mm]
  12 |
- ▶ Standard Fin spacing: [in mm]
  4 | 6 | 8 |
- ▶ Fin Enhancements: Light Ripple

VARIANTS & ACCESSORIES

- ▶ Fan sets
- ▶ Coil heater kits
- ▶ Drain pan
- ▶ Model options: KEC-LP, KEC-MP, KEC-LX, KEC-MX, KEC-HX

DEFROST

DEFROST	FAN	COIL	DRIP TRAY
Standard Electric	✓	✓	✓
Heavy Electric		X	
Hot gas		✓	✓

FAN

- ▶ EC

Ø 230 mm
IP65
1 phase

MATERIALS

MATERIAL	TUBE	FINS	CASING	END PLATE
Copper (Cu)	☑	✓		
Aluminium (Al)		☑		☑
Aluminium Epoxy (AV)		✓		
Galvanised Steel			☑	

☑ Standard | ✓ Available as a variant

REFRIGERANT DATA

REFRIGERATION	R404A	R134A	R507A	R407A/F	R407C
Capacity factor (dew point, DT1)	1.00	0.91	0.97	1.24*	1.26*
Refrigerant charge density (kg/dm^3)	0.312	0.338	0.313	0.332	0.332

* Capacity factors for refrigerants with high glide apply only at the nominal rating condition.
Refrigerant charge densities are based on 25% of the internal volume being liquid.

DESIGNATION

The model number indicates the casework model size and other relevant information, for example: -

PART NUMBER	KEC	35	-	4	L	AL

Range	**KEC,** KEC-LP, KEC-MP, KEC-LX, KEC-MX, KEC-HX
Model	**10,** 15, 20, 25, 30, 35, 40, 45, 55, 70
Fin Spacing	**4mm**, 6mm, 8mm
(Type for CO2)	X = direct expansion, L = 57 bar, M = 80 bar, H = 90 bar
Defrost:	No defrost, L = Standard Electric defrost, HGD = Hot Gas Coil & tray, HGE = Hot Gas Coil & Electric tray. Each gas defrost option is followed with either an A/ B / C /D, to designate the circuiting option.
Fin Material	**AL** = Aluminium

SELECTION DATA

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A *	MOTOR DETAILS 230V - 1PH - 50Hz					FAN DATA			CONNECTION		INTER-NAL VOLUME	SURFACE AREA	REF CHARGE	WEIGHT
			NO. OF FANS	POWER INPUT	FLC PER FAN	SC PER FAN	SPEED	AIR VOLUME	AIR THROW ***	NOISE LEVEL @ 3M **	INLET	OUTLET				
		kW		W	Amps	Amps	RPM	m^3/s	m	dB(A)			dm^3	m^2	kg	kg
4mm	KEC10-4	1.65	1	33	0.35	0.50	1370	0.28	16.0	44	1/2“	1/2“	1.4	8.5	0.5	27
	KEC15-4	2.01	1	33	0.35	0.50	1370	0.28	16.0	44	1/2“	1/2“	1.9	10.0	0.6	28
	KEC20-4	2.35	1	33	0.35	0.50	1370	0.29	16.0	44	1/2“	5/8“	2.5	13.7	0.8	33
	KEC25-4	3.00	1	77	0.70	1.00	1750	0.42	22.0	52	1/2“	5/8“	2.5	13.7	0.8	33
	KEC25-4	3.73	1	77	0.70	1.00	1750	0.40	22.0	52	1/2“	7/8“	3.8	20.5	1.2	35
	KEC35-4	4.57	2	66	0.35	0.50	1370	0.58	16.0	47	1/2“	7/8“	4.3	24.9	1.4	47
	KEC40-4	5.84	2	154	0.70	1.00	1750	0.83	22.0	55	1/2“	7/8“	4.3	24.9	1.4	47
	KEC45-4	6.99	2	154	0.70	1.00	1750	0.81	22.0	55	1/2“	7/8“	6.5	37.4	2.1	53
	KEC55-4	8.79	3	231	0.70	1.00	1750	1.25	22.0	57	1/2“	7/8“	6.3	37.4	2.0	67
	KEC70-4	10.51	3	231	0.70	1.00	1750	1.21	22.0	57	5/8“	7/8“	9.4	56.0	3.0	74
6mm	KEC10-6	1.34	1	33	0.35	0.50	1370	0.31	16.0	44	1/2“	1/2“	1.4	5.8	0.5	27
	KEC15-6	1.72	1	33	0.35	0.50	1370	0.31	16.0	44	1/2“	1/2“	1.9	6.8	0.6	28
	KEC20-6	1.99	1	33	0.35	0.50	1370	0.32	16.0	44	1/2“	5/8“	2.5	9.4	0.8	33
	KEC25-6	2.38	1	77	0.70	1.00	1750	0.43	22.0	52	1/2“	5/8“	2.5	9.4	0.8	33
	KEC30-6	3.16	1	77	0.70	1.00	1750	0.42	22.0	52	1/2“	7/8“	3.8	14.1	1.2	35
	KEC35-6	3.85	2	66	0.35	0.50	1370	0.63	16.0	47	1/2“	7/8“	4.3	17.0	1.4	47
	KEC40-6	4.63	2	154	0.70	1.00	1750	0.85	22.0	55	1/2“	7/8“	4.3	17.0	1.4	47
	KEC45-6	5.97	2	154	0.70	1.00	1750	0.83	22.0	55	1/2“	7/8“	6.5	25.6	2.1	53
	KEC55-6	7.00	3	231	0.70	1.00	1750	1.28	22.0	57	1/2“	7/8“	6.3	25.6	2.0	67
	KEC70-6	8.98	3	231	0.70	1.00	1750	1.25	22.0	57	5/8“	7/8“	9.4	38.3	3.0	74
8mm	KEC10-8	1.17	1	33	0.35	0.50	1370	0.32	16.0	44	1/2“	1/2“	1.4	4.4	0.5	27
	KEC15-8	1.52	1	33	0.35	0.50	1370	0.32	16.0	44	1/2“	1/2“	1.9	5.2	0.6	28
	KEC20-8	1.74	1	33	0.35	0.50	1370	0.33	16.0	44	1/2“	5/8“	2.5	7.2	0.8	33
	KEC25-8	2.06	1	77	0.70	1.00	1750	0.44	22.0	52	1/2“	5/8“	2.5	7.2	0.8	33
	KEC30-8	2.75	1	77	0.70	1.00	1750	0.43	22.0	52	1/2“	7/8“	3.8	10.8	1.2	35
	KEC35-8	3.30	2	66	0.35	0.50	1370	0.65	16.0	47	1/2“	7/8“	4.3	13.1	1.4	47
	KEC40-8	3.98	2	154	0.70	1.00	1750	0.86	22.0	55	1/2“	7/8“	4.3	13.1	1.4	47
	KEC45-8	5.31	2	154	0.70	1.00	1750	0.86	22.0	55	1/2“	7/8“	6.5	19.7	2.1	53
	KEC55-8	6.01	3	231	0.70	1.00	1750	1.31	22.0	57	1/2“	7/8“	6.3	19.7	2.0	67
	KEC70-8	7.97	3	231	0.70	1.00	1750	1.29	22.0	57	5/8“	7/8“	9.4	29.5	3.0	74

NOTES: Rating conditions: The duties shown in this brochure are at EN 328 Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering). For data on refrigerants not shown, please contact your supplier.

- * DT1 is the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.
- ** Noise levels are based on free field conditions at a distance of 3m. Actual noise levels will depend upon cold store construction, store loading and the number of coolers installed.
- *** Terminal air velocity 0.25m/s, free air conditions at 10°C. Air throw cannot be considered an absolute value because many factors have a substantial effect on the distance achieved.

ELECTRIC DEFROST DATA

MODEL	230V-1PH-50/60HZ		STANDARD
	Coil	Pan	Total
	kW	W	kW
KEC10-*	0.68	0.34	1.02
KEC15-*	0.68	0.34	1.02
KEC20-*	0.92	0.46	1.38
KEC25-*	0.92	0.46	1.38
KEC25-*	0.92	0.46	1.38
KEC35-*	1.6	0.8	2.4
KEC40-*	1.6	0.8	2.4
KEC45-*	1.6	0.8	2.4
KEC55-*	2.4	1.2	3.6
KEC70-*	2.4	1.2	3.6

CO2 KEC DIRECT EXPANSION

LX (57BAR), MX (80 BAR), HX (90 BAR)

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A *	MOTOR DETAILS 230V - 1PH - 50Hz					FAN DATA			CONNECTION		INTER-NAL VOLUME	SURFACE AREA	REF CHARGE	WEIGHT
			NO. OF FANS	POWER INPUT	FLC PER FAN	SC PER FAN	SPEED	AIR VOLUME	AIR THROW ***	NOISE LEVEL @ 3M **	INLET	OUTLET				
		kW		W	Amps	Amps	RPM	m^3/s	m	dB(A)			dm^3	m^2	kg	kg
4mm	KEC-*X10-4	1.40	1	33	0.35	0.50	1370	0.28	16	44	1/2"	5/8"	2.0	7.5	0.9	29
	KEC-*X15-4	1.70	1	33	0.35	0.50	1370	0.28	16	44	1/2"	5/8"	2.0	10.0	0.9	30
	KEC-*X20-4	2.00	1	33	0.35	0.50	1370	0.29	16	44	1/2"	5/8"	3.0	13.7	1.3	37
	KEC-*X25-4	2.50	1	77	0.70	1.00	1750	0.42	22	52	1/2"	5/8"	3.0	13.7	1.3	37
	KEC-*X30-4	3.10	1	77	0.70	1.00	1750	0.40	22	52	1/2"	5/8"	4.0	20.5	1.7	41
	KEC-*X35-4	4.00	2	66	0.35	0.50	1370	0.58	16	47	1/2"	5/8"	5.0	24.9	2.2	54
	KEC-*X40-4	5.20	2	154	0.70	1.00	1750	0.83	22	55	1/2"	5/8"	5.0	24.9	2.2	54
	KEC-*X45-4	6.90	2	154	0.70	1.00	1750	0.81	22	55	1/2"	5/8"	7.0	37.3	3.0	62
	KEC-*X55-4	8.60	3	231	0.70	1.00	1750	1.25	22	57	1/2"	5/8"	6.0	37.3	2.6	76
	KEC-*X70-4	9.90	3	231	0.70	1.00	1750	1.21	22	57	1/2"	5/8"	9.0	56.0	3.9	89
6mm	KEC-*X10-6	1.20	1	33	0.35	0.50	1370	0.31	16	44	1/2"	5/8"	2.0	5.1	0.9	29
	KEC-*X15-6	1.50	1	33	0.35	0.50	1370	0.31	16	44	1/2"	5/8"	2.0	6.8	0.9	30
	KEC-*X20-6	1.80	1	33	0.35	0.50	1370	0.32	16	44	1/2"	5/8"	3.0	9.4	1.3	37
	KEC-*X25-6	2.10	1	77	0.70	1.00	1750	0.43	22	52	1/2"	5/8"	3.0	9.4	1.3	37
	KEC-*X30-6	2.70	1	77	0.70	1.00	1750	0.42	22	52	1/2"	5/8"	4.0	14.0	1.7	41
	KEC-*X35-6	3.40	2	66	0.35	0.50	1370	0.63	16	47	1/2"	5/8"	5.0	17.0	2.2	54
	KEC-*X40-6	4.20	2	154	0.70	1.00	1750	0.85	22	55	1/2"	5/8"	5.0	17.0	2.2	54
	KEC-*X45-6	6.00	2	154	0.70	1.00	1750	0.83	22	55	1/2"	5/8"	7.0	25.5	3.0	62
	KEC-*X55-6	7.00	3	231	0.70	1.00	1750	1.28	22	57	1/2"	5/8"	6.0	25.5	2.6	76
	KEC-*X70-6	8.40	3	231	0.70	1.00	1750	1.25	22	57	1/2"	5/8"	9.0	38.3	3.9	89
8mm	KEC-*X10-8	0.90	1	33	0.35	0.50	1370	0.32	16	44	1/2"	5/8"	2.0	3.9	0.9	29
	KEC-*X15-8	1.30	1	33	0.35	0.50	1370	0.32	16	44	1/2"	5/8"	2.0	5.2	0.9	30
	KEC-*X20-8	1.60	1	33	0.35	0.50	1370	0.33	16	44	1/2"	5/8"	3.0	7.2	1.3	37
	KEC-*X25-8	1.80	1	77	0.70	1.00	1750	0.44	22	52	1/2"	5/8"	3.0	7.2	1.3	37
	KEC-*X30-8	2.40	1	77	0.70	1.00	1750	0.43	22	52	1/2"	5/8"	4.0	10.8	1.7	41
	KEC-*X35-8	3.00	2	66	0.35	0.50	1370	0.65	16	47	1/2"	5/8"	5.0	13.1	2.2	54
	KEC-*X40-8	3.60	2	154	0.70	1.00	1750	0.86	22	55	1/2"	5/8"	5.0	13.1	2.2	54
	KEC-*X45-8	5.20	2	154	0.70	1.00	1750	0.86	22	55	1/2"	5/8"	7.0	19.6	3.0	62
	KEC-*X55-8	6.10	3	231	0.70	1.00	1750	1.31	22	57	1/2"	5/8"	6.0	19.6	2.6	76
	KEC-*X70-8	7.90	3	231	0.70	1.00	1750	1.29	22	57	1/2"	5/8"	9.0	29.4	3.9	89

NOTES: Rating conditions: The duties shown in this brochure are at EN 328 Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering). For data on refrigerants not shown, please contact your supplier.

- * DT1 is the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.
- ** Noise levels are based on free field conditions at a distance of 3m. Actual noise levels will depend upon cold store construction, store loading and the number of coolers installed.
- *** Terminal air velocity 0.25m/s, free air conditions at 10°C. Air throw cannot be considered an absolute value because many factors have a substantial effect on the distance achieved.

CO2 KEC PUMPED

LP (57BAR), MP (80 BAR)

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A *	MOTOR DETAILS 230V - 1PH - 50Hz					FAN DATA			CONNECTION		INTER-NAL VOLUME	SURFACE AREA	REF CHARGE	WEIGHT
			NO. OF FANS	POWER INPUT	FLC PER FAN	SC PER FAN	SPEED	AIR VOLUME	AIR THROW ***	NOISE LEVEL @ 3M **	INLET	OUTLET				
		kW		W	Amps	Amps	RPM	m^3/s	m	dB(A)			dm^3	m^2	kg	kg
4mm	KEC-*P10-4	1.80	1	33	0.35	0.5	1370	0.28	16	44	5/8"	7/8"	2.0	7.5	1.2	29
	KEC-*P15-4	2.09	1	33	0.35	0.5	1370	0.28	16	44	5/8"	7/8"	2.0	10.0	1.2	30
	KEC-*P20-4	2.33	1	33	0.35	0.5	1370	0.29	16	44	5/8"	7/8"	3.0	13.7	1.8	37
	KEC-*P25-4	2.97	1	77	0.7	1	1750	0.42	22	52	5/8"	7/8"	3.0	13.7	1.8	37
	KEC-*P30-4	3.57	1	77	0.7	1	1750	0.40	22	52	5/8"	7/8"	4.0	20.5	2.4	41
	KEC-*P35-4	4.70	2	66	0.35	0.5	1370	0.58	16	47	5/8"	7/8"	5.0	24.9	3.0	54
	KEC-*P40-4	6.35	2	154	0.7	1	1750	0.83	22	55	5/8"	7/8"	5.0	24.9	3.0	54
	KEC-*P45-4	7.91	2	154	0.7	1	1750	0.81	22	55	5/8"	7/8"	7.0	37.3	4.2	62
	KEC-*P55-4	10.16	3	231	0.7	1	1750	1.25	22	57	5/8"	7/8"	6.0	37.3	3.6	76
	KEC-*P70-4	11.36	3	231	0.7	1	1750	1.21	22	57	5/8"	7/8"	9.0	56.0	5.4	89
6mm	KEC-*P10-6	1.55	1	33	0.35	0.5	1370	0.31	16	44	5/8"	7/8"	2.0	5.1	1.2	29
	KEC-*P15-6	1.85	1	33	0.35	0.5	1370	0.31	16	44	5/8"	7/8"	2.0	6.8	1.2	30
	KEC-*P20-6	2.10	1	33	0.35	0.5	1370	0.32	16	44	5/8"	7/8"	3.0	9.4	1.8	37
	KEC-*P25-6	2.49	1	77	0.7	1	1750	0.43	22	52	5/8"	7/8"	3.0	9.4	1.8	37
	KEC-*P30-6	3.11	1	77	0.7	1	1750	0.42	22	52	5/8"	7/8"	4.0	14.0	2.4	41
	KEC-*P35-6	4.00	2	66	0.35	0.5	1370	0.63	16	47	5/8"	7/8"	5.0	17.0	3.0	54
	KEC-*P40-6	5.12	2	154	0.7	1	1750	0.85	22	55	5/8"	7/8"	5.0	17.0	3.0	54
	KEC-*P45-6	6.88	2	154	0.7	1	1750	0.83	22	55	5/8"	7/8"	7.0	25.5	4.2	62
	KEC-*P55-6	8.27	3	231	0.7	1	1750	1.28	22	57	5/8"	7/8"	6.0	25.5	3.6	76
	KEC-*P70-6	9.64	3	231	0.7	1	1750	1.25	22	57	5/8"	7/8"	9.0	38.3	5.4	89
8mm	KEC-*P10-8	1.16	1	33	0.35	0.5	1370	0.32	16	44	5/8"	7/8"	2.0	3.9	1.2	29
	KEC-*P15-8	1.60	1	33	0.35	0.5	1370	0.32	16	44	5/8"	7/8"	2.0	5.2	1.2	30
	KEC-*P20-8	1.87	1	33	0.35	0.5	1370	0.33	16	44	5/8"	7/8"	3.0	7.2	1.8	37
	KEC-*P25-8	2.14	1	77	0.7	1	1750	0.44	22	52	5/8"	7/8"	3.0	7.2	1.8	37
	KEC-*P30-8	2.76	1	77	0.7	1	1750	0.43	22	52	5/8"	7/8"	4.0	10.8	2.4	41
	KEC-*P35-8	3.53	2	66	0.35	0.5	1370	0.65	16	47	5/8"	7/8"	5.0	13.1	3.0	54
	KEC-*P40-8	4.39	2	154	0.7	1	1750	0.86	22	55	5/8"	7/8"	5.0	13.1	3.0	54
	KEC-*P45-8	5.96	2	154	0.7	1	1750	0.86	22	55	5/8"	7/8"	7.0	19.6	4.2	62
	KEC-*P55-8	7.21	3	231	0.7	1	1750	1.31	22	57	5/8"	7/8"	6.0	19.6	3.6	76
	KEC-*P70-8	9.06	3	231	0.7	1	1750	1.29	22	57	5/8"	7/8"	9.0	29.4	5.4	89

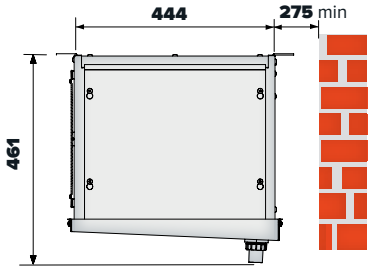
NOTES: Rating conditions: The duties shown in this brochure are at EN 328 Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering). For data on refrigerants not shown, please contact your supplier.

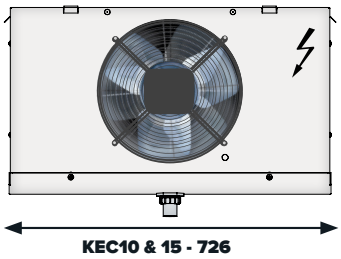
- * DT1 is the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.
- ** Noise levels are based on free field conditions at a distance of 3m. Actual noise levels will depend upon cold store construction, store loading and the number of coolers installed.
- *** Terminal air velocity 0.25m/s, free air conditions at 10°C. Air throw cannot be considered an absolute value because many factors have a substantial effect on the distance achieved.

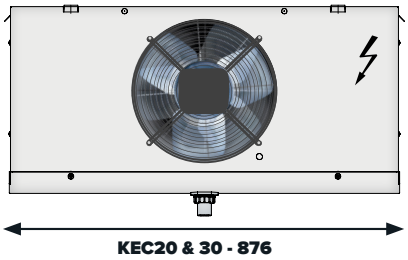
DIMENSIONS

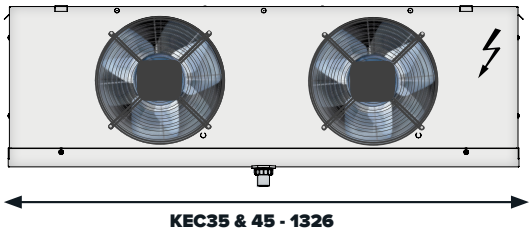
CEILING MOUNT OPERATION

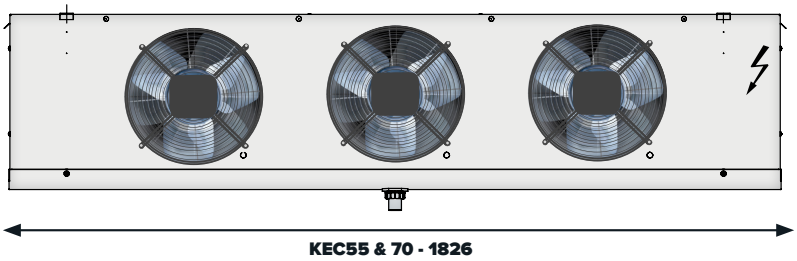
MODEL HEIGHT	MODEL WIDTH





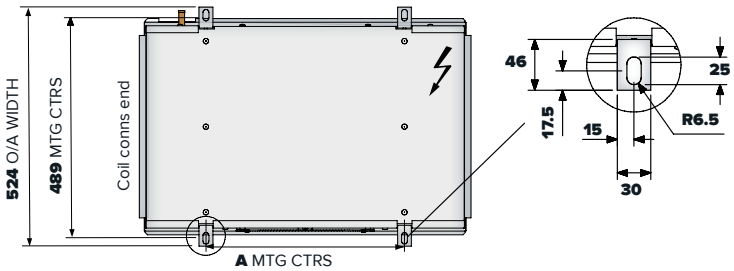






NOTE: All dimensions in mm, Heater removal **600mm** either end of unit

HANGING BRACKET FOR ALL KEC MODELS



MODEL	DIM A
KEC10 & KEC15	435
KEC20, KEC25, KEC30	585
KEC35, KEC40, KEC45	1035
KEC55 & KEC70	1535

SELECTION AND PRICING

This can be performed on the Selection software which can be downloaded from our website **www.kelvion.com**

www.kelvion.com

Distributor/Wholesaler

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Hampshire, PO14 1AR, United Kingdom
Tel: +44 (0) 1329 823344
www.kelvion.com

Kelvion UK - Birmingham
3 Maybrook Road, Birmingham,
B76 1AL, United Kingdom
Tel: +44 (0) 121 352 3340
www.kelvion.com

Kelvion

Making refrigeration greener

KELVION KME COMMERCIAL AIR COOLER

Kelvion – a tribute to Lord Kelvin

Lord Kelvin (1824 – 1907) formulated the laws of thermodynamics

70 branches and sales partners worldwide

More than 4,000 employees worldwide

EXPERTS IN HEAT EXCHANGE – SINCE 1920

Welcome to Kelvion. As successor to the GEA Heat Exchangers Group, we continue to break new ground, making discerning customers more successful than ever with our integrated heat exchanger solutions.

Our solutions for your applications:
We offer our customers one of the world's largest product portfolios in the field of heat exchangers. It includes individual solutions for practically all conceivable applications and complex environmental conditions: plate heat exchangers, shell and tube heat exchangers, finned tube heat exchangers, modular cooling tower systems, and refrigeration heat exchangers.

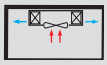
Your markets are our markets, too:
The markets in which you and we together operate are among the most important in the world: the chemical industry, food and beverages, the heavy industry, climate and environment, marine applications, the oil and gas industry, energy, refrigeration technology, sugar and transportation. We provide every single market segment with solutions of outstanding efficiency, safety, and sustainability.

We are highly committed to earning your trust:
We want to win your trust with everything we do and convince you with the solutions we offer. With this high aim in mind, we invest our extensive know-how, our great precision, and our passion in everything we do: including product development, manufacturing, installation, and after-sales support.

Seeing things from the customer perspective:
Your specific requirements count – and nothing else. Whatever we offer you, it must meet these requirements. Our entire way of thinking and working is geared towards this aim. Our customers truly appreciate this: after all, this is how we make their companies more efficient.

We are at your service.
Kelvion – Experts in Heat Exchange.

COMMERCIAL AIR COOLERS RANGE

MODEL		NO.FANS	CONFIGURATION	EUROVENT	SUPPLY	EC FANS	STANDARD ELECTRIC	HEAVY ELECTRIC DEFROST	HOT GAS A/B/C/D DEFROST	CO2	FIN MATERIAL	CAPACITY
TEC		1 - 3		✔	1 ph	✔	✔ Kit	X	X	✔	AL, AV	0.5 - 3.4kW (CO^2) 0.34- 3.8kW
KEC		1 - 3		✔	1 ph	✔	✔	X	✔	✔	AL, AV	1.2 - 10.7kW (CO^2) 1 - 9.9kW
KMe		1 - 4		✔	1 & 3ph	O	✔	✔	✔	✔	AL, AV	5.8 - 28kW (CO^2) 5.9 - 48.1kW
KDC		1 - 6		✔	1 ph	✔	✔	X	X	✔	AL, AV	1.4 - 23kW (CO^2) 1.7 - 23kW

✔ **YES** X **NO** O **OPTION**

KME SPECIFICATION

CASEWORK: The products consist of specially coated white RAL 9010 galvanised steel casework, designed for maximum durability in the harshest environments. Removable side panels help to ensure accessibility during maintenance or installation operations is quick and simple.

The drain tray is also fabricated from galvanised steel, and is shipped separately inside the packing case. We would advise the drain tray is loosely fitted onto the cooler with the fixing screws before lifting the cooler into position from underneath.

FANS: The KME users trusted and robust AC and EC fan set options. These have been extensively tested to ensure function and performance is delivered throughout the life cycle of the product.

- Fan diameter: 400mm, 630mm
- 4 Bladed aluminium propeller
- Wire guard in (Black)
- Fan Rotation Clockwise when facing air stream
- Motor Rating IP54
- Optional fan plate heater to prevent fan blade contact with frost build up at low temperatures.
- Axial fan to 65 Pa ESP

COIL: All KME units feature the unique 'D' fin, specially developed a using ½ inch diameter tube with an extended 'rifle bore' inner surface. This maximises performance, providing high efficiency heat transfer and a secondary surface for frost deposits, to extend periods between defrosts. Fins can be aluminium, vinyl coated aluminium or copper

- Manufactured from ½" Tube
- Tube Pitch Across Airflow: 43mm
- Tube Pitch In Direction of Airflow: 37.2mm
- Fin Spacing (s): 4mm, 6mm and 8mm
- Light Ripple and Heater Holes

CO2 OPTION: Kelvion is constantly working towards product improvements that increase output, efficiency and reliability, while containing or reducing capital and operating costs and the impact on the environment. As a typical example, the introduction of the use of CO_2 and natural hydrocarbons as refrigerants in Kelvion evaporators, is a much greener alternative to synthetic refrigerants. The evaporators are optimised specifically for these refrigerants, giving end users confidence in the getting the right product that delivers the required performance throughout the products life cycle.

KME AIR COOLER

BENEFITS

- The KME has developed as a green life cycle approach: A worthwhile monetary value at the end of their service life.
- The popular KME range: Is ideally suited to large cold rooms and small warehouses where an efficient cooling solution is required. The KME can also be used for industrial food processing and agricultural applications.
- The KME uses trusted and robust AC and EC fan set options: These have been extensively tested to ensure function and performance is delivered throughout the life cycle of the product.
- Enhanced standard KME range for CO_2 refrigeration applications The introduction of the use of CO_2 and natural hydrocarbons as refrigerants in Kelvion evaporators, is a much greener alternative to synthetic refrigerants. The evaporators are optimised specifically for these refrigerants, giving end users confidence in the getting the right product that delivers the required performance throughout the products life cycle.
- Eurovent certify-all: independent certification for thermal performance, power consumption, sound data and unit air volumes for standard products under scheme limits.

CAPACITY RANGE

HFO/HFK **5.7 kW - 63.6 kW**

t_{L1}=0°C | t_0=-8°C | DT=8K [SC2] | R404A

5.9 kW - 49.9 kW

t_{L1}=0°C | t_0=8°C | DT=8K [SC2]

HEAT EXCHANGE

- **Fin Type:** D
- **Tube Diameter: [in mm]**
  12.7 |
- **Standard Fin spacing: [in mm]**
  4 | 6 | 8 |
- **Fin Enhancements: Light Ripple**

VARIANTS & ACCESSORIES

- **Fan sets**
- **Air streamer**
- **Forkguard**
- **Axial fans**
- **Peripheral Heaters**
- **Model options: KME, KME-LP, KME-MP, KME-LX, KME-MX, KME-HX**

DEFROST

DEFROST	FAN	COIL	DRIP TRAY
Standard Electric	✓	✓	✓
Heavy Electric		✓	✓
Hot gas		✓	✓

FAN

- **AC Standard**
- **Ax Axial**
- **EC**

Ø 400 mm
Ø 630 mm
IP54
1 & 3 phase

MATERIALS

MATERIAL	TUBE	FINS	CASING	END PLATE
Copper (Cu)	☑	✓		
Aluminium (Al)		☑		☑
Aluminium Epoxy (Av)		✓		
Galvanised Steel			☑	

☑ Standard | ✓ Available as a variant

REFRIGERANT DATA

REFRIGERATION	R404A	R134A	R507A	R407A/F	R407C
Capacity factor (dew point, DT1)	1.00	0.91	0.97	1.24*	1.26*
Refrigerant charge density (kg/dm³)	0.312	0.338	0.313	0.332	0.332

* Capacity factors for refrigerants with high glide apply only at the nominal rating condition. Refrigerant charge densities are based on 25% of the internal volume being liquid.

DESIGNATION

The model number indicates the casework model size and other relevant information, for example: -

PART NUMBER	KME	140	-	6	L	-	AL	-	3PH	-	EC

Range:	**KME,** KME-LP, KME-MP, KME-LX, KME-MX, KME-HX
Model	50, 60, 80, 95, 115, **140**, 175, 232, 282, 352, 353
Fin Spacing	**4mm**, 6mm, 8mm
(Type for CO2)	X = direct expansion, **L** = 57 bar, M = 80 bar, H = 90 bar
Defrost	No defrost, L = Standard Electric defrost, HGD = Hot Gas Coil & tray, HGE = Hot Gas Coil & Electric tray. Each gas defrost option is followed with either an A/ B / C /D, to designate the circuiting option.
Fin Material	**AL** = Aluminium
Electric supply	Blank = 1PH, **3PH**
Fan set option	Blank = Standard 400mm fanset, Ax = Axial, **EC** = EC fan set

SELECTION DATA

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A *	MOTOR DETAILS						FAN DATA		CONNECTION		INTERNAL VOLUME	SURFACE AREA	REF CHARGE	WEIGHT
			DIA	NO. OF FANS	POWER INPUT	SPEED	AIR VOL	AIR THROW STD ***	AIR STREAMER ***	NOISE LEVEL @ 3M **	INLET	OUTLET				
		kW			W	RPM	m^3/s	m	m	dB(A)			dm^3	m^2	kg	kg
4mm	KME50-4	7.36	400	1	200	1410	0.89	17	26	60	1/2"	1 1/8"	6.7	37.8	2.1	85
	KME60-4	8.71	400	1	200	1410	0.96	19	29	60	5/8"	1 1/8"	9.5	56	2.9	112
	KME80-4	12.10	400	2	400	1410	1.89	19	29	63	5/8"	1 1/8"	8.4	50.4	2.6	129
	KME95-4	14.84	400	2	400	1410	1.78	17	26	63	5/8"	1 1/8"	12.5	75.6	3.9	139
	KME115-4	18.40	400	3	600	1410	2.83	19	29	65	7/8"	1 3/8"	12.2	75.6	3.8	170
	KME140-4	22.31	400	3	600	1410	2.68	17	26	65	7/8"	1 3/8"	18.4	113.3	5.6	195
	KME175-4	27.95	400	4	800	1410	3.45	17	26	66	7/8"	1 3/8"	21.6	134.3	6.6	217
	KME232-4	39.87	630	2	-----	890	5.40	19	N/A	61	3/4"	1 5/8"	25.6	151	8.0	312
	KME282-4	47.61	630	2	-----	890	5.20	18	N/A	61	3/4"	1 5/8"	37.8	227	11.8	346
	KME352-4	60.96	630	2	-----	1330	6.80	24	N/A	71	3/4"	1 5/8"	45.2	269	14.1	365
	KME353-4	63.57	630	3	-----	890	7.20	17	N/A	61	3/4"	1 5/8"	45.2	269	14.1	406
6mm	KME50-6	6.20	400	1	200	1410	0.98	18	27	60	1/2"	1 1/8"	6.7	25.8	2.1	83
	KME60-6	7.45	400	1	200	1410	1.01	20	31	60	5/8"	1 1/8"	9.5	38.3	2.9	109
	KME80-6	9.74	400	2	400	1410	2.00	20	31	63	5/8"	1 1/8"	8.4	34.4	2.6	127
	KME95-6	12.51	400	2	400	1410	1.95	18	27	63	5/8"	1 1/8"	12.5	51.7	3.9	135
	KME115-6	14.61	400	3	600	1410	3.00	20	31	65	7/8"	1 3/8"	12.2	51.7	3.8	167
	KME140-6	18.75	400	3	600	1410	2.93	18	27	65	7/8"	1 3/8"	18.4	77.5	5.6	191
	KME175-6	23.92	400	4	800	1410	3.86	19	27	66	7/8"	1 3/8"	21.6	91.9	6.6	214
	KME232-6	30.82	630	2	-----	890	5.80	20	N/A	61	3/4"	1 3/8"	25.6	151	8.0	296
	KME282-6	40.34	630	2	-----	890	5.60	19	N/A	61	3/4"	1 5/8"	37.8	227	11.8	323
	KME352-6	50.48	630	2	-----	1330	7.30	25	N/A	71	3/4"	1 5/8"	45.2	269	14.1	338
	KME353-6	54.15	630	3	-----	890	8.20	19	N/A	61	3/4"	1 5/8"	45.2	269	14.1	379
8mm	KME50-8	5.70	400	1	200	1410	1.02	19	29	60	1/2"	1 1/8"	6.7	19.9	2.1	84
	KME60-8	6.81	400	1	200	1410	1.03	22	34	60	5/8"	1 1/8"	9.5	29.4	2.9	110
	KME80-8	8.58	400	2	400	1410	2.05	22	34	63	5/8"	1 1/8"	8.4	26.5	2.6	127
	KME95-8	11.47	400	2	400	1410	2.04	19	29	63	5/8"	1 1/8"	12.5	39.7	3.9	136
	KME115-8	13.0	400	3	600	1410	3.07	22	34	65	7/8"	1 3/8"	12.2	39.7	3.8	167
	KME140-8	17.4	400	3	600	1410	3.06	19	29	65	7/8"	1 3/8"	18.4	59.6	5.6	190
	KME175-8	22.0	400	4	800	1410	4.06	19	29	66	7/8"	1 3/8"	21.6	70.6	6.6	212
	KME232-8	26.08	630	2	-----	890	6.06	21	N/A	61	3/4"	1 1/8"	25.6	151	8.0	289
	KME282-8	34.59	630	2	-----	890	5.98	21	N/A	61	3/4"	1 1/8"	37.8	227	11.8	313
	KME352-8	41.30	630	2	-----	1330	7.42	26	N/A	71	3/4"	1 3/8"	45.2	269	14.1	326
	KME353-8	46.84	630	3	-----	890	8.80	21	N/A	61	3/4"	1 1/8"	45.2	269	14.1	367

NOTES: Rating conditions: The duties shown in this brochure are at EN 328 Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering). For data on refrigerants not shown, please contact your supplier.

- * DT1 is the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.
- ** Noise levels are based on free field conditions at a distance of 3m. Actual noise levels will depend upon cold store construction, store loading and the number of coolers installed.
- *** Terminal air velocity 0.25m/s, free air conditions at 10°C. Air throw cannot be considered an absolute value because many factors have a substantial effect on the distance achieved.

CO2 KME DIRECT EXPANSION

LX (57BAR), MX (80 BAR), HX (90 BAR)

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A *	MOTOR DETAILS						FAN DATA		CONNECTION		INTERNAL VOLUME	SURFACE AREA	REF CHARGE	WEIGHT
			DIA	NO. OF FANS	POWER INPUT	SPEED	AIR VOL	AIR THROW STD ***	AIR STREAMER ***	NOISE LEVEL @ 3M **	INLET	OUTLET				
		kW			W	RPM	m^3/s	m	m	dB(A)			dm^3	m^2	kg	kg
4mm	KME-*X50-4-1PH	7.30	400	1	200	1410	0.89	17	26	60	1/2"	5/8"	6.7	37.8	3.0	94
	KME-*X60-4-1PH	9.10	400	1	200	1410	0.96	19	29	60	1/2"	5/8"	9.5	56	4.3	125
	KME-*X80-4-1PH	11.70	400	2	400	1410	1.89	19	29	63	1/2"	5/8"	8.4	50.4	3.9	140
	KME-*X95-4-1PH	14.90	400	2	400	1410	1.78	17	26	63	1/2"	5/8"	12.5	75.6	5.6	156
	KME-*X115-4-1PH	18.50	400	3	600	1410	2.83	19	29	65	1/2"	7/8"	12.2	75.6	5.2	187
	KME-*X140-4-1PH	22.90	400	3	600	1410	2.68	17	26	65	1/2"	7/8"	18.4	113.3	7.7	221
	KME-*X175-4-1PH	27.90	400	4	800	1410	3.45	17	26	66	1/2"	7/8"	21.6	134.3	9.5	248
	KME-*X232-4-3PH	31.29	630	2	1200	890	5.4	19	N/A	61	5/8"	1 1/8"	25.6	151	11.5	312
	KME-*X282-4-3PH	38.96	630	2	1200	890	5.2	18	N/A	61	5/8"	1 1/8"	37.8	227	16.9	346
	KME-*X352-4-3PH	48.11	630	2	2500	1330	6.8	24	N/A	71	5/8"	1 1/8"	45.2	269	20.2	365
	KME-*X353-4-3PH	49.94	630	3	1200	890	7.2	17	N/A	61	5/8"	1 1/8"	45.2	269	20.2	406
6mm	KME-*X50-6-1PH	6.60	400	1	200	1410	0.98	18	27	60	1/2"	5/8"	6.7	25.8	3.0	92
	KME-*X60-6-1PH	7.60	400	1	200	1410	1.01	20	31	60	1/2"	5/8"	9.5	38.3	4.3	122
	KME-*X80-6-1PH	9.90	400	2	400	1410	2.00	20	31	63	1/2"	5/8"	8.4	34.4	3.9	138
	KME-*X95-6-1PH	13.40	400	2	400	1410	1.95	18	27	63	1/2"	5/8"	12.5	51.7	5.6	152
	KME-*X115-6-1PH	15.60	400	3	600	1410	3.00	20	31	65	1/2"	7/8"	12.2	51.7	5.2	184
	KME-*X140-6-1PH	19.00	400	3	600	1410	2.93	18	27	65	1/2"	7/8"	18.4	77.5	7.7	217
	KME-*X175-6-1PH	25.60	400	4	800	1410	3.86	19	27	66	1/2"	7/8"	21.6	91.9	9.5	245
	KME-*X232-6-3PH	26.46	630	2	1200	890	5.80	20	N/A	61	5/8"	7/8"	25.6	151	11.5	296
	KME-*X282-6-3PH	32.04	630	2	1200	890	5.60	19	N/A	61	5/8"	7/8"	37.8	227	16.9	32
	KME-*X352-6-3PH	42.70	630	2	2500	1330	7.30	25	N/A	71	5/8"	1 1/8"	45.2	269	20.2	338
	KME-*X353-6-3PH	46.42	630	3	1200	890	8.20	19	N/A	61	5/8"	1 1/8"	45.2	269	20.2	379
8mm	KMe-*X50-8-1PH	5.90	400	1	200	1410	1.02	19	29	60	1/2"	5/8"	6.7	19.9	3.0	93
	KMe-*X60-8-1PH	6.90	400	1	200	1410	1.03	22	34	60	1/2"	5/8"	9.5	29.4	4.3	123
	KMe-*X80-8-1PH	8.90	400	2	400	1410	2.05	22	34	63	1/2"	5/8"	8.4	26.5	3.9	138
	KMe-*X95-8-1PH	11.80	400	2	400	1410	2.04	19	29	63	1/2"	5/8"	12.5	39.7	5.6	153
	KMe-*X115-8-1PH	13.40	400	3	600	1410	3.07	22	34	65	1/2"	7/8"	12.2	39.7	5.2	183
	KMe-*X140-8-1PH	17.60	400	3	600	1410	3.06	19	29	65	1/2"	7/8"	18.4	59.6	7.7	216
	KMe-*X175-8-1PH	23.00	400	4	800	1410	4.06	19	29	66	1/2"	7/8"	21.6	70.6	9.5	243
	KMe-*X232-8-3PH	22.94	630	2	1200	890	6.10	21	N/A	61	5/8"	7/8"	25.6	151	11.5	289
	KMe-*X282-8-3PH	29.98	630	2	1200	890	6.00	21	N/A	61	5/8"	7/8"	37.8	227	16.9	313
	KMe-*X352-8-3PH	37.16	630	2	2500	1330	7.40	26	N/A	71	5/8"	1 1/8"	45.2	269	20.2	236
	KMe-*X353-8-3PH	42.58	630	3	1200	890	8.80	21	N/A	61	5/8"	1 1/8"	45.2	269	20.2	367

NOTES: Rating conditions: The duties shown in this brochure are at EN 328 Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering). For data on refrigerants not shown, please contact your supplier.

- * DT1 is the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.
- ** Noise levels are based on free field conditions at a distance of 3m. Actual noise levels will depend upon cold store construction, store loading and the number of coolers installed.
- *** Terminal air velocity 0.25m/s, free air conditions at 10°C. Air throw cannot be considered an absolute value because many factors have a substantial effect on the distance achieved.

CO2 KME PUMPED

LP (57 BAR), MP (80 BAR)

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A *	MOTOR DETAILS						FAN DATA		CONNECTION		INTERNAL VOLUME	SURFACE AREA	REF CHARGE	WEIGHT
			DIA	NO. OF FANS	POWER INPUT	SPEED	AIR VOL	AIR THROW STD ***	AIR STREAMER ***	NOISE LEVEL @ 3M **	INLET	OUTLET				
		kW			W	RPM	m^3/s	m	m	dB(A)			dm^3	m^2	kg	kg
4mm	KME-*P50-4-1PH	8.61	400	1	200	1410	0.89	17	26	60	5/8"	7/8"	6.7	37.8	4.3	94
	KME-*P60-4-1PH	10.74	400	1	200	1410	0.96	19	29	60	5/8"	7/8"	9.5	56	6.2	125
	KME-*P80-4-1PH	13.81	400	2	400	1410	1.89	19	29	63	5/8"	7/8"	8.4	50.4	5.6	140
	KME-*P95-4-1PH	17.58	400	2	400	1410	1.78	17	26	63	5/8"	7/8"	12.5	75.6	8.0	156
	KME-*P115-4-1PH	21.83	400	3	600	1410	2.83	19	29	65	5/8"	1-1/8"	12.2	75.6	7.4	187
	KME-*P140-4-1PH	27.02	400	3	600	1410	2.68	17	26	65	5/8"	1-1/8"	18.4	113.3	11.1	221
	KME-*P175-4-1PH	32.92	400	4	800	1410	3.45	17	26	66	5/8"	1-1/8"	21.6	134.3	13.6	248
	KME-*P232-4-3PH	36.92	630	2	1200	890	5.4	19	N/A	61	7/8"	1-3/8"	25.6	151	16.5	312
	KME-*P282-4-3PH	45.97	630	2	1200	890	5.2	18	N/A	61	7/8"	1-3/8"	37.8	227	24.4	346
	KME-*P352-4-3PH	56.77	630	2	2500	1330	6.8	24	N/A	71	7/8"	1-3/8"	45.2	269	29.1	365
	KME-*X353-4-3PH	58.93	630	3	1200	890	7.2	17	N/A	61	7/8"	1-3/8"	45.2	269	29.1	406
6mm	KME-*P50-6-1PH	7.79	400	1	200	1410	0.98	18	27	60	5/8"	7/8"	6.7	25.8	4.3	92
	KME-*P60-6-1PH	8.97	400	1	200	1410	1.01	20	31	60	5/8"	7/8"	9.5	38.3	6.2	122
	KME-*P80-6-1PH	11.68	400	2	400	1410	2.00	20	31	63	5/8"	7/8"	8.4	34.4	5.6	138
	KME-*P95-6-1PH	15.81	400	2	400	1410	1.95	18	27	63	5/8"	7/8"	12.5	51.7	8.0	152
	KME-*P115-6-1PH	18.41	400	3	600	1410	3.00	20	31	65	5/8"	1-1/8"	12.2	51.7	7.4	184
	KME-*P140-6-1PH	22.42	400	3	600	1410	2.93	18	27	65	5/8"	1-1/8"	18.4	77.5	11.1	217
	KME-*P175-6-1PH	30.21	400	4	800	1410	3.86	19	27	66	5/8"	1-1/8"	21.6	91.9	13.6	245
	KME-*P232-6-3PH	31.22	630	2	1200	890	5.80	20	N/A	61	7/8"	1-3/8"	25.6	151	16.5	296
	KME-*P282-6-3PH	37.81	630	2	1200	890	5.60	19	N/A	61	7/8"	1-3/8"	37.8	227	24.4	32
	KME-*P352-6-3PH	50.39	630	2	2500	1330	7.30	25	N/A	71	7/8"	1-3/8"	45.2	269	29.1	338
	KME-*X353-6-3PH	54.78	630	3	1200	890	8.20	19	N/A	61	7/8"	1-3/8"	45.2	269	29.1	379
8mm	KMe-*X50-8-1PH	6.96	400	1	200	1410	1.02	19	29	60	5/8"	7/8"	6.7	19.9	4.3	93
	KMe-*X60-8-1PH	8.14	400	1	200	1410	1.03	22	34	60	5/8"	7/8"	9.5	29.4	6.2	123
	KMe-*X80-8-1PH	10.50	400	2	400	1410	2.05	22	34	63	5/8"	7/8"	8.4	26.5	5.6	138
	KMe-*X95-8-1PH	13.92	400	2	400	1410	2.04	19	29	63	5/8"	7/8"	12.5	39.7	8.0	153
	KMe-*X115-8-1PH	15.81	400	3	600	1410	3.07	22	34	65	5/8"	1-1/8"	12.2	39.7	7.4	183
	KMe-*X140-8-1PH	20.77	400	3	600	1410	3.06	19	29	65	5/8"	1-1/8"	18.4	59.6	11.1	216
	KMe-*X175-8-1PH	27.14	400	4	800	1410	4.06	19	29	66	5/8"	1-1/8"	21.6	70.6	13.6	243
	KMe-*X232-8-3PH	27.07	630	2	1200	890	6.10	21	N/A	61	7/8"	1-3/8"	25.6	151	16.5	289
	KMe-*X282-8-3PH	35.38	630	2	1200	890	6.00	21	N/A	61	7/8"	1-3/8"	37.8	227	24.4	313
	KMe-*X352-8-3PH	43.85	630	2	2500	1330	7.40	26	N/A	71	7/8"	1-3/8"	45.2	269	29.1	236
	KMe-*X353-8-3PH	50.24	630	3	1200	890	8.80	21	N/A	61	7/8"	1-3/8"	45.2	269	29.1	367

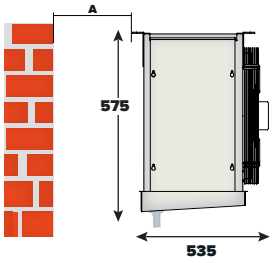
KME ELECTRIC DEFROST OPTIONS & FAN CURRENTS

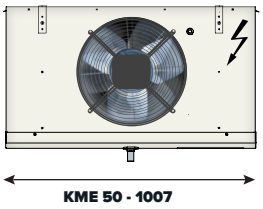
MODEL	ELECTRIC DEFROST 400V - 3ph					FAN SET CURRENTS 230V - 1Ph		400V 3ph	
	STANDARD			HEAVY DUTY		1 Ph			
	COIL	PAN	TOTAL	COIL	TOTAL	FLC per fan	SC per fan	FLC per fan	SC per fan
	kW	kW	kW	kW	kW	Amps	Amps	Amps	Amps
KME50-*	1.59	0.79	2.38	2.65	3.34	1.05	4.5	0.65	2.60
KME60-*	2.40	1.20	3.60	4.00	5.20	1.05	4.5	0.65	2.60
KME80-*	3.24	1.59	4.83	5.40	6.99	1.05	4.5	0.65	2.60
KME95-*	3.24	1.59	4.83	5.40	6.99	1.05	4.5	0.65	2.60
KME115-*	4.80	2.40	7.20	8.00	10.40	1.05	4.5	0.65	2.60
KME140-*	4.80	2.40	7.20	8.00	10.40	1.05	4.5	0.65	2.60
KME175-*	5.64	2.82	8.46	9.40	12.22	1.05	4.5	0.65	2.60
KME232-*	9.60	4.80	14.40	16.00	20.80	N/A	N/A	1.2	4.0
KME282-*	9.60	4.80	14.40	16.00	20.80	N/A	N/A	1.2	4.0
KME352-*	11.28	5.64	16.92	18.80	24.44	N/A	N/A	2.6	10.0
KME353-*	11.28	5.64	16.92	18.80	24.44	N/A	N/A	1.2	4.0

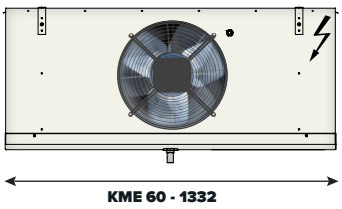
DIMENSIONS

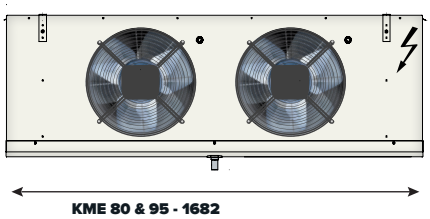
CEILING MOUNT OPERATION

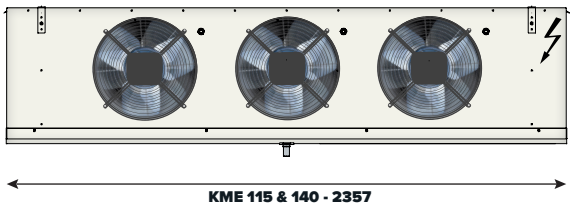
MODEL HEIGHT	MODEL WIDTH

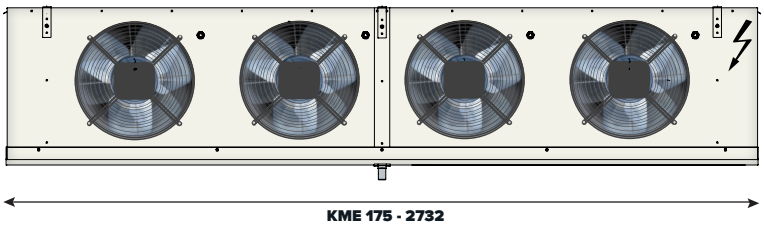


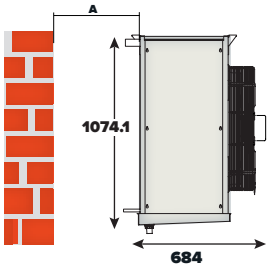


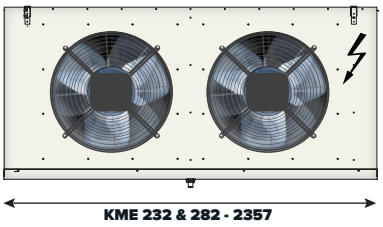


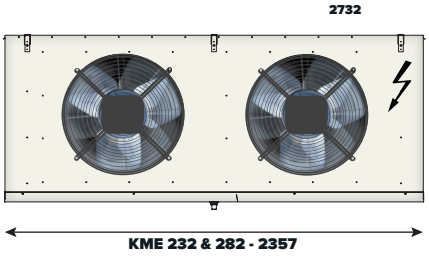


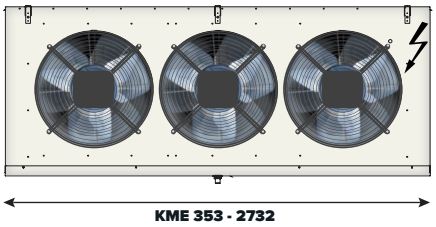




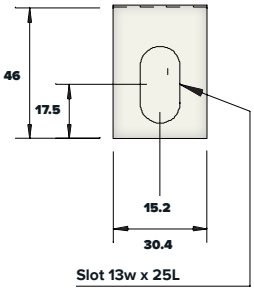








MOUNTING BRACKETS FOR ALL KME



MODEL	A
KM*50	350
KM*60	350
KM*80	400
KM*95	450
KM*115	500
KM*140	500
KM*175	500
KM*232	650
KM*282	650
KM*352	850
KM*353	850

NOTE: All dimensions in mm, Heater removal all models **1200mm** either end of unit (KME50 805mm only)

SELECTION AND PRICING

This can be performed on the Selection software which can be downloaded from our website **www.kelvion.com**

www.kelvion.com

Distributor/Wholesaler

Kelvion UK - Fareham
20 Davis Way, Newgate Lane, Fareham
Hampshire, PO14 1AR, United Kingdom
Tel: +44 (0) 1329 823344
www.kelvion.com

Kelvion UK - Birmingham
3 Maybrook Road, Birmingham,
B76 1AL, United Kingdom
Tel: +44 (0) 121 352 3340
www.kelvion.com

Kelvion

Designed for quick and easy installation

SEARLE MSA FLATBED AIR COOLED CONDENSER

YOUR BENEFITS

- **Our smallest condenser:** increasingly popular with refrigeration and air conditioning condenser applications.
- **Orientation:** The unit can be installed either vertically or horizontally, floor or wall mounted, by using the supplied mounting legs.
- **Fans are the highest quality and efficiency:** when matched to the case/ orifice design offer extremely low noise levels.
- **Coil manufacture:** from seamless 8mm copper tube employing the latest extended inner surface technology, mechanically expanded into aluminium ripple fin.
- **Casework:** All external surfaces are oven cured at 180°C ensuring an even, flexible and durable gloss finish (grey RAL 7032) with excellent corrosion protection properties and tolerance to UV exposure.
- **Eurovent certify-all:** independent certification for thermal performance, power consumption, sound data and unit air volumes for standard products under scheme limits.

CAPACITY RANGE

HFO/HFC **5.4 kW - 26.5 kW**

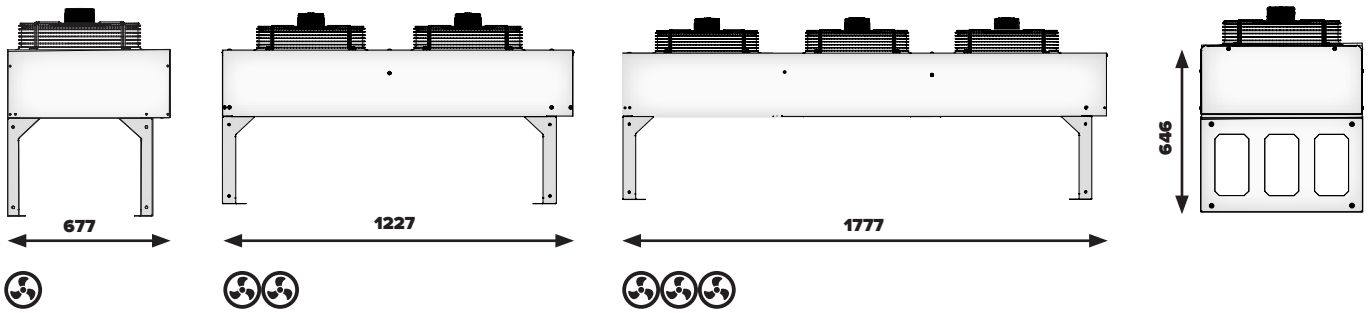
t_{L1}=25°C | t_o=40°C | DT=15K [SC1]

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

bsi. ISO 9001 Quality Management

CE

DIMENSIONS



FANS

▶ **AC axial fans** ▶ **EC**		**Ø 350 mm**

HEAT EXCHANGE

- ▶ **Fin Type:** L, F
- ▶ **Standard Fin spacing: [in mm]**
  L = 2.1 I F = 2.1
- ▶ **Fin material:** Cu, Al, Av
- ▶ **Tube Diameter: [in mm]**
  L = 9.5 I F = 5
- ▶ **Tube material:** Cu

CONTROLS OPTIONS

OPTION	DESCRIPTION
Basic Units	As standard, units are supplied unwired.
Terminal Box	Standard option: junction box fitted on the coil end plate, spring clamp terminal blocks
Fan-speed Controller	Single phase TRIAC for AC options and a gauge transducer for EC option, Pressure controlled.
Isolators	Isolators available on request

VARIANTS & ACCESSORIES

- ▶ **AC fan control**
- ▶ **EC Fan Control**
- ▶ **Fansets (Units are supplied as standard with no fansets)**
- ▶ **Isolators**

OPERATING ENVIRONMENT GUIDANCE

APPLICATION ATMOSPHERE	TUBE MATERIAL	FIN MATERIAL	TUBE PLATE
Commercial Application	Cu	Cu, Al, AV	Al

NOTE

Selection and Pricing can be performed on the Searle **Selection software** which can be downloaded from our website **www.kelvion.com**

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Kelvion

Committed to technological Innovation

SEARLE MV AIR COOLED CONDENSER

YOUR BENEFITS

- **V-Bank configuration are suitable for all air conditioning applications:** The range can also be configured as dry air liquid coolers and gas coolers.
- **The V configuration units come in** a combination of 3 coil widths and 3 module lengths and 2 fans wide which can be manufactured up to 12m long.
- **The MV range of condensers:** are available with the latest fan set innovations such as AxiTop, ZA Plus and Flow grid all available through our selection program.
- **Eurovent certify-all:** independent certification for thermal performance, power consumption, sound data and unit air volumes for standard products under scheme limits.
- **CE Marked and PED compliant:** SEP to CAT IV depending upon refrigerant, operating temperatures, header sizes and internal volumes.

CAPACITY RANGE

HFO/HFC **29 kW - 1889 kW**

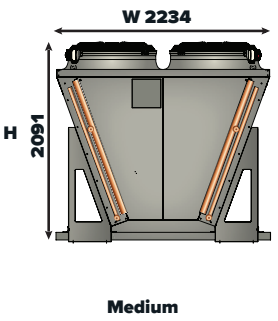
t_{L1}=25°C | t_o=40°C | DT=15K [SC1]

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

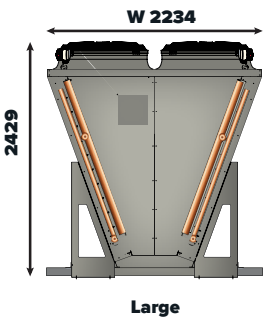
bsi. ISO 9001 Quality Management

CE

DIMENSIONS



Medium



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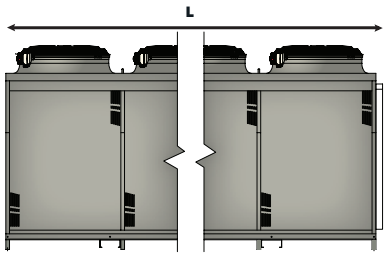
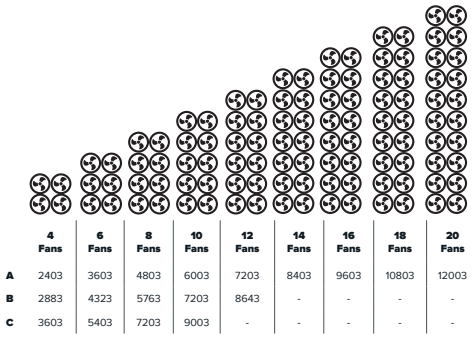




	4 Fans	6 Fans	8 Fans	10 Fans	12 Fans	14 Fans	16 Fans	18 Fans	20 Fans
A	2403	3603	4803	6003	7203	8403	9603	10803	12003
B	2883	4323	5763	7203	8643	-	-	-	-
C	3603	5403	7203	9003	-	-	-	-	-

FANS

▸ AC Normal	Ø 800 mm	▸ Min IP 54
▸ AC High power	Ø 900 mm	▸ 6, 8, 12 Pole and EC
▸ EC Standard	Ø 910 mm	▸ 3 phase
▸ EC High power		▸ 50/60 Hz
▸ EC Low power		▸ 1 - 20 fans

HEAT EXCHANGE

- ▸ **Fin Type:** L, T, F
- ▸ **Standard Fin spacing: in mm]**
  (L) 2.1 I (T) 2.3 I (F) 2.1
- ▸ **Fin material:** Cu, Al, Av, AlMg, Bg
- ▸ **Tube Diameter: [in mm]**
  (L) 9.5 I (T) 12 I (F) 5
- ▸ **Tube material:** Cu

CONTROLS OPTIONS

OPTION	DESCRIPTION
Unwired	Installer wires directly to fan terminal boxes.
Junction Box	Single or twin according to unit model.
Staged Control	motor switchgear with or without controller.
Speed Control	EC, inverter or triac

VARIANTS & ACCESSORIES

- ▸ **Control Box & Isolators**
- ▸ **Sub cooling/Multi sections**
- ▸ **Alternative Fin Material**
- ▸ **Special Paint**
- ▸ **Adiabatic System**
- ▸ **Mounted Receivers**
- ▸ **Mounting frames & Customised Housing**

OPERATING ENVIRONMENT GUIDANCE

APPLICATION ATMOSPHERE	TUBE MATERIAL	FIN MATERIAL	TUBE PLATE
Commercial Application	Cu, or St/St	Al, AV, AlMg, Cu, Bg	Al/Cu
Industrial Application	Cu or St/St	Al, AV, AlMg, Cu, Bg	Al/Cu
Within 20 miles of the Sea	Cu	Cu, Bg, AlMg	Al/Cu
Waste Disposal	Cu	Al, AV, AlMg, Cu, Bg	Al/Cu

NOTE

Selection and Pricing can be performed on the Searle **Selection software** which can be downloaded from our website **www.kelvion.com**

Kelvion Ltd
20 Davis way, Newgate lane, Fareham, PO14 1AR, UK
Phone +44 (0) 1329 823344,
Fax +44 (0) 1329 821242
www.kelvion.com

A condenser that's reliable and efficient

SEARLE RF-SJ FLATBED AIR COOLED CONDENSER

YOUR BENEFITS

- **Kelvion has designed, engineered and manufactured the RF-SJ,** this brings a solution for customers who employ refrigeration as an essential part of their primary processes.
- **This product has been optimised** for the capacity range between the MSA and the larger RF condenser.
- **The RF-SJ uses the features from previous ranges,** such as profiled side plates and versatile leg arrangements to ensure the high level of quality Kelvion's customers expect will be met.
- **The popular L-Fin** has been configured for this range to achieve optimised thermal performance within a given footprint.
- **The unit form have been designed** to enable easy stocking and delivery and to optimise customers storage space.
- **Eurovent certify-all:** independent certification for thermal performance, power consumption, sound data and unit air volumes for standard products under scheme limits.

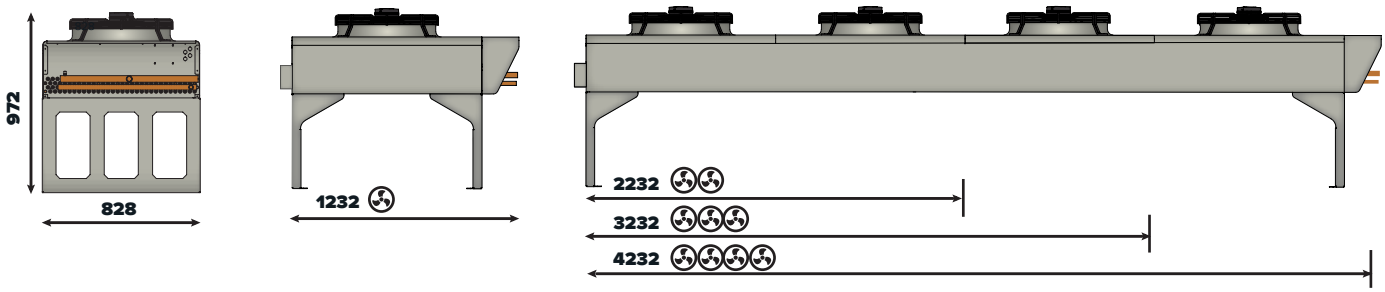
CAPACITY RANGE

HFO/HFC

6 kW - 181 kW

t_{L1}=25°C | t_0=40°C | DT=15K [SC1]

DIMENSIONS



FANS

▸ AC Normal	Ø 630 mm	▸ Min IP 54
▸ AC High power		▸ 4, 6, 8 Pole
▸ EC Standard		▸ Single or 3 phase
▸ EC High power		▸ 50/60 Hz
▸ EC Low power		▸ 1 - 4 fans

HEAT EXCHANGE

- ▸ **Fin Type:** L, G, F
- ▸ **Fin spacing: [in mm]**
  L = 2.1 | G = 2.1 | F = 2.1
- ▸ **Fin material:** Cu, Al, Av, AlMg, Bg, Et
- ▸ **Tube Diameter: [in mm]**
  L = 9.5| G = 8 | F = 5
- ▸ **Tube material:** Cu

CONTROLS OPTIONS

OPTION	DESCRIPTION
Unwired	Installer wires directly to fan terminal boxes.
Junction Box	Single or twin according to unit model.
Staged Control	Motor switchgear with or without controller.
Speed Control	EC, inverter or triac.
Simple condenser controller	For use with condensers fitted with EC fan sets.

VARIANTS & ACCESSORIES

- ▸ **AC Fan Control**
- ▸ **EC Fan Control**
- ▸ **Isolators**
- ▸ **Sub-Cooling**
- ▸ **Alternative Fin Material**
- ▸ **Model Options: LF-SJ, GF-SJ or OF-SJ**

OPERATING ENVIRONMENT GUIDANCE

APPLICATION ATMOSPHERE	TUBE MATERIAL	FIN MATERIAL	TUBE PLATE
Commercial Application	Cu, or St/St	Al, AV, AlMg, Cu, Bg	Al/Cu
Within 20 miles of the Sea	Cu	Cu, Bg, AlMg	Al/Cu

NOTE

Selection and Pricing can be performed on the Searle **Selection software** which can be downloaded from our website **www.kelvion.com**

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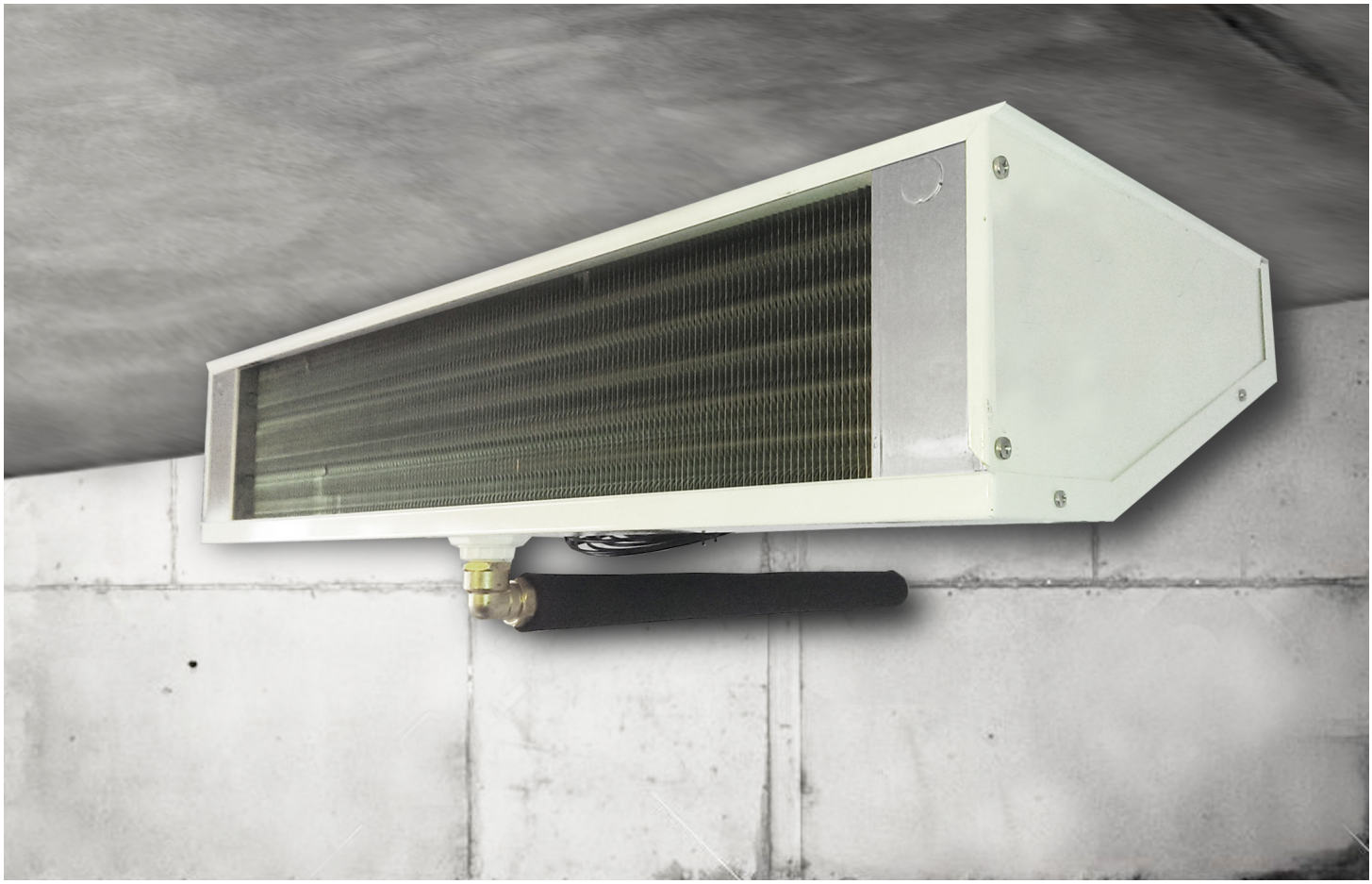
Kelvion

The ideal cooler at a competitive price

KELVION TEC COMMERCIAL AIR COOLER



Kelvion – a tribute to Lord Kelvin

Lord Kelvin (1824 – 1907) formulated the laws of thermodynamics

70 branches and sales partners worldwide

More than 4,000 employees worldwide

EXPERTS IN HEAT EXCHANGE – SINCE 1920

Welcome to Kelvion. As successor to the GEA Heat Exchangers Group, we continue to break new ground, making discerning customers more successful than ever with our integrated heat exchanger solutions.

Our solutions for your applications:
We offer our customers one of the world's largest product portfolios in the field of heat exchangers. It includes individual solutions for practically all conceivable applications and complex environmental conditions: plate heat exchangers, shell and tube heat exchangers, finned tube heat exchangers, modular cooling tower systems, and refrigeration heat exchangers.

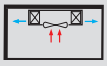
Your markets are our markets, too:
The markets in which you and we together operate are among the most important in the world: the chemical industry, food and beverages, the heavy industry, climate and environment, marine applications, the oil and gas industry, energy, refrigeration technology, sugar and transportation. We provide every single market segment with solutions of outstanding efficiency, safety, and sustainability.

We are highly committed to earning your trust:
We want to win your trust with everything we do and convince you with the solutions we offer. With this high aim in mind, we invest our extensive know-how, our great precision, and our passion in everything we do: including product development, manufacturing, installation, and after-sales support.

Seeing things from the customer perspective:
Your specific requirements count – and nothing else. Whatever we offer you, it must meet these requirements. Our entire way of thinking and working is geared towards this aim. Our customers truly appreciate this: after all, this is how we make their companies more efficient.

We are at your service.
Kelvion – Experts in Heat Exchange.

COMMERCIAL AIR COOLERS RANGE

MODEL		NO.FANS	CONFIGURATION	EUROVENT	SUPPLY	EC FANS	STANDARD ELECTRIC	HEAVY ELECTRIC DEFROST	HOT GAS A/B/C/D DEFROST	CO2	FIN MATERIAL	CAPACITY
TEC		1 - 3		✔	1 ph	✔	✔ Kit	X	X	✔	AL, AV	0.5 - 3.4kW (CO^2) 0.34- 3.8kW
KEC		1 - 3		✔	1 ph	✔	✔	X	✔	✔	AL, AV	1.2 - 10.7kW (CO^2) 1 - 9.9kW
KMe		1 - 4		✔	1 & 3ph	O	✔	✔	✔	✔	AL, AV	5.8 - 28kW (CO^2) 5.9 - 48.1kW
KDC		1 - 6		✔	1 ph	✔	✔	X	X	✔	AL, AV	1.4 - 23kW (CO^2) 1.7 - 23kW

✔ **YES** X **NO** O **OPTION**

TEC SPECIFICATION

CASEWORK: The casework is formed from galvanized steel and finished with oven cured white epoxy powder paint (RAL 9010). Comprising of a back plate with formed sides to which the coil is fitted. The front panel is a combined fan plate and drain tray which can be lowered on a hinge bracket to gain access to the electrical box and coil connections. The coil connections are handed on the left hand side when looking into the air off face of the cooler and are the only handing available

FANS AND CONTROLS: The TEC Cooler from Kelvion has been designed utilising EC fan set technology as standard. This has resulted in a market leading, highly efficient cooler that is both versatile and robust.

- 1-3 fans as standard
- Axial (Propeller) Fan set
- 230mm diameter
- 50 & 60 Hz as standard
- Metal wire guard and wall ring
- Nominal speed 1920rpm
- Nominal Power 25W
- Motor Rating IP55

COIL: The coil technology used in the TEC cooler is optimised specifically for DX refrigeration applications. Inner grooved tubes are used to optimise performance by enhancing the internal heat transfer coefficients. The tube is then mechanically expanded to provide a tight Interference fit between the fin and tube.

- Manufactured from 3/8" Inner Grooved Copper Tube
- Tube Pitch Across Airflow = 25.4mm
- Tube Pitch In Direction of Airflow = 22mm
- Fin Spacing(s): 5 FPI (5.1mm) and 7 FPI (3.6mm)

CO2 OPTION: Kelvion has worked closely with various stakeholders in the refrigeration sector to enhance its standard product specifically for CO_2 refrigeration applications. This has resulted in the next generation of unit coolers with a maximum operating pressure of 75 Bar as standard. Advanced technology available from Kelvion enables companies to cut refrigeration operating costs significantly, offsetting some of the impact of high energy prices. Reliable refrigeration is a must-have across the food chain from farm to supermarket, and with costs rising all round, users are showing keen interest in the savings potential in the next generation of unit coolers.

TEC AIR COOLER

BENEFITS

- Our smallest Evaporator: consists of nine small ‘blow through’ unit coolers, with a wide operating range of + 10 °C to -40°C.
- The popular TEC range: suitable for high, medium and low temperature applications in the commercial refrigeration sector.
- Fans are the highest quality and efficiency: The TEC Cooler from Kelvion has been designed optimising EC fan set technology as standard. This has resulted in a market leading, highly efficient cooler that is both versatile and robust.
- Enhanced standard TEC range for CO_2 refrigeration applications. The next generation of unit coolers with a maximum operating pressure of 75 Bar as standard enables companies to cut refrigeration operating costs significantly, offsetting some of the impact of high energy prices.
- Casework: The highly efficient performance of the cooler is accompanied by a pleasing aesthetic design whilst maintaining a service focused functionality
- Eurovent certify-all: independent certification for thermal performance, power consumption, sound data and unit air volumes for standard products under scheme limits.

CAPACITY RANGE

HFO/HFK **0.52 kW - 3.4 kW**

t_{L1}=0°C | t_0=-8°C | DT=8K [SC2] | R404A

0.34 kW - 3.8kW

t_{L1}=0°C | t_0=8°C | DT=8K [SC2]

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

bsi. ISO 9001 Quality Management

CE

HEAT EXCHANGE

- **Fin Type:** E
- **Tube Diameter: [in mm]**
  9.5 |
- **Standard Fin spacing: [in mm]**
  5.1 | 3.6 |

VARIANTS & ACCESSORIES

- **Drain Tray Heater Guard**
- **Defrost kits wall or ceiling mounted**
- **Fan sets**
- **Model options: TECX**

DEFROST

DEFROST	FAN	COIL	DRIP TRAY
Standard Electric	✓	✓	✓
Heavy Electric		X	
Hot gas		X	

FAN

- **EC standard**

Ø 230 mm
IP55
1 phase

MATERIALS

MATERIAL	TUBE	FINS	CASING	END PLATE
Copper (Cu)	☑	✓		
Aluminium (Al)		☑		☑
Aluminium Epoxy (Av)		✓		
Galvanised Steel			☑	

☑ Standard | ✓ Available as a variant

REFRIGERANT DATA

REFRIGERATION	R404A	R134A	R507A	R407A/F	R407C
Capacity factor (dew point, DT1)	1.00	0.91	0.97	1.24*	1.26*
Refrigerant charge density (kg/dm^3)	0.312	0.338	0.313	0.332	0.332

* Capacity factors for refrigerants with high glide apply only at the nominal rating condition.
Refrigerant charge densities are based on 25% of the internal volume being liquid.

DESIGNATION

The model number indicates the casework model size and other relevant information, for example: -

PART NUMBER	TEC	4	-	5	60	AL

Range	**TEC,** TECX
Model	**1,** 2, 3, 3.5, 4, 5, 6, 7, 8
Fin Spacing	**5 FPI** (5.1mm), 7 FPI (3.6mm)
Supply frequency	Blank = 50Hz, **60** = 60Hz
Fin material	**AL** = Aluminium

SELECTION DATA

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A *	MOTOR DETAILS 230V - 1PH - 50Hz					FAN DATA			CONNECTION		INTER-NAL VOLUME	SURFACE AREA	REF CHARGE	WEIGHT
			NO. OF FANS	POWER INPUT	FLC PER FAN	SC PER FAN	SPEED	AIR VOLUME	AIR THROW ***	NOISE LEVEL @ 3M **	INLET	OUTLET				
		kW		W	Amps	Amps	RPM	m^3/s	m	dB(A)			dm^3	m^2	kg	kg
7 FPI (3.6mm)	TEC1-7	0.57	1	21	0.2	0.9	1440	0.15	4.5	4.5	3/8"	3/8"	0.4	1.5	0.1	7
	TEC2-7	0.89	1	21	0.2	0.9	1440	0.15	4.5	4.5	3/8"	3/8"	0.8	2.9	0.3	8
	TEC3-7	1.04	1	21	0.2	0.9	1440	0.15	5.0	5.0	3/8"	3/8"	1.1	4.1	0.5	12
	TEC3.5-7	1.25	1	21	0.2	0.9	1440	0.16	5.0	5.0	1/2"	3/8"	1.4	5.4	0.4	10
	TEC4-7	1.72	2	42	0.2	0.9	1440	0.26	5.0	5.0	1/2"	3/8"	1.4	5.4	0.5	14
	TEC5-7	2.04	2	42	0.2	0.9	1440	0.30	5.5	5.5	1/2"	3/8"	1.8	7.3	0.6	16
	TEC6-7	2.29	2	42	0.2	0.9	1440	0.32	5.5	5.5	5/8"	1/2"	2.3	9.7	0.8	19
	TEC7-7	3.02	3	63	0.2	0.9	1440	0.45	6.0	6.0	7/8"	1/2"	2.4	10.3	0.8	24
	TEC8-7	3.40	3	63	0.2	0.9	1440	0.48	6.0	6.0	7/8"	1/2"	3.2	13.8	1.1	27
5 FPI (5.1mm)	TEC1-5	0.52	1	21	0.2	0.9	1440	0.16	4.5	4.5	3/8"	3/8"	0.4	1.1	0.1	7
	TEC2-5	0.84	1	21	0.2	0.9	1440	0.15	4.5	4.5	3/8"	3/8"	0.8	2.1	0.3	8
	TEC3-5	1.00	1	21	0.2	0.9	1440	0.16	5.0	5.0	3/8"	3/8"	1.1	3.0	0.5	12
	TEC3.5-5	1.15	1	21	0.2	0.9	1440	0.17	5.0	5.0	1/2"	3/8"	1.4	4.0	0.4	10
	TEC4-5	1.61	2	42	0.2	0.9	1440	0.28	5.0	5.0	1/2"	3/8"	1.4	4.0	0.5	14
	TEC5-5	1.89	2	42	0.2	0.9	1440	0.31	5.5	5.5	1/2"	3/8"	1.8	5.4	0.6	16
	TEC6-5	2.14	2	42	0.2	0.9	1440	0.34	5.5	5.5	5/8"	1/2"	2.3	7.1	0.8	19
	TEC7-5	2.76	3	63	0.2	0.9	1440	0.47	6.0	6.0	7/8"	1/2"	2.4	7.6	0.8	24
	TEC8-5	3.18	3	63	0.2	0.9	1440	0.50	6.0	6.0	7/8"	1/2"	3.2	10.1	1.1	27

NOTES: Rating conditions: The duties shown in this brochure are at EN 328 Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering). For data on refrigerants not shown, please contact your supplier.

- * DT1 is the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.
- ** Noise levels are based on free field conditions at a distance of 3m. Actual noise levels will depend upon cold store construction, store loading and the number of coolers installed.
- *** Terminal air velocity 0.25m/s, free air conditions at 10°C. Air throw cannot be considered an absolute value because many factors have a substantial effect on the distance achieved.

TEC CO2

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A *	MOTOR DETAILS 230V - 1PH - 50Hz					FAN DATA			CONNECTION		INTER-NAL VOLUME	SURFACE AREA	REF CHARGE	WEIGHT
			NO. OF FANS	POWER INPUT	FLC PER FAN	SC PER FAN	SPEED	AIR VOLUME	AIR THROW ***	NOISE LEVEL @ 3M **	INLET	OUTLET				
		kW		W	Amps	Amps	RPM	m^3/s	m	dB(A)			dm^3	m^2	kg	kg
5 FPI (5.1mm)	TEC1-7	0.34	1	21	0.2	0.9	1440	0.2	0.9	51	3/8"	5/8"	0.4	1.1	0.4	8
	TEC2-7	0.66	1	21	0.2	0.9	1440	0.2	0.9	50	3/8"	5/8"	0.8	2.1	0.4	9
	TEC3-7	0.84	1	21	0.2	0.9	1440	0.2	0.9	50	3/8"	5/8"	1.1	3.0	0.8	11
	TEC3.5-7	1.00	1	21	0.2	0.9	1440	0.2	0.9	50	3/8"	5/8"	1.4	4.0	0.8	14
	TEC4-7	1.37	2	42	0.2	0.9	1440	0.2	0.9	53	3/8"	5/8"	1.4	4.0	0.8	15
	TEC5-7	1.81	2	42	0.2	0.9	1440	0.2	0.9	52	3/8"	5/8"	1.8	5.4	0.8	19
	TEC6-7	2.22	2	42	0.2	0.9	1440	0.2	0.9	51	3/8"	5/8"	2.3	7.1	1.4	21
	TEC7-7	2.86	3	63	0.2	0.9	1440	0.2	0.9	54	3/8"	5/8"	2.4	7.6	1.4	27
	TEC8-7	3.30	3	63	0.2	0.9	1440	0.2	0.9	53	3/8"	5/8"	3.2	10.1	1.8	31

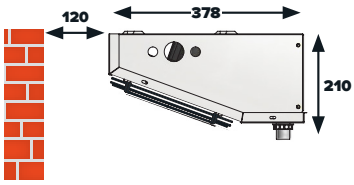
NOTES: Rating conditions: The duties shown in this brochure are at EN 328 Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering). For data on refrigerants not shown, please contact your supplier.

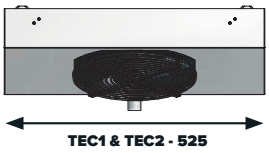
- * DT1 is the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.
- ** Noise levels are based on free field conditions at a distance of 3m. Actual noise levels will depend upon cold store construction, store loading and the number of coolers installed.
- *** Terminal air velocity 0.25m/s, free air conditions at 10°C. Air throw cannot be considered an absolute value because many factors have a substantial effect on the distance achieved.

DIMENSIONS

CEILING MOUNT OPERATION

MODEL HEIGHT	MODEL WIDTH

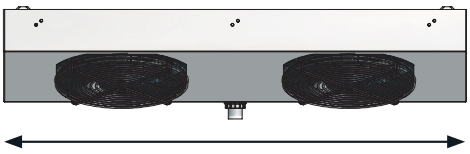




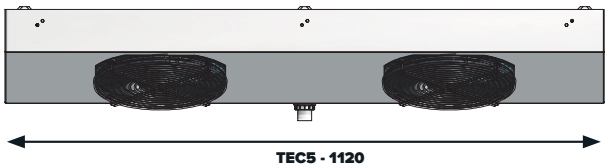
TEC1 & TEC2 - 525

TEC3 - 690

TEC3 - 865

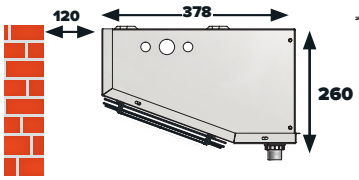


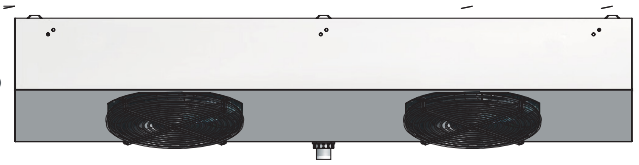
TEC4 - 865



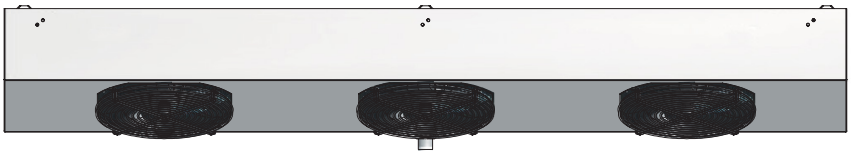
TEC5 - 1120

TEC7 - 1528



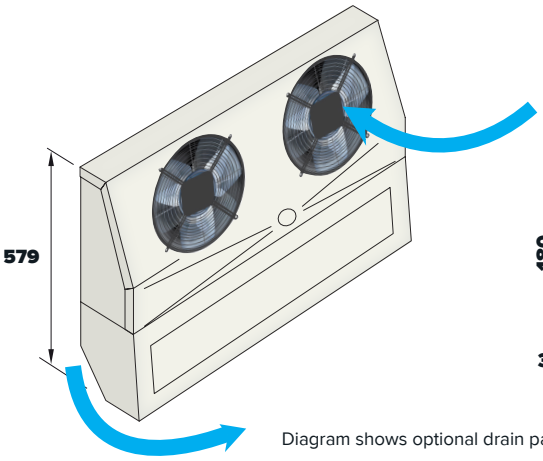


TEC6 - 1120



TEC8 - 1528

WALL MOUNT OPERATION



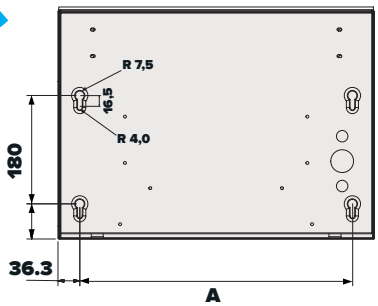


Diagram shows optional drain pan when unit is wall mounted

MODEL	NO. OF FANS	A	DEFROST	
			COIL W	TRAY W
TEC1	1	453 (x4)	275	2 x 250
TEC2	1	453 (x4)	550	2 x 250
TEC3	1	618 (x4)	700	2 x 325
TEC3.5	1	793 (x4)	900	2 x 425
TEC4	2	793 (x4)	900	2 x 425
TEC5	2	524 (x6)	1000	2 x 575
TEC6	2	524 (x6)	1000	2 x 675
TEC7	3	728 (x6)	1400	2 x 1030
TEC8	3	728 (x6)	1400	2 x 1030

SELECTION AND PRICING

This can be performed on the Selection software which can be downloaded from our website **www.kelvion.com**

www.kelvion.com

Distributor/Wholesaler

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B76 1AL, United Kingdom
Tel: +44 (0) 121 352 3340
www.kelvion.com

Kelvion

Commercial Air Coolers

Kelvion KDC

BEST CONDITIONS FOR WORKING ROOMS

Kelvion – a tribute to Lord Kelvin

Lord Kelvin (1824 – 1907) formulated the laws of thermodynamics

70 branches and sales partners worldwide

More than 4,000 employees worldwide

EXPERTS IN HEAT EXCHANGE - SINCE 1920

Welcome to Kelvion. As successor to the GEA Heat Exchangers Group, we continue to break new ground, making discerning customers more successful than ever with our integrated heat exchanger solutions.

Our solutions for your applications:
We offer our customers one of the world's largest product portfolios in the field of heat exchangers. It includes individual solutions for practically all conceivable applications and complex environmental conditions: plate heat exchangers, shell and tube heat exchangers, finned tube heat exchangers, modular cooling tower systems, and refrigeration heat exchangers.

Your markets are our markets, too:
The markets in which you and we together operate are among the most important in the world: energy, the oil and gas industry, the chemical industry, marine applications, food and beverages, climate and environment. We provide every single market segment with solutions of outstanding efficiency, safety, and sustainability.

We are highly committed to earning your trust:
We want to win your trust with everything we do and convince you with the solutions we offer. With this high aim in mind, we invest our extensive know-how, our great precision, and our passion in everything we do: including product development, manufacturing, installation, and after-sales support.

Seeing things from the customer perspective:
Your specific requirements count – and nothing else. Whatever we offer you, it must meet these requirements. Our entire way of thinking and working is geared towards this aim. Our customers truly appreciate this: after all, this is how we make their companies more efficient.

We are at your service.
Kelvion – Experts in Heat Exchange.

DRAUGHT-FREE VENTILATION AND QUIET OPERATION

Capacity range (for SC2 | R404A)

1.4 kW  **23 kW**

Temperature range (t_{L1})

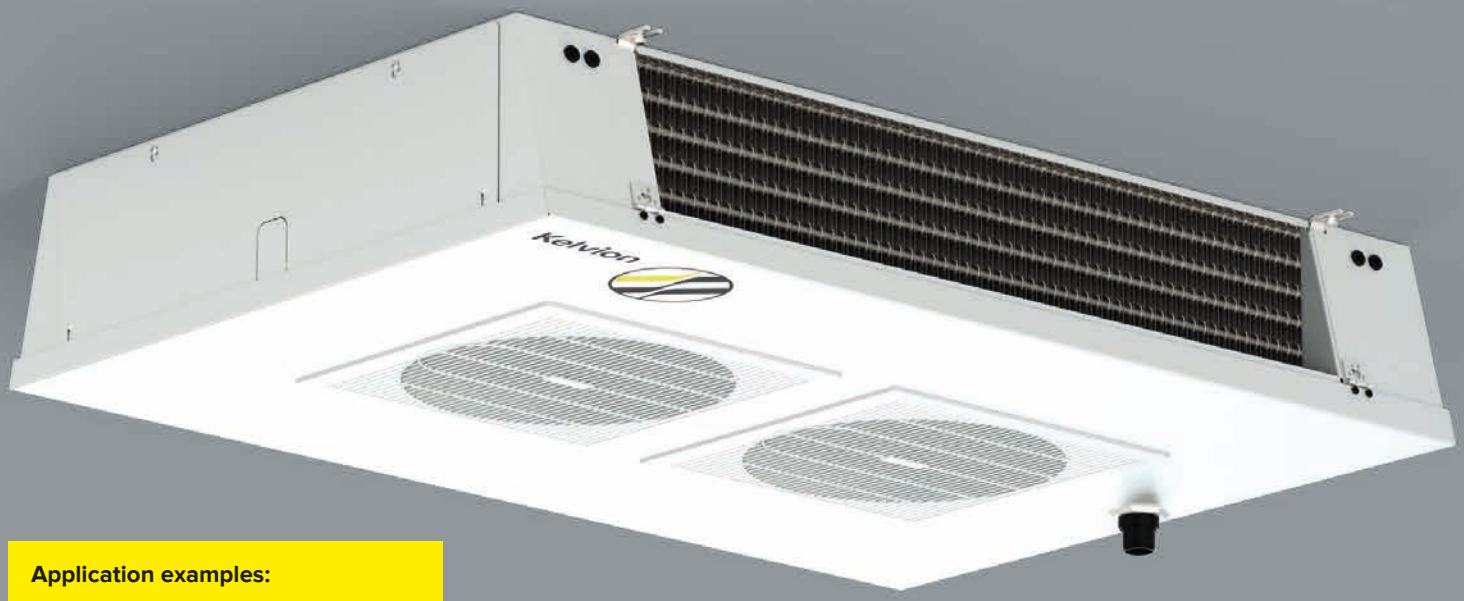
-25°C  **+40°C**

Nomenclature

1	2	3		4	5		6	7	8		9		
K	D	C	-	35	2	-	6	A	N	-		-	

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

APPLICATION BENEFITS FOR CONTRACTORS AND OPERATORS



Application examples:

- Working areas
- Sales areas for sensitive goods
- Cold rooms
- Laboratories

COOLING WHERE PEOPLE ARE WORKING

The Kelvion KDC provides gentle cooling and quiet operation for sensitive produce and/or area's where people are working

The dual discharge air coolers are suitable for high, medium and low temperature applications in the commercial refrigeration sector.

Better performance, easy installation, serviceability and high quality make this unit the perfect fit for your working area needs.

- Kelvion KDC: EC (Electronically Commutated) Fans offer considerable energy cost savings and long life
- Fans offer a choice of high or low speed
- Drip tray hinged on both sides to give access to the bottom for cleaning or maintenance
- CAL distributor as option
- Draft-free air circulation and quiet operation: pleasant conditions for people in working spaces
- Guides the air across the ceiling and far into the room
- Smooth surfaces: Easy to clean
- Optional 45/90Bar CO_2 / R744 version

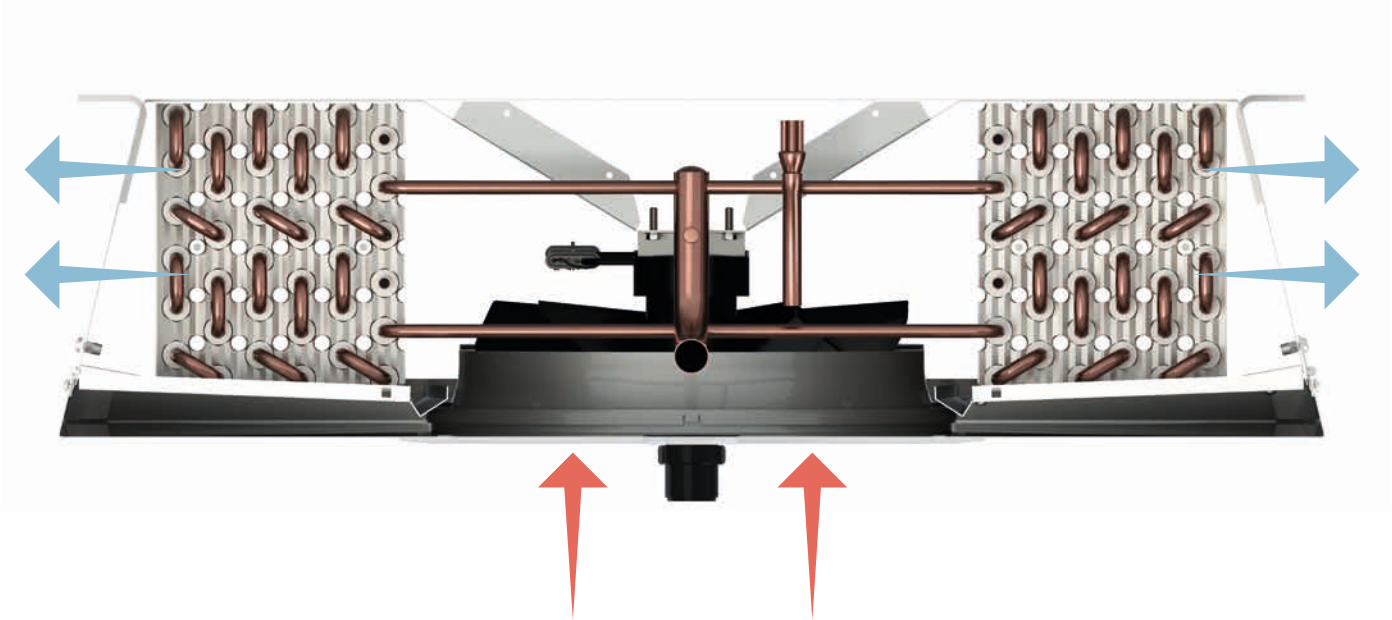
DRAUGHT-FREE AIR MOVEMENT AND SILENT OPERATION

The technical cooling demands and spatial conditions are only one aspect. Safety and health are top priority as soon as people need to work in cold rooms.

For staff to perform their work without adverse effects their wellbeing must be assured.
Noise and air movement in such rooms are a significant contributing factor to a pleasant indoor climate. The demands made on equipment to ensure a constant temperature in rooms where sensitive goods such as cut flowers are exhibited for sale and where people also need to work of course, are high.

Draught-free air movement and extremely quiet operation create a pleasant indoor climate for the people and excellent conditions for the processing and short-time storage of sensitive products. The air in the room is drawn in by the fans and exhausted via the heat exchangers on both sides. The Kelvion KDC guides the air towards the ceiling where the Coanda effect carries it far into the room. The Kelvion KDC in this way creates optimal air flow at very low air velocity.

Power ratings range from 1.4 kW to 23 kW. The drip tray hinges down to facilitate comfortable cleaning.

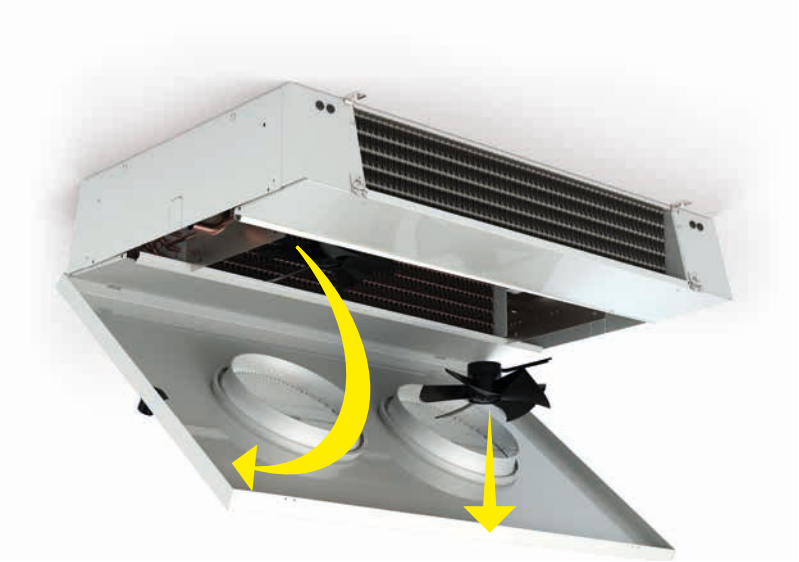


EASY INSTALLATION AND MAINTENANCE

All mounted parts are easily accessible. Cover plates and drip tray can be removed and mounted again quickly and easily. The use of bolts is reduced to a minium.

The fan can be replaced with a flick of the wrist.
The drip tray can be removed to inspect and clean the air cooler. It can be hinged on both sides.

When the optionally available condensate pump is installed, there is no need to dismantle the drain pipe.



Kelvion KDC

BASIC VERSION

CASING

- Sendzimir zinc-plated steel, smooth
- High-grade powder coating RAL 9010
- Food-safe
- Easy to clean
- Best quality powder coated edges
- Drip tray hinged on both sides to give access to the bottom for cleaning or maintenance
- Side cover plates removable
- Compact design

ELECTRICAL DEFROST

- Heating elements made from stainless steel
- Connections vapor-tight
- Connection voltage: 1/N/PE 230V 50/60Hz
- Wired to a terminal box, ready for connection
- An optimized heating element configuration ensure fast and even defrosting
- The stainless steel heating elements are fitted within aluminium tubes, which provides a highly conductive interface between the heaters and fins ensuring efficient defrost cycles with optimised life cycle

HEAT EXCHANGER

- Tube: Copper, internally finned, Ø 12 mm
- Fins: HFE-Fins® from Aluminium
- End plate: Aluminium
- Staggered tube system
- Fin spacing
  A = 4,5 mm
  B = 7,0 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

FAN UNIT

- EC-ESM technology
- 2 speed operation
- Fan diameter: 350 mm
- Permissible motor operating temperatures from -25°C to +40°C
- Connection voltage: 1/N/PE 230V 50/60Hz
- Motor protection: Internal thermocontact (not carried out)
- Protection class IP54
- Insulation class B
- Fans wired on 1 internal terminal box
- Optional extra V1.52: Fan adjustable via 0-10V interface (speed adjustable from 100% to at least 50%)

Please observe the manufacturer‘s information!

MOTOR LABEL DATA

Type	Fan	50/60Hz		
	ø mm	min^{-1}	W	A
Sound Level S1*	350	1100	80	0,70
Sound Level S2**	350	800	32	0,28

Motor data per fan, provided by the fan manufacturer

* corresponds to the former N sound classification
** corresponds to the former L sound classification

TECHNICAL DATA

Kelvion KDC | Fin spacing 4.5 mm (A)

Sound level S1

Model	Capacities Q_0 at 50Hz, R404A		Surface	Air Volume	Air Throw	Volume	Connections		Sound	Fans (values at 50Hz)					Energy Class
	SC1	SC2					In	Out	L_{WA} ±1dB(A)	Fan	Motor Voltage		Per Air Cooler		
	kW	kW	m²	m³/h	m	dm³	mm	mm	dB(A)	mm	230±10% V-1 50/60Hz	min⁻¹	W	A	EEF
KDC-351-2A	3,8	2,4	7,8	1.970	2x13	1,5	10x1.0	12x1.0	71	350	EC 230 V-1	1.085	78	0,73	C
KDC-351-4A	5,4	3,2	15,2	1.670	2x11	3,1	12x1.0	18x1.0	71	350	EC 230 V-1	1.085	78	0,73	B
KDC-351-6A	5,6	3,7	22,6	1.440	2x10	4,6	15x1.0	18x1.0	71	350	EC 230 V-1	1.085	78	0,73	A
KDC-351-SA	6,7	4,3	28,8	1.670	2x10	5,7	15x1.0	22x1.0	71	350	EC 230 V-1	1.085	78	0,73	A
KDC-352-2A	7,6	4,9	15,5	3.940	2x14	2,9	15x1.0	18x1.0	74	350	EC 230 V-1	1.085	156	1,46	C
KDC-352-4A	10,9	6,5	30,4	3.340	2x12	5,9	15x1.0	28x1.5	74	350	EC 230 V-1	1.085	156	1,46	B
KDC-352-6A	11,5	7,4	45,3	2.880	2x11	8,8	15x1.0	28x1.5	74	350	EC 230 V-1	1.085	156	1,46	A
KDC-352-SA	13,6	8,8	57,6	3.340	2x11	9,8	22x1.0	28x1.5	74	350	EC 230 V-1	1.085	156	1,46	A
KDC-353-2A	11,5	7,4	23,3	5.910	2x15	4,4	15x1.0	22x1.0	76	350	EC 230 V-1	1.085	233	2,19	C
KDC-353-4A	16,4	9,8	45,6	5.010	2x13	8,7	22x1.0	28x1.5	76	350	EC 230 V-1	1.085	233	2,19	B
KDC-353-6A	17,5	11,2	67,9	4.320	2x12	13,0	22x1.0	28x1.5	76	350	EC 230 V-1	1.085	233	2,19	A
KDC-353-SA	20,1	13,3	86,4	5.010	2x12	16,5	22x1.0	35x1.5	76	350	EC 230 V-1	1.085	233	2,19	A
KDC-354-2A	15,3	9,9	31,1	7.880	2x16	5,8	15x1.0	28x1.5	77	350	EC 230 V-1	1.085	311	2,92	C
KDC-354-4A	21,9	13,1	60,8	6.680	2x14	11,6	22x1.0	35x1.5	77	350	EC 230 V-1	1.085	311	2,92	B
KDC-354-6A	22,6	14,9	90,5	5.760	2x13	17,2	22x1.0	35x1.5	77	350	EC 230 V-1	1.085	311	2,92	A
KDC-355-2A	19,5	12,5	38,8	9.850	2x17	7,2	22x1.0	28x1.5	78	350	EC 230 V-1	1.085	389	3,65	C
KDC-355-4A	27,0	17,6	76,0	8.350	2x15	14,3	22x1.0	35x1.5	78	350	EC 230 V-1	1.085	389	3,65	B
KDC-355-6A	29,5	18,5	113,1	7.200	2x14	21,4	22x1.0	35x1.5	78	350	EC 230 V-1	1.085	389	3,65	A
KDC-356-2A	23,1	14,9	46,6	11.820	2x18	8,6	22x1.0	28x1.5	79	350	EC 230 V-1	1.085	467	4,38	C
KDC-356-4A	32,9	19,7	91,2	10.020	2x16	17,1	22x1.0	35x1.5	79	350	EC 230 V-1	1.085	467	4,38	B
KDC-356-6A	35,2	23,0	135,8	8.640	2x15	25,6	22x1.0	35x1.5	79	350	EC 230 V-1	1.085	467	4,38	A

Sound level S2

Model	Capacities Q_0 at 50Hz, R404A		Surface	Air Volume	Air Throw	Volume	Connections		Sound	Fans (values at 50Hz)					Energy Class
	SC1	SC2					In	Out	L_{WA} ±1dB(A)	Fan	Motor Voltage		Per Air Cooler		
	kW	kW	m²	m³/h	m	dm³	mm	mm	dB(A)	mm	230±10% V-1 50/60Hz	min⁻¹	W	A	EEF
KDC-351-2A	3,1	1,9	7,8	1.360	2x9	1,5	10x1.0	12x1.0	64	350	EC 230 V-1	765	27	0,25	A
KDC-351-4A	3,9	2,6	15,2	1.150	2x8	3,1	12x1.0	18x1.0	64	350	EC 230 V-1	765	27	0,25	A+
KDC-351-6A	4,2	2,8	22,6	990	2x7	4,6	15x1.0	18x1.0	64	350	EC 230 V-1	765	27	0,25	A+
KDC-351-SA	5,0	3,3	28,8	1.150	2x7	5,7	15x1.0	22x1.0	64	350	EC 230 V-1	765	27	0,25	A+
KDC-352-2A	6,3	4,0	15,5	2.720	2x10	2,9	15x1.0	18x1.0	67	350	EC 230 V-1	765	54	0,50	A+
KDC-352-4A	7,9	5,2	30,4	2.300	2x9	5,9	15x1.0	28x1.5	67	350	EC 230 V-1	765	54	0,50	A+
KDC-352-6A	8,4	5,6	45,3	1.980	2x8	8,8	15x1.0	28x1.5	67	350	EC 230 V-1	765	54	0,50	A+
KDC-352-SA	10,1	6,7	57,6	2.300	2x8	9,8	22x1.0	28x1.6	67	350	EC 230 V-1	765	54	0,50	A+
KDC-353-2A	9,5	6,1	23,3	4.080	2x11	4,4	15x1.0	22x1.0	68	350	EC 230 V-1	765	81	0,75	A+
KDC-353-4A	11,9	7,8	45,6	3.450	2x10	8,7	22x1.0	28x1.5	68	350	EC 230 V-1	765	81	0,75	A+
KDC-353-6A	12,7	8,4	67,9	2.970	2x9	13,0	22x1.0	28x1.5	68	350	EC 230 V-1	765	81	0,75	A+
KDC-353-SA	15,2	10,0	86,4	3.450	2x9	16,5	22x1.0	35x1.5	68	350	EC 230 V-1	765	81	0,75	A+
KDC-354-2A	12,7	8,2	31,1	5.440	2x12	5,8	15x1.0	28x1.5	70	350	EC 230 V-1	765	108	1,00	A+
KDC-354-4A	15,9	10,4	60,8	4.600	2x11	11,6	22x1.0	35x1.5	70	350	EC 230 V-1	765	108	1,00	A+
KDC-354-6A	17,0	11,4	90,5	3.960	2x10	17,2	22x1.0	35x1.5	70	350	EC 230 V-1	765	108	1,00	A+
KDC-355-2A	15,7	9,2	38,8	6.800	2x13	7,2	22x1.0	28x1.5	71	350	EC 230 V-1	765	134	1,25	A
KDC-355-4A	21,0	12,9	76,0	5.750	2x12	14,3	22x1.0	35x1.5	71	350	EC 230 V-1	765	134	1,25	A+
KDC-355-6A	21,3	14,2	113,1	4.950	2x11	21,4	22x1.0	35x1.5	71	350	EC 230 V-1	765	134	1,25	A+
KDC-356-2A	19,0	12,3	46,6	8.160	2x14	8,6	22x1.0	28x1.5	72	350	EC 230 V-1	765	161	1,50	A+
KDC-356-4A	23,9	15,6	91,2	6.900	2x13	17,1	22x1.0	35x1.5	72	350	EC 230 V-1	765	161	1,50	A+
KDC-356-6A	25,4	16,9	135,8	5.940	2x12	25,6	22x1.0	35x1.5	72	350	EC 230 V-1	765	161	1,50	A+

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7
SC4	-25	-31	6

Injection via Venturi
Multiple Injection via CAL-Distributor on demand
Air throw limit at 0.5 m/s

Changes subject to modification

TECHNICAL DATA

Kelvion KDC | Fin spacing 7 mm (B)

Sound level S1

Model	Capacities Q_0 at 50Hz, R404A				Surface	Air Volume	Air Throw	Volume	Connections		Sound	Fans (values at 50Hz)					Energy Class
	SC1	SC2	SC3	SC4					In	Out	L_{WA} ±1dB(A)	Fan	Motor Voltage		Per Air Cooler		
	kW	kW	kW	kW	m²	m³/h	m	dm³	mm	mm	dB(A) ±1	mm	230±10% V-1 50/60Hz	min⁻¹	W	A	EEF
KDC-351-2B	2,9	1,7	1,2	0,9	5,2	2.100	2x14	1,5	10x1.0	12x1.0	71	350	EC 230 V-1	1.085	78	0,73	D
KDC-351-4B	4,3	2,7	2,0	1,6	10,1	1.890	2x13	3,1	12x1.0	18x1.0	71	350	EC 230 V-1	1.085	78	0,73	B
KDC-351-6B	5,4	3,3	2,6	2,0	15,1	1.710	2x11	4,6	15x1.0	18x1.0	71	350	EC 230 V-1	1.085	78	0,73	B
KDC-351-SB	6,0	3,9	3,0	2,4	19,2	1.880	2x11	5,7	15x1.0	22x1.0	71	350	EC 230 V-1	1.085	78	0,73	A
KDC-352-2B	5,9	3,6	2,5	1,9	10,4	4.200	2x15	2,9	15x1.0	18x1.0	74	350	EC 230 V-1	1.085	156	1,46	D
KDC-352-4B	8,6	5,5	4,1	3,2	20,3	3.780	2x14	5,9	15x1.0	28x1.5	74	350	EC 230 V-1	1.085	156	1,46	B
KDC-352-6B	10,9	6,9	5,2	4,0	30,2	3.420	2x12	8,8	15x1.0	28x1.5	74	350	EC 230 V-1	1.085	156	1,46	B
KDC-352-SB	12,2	7,9	6,0	4,6	38,5	3.760	2x12	9,8	15x1.0	28x1.5	74	350	EC 230 V-1	1.085	156	1,46	A
KDC-353-2B	8,8	5,5	3,8	2,9	15,5	6.300	2x16	4,4	15x1.0	22x1.0	76	350	EC 230 V-1	1.085	233	2,19	D
KDC-353-4B	12,9	8,3	6,2	4,8	30,4	5.670	2x15	8,7	22x1.0	28x1.5	76	350	EC 230 V-1	1.085	233	2,19	B
KDC-353-6B	16,5	10,4	7,8	6,1	45,3	5.130	2x13	13,0	22x1.0	28x1.5	76	350	EC 230 V-1	1.085	233	2,19	B
KDC-353-SB	18,5	12,0	9,2	7,2	57,7	5.640	2x13	16,5	22x1.0	35x1.5	76	350	EC 230 V-1	1.085	233	2,19	A
KDC-354-2B	11,8	7,3	5,0	3,9	20,7	8.400	2x17	5,8	15x1.0	28x1.5	77	350	EC 230 V-1	1.085	311	2,92	D
KDC-354-4B	17,2	11,1	8,3	6,4	40,6	7.560	2x16	11,6	22x1.0	35x1.5	77	350	EC 230 V-1	1.085	311	2,92	B
KDC-354-6B	21,0	13,8	10,5	8,1	60,5	6.840	2x14	17,2	22x1.0	35x1.5	77	350	EC 230 V-1	1.085	311	2,92	B
KDC-355-2B	13,8	8,6	6,4	4,9	25,9	10.500	2x18	7,2	22x1.0	28x1.5	78	350	EC 230 V-1	1.085	389	3,65	D
KDC-355-4B	23,1	14,5	10,5	8,1	50,7	9.450	2x17	14,3	22x1.0	35x1.5	78	350	EC 230 V-1	1.085	389	3,65	B
KDC-355-6B	26,8	17,2	12,9	9,9	75,6	8.550	2x15	21,4	22x1.0	35x1.5	78	350	EC 230 V-1	1.085	389	3,65	B
KDC-356-2B	17,7	11,0	7,6	5,8	31,1	12.600	2x19	8,6	22x1.0	28x1.5	79	350	EC 230 V-1	1.085	467	4,38	D
KDC-356-4B	25,8	16,7	12,5	9,7	60,9	11.340	2x18	17,1	22x1.0	35x1.5	79	350	EC 230 V-1	1.085	467	4,38	B
KDC-356-6B	33,1	20,9	14,8	11,2	90,7	10.260	2x16	25,6	22x1.0	35x1.5	79	350	EC 230 V-1	1.085	467	4,38	B

Sound level S2

Model	Capacities Q_0 at 50Hz, R404A				Surface	Air Volume	Air Throw	Volume	Connections		Sound	Fans (values at 50Hz)					Energy Class
	SC1	SC2	SC3	SC4					In	Out	L_{WA} ±1dB(A)	Fan	Motor Voltage		Per Air Cooler		
	kW	kW	kW	kW	m²	m³/h	m	dm³	mm	mm	dB(A)	mm	230±10% V-1 50/60Hz	min⁻¹	W	A	EEF
KDC-351-2B	2,3	1,4	1,0	0,8	5,2	1.460	2x10	1,5	10x1.0	12x1.0	64	350	EC 230 V-1	765	27	0,25	A
KDC-351-4B	3,4	2,2	1,7	1,3	10,1	1.300	2x9	3,1	12x1.0	18x1.0	64	350	EC 230 V-1	765	27	0,25	A+
KDC-351-6B	4,0	2,6	2,0	1,6	15,1	1.170	2x8	4,6	15x1.0	18x1.0	64	350	EC 230 V-1	765	27	0,25	A+
KDC-351-SB	4,7	3,0	2,4	1,9	19,2	1.300	2x8	5,7	15x1.0	22x1.0	64	350	EC 230 V-1	765	27	0,25	A+
KDC-352-2B	4,5	2,8	2,1	1,6	10,4	2.920	2x11	2,9	15x1.0	18x1.0	67	350	EC 230 V-1	765	54	0,50	A
KDC-352-4B	6,8	4,5	3,3	2,6	20,3	2.600	2x10	5,9	15x1.0	28x1.5	67	350	EC 230 V-1	765	54	0,50	A+
KDC-352-6B	8,1	5,3	4,1	3,3	30,2	2.340	2x9	8,8	15x1.0	28x1.5	67	350	EC 230 V-1	765	54	0,50	A+
KDC-352-SB	9,6	6,1	4,8	3,8	38,5	2.600	2x9	9,8	15x1.0	28x1.6	67	350	EC 230 V-1	765	54	0,50	A+
KDC-353-2B	6,8	4,3	3,2	2,5	15,5	4.380	2x12	4,4	15x1.0	22x1.0	68	350	EC 230 V-1	765	81	0,75	A
KDC-353-4B	10,3	6,7	5,1	4,0	30,4	3.900	2x11	8,7	22x1.0	28x1.5	68	350	EC 230 V-1	765	81	0,75	A+
KDC-353-6B	12,2	8,0	6,1	4,9	45,3	3.510	2x10	13,0	22x1.0	28x1.5	68	350	EC 230 V-1	765	81	0,75	A+
KDC-353-SB	14,4	9,2	7,2	5,7	57,7	3.900	2x10	16,5	22x1.0	35x1.5	68	350	EC 230 V-1	765	81	0,75	A+
KDC-354-2B	9,1	5,7	4,2	3,3	20,7	5.840	2x13	5,8	15x1.0	28x1.5	70	350	EC 230 V-1	765	108	1,00	A
KDC-354-4B	13,7	9,0	6,8	5,3	40,6	5.200	2x12	11,6	22x1.0	35x1.5	70	350	EC 230 V-1	765	108	1,00	A+
KDC-354-6B	16,3	10,7	8,3	6,6	60,5	4.680	2x11	17,2	22x1.0	35x1.5	70	350	EC 230 V-1	765	108	1,00	A+
KDC-355-2B	11,0	7,1	5,3	4,1	25,9	7.300	2x14	7,2	22x1.0	28x1.5	71	350	EC 230 V-1	765	134	1,25	A
KDC-355-4B	17,2	11,2	8,5	6,7	50,7	6.500	2x13	14,3	22x1.0	35x1.5	71	350	EC 230 V-1	765	134	1,25	A+
KDC-355-6B	20,4	13,5	10,3	8,1	75,6	5.850	2x12	21,4	22x1.0	35x1.5	71	350	EC 230 V-1	765	134	1,25	A+
KDC-356-2B	13,7	8,6	6,4	4,9	31,1	8.760	2x15	8,6	22x1.0	28x1.5	72	350	EC 230 V-1	765	161	1,50	A
KDC-356-4B	20,6	13,5	10,2	8,0	60,9	7.800	2x14	17,1	22x1.0	35x1.5	72	350	EC 230 V-1	765	161	1,50	A+
KDC-356-6B	24,4	16,1	12,1	9,4	90,7	7.020	2x13	25,6	22x1.0	35x1.5	72	350	EC 230 V-1	765	161	1,50	A+

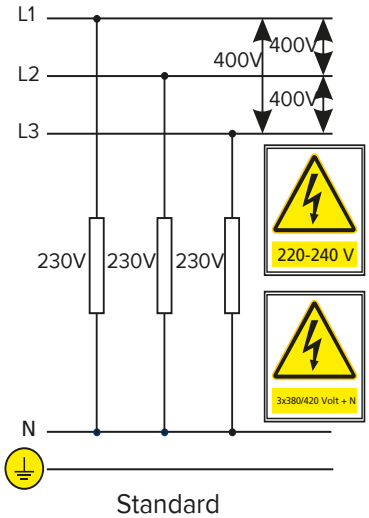
DIMENSIONS, DEFROST, WEIGHTS

Kelvion KDC

Model	Dimensions							Electrical Defrost 230V-1 / 400V-3-Y			Weight (net)		Weight (net) with elec. defrost	
								Standard	Add. defrost (V4.06)*	Standard + V4.06**				
	B	T	H	L	E1	E2	E3	Coil	Drip tray	Total	4.5 mm Fins (A)	7 mm Fins (B)	4.5 mm Fins (A)	7 mm Fins (B)
	mm	mm	mm	mm	mm	mm	mm	kW	kW	kW	kg	kg	kg	kg
KDC-351-2x	922	1003	266	930	580	-	-	1,1	0,3	1,4	40	39	42	41
KDC-351-4x	922	1003	266	930	580	-	-	2,2	0,3	2,5	43	42	46	45
KDC-351-6x	922	1003	266	930	580	-	-	2,2	0,3	2,5	48	46	51	49
KDC-351-Sx	1072	1004	268	930	730	-	-	2,8	0,3	3,1	52	50	55	53
KDC-352-2x	1472	1005	272	930	1130	-	-	1,9	0,5	2,4	51	51	54	53
KDC-352-4x	1472	1005	272	930	1130	-	-	3,8	0,5	4,3	59	59	63	62
KDC-352-6x	1472	1005	272	930	1130	-	-	3,8	0,5	4,3	67	66	71	70
KDC-352-Sx	1772	1006	274	930	1430	-	-	4,8	0,6	5,4	75	74	79	78
KDC-353-2x	2022	1007	278	930	1680	580	-	2,8	0,7	3,5	56	55	59	58
KDC-353-4x	2022	1007	278	930	1680	580	-	5,5	0,7	6,2	69	67	74	72
KDC-353-6x	2022	1007	278	930	1680	580	-	5,5	0,7	6,2	80	78	85	83
KDC-353-Sx	2472	1008	280	930	2130	730	-	6,9	0,9	7,8	92	89	97	95
KDC-354-2x	2572	1010	284	930	2230	1129	-	3,6	0,9	4,5	78	77	82	81
KDC-354-4x	2572	1010	284	930	2230	1129	-	7,2	0,9	8,1	94	90	100	96
KDC-354-6x	2572	1010	284	930	2230	1129	-	7,2	0,9	8,1	110	108	116	114
KDC-355-2x	3122	1013	290	930	2780	1129	1680	4,5	1,1	5,6	100	99	104	103
KDC-355-4x	3122	1013	290	930	2780	1129	1680	8,9	1,1	10,0	119	115	125	121
KDC-355-6x	3122	1013	290	930	2780	1129	1680	8,9	1,1	10,0	140	138	146	144
KDC-356-2x	3672	1016	296	930	3330	1129	2230	5,3	1,3	6,6	125	124	130	129
KDC-356-4x	3672	1016	296	930	3330	1129	2230	10,6	1,3	11,9	149	147	158	156
KDC-356-6x	3672	1016	296	930	3330	1129	2230	10,6	1,3	11,9	172	169	181	178

*V4.06: Additional defrost in drip tray is required for lower air inlet temperature into the air cooler than -18°C t_{L1} operation
**When using V4.06 the electric drip tray defrost is added to the total Electrical Output

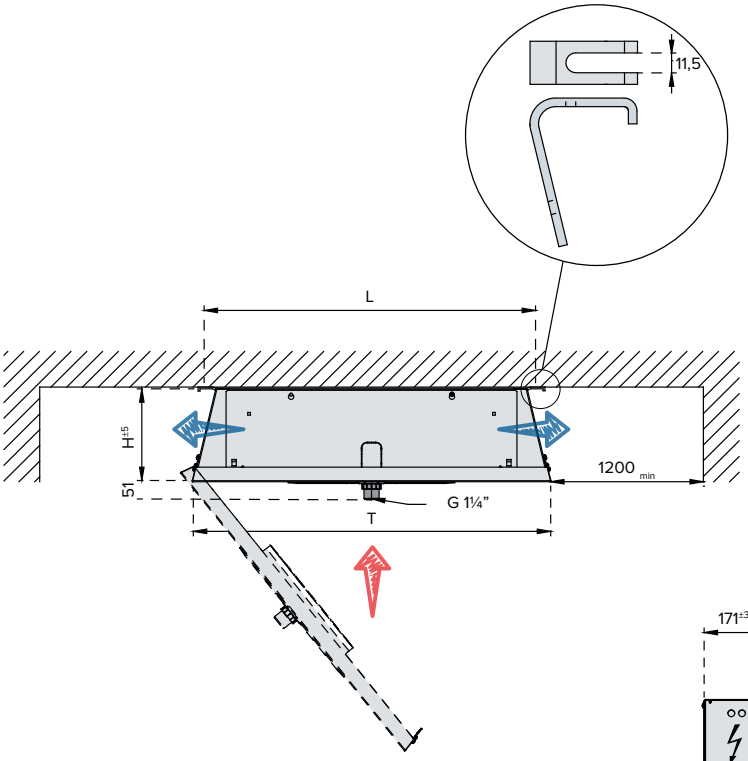
Electrical Connection at 1x230V and 3x400V

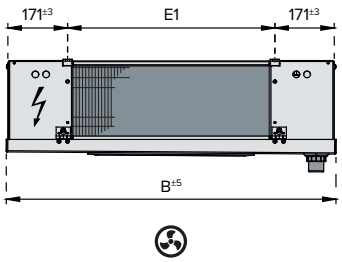


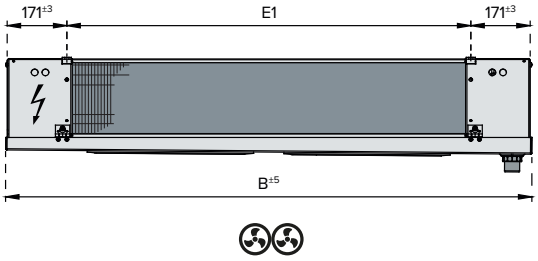
Standard

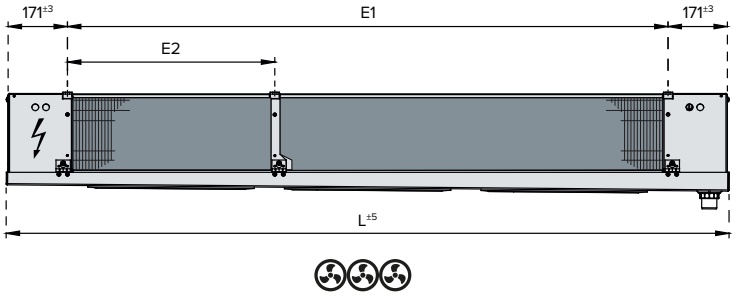
DRAWINGS

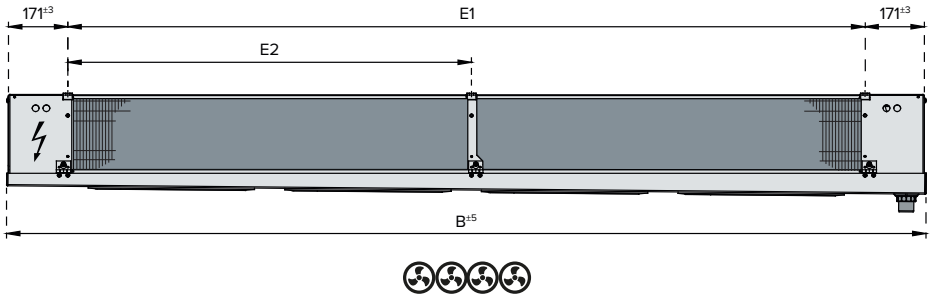
Kelvion KDC

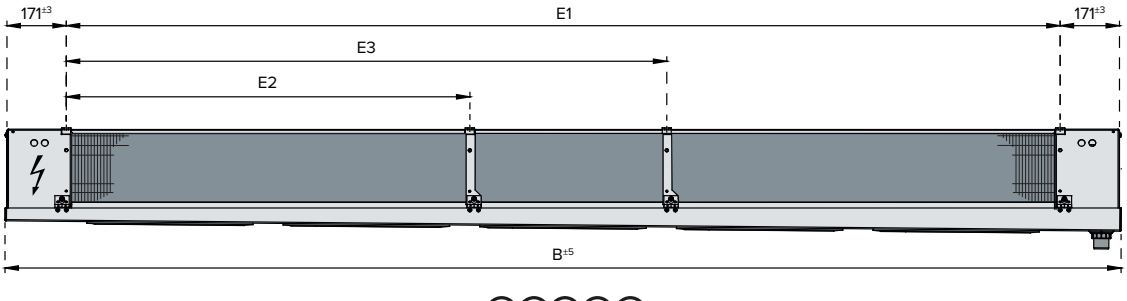


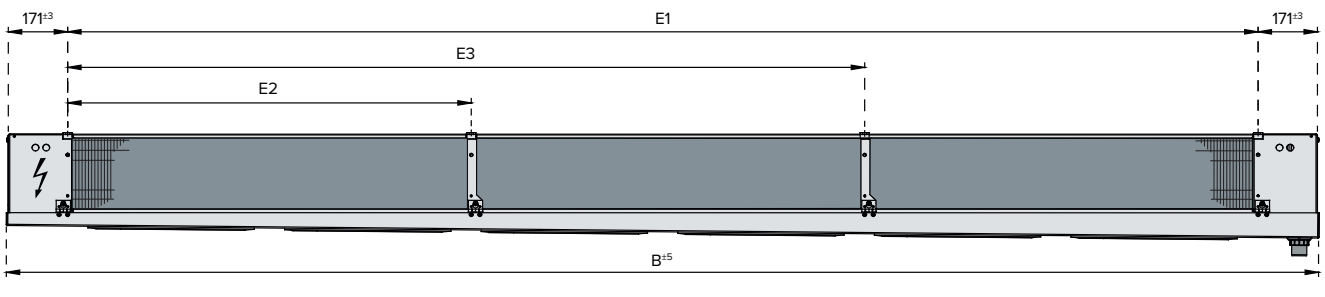


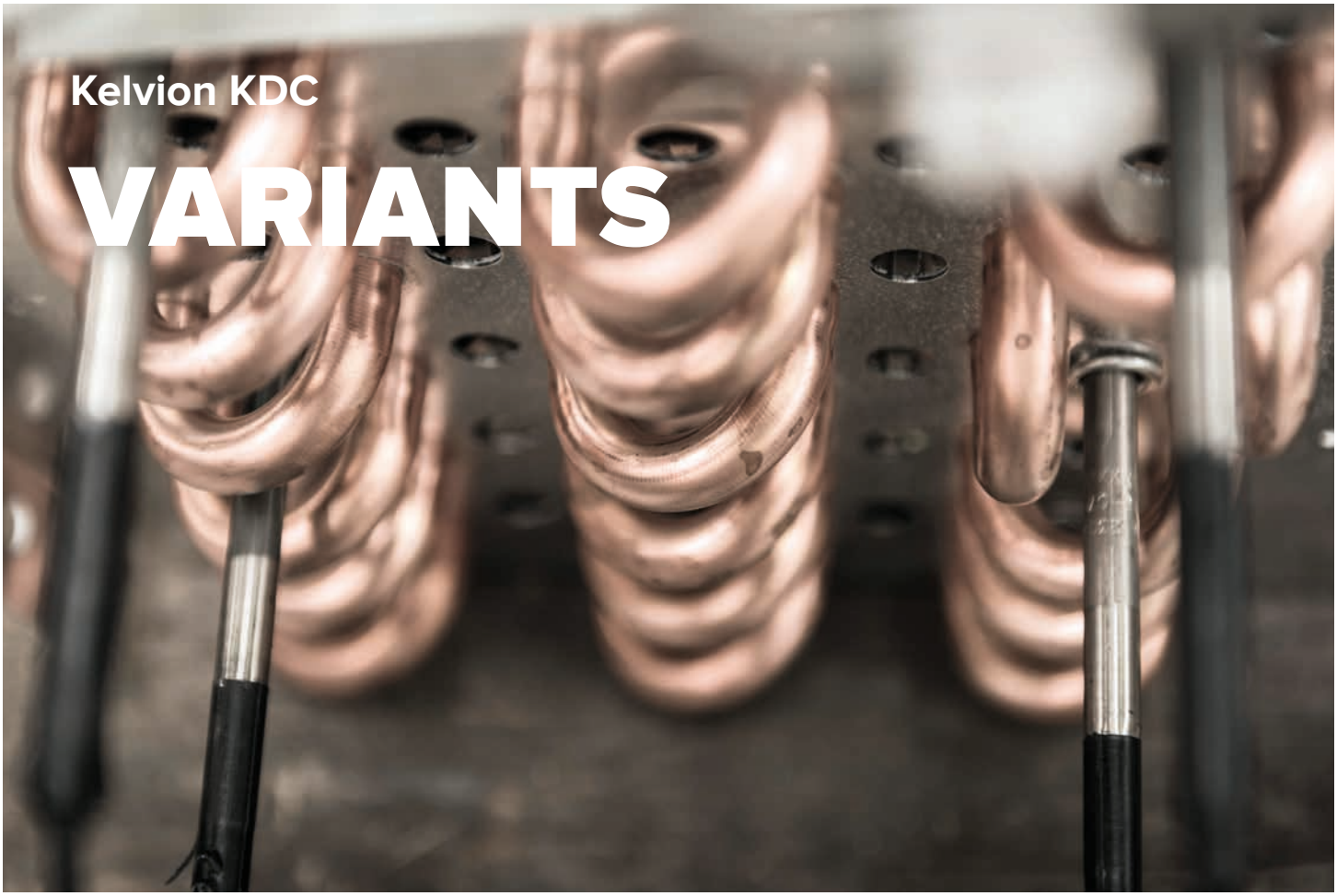












Kelvion KDC

VARIANTS

FAN VARIANTS

V 1.52 VARIABLE SPEED 0-10V EC FAN

CASING VARIANTS

V 3.08 TOP PLATE COVER
To prevent dust and dirt accumulation

V 3.09 DOUBLE-WALLED, INSULATED DRIP TRAY
Prevents condensed water from forming on the bottom side of the tray, and it reduces the transfer of defrost heat into the cold rooms.

CONSTRUCTION VARIANTS

V 2.05 & V 2.06 WATER / BRINE CIRCULATION
Small and large pressure drop, 16 bar max pressure

V 4.06 ELECTRICAL DEFROST IN TRAY:
Necessary for units operating below -18°C air temperatures

V 6.22 MULTIPLE INJECTION WITH CAL-DISTRIBUTOR

PROTECTION AGAINST CORROSION

V 6.01 CORROSION PROTECTION 1
Tubing: Copper
Fins: Aluminum, epoxy-resin-coated
End plates: Aluminum protective coating
Casing: Aluminum/zinc coated steel, protective coating on both sides

V 6.04 CORROSION PROTECTION 4
Tubing: Copper
Fins: Aluminum, epoxy-resin-coated
End plates: Aluminum
Casing: Aluminum/zinc coated steel, protective coating on on one side

CO_2 VARIANTS

V 7.45 CO_2-DIRECT EXPANSION
up to 45 bar operating pressure

V 7.90 CO_2-DIRECT EXPANSION
up to 90 bar operating pressure

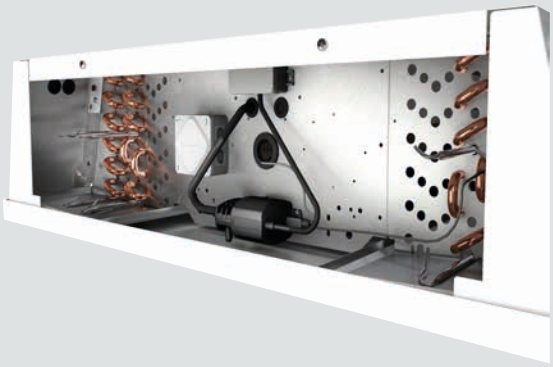
ACCESSORIES

CONDENSATE PUMP MINI & MEGA BLUE

Powerful, energy-efficient, silent and reliable drainage of condensate from the main condensate tray into upstream drainage pipework located higher up in the system.

Installation of a condensate pump **in the Connection Area** makes an Operator's Life a whole lot easier:

- Gives access for cleaning or maintenance
- Drip tray can be hinged, without removal of the pump parts



Mini pumps, huge benefits

- Condensation pipe can be installed in the false ceiling
- No danger that the pipe will be damaged by transport activities
- The hinged drip tray makes throrough cleaning and servicing of the heat exchanger and the fan easy, without dismantling
- Rotary diaphragm technology: Ensures pumping off even suspended solids in the condensate
- Maintenance free sensing technology (temperature sensor and drain stick). Delivers silent running and a longer pump life

MINI BLUE

Fits into the smallest of places.

- Applicable for Medium Temperature Cooling
- Evaporating and Air Inlet temperature >0°C (No frost formation on the fins)
- Incl. Temperature Sensors
- Simultaneous operation of air cooler and pump

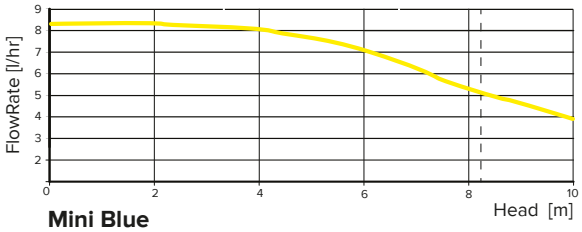
MEGA BLUE

Need more performance? Working at lower temperatures? The MEGA BLUE pump gives you the extra power when you need it.

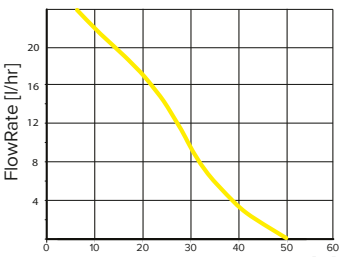
- Applicable for Lower Temperature Cooling
- Evaporating temperature <0°C and Air Inlet temperature >0°C (incl. defrosting cycles)
- Scope of supply incl. DrainStik (electronic sensor), self priming

Condensate pump performance

Pump type	Application Air inlet °C	Application evap. temp °C	Max flow l/h	Max head m	Max suction lift m
MiniBlue	>0	>0	8	8	5
MegaBlue	>0	<0	50	20	7



Mini Blue



Mega Blue

ACCESSORIES

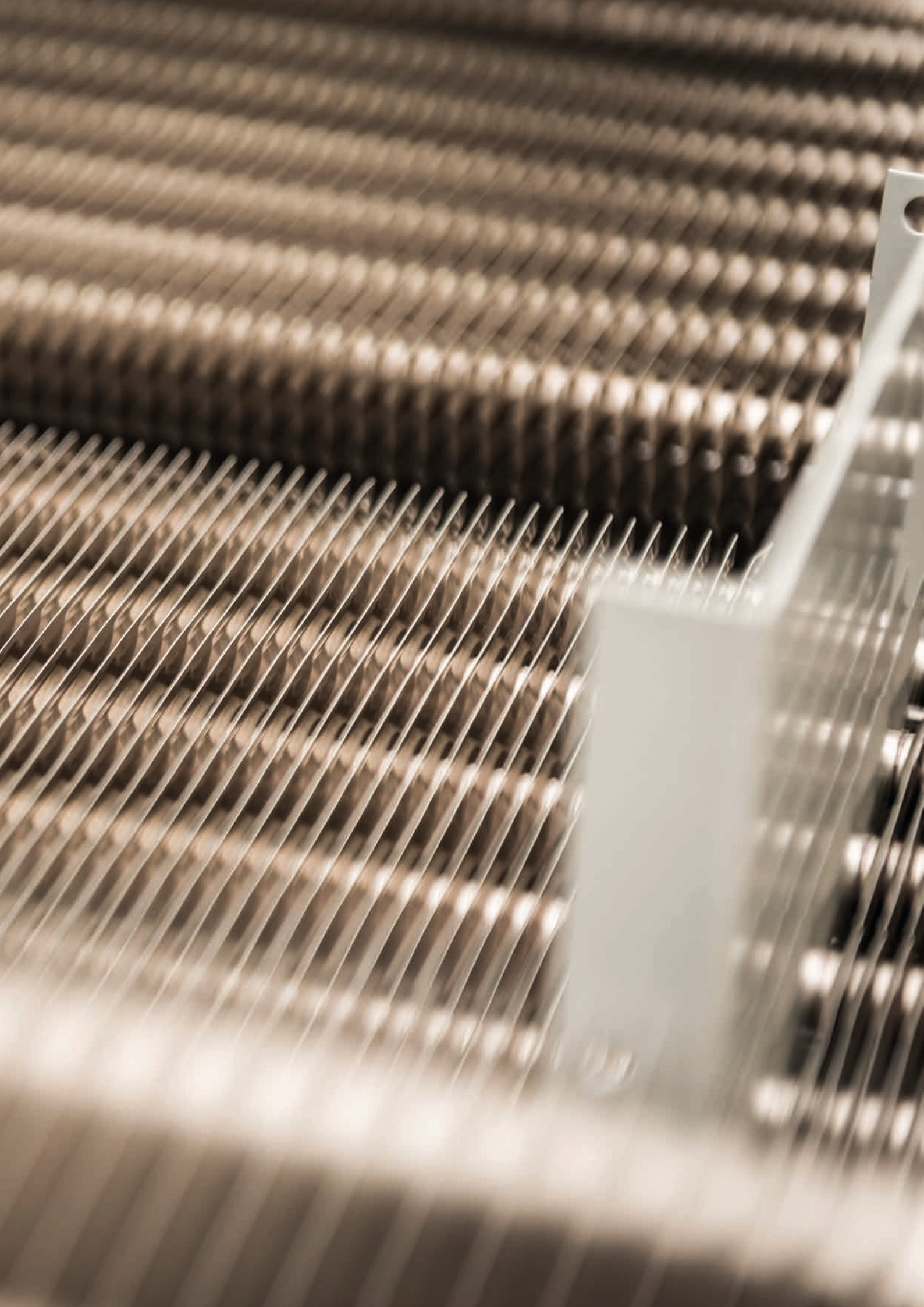
ELECTRICAL AIR HEATER

For air coolers with blow-through fans, for installation on site. Suitable for conditioning the air in the room or as heating in winter. For optimum heat transfer, the heating elements are mounted in copper tube sleeves.

- Complete powder coated (RAL 9010)
- 230 ± 10% V-1~ or 400 ± 10% V-3~ -Y
- Shell heating element from CrNi-steel
- Connections vapor-tight
- Casing: Steel-sendzimir
- Fins: aluminium
- Tube sleeves: Cu

Selection table & technical data:

					Connection value each heater		Connection value each air cooler	
Model	**Description**	**Number**	**Dimensions**		**Current**	**Nominal power**	**Current**	**Nominal power**
			H	**L**	**A**	**kW**	**A**	**kW**
KDC 351-x	KDHR 550	2	210	550	3,7	0,85	7,4	1,7
KDC 351-S	KDHR 700	2	210	700	5,0	1,15	10,0	2,3
KDC 352-x	KDHR 1100	2	210	1100	7,7	1,75	14,4	3,5
KDC 352-S	KDHR 1400	2	210	1400	9,3	2,15	18,6	4,3
KDC 353-x	KDHR 1650	2	210	1650	11,3	2,60	22,6	5,2
KDC 353-S	KDHR 2100	2	210	2100	17,1	3,95	34,2	7,9
KDC 354-x	KDHR 2200	2	210	2200	15,0	3,45	30,0	6,9
KDC 355-x	KDHR 2750	2	210	2750	18,1	4,15	36,2	8,3
KDC 356-x	KDHR 3300	2	210	3000	27,4	6,30	54,8	12,6



www.kelvion.com

Küba comfort DP

BEST CONDITIONS FOR FOOD PREPARATION AREAS

APPLICATION & BENEFITS

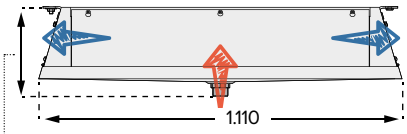
- Küba comfort DP: **draft-free air circulation** and **quiet operation** make a pleasant climate for people **in working spaces**.
- Air baffles ensure **low air speeds** (up to 0.8 m/s) in the cold room.
- **Guides the air across the ceiling** and far into the room.
- Both 50 Hz and 60 Hz bladed fans can be fitted with **a choice of high or low speed** (normal speed “N”, silent speed “L”).
- **Extremely silent operation** “S”, with accessories (capacitor or speed switch).
- Saves space: **Low profile** of only 303 mm [without drain]
- **Drain trays hinged** to give access to the bottom for **cleaning** or **maintenance**.
- Smooth surfaces: **Easy to clean**

CAPACITY RANGE

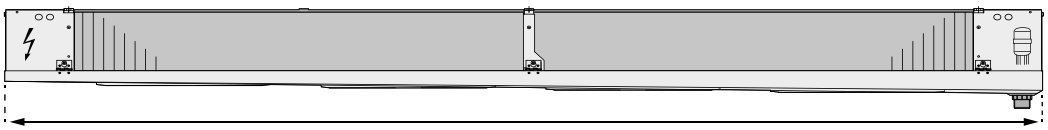
HFC	**1.8 kW - 17 kW**
	t_{L1}=0°C | t_0=-8°C | DT1=8K | R404A [SC2]
CO_2	**1.7 kW - 18 kW**
	t_{L1}=0°C | t_0=-8°C | DT1=8K | R744 | 45/60 bar
Brine	**2.6 kW - 28 kW**
	t_{L1}=+16°C | t_{S1}=+4°C | t_{S2}=+8°C | Water [SC10]
NH_3	–

AIR DIRECTION & DIMENSIONS

[in mm]



DP0x1 = 332 | **DP0x2** = 339
DP0x3 = 347 | **DP0x4** = 354



DP0x1 = 332 | **DP0x2** = 339 | **DP0x3** = 347 | **DP0x4** = 354

FANS

▶ AC Technology	☑		Ø 350 mm
▶ EC Technology	✓		

HEAT EXCHANGER

- ▶ **Tube System: Staggered**
- ▶ **Tube spacing: 33 x 38 mm | Ø 12 mm**
- ▶ **Fin spacing: [in mm]**
  A = 4.5 | B = 7.0
- ▶ **Single/Multiple injection via Küba CAL® Distributor**

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	✓	✓
Hot Gas	✓	
Cold Gas	✓	
Brine		

VARIANTS & ACCESSORIES

- ▶ **Electric Heater DPHR**
- ▶ **Double-walled, insulated Drip Tray**
- ▶ **Speed Switch Operation**
- ▶ **Capacitor for speed level „S“**

MATERIALS

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum		☑		☑
Copper	☑			
Aluminum epoxy-resin-coated		✓		
Aluminum/Steel protective coating			✓	✓
Steel sendzimir zinc-plated			☑	
Stainless Steel				

☑ Standard execution | ✓ Available as a variant | ✓* Standard for NH_3
Casing and Heat Exchanger powder coated (RAL 9010)

NOTE

With our product selection software **Kelvion Select**, you can configure our products and spare parts easily and very detailed for your customer. Reliable support during the project planning phase and time savings by means of a detailed selection is guaranteed.

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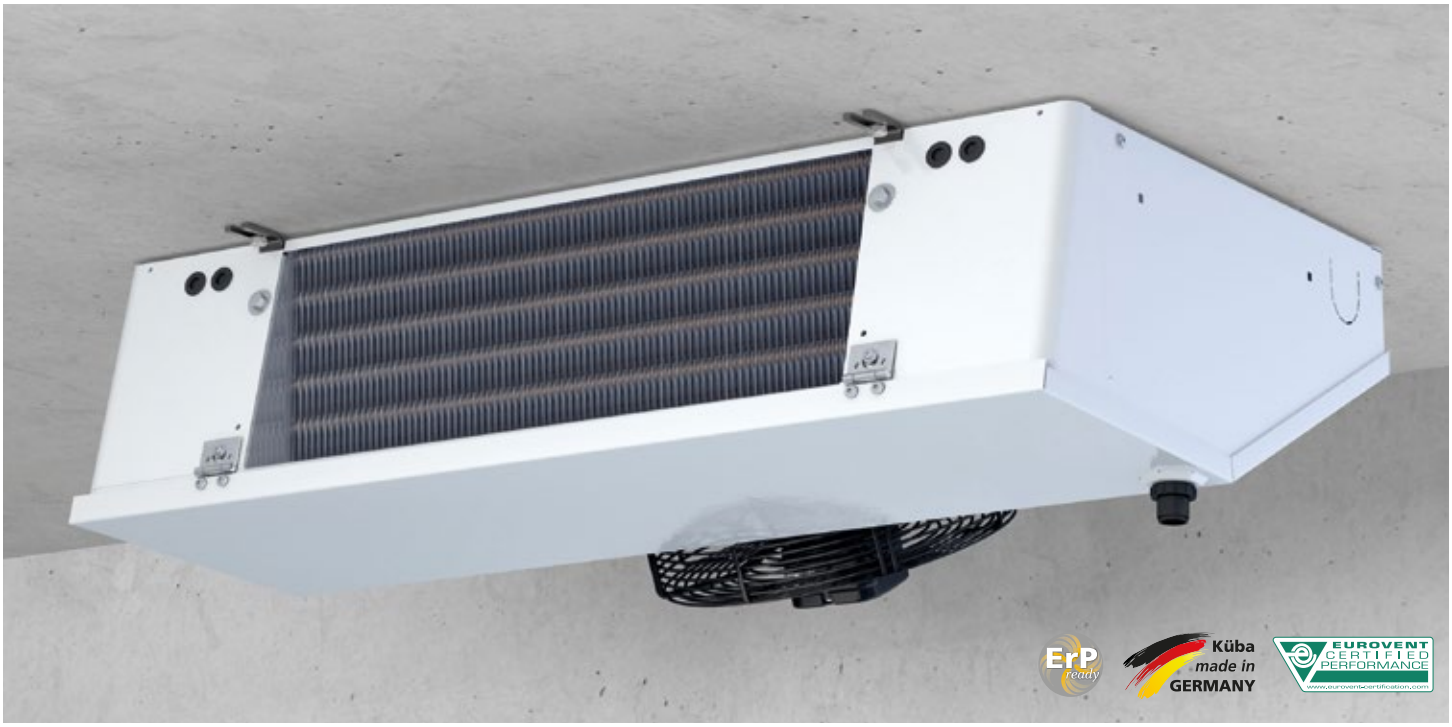
www.kueba.com

Küba compact DF

SPACE-SAVING DESIGN IN COLD ROOMS FOR FOOD SERVICE



APPLICATION & BENEFITS

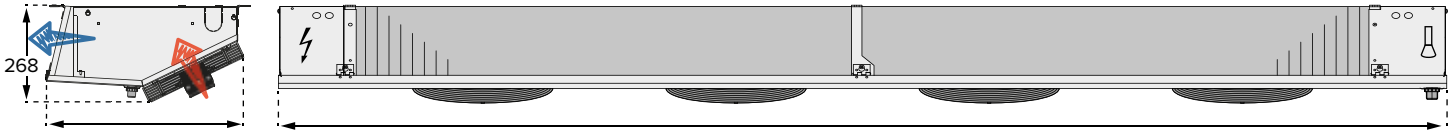
- **Low-Silhouette Design**: The **Küba compact DF** fully lives up to its name and is a **power pack in small spaces**, such as gas stations, catering and retail.
- **Hygiene** and **protection of chilled goods** are priority: All component parts are **easy to access** and **simple to clean**.
- **The compact DF** provides **reliable cooling power** in temperature ranges both below and above 0°C, due to our Kelvion temperature security.
- **Best air guidance** through **built-in baffle plate**. The integrated baffle-plates guide the cold air across the ceiling and thereby far into the room
- **Even distribution of cold air** guarrantees chilled goods natural appearance and their taste. Retention of their full value is therefore ensured.
- Smooth surfaces: **Easy to clean**

CAPACITY RANGE

HFC	**1.5 kW - 10 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R404A [SC2]
CO_2	**1.5 kW - 11 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R744 | 45/60 bar
Brine	**2.3 kW - 16 kW** t_{L1}=+16°C | t_{S1}=+4°C | t_{S2}=+8°C | Water [SC10]
NH_3	–

AIR DIRECTION & DIMENSIONS

[in mm]



DF 05x = 872 - 1,372 | **DF 06x** = 972 - 2,772 | **DF 07x** = 972 - 2,772

FANS

▶ **AC Technology**	☑		**Ø 300 mm**
▶ **EC Technology**	✓		
Controllable speed	✓		
Fixed speed	✓		
▶ **Silent Execution**	✓		

HEAT EXCHANGER

- ▶ **Tube System: Staggered**
- ▶ **Tube spacing: 33 x 38 mm | Ø 12 mm**
- ▶ **Fin spacing: [in mm]**

  A = 4.5 | B = 7.0
- ▶ **Single/Multiple injection via Venturi Distributor**

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	✓	✓
Hot Gas	✓	
Cold Gas	✓	
Brine		

VARIANTS & ACCESSORIES

- ▶ **Electric Heater DFHR**

MATERIAL

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum		☑		☑
Copper	☑			
Aluminum epoxy-resin-coated		✓		
Aluminum/Steel protective coating			✓	✓
Steel sendzimir zinc-plated			☑	
Stainless Steel				

☑ Standard execution | ✓ Available as a variant | ✓* Standard for NH_3
Casing powder coated (RAL 9010)

NOTE

With our product selection software **Kelvion Select**, you can configure our products and spare parts easily and very detailed for your customer. Reliable support during the project planning phase and time savings by means of a detailed selection is guaranteed.

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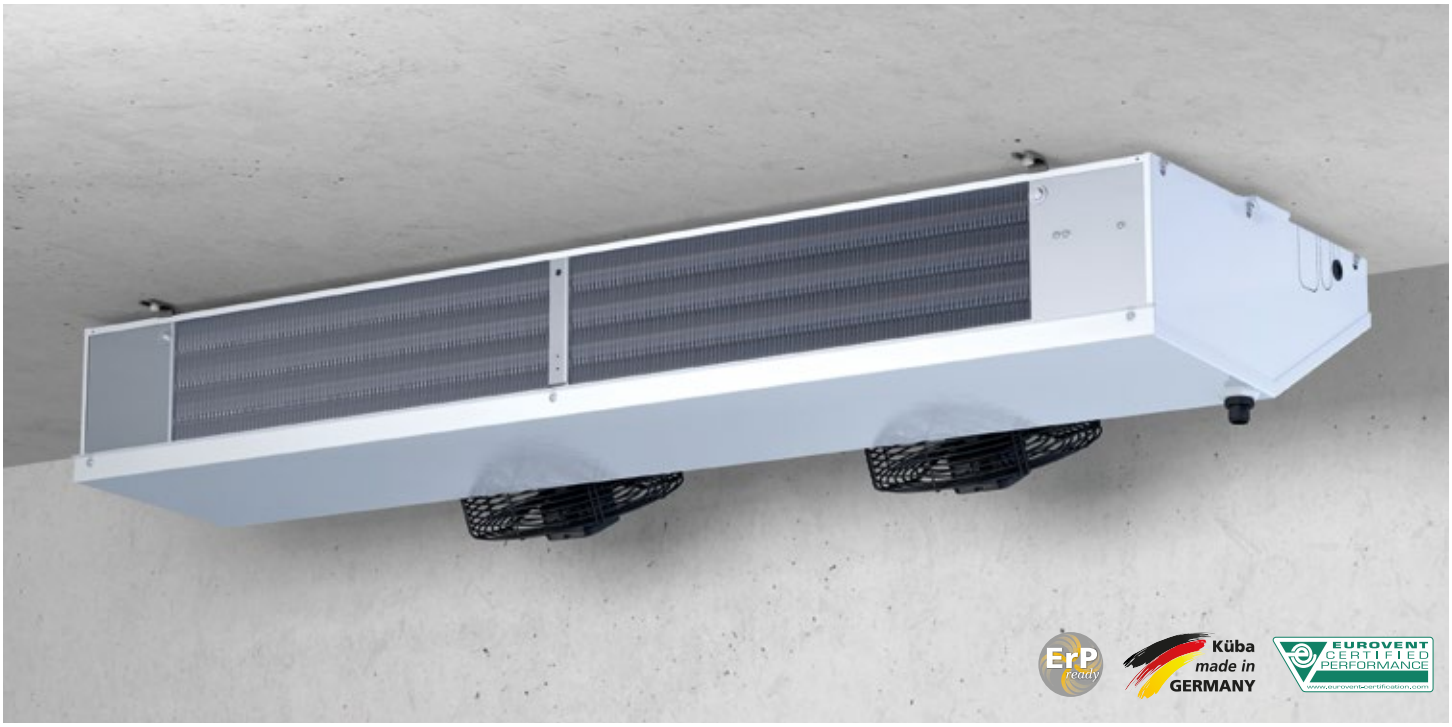
Küba DE professional

PROFESSIONAL CEILING TYPE UNIT COOLER



APPLICATION & BENEFITS

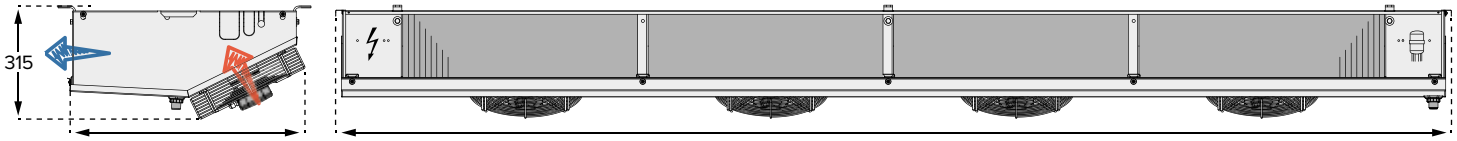
- The Küba DE professional lives up to its name for **complex cooling tasks** in **smaller cooling rooms.**
- Applications in which an **efficient ceiling evaporator** is required.
- Variants for protection against corrosion make him **suitable for aggressive ambient air.**
- With it´s **versatile versions**, the Küba DE professional is designed to take on the most challenging of environmental conditions (i.e. cold rooms which are **accessed frequently**).
- Due to its configuration, the Küba DE professional is able to maintain all temperature ranges with **maximum precision**.
- **Draught-free air flow** in rooms with low ceilings.

CAPACITY RANGE

HFC	**1.5 kW - 9 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R404A [SC2]
CO_2	**1.8 kW - 11 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R744 | 45/60 bar
Brine	**2.6 kW - 17 kW** t_{L1}=+16°C | t_{S1}=+4°C | t_{S2}=+8°C | Water [SC10]
NH_3	–

AIR DIRECTION & DIMENSIONS

[in mm]



DE07x = 1.080 - 1.780 | **DE08x** = 1.080 - 3.180 | **DE09x** = 1.080 - 3.180

FANS

▶ **AC Technology**	☑		**Ø 300 mm**
▶ **EC Technology**	✓		
Controllable speed	✓		
Fixed speed	✓		
▶ **Silent Execution**	✓		

HEAT EXCHANGER

- ▶ **Tube System: Aligned**
- ▶ **Tube spacing: 50 x 50 mm | Ø 15 mm**
- ▶ **Fin spacing: [in mm]**
  A = 4.5 | B = 7.0
- ▶ **Single/Multiple injection via Küba CAL® Distributor**

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	✓	✓
Hot Gas	✓	
Cold Gas	✓	
Brine	✓	

VARIANTS & ACCESSORIES

- ▶ **Electric Heater DEHR**
- ▶ **Doubled, insulated Drip Tray**
- ▶ **Stainless steel fan guard**

MATERIAL

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum		☑		☑
Copper	☑			
Aluminum epoxy-resin-coated		✓		
Aluminum/Steel protective coating			✓	✓
Steel sendzimir zinc-plated			☑	
Stainless Steel	✓*		✓	✓

☑ Standard execution | ✓ Available as a variant | ✓* Standard for NH_3
Casing and Heat Exchanger powder coated (RAL 9010)

NOTE

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baierbrunn@kelvion.com
www.kueba.com

Küba gastro FM & Küba gastro slim FM

FRESHNESS IN REFRIGERATION UNITS & COUNTERS

APPLICATION & BENEFITS

- The Küba gastro FM & gastro slim FM is the mighty mini for tough refrigeration challenges that **cooling counters or food storage units** can pose: **Horizontal or vertical air discharge options** are available, depending on space restrictions.
- The air discharge from either side ensures that the air in the refrigerated cabinet **is always distributed evenly**, considerably **reducing cooling times**.
- **Electric Defrost** can be retrofitted for chilled operation
- **Quality powder coated edges** with high-grade, food-safe powder coating: Suitable for unpacked or acidic chilled goods
- All casing components can be removed for **easy cleaning or maintenance**.
- **Küba gastro slim FM** with cross-flow fan: With an **installed width of only 75 mm** the gastro slim FM can fit behind center columns in most cooling counters.

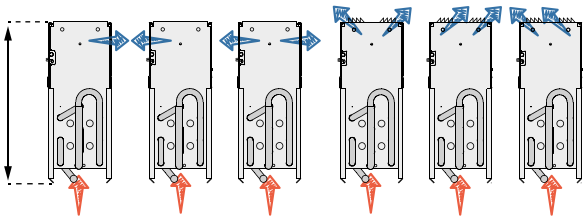
CAPACITY RANGE

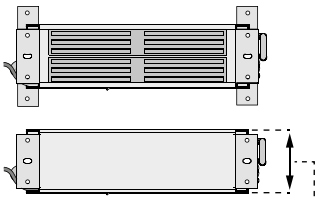
HFC	**110 W - 340 W** t_{L1}=5°C I t_0=-5°C I DT1=10K I R404A
CO_2	**100 W - 280 W** t_{L1}=0°C I t_0=-8°C I DT1=8K I R744 I 60 bar
Brine	–
NH_3	–

AIR DIRECTION & DIMENSIONS

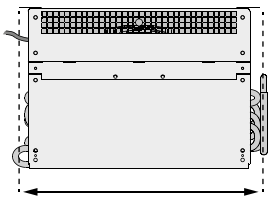
[in mm]

FM(O)A 8x1D
= 324 - 438
FM(O)A 0x1D
= 238 - 273
FM(O)A 0x2D
= 273 - 378





FM(O)A 8x1 = 75
FM(O)A 0x1, 0x2 = 107



FM(O)A 8x1 = 400
FM(O)A 0x1, 0x2 = 406

FANS

▶ **AC Technology** ☑		**Cross-Flow:** **Ø 40 mm** **Axial:** **Ø 90 mm**

HEAT EXCHANGER

- ▶ **Tube System: Staggered**
- ▶ **Tube spacing: 33 x 38 mm | Ø 10 mm**
- ▶ **Fin spacing: [in mm]**
  A = 4.5
- ▶ **Single injection via copper pipe for brazing connection**

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	✓	✓
Hot Gas		
Cold Gas		
Brine		

VARIANTS & ACCESSORIES

- ▶ **Drip tray (Plastic)**
- ▶ **Drip tray (Aluminum)**
- ▶ **All HFC units are available ex stock**
- ▶ **All Küba gastro slim FM units are CO_2-ready and available ex stock.**

MATERIAL

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum		☑	☑	☑
Copper	☑			
Aluminum epoxy-resin-coated				
Aluminum/Steel protective coating				
Steel sendzimir zinc-plated				
Stainless Steel				

☑ Standard execution | ✓ Available as a variant | ✓* Standard for NH_3
Casing and Heat Exchanger powder coated (RAL 9010)

NOTE

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Küba junior DF

GREAT FOR SMALL COLD ROOMS

APPLICATION & BENEFITS

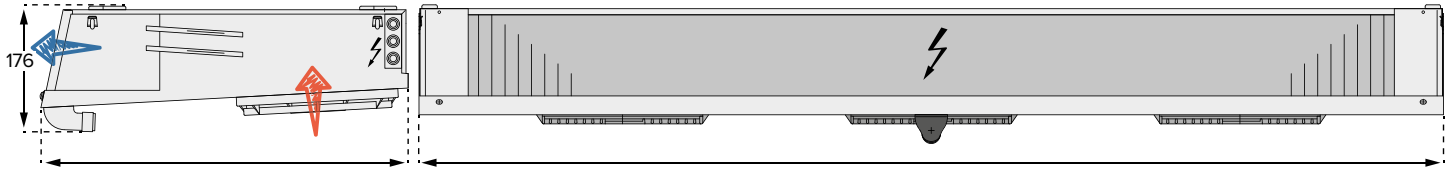
- The compact **Küba junior DF** is primarily designed for ensuring the quality cooling of packed and open goods.
- **Drip trays** can be specified with **horizontal or vertical drain**.
- High-grade powder coated coil and casing offer **best corrosion protection**.
- An integrated air **baffle plate** ensures **optimal airflow**.
- **Drip trays** can be **hinged** to give **access to the bottom for cleaning or maintenance**.
- With its **low silhouette** and the horizontal condensate drain you **get the most out of your cold room space**.
- **Large cooling surfaces** and **short defrosting times** offer maximum cooling quality.

CAPACITY RANGE

HFC	**0.4 kW - 2.0 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R404A [SC2]
CO_2	**0.6 kW - 1.8 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R744 | 45/60 bar
Brine	–
NH_3	–

AIR DIRECTION & DIMENSIONS

[in mm]



DF 011 = 428 | **DF 021,031** = 528 | **DF 022,032** = 928 | **DF 023,033** = 1,328

FANS

▶ **EC Technology** ☑ Controllable speed		**Ø 200 mm**

HEAT EXCHANGER

- **Tube System: Staggered**
- **Tube spacing: 33 x 38 mm | Ø 10 mm [1-2 mot.]**
  33 x 38 mm | Ø 12 mm [3 mot.]
- **Fin spacing: [in mm]**
  A = 4.5 | B = 7.0
- **Single injection via copper pipe for brazing connection**

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	✓	✓
Hot Gas		
Cold Gas		
Brine		

VARIANTS & ACCESSORIES

- **There are no variants available for this product.**
- **All HFC and CO_2 units are available ex stock.**

MATERIAL

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum		☑	☑	☑
Copper	☑			
Aluminum epoxy-resin-coated				
Aluminum/Steel protective coating				
Steel sendzimir zinc-plated			☑	
Stainless Steel				

☑ Standard execution | ✓ Available as a variant | ✓* Standard for NH_3
Casing and Heat Exchanger powder coated (RAL 9010)

NOTE

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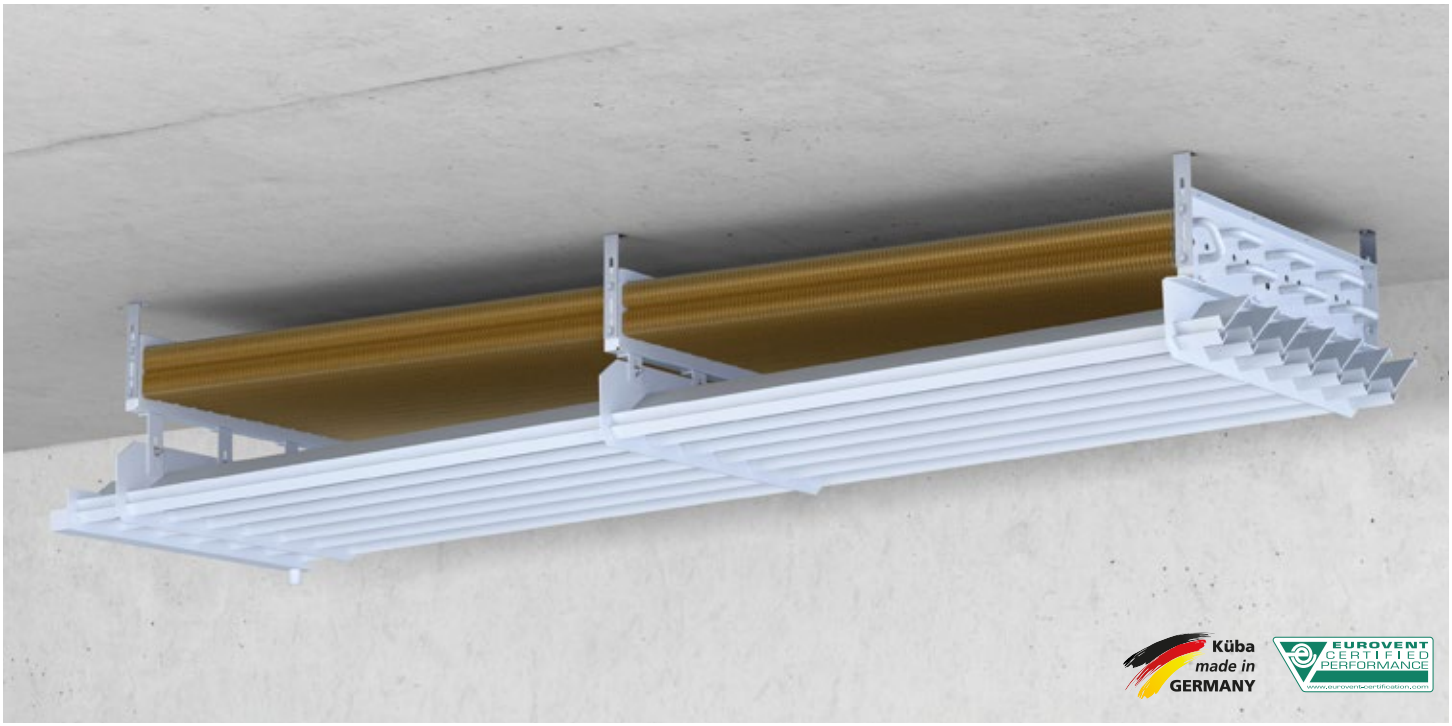
Küba KVB natural

NO DRAFT GRAVITY COILS FOR CURING ROOMS



APPLICATION & BENEFITS

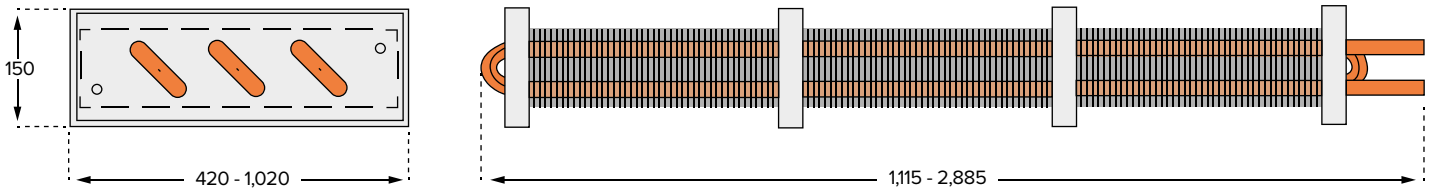
- **Meat processing, cheese cellars, rooms for cut flowers** or **small cold rooms**, are just a few examples of use.
- Küba KVB Gravity Coils can be used in cold rooms, where **noise** matters most, or if **draft** should be avoided.
- Küba KVB evaporators consequently **ensure ideal maturation** climates for cheese and sausage or meat production.
- **Constant conditions** and the **controlled climate** in a maturation cellar are absolutely decisive. Every cheese has its very own requirements.
- Uniform conditions as well **as little as possible air circulation** are the prerequisite for outstanding cheese and sausage products.
- **Moist and even cooling** are hallmarks of the gravity approach to cold room design.

CAPACITY RANGE

HFC	**0.6 kW - 4.4 kW** t_{L1}=+10°C | t_0=0°C | DT1=10K | R404A
CO_2	**0.8 kW - 6.2 kW** t_{L1}=8°C | t_0=-6°C | R744 | 60 bar
Brine	**0.7 kW - 7 kW** t_{L1}=+16°C | t_{S1}=+4°C | t_{S2}=+8°C | Water [SC10]
NH_3	–

AIR DIRECTION & DIMENSIONS

[in mm]



FANS

–	–	–

HEAT EXCHANGER

- Tube System: Aligned
- Tube spacing: 50 x 50 mm | Ø 15 mm
- Fin spacing: 8.5 mm
- Max. Operating Pressure: 32bar

  Water/Brine Execution: 16bar

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	✓	✓
Hot Gas		
Cold Gas		
Brine		

VARIANTS & ACCESSORIES

- Louvred drip tray TWJ

MATERIALS

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum				
Copper	☑			
Aluminum epoxy-resin-coated		☑		
Aluminum/Steel protective coating				☑
Steel sendzimir zinc-plated				
Stainless Steel	✓			✓

☑ Standard execution | ✓ Available as a variant | ✓* Standard for NH_3

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Küba market SP

FOR BASIC APPLICATIONS IN SUPERMARKETS

APPLICATION & BENEFITS

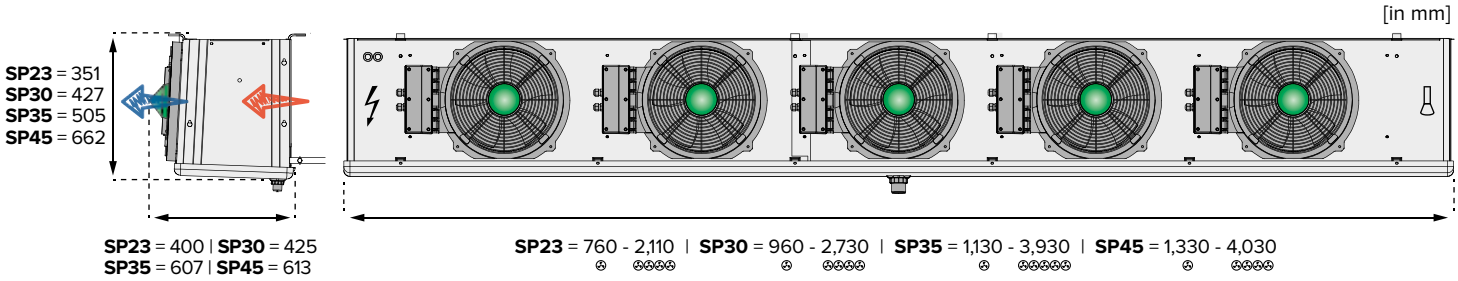
- Wether in **supermarkets, large refrigerated warehouses,** or in **cold stores**: Beverages, milk and dairy products, fresh and cooked meat products keep cool.
- **Maximum energy efficiency** with reduced current consumption and a great system performance.
- The **hinged fan system** makes cleaning of heat exchangers and fans easy.
- High-grade powder coating and use of composite-fiber materials **minimize the corrodibility.**
- Large connection areas to the side **ensure accessibility during maintenance or installation.**
- Ensures quick and energy efficient defrosting after **long up times.**
- Integrated terminal box, spring loaded terminals for **fast and sure electrical connections.**

CAPACITY RANGE

HFC	**0.9 kW - 46 kW**
	t_{L1}=0°C | t_0=-8°C | DT1=8K | R404A [SC2]
CO_2	**0.9 kW - 50 kW**
	t_{L1}=0°C | t_0=-8°C | DT1=8K | R744 | 45/60 bar
Brine	**0.9 kW - 75 kW**
	t_{L1}=+16°C | t_{S1}=+4°C | t_{S2}=+8°C | Water [SC10]
NH_3	–

AIR DIRECTION & DIMENSIONS

[in mm]



FANS

▶ **AC Technology**	☑	**Ø 230 mm**
▶ **EC Technology**	✓	**Ø 300 mm**
Controllable speed	✓	**Ø 350 mm**
Fixed speed	✓	**Ø 450 mm**

HEAT EXCHANGER

- ▶ **Tube System: Staggered**
- ▶ **Tube spacing: 33 x 38 mm | Ø 12 mm**
- ▶ **Fin spacing: [in mm]**
  A = 4.0 | B = 7.0
- ▶ **Single/Multiple injection via Venturi Distributor**

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	✓	✓
Hot Gas	✓	✓
Cold Gas	✓	
Brine	✓	

VARIANTS & ACCESSORIES

- ▶ **Shut-Up®**
- ▶ **Adapter for Air Hose with Etoile Air Straigthener**
- ▶ **Wall Ring Heating WH**
- ▶ **Finned-tube Heaters SPHR/SPHRZ**
- ▶ **Double-walled, insulated Drip Tray**
- ▶ **Hinged Drip Tray**

MATERIALS

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum		☑		☑
Copper	☑			
Aluminum epoxy-resin-coated		✓		
Aluminum/Steel protective coating			✓	✓
Steel sendzimir zinc-plated			☑	
Stainless Steel				

☑ Standard execution | ✓ Available as a variant | ✓* Standard for NH_3
Casing and Heat Exchanger powder coated (RAL 9010)

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Küba SG classic

THE ESTABLISHED SOLUTION FOR SENSITIVE PRODUCTS

APPLICATION & BENEFITS

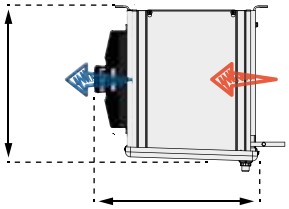
- **Versatility in application**: Available for all current HFCs, as well as for CO_2 direct expansion, up to 60 bar operating pressure
- **Extended capacity range** up to 23 kW (HFC), up to 28 kW (CO_2)
- **High-performance air cooler** with aligned system of tubes
- **Large heat exchange surface**: Dehydration of chilled goods stays as low as possible
- **Rapid turnaround of goods** in the cold room feasible
- **High energy efficiency** with ErP compliant AC fans, speed adjustable
- **Medium Temperature Cooling & Freezing** down to -25°C t_{L1}
- **Fast availability** of HFC - and CO_2 units at the best value for money

CAPACITY RANGE

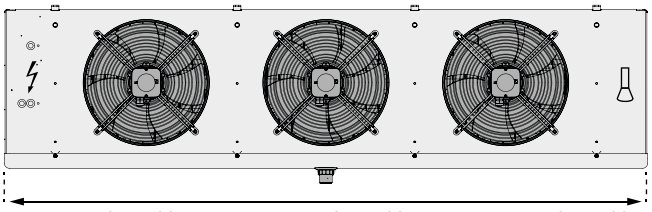
HFC	**0.9 kW - 23 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R404A [SC2]
CO_2	**1.2 kW - 28 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R744 | 45/60 bar
Brine	–
NH_3	–

AIR DIRECTION & DIMENSIONS

[in mm]



SG02x = 429 | **SG03x** = 440 | **SG04x** = 451 | **SG05x** = 570
SG06x = 538 | **SG07/08x** = 618 | **SG09/10x** = 688



SG02x = 565 - 1,015 | **SG03/04x** = 665 - 1,215 | **SG05/06x** = 815 - 1,375
SG07x = 915 - 2,175 | **SG08/09x** = 1,065 - 2,625 | **SG10x** = 2,375 - 3,375

FANS

▶ **AC Technology** ☑		**Ø 250 mm**
		Ø 300 mm
		Ø 400 mm
		Ø 500 mm

HEAT EXCHANGER

- ▶ **Tube System: Aligned**
- ▶ **Tube spacing: 50 x 50 mm | Ø 15 mm**
- ▶ **Fin spacing: [in mm]**
  B = 7.0
- ▶ **Single/Multiple injection via Venturi Distributor**

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	☑	☑
Hot Gas	✓	
Cold Gas	✓	
Brine		

VARIANTS & ACCESSORIES

- ▶ **Flange for Shut-Up®**
- ▶ **Shut-Up®**
- ▶ **Doubled, insulated Drip Tray**

MATERIAL

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum		☑	☑	☑
Copper	☑			
Aluminum epoxy-resin-coated				
Aluminum/Steel protective coating				
Steel sendzimir zinc-plated				
Stainless Steel				

☑ Standard execution | ✓ Available as a variant | ✓* Standard for NH_3
Casing and Heat Exchanger powder coated (RAL 9010)

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Küba SG classic

THE ESTABLISHED SOLUTION FOR SENSITIVE PRODUCTS

APPLICATION & BENEFITS

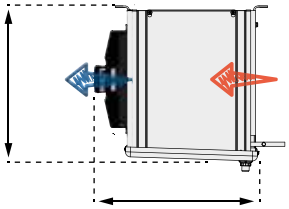
- **Versatility in application**: Available for all current HFCs, as well as for CO_2 direct expansion, up to 60 bar operating pressure
- **Extended capacity range** up to 23 kW (HFC), up to 28 kW (CO_2)
- **High-performance air cooler** with aligned system of tubes
- **Large heat exchange surface**: Dehydration of chilled goods stays as low as possible
- **Rapid turnaround of goods** in the cold room feasible
- **High energy efficiency** with ErP compliant AC fans, speed adjustable
- **Medium Temperature Cooling & Freezing** down to -25°C t_{L1}
- **Fast availability** of HFC - and CO_2 units at the best value for money

CAPACITY RANGE

HFC	**0.9 kW - 23 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R404A [SC2]
CO_2	**1.2 kW - 28 kW** t_{L1}=0°C | t_0=-8°C | DT1=8K | R744 | 45/60 bar
Brine	–
NH_3	–

AIR DIRECTION & DIMENSIONS

[in mm]



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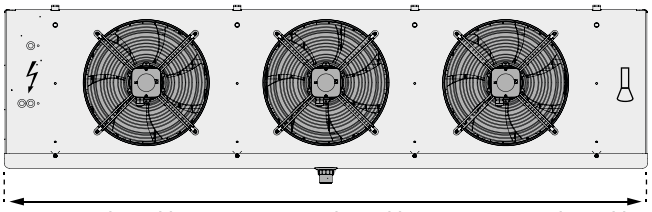

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SG07x = 915 - 2,175 | **SG08/09x** = 1,065 - 2,625 | **SG10x** = 2,375 - 3,375

FANS

▶ **AC Technology** ☑		**Ø 250 mm**
		Ø 300 mm
		Ø 400 mm
		Ø 500 mm

HEAT EXCHANGER

- ▶ **Tube System: Aligned**
- ▶ **Tube spacing: 50 x 50 mm | Ø 15 mm**
- ▶ **Fin spacing: [in mm]**
  B = 7.0
- ▶ **Single/Multiple injection via Venturi Distributor**

DEFROST

DEFROST	COIL	DRIP TRAY
Electric	☑	☑
Hot Gas	✓	
Cold Gas	✓	
Brine		

VARIANTS & ACCESSORIES

- ▶ **Flange for Shut-Up®**
- ▶ **Shut-Up®**
- ▶ **Doubled, insulated Drip Tray**

MATERIAL

MATERIAL	TUBE	FINS	CASING	END PLATE
Aluminum		☑	☑	☑
Copper	☑			
Aluminum epoxy-resin-coated				
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Steel sendzimir zinc-plated				
Stainless Steel				

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Goedhart® commercial Cu/Al air coolers

SIMPLY THE BEST FOR COOLING AND FREEZING

Kelvion –
a tribute to
Lord Kelvin

Lord Kelvin (1824 – 1907) formulated the laws of thermodynamics

70 branches and sales partners worldwide

More than 4,000 employees worldwide

EXPERTS IN HEAT EXCHANGE - SINCE 1920

Welcome to Kelvion. As successor to the GEA Heat Exchangers Group, we continue to break new ground, making discerning customers more successful than ever with our integrated heat exchanger solutions.

Our solutions for your applications:
We offer our customers one of the world's largest product portfolios in the field of heat exchangers. It includes individual solutions for practically all conceivable applications and complex environmental conditions: plate heat exchangers, shell and tube heat exchangers, finned tube heat exchangers, modular cooling tower systems, and refrigeration heat exchangers.

Your markets are our markets, too:
The markets in which you and we together operate are among the most important in the world: energy, the oil and gas industry, the chemical industry, marine applications, food and beverages, climate and environment. We provide every single market segment with solutions of outstanding efficiency, safety, and sustainability.

We are highly committed to earning your trust:
We want to win your trust with everything we do and convince you with the solutions we offer. With this high aim in mind, we invest our extensive know-how, our great precision, and our passion in everything we do: including product development, manufacturing, installation, and after-sales support.

Seeing things from the customer perspective:
Your specific requirements count – and nothing else. Whatever we offer you, it must meet these requirements. Our entire way of thinking and working is geared towards this aim. Our customers truly appreciate this: after all, this is how we make their companies more efficient.

We are at your service.
Kelvion – Experts in Heat Exchange.

GOEDHART®
AIR COOLERS

Do not settle for compromise, but go for the best cooling solution to suit your situation. That is the philosophy which Kelvion makes himself hard. Since 1935 we develop, produce and deliver worldwide air coolers, air cooled condensers and composite systems for (semi) industrial applications and various markets. Our products are perfect for projects requiring a technical demand and involving a great deal of flexibility in terms of design, dimensions and accessories. Also, our products are suitable for all thinkable cooling system types and methods.

To achieve the most optimal and cost efficient air cooler system we are using three levels of engineering:

- **Commercial products**: standard cooling systems available in different fixed sizes;
- **Customized products**: custom made cooling systems built from standard modules;
- **Level 3 Designed to order products**: extensive cooling systems and applications developed especially for the niche market.

Extensive theoretical and practical project analysis by our professional sales engineers will determine which configuration, materials, and level of engineering best fit your program requirements. Additionally, you can use the innovative 'Goedhart Product Catalogue (GPC), the digital design program for all commercial and customized industrial air coolers and air-cooled condensers.

For what level of engineering you choose; Your are with Kelvion in good hands in the field of refrigeration and freezing. This brochure provides information on Copper/Aluminium series, a commercial product.

Do you have any further questions, we are happy to help you personally. We thank you in advance for the interest you have shown in Kelvion and its products.

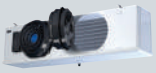
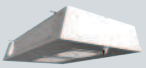
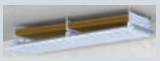
PRODUCT FAMILY

CUSTOMIZED AIR COOLERS

INDUSTRIAL DESIGNED TO ORDER & OEM AIR COOLERS

APPLICATION DRIVEN DESIGNS

COMMERCIAL AIR COOLERS

Cu/Al (38x33)	Goedhart FC38S Küba Market SP Küba SG Classic Küba SG Commer. Searle KEC/KECX Searle KME/KMEX 	~~Goedhart FC38D~~ ~~Küba Comfort DP~~ ~~Searle DSR/DSRX~~  Kelvion KDC (New)	Goedhart FC38L Küba Junior DF Küba Compact DF Küba DE Prof. Searle TEC/TECX 	Goedhart PAC 	Küba Gastro FM 	
Cu/Al (50x50)	Küba KVB Natur. 					

CONDENSERS

DRY COOLERS

RADIATORS

LIFE IS EASY
THE GOEDHART SELECTION PROGRAM

The Goedhart selection program provides an electronic catalogue covering the majority of product ranges offered by Kelvion. The range of products available to you is very broad with many options. This software provides the fastest and easiest way to select the most appropriate product for your specific needs. This selection program run on the latest versions of Windows (including both 32-bit and 64-bit versions of Vista, Windows 7, Windows 8 and Windows 10).

All four product types (Coolers, Condensers and Glycol Coolers) are available in a single program. The Goedhart selection program is an easy to use selection tool for contractors, consultants and every other thinkable user and gives you access to many advantages such as:

- Multilingual
- Pre-select buttons to application
- Spare parts
- Selections including drawings
- An extensive list of accessories
- Accurate capacities: During your selection a sophisticated capacity calculation program optimizes the circuits to the design conditions
- Selections possible on several criteria such as capacity, price, fan variations like noise and speed etc.

If you know the model number or the range you require (for example Goedhart® VCI-p 63457), you can type this into the Start area of the Goedhart selection program. This will make the selection faster and exclude models which may not be relevant for your needs.

You can start a selection by clicking the Start button, fill in the required heat exchanger data in the input area and produce PDF or Word files of your selection results. Also, it is possible to print a drawing of the selected unit and make your choice belonging to your selected unit. The program normally operates using SI units.

What is important to you? - You can decide which features of the product are most important for each application: energy efficiency, footprint (physical size) and price. You adjust the slider controls to indicate the relative importance to you of each of these three elements. You can also choose to display all possible models, or just the 'top 10' which best meet your selection criteria. Once the selected models are displayed, the 'best' options in each category (energy efficiency, footprint and price) will be on top of the table.

Quality, Support and Website - Trained staff will advise you through every step of the selection process. Our customer service continues passes the product delivery, and we are always on hand to advise on any issues. Keep up to date with our products and latest news by visiting the website, **www.kelvion.com**

GOEDHART CU/AL COMMERCIAL SERIES

STANDARD FLEXIBLE

For all Cu/Al models and series of the Goedhart® air coolers your schedule of requirements is leading. Depending on the application, our sales team searches for the optimal configuration in close cooperation with the customer. You have a free choice in the so-called level 1 and 2 versions:

- dimensions
- Air direction
- blow-through or draw-through
- model: with feet of suspension profiles
- cooling system: natural (NH3 and C02) and synthetic refrigerants
- materials: copper tubes/aluminium fins, Stainless steel tubes/aluminium fin, Stainless steel tubes and fins or steel tubes and fins / hot dipped galvanized
- accessories: EG defrost, coatings

LEVEL OF ENGINEERING - 'COMMERCIAL PRODUCTS'

The standard cooling systems available in different fixed sizes are so-called "Level 1 Commercial products". Within this level of engineering, you can choose from air coolers consisting of copper tubes with aluminium fins (Cu / Al 38x33) and stainless steel tubes with aluminium fins (St / Al 38x33).

INNOVATION

We can not often emphasize enough that we can meet our "customized production" philosophy to every customer requirements. Common customer requirements lead to innovation of our products. A good example is the energy efficient Goedhart® VCe-p and VCe-i ranges in the copper / aluminium version of our air coolers and air-cooled condensers

AVAILABLE CU/AL MODEL RANGES

Goedhart® Type		Tube configuration	Description	Cooling system	Internally increased tube possible
FC38SB-p **FC38SB-i**		38x33	Single blow-through / draw-through air cooler for industrial cooling and freezing applications	DX, coolant	Yes
FC38L-p **FC38L-i**		38x33	Standard air coolers for cold storage rooms with height limitation	DX, coolant	Yes

FAN SYSTEM

Because of the flexible construction of the Goedhart® air cooler, in principle it is possible to deliver with different fans. We selected a standard fan range of Ziehl Abegg (we reserve the right to alter the manufacturer) which fits perfectly on the Goedhart® flexible air coolers. The fans can be supplied in both blow-through and draw-through executions. Against an extra price stainless steel guards and EC-fans are available.

Fan execution

The fans meet the ErP2015 directive. The fans have very good aerodynamic features because of the special impeller geometry. This special impeller geometry gives the fan a low noise level and high efficiency.

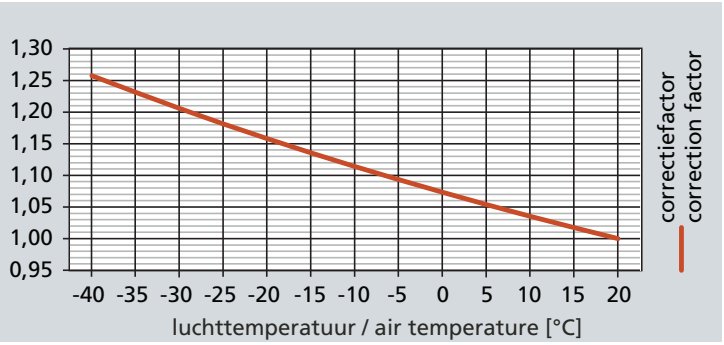
SPECIFICATIONS

Fan data

1x230V-AC	: till -25°C environment temperature	
3x400V-AC	: till -40°C environment temperature (between -40°C en -50°C environment temperature on request)	
1x230V-EC	: till -25°C environment temperature	
3x400V-EC	: till -35°C environment temperature	
Tension	: 1x230V-50Hz (60 Hz on request)	
	: 3x400V-50Hz	
	: 3x400V or 3x460V-60Hz	
Protection class	: IP44 / IP54	
Color	: RAL9005 (black)	
Speed controlling	: 3 phases	: 2 speeds by Δ-Y reconnection
		: frequency controller with all-pole sinus filter
	: 1 phase	: phase-control
		: transformator

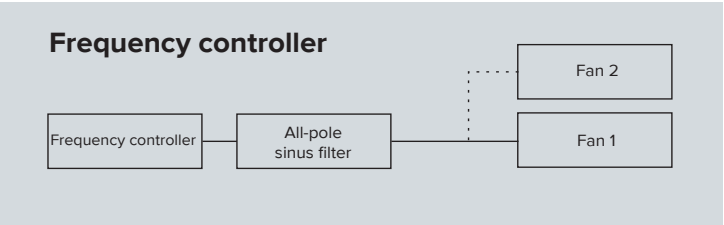
The motors are standard executed with a thermo contact and must be connected to prevent motor damages.

The maximum allowable working data in the table and on the name plate of the fans are to operate in an air temperature of +20 °C (air density of ρ = 1,2 kg/m³). For air temperatures lower than +20 °C, the current amperage can be calculated by using the diagram multiplication factor, suitable thermal overloads can then be selected. In our Goedhart GPC selection program also the values in the working point are indicated.



SOUND DATA

The mean sound pressure (LpA @ 3m ± 2 dB (A)) each air cooler is a calculated indication value according to the EN13487 standard parallel pipe. Kelvion uses the fan manufacturer's sound power level (LwA) at the inlet side of the fan. Changes to or by the fan or the product, affect the sound, in these cases consult the manufacturer for the new indication value. In critical sound requirements, we advise you to consult an expert.



DATA ON THE NAME PLATES

Fan diameter	Tension	Single phase - 50 Hz				Single phase - 60 Hz			
		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min⁻¹	Watt	A	dB(A)	min⁻¹	Watt	A	dB(A)
4 pole (n=1500 min⁻¹ nom.)									
250	1x230	1370	50	0,24	62	1520	50	0,23	
300	1x230	1290	90	0,39	64	1320	110	0,50	
350	1x230	1390	150	0,65	74	1520	230	1,00	72
450	1x230	1390	600	2,90	76	1430	820	3,50	75
500	1x230	1240	720	3,20	77	1260	1000	4,40	77
6 pole (n=1000 min⁻¹ nom.)									
400	1x230	950	130	0,60	67	1110	170	0,78	68
500	1x230	900	270	1,25	74	900	380	1,75	75

Mentioned data are for each fan according the supplier of the fans

Fan diameter	Tension	Three phase - 50Hz								Three phase - 60Hz			
		Δ			Y			Δ	Y	Δ			
		Speed	Nominal power	FLC	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min⁻¹	Watt	A	min⁻¹	Watt	A	dB(A)	dB(A)	min⁻¹	Watt	A	dB(A)
4 pole (n=1500 min⁻¹ nom.)													
350	3x400/690	1390	190	0,40	1170	140	0,23	73	69	1630	300	0,46	74
400	3x400/690	1370	230	0,44	1110	170	0,27	75	70	1580	370	0,56	76
450	3x400/690	1350	540	1,10	1020	360	0,66	75	70	1560	880	1,40	79
500	3x400/690	1340	840	1,45	940	540	0,96	78	73	1480	1200	2,00	80


PIZZAS
PIZZAS

CORRECTION FACTOR DT1 (=AIR ON)

The nominal capacities of the Goedhart FC38i(dx) and FC38p(dx) air coolers are based on R-404A direct expansion, DT1 and a RH of 85%. DT1 it the difference between air-on temperature and the evaporation temperature of the cooler. The evaporation temperature is the saturated temperature corresponding to the pressure at the suction outlet of the cooler.

The nominal capacities:

(SC1)	t_o	= 0 °C and DT1= 10 K
(SC2)	t_o	= -8°C and DT1= 8 K
(SC3)	t_o	= - 25°C and DT1= 7 K

Correction factors for various evaporation temperatures and temperature differences (DT1) are as indicated in the tables below. The requested capacity must be multiplied by a correction factor from the table. So that an air cooler with the resulting nominal capacity can be chosen from the selection tables.

Q nominal = factor x Q requested

R404A										
DT1	Evaporation temperature (°C)									
K	+7	+6	+5	+4	+3	+2	+1	0	-1	-2
6	1,81	1,81	1,82	1,82	1,83	1,83	1,84	1,84	1,84	1,85
7	1,49	1,50	1,50	1,50	1,51	1,51	1,52	1,52	1,52	1,53
8	1,27	1,28	1,28	1,29	1,29	1,29	1,30	1,30	1,30	1,31
9	1,10	1,10	1,11	1,11	1,12	1,12	1,13	1,13	1,13	1,14
10	0,97	0,98	0,98	0,99	0,99	0,99	1,00	1,00	1,00	1,01
11	0,88	0,88	0,88	0,89	0,89	0,90	0,90	0,90	0,90	0,91
12	0,79	0,79	0,79	0,80	0,80	0,81	0,81	0,81	0,81	0,82

SC1 DT1 = 10K
Air on = 10°C (0/+10°C)

R404A										
DT1	Evaporation temperature (°C)									
K	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
6	1,30	1,34	1,38	1,42	1,42	1,43	1,43	1,43	1,44	1,44
7	1,04	1,07	1,10	1,14	1,17	1,18	1,18	1,18	1,19	1,19
8	0,86	0,88	0,91	0,94	0,97	1,00	1,00	1,01	1,01	1,01
9	0,75	0,75	0,77	0,79	0,82	0,84	0,87	0,87	0,87	0,88
10	0,66	0,66	0,66	0,68	0,70	0,72	0,74	0,77	0,77	0,77
11	0,59	0,59	0,59	0,59	0,61	0,63	0,65	0,67	0,69	0,69
12	0,54	0,54	0,54	0,54	0,54	0,55	0,57	0,58	0,60	0,62

SC2 DT1 = 8K
Air on = 0°C (-8/0°C)

R404A										
DT1	Evaporation temperature (°C)									
K	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30
6	1,20	1,20	1,21	1,21	1,21	1,22	1,22	1,23	1,23	1,23
7	0,99	0,99	0,99	1,00	1,00	1,00	1,00	1,01	1,01	1,02
8	0,84	0,84	0,84	0,85	0,85	0,85	0,85	0,86	0,86	0,86
9	0,73	0,73	0,73	0,73	0,73	0,74	0,74	0,74	0,74	0,75
10	0,64	0,64	0,64	0,64	0,65	0,65	0,65	0,65	0,66	0,66
11	0,57	0,57	0,57	0,58	0,58	0,58	0,58	0,58	0,59	0,59
12	0,52	0,52	0,52	0,52	0,52	0,52	0,53	0,53	0,53	0,53

SC3 DT1 = 7K
Air on = -18°C (-25/-18°C)

CAPACITY OPTIMIZATION

To achieve the best possible combination of application, refrigerant and capacity, we can optimise the coil circuiting, depending on the specific conditions under which the products will be used. Goedhart® FC38 is a standard product to ensure shorter delivery times. The circuiting of these evaporators has been optimized according to the most commonly used coolants/ refrigerants and conditions. Because of this each Goedhart® FC38 air cooler has his own order code, easy for purchasing. Specific applications can vary from this, our sales department is there to assist you in selecting the best circuiting for your application.

CORRECTION FACTOR FOR COOLANTS

The nominal capacities of the Goedhart FC38p(G) air coolers are based on an air-on temperature of 12°C, a RH of 85% and:

Water	: in / out temperature	= +1/+5°C
E-Glycol	: in / out temperature	= - 2/+3°C
P-Glycol	: in / out temperature	= - 2/+3°C
Pekasol	: in / out temperature	= - 2/+3°C
Freezium	: in / out temperature	= - 2/+3°C

Correction factors for various air-on temperatures and refrigerants or secondary coolants are as indicated in the tables below. The requested capacity must be multiplied by a correction factor from the table, so that an air cooler with te resulting nominal capacity can be chosen from the selection tables.

Q nominal = factor x Q requested

Water									
in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
1 / 5	1,99	1,59	1,32	1,14	1,00	0,88	0,78	0,72	0,66
2 / 6		1,95	1,57	1,30	1,12	0,98	0,87	0,78	0,71
3 / 7			1,92	1,54	1,28	1,11	0,97	0,86	0,77
4 / 8				1,94	1,56	1,31	1,13	0,98	0,87
5 / 9					1,86	1,49	1,25	1,07	0,94

E-Glycol 28%									
in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,81	1,46	1,34	1,16	1,00	0,88	0,82	0,81	0,69
-1 / 4	2,35	1,72	1,41	1,28	1,10	0,96	0,85	0,79	0,75
0 / 5	2,43	2,30	1,64	1,40	1,24	1,06	0,93	0,84	0,76
1 / 6		2,38	2,28	1,59	1,37	1,21	1,05	0,92	0,82
2 / 7			2,28	2,09	1,55	1,35	1,17	1,03	0,91

P-Glycol 28%									
in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,66	1,45	1,26	1,11	1,00	0,91	0,83	0,76	0,70
-1 / 4	2,00	1,65	1,42	1,24	1,11	1,01	0,90	0,81	0,77
0 / 5	2,48	1,94	1,65	1,41	1,23	1,14	1,00	0,91	0,85
1 / 6		2,46	1,97	1,64	1,42	1,29	1,12	1,00	0,92
2 / 7			2,45	1,96	1,63	1,64	1,28	1,11	1,00

Pekasol 50%									
in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,68	1,42	1,26	1,11	1,00	0,90	0,82	0,77	0,70
-1 / 4	2,02	1,65	1,42	1,24	1,10	0,98	0,89	0,81	0,76
0 / 5	2,39	1,96	1,62	1,39	1,22	1,07	0,96	0,87	0,80
1 / 6		2,36	1,93	1,60	1,37	1,20	1,06	0,94	0,86
2 / 7			2,32	1,89	1,57	1,35	1,18	1,05	0,94

Freezium 24%									
in/out	Luchtintrede temperatuur (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,66	1,44	1,25	1,11	1,00	0,91	0,83	0,77	0,71
-1 / 4	1,94	1,62	1,42	1,23	1,09	0,98	0,89	0,82	0,76
0 / 5	2,38	1,91	1,59	1,39	1,21	1,07	0,97	0,88	0,81
1 / 6		2,34	1,88	1,57	1,37	1,20	1,06	0,95	0,86
2 / 7			2,30	1,86	1,55	1,35	1,18	1,05	0,94

Kelvion



GOEDHART® FC38S AIR COOLERS

Simply cooling and freezing

The commercial range Goedhart® FC38S ceiling mounted air coolers are standard air coolers for cooling and freezing applications. Goedhart® FC38S is a standard product to ensure shorter delivery times. The circuiting of these evaporators has been optimized according to the most commonly used refrigerants/coolants and conditions. Because of this each Goedhart® FC38S air cooler has his own order code, easy for purchasing. The air direction is blow-through as standard (draw-through is available on request)

Coil block

Tube distance	: 38x33 mm staggered
Fin spacings	: 4 and 7mm.
Material	: 12 mm o.d internally plain (p) or increased (i) copper tubes
	: aluminium HT-fins

The coil blocks have copper tubes mechanically expanded into fully collared aluminium fins. A good thermal contact is achieved by expansion of the tubes into the fin collars, that are also utilized as spacers to provide a constant distance between the fins. All coolers are pressure tested to 40 bar (lower by coolants) and are supplied with a light over pressure charge of dried air. The suction header is executed with a Schräder valve for testing applications. Suitable for the most known refrigerants and coolants, with the exception of NH3.

Casing

- Construction for ceiling mounting
- Casing material of galvanized sheet steel
- The drip tray is hinged and made from light aluminium
- Executed with a short air conduction plate as standard
- Standard white epoxy spray finishing
- Bend/header protection by end covers, easy removed for maintenance
- Standard refrigerant connections are positioned on the left hand side of the unit when looking with the direction of the airflow.
- Possible defrost by hot gas spiral or electric defrost elements will be fixed to the bottom side of the coil
- Stainless steel fasteners

Goedhart® FC38SB features

- For cooling and freezing applications
- Standard blow-through (draw-through available on request)
- Copper tubes and aluminium fins
- Available with internally plain or increased copper tubes
- Consisting of 144 models
- Capacity range from 1,7 to 74,1kW. (R404A dx, SC2)
- Suitable for most refrigerants / coolants with exception of NH_3
- Goedhart® FC38S is delivered in a wooden crate, easy to handle. The drip tray will be delivered separately
- Despite Goedhart ®FC38S is a commercial air cooler some options are available (see page 32)

1	Range	: Goedhart® FC38S
2	Air direction	: B=blow Z=draw
3	Execution tube	: p = internal plain : i = internal increased
4	Refrigerant	: (dx) = R404A, (G)= coolant
5	Rows deep	: 4 ,6
6	Number of fans	: 1 - 6
7	Fan diameter	: 250, 300, 350, 400, 450, 500 mm
8	Fin spacing	: 4, 7 mm
9	Tension	: 1x230V, 3x400V fan
10	Defrost	: E = electrical H = hot gas

1	2	3	4	5					
FC38S	B	i	(dx)	6	3	45	7	230	E
					6	7	8	9	10

GOEDHART® FC38S-FAN DATA

Fan diameter	Tension	Δ			Y			Δ	Y	Δ			
		Speed	Nominal power	FLC	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min-1	Watt	A	min-1	Watt	A	dB(A)	dB(A)	min-1	Watt	A	dB(A)
		SINGLE PHASE - 50HZ								SINGLE PHASE - 60HZ			
250	1x230	1370	50	0,24				62		1520	50	0,23	
300	1x230	1290	90	0,39				64		1320	110	0,50	
350	1x230	1390	150	0,65				74		1520	230	1,00	72
450	1x230	1390	600	2,90				76		1430	820	3,50	75
500	1x230	1240	720	3,20				77		1260	1000	4,40	77
		THREE PHASE - 50HZ								THREE PHASE - 60HZ			
350	3x400/690	1390	190	0,40	1170	140	0,23	73	69	1630	300	0,46	74
400	3x400/690	1370	230	0,44	1110	170	0,27	75	70	1580	370	0,56	76
450	3x400/690	1350	540	1,10	1020	360	0,66	75	70	1560	880	1,40	79
500	3x400/690	1340	840	1,45	940	540	0,96	78	73	1480	1200	2,00	80

Mentioned data are for each fan according the supplier of the fans

GOEDHART® FC38Si (DX-R404A)

Technical data | Fin spacing 4 mm

Type	Fan diameter	Order code Standard	Order code Elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Si	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.4	1x250	700401	700501	2,4	1,7		632	40,8	7	12	12	26	2
4.1.30.4	1x300	700402	700502	4,2	2,8		1204	42,7	11	12	28	34	2
6.1.30.4	1x300	700403	700503	4,6	3,2		1033	42,7	16	12	28	39	4
6.1.35.4	1x350	700408	700508	8	5,4		1870	52,5	25	12	28	51	5
6.1.40.4	1x400	710412	710512	11	7,5		2632	53,4	34	16	28	63	7
6.1.45.4	1x450	700416	700516	18,4	12,4		4807	54,3	45	16	28	75	9
4.2.30.4	2x300	700404	700504	8,3	5,6		2399	45,5	22	12	28	50	4
6.2.30.4	2x300	700405	700505	9,1	6,3		2056	45,5	32	12	28	61	6
6.2.35.4	2x350	700409	700509	15,9	10,8		3730	55,3	50	16	28	82	10
6.2.40.4	2x400	710413	710513	22	14,9		5249	56,2	68	16	35	103	13
6.2.45.4	2x450	700417	700517	36,6	24,7		9595	57	90	16	35	122	17
6.2.50.4	2x500	700422	700522	43	29,2		10969	57,8	112	16	42	204	22
6.3.30.4	3x300	700406	700506	13,7	9,4		3080	47,1	49	16	28	81	9
6.3.35.4	3x350	700410	700510	23,8	16,2		5591	56,8	75	16	28	112	14
6.3.40.4	3x400	710414	710514	33,2	22,8		7868	57,7	102	16	35	142	19
6.3.45.4	3x450	700418	700518	54,9	37,1		14382	58,4	134	16	42	174	25
6.3.50.4	3x500	700423	700523	64,7	44,0		16440	59,3	168	16	54	291	32
6.4.30.4	4x300	700407	700507	18,2	12,5		4103	48,2	65	16	28	104	12
6.4.35.4	4x350	700411	700511	31,5	21,6		7450	57,9	99	16	35	143	19
6.4.40.4	4x400	710415	710515	44,3	30,3		10485	58,7	136	22	42	183	25
6.4.45.4	4x450	700419	700519	73,3	49,4		19169	59,4	179	22	54	222	33
6.4.50.4	4x500	700424	700524	86,1	58,3		21911	60,2	224	28	54	376	42
6.5.45.4	5x450	700420	700520	92,1	62,1		23956	60,1	223	22	54	267	41
6.6.45.4	6x450	700421	700521	110,1	74,1		28744	60,7	268	28	54	322	50

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

GOEDHART® FC38Si (DX)

Technical data | Fin spacing 7 mm

Type	Fan diameter	Order code Standard	Order code Elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Si	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.7	1x250	700621	700721	1,8	1,2	0,9	720	40,8	4	12	12	25	2
4.1.30.7	1x300	700622	700722	3,1	2,1	1,6	1442	42,7	7	12	28	32	2
6.1.30.7	1x300	700623	700723	4	2,8	2,0	1291	42,7	10	12	28	36	4
6.1.35.7	1x350	700628	700728	6,6	4,5	3,3	2216	52,5	15	12	28	46	5
6.1.40.7	1x400	710632	710732	9,3	6,3	4,6	3137	53,4	21	16	28	57	7
6.1.45.7	1x450	700636	700736	12,3	9,9	7,3	5676	54,3	27	16	28	67	9
4.2.30.7	2x300	700624	700724	6,2	4,2	3,1	2875	45,5	13	12	28	47	4
6.2.30.7	2x300	700625	700725	8,1	5,5	4,0	2573	45,5	19	12	28	56	6
6.2.35.7	2x350	700629	700729	13,3	9	6,6	4423	55,3	30	16	28	74	10
6.2.40.7	2x400	710633	710733	18,2	12,5	9,0	6264	56,2	41	16	28	92	13
6.2.45.7	2x450	700637	700737	24,5	19,8	14,5	11336	57	54	16	35	109	17
6.2.50.7	2x500	700642	700742	35,4	23,8	17,5	13252	57,8	67	16	35	186	22
6.3.30.7	3x300	700626	700726	12,1	8,2	6,0	3855	47,1	29	12	28	74	9
6.3.35.7	3x350	700630	700730	19,9	13,5	9,9	6631	56,8	45	16	28	100	14
6.3.40.7	3x400	710634	710734	27,7	18,9	13,9	9391	57,7	61	16	28	126	19
6.3.45.7	3x450	700638	700738	36,7	29,5	21,4	16998	58,4	80	16	42	152	25
6.3.50.7	3x500	700643	700743	53,1	35,6	26,3	19868	59,3	101	16	42	263	32
6.4.30.7	4x300	700627	700727	15,8	10,8	7,9	5137	48,2	39	16	28	93	12
6.4.35.7	4x350	700631	700731	26,5	18	13,2	8837	57,9	60	16	35	127	19
6.4.40.7	4x400	710635	710735	36,7	24,9	18,3	12517	58,7	82	16	35	161	25
6.4.45.7	4x450	700639	700739	48,9	39,5	28,9	22657	59,4	107	16	42	193	33
6.4.50.7	4x500	700644	700744	71	47,6	34,9	26482	60,2	134	28	54	339	42
6.5.45.7	5x450	700640	700740	61,1	49,2	36,3	28319	60,1	134	22	54	229	41
6.6.45.7	6x450	700641	700741	73,7	59,1	42,8	33979	60,7	161	22	54	279	49

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

GOEDHART® FC38SP (DX-R404A)

Technical data | Fin spacing 4 mm

Type	Fan diameter	Order code Standard	Order code Elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Sp	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.4	1x250	706421	706521	1,8	1,2		632	40,8	7	12	12	26	2
4.1.30.4	1x300	706422	706522	2,7	2,4		1204	42,7	11	12	12	34	2
6.1.30.4	1x300	706423	706523	3,8	2,5		1033	42,7	16	12	22	39	4
6.1.35.4	1x350	706428	706528	6,6	4,6		1870	52,5	25	12	22	51	5
6.1.40.4	1x400	716432	716532	9,5	6,5		2632	53,4	34	12	22	63	7
6.1.45.4	1x450	706436	706536	14,9	10,2		4807	54,3	45	12	22	75	9
4.2.30.4	2x300	706424	706524	5,3	4,8		2399	45,5	22	12	22	50	4
6.2.30.4	2x300	706425	706525	8	5,4		2056	45,5	32	12	22	61	7
6.2.35.4	2x350	706429	706529	13,2	9,2		3730	55,3	50	12	22	82	10
6.2.40.4	2x400	716433	716533	19,1	12,9		5249	56,2	68	16	28	103	13
6.2.45.4	2x450	706437	706537	29,8	20,5		9595	57	90	16	28	122	18
6.2.50.4	2x500	706422	706522	36,9	24,6		10969	57,8	112	16	35	204	22
6.3.30.4	3x300	706426	706526	11,9	8,1		3080	47,1	49	12	22	81	10
6.3.35.4	3x350	706430	706530	20,4	13,7		5591	56,8	75	16	28	112	14
6.3.40.4	3x400	716434	716534	27,9	18,5		7868	57,7	102	16	35	142	20
6.3.45.4	3x450	706438	706538	46,6	31,1		14382	58,4	134	16	35	174	26
6.3.50.4	3x500	706443	706543	55,4	37		16440	59,3	168	22	42	291	33
6.4.30.4	4x300	706427	706527	16	10,8		4103	48,2	65	16	28	104	12
6.4.35.4	4x350	706431	706531	27,7	18,6		7450	57,9	99	16	35	143	19
6.4.40.4	4x400	716435	716535	38,7	26		10485	58,7	136	16	35	183	26
6.4.45.4	4x450	706439	706539	62,7	41,8		19169	59,4	179	16	42	222	34
6.4.50.4	4x500	706444	706544	74,7	49,6		21911	60,2	224	22	42	376	43
6.5.45.4	5x450	706440	706540	79,5	52,5		23956	60,1	223	16	42	267	42
6.6.45.4	6x450	706441	706541	94,7	63,1		28744	60,7	268	22	42	322	50

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

GOEDHART® FC38SP (DX-R404A)

Technical data | Fin spacing 7 mm

Type	Fan diameter	Order code Standard	Order code Elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Sp	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.7	1x250	706621	706721	1,3	0,8	0,6	720	40,8	4	12	12	25	2
4.1.30.7	1x300	706622	706722	2,8	1,9	1,4	1442	42,7	7	12	12	32	2
6.1.30.7	1x300	706623	706723	3,1	2	1,5	1291	42,7	10	12	12	36	4
6.1.35.7	1x350	706628	706728	5,8	3,9	2,8	2216	52,5	15	12	22	46	5
6.1.40.7	1x400	716632	716732	8,1	5,4	3,9	3137	53,4	21	12	22	57	7
6.1.45.7	1x450	706636	706736	10,6	8,4	6,1	5676	54,3	27	12	22	67	9
4.2.30.7	2x300	706624	706724	5,6	3,7	2,7	2875	45,5	13	12	22	47	4
6.2.30.7	2x300	706625	706725	7	4,6	3,4	2573	45,5	19	12	22	56	7
6.2.35.7	2x350	706629	706729	11,5	7,8	5,6	4423	55,3	30	12	22	74	10
6.2.40.7	2x400	716633	716733	16,1	10,8	7,8	6264	56,2	41	16	22	92	13
6.2.45.7	2x450	706637	706737	21,2	16,8	12,1	11336	57	54	16	28	109	18
6.2.50.7	2x500	706622	706722	30,6	20,3	14,6	13252	57,8	67	16	28	186	22
6.3.30.7	3x300	706626	706726	10,5	7,1	5,1	3855	47,1	29	12	22	74	9
6.3.35.7	3x350	706630	706730	17,3	11,6	8,4	6631	56,8	45	16	22	100	14
6.3.40.7	3x400	716634	716734	22,2	15,9	10,9	9391	57,7	61	16	28	126	20
6.3.45.7	3x450	706638	706738	32	25,2	18,1	16998	58,4	80	16	35	152	26
6.3.50.7	3x500	706643	706743	46,2	30,4	21,9	19868	59,3	101	16	35	263	32
6.4.30.7	4x300	706627	706727	14,1	9,5	6,8	5137	48,2	39	12	22	93	12
6.4.35.7	4x350	706631	706731	23,2	15,5	11,2	8837	57,9	60	16	28	127	19
6.4.40.7	4x400	716635	716735	32,4	21,5	15,7	12517	58,7	82	16	35	161	26
6.4.45.7	4x450	706639	706739	42,8	33,7	24,1	22657	59,4	107	16	35	193	34
6.4.50.7	4x500	706644	706744	61,9	40,6	29,2	26482	60,2	134	16	42	339	43
6.5.45.7	5x450	706640	706740	53,6	41,5	30,1	28319	60,1	134	16	42	229	42
6.6.45.7	6x450	706641	706741	64,4	50,8	36,2	33979	60,7	161	16	42	279	50

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

GOEDHART® FC38Sp (G-GLYCOL)

Technical data | Fin spacing 4 mm

Type	Order code Standard	Order code elec. defrost	1x230V-50Hz-4 pole (1500 min⁻¹ nom.)																	Surface	Connections		Weight	Internal volume
			E-Glycol 28% -2 / 3 °C (in/out)			Water 1 / 5 °C (in/out)			P-Glycol 34% -2 / 3 °C (in/out)			Pekasol 50% -2 / 3 °C (in/out)			Freezium 24% -2 / 3 °C (in/out)			Air volume	LpA @ 3 m (+/- 2 dB(A))*					
			Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop				I	K		
FC38Sp			kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.4	703421	703521	1,8	0,33	10,1	1,9	0,41	11,6	1,9	0,35	98,1	1,9	0,32	133,6	1,8	0,35	14,6	632	40,8	7	16	16	26	2
4.1.30.4	703422	703522	3	0,56	22,2	4,0	0,85	49,2	2,9	0,53	47,0	4,7	0,81	55,9	4,7	0,92	68,9	1204	42,7	11	16	16	34	3
6.1.30.4	703423	703523	3,8	0,71	18,8	4,4	0,95	29,5	4,0	0,72	96,5	5,2	0,89	32,4	5,1	1,00	41,1	1033	42,7	16	16	16	39	4
6.1.35.4	703428	703528	6,2	1,15	22,3	7,8	1,68	48,2	6,3	1,14	89,1	9,5	1,62	56,0	9,4	1,84	68,0	1870	52,5	25	22	22	51	6
6.1.40.4	713432	713532	10,6	1,97	55,5	11,1	2,37	59,7	8,5	1,54	84,0	13,5	2,32	70,5	12,6	2,48	84,5	2632	53,4	34	28	28	63	8
6.1.45.4	703436	703536	17,7	3,28	64,9	17,9	3,83	65,5	12,3	2,24	94,5	21,8	3,73	77,1	20,7	4,06	92,6	4807	54,3	45	28	28	75	10
4.2.30.4	703424	703524	8,6	1,61	83,8	8,3	1,76	76,0	5,2	0,95	49,3	10,1	1,73	90,5	9,2	1,80	43,9	2399	45,5	22	22	22	50	5
6.2.30.4	703425	703525	9,9	1,85	73,2	9,4	2,00	65,1	6,9	1,26	55,1	11,5	1,98	78,2	10,8	2,13	92,7	2056	45,5	32	22	22	61	7
6.2.35.4	703429	703529	17,7	3,29	91,4	16,2	3,47	76,8	11,2	2,04	78,2	20,0	3,43	92,6	19,2	3,77	68,7	3730	55,3	50	28	28	82	10
6.2.40.4	713433	713533	25	4,65	97,5	22,7	4,85	80,3	15,5	2,80	95,4	28,0	4,80	97,0	27,2	5,34	80,4	5249	56,2	68	35	35	103	14
6.2.45.4	703437	703537	39,1	7,26	85,5	36,4	7,78	73,9	21,8	3,96	93,9	44,7	7,66	88,4	43,5	8,54	82,2	9595	57,0	90	42	42	122	18
6.2.50.4	703422	703522	45,8	8,51	83,0	43,4	9,27	88,4	26,6	4,82	93,3	52,7	9,04	86,1	51,5	10,11	84,0	10969	57,8	112	54	54	204	24
6.3.30.4	703426	703526	14,8	2,74	59,3	14,3	3,06	91,1	9,9	1,79	101,8	17,2	2,95	63,9	17,1	3,36	75,8	3080	47,1	49	28	28	81	10
6.3.35.4	703430	703530	26,4	4,90	76,3	24,6	5,26	91,3	16,1	2,93	98,7	29,9	5,12	77,7	29,0	5,70	91,9	5591	56,8	75	35	35	112	15
6.3.40.4	713434	713534	37,3	6,94	82,8	34,3	7,33	88,5	21,6	3,92	96,5	41,9	7,18	82,7	41,0	8,04	97,6	7868	57,7	102	42	42	142	21
6.3.45.4	703438	703538	60,0	11,15	90,6	55,0	11,74	63,9	29,9	5,43	88,8	67,6	11,59	91,1	65,4	12,85	76,9	14382	58,4	134	54	54	174	28
6.3.50.4	703443	703543	70,8	13,17	91,8	65,0	13,88	76,5	37,1	6,72	84,6	79,9	13,70	92,0	77,8	15,27	82,6	16440	59,3	168	64	64	291	35
6.4.30.4	703427	703527	21,1	3,92	86,9	19,0	4,05	70,3	13,1	2,38	98,4	23,4	4,02	85,3	22,7	4,46	67,4	4103	48,2	65	35	35	104	13
6.4.35.4	703431	703531	36,4	6,77	93,9	32,6	6,97	99,8	20	3,63	83,3	40,3	6,92	91,5	38,8	7,62	83,1	7450	57,9	99	42	42	143	20
6.4.40.4	713435	713535	51,0	9,48	94,6	45,6	9,74	92,7	27,1	4,92	94,9	56,3	9,66	75,6	54,7	10,74	89,3	10485	58,7	136	54	54	183	27
6.4.45.4	703439	703539	80,8	15,03	92,6	73,0	15,60	66,9	37,1	6,73	83,8	89,7	15,38	92,0	87,4	17,15	73,8	19169	59,4	179	54	54	222	36
6.4.50.4	703444	703544	95,8	17,80	96,0	86,9	18,56	70,5	45,6	8,28	89,0	107,1	18,36	84,8	104	20,42	81,4	21911	60,2	224	64	64	376	47
6.5.45.4	703440	703540	100,1	18,61	93,6	91,1	19,46	68,7	43,6	7,90	79,4	112,6	19,30	82,7	109,3	21,46	71,8	23956	60,1	223	64	64	267	45
6.6.45.4	703441	703541	120,9	22,48	84,6	109,6	23,41	64,0	48,7	8,84	67,5	134,7	23,10	84,2	131,2	25,76	70,4	28744	60,7	268	76	76	322	53

GOEDHART® FC38Sp (G-GLYCOL)

Technical data | Fin spacing 7 mm

Type	Order code Standard	Order code elec. defrost	1x230V-50Hz-4 pole (1500 min⁻¹ nom.)																	Surface	Connections		Weight	Internal volume
			E-Glycol 28% -2 / 3 °C (in/out)			Water 1 / 5 °C (in/out)			P-Glycol 34% -2 / 3 °C (in/out)			Pekasol 50% -2 / 3 °C (in/out)			Freezium 24% -2 / 3 °C (in/out)			Air volume	LpA @ 3 m (+/- 2 dB(A))*					
			Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop				I	K		
FC38Sp			kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.7	703621	703721	1,6	0,31	37,4	1,8	0,38	67,8	1,6	0,29	80,1	2,2	0,37	79,8	1,5	0,29	96,3	720	40,8	4	16	16	25	2
4.1.30.7	703622	703722	2,5	0,47	18,4	3,0	0,64	29,5	2,4	0,44	39,2	3,5	0,60	32,0	3,4	0,68	41,1	1442	42,7	7	16	16	32	3
6.1.30.7	703623	703723	4,0	0,74	71,0	4,0	0,86	75,6	3,5	0,64	84,6	5	0,85	90,0	4,1	0,81	29,6	1291	42,7	10	16	16	36	4
6.1.35.7	703628	703728	6,9	1,29	86,2	6,7	1,42	79,5	5,4	0,98	76,7	8,2	1,40	95,2	7,5	1,47	46,6	2216	52,5	15	22	22	46	6
6.1.40.7	713632	713732	9,9	1,84	90,5	9,3	1,99	80,2	7,4	1,33	72,4	11,5	1,97	96,4	10,8	2,11	57,9	3137	53,4	21	22	22	57	8
6.1.45.7	703636	703736	9,6	1,78	70,1	12,4	2,65	67,2	9,5	1,73	80,6	14,7	2,52	79,9	14,6	2,86	95,4	4164	48,3	27	28	28	67	10
4.2.30.7	703624	703724	4,7	0,87	19,7	6,3	1,34	46,3	4,5	0,81	41,7	7,6	1,31	54,4	7,6	1,49	65,6	2875	45,5	13	16	16	47	4
6.2.30.7	703625	703725	7,6	1,42	22,9	8,0	1,71	48,6	6,5	1,18	91,5	9,8	1,68	57,7	9,7	1,91	69,1	2573	45,5	19	22	22	56	7
6.2.35.7	703629	703729	13,5	2,52	56,5	13,5	2,89	91,6	9,8	1,78	68,1	16,2	2,78	63,8	16,1	3,16	76,1	4423	55,3	30	28	28	74	10
6.2.40.7	713633	713733	19,5	3,62	61,5	18,8	4,02	82,4	13,5	2,45	83,0	22,8	3,90	66,6	22,6	4,44	79,1	6264	56,2	41	35	35	92	14
6.2.45.7	703637	703737	26,6	4,94	99,9	24,9	5,33	82,1	17,7	3,22	81,2	30,3	5,20	99,3	29,5	5,80	88,1	8311	51,0	54	35	35	109	18
6.2.50.7	703622	703722	38,3	7,13	85,2	35,7	7,62	91,2	23,9	4,34	80,8	43,5	7,46	86,7	42,5	8,35	66,5	13252	57,8	67	42	42	186	23
6.3.30.7	703626	703726	13,5	2,51	82,0	12,3	2,62	68,3	9,2	1,68	90,1	15,2	2,60	82,8	14,5	2,85	97,7	3855	47,1	29	28	28	74	10
6.3.35.7	703630	703730	21,9	4,07	75,9	20,4	4,35	94,2	14,1	2,56	86,2	24,8	4,25	77,0	24,0	4,72	90,9	6631	56,8	45	35	35	100	15
6.3.40.7	713634	713734	30,6	5,70	73,2	28,3	6,05	61,4	19	3,45	84,4	34,6	5,93	98,9	33,8	6,63	87,6	9391	57,7	61	42	42	126	20
6.3.45.7	703638	703738	41,1	7,64	86,1	37,5	8,00	87,1	24,5	4,45	96,0	45,9	7,87	85,9	45,0	8,84	83,5	12458	52,4	80	42	42	152	27
6.3.50.7	703643	703743	59,4	11,04	97,6	53,7	11,48	93,3	32,8	5,95	87,5	66,0	11,31	95,6	64,3	12,62	95,9	19868	59,3	101	54	54	263	34
6.4.30.7	703627	703727	17,4	3,24	60,4	16,5	3,53	82,8	11,8	2,13	87,5	20,0	3,43	63,4	19,9	3,90	75,1	5137	48,2	39	28	35	93	13
6.4.35.7	703631	703731	30	5,58	86,3	27,2	5,81	94,8	18,2	3,30	98,7	33,3	5,71	84,7	32,6	6,39	99,7	8837	57,9	60	42	42	127	20
6.4.40.7	713635	713735	41,6	7,74	79,0	37,8	8,08	80,0	24	4,35	83,5	46,9	8,04	97,6	45,5	8,94	92,0	12517	58,7	82	54	54	161	27
6.4.45.7	703639	703739	55,5	10,32	94,8	50,3	10,74	89,4	31,2	5,67	87,1	62,0	10,63	92,5	60,0	11,77	93,5	16606	53,4	107	54	54	193	35
6.4.50.7	703644	703744	79	14,69	89,8	71,5	15,27	94,0	41,4	7,50	89,8	88,4	15,16	88,2	86,0	16,88	92,0	26482	60,2	134	64	64	339	45
6.5.45.7	703640	703740	69,9	12,99	86,7	62,8	13,42	79,6	37,5	6,81	93,4	77,6	13,30	96,8	75,5	14,81	88,8	20753	54,1	134	64	64	229	44
6.6.45.7	703641	703741	84,2	15,66	92,0	75,4	16,10	81,9	42,7	7,75	97,5	93,1	15,97	99,7	90,9	17,85	85,6	24900	54,7	161	64	64	279	52

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

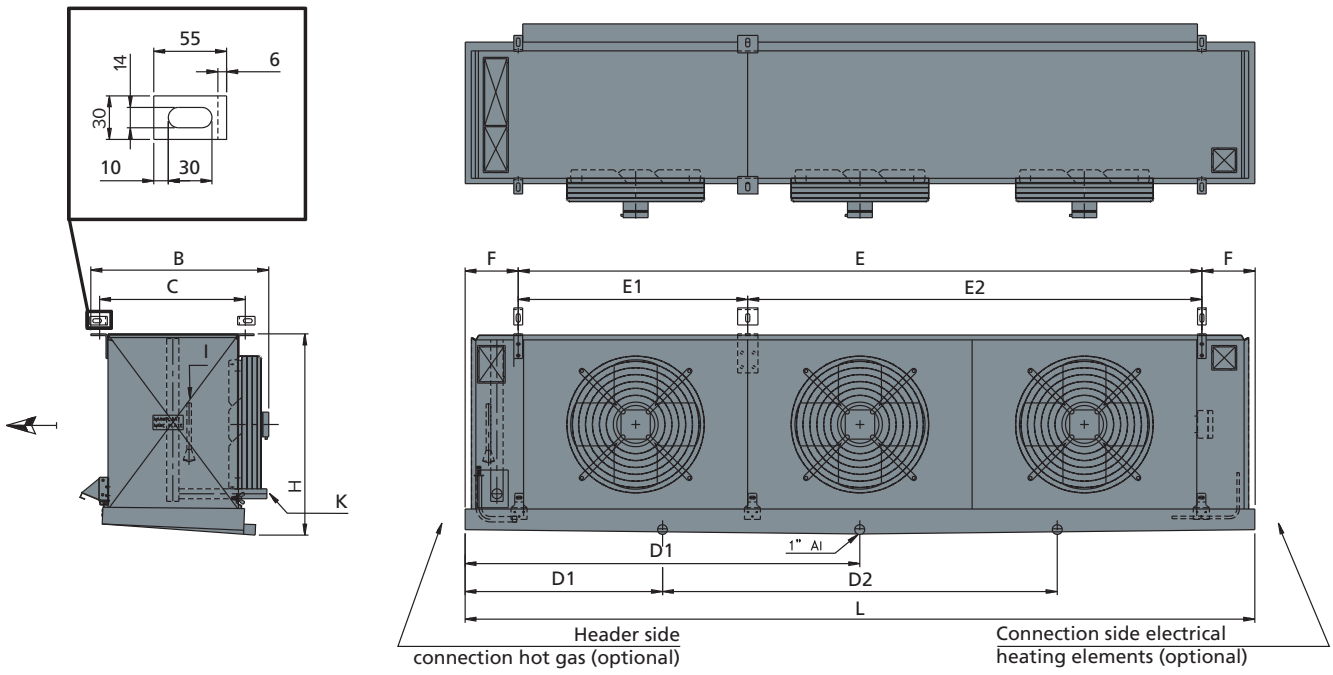
GOEDHART® FC38SB

Dimensions, Electrical defrost

Type	Dimensions										Electrical defrost at 3x400V					
	L	B	H	C	E	E1	E2	F	D1	D2	Coil block		Drip tray		Standard	Light
Goedhart® FC38SB	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	number	O (mm)	Number	O (mm)	kW	kW**
4.1.25.*	690	510	395	400	406			142	345		2x L=1000	66	1x L=1600	200	1,4	
4.1.30.*	765	510	470	400	481			142	383		2x L=1300	66	1x L=1600	200	1,6	
6.1.30.*	765	510	470	400	481			142	383		2x L=1300	66	1x L=1600	200	1,6	
6.1.35.*	970	640	550	500	606			182	485		3x L=1600	132	1x L=2200	300	2,8	
6.1.40.*	1070	640	625	500	706			182	535		3x L=1900	132	1x L=2500	300	3,3	
6.1.45.*	1170	735	700	500	806			182	585		5x L=1900	132	1x L=2500	300	4,8	3,7
4.2.30.*	1210	510	470	400	926			142	605		2x L=2200	66	1x L=2500	200	2,8	
6.2.30.*	1210	510	470	400	926			142	605		2x L=2200	66	1x L=2500	200	2,8	
6.2.35.*	1540	640	550	500	1176			182	770		3x L=2800	132	1x L=3100	300	4,8	
6.2.40.*	1740	640	625	500	1376			182	870		3x L=3100	132	1x L=3700	300	5,4	
6.2.45.*	1940	735	700	500	1576			182	970		5x L=3700	132	1x L=4000	300	9,4	7,1
6.2.50.*	2040	835	850	600	1576			232	1020		5x L=3700	132	1x L=4300	400	9,6	7,2
6.3.30.*	1655	510	470	400	1371			142	828		2x L=3100	66	1x L=3700	200	4,1	
6.3.35.*	2110	640	550	500	1746			182	1055		3x L=4000	132	1x L=4600	300	6,1	
6.3.40.*	2410	640	625	500	2046			182	1205		3x L=4600	132	1x L=5200	300	8,0	
6.3.45.*	2710	735	700	500	2346			182	1355		5x L=5200	132	1x L=5800	300	13,5	10,2
6.3.50.*	2810	835	850	600	2346			232	1405		5x L=5200	132	2x L=5800	400	13,5	10,2
6.4.30.*	2100	510	470	400	1816			142	1050		2x L=4000	66	1x L=4600	200	5,3	
6.4.35.*	2680	640	550	500	2316			182	1340		3x L=5200	132	1x L=5800	300	9,1	
6.4.40.*	3080	640	625	500	2716			182	770	1540	3x L=5800	132	1x L=6700	300	10,3	
6.4.45.*	3480	735	700	500		1558	1558	182	870	1740	5x L=6700	132	1x L=7300	300	17,6	13,4
6.4.50.*	3580	835	850	600		1558	1558	232	895	1790	5x L=6700	132	1x L=7600	400	17,8	13,5
6.5.45.*	4250	640	700	500		1558	2328	182	1063	2125	10x L=4300	-	2x L=4600	-	22,0	16,6
6.6.45.*	5020	640	700	500		2328	2328	182	1255	2510	10x L=4900	-	2x L=5200	-	25,1	18,9

GOEDHART® FC38SB

Drawing



EC-Declarations for dx-R404A

Connection ≤ 35 mm	: Declaration of incorporation (SEP)
Connection 42mm and 54 mm	: Declaration of conformity module A
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

EC-Declarations for coolants

According	: Declaration of incorporation (SEP)
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

Kelvion

GOEDHART® FC38L AIR COOLERS

Simply low

The commercial range Goedhart® FC38L ceiling mounted air coolers are standard air coolers for cold storage rooms with height limitation. Goedhart® FC38L is a standard product to ensure shorter delivery times. The circuiting of these evaporators has been optimized according to the most commonly used refrigerants/coolants and conditions. Because of this each Goedhart® FC38L air cooler has his own order code, easy for purchasing. The air direction is blow-through as standard.

Coil block

Tube distance	: 38x33 mm staggered
Fin spacings	: 4 and 7mm.
Material	: 12 mm o.d internally plain (p) or increased (i) copper tubes
	: aluminium HT-fins

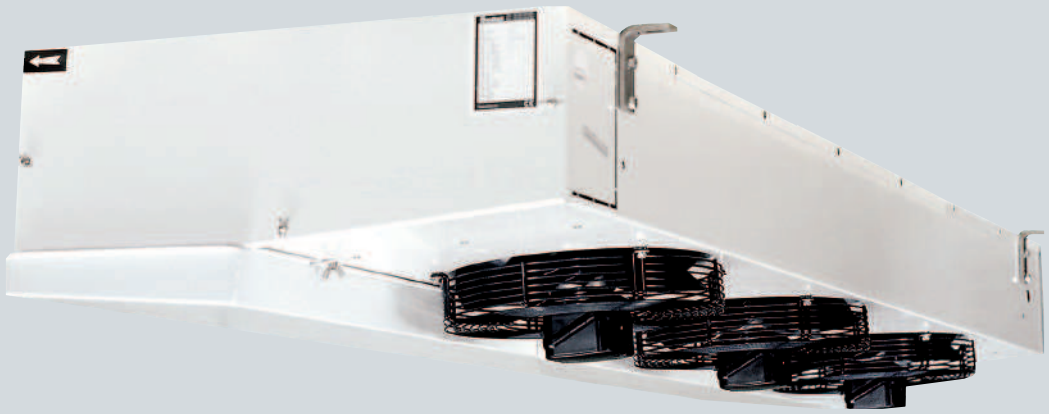
The coil blocks have copper tubes mechanically expanded into fully collared aluminium fins. A good thermal contact is achieved by expansion of the tubes into the fin collars, that are also utilized as spacers to provide a constant distance between the fins. All coolers are pressure tested to 40 bar (lower by coolants) and are supplied with a light over pressure charge of dried air. The suction header is executed with a Schräder valve for testing applications. Suitable for the most known refrigerants and coolants, with the exception of NH3.

Casing

- Construction for ceiling mounting
- Casing material of galvanized sheet steel
- The drip tray is hinged and made from light aluminum
- Executed with a short air conduction plate as standard
- Standard white epoxy spray finishing
- Bend/header protection by end covers, easy removed for maintenance
- Standard refrigerant connections are positioned on the left hand side of the unit when looking with the direction of the airflow.
- Possible defrost by hot gas spiral or electric defrost elements will be fixed to the bottom side of the coil
- Stainless steel fasteners

Goedhart® FC38L features

- For cooling and freezing applications with height limitation
- Standard blow-through
- Copper tubes and aluminium fins
- Available with internally plain or increased copper tubes
- Consisting of 54 models
- Capacity range from 1,6 to 20,2kW. (R404A dx, SC2)
- Suitable for most refrigerants / coolants with exception of NH_3
- Goedhart® FC38L is delivered upside down in a wooden crate, easy to handle and preventing damage of the drip tray
- Despite Goedhart® FC38L is a commercial air cooler some options are available (see page 32)



1	Range	: Goedhart® FC38L
2	Execution tube	: p = internal plain : i = internal increased
3	Refrigerant	: (dx) = R404A, (G)= coolant
4	Rows deep	: 6
5	Number of fans	: 1 - 4
6	Fan diameter	: 250, 300, 400 mm
7	Fin spacing	: 4, 7 mm
8	Tension	: 1x230V, 3x400V fan
9	Defrost	: E = electrical H = hot gas

1	2	3	4					
FC38L	i	(dx)	6	1	30	4	230	E
				5	6	7	8	9

GOEDHART® FC38L-FAN DATA

Fan diameter	Tension	Δ			Y			Δ	Y	Δ			
		Speed	Nominal power	FLC	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min-1	Watt	A	min-1	Watt	A	dB(A)	dB(A)	min-1	Watt	A	dB(A)
		SINGLE PHASE - 50HZ								SINGLE PHASE - 60HZ			
250	1x230	1370	50	0,24				62		1520	50	0,23	
300	1x230	1290	90	0,39				64		1320	110	0,50	
		THREE PHASE - 50HZ								THREE PHASE - 60HZ			
400	3x400/690	1370	230	0,44	1110	170	0,27	75	70	1580	370	0,56	76

Mentioned data are for each fan according the supplier of the fans

GOEDHART® FC38Li (DX-R404A)

Technical data | Fin spacing 4 mm

Type	Fan diameter	Order code Standard	Order code elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Li	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.4	1x250	702401	702501	2,3	1,6		510	40,7	9	12	12	15	2
6.1.30.4	1x300	702403	702503	3,8	2,6		876	42,6	13	12	28	20	3
6.1.40.4	1x400	712407	712507	9,8	6,7		2362	53,4	29	16	28	40	6
6.2.25.4	2x250	702402	702502	4,6	3,2		1020	43,5	18	12	28	25	4
6.2.30.4	2x300	702404	702504	7,7	5,3		1753	45,4	26	12	28	35	5
6.2.40.4	2x400	712408	712508	19,5	13,3		4724	56,1	58	16	35	60	11
6.3.30.4	3x300	702405	702505	11,5	7,9		2629	46,9	39	16	28	45	7
6.3.40.4	3x400	712409	712509	29,5	20,2		7086	57,5	87	16	35	90	16
6.4.30.4	4x300	702406	702506	15,2	10,5		3505	47,9	52	16	28	60	10

Capacities	t_{L1}	t_o	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

GOEDHART® FC38Li (DX-R404A)

Technical data | Fin spacing 7 mm

Type	Fan diameter	Order code Standard	Order code elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Li	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.7	1x250	702601	702701	2	1,4	1,0	612	40,7	5	12	12	15	2
6.1.30.7	1x300	702603	702703	3,4	2,3	1,7	1130	42,6	8	12	28	20	3
6.1.40.7	1x400	712607	712707	8,3	5,6	4,1	2903	53,4	17	16	28	30	6
6.2.25.7	2x250	702602	702702	4,1	2,8	2,0	1225	43,5	11	12	28	20	4
6.2.30.7	2x300	702604	702704	6,8	4,7	3,4	2261	45,4	16	12	28	30	5
6.2.40.7	2x400	712608	712708	16,3	11,1	8,1	5807	56,1	35	12	35	55	11
6.3.30.7	3x300	702605	702705	10,1	6,9	5,1	3391	46,9	23	16	28	55	7
6.3.40.7	3x400	712609	712709	24,9	16,8	12,4	8710	57,5	52	16	35	80	16
6.4.30.7	4x300	702606	702706	13,7	9,3	6,8	4521	47,9	31	16	28	55	10

Capacities	t_{L1}	t_o	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

GOEDHART® FC38Li (DX-R404A)

Technical data | Fin spacing 4 mm

Type	Fan diameter	Order code Standard	Order code elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Lp	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.4	1x250	708401	708501	2,0	1,3		510	40,7	9	12	12	15	2
6.1.30.4	1x300	708403	708503	2,6	2,2		876	42,6	13	12	12	20	3
6.1.40.4	1x400	718407	718507	8,4	5,7		2362	53,4	29	12	22	40	6
6.2.25.4	2x250	708402	708502	4,0	2,6		1020	43,5	18	12	22	25	4
6.2.30.4	2x300	708404	708504	6,5	4,5		1753	45,4	26	12	22	35	5
6.2.40.4	2x400	718408	718508	16,9	11,4		4724	56,1	58	12	28	60	11
6.3.30.4	3x300	708405	708505	10,0	6,7		2629	46,9	39	12	22	45	7
6.3.40.4	3x400	718409	718509	25,0	16,6		7086	57,5	87	16	28	90	16
6.4.30.4	4x300	708406	708506	13,3	9,0		3505	47,9	52	16	22	60	10

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

GOEDHART® FC38Lp (DX-R404A)

Technical data | Fin spacing 7 mm

Type	Fan diameter	Order code Standard	Order code elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Lp	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.7	1x250	708601	708701	1,6	1,1	0,8	612	40,8	5	12	12	15	2
6.1.30.7	1x300	708603	708703	2,9	2,0	1,4	1130	43,7	8	12	12	20	3
6.1.40.7	1x400	718607	718707	7,0	4,7	3,4	2903	54,4	17	12	22	30	6
6.2.25.7	2x250	708602	708702	3,3	2,1	1,6	1225	43,7	11	12	12	20	4
6.2.30.7	2x300	708604	708704	5,9	4,0	2,9	2261	46,5	16	12	22	30	5
6.2.40.7	2x400	718608	718708	14,4	9,6	7,0	5807	57,1	35	12	22	55	11
6.3.30.7	3x300	708605	708705	9,0	6,0	4,3	3391	48,1	23	12	22	55	7
6.3.40.7	3x400	718609	718709	20,3	14,2	10,0	8710	58,6	52	16	28	80	16
6.4.30.7	4x300	708606	708706	12,0	8,0	5,7	4521	49,2	31	12	22	55	10

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

GOEDHART® FC38Lp (G-GLYCOL)

Technical data | Fin spacing 4 mm

Type			1x230V-50Hz-4 pole (1500 min⁻¹ nom.)**																	Surface	Connections		Weight	Internal volume
			E-Glycol 28% -2 / 3 °C (in/out)			Water 1 / 5 °C (in/out)			P-Glycol 34% -2 / 3 °C (in/out)			Pekasol 50% -2 / 3 °C (in/out)			Freezium 24% -2 / 3 °C (in/out)			Air volume	LpA @ 3 m (+/- 2 dB(A))*					
	Order code Standard	Order code elec. defrost	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop				I	K		
FC38Lp			kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.4	705401	705501	1,9	0,36	11,1	2,1	0,45	13,7	1,8	0,33	23,7	2,0	0,34	6,6	1,9	0,38	18,5	510	40,7	9	16	16	15	2
6.1.30.4	705403	705503	3,1	0,57	22,6	3,8	0,82	46,6	3,0	0,54	47,9	4,6	0,79	54,4	4,6	0,90	65,9	876	42,6	13	16	16	20	3
6.1.40.4	715407	715507	10,1	1,88	74,4	9,8	2,10	69,1	7,3	1,32	98,5	12,0	2,06	82,3	11,2	2,20	98	2362	53,4	29	22	22	40	6
6.2.25.4	705402	705502	5,3	0,99	95,0	4,9	1,04	78,2	3,7	0,67	63,1	6,0	1,03	94,8	5,4	1,05	32,4	1020	43,5	18	16	16	25	4
6.2.30.4	705404	705504	8,7	1,62	90,9	7,9	1,69	75,4	5,4	0,98	53,7	9,8	1,68	91,1	9,1	1,78	44,9	1753	45,4	26	22	22	35	5
6.2.40.4	715408	715508	21,8	4,06	88,6	20,0	4,27	73,9	12,9	2,34	91,2	24,6	4,22	89,1	23,8	4,66	70,3	4724	56,1	58	35	35	60	12
6.3.30.4	705405	705505	12,1	2,26	50,8	12,0	2,57	90,1	7,6	1,37	53,8	14,3	2,46	55,8	14,2	2,79	66,4	2629	46,9	39	28	28	45	8
6.3.40.4	715409	715509	33,4	6,20	91,3	30,1	6,43	74,3	17,7	3,22	83,6	37,1	6,37	89,9	36,2	7,11	79,6	7086	57,5	87	42	42	90	17
6.4.30.4	705406	705506	17,3	3,21	69,6	16,1	3,44	99	10,1	1,83	87,1	19,5	3,34	70,1	18,8	3,68	82,7	3505	47,9	52	28	28	60	10

GOEDHART® FC38Lp (G-GLYCOL)

Technical data | Fin spacing 7 mm

Type			1x230V-50Hz-4 pole (1500 min⁻¹ nom.)																	Surface	Connections		Weight	Internal volume
			E-Glycol 28% -2 / 3 °C (in/out)			Water 1 / 5 °C (in/out)			P-Glycol 34% -2 / 3 °C (in/out)			Pekasol 50% -2 / 3 °C (in/out)			Freezium 24% -2 / 3 °C (in/out)			Air volume	LpA @ 3 m (+/- 2 dB(A))*					
	Order code Standard	Order code elec. defrost	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop				I	K		
FC38Lp			kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.7	705601	705701	2,1	0,40	9,8	2,1	0,44	87,6	1,8	0,33	93,6	1,7	0,30	5,7	1,7	0,33	12	612	40,8	5	16	16	15	2
6.1.30.7	705603	705703	2,8	0,51	20,1	3,3	0,70	35,4	2,7	0,48	42,8	3,9	0,67	40,4	3,9	0,76	49,8	1130	43,7	8	16	16	20	3
6.1.40.7	715607	715707	6,3	1,16	21,5	8,1	1,73	48,7	6,4	1,16	85,9	9,9	1,69	57,3	9,8	1,92	69	2903	54,4	17	22	22	30	6
6.2.25.7	705602	705702	4,2	0,79	63,7	4,1	0,88	58,1	3,2	0,59	55,6	5,0	0,87	69,9	5,0	0,98	83	1225	43,7	11	16	16	20	4
6.2.30.7	705604	705704	7,2	1,34	64,1	6,9	1,47	57,8	4,9	0,89	48,2	8,4	1,45	69,3	7,7	1,52	82,3	2261	46,5	16	22	22	30	5
6.2.40.7	715608	715708	17,2	3,20	57,4	16,8	3,59	82,5	11,4	2,08	80,3	20,2	3,47	62,5	20,1	3,94	74,4	5807	57,1	35	28	28	55	11
6.3.30.7	705605	705705	11,5	2,15	84,7	10,4	2,23	69,3	7,3	1,33	92	12,9	2,21	84	12,2	2,40	99	3391	48,1	23	28	28	55	8
6.3.40.7	715609	715709	28,1	5,22	88,8	25,2	5,39	71,8	15,8	2,87	74,2	31,2	5,34	87,2	30,4	5,96	75	8710	58,6	52	35	35	80	17
6.4.30.7	705606	705706	15,8	2,93	96,3	14,0	2,99	76,1	9,2	1,66	78,5	17,3	2,97	92,8	16,7	3,28	63,4	4521	49,2	31	28	28	55	10

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

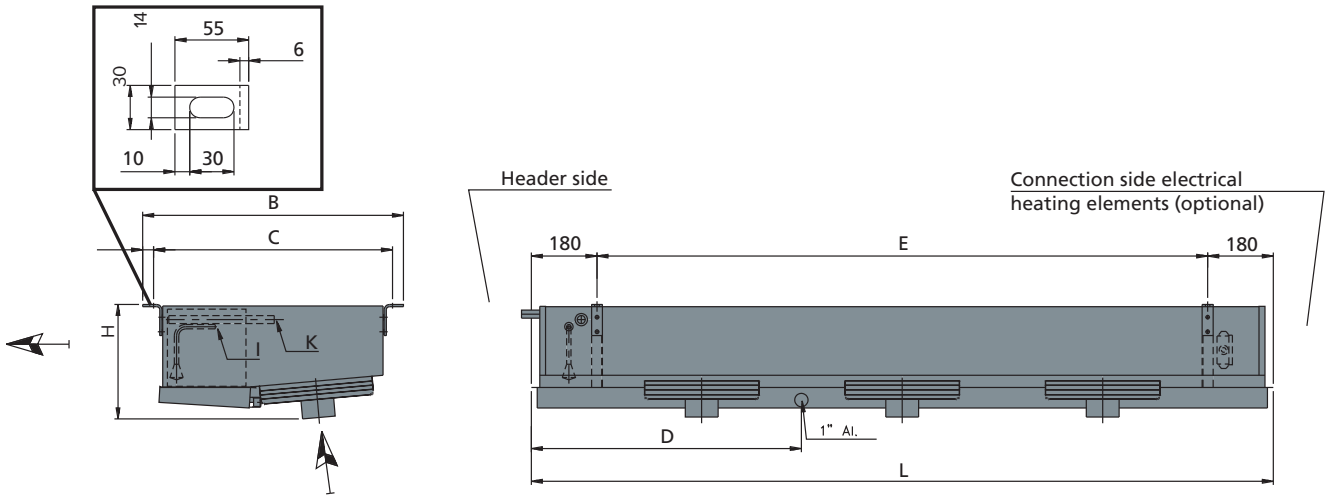
GOEDHART® FC38L

Dimensions, Electrical defrost

Type	Dimensions					Electrical defrost at 3x400V				
	L	B	H	E	D1	Coil block		Drip tray		Standard
Goedhart® FC38L	mm	mm	mm	mm	mm	number	O (mm)	Number	O (mm)	kW
6.1.25.*	890	705	280	530	245	2x L=1300	132	1x L=1300	175	1,5
6.1.30.*	990	705	315	630	295	2x L=1600	132	1x L=1600	175	1,9
6.1.40.*	1190	865	465	830	295	3x L=1900	132	1x L=2200	175	3,2
6.2.25.*	1390	705	280	1030	695	2x L=2500	132	1x L=2500	175	3,1
6.2.30.*	1590	705	315	1230	795	2x L=2800	132	1x L=2800	175	3,5
6.2.40.*	1990	865	465	1630	995	3x L=3700	132	1x L=3700	175	6,2
6.3.30.*	2190	705	315	1830	795	2x L=4000	132	1x L=4000	175	5,0
6.3.40.*	2790	865	465	2430	995	3x L=5200	132	1x L=5200	175	8,8
6.4.30.*	2790	705	315	2430	1395	2x L=5200	132	1x L=5200	175	6,6

GOEDHART® FC38L

Drawing



EC-Declarations for dx-R404A

Connection ≤ 35 mm	: Declaration of incorporation (SEP)
Connection 42mm and 54 mm	: Declaration of conformity module A
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

EC-Declarations for coolants

According	: Declaration of incorporation (SEP)
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

Options for Goedhart® commercial air coolers

CUSTOMIZE YOUR STANDARD AIR COOLER

Options	Goedhart® FC38S	Goedhart® FC38L
Blow-through	X	X
Draw-through	X	
Internally plain tube	X	X
Internally increased tube	X	X
Electrical defrost	X	X
Insulated driptray	X	
Stainless steel casing	X	X
Fins goldlack (4 I 7 mm fin spacing)	X	X
Fins Almg (4 mm fin spacing)	X	X
Options on request		
Hot gas defrost	X	
Integrated secundair defrost circuit	X	
Fan heating	X	X
Air conduction plate	X	
Stainless steel tubes	X	X

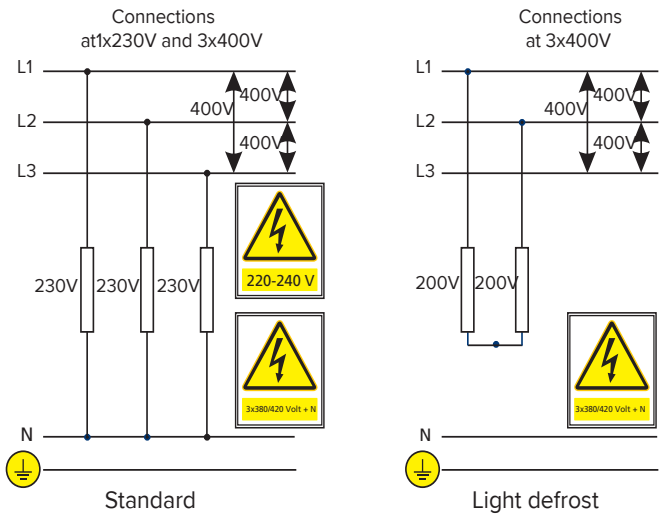
DEFROST SYSTEMS

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

Electrical defrost
On request Goedhart® FC38 can be provided with electrical defrost. Goedhart® FC38 is always delivered with heavy defrost. The elements are rated for 220/240 V and are connected (IP55) for 380/415 V (with neutral) supply. The stainless steel heater elements are fitted in the coil block inside tubes which form a highly conductive medium between the heaters and the fins. In the drip-tray, the heater elements are fitted to the bottom side of the aluminium inner tray. The heater elements in the coil block are removable from the header side of the unit, whilst the tray heater elements can be removed once the outer tray has been taken off.

You can find in the Goedhart selection program the exact number of elements and electrical power for light and heavy defrost each air cooler.

Hot gas defrost
The coil block is suited for hot gas defrost (hot gas supply through the suction header). The drip tray can be provided with a copper hot gas spiral, which is enclosed in special aluminium profiles, which are rigidly secured to the underside of the aluminium inner tray.



www.kelvion.com

Goedhart® commercial Cu/Al air coolers

SIMPLY THE BEST FOR COOLING AND FREEZING

Kelvion –
a tribute to
Lord Kelvin

Lord Kelvin (1824 – 1907) formulated the laws of thermodynamics

70 branches and sales partners worldwide

More than 4,000 employees worldwide

EXPERTS IN HEAT EXCHANGE - SINCE 1920

Welcome to Kelvion. As successor to the GEA Heat Exchangers Group, we continue to break new ground, making discerning customers more successful than ever with our integrated heat exchanger solutions.

Our solutions for your applications:
We offer our customers one of the world's largest product portfolios in the field of heat exchangers. It includes individual solutions for practically all conceivable applications and complex environmental conditions: plate heat exchangers, shell and tube heat exchangers, finned tube heat exchangers, modular cooling tower systems, and refrigeration heat exchangers.

Your markets are our markets, too:
The markets in which you and we together operate are among the most important in the world: energy, the oil and gas industry, the chemical industry, marine applications, food and beverages, climate and environment. We provide every single market segment with solutions of outstanding efficiency, safety, and sustainability.

We are highly committed to earning your trust:
We want to win your trust with everything we do and convince you with the solutions we offer. With this high aim in mind, we invest our extensive know-how, our great precision, and our passion in everything we do: including product development, manufacturing, installation, and after-sales support.

Seeing things from the customer perspective:
Your specific requirements count – and nothing else. Whatever we offer you, it must meet these requirements. Our entire way of thinking and working is geared towards this aim. Our customers truly appreciate this: after all, this is how we make their companies more efficient.

We are at your service.
Kelvion – Experts in Heat Exchange.

GOEDHART®
AIR COOLERS

Do not settle for compromise, but go for the best cooling solution to suit your situation. That is the philosophy which Kelvion makes himself hard. Since 1935 we develop, produce and deliver worldwide air coolers, air cooled condensers and composite systems for (semi) industrial applications and various markets. Our products are perfect for projects requiring a technical demand and involving a great deal of flexibility in terms of design, dimensions and accessories. Also, our products are suitable for all thinkable cooling system types and methods.

To achieve the most optimal and cost efficient air cooler system we are using three levels of engineering:

- **Commercial products**: standard cooling systems available in different fixed sizes;
- **Customized products**: custom made cooling systems built from standard modules;
- **Level 3 Designed to order products**: extensive cooling systems and applications developed especially for the niche market.

Extensive theoretical and practical project analysis by our professional sales engineers will determine which configuration, materials, and level of engineering best fit your program requirements. Additionally, you can use the innovative 'Goedhart Product Catalogue (GPC), the digital design program for all commercial and customized industrial air coolers and air-cooled condensers.

For what level of engineering you choose; Your are with Kelvion in good hands in the field of refrigeration and freezing. This brochure provides information on Copper/Aluminium series, a commercial product.

Do you have any further questions, we are happy to help you personally. We thank you in advance for the interest you have shown in Kelvion and its products.

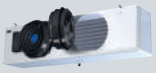
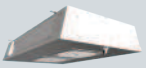
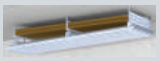
PRODUCT FAMILY

CUSTOMIZED AIR COOLERS

INDUSTRIAL DESIGNED TO ORDER & OEM AIR COOLERS

APPLICATION DRIVEN DESIGNS

COMMERCIAL AIR COOLERS

Cu/Al (38x33)	Goedhart FC38S Küba Market SP Küba SG Classic Küba SG Commer. Searle KEC/KECX Searle KME/KMEX 	~~Goedhart FC38D~~ ~~Küba Comfort DP~~ ~~Searle DSR/DSRX~~  Kelvion KDC (New)	Goedhart FC38L Küba Junior DF Küba Compact DF Küba DE Prof. Searle TEC/TECX 	Goedhart PAC 	Küba Gastro FM 	
Cu/Al (50x50)	Küba KVB Natur. 					

CONDENSERS

DRY COOLERS

RADIATORS

LIFE IS EASY
THE GOEDHART SELECTION PROGRAM

The Goedhart selection program provides an electronic catalogue covering the majority of product ranges offered by Kelvion. The range of products available to you is very broad with many options. This software provides the fastest and easiest way to select the most appropriate product for your specific needs. This selection program run on the latest versions of Windows (including both 32-bit and 64-bit versions of Vista, Windows 7, Windows 8 and Windows 10).

All four product types (Coolers, Condensers and Glycol Coolers) are available in a single program. The Goedhart selection program is an easy to use selection tool for contractors, consultants and every other thinkable user and gives you access to many advantages such as:

- Multilingual
- Pre-select buttons to application
- Spare parts
- Selections including drawings
- An extensive list of accessories
- Accurate capacities: During your selection a sophisticated capacity calculation program optimizes the circuits to the design conditions
- Selections possible on several criteria such as capacity, price, fan variations like noise and speed etc.

If you know the model number or the range you require (for example Goedhart® VCI-p 63457), you can type this into the Start area of the Goedhart selection program. This will make the selection faster and exclude models which may not be relevant for your needs.

You can start a selection by clicking the Start button, fill in the required heat exchanger data in the input area and produce PDF or Word files of your selection results. Also, it is possible to print a drawing of the selected unit and make your choice belonging to your selected unit. The program normally operates using SI units.

What is important to you? - You can decide which features of the product are most important for each application: energy efficiency, footprint (physical size) and price. You adjust the slider controls to indicate the relative importance to you of each of these three elements. You can also choose to display all possible models, or just the 'top 10' which best meet your selection criteria. Once the selected models are displayed, the 'best' options in each category (energy efficiency, footprint and price) will be on top of the table.

Quality, Support and Website - Trained staff will advise you through every step of the selection process. Our customer service continues passes the product delivery, and we are always on hand to advise on any issues. Keep up to date with our products and latest news by visiting the website, **www.kelvion.com**

GOEDHART CU/AL COMMERCIAL SERIES

STANDARD FLEXIBLE

For all Cu/Al models and series of the Goedhart® air coolers your schedule of requirements is leading. Depending on the application, our sales team searches for the optimal configuration in close cooperation with the customer. You have a free choice in the so-called level 1 and 2 versions:

- dimensions
- Air direction
- blow-through or draw-through
- model: with feet of suspension profiles
- cooling system: natural (NH3 and C02) and synthetic refrigerants
- materials: copper tubes/aluminium fins, Stainless steel tubes/aluminium fin, Stainless steel tubes and fins or steel tubes and fins / hot dipped galvanized
- accessories: EG defrost, coatings

LEVEL OF ENGINEERING - 'COMMERCIAL PRODUCTS'

The standard cooling systems available in different fixed sizes are so-called "Level 1 Commercial products". Within this level of engineering, you can choose from air coolers consisting of copper tubes with aluminium fins (Cu / Al 38x33) and stainless steel tubes with aluminium fins (St / Al 38x33).

INNOVATION

We can not often emphasize enough that we can meet our "customized production" philosophy to every customer requirements. Common customer requirements lead to innovation of our products. A good example is the energy efficient Goedhart® VCe-p and VCe-i ranges in the copper / aluminium version of our air coolers and air-cooled condensers

AVAILABLE CU/AL MODEL RANGES

Goedhart® Type		Tube configuration	Description	Cooling system	Internally increased tube possible
FC38SB-p **FC38SB-i**		38x33	Single blow-through / draw-through air cooler for industrial cooling and freezing applications	DX, coolant	Yes
FC38L-p **FC38L-i**		38x33	Standard air coolers for cold storage rooms with height limitation	DX, coolant	Yes

FAN SYSTEM

Because of the flexible construction of the Goedhart® air cooler, in principle it is possible to deliver with different fans. We selected a standard fan range of Ziehl Abegg (we reserve the right to alter the manufacturer) which fits perfectly on the Goedhart® flexible air coolers. The fans can be supplied in both blow-through and draw-through executions. Against an extra price stainless steel guards and EC-fans are available.

Fan execution

The fans meet the ErP2015 directive. The fans have very good aerodynamic features because of the special impeller geometry. This special impeller geometry gives the fan a low noise level and high efficiency.

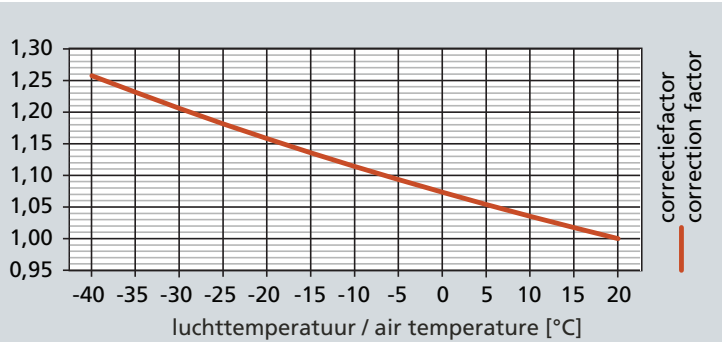
SPECIFICATIONS

Fan data

1x230V-AC	: till -25°C environment temperature	
3x400V-AC	: till -40°C environment temperature (between -40°C en -50°C environment temperature on request)	
1x230V-EC	: till -25°C environment temperature	
3x400V-EC	: till -35°C environment temperature	
Tension	: 1x230V-50Hz (60 Hz on request)	
	: 3x400V-50Hz	
	: 3x400V or 3x460V-60Hz	
Protection class	: IP44 / IP54	
Color	: RAL9005 (black)	
Speed controlling	: 3 phases	: 2 speeds by Δ-Y reconnection
		: frequency controller with all-pole sinus filter
	: 1 phase	: phase-control
		: transformator

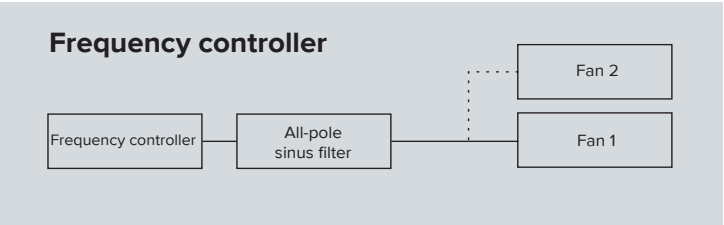
The motors are standard executed with a thermo contact and must be connected to prevent motor damages.

The maximum allowable working data in the table and on the name plate of the fans are to operate in an air temperature of +20 °C (air density of ρ = 1,2 kg/m³). For air temperatures lower than +20 °C, the current amperage can be calculated by using the diagram multiplication factor, suitable thermal overloads can then be selected. In our Goedhart GPC selection program also the values in the working point are indicated.



SOUND DATA

The mean sound pressure (LpA @ 3m ± 2 dB (A)) each air cooler is a calculated indication value according to the EN13487 standard parallel pipe. Kelvion uses the fan manufacturer's sound power level (LwA) at the inlet side of the fan. Changes to or by the fan or the product, affect the sound, in these cases consult the manufacturer for the new indication value. In critical sound requirements, we advise you to consult an expert.



DATA ON THE NAME PLATES

Fan diameter	Tension	Single phase - 50 Hz				Single phase - 60 Hz			
		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min⁻¹	Watt	A	dB(A)	min⁻¹	Watt	A	dB(A)
4 pole (n=1500 min⁻¹ nom.)									
250	1x230	1370	50	0,24	62	1520	50	0,23	
300	1x230	1290	90	0,39	64	1320	110	0,50	
350	1x230	1390	150	0,65	74	1520	230	1,00	72
450	1x230	1390	600	2,90	76	1430	820	3,50	75
500	1x230	1240	720	3,20	77	1260	1000	4,40	77
6 pole (n=1000 min⁻¹ nom.)									
400	1x230	950	130	0,60	67	1110	170	0,78	68
500	1x230	900	270	1,25	74	900	380	1,75	75

Mentioned data are for each fan according the supplier of the fans

Fan diameter	Tension	Three phase - 50Hz								Three phase - 60Hz			
		Δ			Y			Δ	Y	Δ			
		Speed	Nominal power	FLC	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min⁻¹	Watt	A	min⁻¹	Watt	A	dB(A)	dB(A)	min⁻¹	Watt	A	dB(A)
4 pole (n=1500 min⁻¹ nom.)													
350	3x400/690	1390	190	0,40	1170	140	0,23	73	69	1630	300	0,46	74
400	3x400/690	1370	230	0,44	1110	170	0,27	75	70	1580	370	0,56	76
450	3x400/690	1350	540	1,10	1020	360	0,66	75	70	1560	880	1,40	79
500	3x400/690	1340	840	1,45	940	540	0,96	78	73	1480	1200	2,00	80


PIZZAS
PIZZAS

CORRECTION FACTOR DT1 (=AIR ON)

The nominal capacities of the Goedhart FC38i(dx) and FC38p(dx) air coolers are based on R-404A direct expansion, DT1 and a RH of 85%. DT1 it the difference between air-on temperature and the evaporation temperature of the cooler. The evaporation temperature is the saturated temperature corresponding to the pressure at the suction outlet of the cooler.

The nominal capacities:

(SC1)	t_o	= 0 °C and DT1= 10 K
(SC2)	t_o	= -8°C and DT1= 8 K
(SC3)	t_o	= - 25°C and DT1= 7 K

Correction factors for various evaporation temperatures and temperature differences (DT1) are as indicated in the tables below. The requested capacity must be multiplied by a correction factor from the table. So that an air cooler with the resulting nominal capacity can be chosen from the selection tables.

Q nominal = factor x Q requested

R404A										
DT1	Evaporation temperature (°C)									
K	+7	+6	+5	+4	+3	+2	+1	0	-1	-2
6	1,81	1,81	1,82	1,82	1,83	1,83	1,84	1,84	1,84	1,85
7	1,49	1,50	1,50	1,50	1,51	1,51	1,52	1,52	1,52	1,53
8	1,27	1,28	1,28	1,29	1,29	1,29	1,30	1,30	1,30	1,31
9	1,10	1,10	1,11	1,11	1,12	1,12	1,13	1,13	1,13	1,14
10	0,97	0,98	0,98	0,99	0,99	0,99	1,00	1,00	1,00	1,01
11	0,88	0,88	0,88	0,89	0,89	0,90	0,90	0,90	0,90	0,91
12	0,79	0,79	0,79	0,80	0,80	0,81	0,81	0,81	0,81	0,82

SC1 DT1 = 10K
Air on = 10°C (0/+10°C)

R404A										
DT1	Evaporation temperature (°C)									
K	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
6	1,30	1,34	1,38	1,42	1,42	1,43	1,43	1,43	1,44	1,44
7	1,04	1,07	1,10	1,14	1,17	1,18	1,18	1,18	1,19	1,19
8	0,86	0,88	0,91	0,94	0,97	1,00	1,00	1,01	1,01	1,01
9	0,75	0,75	0,77	0,79	0,82	0,84	0,87	0,87	0,87	0,88
10	0,66	0,66	0,66	0,68	0,70	0,72	0,74	0,77	0,77	0,77
11	0,59	0,59	0,59	0,59	0,61	0,63	0,65	0,67	0,69	0,69
12	0,54	0,54	0,54	0,54	0,54	0,55	0,57	0,58	0,60	0,62

SC2 DT1 = 8K
Air on = 0°C (-8/0°C)

R404A										
DT1	Evaporation temperature (°C)									
K	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30
6	1,20	1,20	1,21	1,21	1,21	1,22	1,22	1,23	1,23	1,23
7	0,99	0,99	0,99	1,00	1,00	1,00	1,00	1,01	1,01	1,02
8	0,84	0,84	0,84	0,85	0,85	0,85	0,85	0,86	0,86	0,86
9	0,73	0,73	0,73	0,73	0,73	0,74	0,74	0,74	0,74	0,75
10	0,64	0,64	0,64	0,64	0,65	0,65	0,65	0,65	0,66	0,66
11	0,57	0,57	0,57	0,58	0,58	0,58	0,58	0,58	0,59	0,59
12	0,52	0,52	0,52	0,52	0,52	0,52	0,53	0,53	0,53	0,53

SC3 DT1 = 7K
Air on = -18°C (-25/-18°C)

CAPACITY OPTIMIZATION

To achieve the best possible combination of application, refrigerant and capacity, we can optimise the coil circuiting, depending on the specific conditions under which the products will be used. Goedhart® FC38 is a standard product to ensure shorter delivery times. The circuiting of these evaporators has been optimized according to the most commonly used coolants/ refrigerants and conditions. Because of this each Goedhart® FC38 air cooler has his own order code, easy for purchasing. Specific applications can vary from this, our sales department is there to assist you in selecting the best circuiting for your application.

CORRECTION FACTOR FOR COOLANTS

The nominal capacities of the Goedhart FC38p(G) air coolers are based on an air-on temperature of 12°C, a RH of 85% and:

Water	: in / out temperature	= +1/+5°C
E-Glycol	: in / out temperature	= - 2/+3°C
P-Glycol	: in / out temperature	= - 2/+3°C
Pekasol	: in / out temperature	= - 2/+3°C
Freezium	: in / out temperature	= - 2/+3°C

Correction factors for various air-on temperatures and refrigerants or secondary coolants are as indicated in the tables below. The requested capacity must be multiplied by a correction factor from the table, so that an air cooler with te resulting nominal capacity can be chosen from the selection tables.

Q nominal = factor x Q requested

Water									
in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
1 / 5	1,99	1,59	1,32	1,14	1,00	0,88	0,78	0,72	0,66
2 / 6		1,95	1,57	1,30	1,12	0,98	0,87	0,78	0,71
3 / 7			1,92	1,54	1,28	1,11	0,97	0,86	0,77
4 / 8				1,94	1,56	1,31	1,13	0,98	0,87
5 / 9					1,86	1,49	1,25	1,07	0,94

E-Glycol 28%									
in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,81	1,46	1,34	1,16	1,00	0,88	0,82	0,81	0,69
-1 / 4	2,35	1,72	1,41	1,28	1,10	0,96	0,85	0,79	0,75
0 / 5	2,43	2,30	1,64	1,40	1,24	1,06	0,93	0,84	0,76
1 / 6		2,38	2,28	1,59	1,37	1,21	1,05	0,92	0,82
2 / 7			2,28	2,09	1,55	1,35	1,17	1,03	0,91

P-Glycol 28%									
in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,66	1,45	1,26	1,11	1,00	0,91	0,83	0,76	0,70
-1 / 4	2,00	1,65	1,42	1,24	1,11	1,01	0,90	0,81	0,77
0 / 5	2,48	1,94	1,65	1,41	1,23	1,14	1,00	0,91	0,85
1 / 6		2,46	1,97	1,64	1,42	1,29	1,12	1,00	0,92
2 / 7			2,45	1,96	1,63	1,64	1,28	1,11	1,00

Pekasol 50%									
in/out	Air-on temperature (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,68	1,42	1,26	1,11	1,00	0,90	0,82	0,77	0,70
-1 / 4	2,02	1,65	1,42	1,24	1,10	0,98	0,89	0,81	0,76
0 / 5	2,39	1,96	1,62	1,39	1,22	1,07	0,96	0,87	0,80
1 / 6		2,36	1,93	1,60	1,37	1,20	1,06	0,94	0,86
2 / 7			2,32	1,89	1,57	1,35	1,18	1,05	0,94

Freezium 24%									
in/out	Luchtintrede temperatuur (°C)								
°C	+8	+9	+10	+11	+12	+13	+14	+15	+16
-2 / 3	1,66	1,44	1,25	1,11	1,00	0,91	0,83	0,77	0,71
-1 / 4	1,94	1,62	1,42	1,23	1,09	0,98	0,89	0,82	0,76
0 / 5	2,38	1,91	1,59	1,39	1,21	1,07	0,97	0,88	0,81
1 / 6		2,34	1,88	1,57	1,37	1,20	1,06	0,95	0,86
2 / 7			2,30	1,86	1,55	1,35	1,18	1,05	0,94

Kelvion



GOEDHART® FC38S AIR COOLERS

Simply cooling and freezing

The commercial range Goedhart® FC38S ceiling mounted air coolers are standard air coolers for cooling and freezing applications. Goedhart® FC38S is a standard product to ensure shorter delivery times. The circuiting of these evaporators has been optimized according to the most commonly used refrigerants/coolants and conditions. Because of this each Goedhart® FC38S air cooler has his own order code, easy for purchasing. The air direction is blow-through as standard (draw-through is available on request)

Coil block

Tube distance	: 38x33 mm staggered
Fin spacings	: 4 and 7mm.
Material	: 12 mm o.d internally plain (p) or increased (i) copper tubes
	: aluminium HT-fins

The coil blocks have copper tubes mechanically expanded into fully collared aluminium fins. A good thermal contact is achieved by expansion of the tubes into the fin collars, that are also utilized as spacers to provide a constant distance between the fins. All coolers are pressure tested to 40 bar (lower by coolants) and are supplied with a light over pressure charge of dried air. The suction header is executed with a Schräder valve for testing applications. Suitable for the most known refrigerants and coolants, with the exception of NH3.

Casing

- Construction for ceiling mounting
- Casing material of galvanized sheet steel
- The drip tray is hinged and made from light aluminium
- Executed with a short air conduction plate as standard
- Standard white epoxy spray finishing
- Bend/header protection by end covers, easy removed for maintenance
- Standard refrigerant connections are positioned on the left hand side of the unit when looking with the direction of the airflow.
- Possible defrost by hot gas spiral or electric defrost elements will be fixed to the bottom side of the coil
- Stainless steel fasteners

Goedhart® FC38SB features

- For cooling and freezing applications
- Standard blow-through (draw-through available on request)
- Copper tubes and aluminium fins
- Available with internally plain or increased copper tubes
- Consisting of 144 models
- Capacity range from 1,7 to 74,1kW. (R404A dx, SC2)
- Suitable for most refrigerants / coolants with exception of NH_3
- Goedhart® FC38S is delivered in a wooden crate, easy to handle. The drip tray will be delivered separately
- Despite Goedhart ®FC38S is a commercial air cooler some options are available (see page 32)

1	Range	: Goedhart® FC38S
2	Air direction	: B=blow Z=draw
3	Execution tube	: p = internal plain : i = internal increased
4	Refrigerant	: (dx) = R404A, (G)= coolant
5	Rows deep	: 4 ,6
6	Number of fans	: 1 - 6
7	Fan diameter	: 250, 300, 350, 400, 450, 500 mm
8	Fin spacing	: 4, 7 mm
9	Tension	: 1x230V, 3x400V fan
10	Defrost	: E = electrical H = hot gas

1	2	3	4	5					
FC38S	B	i	(dx)	6	3	45	7	230	E
					6	7	8	9	10

GOEDHART® FC38S-FAN DATA

Fan diameter	Tension	Δ			Y			Δ	Y	Δ			
		Speed	Nominal power	FLC	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min-1	Watt	A	min-1	Watt	A	dB(A)	dB(A)	min-1	Watt	A	dB(A)
		SINGLE PHASE - 50HZ								SINGLE PHASE - 60HZ			
250	1x230	1370	50	0,24				62		1520	50	0,23	
300	1x230	1290	90	0,39				64		1320	110	0,50	
350	1x230	1390	150	0,65				74		1520	230	1,00	72
450	1x230	1390	600	2,90				76		1430	820	3,50	75
500	1x230	1240	720	3,20				77		1260	1000	4,40	77
		THREE PHASE - 50HZ								THREE PHASE - 60HZ			
350	3x400/690	1390	190	0,40	1170	140	0,23	73	69	1630	300	0,46	74
400	3x400/690	1370	230	0,44	1110	170	0,27	75	70	1580	370	0,56	76
450	3x400/690	1350	540	1,10	1020	360	0,66	75	70	1560	880	1,40	79
500	3x400/690	1340	840	1,45	940	540	0,96	78	73	1480	1200	2,00	80

Mentioned data are for each fan according the supplier of the fans

GOEDHART® FC38Si (DX-R404A)

Technical data | Fin spacing 4 mm

Type	Fan diameter	Order code Standard	Order code Elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Si	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.4	1x250	700401	700501	2,4	1,7		632	40,8	7	12	12	26	2
4.1.30.4	1x300	700402	700502	4,2	2,8		1204	42,7	11	12	28	34	2
6.1.30.4	1x300	700403	700503	4,6	3,2		1033	42,7	16	12	28	39	4
6.1.35.4	1x350	700408	700508	8	5,4		1870	52,5	25	12	28	51	5
6.1.40.4	1x400	710412	710512	11	7,5		2632	53,4	34	16	28	63	7
6.1.45.4	1x450	700416	700516	18,4	12,4		4807	54,3	45	16	28	75	9
4.2.30.4	2x300	700404	700504	8,3	5,6		2399	45,5	22	12	28	50	4
6.2.30.4	2x300	700405	700505	9,1	6,3		2056	45,5	32	12	28	61	6
6.2.35.4	2x350	700409	700509	15,9	10,8		3730	55,3	50	16	28	82	10
6.2.40.4	2x400	710413	710513	22	14,9		5249	56,2	68	16	35	103	13
6.2.45.4	2x450	700417	700517	36,6	24,7		9595	57	90	16	35	122	17
6.2.50.4	2x500	700422	700522	43	29,2		10969	57,8	112	16	42	204	22
6.3.30.4	3x300	700406	700506	13,7	9,4		3080	47,1	49	16	28	81	9
6.3.35.4	3x350	700410	700510	23,8	16,2		5591	56,8	75	16	28	112	14
6.3.40.4	3x400	710414	710514	33,2	22,8		7868	57,7	102	16	35	142	19
6.3.45.4	3x450	700418	700518	54,9	37,1		14382	58,4	134	16	42	174	25
6.3.50.4	3x500	700423	700523	64,7	44,0		16440	59,3	168	16	54	291	32
6.4.30.4	4x300	700407	700507	18,2	12,5		4103	48,2	65	16	28	104	12
6.4.35.4	4x350	700411	700511	31,5	21,6		7450	57,9	99	16	35	143	19
6.4.40.4	4x400	710415	710515	44,3	30,3		10485	58,7	136	22	42	183	25
6.4.45.4	4x450	700419	700519	73,3	49,4		19169	59,4	179	22	54	222	33
6.4.50.4	4x500	700424	700524	86,1	58,3		21911	60,2	224	28	54	376	42
6.5.45.4	5x450	700420	700520	92,1	62,1		23956	60,1	223	22	54	267	41
6.6.45.4	6x450	700421	700521	110,1	74,1		28744	60,7	268	28	54	322	50

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

GOEDHART® FC38Si (DX)

Technical data | Fin spacing 7 mm

Type	Fan diameter	Order code Standard	Order code Elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Si	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.7	1x250	700621	700721	1,8	1,2	0,9	720	40,8	4	12	12	25	2
4.1.30.7	1x300	700622	700722	3,1	2,1	1,6	1442	42,7	7	12	28	32	2
6.1.30.7	1x300	700623	700723	4	2,8	2,0	1291	42,7	10	12	28	36	4
6.1.35.7	1x350	700628	700728	6,6	4,5	3,3	2216	52,5	15	12	28	46	5
6.1.40.7	1x400	710632	710732	9,3	6,3	4,6	3137	53,4	21	16	28	57	7
6.1.45.7	1x450	700636	700736	12,3	9,9	7,3	5676	54,3	27	16	28	67	9
4.2.30.7	2x300	700624	700724	6,2	4,2	3,1	2875	45,5	13	12	28	47	4
6.2.30.7	2x300	700625	700725	8,1	5,5	4,0	2573	45,5	19	12	28	56	6
6.2.35.7	2x350	700629	700729	13,3	9	6,6	4423	55,3	30	16	28	74	10
6.2.40.7	2x400	710633	710733	18,2	12,5	9,0	6264	56,2	41	16	28	92	13
6.2.45.7	2x450	700637	700737	24,5	19,8	14,5	11336	57	54	16	35	109	17
6.2.50.7	2x500	700642	700742	35,4	23,8	17,5	13252	57,8	67	16	35	186	22
6.3.30.7	3x300	700626	700726	12,1	8,2	6,0	3855	47,1	29	12	28	74	9
6.3.35.7	3x350	700630	700730	19,9	13,5	9,9	6631	56,8	45	16	28	100	14
6.3.40.7	3x400	710634	710734	27,7	18,9	13,9	9391	57,7	61	16	28	126	19
6.3.45.7	3x450	700638	700738	36,7	29,5	21,4	16998	58,4	80	16	42	152	25
6.3.50.7	3x500	700643	700743	53,1	35,6	26,3	19868	59,3	101	16	42	263	32
6.4.30.7	4x300	700627	700727	15,8	10,8	7,9	5137	48,2	39	16	28	93	12
6.4.35.7	4x350	700631	700731	26,5	18	13,2	8837	57,9	60	16	35	127	19
6.4.40.7	4x400	710635	710735	36,7	24,9	18,3	12517	58,7	82	16	35	161	25
6.4.45.7	4x450	700639	700739	48,9	39,5	28,9	22657	59,4	107	16	42	193	33
6.4.50.7	4x500	700644	700744	71	47,6	34,9	26482	60,2	134	28	54	339	42
6.5.45.7	5x450	700640	700740	61,1	49,2	36,3	28319	60,1	134	22	54	229	41
6.6.45.7	6x450	700641	700741	73,7	59,1	42,8	33979	60,7	161	22	54	279	49

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

GOEDHART® FC38SP (DX-R404A)

Technical data | Fin spacing 4 mm

Type	Fan diameter	Order code Standard	Order code Elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Sp	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.4	1x250	706421	706521	1,8	1,2		632	40,8	7	12	12	26	2
4.1.30.4	1x300	706422	706522	2,7	2,4		1204	42,7	11	12	12	34	2
6.1.30.4	1x300	706423	706523	3,8	2,5		1033	42,7	16	12	22	39	4
6.1.35.4	1x350	706428	706528	6,6	4,6		1870	52,5	25	12	22	51	5
6.1.40.4	1x400	716432	716532	9,5	6,5		2632	53,4	34	12	22	63	7
6.1.45.4	1x450	706436	706536	14,9	10,2		4807	54,3	45	12	22	75	9
4.2.30.4	2x300	706424	706524	5,3	4,8		2399	45,5	22	12	22	50	4
6.2.30.4	2x300	706425	706525	8	5,4		2056	45,5	32	12	22	61	7
6.2.35.4	2x350	706429	706529	13,2	9,2		3730	55,3	50	12	22	82	10
6.2.40.4	2x400	716433	716533	19,1	12,9		5249	56,2	68	16	28	103	13
6.2.45.4	2x450	706437	706537	29,8	20,5		9595	57	90	16	28	122	18
6.2.50.4	2x500	706422	706522	36,9	24,6		10969	57,8	112	16	35	204	22
6.3.30.4	3x300	706426	706526	11,9	8,1		3080	47,1	49	12	22	81	10
6.3.35.4	3x350	706430	706530	20,4	13,7		5591	56,8	75	16	28	112	14
6.3.40.4	3x400	716434	716534	27,9	18,5		7868	57,7	102	16	35	142	20
6.3.45.4	3x450	706438	706538	46,6	31,1		14382	58,4	134	16	35	174	26
6.3.50.4	3x500	706443	706543	55,4	37		16440	59,3	168	22	42	291	33
6.4.30.4	4x300	706427	706527	16	10,8		4103	48,2	65	16	28	104	12
6.4.35.4	4x350	706431	706531	27,7	18,6		7450	57,9	99	16	35	143	19
6.4.40.4	4x400	716435	716535	38,7	26		10485	58,7	136	16	35	183	26
6.4.45.4	4x450	706439	706539	62,7	41,8		19169	59,4	179	16	42	222	34
6.4.50.4	4x500	706444	706544	74,7	49,6		21911	60,2	224	22	42	376	43
6.5.45.4	5x450	706440	706540	79,5	52,5		23956	60,1	223	16	42	267	42
6.6.45.4	6x450	706441	706541	94,7	63,1		28744	60,7	268	22	42	322	50

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

GOEDHART® FC38SP (DX-R404A)

Technical data | Fin spacing 7 mm

Type	Fan diameter	Order code Standard	Order code Elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Sp	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.7	1x250	706621	706721	1,3	0,8	0,6	720	40,8	4	12	12	25	2
4.1.30.7	1x300	706622	706722	2,8	1,9	1,4	1442	42,7	7	12	12	32	2
6.1.30.7	1x300	706623	706723	3,1	2	1,5	1291	42,7	10	12	12	36	4
6.1.35.7	1x350	706628	706728	5,8	3,9	2,8	2216	52,5	15	12	22	46	5
6.1.40.7	1x400	716632	716732	8,1	5,4	3,9	3137	53,4	21	12	22	57	7
6.1.45.7	1x450	706636	706736	10,6	8,4	6,1	5676	54,3	27	12	22	67	9
4.2.30.7	2x300	706624	706724	5,6	3,7	2,7	2875	45,5	13	12	22	47	4
6.2.30.7	2x300	706625	706725	7	4,6	3,4	2573	45,5	19	12	22	56	7
6.2.35.7	2x350	706629	706729	11,5	7,8	5,6	4423	55,3	30	12	22	74	10
6.2.40.7	2x400	716633	716733	16,1	10,8	7,8	6264	56,2	41	16	22	92	13
6.2.45.7	2x450	706637	706737	21,2	16,8	12,1	11336	57	54	16	28	109	18
6.2.50.7	2x500	706622	706722	30,6	20,3	14,6	13252	57,8	67	16	28	186	22
6.3.30.7	3x300	706626	706726	10,5	7,1	5,1	3855	47,1	29	12	22	74	9
6.3.35.7	3x350	706630	706730	17,3	11,6	8,4	6631	56,8	45	16	22	100	14
6.3.40.7	3x400	716634	716734	22,2	15,9	10,9	9391	57,7	61	16	28	126	20
6.3.45.7	3x450	706638	706738	32	25,2	18,1	16998	58,4	80	16	35	152	26
6.3.50.7	3x500	706643	706743	46,2	30,4	21,9	19868	59,3	101	16	35	263	32
6.4.30.7	4x300	706627	706727	14,1	9,5	6,8	5137	48,2	39	12	22	93	12
6.4.35.7	4x350	706631	706731	23,2	15,5	11,2	8837	57,9	60	16	28	127	19
6.4.40.7	4x400	716635	716735	32,4	21,5	15,7	12517	58,7	82	16	35	161	26
6.4.45.7	4x450	706639	706739	42,8	33,7	24,1	22657	59,4	107	16	35	193	34
6.4.50.7	4x500	706644	706744	61,9	40,6	29,2	26482	60,2	134	16	42	339	43
6.5.45.7	5x450	706640	706740	53,6	41,5	30,1	28319	60,1	134	16	42	229	42
6.6.45.7	6x450	706641	706741	64,4	50,8	36,2	33979	60,7	161	16	42	279	50

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

GOEDHART® FC38Sp (G-GLYCOL)

Technical data | Fin spacing 4 mm

Type	Order code Standard	Order code elec. defrost	1x230V-50Hz-4 pole (1500 min⁻¹ nom.)																	Surface	Connections		Weight	Internal volume
			E-Glycol 28% -2 / 3 °C (in/out)			Water 1 / 5 °C (in/out)			P-Glycol 34% -2 / 3 °C (in/out)			Pekasol 50% -2 / 3 °C (in/out)			Freezium 24% -2 / 3 °C (in/out)			Air volume	LpA @ 3 m (+/- 2 dB(A))*					
			Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop				I	K		
FC38Sp			kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.4	703421	703521	1,8	0,33	10,1	1,9	0,41	11,6	1,9	0,35	98,1	1,9	0,32	133,6	1,8	0,35	14,6	632	40,8	7	16	16	26	2
4.1.30.4	703422	703522	3	0,56	22,2	4,0	0,85	49,2	2,9	0,53	47,0	4,7	0,81	55,9	4,7	0,92	68,9	1204	42,7	11	16	16	34	3
6.1.30.4	703423	703523	3,8	0,71	18,8	4,4	0,95	29,5	4,0	0,72	96,5	5,2	0,89	32,4	5,1	1,00	41,1	1033	42,7	16	16	16	39	4
6.1.35.4	703428	703528	6,2	1,15	22,3	7,8	1,68	48,2	6,3	1,14	89,1	9,5	1,62	56,0	9,4	1,84	68,0	1870	52,5	25	22	22	51	6
6.1.40.4	713432	713532	10,6	1,97	55,5	11,1	2,37	59,7	8,5	1,54	84,0	13,5	2,32	70,5	12,6	2,48	84,5	2632	53,4	34	28	28	63	8
6.1.45.4	703436	703536	17,7	3,28	64,9	17,9	3,83	65,5	12,3	2,24	94,5	21,8	3,73	77,1	20,7	4,06	92,6	4807	54,3	45	28	28	75	10
4.2.30.4	703424	703524	8,6	1,61	83,8	8,3	1,76	76,0	5,2	0,95	49,3	10,1	1,73	90,5	9,2	1,80	43,9	2399	45,5	22	22	22	50	5
6.2.30.4	703425	703525	9,9	1,85	73,2	9,4	2,00	65,1	6,9	1,26	55,1	11,5	1,98	78,2	10,8	2,13	92,7	2056	45,5	32	22	22	61	7
6.2.35.4	703429	703529	17,7	3,29	91,4	16,2	3,47	76,8	11,2	2,04	78,2	20,0	3,43	92,6	19,2	3,77	68,7	3730	55,3	50	28	28	82	10
6.2.40.4	713433	713533	25	4,65	97,5	22,7	4,85	80,3	15,5	2,80	95,4	28,0	4,80	97,0	27,2	5,34	80,4	5249	56,2	68	35	35	103	14
6.2.45.4	703437	703537	39,1	7,26	85,5	36,4	7,78	73,9	21,8	3,96	93,9	44,7	7,66	88,4	43,5	8,54	82,2	9595	57,0	90	42	42	122	18
6.2.50.4	703422	703522	45,8	8,51	83,0	43,4	9,27	88,4	26,6	4,82	93,3	52,7	9,04	86,1	51,5	10,11	84,0	10969	57,8	112	54	54	204	24
6.3.30.4	703426	703526	14,8	2,74	59,3	14,3	3,06	91,1	9,9	1,79	101,8	17,2	2,95	63,9	17,1	3,36	75,8	3080	47,1	49	28	28	81	10
6.3.35.4	703430	703530	26,4	4,90	76,3	24,6	5,26	91,3	16,1	2,93	98,7	29,9	5,12	77,7	29,0	5,70	91,9	5591	56,8	75	35	35	112	15
6.3.40.4	713434	713534	37,3	6,94	82,8	34,3	7,33	88,5	21,6	3,92	96,5	41,9	7,18	82,7	41,0	8,04	97,6	7868	57,7	102	42	42	142	21
6.3.45.4	703438	703538	60,0	11,15	90,6	55,0	11,74	63,9	29,9	5,43	88,8	67,6	11,59	91,1	65,4	12,85	76,9	14382	58,4	134	54	54	174	28
6.3.50.4	703443	703543	70,8	13,17	91,8	65,0	13,88	76,5	37,1	6,72	84,6	79,9	13,70	92,0	77,8	15,27	82,6	16440	59,3	168	64	64	291	35
6.4.30.4	703427	703527	21,1	3,92	86,9	19,0	4,05	70,3	13,1	2,38	98,4	23,4	4,02	85,3	22,7	4,46	67,4	4103	48,2	65	35	35	104	13
6.4.35.4	703431	703531	36,4	6,77	93,9	32,6	6,97	99,8	20	3,63	83,3	40,3	6,92	91,5	38,8	7,62	83,1	7450	57,9	99	42	42	143	20
6.4.40.4	713435	713535	51,0	9,48	94,6	45,6	9,74	92,7	27,1	4,92	94,9	56,3	9,66	75,6	54,7	10,74	89,3	10485	58,7	136	54	54	183	27
6.4.45.4	703439	703539	80,8	15,03	92,6	73,0	15,60	66,9	37,1	6,73	83,8	89,7	15,38	92,0	87,4	17,15	73,8	19169	59,4	179	54	54	222	36
6.4.50.4	703444	703544	95,8	17,80	96,0	86,9	18,56	70,5	45,6	8,28	89,0	107,1	18,36	84,8	104	20,42	81,4	21911	60,2	224	64	64	376	47
6.5.45.4	703440	703540	100,1	18,61	93,6	91,1	19,46	68,7	43,6	7,90	79,4	112,6	19,30	82,7	109,3	21,46	71,8	23956	60,1	223	64	64	267	45
6.6.45.4	703441	703541	120,9	22,48	84,6	109,6	23,41	64,0	48,7	8,84	67,5	134,7	23,10	84,2	131,2	25,76	70,4	28744	60,7	268	76	76	322	53

GOEDHART® FC38Sp (G-GLYCOL)

Technical data | Fin spacing 7 mm

Type	Order code Standard	Order code elec. defrost	1x230V-50Hz-4 pole (1500 min⁻¹ nom.)																	Surface	Connections		Weight	Internal volume
			E-Glycol 28% -2 / 3 °C (in/out)			Water 1 / 5 °C (in/out)			P-Glycol 34% -2 / 3 °C (in/out)			Pekasol 50% -2 / 3 °C (in/out)			Freezium 24% -2 / 3 °C (in/out)			Air volume	LpA @ 3 m (+/- 2 dB(A))*					
			Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop				I	K		
FC38Sp			kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	mm	mm	kg	dm³
4.1.25.7	703621	703721	1,6	0,31	37,4	1,8	0,38	67,8	1,6	0,29	80,1	2,2	0,37	79,8	1,5	0,29	96,3	720	40,8	4	16	16	25	2
4.1.30.7	703622	703722	2,5	0,47	18,4	3,0	0,64	29,5	2,4	0,44	39,2	3,5	0,60	32,0	3,4	0,68	41,1	1442	42,7	7	16	16	32	3
6.1.30.7	703623	703723	4,0	0,74	71,0	4,0	0,86	75,6	3,5	0,64	84,6	5	0,85	90,0	4,1	0,81	29,6	1291	42,7	10	16	16	36	4
6.1.35.7	703628	703728	6,9	1,29	86,2	6,7	1,42	79,5	5,4	0,98	76,7	8,2	1,40	95,2	7,5	1,47	46,6	2216	52,5	15	22	22	46	6
6.1.40.7	713632	713732	9,9	1,84	90,5	9,3	1,99	80,2	7,4	1,33	72,4	11,5	1,97	96,4	10,8	2,11	57,9	3137	53,4	21	22	22	57	8
6.1.45.7	703636	703736	9,6	1,78	70,1	12,4	2,65	67,2	9,5	1,73	80,6	14,7	2,52	79,9	14,6	2,86	95,4	4164	48,3	27	28	28	67	10
4.2.30.7	703624	703724	4,7	0,87	19,7	6,3	1,34	46,3	4,5	0,81	41,7	7,6	1,31	54,4	7,6	1,49	65,6	2875	45,5	13	16	16	47	4
6.2.30.7	703625	703725	7,6	1,42	22,9	8,0	1,71	48,6	6,5	1,18	91,5	9,8	1,68	57,7	9,7	1,91	69,1	2573	45,5	19	22	22	56	7
6.2.35.7	703629	703729	13,5	2,52	56,5	13,5	2,89	91,6	9,8	1,78	68,1	16,2	2,78	63,8	16,1	3,16	76,1	4423	55,3	30	28	28	74	10
6.2.40.7	713633	713733	19,5	3,62	61,5	18,8	4,02	82,4	13,5	2,45	83,0	22,8	3,90	66,6	22,6	4,44	79,1	6264	56,2	41	35	35	92	14
6.2.45.7	703637	703737	26,6	4,94	99,9	24,9	5,33	82,1	17,7	3,22	81,2	30,3	5,20	99,3	29,5	5,80	88,1	8311	51,0	54	35	35	109	18
6.2.50.7	703622	703722	38,3	7,13	85,2	35,7	7,62	91,2	23,9	4,34	80,8	43,5	7,46	86,7	42,5	8,35	66,5	13252	57,8	67	42	42	186	23
6.3.30.7	703626	703726	13,5	2,51	82,0	12,3	2,62	68,3	9,2	1,68	90,1	15,2	2,60	82,8	14,5	2,85	97,7	3855	47,1	29	28	28	74	10
6.3.35.7	703630	703730	21,9	4,07	75,9	20,4	4,35	94,2	14,1	2,56	86,2	24,8	4,25	77,0	24,0	4,72	90,9	6631	56,8	45	35	35	100	15
6.3.40.7	713634	713734	30,6	5,70	73,2	28,3	6,05	61,4	19	3,45	84,4	34,6	5,93	98,9	33,8	6,63	87,6	9391	57,7	61	42	42	126	20
6.3.45.7	703638	703738	41,1	7,64	86,1	37,5	8,00	87,1	24,5	4,45	96,0	45,9	7,87	85,9	45,0	8,84	83,5	12458	52,4	80	42	42	152	27
6.3.50.7	703643	703743	59,4	11,04	97,6	53,7	11,48	93,3	32,8	5,95	87,5	66,0	11,31	95,6	64,3	12,62	95,9	19868	59,3	101	54	54	263	34
6.4.30.7	703627	703727	17,4	3,24	60,4	16,5	3,53	82,8	11,8	2,13	87,5	20,0	3,43	63,4	19,9	3,90	75,1	5137	48,2	39	28	35	93	13
6.4.35.7	703631	703731	30	5,58	86,3	27,2	5,81	94,8	18,2	3,30	98,7	33,3	5,71	84,7	32,6	6,39	99,7	8837	57,9	60	42	42	127	20
6.4.40.7	713635	713735	41,6	7,74	79,0	37,8	8,08	80,0	24	4,35	83,5	46,9	8,04	97,6	45,5	8,94	92,0	12517	58,7	82	54	54	161	27
6.4.45.7	703639	703739	55,5	10,32	94,8	50,3	10,74	89,4	31,2	5,67	87,1	62,0	10,63	92,5	60,0	11,77	93,5	16606	53,4	107	54	54	193	35
6.4.50.7	703644	703744	79	14,69	89,8	71,5	15,27	94,0	41,4	7,50	89,8	88,4	15,16	88,2	86,0	16,88	92,0	26482	60,2	134	64	64	339	45
6.5.45.7	703640	703740	69,9	12,99	86,7	62,8	13,42	79,6	37,5	6,81	93,4	77,6	13,30	96,8	75,5	14,81	88,8	20753	54,1	134	64	64	229	44
6.6.45.7	703641	703741	84,2	15,66	92,0	75,4	16,10	81,9	42,7	7,75	97,5	93,1	15,97	99,7	90,9	17,85	85,6	24900	54,7	161	64	64	279	52

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

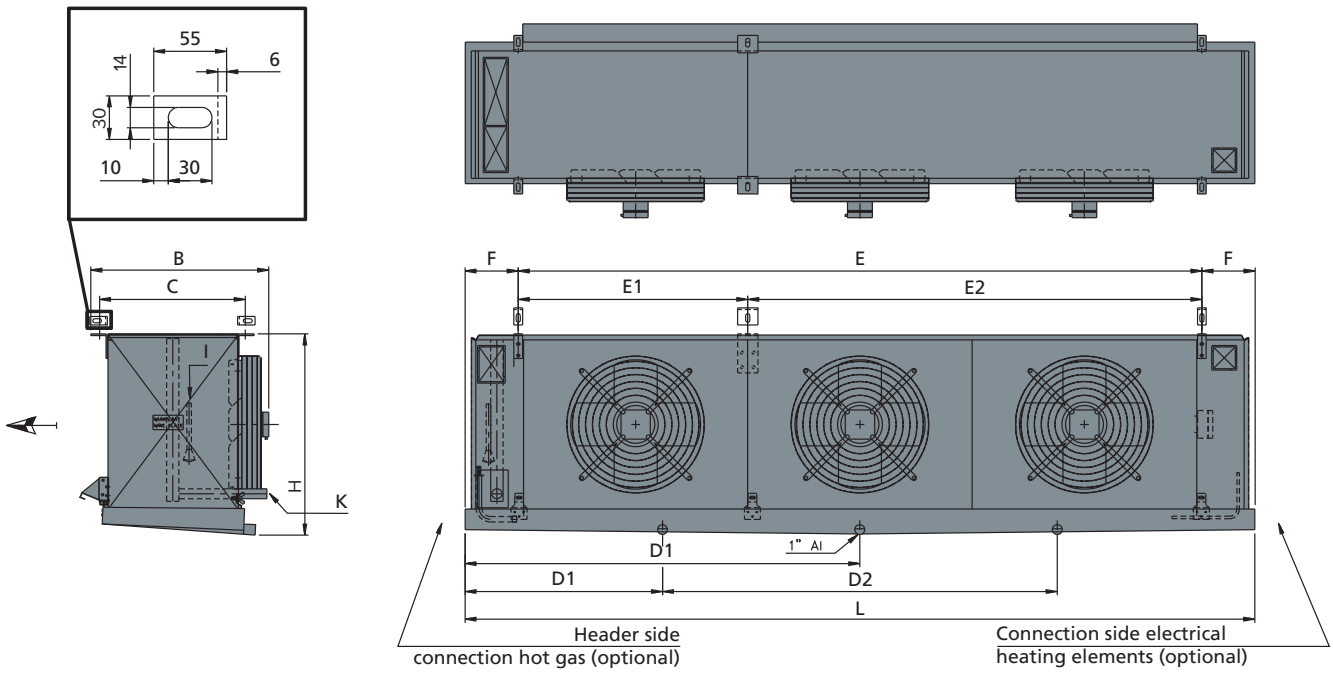
GOEDHART® FC38SB

Dimensions, Electrical defrost

Type	Dimensions										Electrical defrost at 3x400V					
	L	B	H	C	E	E1	E2	F	D1	D2	Coil block		Drip tray		Standard	Light
Goedhart® FC38SB	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	number	O (mm)	Number	O (mm)	kW	kW**
4.1.25.*	690	510	395	400	406			142	345		2x L=1000	66	1x L=1600	200	1,4	
4.1.30.*	765	510	470	400	481			142	383		2x L=1300	66	1x L=1600	200	1,6	
6.1.30.*	765	510	470	400	481			142	383		2x L=1300	66	1x L=1600	200	1,6	
6.1.35.*	970	640	550	500	606			182	485		3x L=1600	132	1x L=2200	300	2,8	
6.1.40.*	1070	640	625	500	706			182	535		3x L=1900	132	1x L=2500	300	3,3	
6.1.45.*	1170	735	700	500	806			182	585		5x L=1900	132	1x L=2500	300	4,8	3,7
4.2.30.*	1210	510	470	400	926			142	605		2x L=2200	66	1x L=2500	200	2,8	
6.2.30.*	1210	510	470	400	926			142	605		2x L=2200	66	1x L=2500	200	2,8	
6.2.35.*	1540	640	550	500	1176			182	770		3x L=2800	132	1x L=3100	300	4,8	
6.2.40.*	1740	640	625	500	1376			182	870		3x L=3100	132	1x L=3700	300	5,4	
6.2.45.*	1940	735	700	500	1576			182	970		5x L=3700	132	1x L=4000	300	9,4	7,1
6.2.50.*	2040	835	850	600	1576			232	1020		5x L=3700	132	1x L=4300	400	9,6	7,2
6.3.30.*	1655	510	470	400	1371			142	828		2x L=3100	66	1x L=3700	200	4,1	
6.3.35.*	2110	640	550	500	1746			182	1055		3x L=4000	132	1x L=4600	300	6,1	
6.3.40.*	2410	640	625	500	2046			182	1205		3x L=4600	132	1x L=5200	300	8,0	
6.3.45.*	2710	735	700	500	2346			182	1355		5x L=5200	132	1x L=5800	300	13,5	10,2
6.3.50.*	2810	835	850	600	2346			232	1405		5x L=5200	132	2x L=5800	400	13,5	10,2
6.4.30.*	2100	510	470	400	1816			142	1050		2x L=4000	66	1x L=4600	200	5,3	
6.4.35.*	2680	640	550	500	2316			182	1340		3x L=5200	132	1x L=5800	300	9,1	
6.4.40.*	3080	640	625	500	2716			182	770	1540	3x L=5800	132	1x L=6700	300	10,3	
6.4.45.*	3480	735	700	500		1558	1558	182	870	1740	5x L=6700	132	1x L=7300	300	17,6	13,4
6.4.50.*	3580	835	850	600		1558	1558	232	895	1790	5x L=6700	132	1x L=7600	400	17,8	13,5
6.5.45.*	4250	640	700	500		1558	2328	182	1063	2125	10x L=4300	-	2x L=4600	-	22,0	16,6
6.6.45.*	5020	640	700	500		2328	2328	182	1255	2510	10x L=4900	-	2x L=5200	-	25,1	18,9

GOEDHART® FC38SB

Drawing



EC-Declarations for dx-R404A

Connection ≤ 35 mm	: Declaration of incorporation (SEP)
Connection 42mm and 54 mm	: Declaration of conformity module A
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

EC-Declarations for coolants

According	: Declaration of incorporation (SEP)
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

Kelvion

GOEDHART® FC38L AIR COOLERS

Simply low

The commercial range Goedhart® FC38L ceiling mounted air coolers are standard air coolers for cold storage rooms with height limitation. Goedhart® FC38L is a standard product to ensure shorter delivery times. The circuiting of these evaporators has been optimized according to the most commonly used refrigerants/coolants and conditions. Because of this each Goedhart® FC38L air cooler has his own order code, easy for purchasing. The air direction is blow-through as standard.

Coil block

Tube distance	: 38x33 mm staggered
Fin spacings	: 4 and 7mm.
Material	: 12 mm o.d internally plain (p) or increased (i) copper tubes
	: aluminium HT-fins

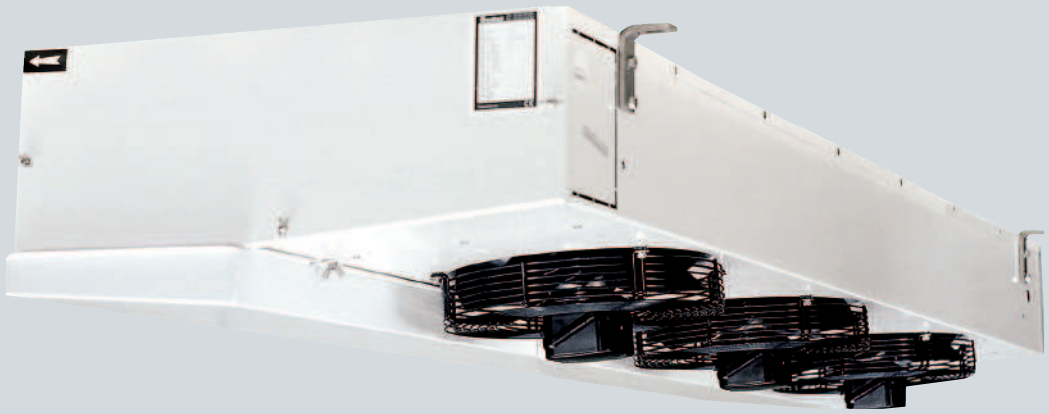
The coil blocks have copper tubes mechanically expanded into fully collared aluminium fins. A good thermal contact is achieved by expansion of the tubes into the fin collars, that are also utilized as spacers to provide a constant distance between the fins. All coolers are pressure tested to 40 bar (lower by coolants) and are supplied with a light over pressure charge of dried air. The suction header is executed with a Schräder valve for testing applications. Suitable for the most known refrigerants and coolants, with the exception of NH3.

Casing

- Construction for ceiling mounting
- Casing material of galvanized sheet steel
- The drip tray is hinged and made from light aluminum
- Executed with a short air conduction plate as standard
- Standard white epoxy spray finishing
- Bend/header protection by end covers, easy removed for maintenance
- Standard refrigerant connections are positioned on the left hand side of the unit when looking with the direction of the airflow.
- Possible defrost by hot gas spiral or electric defrost elements will be fixed to the bottom side of the coil
- Stainless steel fasteners

Goedhart® FC38L features

- For cooling and freezing applications with height limitation
- Standard blow-through
- Copper tubes and aluminium fins
- Available with internally plain or increased copper tubes
- Consisting of 54 models
- Capacity range from 1,6 to 20,2kW. (R404A dx, SC2)
- Suitable for most refrigerants / coolants with exception of NH_3
- Goedhart® FC38L is delivered upside down in a wooden crate, easy to handle and preventing damage of the drip tray
- Despite Goedhart® FC38L is a commercial air cooler some options are available (see page 32)



1	Range	: Goedhart® FC38L
2	Execution tube	: p = internal plain : i = internal increased
3	Refrigerant	: (dx) = R404A, (G)= coolant
4	Rows deep	: 6
5	Number of fans	: 1 - 4
6	Fan diameter	: 250, 300, 400 mm
7	Fin spacing	: 4, 7 mm
8	Tension	: 1x230V, 3x400V fan
9	Defrost	: E = electrical H = hot gas

1	2	3	4					
FC38L	i	(dx)	6	1	30	4	230	E
				5	6	7	8	9

GOEDHART® FC38L-FAN DATA

Fan diameter	Tension	Δ			Y			Δ	Y	Δ			
		Speed	Nominal power	FLC	Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))		Speed	Nominal power	FLC	Sound power level each fan LwA (+/-2dB(A))
mm	V	min-1	Watt	A	min-1	Watt	A	dB(A)	dB(A)	min-1	Watt	A	dB(A)
		SINGLE PHASE - 50HZ								SINGLE PHASE - 60HZ			
250	1x230	1370	50	0,24				62		1520	50	0,23	
300	1x230	1290	90	0,39				64		1320	110	0,50	
		THREE PHASE - 50HZ								THREE PHASE - 60HZ			
400	3x400/690	1370	230	0,44	1110	170	0,27	75	70	1580	370	0,56	76

Mentioned data are for each fan according the supplier of the fans

GOEDHART® FC38Li (DX-R404A)

Technical data | Fin spacing 4 mm

Type	Fan diameter	Order code Standard	Order code elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Li	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.4	1x250	702401	702501	2,3	1,6		510	40,7	9	12	12	15	2
6.1.30.4	1x300	702403	702503	3,8	2,6		876	42,6	13	12	28	20	3
6.1.40.4	1x400	712407	712507	9,8	6,7		2362	53,4	29	16	28	40	6
6.2.25.4	2x250	702402	702502	4,6	3,2		1020	43,5	18	12	28	25	4
6.2.30.4	2x300	702404	702504	7,7	5,3		1753	45,4	26	12	28	35	5
6.2.40.4	2x400	712408	712508	19,5	13,3		4724	56,1	58	16	35	60	11
6.3.30.4	3x300	702405	702505	11,5	7,9		2629	46,9	39	16	28	45	7
6.3.40.4	3x400	712409	712509	29,5	20,2		7086	57,5	87	16	35	90	16
6.4.30.4	4x300	702406	702506	15,2	10,5		3505	47,9	52	16	28	60	10

Capacities	t_{L1}	t_o	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

GOEDHART® FC38Li (DX-R404A)

Technical data | Fin spacing 7 mm

Type	Fan diameter	Order code Standard	Order code elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Li	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.7	1x250	702601	702701	2	1,4	1,0	612	40,7	5	12	12	15	2
6.1.30.7	1x300	702603	702703	3,4	2,3	1,7	1130	42,6	8	12	28	20	3
6.1.40.7	1x400	712607	712707	8,3	5,6	4,1	2903	53,4	17	16	28	30	6
6.2.25.7	2x250	702602	702702	4,1	2,8	2,0	1225	43,5	11	12	28	20	4
6.2.30.7	2x300	702604	702704	6,8	4,7	3,4	2261	45,4	16	12	28	30	5
6.2.40.7	2x400	712608	712708	16,3	11,1	8,1	5807	56,1	35	12	35	55	11
6.3.30.7	3x300	702605	702705	10,1	6,9	5,1	3391	46,9	23	16	28	55	7
6.3.40.7	3x400	712609	712709	24,9	16,8	12,4	8710	57,5	52	16	35	80	16
6.4.30.7	4x300	702606	702706	13,7	9,3	6,8	4521	47,9	31	16	28	55	10

Capacities	t_{L1}	t_o	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

GOEDHART® FC38Li (DX-R404A)

Technical data | Fin spacing 4 mm

Type	Fan diameter	Order code Standard	Order code elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Lp	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.4	1x250	708401	708501	2,0	1,3		510	40,7	9	12	12	15	2
6.1.30.4	1x300	708403	708503	2,6	2,2		876	42,6	13	12	12	20	3
6.1.40.4	1x400	718407	718507	8,4	5,7		2362	53,4	29	12	22	40	6
6.2.25.4	2x250	708402	708502	4,0	2,6		1020	43,5	18	12	22	25	4
6.2.30.4	2x300	708404	708504	6,5	4,5		1753	45,4	26	12	22	35	5
6.2.40.4	2x400	718408	718508	16,9	11,4		4724	56,1	58	12	28	60	11
6.3.30.4	3x300	708405	708505	10,0	6,7		2629	46,9	39	12	22	45	7
6.3.40.4	3x400	718409	718509	25,0	16,6		7086	57,5	87	16	28	90	16
6.4.30.4	4x300	708406	708506	13,3	9,0		3505	47,9	52	16	22	60	10

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

GOEDHART® FC38Lp (DX-R404A)

Technical data | Fin spacing 7 mm

Type	Fan diameter	Order code Standard	Order code elec. defrost	Capacities Q at 4 pole-50Hz, DT1, R404A** SC1	SC2	SC3	Air volume	LpA* @ 3m (+/- 2 dB(A))	Surface	Connections I	K	Weight	Internal volume
Goedhart® FC38Lp	mm			kW	kW	kW	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.7	1x250	708601	708701	1,6	1,1	0,8	612	40,8	5	12	12	15	2
6.1.30.7	1x300	708603	708703	2,9	2,0	1,4	1130	43,7	8	12	12	20	3
6.1.40.7	1x400	718607	718707	7,0	4,7	3,4	2903	54,4	17	12	22	30	6
6.2.25.7	2x250	708602	708702	3,3	2,1	1,6	1225	43,7	11	12	12	20	4
6.2.30.7	2x300	708604	708704	5,9	4,0	2,9	2261	46,5	16	12	22	30	5
6.2.40.7	2x400	718608	718708	14,4	9,6	7,0	5807	57,1	35	12	22	55	11
6.3.30.7	3x300	708605	708705	9,0	6,0	4,3	3391	48,1	23	12	22	55	7
6.3.40.7	3x400	718609	718709	20,3	14,2	10,0	8710	58,6	52	16	28	80	16
6.4.30.7	4x300	708606	708706	12,0	8,0	5,7	4521	49,2	31	12	22	55	10

Capacities	t_{L1}	t_0	DT1
SC1	10	0	10
SC2	0	-8	8
SC3	-18	-25	7

Changes subject to modification

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

GOEDHART® FC38Lp (G-GLYCOL)

Technical data | Fin spacing 4 mm

Type			1x230V-50Hz-4 pole (1500 min⁻¹ nom.)**																	Surface	Connections		Weight	Internal volume
			E-Glycol 28% -2 / 3 °C (in/out)			Water 1 / 5 °C (in/out)			P-Glycol 34% -2 / 3 °C (in/out)			Pekasol 50% -2 / 3 °C (in/out)			Freezium 24% -2 / 3 °C (in/out)			Air volume	LpA @ 3 m (+/- 2 dB(A))*					
	Order code Standard	Order code elec. defrost	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop				I	K		
FC38Lp			kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.4	705401	705501	1,9	0,36	11,1	2,1	0,45	13,7	1,8	0,33	23,7	2,0	0,34	6,6	1,9	0,38	18,5	510	40,7	9	16	16	15	2
6.1.30.4	705403	705503	3,1	0,57	22,6	3,8	0,82	46,6	3,0	0,54	47,9	4,6	0,79	54,4	4,6	0,90	65,9	876	42,6	13	16	16	20	3
6.1.40.4	715407	715507	10,1	1,88	74,4	9,8	2,10	69,1	7,3	1,32	98,5	12,0	2,06	82,3	11,2	2,20	98	2362	53,4	29	22	22	40	6
6.2.25.4	705402	705502	5,3	0,99	95,0	4,9	1,04	78,2	3,7	0,67	63,1	6,0	1,03	94,8	5,4	1,05	32,4	1020	43,5	18	16	16	25	4
6.2.30.4	705404	705504	8,7	1,62	90,9	7,9	1,69	75,4	5,4	0,98	53,7	9,8	1,68	91,1	9,1	1,78	44,9	1753	45,4	26	22	22	35	5
6.2.40.4	715408	715508	21,8	4,06	88,6	20,0	4,27	73,9	12,9	2,34	91,2	24,6	4,22	89,1	23,8	4,66	70,3	4724	56,1	58	35	35	60	12
6.3.30.4	705405	705505	12,1	2,26	50,8	12,0	2,57	90,1	7,6	1,37	53,8	14,3	2,46	55,8	14,2	2,79	66,4	2629	46,9	39	28	28	45	8
6.3.40.4	715409	715509	33,4	6,20	91,3	30,1	6,43	74,3	17,7	3,22	83,6	37,1	6,37	89,9	36,2	7,11	79,6	7086	57,5	87	42	42	90	17
6.4.30.4	705406	705506	17,3	3,21	69,6	16,1	3,44	99	10,1	1,83	87,1	19,5	3,34	70,1	18,8	3,68	82,7	3505	47,9	52	28	28	60	10

GOEDHART® FC38Lp (G-GLYCOL)

Technical data | Fin spacing 7 mm

Type			1x230V-50Hz-4 pole (1500 min⁻¹ nom.)																	Surface	Connections		Weight	Internal volume
			E-Glycol 28% -2 / 3 °C (in/out)			Water 1 / 5 °C (in/out)			P-Glycol 34% -2 / 3 °C (in/out)			Pekasol 50% -2 / 3 °C (in/out)			Freezium 24% -2 / 3 °C (in/out)			Air volume	LpA @ 3 m (+/- 2 dB(A))*					
	Order code Standard	Order code elec. defrost	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop	Capacity	Volume flow	Pressure drop				I	K		
FC38Lp			kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	kW	m³/h	kPa	m³/h	dB(A)	m²	mm	mm	kg	dm³
6.1.25.7	705601	705701	2,1	0,40	9,8	2,1	0,44	87,6	1,8	0,33	93,6	1,7	0,30	5,7	1,7	0,33	12	612	40,8	5	16	16	15	2
6.1.30.7	705603	705703	2,8	0,51	20,1	3,3	0,70	35,4	2,7	0,48	42,8	3,9	0,67	40,4	3,9	0,76	49,8	1130	43,7	8	16	16	20	3
6.1.40.7	715607	715707	6,3	1,16	21,5	8,1	1,73	48,7	6,4	1,16	85,9	9,9	1,69	57,3	9,8	1,92	69	2903	54,4	17	22	22	30	6
6.2.25.7	705602	705702	4,2	0,79	63,7	4,1	0,88	58,1	3,2	0,59	55,6	5,0	0,87	69,9	5,0	0,98	83	1225	43,7	11	16	16	20	4
6.2.30.7	705604	705704	7,2	1,34	64,1	6,9	1,47	57,8	4,9	0,89	48,2	8,4	1,45	69,3	7,7	1,52	82,3	2261	46,5	16	22	22	30	5
6.2.40.7	715608	715708	17,2	3,20	57,4	16,8	3,59	82,5	11,4	2,08	80,3	20,2	3,47	62,5	20,1	3,94	74,4	5807	57,1	35	28	28	55	11
6.3.30.7	705605	705705	11,5	2,15	84,7	10,4	2,23	69,3	7,3	1,33	92	12,9	2,21	84	12,2	2,40	99	3391	48,1	23	28	28	55	8
6.3.40.7	715609	715709	28,1	5,22	88,8	25,2	5,39	71,8	15,8	2,87	74,2	31,2	5,34	87,2	30,4	5,96	75	8710	58,6	52	35	35	80	17
6.4.30.7	705606	705706	15,8	2,93	96,3	14,0	2,99	76,1	9,2	1,66	78,5	17,3	2,97	92,8	16,7	3,28	63,4	4521	49,2	31	28	28	55	10

* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487
** = The standard tension of the fans is 1x230V, with the exception of the 400 mm fan, 4 poles is only available in 3x400V execution

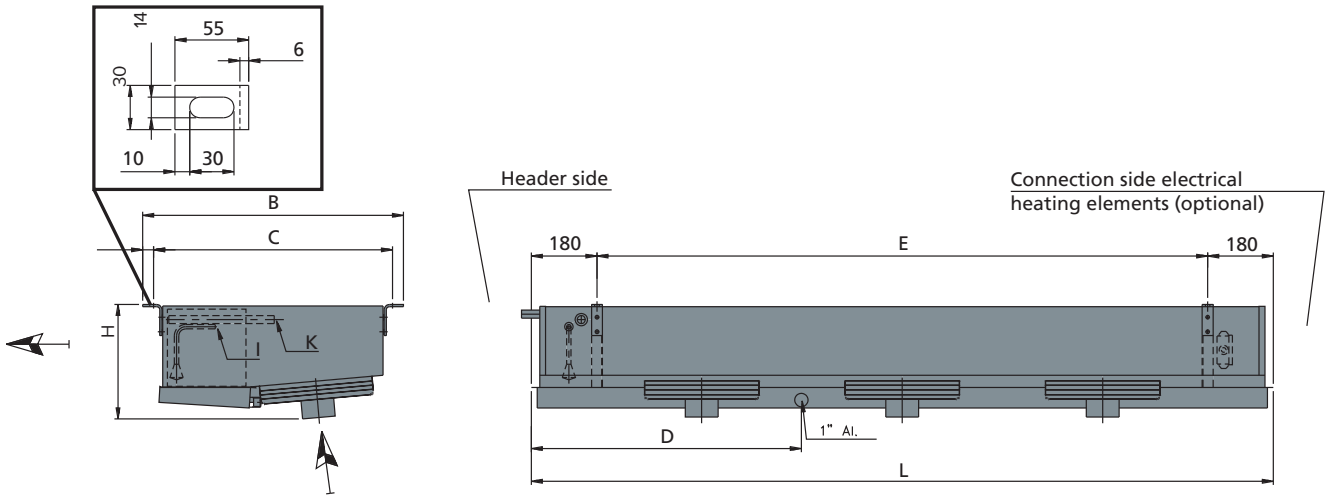
GOEDHART® FC38L

Dimensions, Electrical defrost

Type	Dimensions					Electrical defrost at 3x400V				
	L	B	H	E	D1	Coil block		Drip tray		Standard
Goedhart® FC38L	mm	mm	mm	mm	mm	number	O (mm)	Number	O (mm)	kW
6.1.25.*	890	705	280	530	245	2x L=1300	132	1x L=1300	175	1,5
6.1.30.*	990	705	315	630	295	2x L=1600	132	1x L=1600	175	1,9
6.1.40.*	1190	865	465	830	295	3x L=1900	132	1x L=2200	175	3,2
6.2.25.*	1390	705	280	1030	695	2x L=2500	132	1x L=2500	175	3,1
6.2.30.*	1590	705	315	1230	795	2x L=2800	132	1x L=2800	175	3,5
6.2.40.*	1990	865	465	1630	995	3x L=3700	132	1x L=3700	175	6,2
6.3.30.*	2190	705	315	1830	795	2x L=4000	132	1x L=4000	175	5,0
6.3.40.*	2790	865	465	2430	995	3x L=5200	132	1x L=5200	175	8,8
6.4.30.*	2790	705	315	2430	1395	2x L=5200	132	1x L=5200	175	6,6

GOEDHART® FC38L

Drawing



EC-Declarations for dx-R404A

Connection ≤ 35 mm	: Declaration of incorporation (SEP)
Connection 42mm and 54 mm	: Declaration of conformity module A
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

EC-Declarations for coolants

According	: Declaration of incorporation (SEP)
Group of fluid	: 2
PS	: 28 bar
TS	: +55 / -40 °C

Options for Goedhart® commercial air coolers

CUSTOMIZE YOUR STANDARD AIR COOLER

Options	Goedhart® FC38S	Goedhart® FC38L
Blow-through	X	X
Draw-through	X	
Internally plain tube	X	X
Internally increased tube	X	X
Electrical defrost	X	X
Insulated driptray	X	
Stainless steel casing	X	X
Fins goldlack (4 I 7 mm fin spacing)	X	X
Fins Almg (4 mm fin spacing)	X	X
Options on request		
Hot gas defrost	X	
Integrated secundair defrost circuit	X	
Fan heating	X	X
Air conduction plate	X	
Stainless steel tubes	X	X

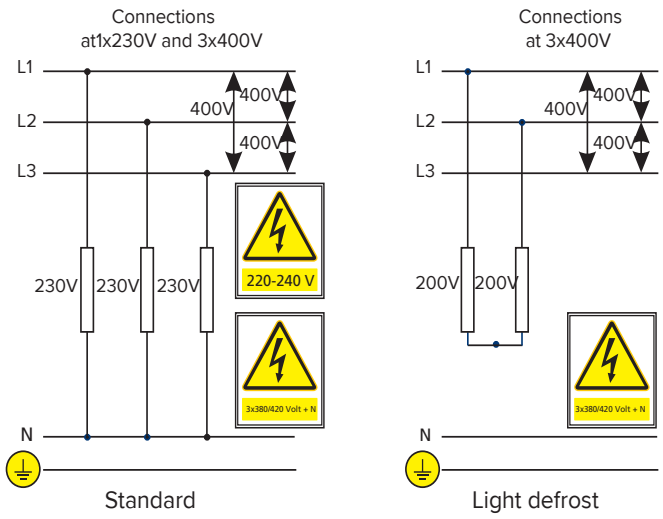
DEFROST SYSTEMS

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

Electrical defrost
On request Goedhart® FC38 can be provided with electrical defrost. Goedhart® FC38 is always delivered with heavy defrost. The elements are rated for 220/240 V and are connected (IP55) for 380/415 V (with neutral) supply. The stainless steel heater elements are fitted in the coil block inside tubes which form a highly conductive medium between the heaters and the fins. In the drip-tray, the heater elements are fitted to the bottom side of the aluminium inner tray. The heater elements in the coil block are removable from the header side of the unit, whilst the tray heater elements can be removed once the outer tray has been taken off.

You can find in the Goedhart selection program the exact number of elements and electrical power for light and heavy defrost each air cooler.

Hot gas defrost
The coil block is suited for hot gas defrost (hot gas supply through the suction header). The drip tray can be provided with a copper hot gas spiral, which is enclosed in special aluminium profiles, which are rigidly secured to the underside of the aluminium inner tray.



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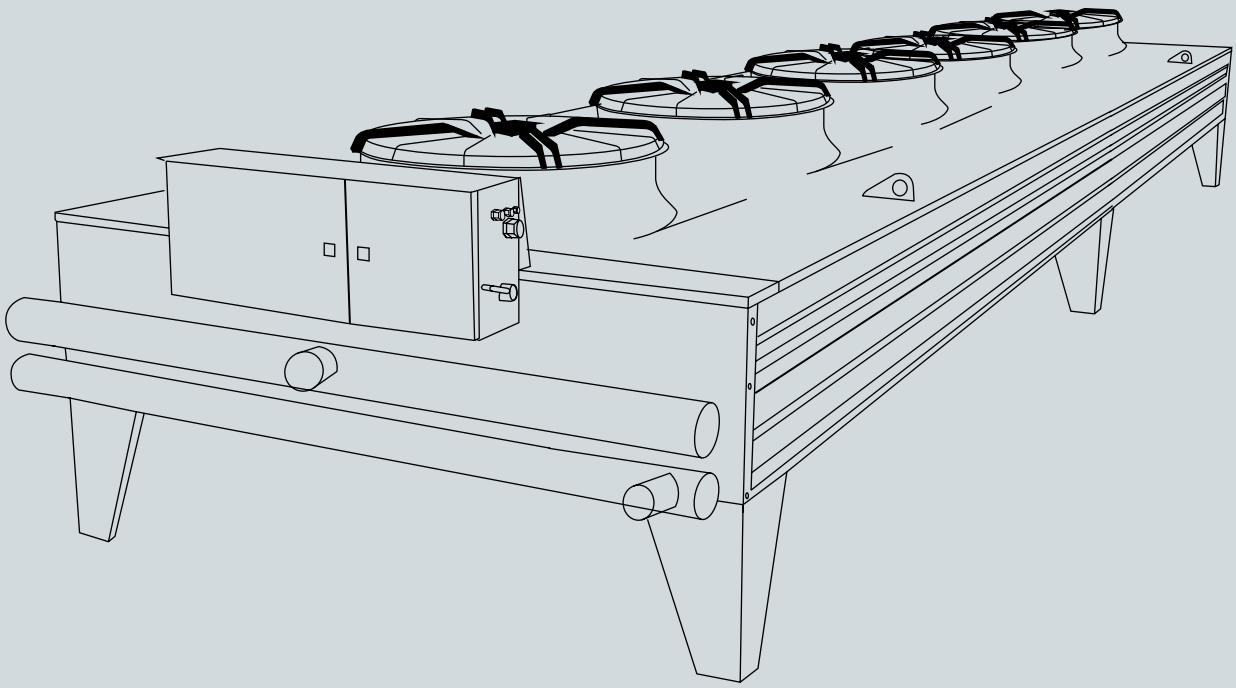
Searle Air Cooled Condensers, Dry Coolers and Gas cooler



INSTALLATION AND MAINTENANCE INSTRUCTIONS

Kelvion

INSTALLATION & MAINTENANCE INSTRUCTIONS

Content : Important Information

INTRODUCTION

This installation and maintenance is intended to accompany Kelvion manufactured air cooled condenser, Dry coolers and gas coolers. The ranges are made up of heat exchanger; commonly incorporating aluminium fin material and copper tube, galvanised steel casework and axial fan set. These components will vary with application, but the product function will remain common; to remove energy from a working fluid, generally as part of a refrigeration system. This document is not a replacement for formal training and should only be referenced by qualified personnel (meeting relevant regional standards). Any installation or maintenance work carried out in relation to the supplied air cooled condenser should be in accordance to regional / national law and legislation. Additional information and assistance can be provided by the equipment supplier or from the Kelvion regional offices located worldwide.

1. HEALTH AND SAFETY INSTRUCTION AND SIGNS

This concerns the following hazards, which may be encountered when installing and maintaining this equipment:

CAUTION

All work on the units must be carried out by qualified personnel. Installation and maintenance manual must be kept with unit at all times. Ensure that instruction manual is understood before installation Ensure working environment is suitable.

Use suitable PPE (Personal Protection Equipment) as per site regulations and as appropriate for the task. It is the responsibility of the person performing the task and their employer to ensure that all suitable PPE is provided and worn at all times. Detailed below is some of the suggested PPE during installation and commissioning of the unit.

Head protection

Foot protection

Hand protection

High visibility clothing

Eye protection

Before installation

ELECTRICAL VOLTAGE

Ensure that

1. The power supply is isolated before any installation or maintenance work is carried out.
2. The voltage, working fluid and the maximum working pressure stated on the product nameplate is suitable for the working environment.

PROTECTIVE CLOTHING

Sharp edges on the casework of the units and coil fins are a possible cause of cuts to fingers and hands. Appropriate protective clothing /gloves should always be worn.

Ensure that:

- The proposed method of mounting is adequate to support the total operational weight of the unit. “Dry Weights” are given on the nameplate and the product sheet.
- Nameplate Data: When further pressure tests are carried out, the pressure applied shall not exceed 1.3 times the maximum operating pressure (PS) given on the nameplate.

- When ancillary pressure equipment, such as a receiver, is supplied on a frame with a unit, but not a pipe to it, the parts must be treated as separate components and data taken from individual nameplates.
- Rotating blades – dangling items of clothing, jewellery or any items that could be pulled into the fan set are a hazard . Keep safe working distance from the fan plate
- The fan guard should not be removed nor should the fan set be removed from the unit.
- During installation and maintenance, ensure that:
- The unit is installed and maintained by qualified personnel only.
- When pressure testing is carried out, the pressure applied shall not exceed 1.3 times the maximum operating pressure given on the nameplate of the unit.
- The temperature of coils with vinyl-coated fins does not exceed 150°C (e.g. during brazing), as toxic fumes would be produced.

Be aware of burn hazard:

Burn hazards

1. Burn hazards from pipes and pipeline components when the heat exchanger temperature exceeds 60°C.
2. Burn caused by refrigerant coming into contact with the skin or eyes.

2. WARRANTY PROCEDURE

This warranty applies to all units detailed in this price list and, unless otherwise stated in product literature or specific contracts, provides for a manufacturer's guarantee of twenty four months from date of dispatch against faults in workmanship or materials.

When submitting a warranty claim the following information is required:

- Customer's original reference number job / order number.
- Kelvion 's job number / advice note number.
- Type of unit and serial number.
- Date of installation.
- Details of defect.

When providing details of the defect, please give as much information as possible,
Was the unit satisfactory on delivery?
Frequency of fault (continuous / intermittent)
Is the unit leaking ? (+ location of leak)

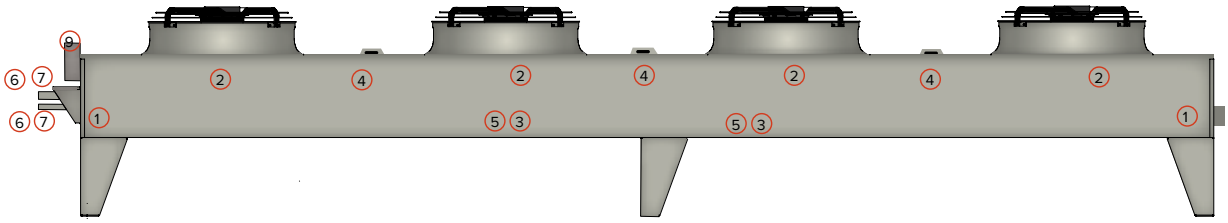
Items manufactured by Kelvion:
No work should be undertaken to resolve the problem either by the customer or a 3rd party until approved by Kelvion - failure to do so could invalidate the warranty.

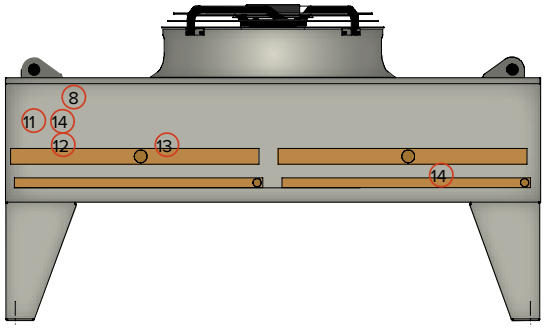
The item may be replaced or rectified if the guarantee claim is valid.
For items that have been installed, Kelvion have the right to decide if rectification on site is suitable and who should undertake the work or whether to return / replace the unit(s). For items where Kelvion decides to replace, the original faulty item must be returned. All items which are returned will be inspected. If the guarantee claim is not valid the customer will be advised and further instructions requested, either to return the item or to issue an official order to replace or rectify the item. If you require a replacement product the buyer will be asked to supply a purchase order, when the unit has been returned and evaluated, the buyer will be notified by Searle if the claim is valid.

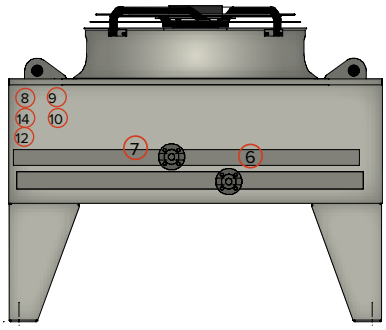
Items NOT manufactured by Kelvion:

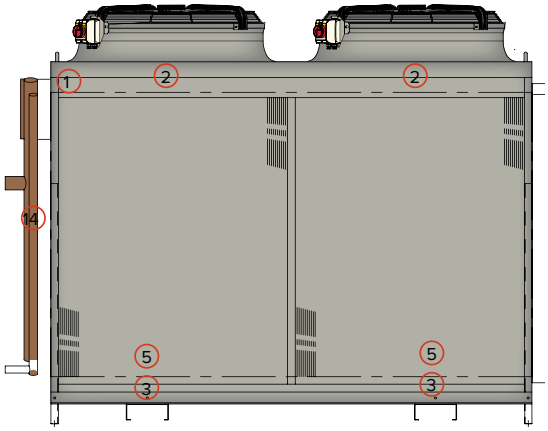
- The item will be replaced and the customer will be invoiced
- The item will be returned to the supplier for evaluation.
- If the claim is valid the credit received from the supplier will be passed on to the customer.

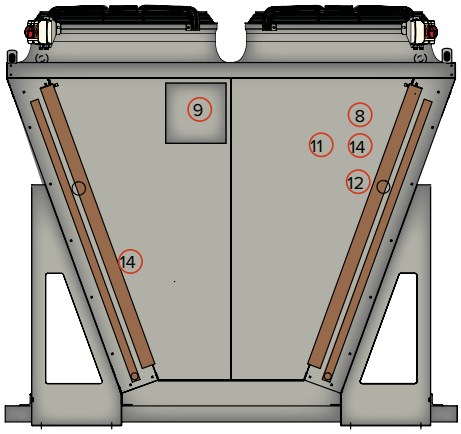
3. LABELLING ON UNITS

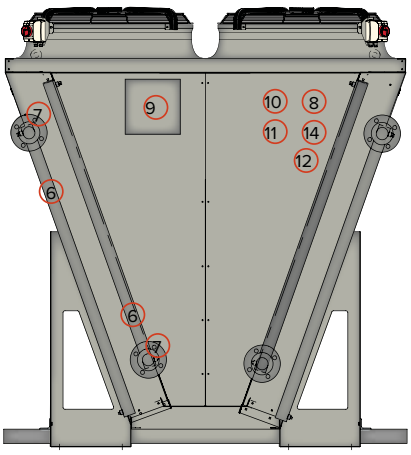






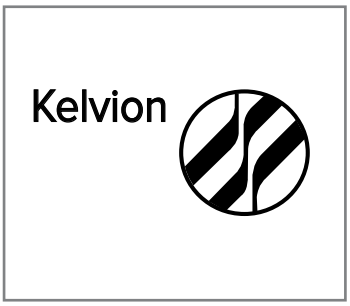






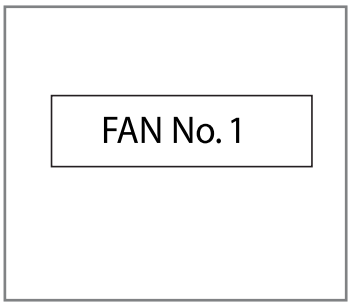
Kelvion

3. LABELLING ON UNITS

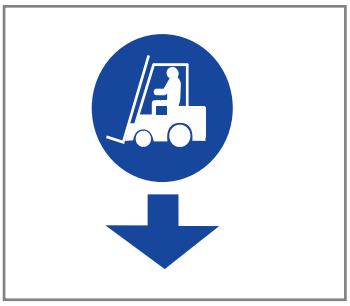


1. Kelvion logo

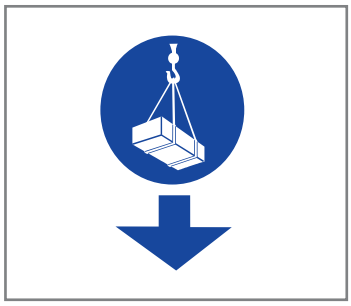
1. Searle logo



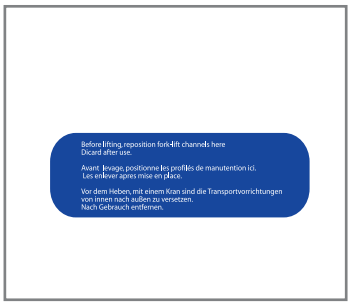
2. Fan numbering label



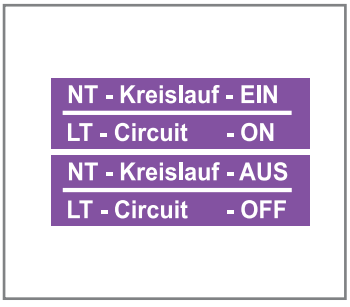
3. Forklift point



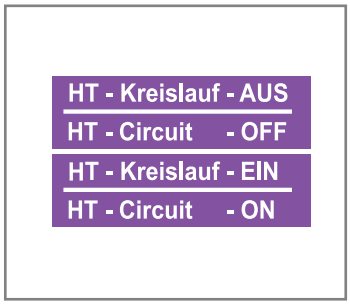
4. strop lifting



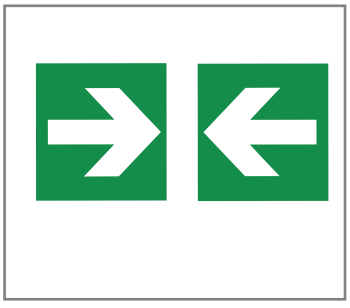
5. Lifting label



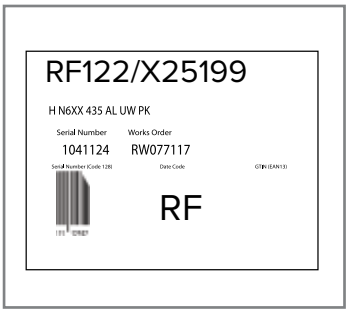
6. Low Temperature label



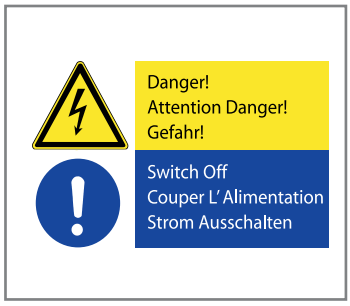
6. High Temperature label



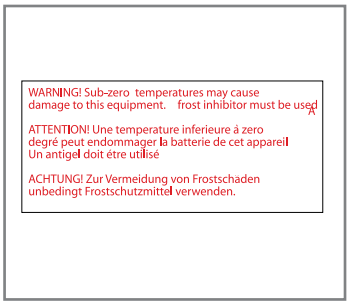
7. Inlet and Outlet labels



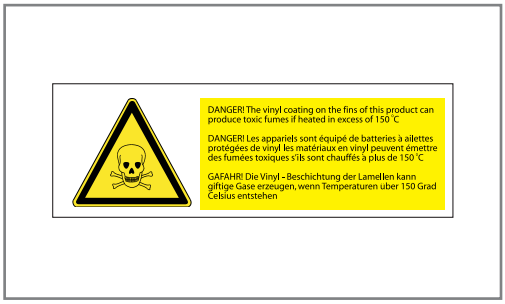
8. Plate label



9. Danger and Caution labels



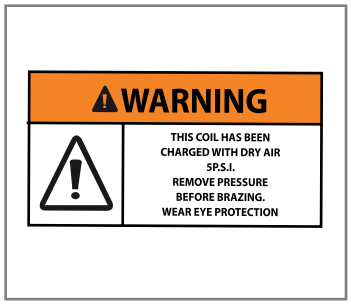
10. Warning label



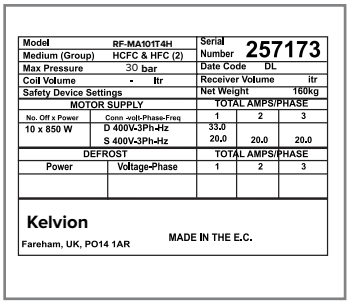
11. Danger label - used on units that have vinyl fins

Danger label - used on units that have Blygoldl fins

12. Pass label



13. Warning label for coils



14. Name plate

Maximum operating pressure suitable for this product.

Fluid working group. Reference to PED classification, i.e. group 1 or group 2

Model	RF-MA101T4H	Serial Number	257173	
Medium (Group)	HCFC & HFC (2)			
Max Pressure	30 bar	Date Code	DL	
Coil Volume	- ltr	Receiver Volume	itr	
Safety Device Settings		Net Weight	160kg	
MOTOR SUPPLY		TOTAL AMPS/PHASE		
No. Off x Power	Conn -volt-Phase-Freq	1	2	3
10 x 850 W	D 400V-3Ph-Hz	33.0		
	S 400V-3Ph-Hz	20.0	20.0	20.0
DEFROST		TOTAL AMPS/PHASE		
Power	Voltage-Phase	1	2	3
Kelvion Fareham, UK, PO14 1AR		MADE IN THE E.C.	CE	

If no safety device settings are detailed, it is the installers' responsibility to ensure an appropriately sized safety device is installed to prevent the product going over its maximum pressure rating. Failure to do so may result in component / product failure.

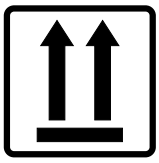
Electrical supply information

Kelvion

4. PACKAGING

Please pay attention to following symbols which can be identified on Kelvion packing cartons.

Keep dry



This way up

Fragile

Recycle

Stacking

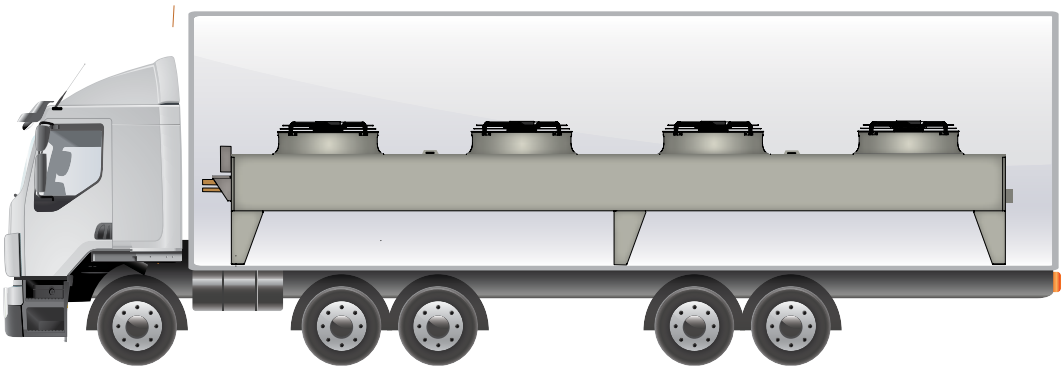
Wooden crate:

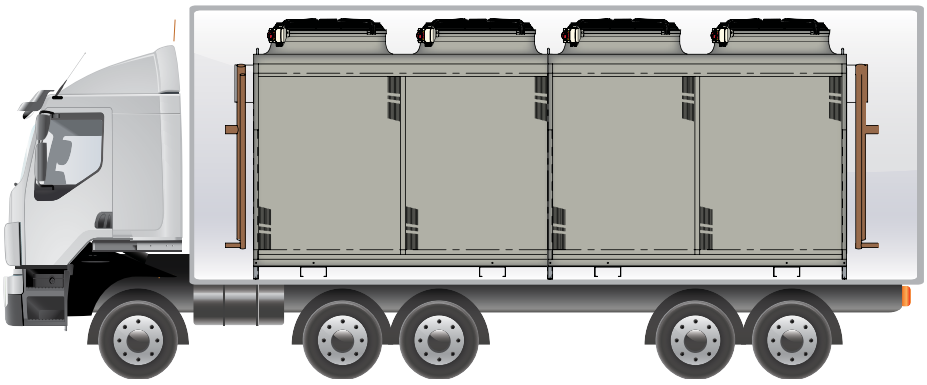
- GSL wooden crates incorporate heat treated timber as appropriate aligning with export requirements.
- Care should be taken when removing units from packing to ensure unit is not damaged

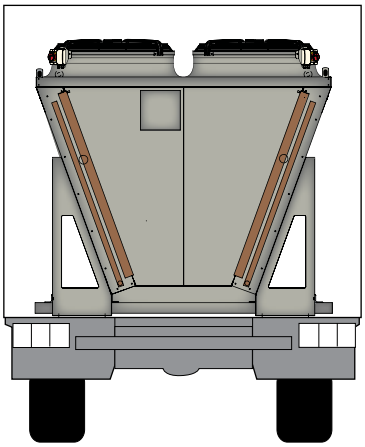
5. LEGS AND LOADING

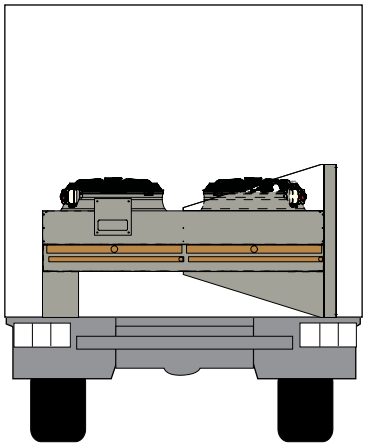
Appropriate equipment should be used to load, un-load and locate the unit in its operational location. Consideration of the products size and weight should be taken ensuring that any equipment (such as fork lifts or cranes) meets relevant national standards.

1. Units ordered with leg extensions are shipped with only the extension pieces fitted. The lower leg sections must be added on site.
2. The unit must be lifted horizontally when leg extensions are fitted.
3. On horizontal units supplied with channel legs, it may be necessary to move them from the transport position (legs extend above the unit body) to the operating position (leg top below casework).
4. Remove any stacking plates and mounting feet, carefully lift the unit, loosen the leg fixings and move the leg down one set of key-slots. Re-tighten the fixings and fit feet if necessary.
5. When loading or unloading unit over 7.2 metres, use only a strop, do not use forklift.







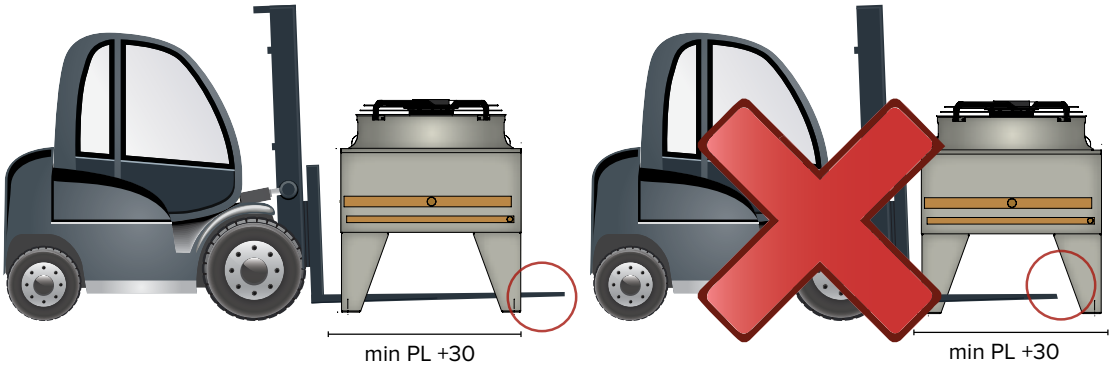


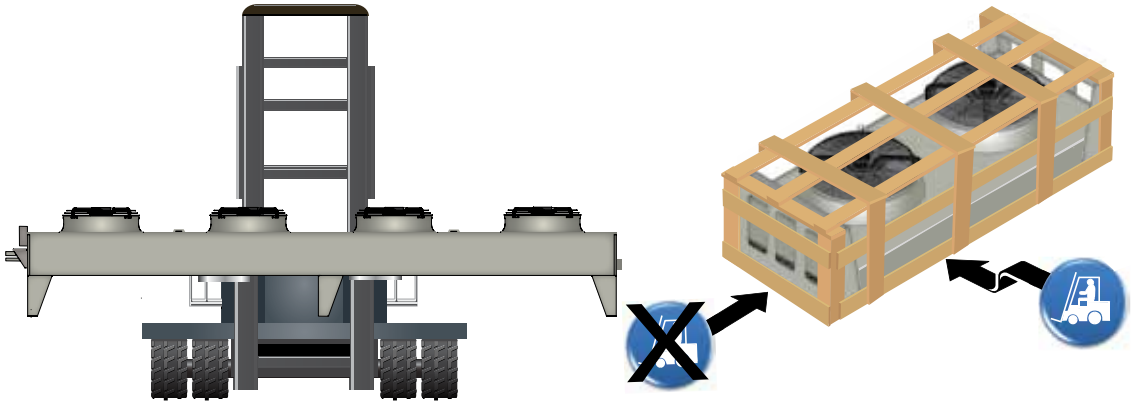
Strop lift

Forlklift

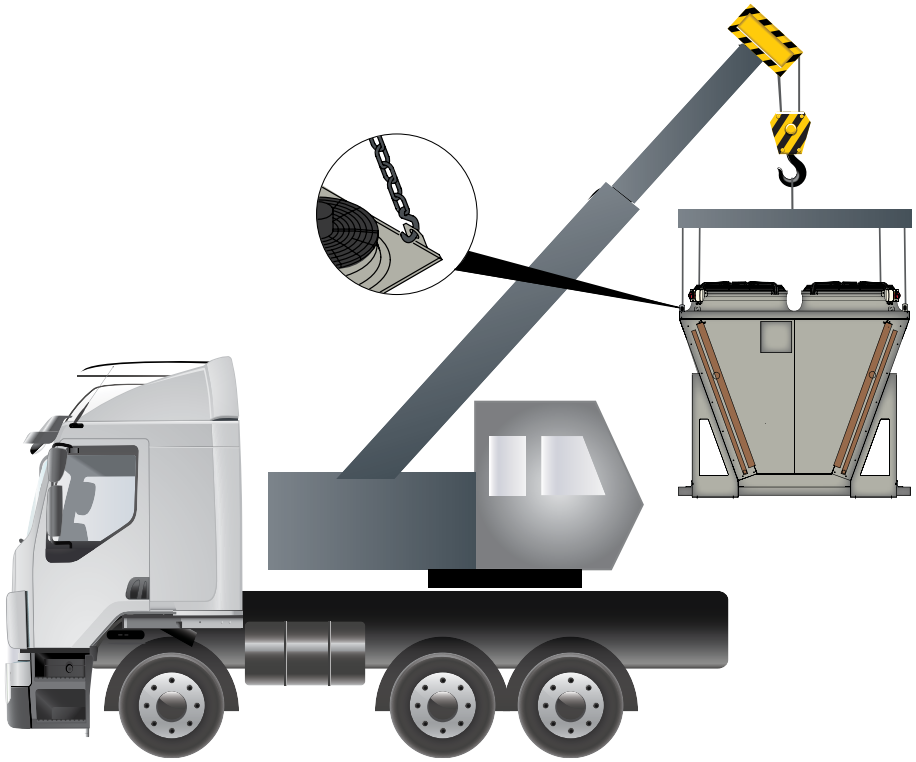
Kelvion

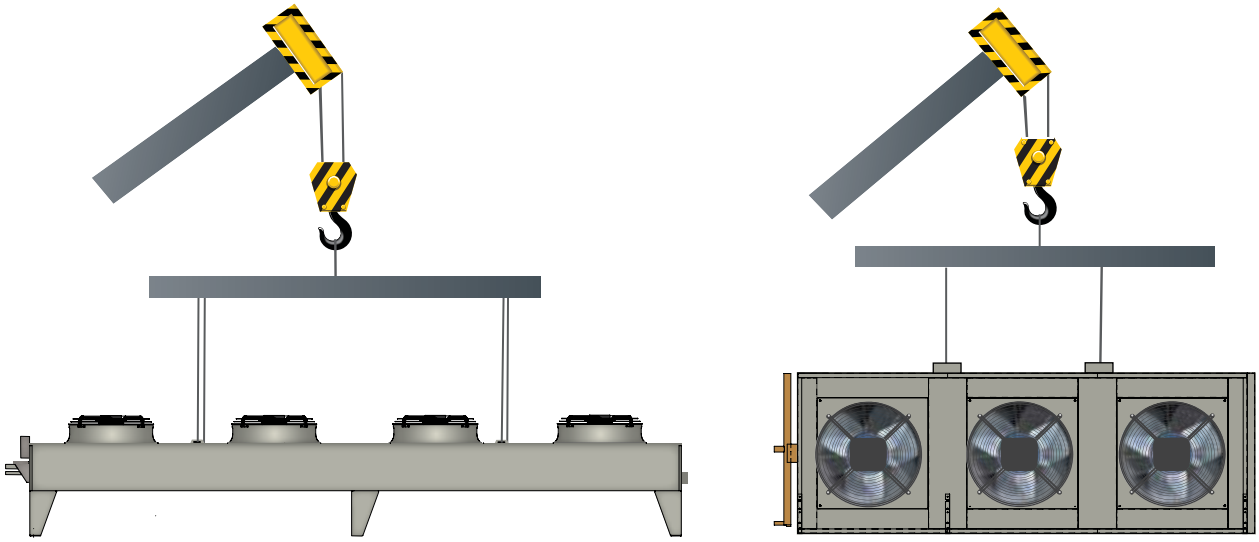
6. HANDLING



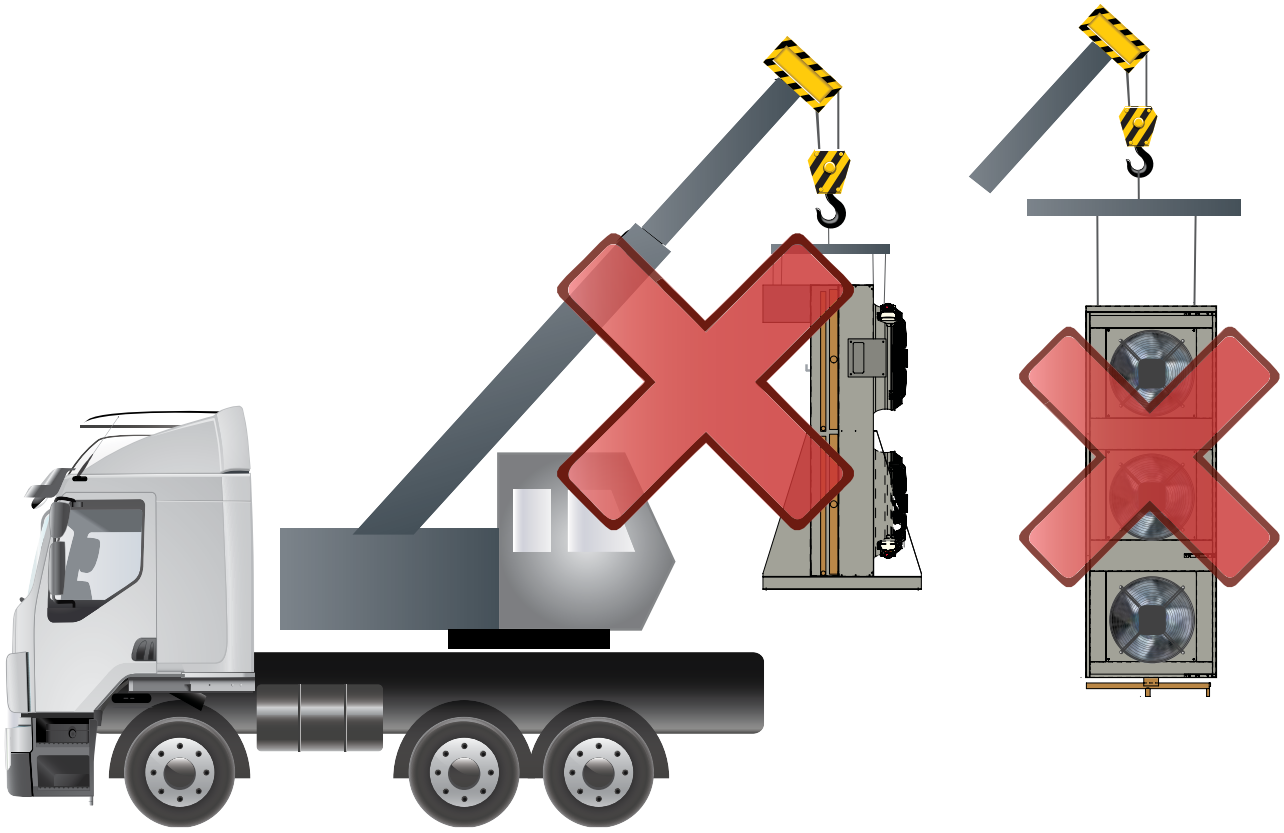


1. All large units have recommended points for use when fork or strop lifting, both are clearly marked
2. Double bank models are fitted with lifting channels, which can be located according to requirements, and removed after installation.
3. **Do not use forklift for units more than 7.2m length.**





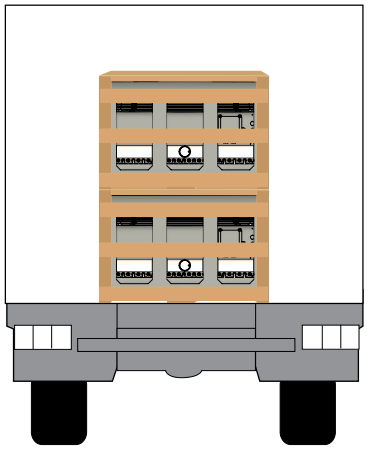
1. If the unit is not marked, the position of centre of gravity of the unit should be considered when lifting. Units should maintain a level attitude during off-loading.
2. If strops are used, spreader bars must be utilised to protect the casework.

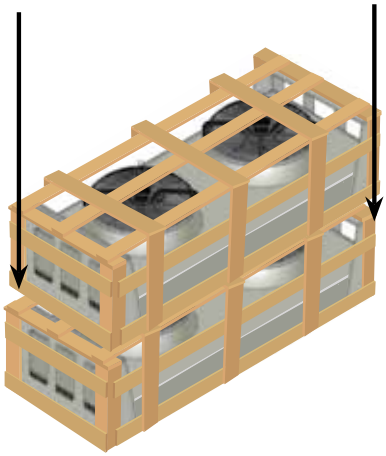


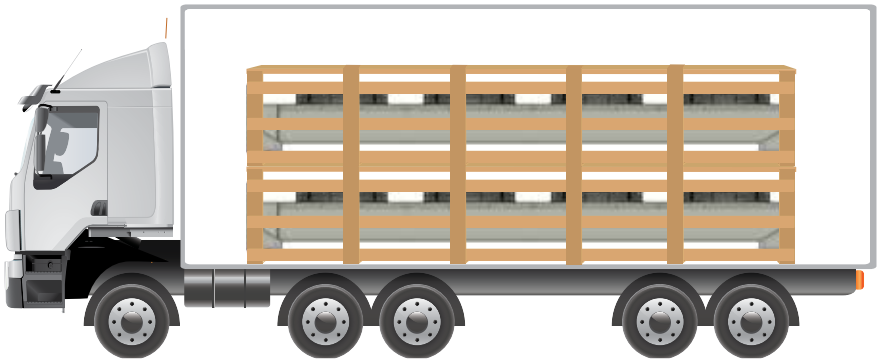
1. Care should be taken to protect the unit against mechanical damage while unloading.
2. Extreme care must be taken to protect coil connections and fins.

Kelvion

6. HANDLING RF-SJ AND LF-SJ

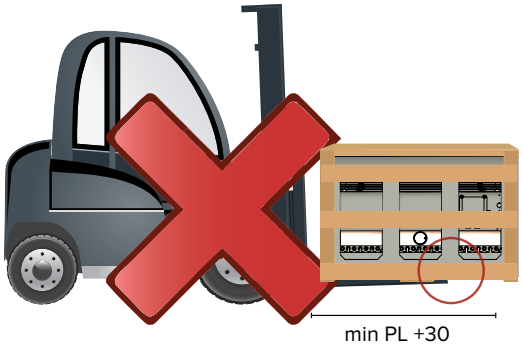




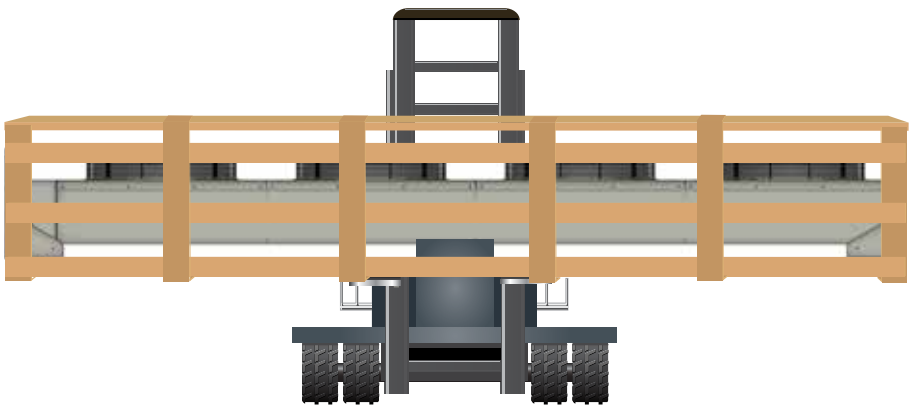


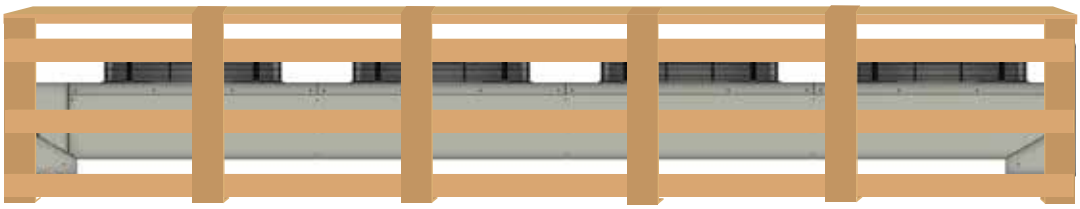
Forlklift

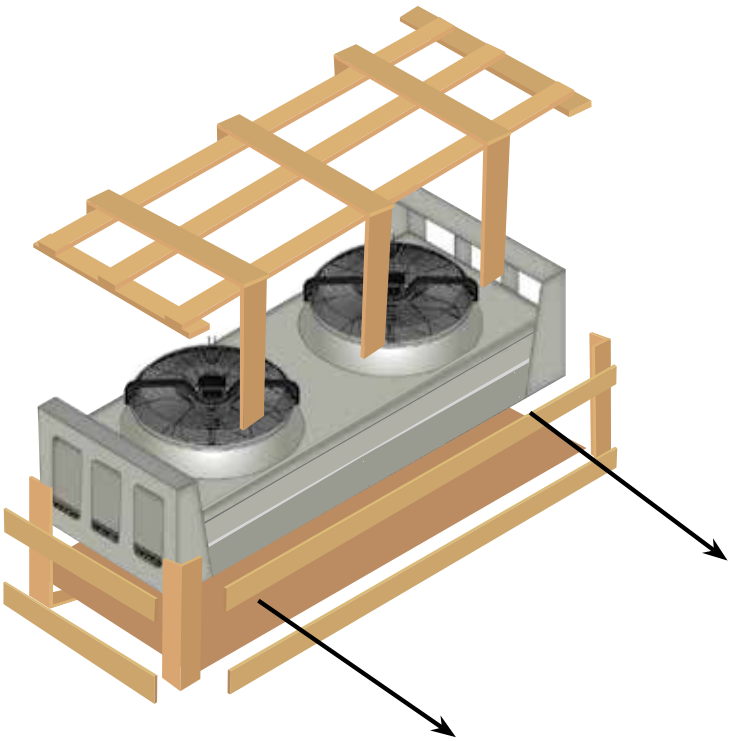
min PL +30

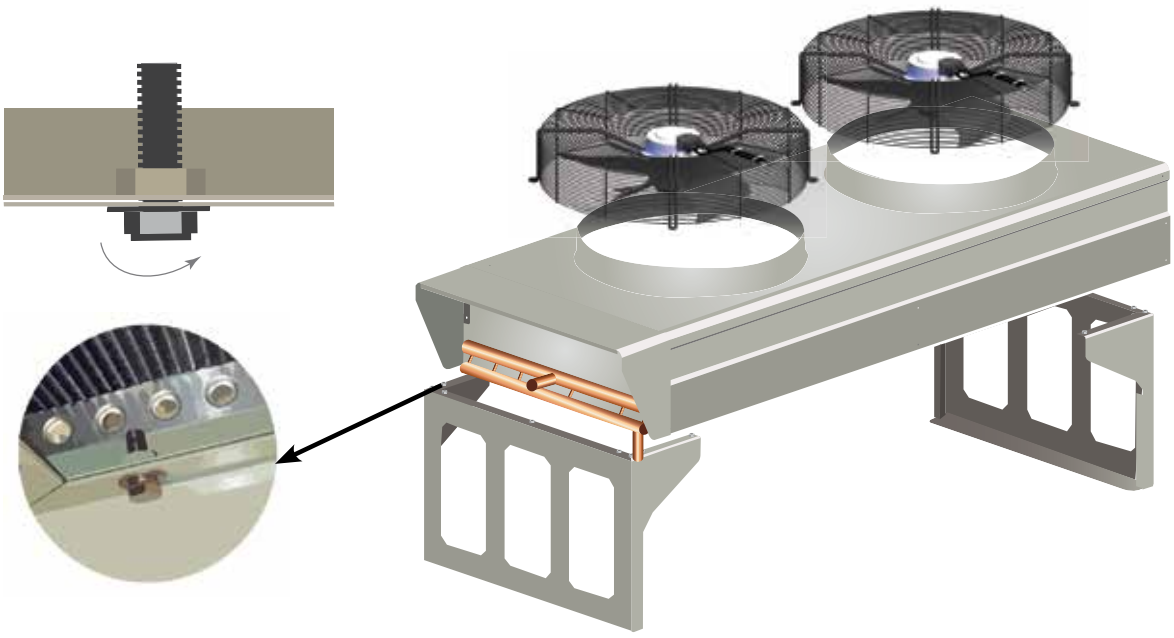


min PL +30









7. STORAGE

1. To avoid contamination and corrosion, the units must be stored in dry and clean area.

2. Storing for long periods is not recommended, but where this cannot be avoided the fan motors must run for a **minimum of 2 hours per month. Failure to do so will invalidate manufacturer's warranty.**

General

Upon receipt, the units should be visually inspected, any transport damage and / or missing parts must be recorded on the delivery note and the manufacturer notified in writing within seven days. **Please ensure:**

- The pipework should show no signs of damage
- The Fanset / motor terminals box lids are not cracked or showing signs of obvious damage
- The Electrical screw terminals in control panels and motor mountings should be checked for security.

3. Units are not portable and are only for permanent installation.

The units are delivered with a 1 bar holding charge (N2) which should be safely released through the schrader valve on the gas inlet header before removing the brazed header / manifold caps.

4. If the holding charge is not present the manufacturer should be contacted immediately.

Damage caused by incorrect installation / unit mis-handling will invalidate the manufacturers warranty

8. INSTALLATION AND LOCATION GUIDANCE

Before locating the unit in its final location, appropriate load calculations should be completed, taking into consideration functional unit load. This is to ensure its operating platform will withstand the units distributed weight. It is the responsibility of the installer to ensure that the relevant national building legislations are met and the operating surface is suitable to withstand the supplied condenser.

For efficient operation, the unit needs airflow to be unrestricted and inlet air to be at ambient temperature.
Units should be fixed securely via the feet / legs supplied. It is the responsibility to of the installer to ensure the unit is fixed in location.

Adjacent building styles, plant and prevailing winds can often cause air currents which, in turn can create down draughts, consequently forcing the discharge air back down into the air intake stream causing high air entering temperatures and subsequent loss of performance. Other adjacent plant, either requiring an air supply or dissipating air will affect the air flow onto the unit. To achieve unrestricted air at ambient temperature, it is necessary to avoid hazards such as:

- Local wind conditions causing warm outlet air to be mixed with the cool inlet.
- Inlet air entraining warm exhaust air from other equipment.
- Solar heat absorption from surrounding surfaces increasing the local ambient.
- Vertical coils should be shaded from the sun.

Adding effects together, it is not unusual for there to be a 5 K temperature increase in inlet air temperature over and above ambient. This obviously has a serious effect on the performance. Sound pressure levels away from the unit will be affected by its surrounding objects/obstructions such as solid walls resulting in higher than specified levels of sound pressure.

Vertical units with AC fan speeds <400 rpm are not available as wind can overcome the power of the motor, making it impossible to start. Detailed below are some guidelines for location and installation of the unit. These guidelines are applicable to flatbed and V bank units. It recommended to allow maximum distance wherever space is available.

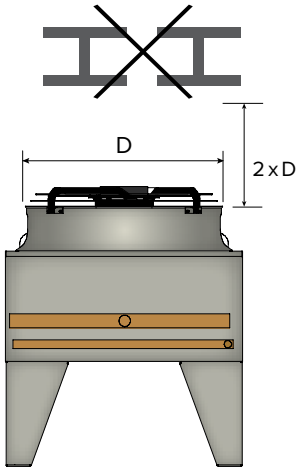
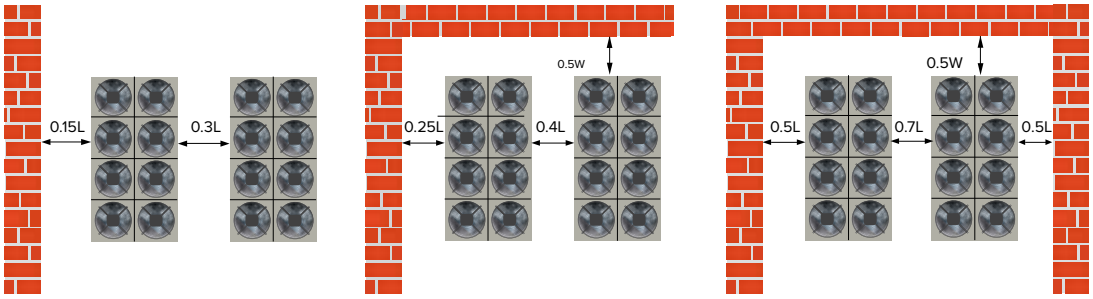


Fig 1
Avoid obstructions within 2 x diameter of the fan outlet



Solid wall | Solid obstructions along any two walls | Solid obstructions along 3 side of unit(s)

Fig 2

Recommended dimensions for location of units to avoid inlet or outlet restrictions objects such as walls. Extended legs offer a cost effective way to reduce warm air recirculation, reducing inlet flow velocities and increasing the average distance between warm and cool air.

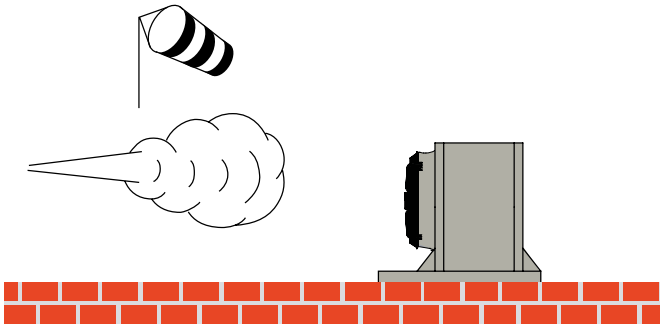


Fig 3

Avoid wind creating additional pressure for fans to work against, particularly at low speed - < 400 rpm.

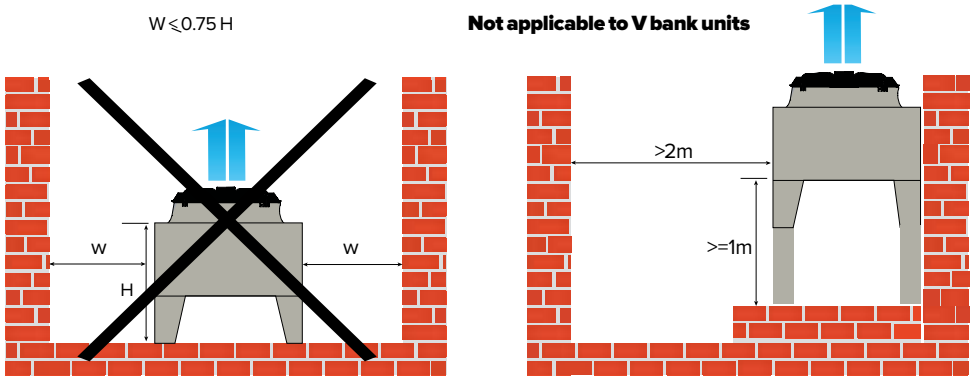
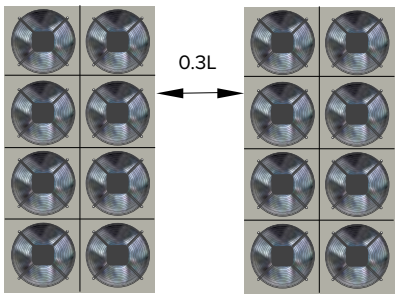


Fig 4

Avoid inlet air being drawn from above the height of the outlet.

Fig 5

Avoid outlet air pulled down between adjacent units



9. PIPEWORK

Pipework to and from the unit should be suitable for:

- Working fluid (guidance can be provided by Kelvion representative or pipe suppler)
- Atmospheric conditions
- Maximum operating pressure including relevant safety factor

Damage caused by incorrect installation will invalidate the manufacturer's warranty obligations.

Pipework to and from the condenser should be selected to suit the application and not the connection size of the unit. Pipework sizes should be selected to ensure pressure drop does not exceed an equivalent of 2K at full load conditions. Pipework should be supported independently from the condenser unit in a way that prevents the transmission of vibration to the units. A qualified engineer should install the refrigerant pipework to a high standard of refrigeration practice. All pipework used must be clean and to refrigeration quality, all cuts should be made using a pipe cutter, never a hacksaw, and care must be taken to remove all burrs and swarf.

Braze using silver bearing brazing rod and ensure that all joints are cleaned before brazing. During brazing care should be taken to ensure that all components near joints should not be excessively overheated, a wet cloth should be applied where necessary. Dry nitrogen should be passed through the pipework during brazing to minimise oxidisation

WARNING!

Use appropriate PPE (personal protection equipment) during pipework, refrigerant charging and commissioning. During brazing ensure the temperature of coils with vinyl coated fins does not exceed 150°C as toxic fumes would be produced

When brazing and leak testing are complete the suction line should be insulated with 3/4" thick Class 'O' insulation. The unit has been thoroughly tested during manufacture however after on site brazing is complete all pipework should be pressure tested for leaks to maximum of 1.3 capacity pressure

Be aware of the below hazards during pipework and refrigerant charging: In the event of injury, seek medical attention immediately.

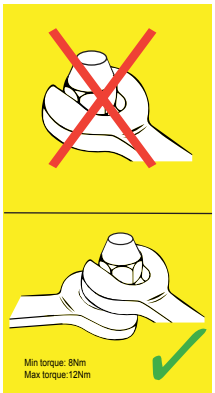
Frost burns

Heat burns

Cuts or Wounds

Inhalation

It is the responsibility of the installer to ensure piping to and from the condenser is suitable for the application, although guidance from your Kelvion representative can be provided. Unless otherwise specified, twin section units should be connected in parallel to each other, not in series; failure to do so will result in excessive fluid pressure drop and a corresponding loss in performance. All pipework and fittings should be pressure tested upon installation completion in accordance with relevant regulations or legislations. Any pressure test should not exceed the units' maximum operating pressure or the pressure rating of any safety devices.



10. EVACUATION

To avoid potential moisture related problems, it is necessary to evacuate the complete system to a minimum of 1 torr (1.33mbar). All parts of the system must be above freezing and ideally higher than +10°c during evacuation.

11. REFRIGERANT SUB-COOLING

For a system fitted with a liquid receiver to operate correctly, the receiver should be installed between the condensing and the sub-cooling sections. If no receiver is fitted, a liquid trap should be installed between the two sections.

NOTE: Without a liquid receiver, the degree of sub-cooling will vary with the refrigerant charge.

12. REFRIGERANTS

The refrigerant should be selected appropriately for the application and coordinated with any relevant regional or national regulatory requirements. The refrigerant should be specified when selecting the condenser to ensure appropriate materials are used and that circuit loading is optimised for the application (completed within the Kelvion Searle Product Selector).

Only qualified personnel should be involved with any refrigerant handling, inappropriate installation or failure to adhere to commonly accepted refrigeration practices will invalidate unit warranty.

Safety precautions should be taken when working with refrigerant in accordance with the qualified personnel's training. Specific information on the composition and relevant safety precautions will be available from the refrigerant supplier. Detailed information about its incorporation within Searle products can be obtained through contacting the product supplier; Kelvion contact details found at the end of the Installation and Maintenance Instructions.

13. FLUID COOLER APPLICATIONS - FLUID

- Ensure that the fluid to be used and any additives are compatible with the unit's construction.
- Fluid Cooler units are designed for use in closed systems, where the fluid is re-circulated.
- If the unit is to be used in an open system, extra care is required to prevent corrosion.

Fluid inhibitors may be required to prevent corrosion of system components. The fluid supplier should supply compatibility information with their fluid when incorporated with system components, including details of any required inhibitors. It is the responsibility of the installer to ensure the working fluid is compatible with any supplied products and that necessary precautions / preventative measures are taken to avoid product failure.

National legislation should be adhered to in relation to the supply, usage and eventual disposal of any working fluid

14. FLUID COOLER APPLICATIONS – FROST PROTECTION

Fluid coolers using water or water-based solutions must be protected by adding anti-freeze in sufficient concentration, as it is not possible to drain the system completely.

Note: The heat transfer properties of a fluid vary with the concentration of additives

15. ELECTRICAL INSTALLATION

ELECTRICAL VOLTAGE

1. Ensure that the power supply is isolated before any installation or maintenance work is carried out.
2. The voltage, working fluid and the maximum working pressure stated on the product nameplate is suitable for the operating conditions.

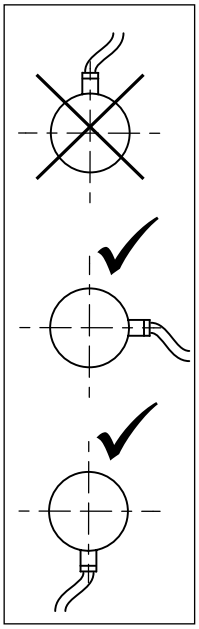
If residual current or earth leakage protection devices are to be used in the supply, appropriate sensitivity levels should be used. Up to 300 mA trip level may be required to avoid nuisance tripping, particularly with inverters. If greater protection is required then this can be provided for individual circuits.

If a control transformer is supplied as part of the equipment, ensure that the input taping is appropriate for the actual site voltage. Generally `cage clamp' type terminals are used. Pushing a correctly sized screwdriver into the square aperture adjacent to the conductor entry opens the terminal. It is the installer's responsibility to ensure cable entry is fit for purpose and that where appropriate cable support is applied. Care should be taken to ensure the box IP rating is not compromised by the electrical supply cable entry.

Conductors between 1 and 2.5mm^2 are accommodated. Where wiring is to a motors individual terminal box the facility for additional casework earth points are provided. When motor wiring is routed within the unit side covers, earth studs are provided under these covers for additional earth points on the casework. All AC single-phase motors have automatic internal overload protection, and can be used in conjunction with a high quality `triac' type speed controller. Some three phase AC motors are also fitted with internal thermostats, wired back to their terminal blocks (TK). Check that the fan rotation of 3 phase units is correct.

Reversing any two phases of the AC motor supply can change the rotation. Reversing two phases of the EC motors won't change the rotation. In optional AC fan Contactor boxes the fan contactors are energised through these auto-reset, normally closed, thermo¬stats. When internal thermostats are not used three phase motors MUST be protected against overload and single phasing. Overloads must be set to cut out at FLC + 10% (FLC + 15% at -30°C) Failure to comply will render motor warranties void.

Kelvion would recommend as general rule that each cable or group of cables will be supported at no greater than 500mm intervals; but if national legislation recommends otherwise this should be followed. Cable size is determined by the motor current, with the necessary deration for unit operating temperature. High Temperature cable is used where necessary. It is the responsibility of the installation contractor to ensure the complete installation is appropriately electrically tested according to national legislation.



Terminated Units

If no isolator specified on the unit it is the installers' responsibly to ensure appropriate isolation is incorporated within the system. With or without unit isolation; it is the installers' responsibility to provide over and short circuit protection for the installation.

Controls

Control options are supplied according to customer specification. Individual instructions are provided to guide the setting and use of control options. When a control option is specified, the unit will contain the necessary equipment to isolate and provide over current and short circuit protection for the unit.

Wiring Diagrams and Documentation

Wiring diagrams and other relevant documentation will either be supplied in the units' junction box or in a separately supplied documentation pack.

16. CONDENSERS WITH TRIAC OR INVERTER SPEED CONTROL

Care should be taken to ensure that external control wiring to units fitted with TRIAC speed control does not transfer electromagnetic interference to the unit.

This may require the fitting of a ferrite core or similar suppression components.
Phase cut / triac speed control can cause electromagnetic motor noises which can become dominant. This is likely to cause the actual sound pressure level to deviate from the claimed level or cause obtrusive peak frequencies within the sound spectrum.

If an inverte r other than supplied by Kelvion, is to be used it must be set for a "Square Law" voltage to frequency relationship without any energy saving function. To prevent the generation of audible noise a switching frequency of up to 15 kHz may be necessary.

- Mounting the inverter remotely from the unit may result in motor damage.
- A screened cable length of 5m (max.) is recommended.
- Terminations shall be as short as possible to avoid interference.

When using an inverter speed control, unless otherwise specified, it is mandatory to incorporate an all pole sinusoidal filter for external rotor fans. Further details can be obtained through your Kelvion representative. Default controller set points can be programmed at the factory / to customer request. However, it is advisable the installer calibrate control requirements upon commissioning of the equipment.

17. AC FANS

All AC fans have the thermal component connected and may be used as part of the control circuit to protect the motor.

Single Speed
AC fans which can be connected in star or delta depending on application requirements. (Ref. Fig. 1)
Dual Speed
On units suitable for two-speed (Delta/Star) operation speed selection is achieved by using changeover contactors or self-contained dual speed control units.

Note: Changeover contactors MUST be electrically and mechanically interlocked, with a changeover period greater than 50ms. (Ref. Fig. 2)

18. EC MOTORS

EBM and Ziehl-Abegg (ZA) fans are supplied by a 400Vac or 230Vac, 3-phase or single phase respectively via a MCB. Variable speed control is achieved by using the 0-10Vdc signal (Controller/ Temperature Sensor/Potentiometer). A 10Vdc output signal can be used as a control backup in an event of controller failure (fans run at full speed) is available at the fan terminals.

The status of the fan(s) can be monitored via its healthy contacts providing normally-open (NO) (EBM only) or normally-closed (NC) volt-free function. Kelvion normally connected to the NC terminals, with multiple fans connected in series.

EBM Fans

The configuration of the EBM fan is setup via a serial bus. Parameter such as maximum speed, direction function (if applicable) and address can be configured. An option of a 4-20mA signal (Pressure Transducer) is available at the fan terminals. A RS485 Interface (RSA/RSB) is available which has been designed for EBMBUS or MODBUS communication with single or group of fan sets. (Ref. Fig. 3) Fans other than EBMBUS have a function for Reverse Rotation controllable by an external volt free contact or optional Time Switch. (Ref. Fig. 4)

Ziehl-Abegg (ZA) Fans

The Ziehl-Abegg (ZA) fans have the following control options: 0-10V Speed control; Reverse Rotation and contacts to indicate healthy operation which are normally-closed (NC). The ZA fan can be configured by using a plug-in module. The maximum speed and function of discrete input can be setup. Serial addressing of each fan can be enabled by using a serial module (not currently supported by Kelvion (Ref. Fig. 5)

EBMBUS EC Fan Terminals (AI FANS ONLY)

KL3 (Controls)												KL2 (Healthy)			KL1 (Power)			
RSA	RSB	RSA	RSB	GND	0-10V	4-20mA	+20V	+10V	0-10V	GND	OUT	NO	COM	NC	PE	L1	L2	L3

EBM MODBUS RTU EC Fan Terminals

KL3 (Controls)							KL2 (Healthy)			KL1 (Power)			
Din2	Din3	GND	Ain2 U	+20V	Ain2 I	Aout	NO	COM	NC	PE	L1	L2	L3
RSA	RSBB	GND	Ain1 U	+10V	Ain1 I	Din1							

Zeihl-Abegg EC Blue Fan Terminals

Controls					Alarm Relay		Power			
+24V	+10V	GND	D1	E1	11	14	PE	L1	L2	L3

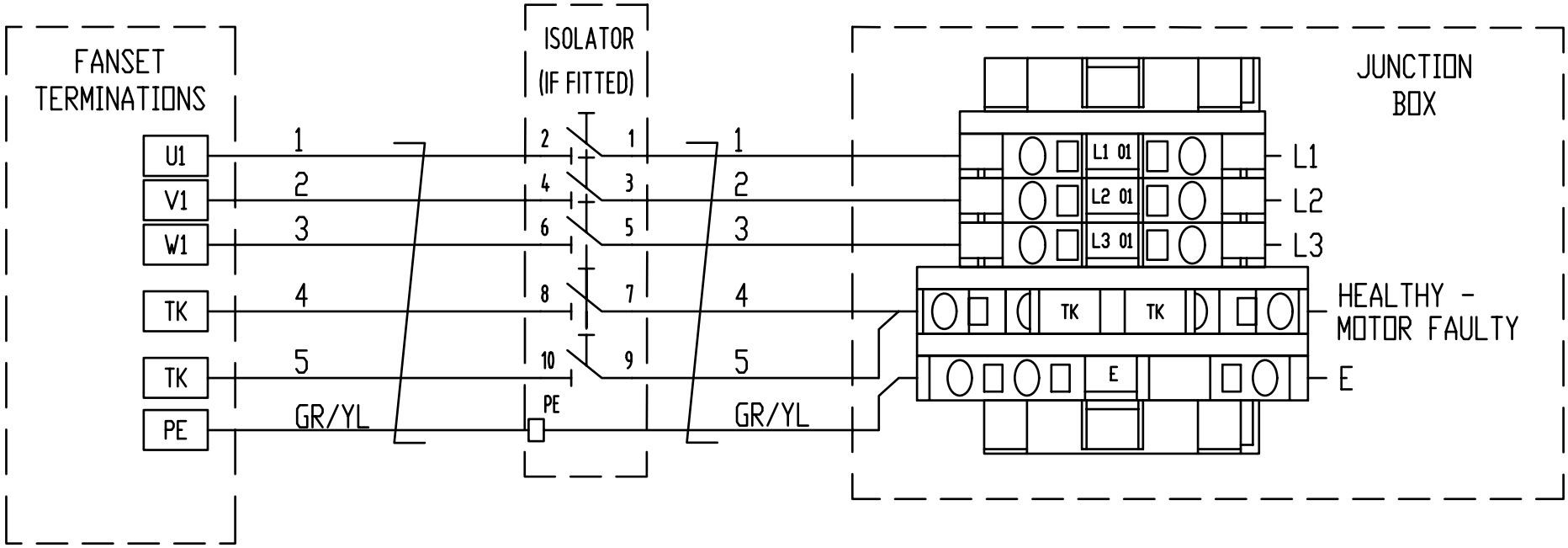
Connections used in standard Kelvion EC wiring arrangement.

Function	Fanset Terminals		
	EC EBM Mobus	EC EBM MODBUS-RTU	ZIEHL-ABEGG ECBlue
Main Supply	L1/ L2/ L3/ PE	L1/ L2/ L3/ PE or L1/ N/ PE	L1/ L2 /L3 /PE or L1/ N/ PE
Fan Status	COM/NC	COM/NC	Nov-14
Bus Communication	RSA/RSB	Not connected	Not available
20/24V Output For Services	Not connected	+20V	+24V
10V Output For Services	+10V	Not connected	Not connected
0-10V Speed Control	0-10V	Ain1 U	E1
4-20mA Speed Control	Not connected	Not connected	Not connected
Ground/0V	GND	GND	GND
Reverse Rotation	N/A	Din2	D1

19. INITIAL STARTING

Before running the unit for the first time, check that all guards, motor mountings and electrical covers are secure, all unnecessary terminal block links are removed and fans rotate freely. Remove any lifting channels. Check that the fan rotation of 3 phase units is correct.

Note: Reversing any two phases of the motor supply will change the rotation (AC fan sets only).

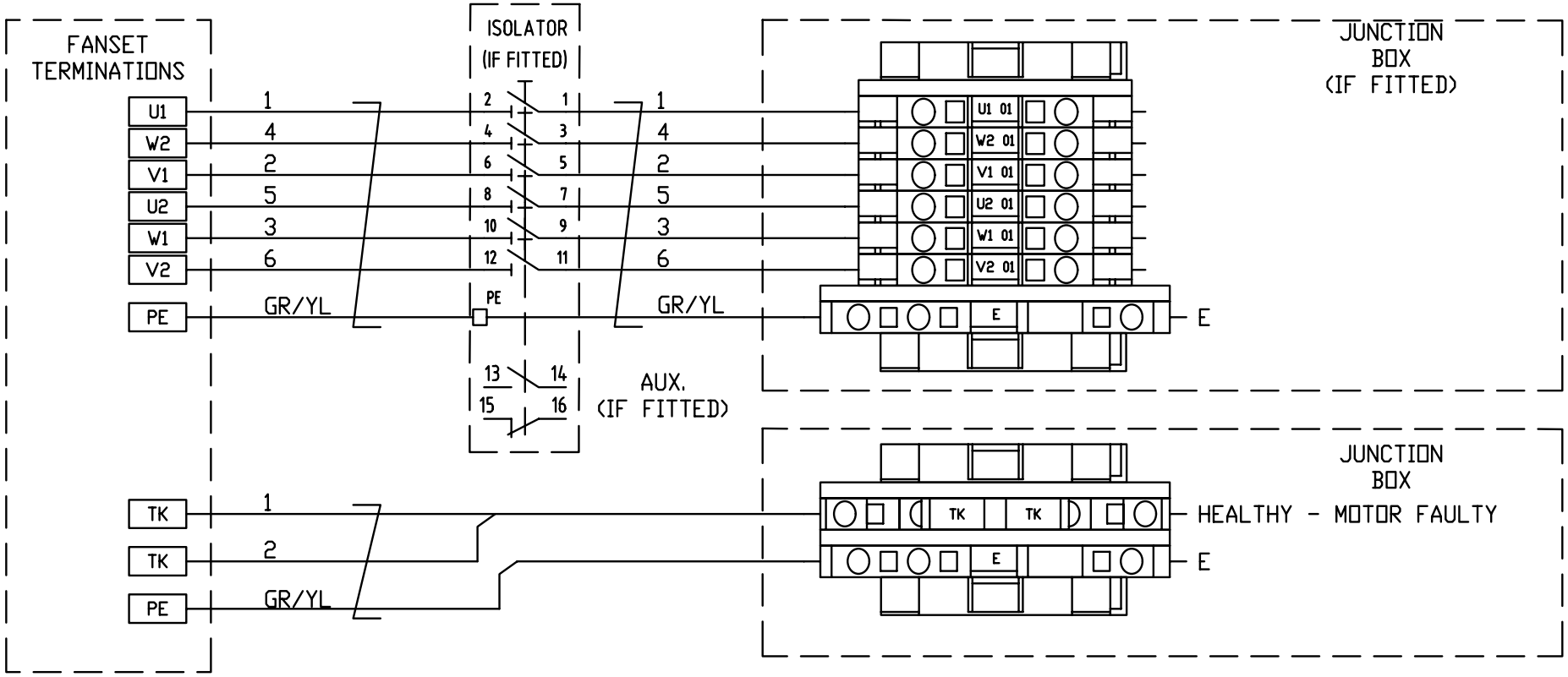


AC SINGLE SPEED
(USE ON AC_06_JB/ AC_10_JB)
271-115-400.01.DWG

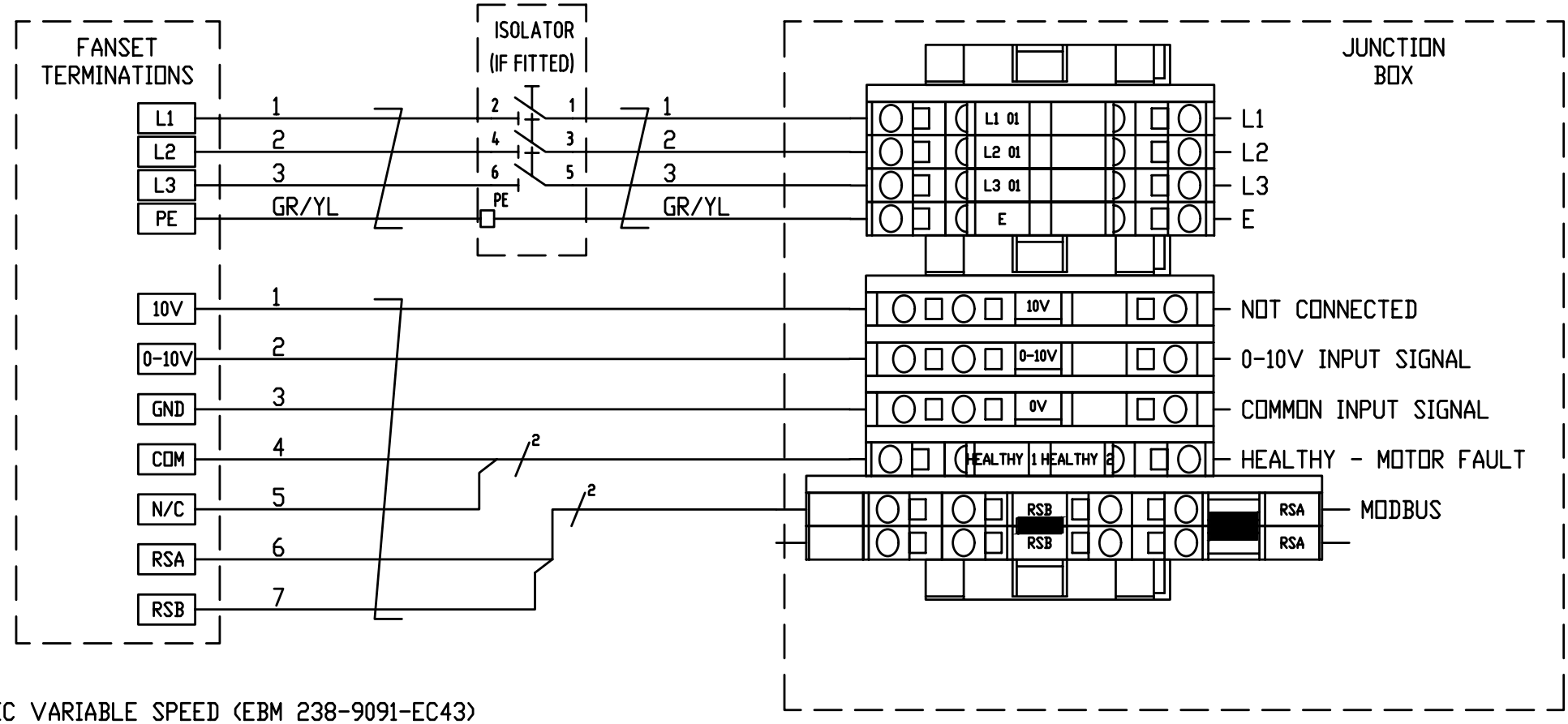
(Fig 1)

Kelvion

(Fig 2)



AC DUAL SPEED
271-115-401.01.DWG

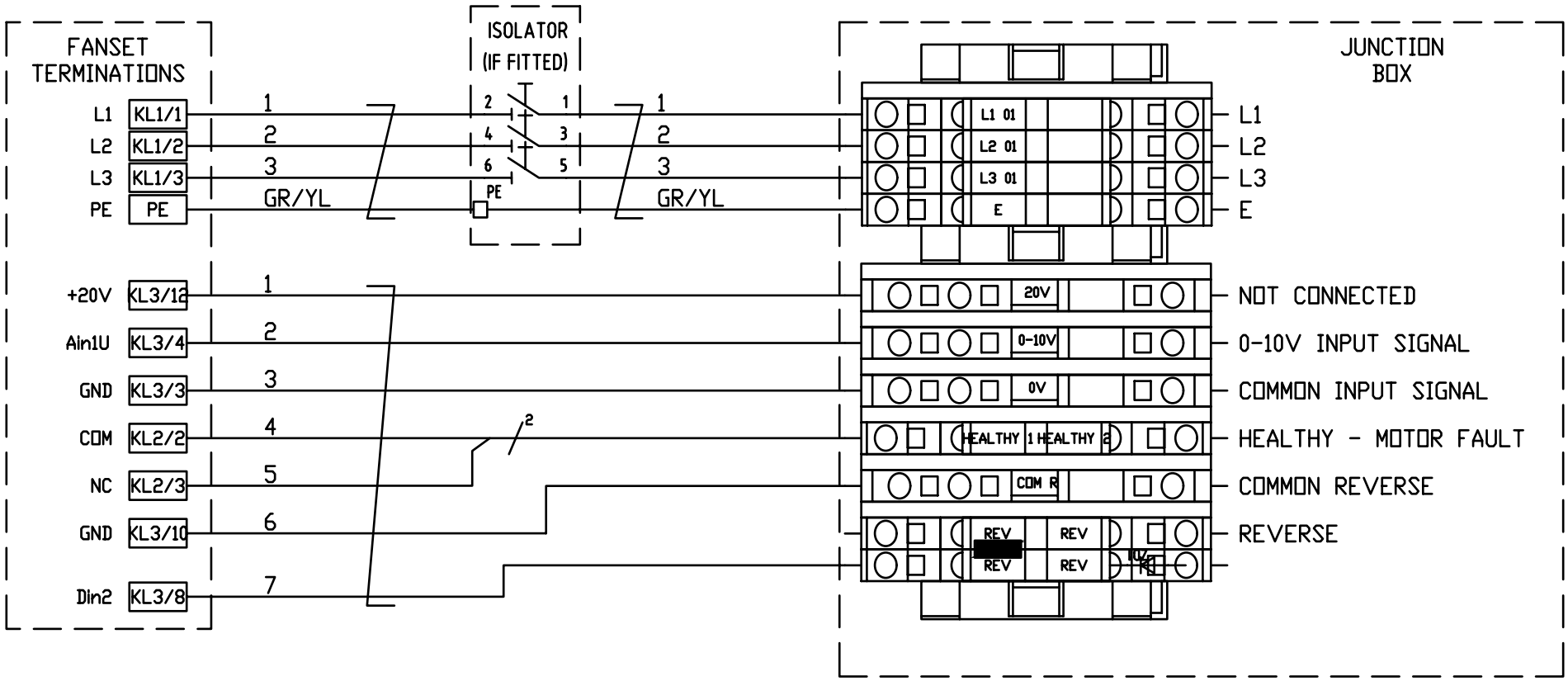


EC VARIABLE SPEED (EBM 238-9091-EC43)
(USE ON EC_06_JB/ EC_10_JB)
271-115-402.01.DWG

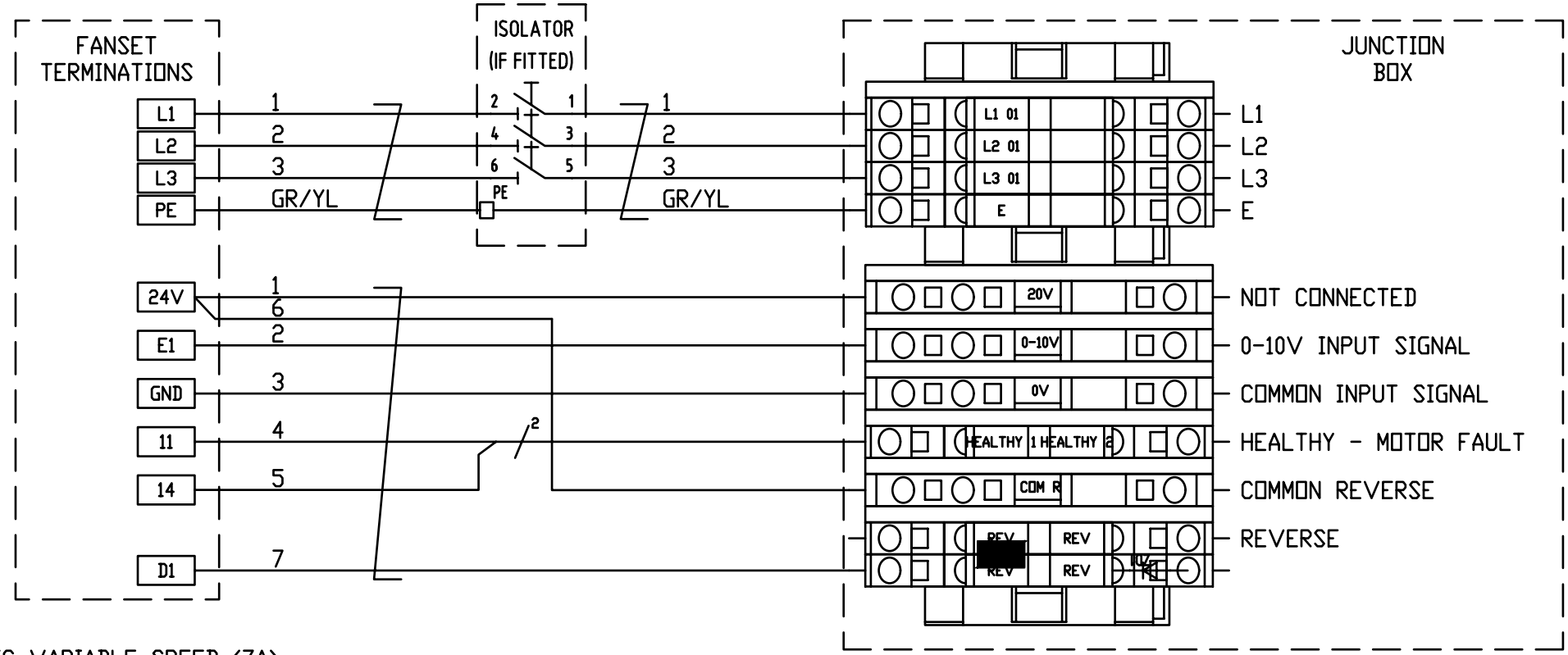
(Fig 3)

Kelvion

(Fig 4)



EC VARIABLE SPEED (EBM 238-8091-EC43)
(USE ON EC_06_JB/ EC_10_JB)
271-115-403.01.DWG



EC VARIABLE SPEED (ZA)
(USE ON EC_06_JB/ EC_10_JB)
271-115-404.01.DWG

(Fig 5)

Kelvion

20. MAINTENANCE

WARNING!

The Unit must be Electrically Isolated before certain Maintenance Work is undertaken.

Appropriate PPE should be worn when performing maintenance procedures, adhering to specific site requirements as appropriate. Any repairs to the condensers or dry cooler should be undertaken by suitably qualified personal and relevant national regulations should be adhered to, specifically with regards to handling of working fluids and brazing. If any advice or guidance is required with regards to failure or repairs of Searle supplied product please contact your local representative. Regular attention should be paid to the system operating requirements to ensure that the operating parameters are within the products/system specifications.

Every month check:

- Fan motors must be operated for at least 2 hours every month to prevent possible fan set failure
- Coil condition, i.e clogging

Every 12 months check:

- Security of fixings especially fan motor mountings.
- Refrigerant fluid pipework for damage and leaks.
- Motor(s) rotate freely.
- Electrical connections for security of attachment. Check all external surfaces annually for any corrosion or peeling. Clean any affected area thoroughly with a wire brush, apply a coat of zinc primer and retouch with a suitable finishing paint.

When necessary:

Clean the fins, guards and general casework. Care must be taken when cleaning the fins to prevent damage. A soft brush and mild detergent solution is recommended.

The following routine annual maintenance is recommended:

- Check security of fixings especially fan motor mountings.
- Check refrigerant pipeline for damage and leaks.
- Check all motors rotate freely.
- Check electrical connections for security of attachment.
- Check heat exchanger coil for build upbuild-up of debris or soiling.
- Check all external surfaces annually for any corrosion or peeling.- cleaning any affected area thoroughly with a wire brush before applying a zinc primer to the area and complete with an appropriate finishing paint.
- Clean any affected area thoroughly with a wire brush, apply a coat of zinc primer and retouch with a suitable finishing paint.
- On belt drive units, every month check belt tension and wear.
- On completion of work ensure all objects are removed from the unit.
- Only original spare parts should be used if replacing failed components.

Component Replacement

Pressure Transducer/ Pressure switches
When removing the pressure devices safety goggles and gloves must be worn.

When starting the necessary maintenance routine please be aware of the following hazards

Explosion risk

Keep the risk area free from any ignition sources

Electrical voltage

The power supply is isolated before any installation or maintenance work is carried out.

21. COIL CLEANING

It is essential that the heat exchanger coil is kept clean to maintain the designed heat transfer rate and help to ensure the units life cycle meets expectations. General debris such as leaves, paper, dust and pollen can be removed using a brush, with compressed air blowing against direction of airflow (Max pressure 3bar) or an industrial vacuum cleaner.

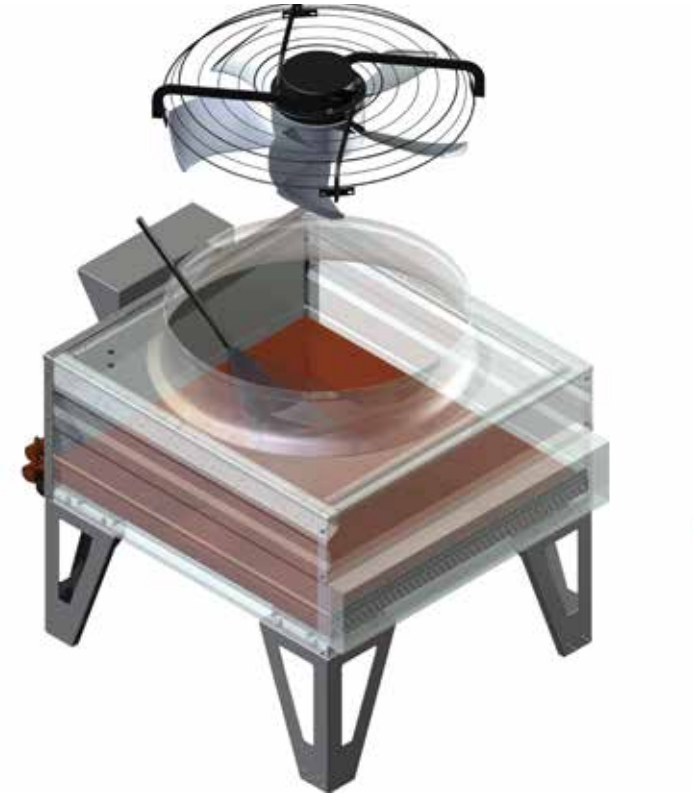
The fin should be brushed in the longitudinal direction of the fins with a soft brush.
If using EC fans, it is possible to reverse these using the designated input signal to the fan set (view unit specific wiring diagram). The fans will operate as per the 0 – 10 V input signal. To move as much debris as possible, it is advisable to run the fans at the maximum speed the application noise level will allow. For what this voltage will be, with respect to the unit noise level please contact your local Kelvion representative. The fans do not need to operate in reverse for longer than 2 minutes to move large debris and some lightly applied particles on the fin surface.

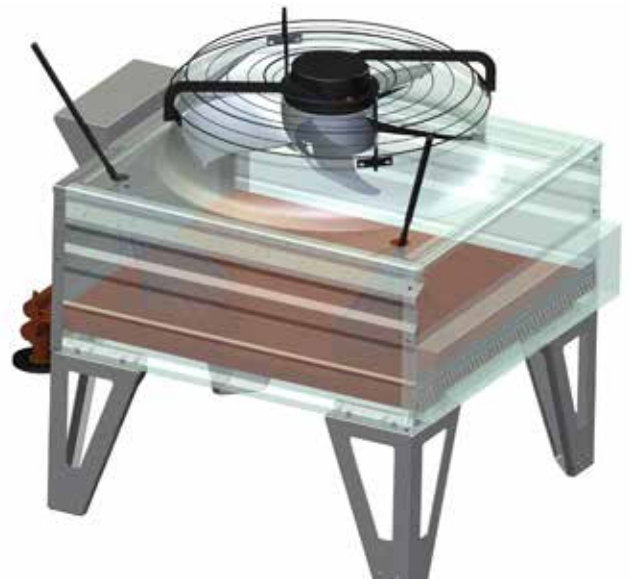
Heavier fouling must be removed using a pressure water/steam jet washer (Max pressure 3bar) against direction of airflow, at a distance of 300 to 400mm using a neutral cleaning agent if required. The spray should be even across the coil face and as with a brush, applied in a longitudinal direction across the fins.

The jet of the cleaner should be held vertical to the fin bank to avoid fin damage.
Any cleaning fluids should be suitable for use on both tube and fin materials, incorrect use of fluids could be corrosive towards heat exchanger materials. For clarification of specific cleaning fluids, please contact your local Kelvion representative who will be able to provide specific guidance on the acceptability of the working fluid.
General Cleaning Steps

- Reverse fans daily for up to 2 minutes to remove large debris
- Check coil at regular intervals for any large debris which has not been move. Using a soft brush, in the direction of the fins, gently remove this debris
- Approximately every 6 months, from the air off face of the coil, a water jet, possibly with a suitable cleaning agent, should be applied to help remove any debris that have progressed inwards of the air on face of the heat exchanger

If there are concerns that debris remain within the coil, or there are signs that the above steps have not fully removed fouling, then please contact Kelvion directly for further guidance.





22. STANDARDS

- 97/23/EC Pressure Equipment Directive
- 2006/42/EC Machinery Directive
- En 378; Parts 1 to 4; “Refrigeration systems and heat pumps, technical safety and environmental requirements”
- 2006/95/EC Low Voltage Directive
- EN60204-1: 1999 Safety of machinery-Electrical equipment of machines
- BS EN 61032: 1998 Protection of persons and equipment by enclosures, Probes for verification (propeller fan units)
- BS EN13857:2008 Safety of machinery- Safety distances to prevent hazard zones being reached by the upper and lower limbs.

23. INVALIDATION OF GUARANTEE

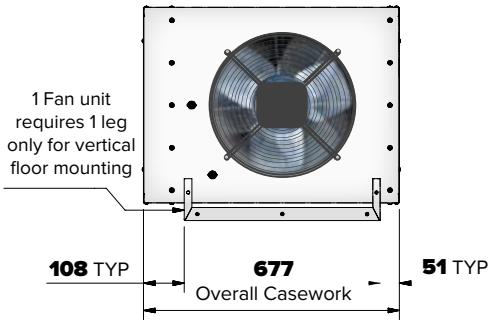
Kelvion accepts no liability according to Kelvion’s terms and conditions of sale, or for loss or damage arising as a result of:

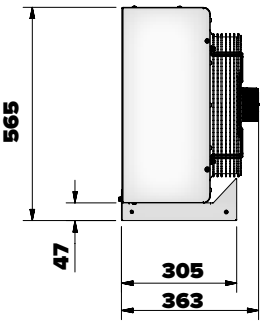
1. Failure to install set up or put to work any part of the equipment in the manner specified in the Installation and Maintenance Instructions
2. Failure to maintain the equipment in the manner specified in the Installation and Maintenance Instructions
3. Replacement parts, additional parts or accessories manufactured by persons other than Kelvion having been incorporated into, or attached to the equipment.
4. The equipment having been adapted for use, operated or used in such a way as does conform to Kelvion’s recommendation.

Kelvion

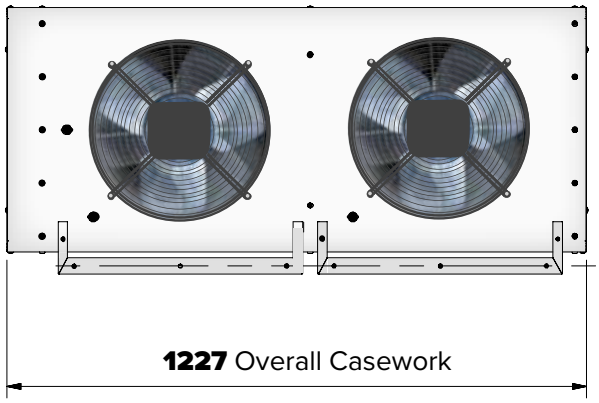
MSA - Vertical Dimensions

MSA 112, 113 & 114

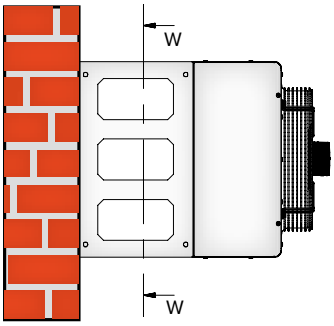




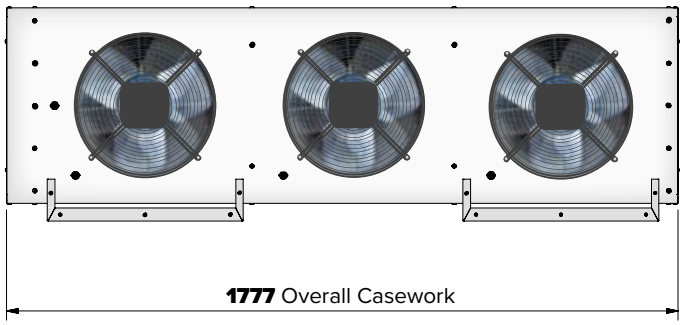
MSA 122,1 23, 124



Wall mounted operation



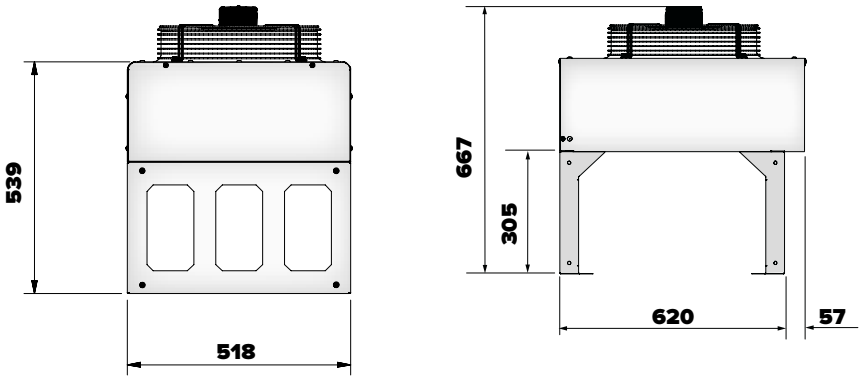
MSA 132, 133, 134

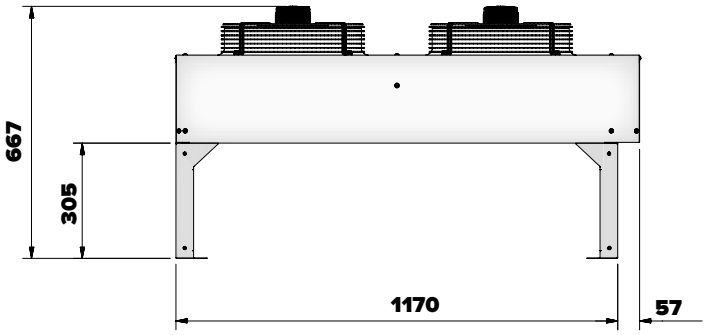


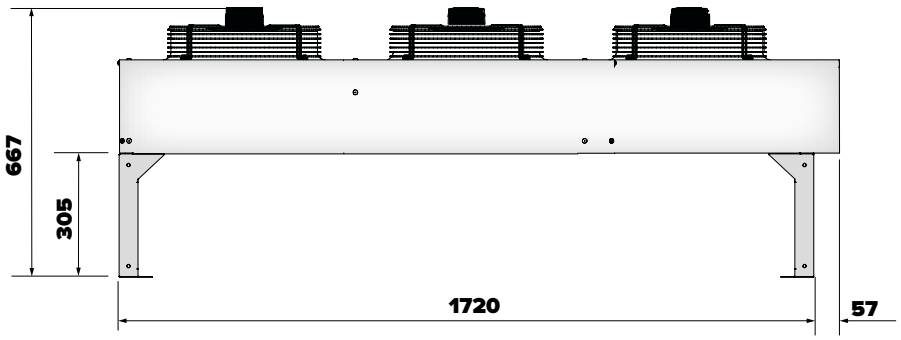
Model	Dim A mm	Dim B mm
MSA 112, 113, 114	570	N/A
MSA 122, 123, 124	1120	100
MSA 132, 133, 134	1670	650

Note: All dimensions in mm

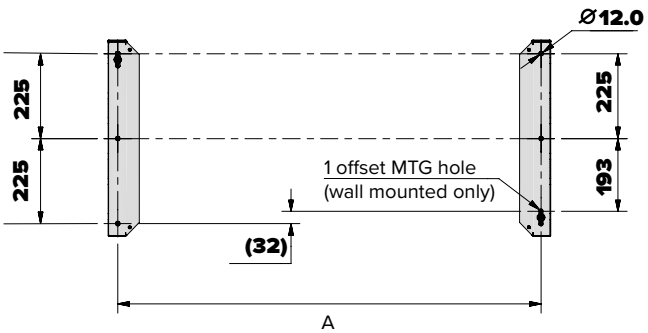
MSA - Horizontal Dimensions



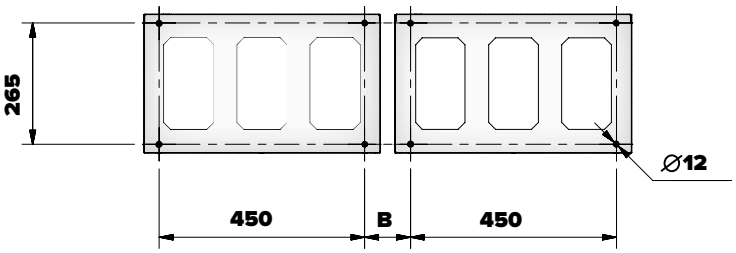




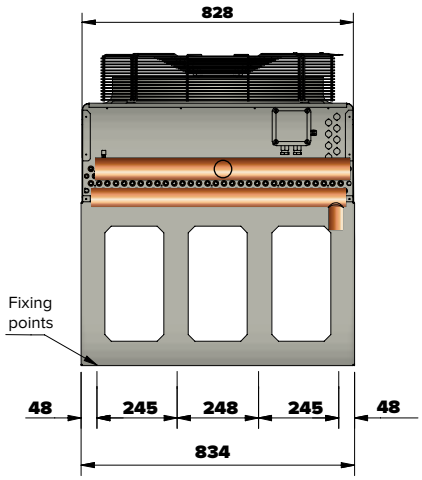
Wall & Horizontal floor mounted footprint



Vertical floor mounted footprint



Kelvion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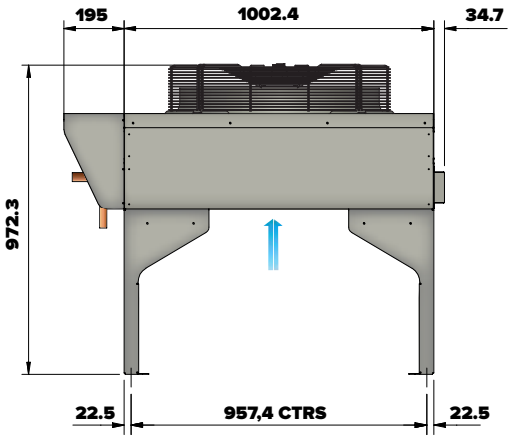
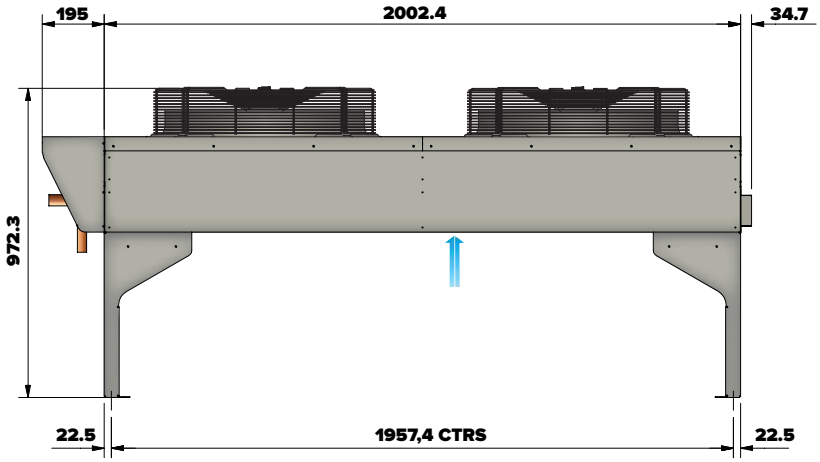
Fixing points
48
245
248
245
48
834


195
1002.4
34.7
972.3
22.5
957,4 CTRS
22.5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1957,4 CTRS
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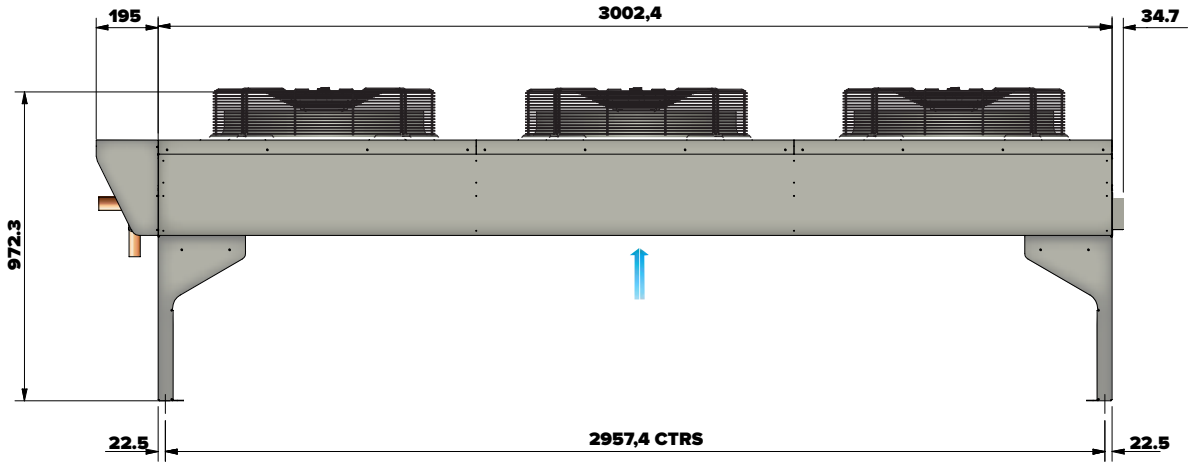
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2957,4 CTRS
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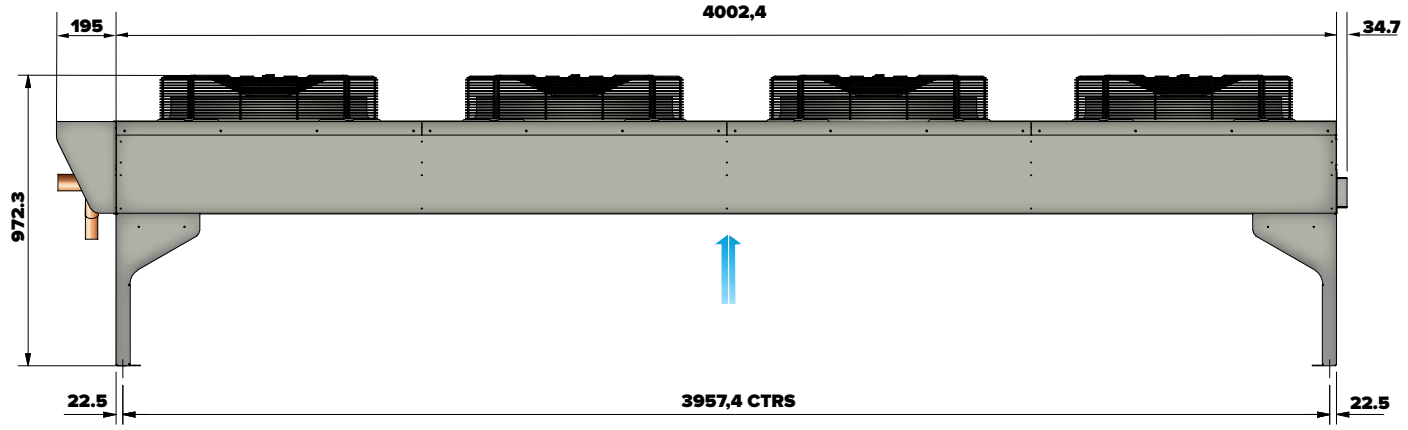
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4002,4
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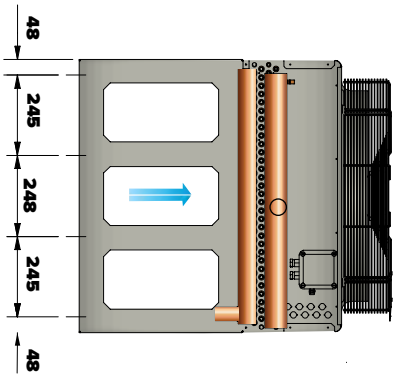
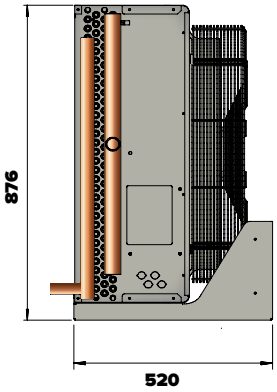
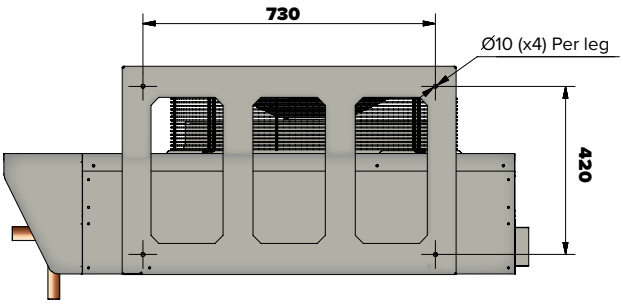
3957,4 CTRS
22.5

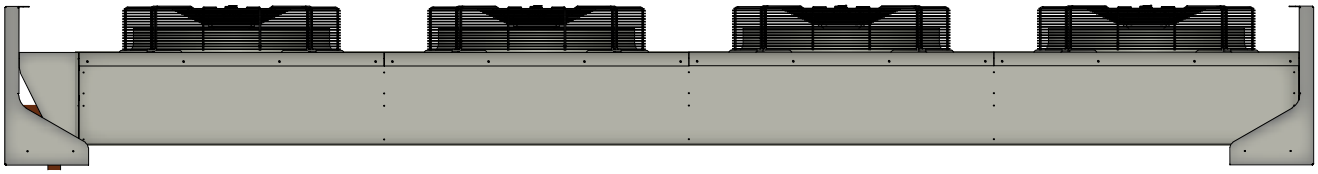
Vertical Dimensions





Transport Assembly



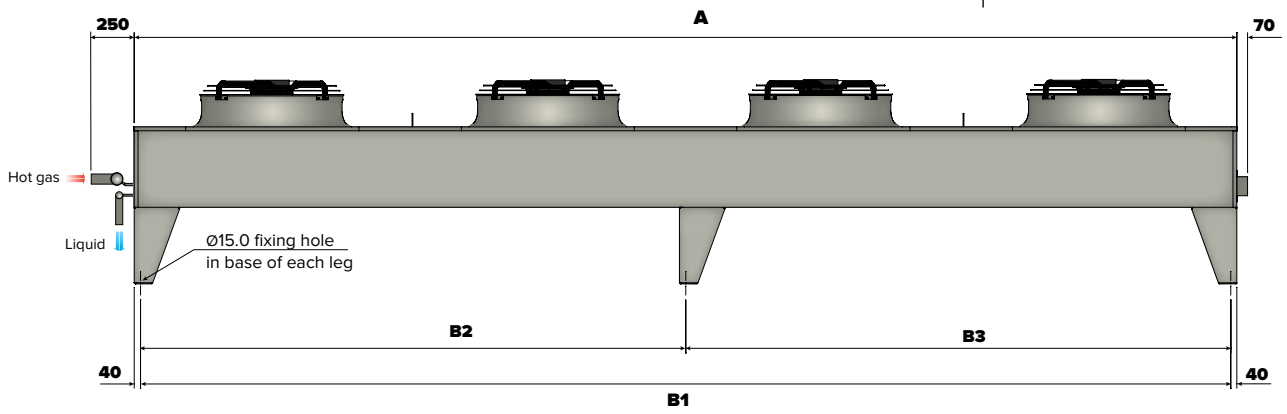


Unit	Fan per row	Total Unit Dry Weight (Approx)	
		AL (kg)	CU (kg)
R/LF/L-SJ101L2	1	64 - 79	75-90
R/LF-SJ101L3	1	71 - 86	87-102
R/LF-SJ101L4	1	77 - 92	99-103
R/LF-SJ102L2	2	82-101	104-123
R/LF-SJ102L3	2	95-114	128-147
R/LF-SJ102L4	2	99-118	151-170
R/LF-SJ103L2	3	100-123	133-156
R/LF-SJ103L3	3	119-142	169-192
R/LF-SJ103L4	3	138-161	204-227
R/LF-SJ104L2	4	119-146	163-190
R/LF-SJ104L3	4	145-172	211-238
R/LF-SJ104L4	4	170-197	258-285

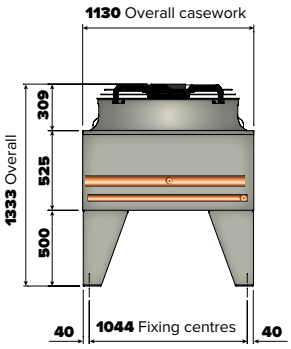
RF/LF/NF/GF Dimensions

Unit	Module	Fan per banks	Dim A	Dim B1	Dim B2	Dim B3	Total Unit Dry Weight (Approx)							
							M*		N*		P1*		P2*	
							Al	Cu	Al	Cu	Al	Cu	Al	Cu
							kg	kg	kg	kg	kg	kg	kg	kg
_F_A_01T2	1200	1	1203	1123			214	239	258	294	315	366	365	416
_F_A_01T3	1200	1	1203	1123			226	265	276	330	340	416	390	466
_F_A_01T4	1200	1	1203	1123			239	290	293	366	365	467	415	517
_F_A_02T2	1200	2	2403	2323			369	421	454	526	552	655	649	752
_F_A_02T3	1200	2	2403	2323			394	471	489	597	685	756	699	853
_F_A_02T4	1200	2	2403	2323			419	522	524	669	652	857	749	954
_F_A_03T2	1200	3	3603	3523			525	602	650	758	790	944	934	1088
_F_A_03T3	1200	3	3603	3523			562	678	702	865	865	1095	1009	1239
_F_A_03T4	1200	3	3603	3523			600	753	755	972	939	1247	1083	1391
_F_A_04T2	1200	4	4803	4723			574	676	738	883	921	1126	1112	1316
_F_A_04T3	1200	4	4803	4723			624	777	808	1025	1020	1328	1211	1518
_F_A_04T4	1200	4	4803	4723			673	878	879	1168	1120	1529	1310	1720
_F_A_05T2	1200	5	6003	5923			695	823	900	1081	1124	1381	1362	1618
_F_A_05T3	1200	5	6003	5923			758	950	988	1259	1249	1633	1486	1871
_F_A_05T4	1200	5	6003	5923			820	1076	1075	1437	1373	1885	1611	2123
_F_A_06T2	1200	6	7203	7123	3562	3561	827	971	1061	1278	1328	1635	1613	1920
_F_A_06T3	1200	6	7203	7123	3562	3561	891	1122	1167	1492	1477	1938	1762	2223
_F_A_06T4	1200	6	7203	7123	3562	3561	966	1273	1272	1706	1626	2241	1911	2525
_F_A_07T2	1200	7	8403	8323	3562	4761	969	1149	1254	1507	1562	1921	1895	2254
_F_A_07T3	1200	7	8403	8323	3562	4761	1056	1325	1376	1756	1736	2274	2069	2607
_F_A_07T4	1200	7	8403	8323	3562	4761	1143	1502	1499	2005	1910	2627	2243	2960
_F_A_08T2	1200	8	9603	9523	4762	4761	1091	1296	1415	1705	1766	2176	2146	2555
_F_A_08T3	1200	8	9603	9523	4762	4761	1190	1497	1555	1989	1964	2579	2344	2959
_F_A_08T4	1200	8	9603	9523	4762	4761	1289	1699	1696	2274	2163	2982	2543	3362
_F_A_09T2	1200	9	10803	10723	4762	5961	1212	1443	1577	1902	1969	2430	2396	2857
_F_A_09T3	1200	9	10803	10723	4762	5961	1324	1670	1734	2223	2193	2884	2619	3311
_F_A_09T4	1200	9	10803	10723	4762	5961	1436	1897	1892	2543	2416	3338	2843	3765
_F_A_10T2	1200	10	12003	11923	5962	5961	1334	1590	1738	2100	2173	2685	2646	3159
_F_A_10T3	1200	10	12003	11923	5962	5961	1458	1842	1913	2456	2421	3189	2895	3663
_F_A_10T4	1200	10	12003	11923	5962	5961	1582	2094	2089	2812	2669	3694	3143	4167
_F_B_01T2	1500	1	1503	1423			233	265	281	327	353	417	405	469
_F_B_01T3	1500	1	1503	1423			248	296	303	371	384	480	436	532
_F_B_01T4	1500	1	1503	1423			264	328	326	416	415	543	467	595
_F_B_02T2	1500	2	3003	2923			408	472	500	591	629	757	729	857
_F_B_02T3	1500	2	3003	2923			439	535	544	680	691	883	791	983
_F_B_02T4	1500	2	3003	2923			470	598	588	769	753	1009	853	1110
_F_B_03T2	1500	3	4503	4423			454	550	591	727	776	968	925	1117
_F_B_03T3	1500	3	4503	4423			501	645	657	861	870	1158	1019	1307
_F_B_03T4	1500	3	4503	4423			547	740	723	994	963	1347	1112	1496
_F_B_04T2	1500	4	6003	5923			616	744	797	978	1039	1295	1237	1493
_F_B_04T3	1500	4	6003	5923			678	870	885	1156	1163	1548	1361	1745
_F_B_04T4	1500	4	6003	5923			740	997	973	1334	1288	1800	1485	1998
_F_B_05T2	1500	5	7503	7423	2962	4461	748	908	974	1200	1272	1592	1519	1839
_F_B_05T3	1500	5	7503	7423	2962	4461	826	1066	1083	1422	1428	1908	1674	2154
_F_B_05T4	1500	5	7503	7423	2962	4461	903	1224	1193	1645	1583	2223	1829	2469
_F_B_06T2	1500	6	9003	8923	4462	4461	880	1073	1150	1421	1505	1890	1800	2185
_F_B_06T3	1500	6	9003	8923	4462	4461	913	1262	1282	1688	1692	2268	1987	2563
_F_B_06T4	1500	6	9003	8923	4462	4461	1066	1451	1413	1956	1878	2646	2173	2941
_F_B_07T2	1500	7	10503	10423	4462	5961	1043	1267	1357	1674	1769	2218	2114	2562
_F_B_07T3	1500	7	10503	10423	4462	5961	1152	1488	15111	1985	1987	2659	2331	3004
_F_B_07T4	1500	7	10503	10423	4462	5961	1260	1709	1664	2297	2204	3100	2549	3445
_F_B_08T2	1500	8	12003	11923	5962	5961	1175	1431	1534	1895	2002	2515	2396	2908
_F_B_08T3	1500	8	12003	11923	5962	5961	1299	1684	1709	2251	2251	3019	2664	3413
_F_B_08T4	1500	8	12003	11923	5962	5961	1423	1936	1884	2607	2499	3524	3413	3917
_F_C_01T2	1800	1	1803	1723			252	290	305	359	357	433	410	487
_F_C_01T3	1800	1	1803	1723			271	328	331	413	394	509	447	562
_F_C_01T4	1800	1	1803	1723			289	366	358	466	431	585	485	638
_F_C_02T2	1800	2	3603	3523			446	523	547	656	636	790	740	893
_F_C_02T3	1800	2	3603	3523			483	599	600	763	711	941	814	1045
_F_C_02T4	1800	2	3603	3523			521	674	652	869	785	1093	889	1196
_F_C_03T2	1800	3	5403	5323			486	601	636	798	762	992	916	1146
_F_C_03T3	1800	3	5403	5323			542	715	715	959	874	1219	1027	1373
_F_C_03T4	1800	3	5403	5323			598	828	794	1119	985	1446	1139	1600
_F_C_04T2	1800	4	7203	7123	3562	3561	659	812	857	1074	1020	1327	1224	1531
_F_C_04T3	1800	4	7203	7123	3562	3561	733	964	962	1287	1169	1630	1373	1834
_F_C_04T4	1800	4	7203	7123	3562	3561	807	1115	1067	1501	1318	1933	1522	2137
_F_C_05T2	1800	5	9003	8923	3562	5361	801	993	1048	1319	1248	1633	1502	1887
_F_C_05T3	1800	5	9003	8923	3562	5361	894	1182	1179	1586	1435	2011	1689	2265
_F_C_05T4	1800	5	9003	8923	3562	5361	987	1372	1311	1853	1621	2389	1875	2643
_F_C_06T2	1800	6	10803	10723	5362	5361	974	1204	1269	1594	1507	1968	1811	2272
_F_C_06T3	1800	6	10803	10723	5362	5361	1085	1431	1426	1915	1730	2421	2034	2726
_F_C_06T4	1800	6	10803	10723	5362	5361	1197	1658	1584	2235	1953	2875	2258	3180
_F_D_01T2	2100	1	2103	2023			271	316	328	454	395	484	450	539
_F_D_01T3	2100	1	2103	2023			293	360	359	454	438	573	493	628
_F_D_01T4	2100	1	2103	2023			404	404	390	516	482	661	537	716
_F_D_02T2	2100	2	4203	4123			365	454	474	601	593	772	699	879
_F_D_02T3	2100	2	4203	4123			408	542	536	725	350	949	786	1055
_F_D_02T4	2100	2	4203	4123			631	631	597	850	767	1125	873	1232
_F_D_03T2	2100	3	6303	6223			577	712	740	930	910	1179	1069	1338
_F_D_03T3	2100	3	6303	6223			643	844	832	1117	1041	1444	1199	1602
_F_D_03T4	2100	3	6303	6223			977	977	924	10304	1171	1709	1330	1861
_F_D_04T2	2100	4	8403	8323	4162	4161	731	910	946	1199	1168	1527	1378	1737
_F_D_04T3	2100	4	8403	8323	4162	4161	818	1087	1068	1448	1342	1880	1552	2090
_F_D_04T4	2100	4	8403	8323	4162	4161	1263	1263	1191	1697	1516	2233	1726	2443
_F_D_05T2	2100	5	10503	10423	4162	6261	884	1108	1152	1468	1426	1874	1688	2136
_F_D_05T4	2100	5	10503	10423	4162	6261	993	1329	1305	1780	1643	2316	1905	2578
_F_D_05T3	2100	5	10503	10423	4162	6261	1549	1549	458	2091	1861	2757	2122	3019

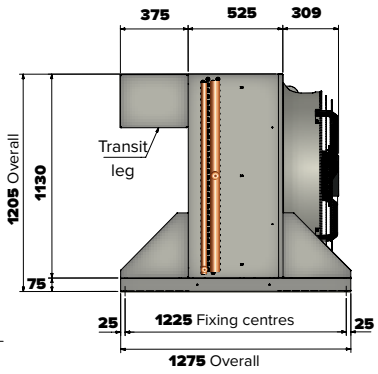
Note: M*, N*, P1* = 1 bank of fans. P2* = 2 banks of fans.



M



M vertical



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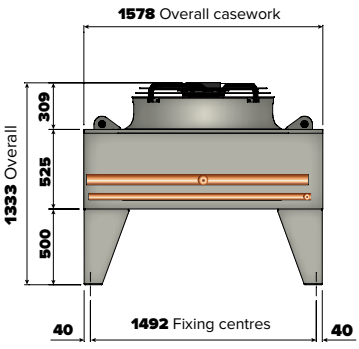
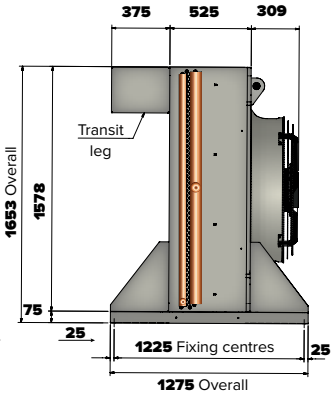
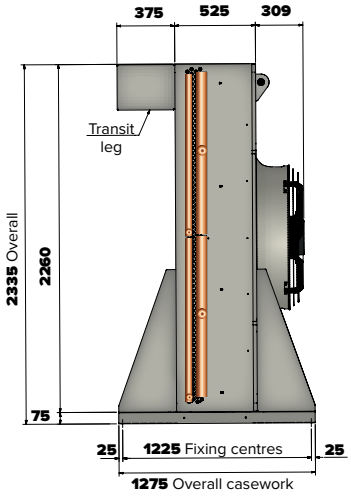


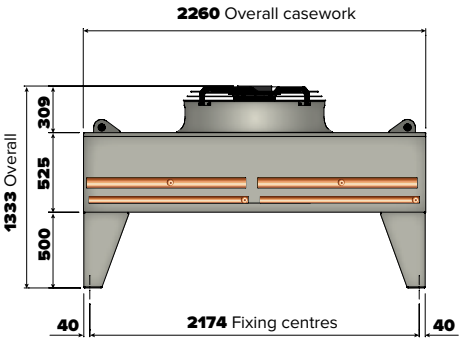
N vertical



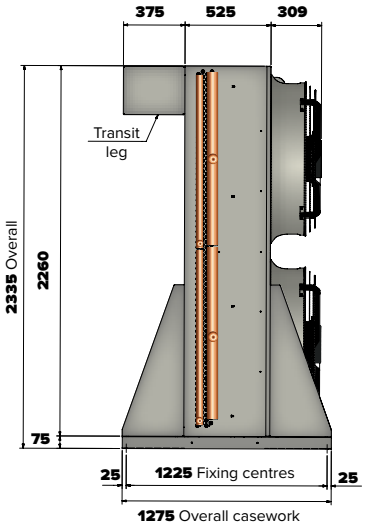
P-1 vertical



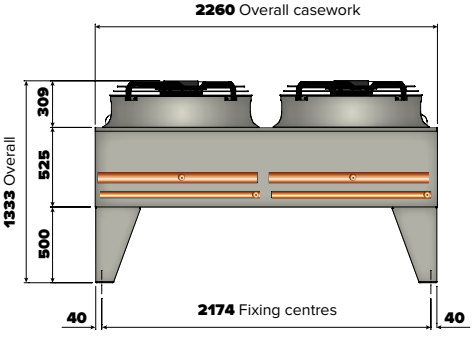
P-1



P-2 vertical



P-2



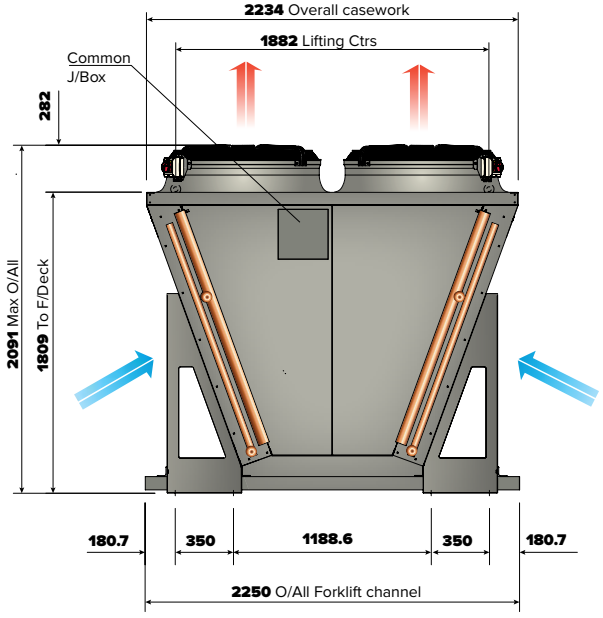
Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

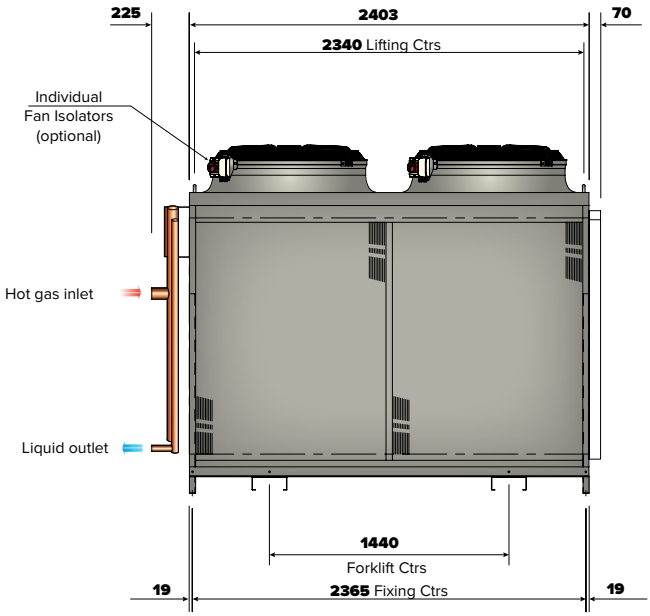
Kelvion

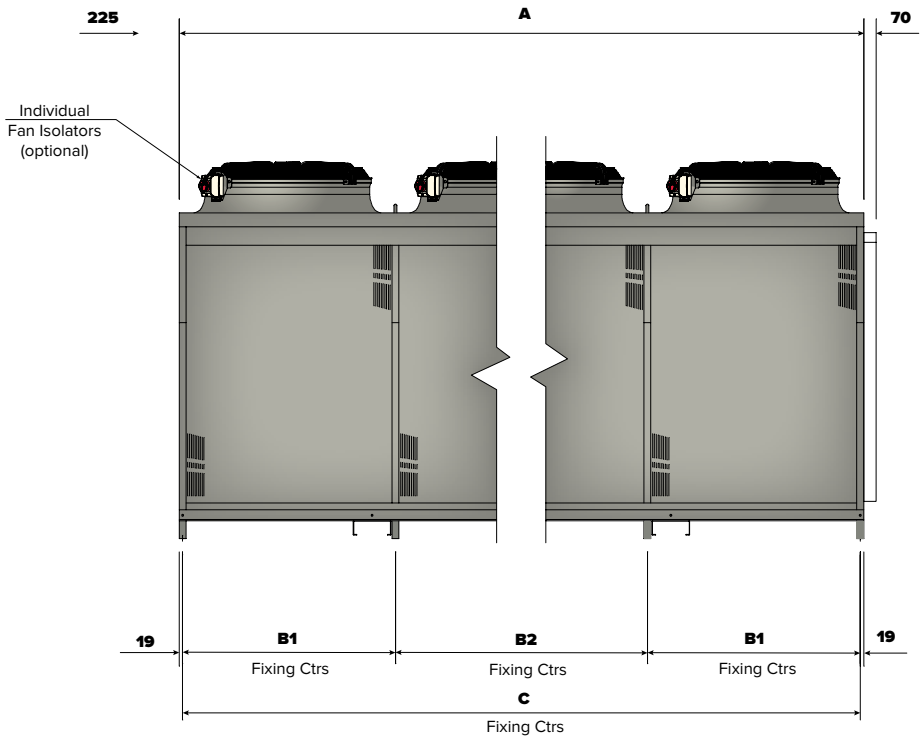
MV/DV...M Dimensions

Model		Size	No. of fans	A Overall casework	B1	B2	C	Approx dry weight	
								AL/AV	CU/ET
				mm	mm	mm	mm	kg	kg
MVA	222	M	4	2403	N/A	N/A	2365	652	798
MVA	223	M	4	2403	N/A	N/A	2365	720	939
MVA	224	M	4	2403	N/A	N/A	2365	788	1081
MVA	232	M	6	3603	1183	1200	3565	986	1206
MVA	233	M	6	3603	1183	1200	3565	1089	1418
MVA	234	M	6	3603	1183	1200	3565	1191	1530
MVA	242	M	8	4803	1183	2400	4765	1316	1609
MVA	243	M	8	4803	1183	2400	4765	1453	1892
MVA	244	M	8	4803	1183	2400	4765	1589	2175
MVA	252	M	10	6003	2383	1200	5965	1646	2012
MVA	253	M	10	6003	2383	1200	5965	1817	2366
MVA	254	M	10	6003	2383	1200	5965	1987	2719
MVA	262	M	12	7203	2383	2400	7165	1976	2415
MVA	263	M	12	7203	2383	2400	7165	2181	2840
MVA	264	M	12	7203	2383	2400	7165	2385	3264
MVA	272	M	14	8403	3583	1200	8365	2307	2819
MVA	273	M	14	8403	3583	1200	8365	2545	3314
MVA	274	M	14	8403	3583	1200	8365	2784	3809
MVA	282	M	16	9603	3583	2400	9565	2637	3223
MVA	283	M	16	9603	3583	2400	9565	2910	3788
MVA	284	M	16	9603	3583	2400	9565	3183	4354
MVB	222	M	4	2883	N/A	N/A	2845	761	937
MVB	223	M	4	2883	N/A	N/A	2845	844	1107
MVB	224	M	4	2883	N/A	N/A	2845	926	1277
MVB	232	M	6	4323	1423	1440	4285	1144	1407
MVB	233	M	6	4323	1423	1440	4285	1267	1662
MVB	234	M	6	4323	1423	1440	4285	1390	1917
MVB	242	M	8	5763	1423	2880	5725	1527	1878
MVB	243	M	8	5763	1423	2880	5725	1690	2217
MVB	244	M	8	5763	1423	2880	5725	1854	2557
MVB	252	M	10	7203	2863	1440	7165	1908	2347
MVB	253	M	10	7203	2863	1440	7165	2113	2772
MVB	254	M	10	7203	2863	1440	7165	2317	3196
MVB	262	M	12	8643	2863	2880	8602	2291	2818
MVB	263	M	12	8643	2863	2880	8602	2536	3327
MVB	264	M	12	8643	2863	2880	8602	2782	3836
MVC	222	M	4	3603	1783	N/A	3565	918	1138
MVC	223	M	4	3603	1783	N/A	3565	1021	1350
MVC	224	M	4	3603	1783	N/A	3565	1123	1562
MVC	232	M	6	5403	1783	1800	5365	1379	1709
MVC	233	M	6	5403	1783	1800	5365	1533	2027
MVC	234	M	6	5403	1783	1800	5365	1686	2345
MVC	242	M	8	7203	1783	3600	7165	1840	2279
MVC	243	M	8	7203	1783	3600	7165	2045	2704
MVC	244	M	8	7203	1783	3600	7165	2249	3128
MVC	252	M	10	9003	3583	1800	8965	2301	2850
MVC	253	M	10	9003	3583	1800	8965	2557	3380
MVC	254	M	10	9003	3583	1800	8965	2813	3910

Note: For 12 metre units please refer to the selection software or call your Searle representative. Total unit dry weight is dependent upon the coil material used (AL/AV = Copper tubes with Aluminium or Copper tubes with 2 pack epoxy coated aluminium fns, CU = Copper tubes with Copper fins or Copper fins electro-tinned).







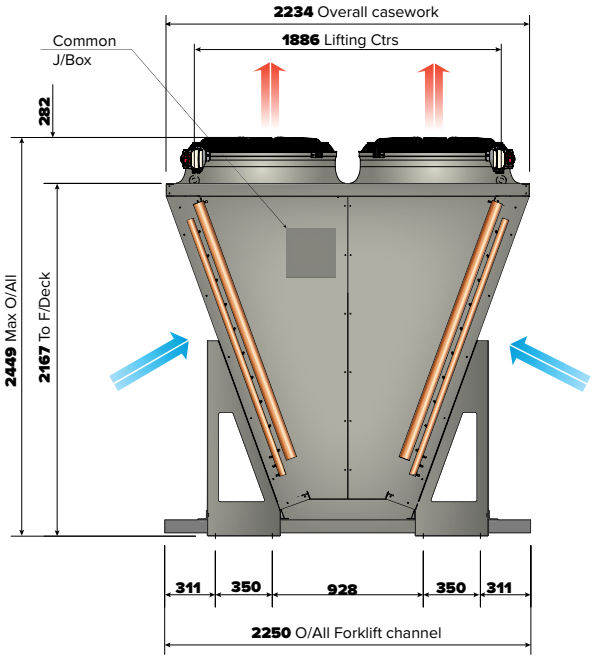
Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

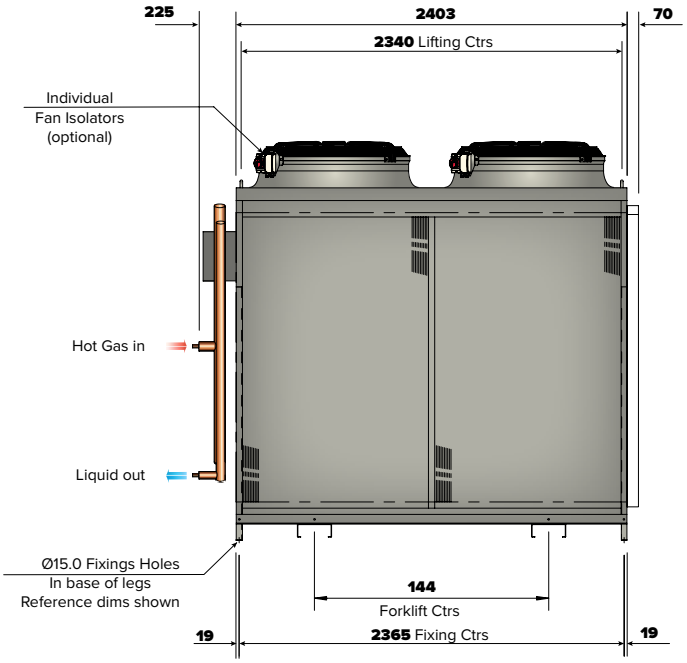
Kelvion

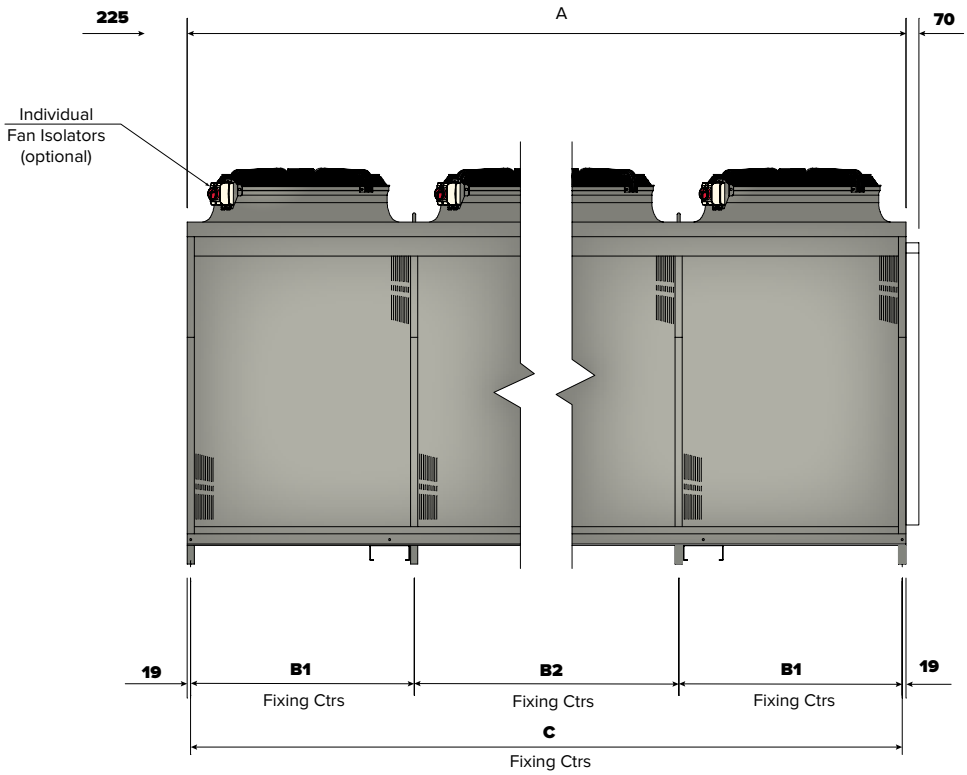
MV/DV...L Dimensions

Model		Size	No. of fans	A Overall casework	B1	B2	C	Approx dry weight	
								AL/AV	CU/ET
				mm	mm	mm	mm	kg	kg
MVA	222	L	4	2403	N/A	N/A	2365	781	964
MVA	223	L	4	2403	N/A	N/A	2365	867	1141
MVA	224	L	4	2403	N/A	N/A	2365	953	1319
MVA	232	L	6	3603	1183	1200	3565	1182	1456
MVA	233	L	6	3603	1183	1200	3565	1310	1721
MVA	234	L	6	3603	1183	1200	3565	1438	1987
MVA	242	L	8	4803	1183	2400	4765	1576	1942
MVA	243	L	8	4803	1183	2400	4765	1747	2296
MVA	244	L	8	4803	1183	2400	4765	1918	2649
MVA	252	L	10	6003	2383	1200	5965	1972	2429
MVA	253	L	10	6003	2383	1200	5965	2185	2871
MVA	254	L	10	6003	2383	1200	5965	2398	3313
MVA	262	L	12	7203	2383	2400	7165	2367	2916
MVA	263	L	12	7203	2383	2400	7165	2623	3446
MVA	264	L	12	7203	2383	2400	7165	2878	3976
MVA	272	L	14	8403	3583	1200	8365	2762	3413
MVA	273	L	14	8403	3583	1200	8365	3061	4021
MVA	274	L	14	8403	3583	1200	8365	3359	4639
MVA	282	L	16	9603	3583	2400	9565	3158	3890
MVA	283	L	16	9603	3583	2400	9565	3499	4598
MVA	284	L	16	9603	3583	2400	9565	3839	5303
MVB	222	L	4	2883	N/A	N/A	2845	918	1138
MVB	223	L	4	2883	N/A	N/A	2845	1021	1350
MVB	224	L	4	2883	N/A	N/A	2845	1124	1563
MVB	232	L	6	4323	1423	1440	4285	1379	1709
MVB	233	L	6	4323	1423	1440	4285	1533	2027
MVB	234	L	6	4323	1423	1440	4285	1687	2345
MVB	242	L	8	5763	1423	2880	5725	1841	2280
MVB	243	L	8	5763	1423	2880	5725	2045	2704
MVB	244	L	8	5763	1423	2880	5725	2250	3128
MVB	252	L	10	7203	2863	1440	7165	2299	2848
MVB	253	L	10	7203	2863	1440	7165	2554	3378
MVB	254	L	10	7203	2863	1440	7165	2810	3908
MVB	262	L	12	8643	2863	2880	8602	2760	3419
MVB	263	L	12	8643	2863	2880	8602	3067	4055
MVB	264	L	12	8643	2863	2880	8602	3374	4691
MVC	222	L	4	3603	1783	N/A	3565	1114	1388
MVC	223	L	4	3603	1783	N/A	3565	1242	1653
MVC	224	L	4	3603	1783	N/A	3565	1370	1919
MVC	232	L	6	5403	1783	1800	5365	1672	2084
MVC	233	L	6	5403	1783	1800	5365	1864	2481
MVC	234	L	6	5403	1783	1800	5365	2056	2879
MVC	242	L	8	7203	1783	3600	7165	2195	2744
MVC	243	L	8	7203	1783	3600	7165	2486	3310
MVC	244	L	8	7203	1783	3600	7165	2742	3840
MVC	252	L	10	9003	3583	1800	8965	2753	3439
MVC	253	L	10	9003	3583	1800	8965	3109	4138
MVC	254	L	10	9003	3583	1800	8965	3428	4800

Note: For 12 metre units please refer to the selection software or call your Searle representative. Total unit dry weight is dependent upon the coil material used (AL/AV = Copper tubes with Aluminium or Copper tubes with 2 pack epoxy coated aluminium fns, CU = Copper tubes with Copper fins or Copper fins electro-tinned).







Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

www.kelvion.com

Kelvion

VacInox

HEAT EXCHANGERS MADE OF STAINLESS STEEL

VacInox - the new GVH-Series
VacInox, the solution for highest requirements for potable water applications and industrial processes.

VacInox is our new, unique and revolutionary technology for a solid/resistant connection of stainless steel plates. It enables a compact design and a maximal corrosion resistance.

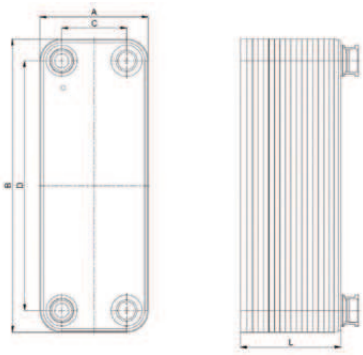
To meet the increased demands in terms of high temperatures and pressures up to 35 bar / 508 psi a special brazing filler free of non-ferrous metals is used.

The new developed GVH-Series unifies the compact design and economy of a brazed plate heat exchanger with the utility of a shell-and-tube heat exchanger. VacInox is the solution for applications with aggressive media and high pressures.

Always a suitable solution
The brazed plate heat exchangers from Kelvion offer tailor-made solutions for the widest range of applications. We configure the most economically favorable model for you from our wide range of available sizes and the numerous optional features. We adapt this with individually positioned connections to meet your specific requirements.

Example:
- potable water heating
- evaporator and condenser for Ammonia systems
- laser cooling
- district heating

Your advantages at a glance:
- free of non-ferrous metals
- high corrosion resistance
- high pressure resistance
- compact design
- low investment costs



We need following information to select the optimum heat exchanger

- required temperature range
- flow rates or required heat load
- maximal permitted pressure drop
- required working conditions

Type	(bar)	Standard dimensions (mm)				(mm)	(kg)	(Litre/ Channel)	
Plate heat exchanger	Pressure	A	B	C	D	L-Dimension N = number of plates	Mass N = number of plates	Volume	Max. number of plates
GVH 100M	35/30	74	204	40	170	L=10.23+2.23xN	W=0.70+0.050xN	0.025	50
GVH 100M-R	35/30	74	204	40	170	L=10.53+2.23xN	W=0.70+0.050xN	0.025	50
GVH 108H	25	74	204	40	170	L=12.20+1.00xN	W=0.44+0.035xN	0.010	50
GVH 200H	25	90	231	43	182	L=12.24+2.24xN	W=1.10+0.060xN	0.030	50
GVH 220H	25	90	328	43	279	L=12.20+2.22xN	W=1.30+0.080xN	0.046	50
GVH 228 H	25	90	328	43	279	L=13.20+1.00xN	W=0.97+0.069xN	0.019	50
GVH 240H	25	90	464	43	415	L=12.20+2.20xN	W=2.04+0.140xN	0.070	50
GVH 300H	25	124	173	73	120	L=12.30+2.22xN	W=1.20+0.060xN	0.030	50
GVH 400H	25	124	335	73	281	L=11.80+2.30xN	W=1.60+0.130xN	0.065	100
GVH 500H	25	124	532	73	478	L=13.80+2.28xN	W=2.00+0.240xN	0.100	100
GVH 700L	27	271	532	200	460	L=13.30+2.34xN	W=9.60+0.540xN	0.230	150
GVH 700M	27	271	532	200	460	L=13.30+2.35xN	W=9.60+0.540xN	0.230	150
GVH 800H	25	271	532	161	421	L=16.30+2.34xN	W=10.5+0.540xN	0.221	150
GVH 1000H	20	386	875	237	723	L=20.30+2.31xN	W=39.5+1.250xN	0,600	200
Also available as an advanced evaporator with a special “Delta Injection™“ distribution system for the refrigerant inlet.									
GVH 400H-AE	25	124	335	73	281	L=11.80+2.30xN	W=1.60+0.130xN	0.065	100
GVH 500H-AE	25	124	532	73	478	L=13.80+2.28xN	W=2.00+0.240xN	0.100	100
GVH 700M-AE	27	271	532	200	460	L=13.30+2.35xN	W=9.60+0.540xN	0.230	150
GVH 800H-AE	25	271	532	161	421	L=16.30+2.34xN	W=10.5+0.540xN	0.221	150
GVH 1000H-AE	20	386	875	237	723	L=20.30+2.31xN	W=39.5+1.250xN	0,600	200

GVH-Series: Specifications

- plate material: Stainless steel AISI 316L / 1.4404
- brazing material: Vaclnox

Features

- Delta Injection™ (model 400, 500, 700, 800, 1000)
- Full-Flow System™ (model 100, 200, 220, 240, 300, 400, 500)
- Safety Chamber™ (model 108, 228, 700, 800, 1000)

Performance limits

- working temperature: -196°C to +200°C / -321°F to +392°F
- working pressure: up to 35 bar / 508 psi

Approval

- PED (CE)
- ASME VIII-1

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