

FK and FKG gravity coils



The gravity coils are used in cold rooms with temperatures above +2 °C. If needed, the air coolers can be provided with electric defrost making them suitable for use in temperatures under 0 °C. Optional plate drip trays with electric defrost are utilized also in lower temperatures. The low air velocity guarantees draft free conditions with minimum weight loss of products. The smallest sizes are applicable in small cold rooms and cold stores, e.g. for greenhouses and vegetables. The bigger model can be used for cooling of industrial cold stores.

FK and FKG gravity coils are suitable for all refrigerants and solutions that do not corrode copper.

Features

- 27 sizes with nominal capacities from 202...4481 W (R404A)
- It is easy to install the slats onto the fish plate which opens upwards
- The drip tray can be installed either onto the coil directly or separately
- The stepped slats guarantee smooth air flow even if the drip tray is installed close to the coil block
- It is easy to remove the slats and the collector tray for cleaning, no special tools needed
- Natural indication of the collector tray enables effective drainage and prevents the outlet from getting dirty
- The fixing device of electric defrost heaters enables easy maintenance, post-installation and replacement

- The suspension distance from the ceiling is easily adjustable
- Product selection with the Polar Power selection program

Technical data

The heat transfer section made of aluminium fins and copper tubes is specially designed for low air velocity. The 1/2" tube diameter enables a small refrigerant filling. Fin spacing is 7.5 mm. The drip tray is made of seawater aluminium (AlMg₃). All parts of the unit sustain well corrosion.

Electric defrost in coil (SS), a plate drip tray (L), electric defrost in plate drip tray (SSA) as well as a superheater section (DC) are available as an option.

Units are packed in handy cardboard cases till size 8200. Bigger units are packed in wooden crates. A manual including installation and service instructions is shipped with each unit.

Performance data

The capacity and k-value of gravity coils depend e.g. on temperature differences, humidity and installation. The performance data is given with evaporating temperature $-6\text{ }^{\circ}\text{C}$ and temperature difference $\Delta T_1 = 10\text{ K}$ and $\Delta T_1 = 8\text{ K}$; k-value is $4,3\text{ W/m}^2\text{ K}$ ($\Delta T_1 = 10\text{ K}$). Refrigerant is R404A.

The capacity of the gravity coil depends also on the free space above and under the unit. Too small distance reduces the capacity. Furthermore, the capacity also depends on the drip tray model and its distance from the heat transfer section. The suspension distance from the ceiling and installation height of the drip tray are adjustable.

The correction factor diagram below shows the correction factor of the capacity in required dimensioning conditions. Generally, the temperature difference of $7\text{...}10\text{ K}$ is recommended. The smaller temperature difference, the smaller condensation from the air.

All units can be selected by the Polar Power software.

Product designation

FKE-5160-SS

FK = Gravity coil

E = Special model

5160 = Size

SS = Options

FKGE-5160-1-R $\frac{1}{2}$ -SS

FKG = For solutions

E = Special model

5160 = Size

1 = Number of circuits

R $\frac{1}{2}$ = Tube connection size

SS = Options

Options:

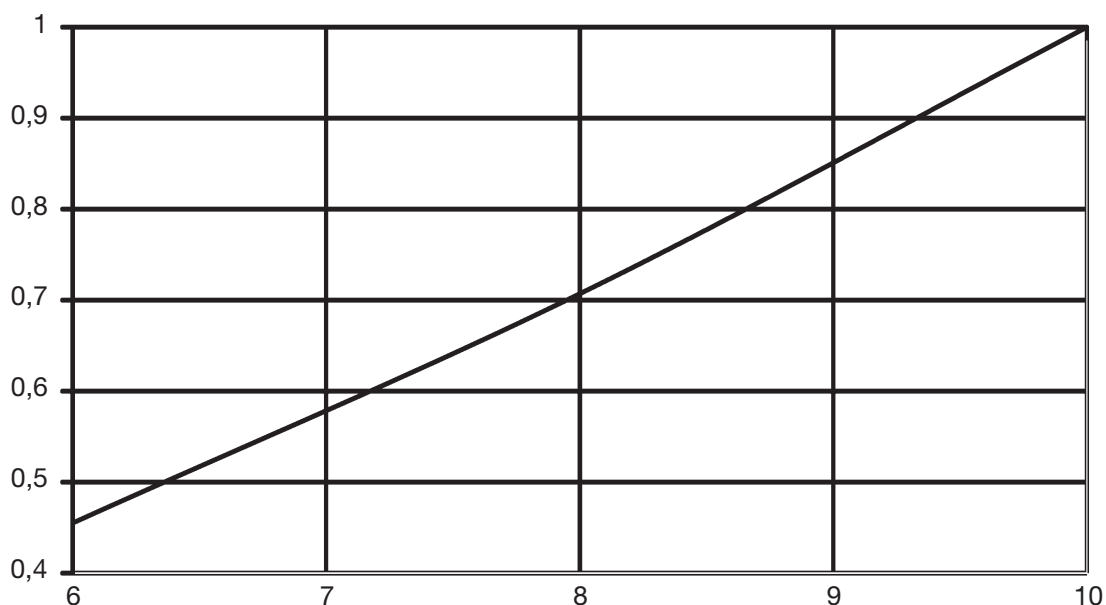
SS = electric defrost in coil

SSA = electric defrost in tray
(plate drip tray only)

L = plate drip tray

DC = Superheater section

CORRECTION FACTORS FOR CAPACITY $\Delta T_1 = 10\text{ K}$

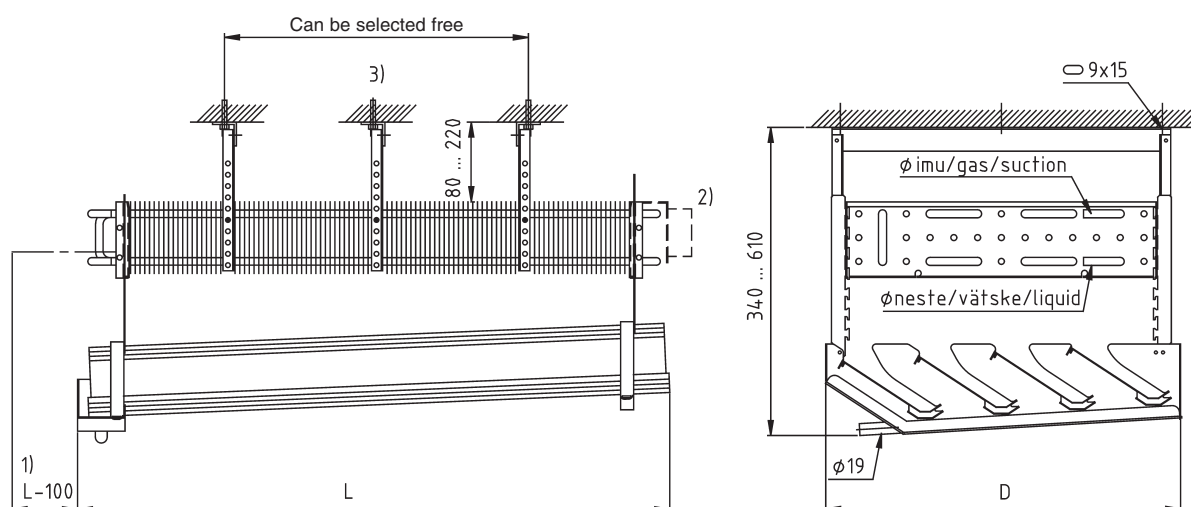


Performance data (R404A), dimensions and weights

Size	Capacity W		Surface area m ²	Dimensions mm		Tube connection mm		Internal volume l	Net weight kg
	ΔT ₁ = 10 K	ΔT ₁ = 8 K		Length L	Width D	Liquid Ø	Suction Ø		
260	202	143	4.7	810	320	12	12	0.6	5
280	271	192	6.3	1010	320	12	12	0.7	6
2100	340	240	7.9	1210	320	12	12	0.9	7
2120	404	286	9.4	1410	320	12	12	1.0	8
460	340	240	7.9	810	470	12	12	1.0	8
480	452	319	10.5	1010	470	12	12	1.2	9
4100	563	398	13.1	1210	470	12	12	1.5	11
4120	675	477	15.7	1410	470	12	12	1.7	12
4160	899	635	20.9	1810	470	12	12	2.3	15
4200	1122	793	26.1	2210	470	12	12	2.8	18
4270	1514	1070	35.2	2910	470	12	12	3.7	24
560	439	310	10.2	810	600	12	12	1.3	11
580	585	413	13.6	1010	600	12	12	1.6	13
5100	731	517	17.0	1210	600	12	12	1.9	15
5120	877	620	20.4	1410	600	12	12	2.3	16
5160	1165	824	27.1	1810	600	12	12	2.9	20
5200	1458	1031	33.9	2210	600	12	12	3.6	24
5270	1965	1389	45.7	2910	600	12	12	4.8	32
8100	1127	796	26.2	1210	875	12	12	3.0	21
8120	1350	955	31.4	1410	875	12	12	3.5	24
8160	1793	1268	41.7	1810	875	12	12	4.5	29
8200	2240	1584	52.1	2210	875	12	12	5.5	36
8240 ¹⁾	2688	1900	62.5	2610	875	12	18	6.6	41
8270 ¹⁾	3023	2137	70.3	2910	875	12	18	7.4	46
8320 ¹⁾	3586	2535	83.4	3410	875	12	18	8.6	55
8360 ¹⁾	4033	2852	93.8	3810	875	12	18	9.7	60
8400 ¹⁾	4481	3168	104.2	4210	875	12	18	10.7	66

¹⁾ The expansion valve shall be equipped with outer pressure balancing.

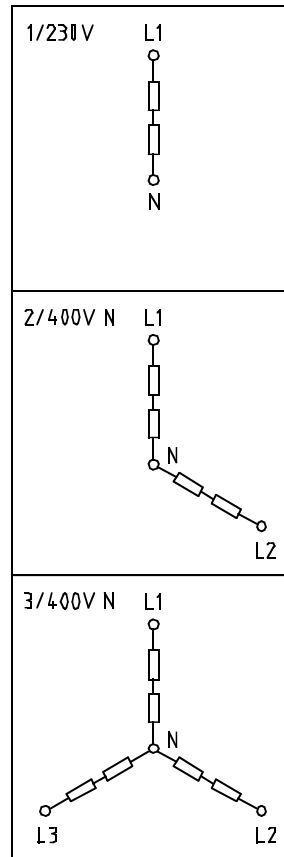
Dimensional drawings



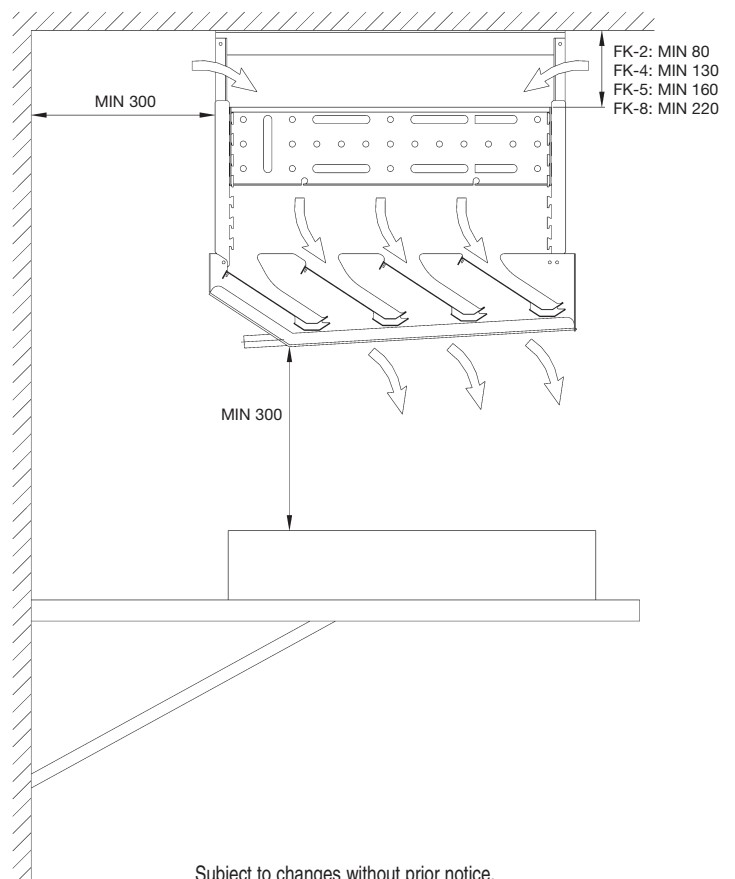
- 1) Space for exchanging defrost rods
- 2) Junction box for electric defrost
- 3) Three ceiling brackets: FK-4200, -4270, -5200, -5270, -8200 and -8270
Four ceiling brackets: FK-8320, -8360 and -8400

Electric defrost

Size	No. of heating rod pairs	SS		SS+SSA	
		kW	Connection	kW	Connection
260	1	0.48	1/230 V	0.96	1/230 V
280	1	0.64	1/230 V	1.28	1/230 V
2100	1	0.64	1/230 V	1.28	1/230 V
2120	1	0.96	1/230 V	1.92	1/230 V
460	1	0.48	1/230 V	0.96	1/230 V
480	1	0.64	1/230 V	1.28	1/230 V
4100	1	0.64	1/230 V	1.28	1/230 V
4120	1	0.96	1/230 V	1.92	1/230 V
4160	1	1.28	1/230 V	2.56	1/230 V
4200	1	1.60	1/230 V	3.20	1/230 V
4270	1	1.74	1/230 V	3.48	1/230 V
560	2	0.96	1/230 V	1.44	1/230 V
580	2	1.28	1/230 V	1.92	1/230 V
5100	2	1.28	1/230 V	1.92	1/230 V
5120	2	1.92	1/230 V	2.88	1/230 V
5160	2	2.56	1/230 V	3.84	3/400 V N
5200	2	3.20	1/230 V	4.80	3/400 V N
5270	2	3.48	1/230 V	5.22	3/400 V N
8100	2	1.28	1/230 V	1.92	1/230 V
8120	2	1.92	1/230 V	2.88	1/230 V
8160	2	2.56	1/230 V	3.84	3/400 V N
8200	2	3.20	1/230 V	4.80	3/400 V N
8240	2	3.84	2/400 V N	5.76	3/400 V N
8270	2	3.48	1/230 V	5.22	3/400 V N
8320	2	5.12	2/400 V N	7.68	3/400 V N
8360	2	5.76	2/400 V N	8.64	3/400 V N
8400	2	5.60	2/400 V N	8.40	3/400 V N



Placing



Utility model protected

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