HEATCRAFT™ Worldwide Refrigeration

Cubic unit cooler

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

E Solutions Efficiency • Environment

SKB semi-industrial range

- The SKB range is designed for commercial refrigeration applications or low temperature storage.
- Numerous electric or hot gas defrost possibilities.
- Wide choice of options for specific semi-industrial applications (streamer, …).
- The 2-speed fan (optional) enables adaptation of noise level and ventilation.

Natural fluids:
Glycol water
CO_2 (R744)*

** Low temperature applications - Operating pressure 60 bar*

4 ▁▂▄▆ 30.5 kW

FRIGA-BOHN

HK® REFRIGERATION

SKB - Cubic semi-industrial unit cooler

Market segments

FSM Hard Discount - Supermarkets - Hypermarkets
FCS Refrigerated storage and transit stocking - Dispatch centres – Food processing

Description

Casing

- The aesthetic, white pre-painted galvanized sheet steel casing enables easy cleaning of the unit.
- The SKB-E and SKB-C models are equipped with an intermediate drain pan to help limit condensation.

Ventilation

- The SKB unit cooler range is equipped with axial fans Ø 450 mm, 4 P =1,500 rpm, 230-400 V, 3-phase, 50 Hz, mono-block, IP 54, class F, requiring no routine maintenance and an independently connected thermal overload protection incorporated.
- The high-efficiency, profiled fan blades turn at a very low noise level.
- Fan guards are compliant with safety standards.
- The 2V5 option offers a low speed setting which is ideal for applications in which noise level is a key consideration. Refer to the correction chart for selection of a low-speed unit.

Coil

- The highly efficient and compact SKB range finned coils are designed with corrugated surface aluminium fins (fin spacing 4.23 or 6.35 mm) and internally grooved copper tubes.
- The coils are supplied via a factory pre-fitted diaphragm distributor.

Defrost

- The shielded (electric) heaters are inserted in the sleeved tubes in the finned coil.
- One of the heaters is fastened under the intermediate drain pan. This facility enables homogenous heat distribution for fast and efficient defrosting.
- The heaters are factory wired to a terminal block and connected for 400V/3.
- 230 V 3-phase or 230 V 1-phase connection possible.
- The condensate is recovered in an intermediate drain pan and then drained via a large drain fitting (Ø 1" G).

Certifications

Designation

SKB 19(1) **R**(2)

(1) Model
(2) Fin spacing: **R / E** = 4.23 mm - **L / C** = 6.35 mm

Advantages

Installation

Large space available for easy installation of the expansion valve.

Possibility of providing factory pre-wired motors (CMU option) to help reduce installation time.

Servicing / Maintenance

Easily removable side panels and exterior hinged drain pan swivelling down offering comfortable access to all unit cooler components.

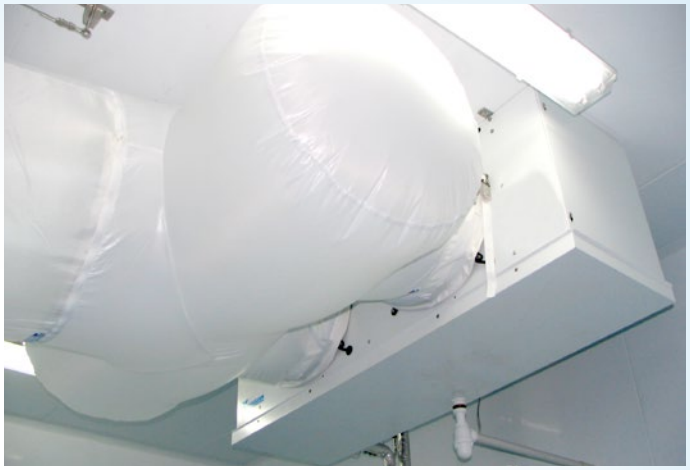
The hinged drain pan enables simple removal rendering maintenance work easier (see photo).

Application of options

Homogenous distribution of air flow

RFA option
Provides increased air throw, optimized air flow and efficient distribution of air in the cold room.

Application requiring installation of a textile duct



VGT and MP5 option
Shell used to fasten the textile duct (not supplied), the special-purpose fan ensures the ventilation air pressure of 50 Pa available.

Adapted ventilation and noise level.

2V5 option
The fan motor may be wired for high or low speed:
High speed during the charging phase requiring high capacity.
Low speed during a long storage period or in case of presence of employees for reduced noise level.

Defrost for low-temperature applications

VPM option
Avoid circulation of hot air during defrost cycles.
Reduction of defrost cycle time for energy saving.

Kit	Factory	Options
		Ventilation
	2V5	Two-speed fan 400V/3/50Hz.
	MM5	Fan 230V/1/50Hz.
	CMU	Motor factory wired.
RFA		Air stream deflector.
VGT		Textile duct shell with guard for forced ventilation.
VPM		Flexible defrost sleeve, shell + streamer
		Coil
	BAE	Paint coil protection.
	BXT	Blygold Polual XT coil protection.
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
	HG1	Hot gas (coil: hot gas, drain pan: electric heating elements).
	HGT	Hot gas (coil and drain pan).
E1K	E1U	Light electric defrost: SKB-R and SKB-L: light electric defrost (3 coil heaters). SKB-E and SKB-C: light electric defrost (3 additional heaters in the coil).
ELK	ELU	Complete electric defrost (SKB-R and SKB-L): 5 coil heaters + 1 drain pan heater).
RVK	RVU	Shell defrost heaters.
2TH		Defrost and safety thermostats (5709L + 5708L).
THD		Defrost thermostat (5709L).
THS		Safety thermostat (5708L).
		Fully equipped unit coolers
	DM	Expansion valve fitted.
	EEC	Fully equipped unit cooler: - Expansion valve fitted. - Solenoid valve fitted. - Ball valve fitted. - Copper siphon equipped with a ball valve delivered not fitted.

SKB ... R

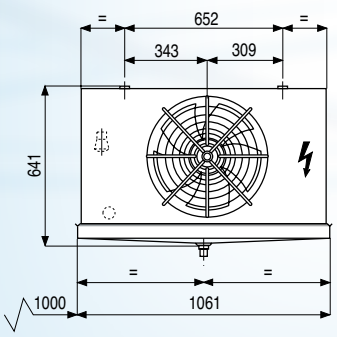
4,23 mm

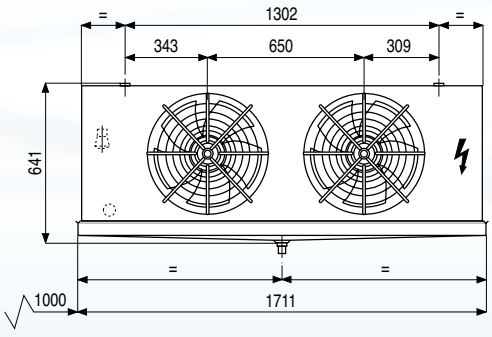
Y connection		SKB ... R	06	10	12	16	19	24
Capacity R404A (1)	DT1 = 8K - SC 2	kW	7,62	13,17	15,77	19,87	23,51	30,48
Air flow		m^3/h	3650	7880	7310	11820	10960	14110
Air throw (2)		m	19	21	21	23	23	25
Air throw with **RFA** option		m	35	37	37	39	39	41
Acoustic	**Lp 4m** (3)	dB(A)	50	53	53	55	55	56

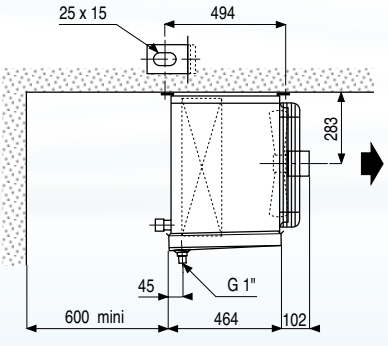
Y connection (2V5 option)		SKB ... R	06	10	12	16	19	24
Capacity R404A (1)	DT1 = 8K - SC 2	kW	6,40	11,19	13,25	16,89	19,75	25,30
Air flow		m^3/h	2964	6622	5928	9933	8892	11400
Air throw (2)		m	15	17	17	18	18	20
Air throw with **RFA** option		m	31	33	33	34	34	36
Acoustic	**Lp 4m** (3)	dB(A)	47	50	50	52	52	53

		SKB ... R	06	10	12	16	19	24
Surface		m^2	28,5	38,0	57,0	57,0	85,5	105,2
Circuit volume		dm^3	4,9	6,5	9,8	9,8	14,7	18,1
Fan 230-400 V/3/50 Hz 1,500 rpm.	Ø 450 mm	Nb	1	2	2	3	3	4
	400 V/3/50 Hz	W max	1 x 510	2 x 510	2 x 510	3 x 510	3 x 510	4 x 510
		A max (4)	1 x 1,02	2 x 1,02	2 x 1,02	3 x 1,02	3 x 1,02	4 x 1,02
Electric defrost **E1K** (5)	400 V/3/50 Hz	W total	1050	1500	2100	2100	3000	3600
		A total	1,56	2,28	3,19	3,19	4,56	5,47
Electric defrost **ELK** (5)	400 V/3/50 Hz	W total	2100	3000	4200	4200	6000	7200
		A total	3,19	4,56	6,38	6,38	9,12	10,94
Net weight		kg	52	90	100	115	132	149
Connections R404A	Inlet	Ø (6)	D 5/8"	D 1"1/8	D 1"1/8	D 1"1/8	D 1"1/8	D 1"5/8
	Outlet	Ø ODF (7)	7/8"	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8

(1) See page 10.
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only..
(4) Setting of overload protection levels. For air temperatures "ti" other than +20°C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(5) Electric defrost option.
(6) Distributor: Male to be brazed.
(7) ODF: Female to receive a tube of the same diameter.







2V5	MM5	CMU	RFA	VGT	VPM	BAE	BXT	WCO	CO2	HG1	HGT	E1K	E1U	ELK	ELU	RVK	RVU	2TH	THD	THS	DM	EEC
O	O	O	+1	O	O	O	O	+1	-	O	-	O	O	O	O	O	O	O	O	O	O	O

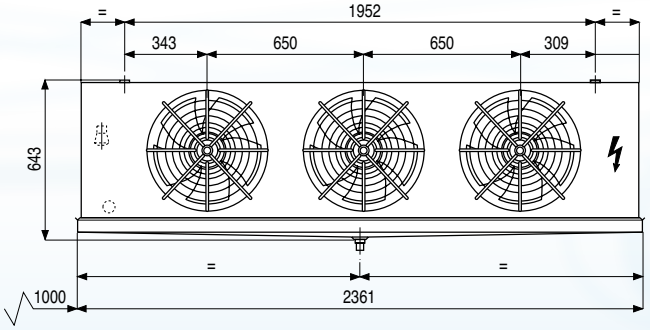
SKB ... L — 6,35 mm

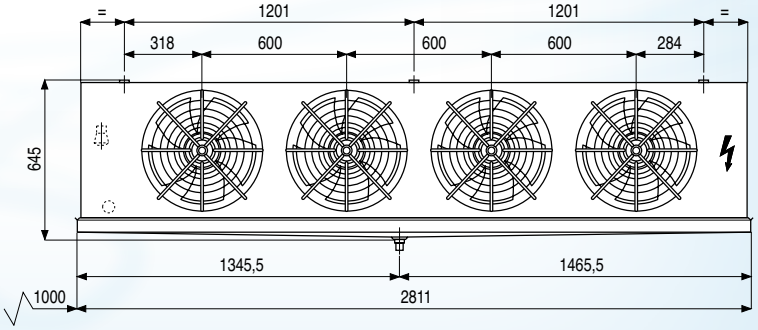
Y connection		SKB ... L	06	09	11	14	18	22
Capacity R404A (1)	**DT1 = 8K - SC 2**	**kW**	**6,56**	**10,42**	**13,43**	**15,54**	**20,14**	**25,92**
Capacity W (8)	**DT1 = 8K**	**kW**	**5,87**	**-**	**13,04**	**-**	**17,07**	**26,21**
Air flow		**m^3/h**	3860	8210	7720	12310	11580	15000
Air throw (2)		**m**	19	21	21	23	23	25
Air throw with **RFA** option		**m**	35	37	37	39	39	41
Acoustic	**Lp 4m** (3)	**dB(A)**	50	53	53	55	55	56

Y connection (2V5 option)		SKB ... L	06	09	11	14	18	22
Capacity R404A (1)	**DT1 = 8K - SC 2**	**kW**	**5,44**	**8,86**	**11,15**	**13,21**	**16,72**	**21,77**
Capacity W *	**DT1 = 8K**	**kW**	**5,17**	**-**	**11,48**	**-**	**15,02**	**23,33**
Air flow		**m^3/h**	3196	6930	6391	10395	9587	12160
Air throw (2)		**m**	15	17	17	18	18	20
Air throw with **RFA** option		**m**	31	33	33	34	34	36
Acoustic	**Lp 4m** (3)	**dB(A)**	47	50	50	52	52	53

		SKB ... L	06	09	11	14	18	22
Surface		**m^2**	19,7	26,3	39,4	39,4	59,2	72,8
Circuit volume		**dm^3**	4,9	6,5	9,8	9,8	14,7	18,1
Fan 230-400 V/3/50 Hz 1,500 rpm.	Ø 450 mm	**Nb**	1	2	2	3	3	4
	400 V/3/50 Hz	**W max**	1 x 510	2 x 510	2 x 510	3 x 510	3 x 510	4 x 510
		A max (4)	1 x 1,02	2 x 1,02	2 x 1,02	3 x 1,02	3 x 1,02	4 x 1,02
Electric defrost **E1K** (5)	400 V/3/50 Hz	**W total**	1050	1500	2100	2100	3000	3600
		A total	1,56	2,28	3,19	3,19	4,56	5,47
Electric defrost **ELK** (5)	400 V/3/50 Hz	**W total**	2100	3000	4200	4200	6000	7200
		A total	3,19	4,56	6,38	6,38	9,12	10,94
Net weight		**kg**	51	92	100	115	132	149
Connections R404A	Inlet	**Ø** (6)	D 5/8"	D 7/8"	D 1"1/8	D 1"1/8	D 1"1/8	D 1"5/8
	Outlet	**Ø ODF** (7)	7/8"	1"1/8	1"3/8	1"3/8	1"5/8	1"5/8

(1) See page 10.
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only..
(4) Setting of overload protection levels. For air temperatures "ti" other than +20°C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(5) Electric defrost option.
(6) Distributor: Male to be brazed.
(7) ODF: Female to receive a tube of the same diameter.
(8) Glycol water:
Fluid: Percentage of glycol = 30% - Fluid inlet temperature = -8°C – Fluid outlet temperature = -4°C – Air: Inlet dry temp. = +2°C - Relative humidity = 85%
Other conditions: please contact us.





2V5	MM5	CMU	RFA	VGT	VPM	BAE	BXT	WCO	CO2	HG1	HGT	E1K	E1U	ELK	ELU	RVK	RVU	2TH	THD	THS	DM	EEC
O	O	O	+👤	O	O	O	O	+👤	-	O	-	O	O	O	O	O	O	O	O	O	O	O

SKB ... E

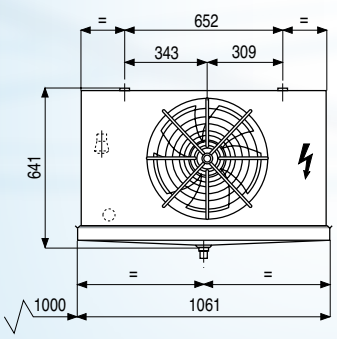
4,23 mm

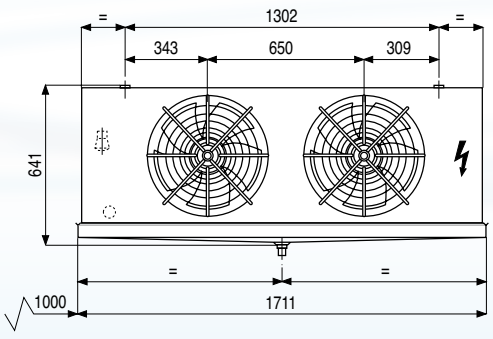
Y connection		SKB ... E	06	09	11	13	16	21
Capacity R404A (1)	DT1 = 7K - SC 3	kW	6,15	10,11	12,56	15,29	18,95	23,47
	DT1 = 6K - SC 4	kW	4,82	7,90	9,90	11,97	14,98	18,41
Air flow		m^3/h	3650	7880	7310	11820	10960	14110
Air throw (2)		m	19	21	21	23	23	25
Air throw with **RFA** option		m	35	37	37	39	39	41
Acoustic	**Lp 4m** (3)	dB(A)	50	53	53	55	55	56

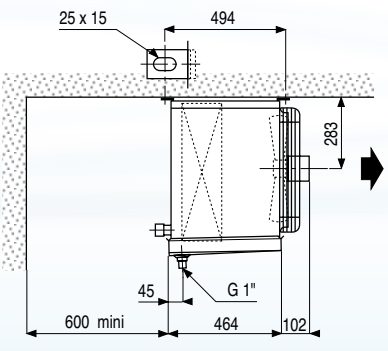
Y connection (2V5 option)		SKB ... E	06	09	11	13	16	21
Capacity R404A (1)	DT1 = 7K - SC 3	kW	5,17	8,69	10,55	13,15	15,92	19,71
	DT1 = 6K - SC 4	kW	4,13	6,96	8,50	10,52	12,86	15,80
Air flow		m^3/h	2964	6622	5928	9933	8892	11400
Air throw (2)		m	15	17	17	18	18	20
Air throw with **RFA** option		m	31	33	33	34	34	36
Acoustic	**Lp 4m** (3)	dB(A)	47	50	50	52	52	53

		SKB ... E	06	09	11	13	16	21
Surface		m^2	28,5	38,0	57,0	57,0	85,5	105,2
Circuit volume		dm^3	4,9	6,5	9,8	9,8	14,7	18,1
Fan 230-400 V/3/50 Hz 1,500 rpm.	Ø 450 mm	Nb	1	2	2	3	3	4
	400 V/3/50 Hz	W max	1 x 510	2 x 510	2 x 510	3 x 510	3 x 510	4 x 510
		A max (4)	1 x 1,02	2 x 1,02	2 x 1,02	3 x 1,02	3 x 1,02	4 x 1,02
Electric defrost	Coil	Nb	5	5	5	5	5	5
	Drain pan	Nb	1	1	1	1	1	1
	400 V/3/50 Hz	W total	2100	3000	4200	4200	6000	7200
		A total	3,19	4,56	6,38	6,38	9,12	10,94
Electric defrost **E1K** (5)	400 V/3/50 Hz	W total	1050	1500	2100	2100	3000	3600
		A total	1,56	2,28	3,19	3,19	4,56	5,47
Sleeve defrost **RVU / RVK**	230 V/1/50 Hz	W total	1 x 500	2 x 500	2 x 500	3 x 500	3 x 500	4 x 500
		A total	1 x 2,2	2 x 2,2	2 x 2,2	3 x 2,2	3 x 2,2	4 x 2,2
Net weight		kg	53	91	101	116	133	154
Connections R404A	Inlet	Ø (6)	D 7/8"	D 1"1/8	D 1"1/8	D 1"1/8	D 1"5/8	D 1"5/8
	Outlet	Ø ODF (7)	1"1/8	1"3/8	1"5/8	1"5/8	1"5/8	2"1/8

(1) See page 10.
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(3) Average sound pressure level in dB(A) measured at 4 m, at fan height, in direct line of sight on a reflective surface, given for information only..
(4) Setting of overload protection levels. For air temperatures "ti" other than +20°C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.
(5) Electric defrost option.
(6) Distributor: Male to be brazed.
(7) ODF: Female to receive a tube of the same diameter.







2V5	MM5	CMU	RFA	VGT	VPM	BAE	BXT	WCO	CO2	HG1	HGT	E1K	E1U	ELK	ELU	RVK	RVU	2TH	THD	THS	DM	EEC
O	O	O	+👤	O	O	-	-	-	+👤	O	O	O	O	-	-	O	O	O	O	O	O	O

SKB ... C

6,35 mm

Y connection		SKB ... C	05	08	10	12	15	19
Capacity R404A (1)	DT1 = 7K - SC 3	kW	5,24	8,05	10,65	12,38	16,09	20,17
	DT1 = 6K - SC 4	kW	4,13	6,56	8,45	9,77	12,76	15,91
Capacity CO2 (8)	DT1 = 7K - SC 3	kW	4,93	7,60	9,87	11,40	14,84	18,75
	DT1 = 6K - SC 4	kW	4,18	6,45	8,40	9,68	12,61	15,94
Air flow		m^3/h	3860	8210	7720	12310	11580	15000
Air throw (2)		m	19	21	21	23	23	25
Air throw with **RFA** option		m	35	37	37	39	39	41
Acoustic	**Lp 4m** (3)	dB(A)	50	53	53	55	55	56

Y connection (2V5 option)		SKB ... C	05	08	10	12	15	19
Capacity R404A (1)	DT1 = 7K - SC 3	kW	4,40	6,84	8,95	10,52	13,52	17,14
	DT1 = 6K - SC 4	kW	3,50	5,70	7,17	8,49	10,83	13,82
Air flow		m^3/h	3196	6930	6391	10395	9587	12160
Air throw (2)		m	15	17	17	18	18	20
Air throw with **RFA** option		m	31	33	33	34	34	36
Acoustic	**Lp 4m** (3)	dB(A)	47	50	50	52	52	53

		SKB ... C	05	08	10	12	15	19
Surface		m^2	19,7	26,3	39,4	39,4	59,2	72,8
Circuit volume		dm^3	4,9	6,5	9,8	9,8	14,7	18,1
Fan 230-400 V/3/50 Hz 1,500 rpm.	Ø 450 mm	Nb	1	2	2	3	3	4
	400 V/3/50 Hz	W max	1 x 510	2 x 510	2 x 510	3 x 510	3 x 510	4 x 510
		A max (4)	1 x 1,02	2 x 1,02	2 x 1,02	3 x 1,02	3 x 1,02	4 x 1,02
Electric defrost	Coil	Nb	5	5	5	5	5	5
	Drain pan	Nb	1	1	1	1	1	1
	400 V/3/50 Hz	W total	2100	3000	4200	4200	6000	7200
		A total	3,19	4,56	6,38	6,38	9,12	10,94
Electric defrost **E1K** (5)	400 V/3/50 Hz	W total	1050	1500	2100	2100	3000	3600
		A total	1,56	2,28	3,19	3,19	4,56	5,47
Sleeve defrost **RVU / RVK**	230 V/1/50 Hz	W total	1 x 500	2 x 500	2 x 500	3 x 500	3 x 500	4 x 500
		A total	1 x 2,2	2 x 2,2	2 x 2,2	3 x 2,2	3 x 2,2	4 x 2,2
Net weight		kg	52	81	101	116	133	154
Connections R404A	Inlet	Ø (6)	D 7/8"	D 1"1/8	D 1"1/8	D 1"1/8	D 1"5/8	D 1"5/8
	Outlet	Ø ODF (7)	1"1/8	1"3/8	1"5/8	1"5/8	1"5/8	2"1/8
Connections CO2	Inlet	Ø (6)	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"
	Outlet	Ø ODF (7)	3/4"	7/8"	7/8"	7/8"	7/8"	1"3/8

(1) See page 10.
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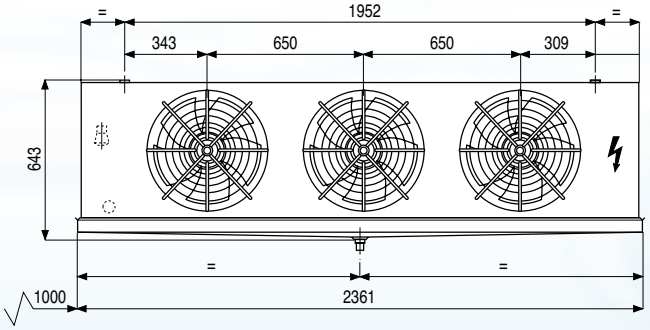
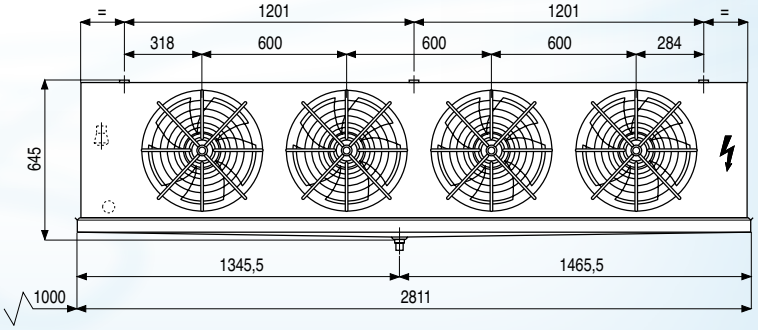
(5) Electric defrost option.
(6) Distributor: Male to be brazed.
(7) ODF: Female to receive a tube of the same diameter.
(8) Operating pressure 60 bar





2V5	MM5	CMU	RFA	VGT	VPM	BAE	BXT	WCO	CO2	HG1	HGT	E1K	E1U	ELK	ELU	RVK	RVU	2TH	THD	THS	DM	EEC
O	O	O	+👤	O	O	-	-	-	+👤	O	O	O	O	-	-	O	O	O	O	O	O	O