



# CUBIC UNIT COOLER

## COMMERCIAL AND SEMI INDUSTRIAL RANGE

Bars / Restaurants - Corner shops - Mini-markets  
Hard Discount - Supermarkets - Hypermarkets  
Refrigerated storage and transit stocking - Dispatch centres  
Food processing



# 3C-A

- The 3C-A range is designed for commercial and semi industrial refrigeration applications or low temperature storage.
- Numerous electric, hot water or hot gas defrost possibilities.
- Wide choice of options for specific environment (streamer, stainless steel, ...).
- EC motor (optional) enables optimization of noise level and power consumption.



1 > 35 kW

\* Operating pressure 60 bar



## DESCRIPTION

### Casing

- The aesthetic, white pre-painted galvanized sheet steel casing enables easy cleaning of the unit.
- Articulated drain pan with rounded corners to eliminate condensate retention zones and no sharp or cutting edges to guarantee total safety.
- Hinged intermediate drain pan to help limit condensation (3C-A .. E/C).

### Ventilation

- High efficiency motor fan factory wired.
- EC fans available as an option (electronic commutation).
- Fan guards are compliant with safety standards.
- The 3C-A unit cooler range is equipped with axial fans, requiring no routine maintenance:

	models	temp.	voltage	frequency	IP	class
Ø 300 mm 4P 1320 rp.m.	3C-A 3XXX R/L	+	230V/1	50/60Hz	44	B
	3C-A 3XXX E/C	-	230V/1	50/60Hz	44	B
Ø 450 mm * 4P/6P 1320/1070 rp.m.	3C-A 4XXX R/L	+	400V/3	50Hz	54	F
	3C-A 4XXX E/C	-	400V/3	50Hz	54	F

\* Two-speed motorfans, high speed wired (Δ) by default.

### Coil

- The highly efficient and compact 3C-A range finned coils are designed with aluminium fins (fin spacing 4 or 6 mm) and internally grooved copper tubes.
- The coils are supplied via a Venturi distributor.
- Coils for using the same unit cooler in positive or negative application.
- Multi refrigerant (HFC) coil.
- CO2 or water glycol as an option on the entire range.

### Defrost

- Depending on the condition in the cold room, different level of defrost capacity are available factory wired or delivered as kits (see table below).
- Shielded electric heating elements 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.
- 230V/1-phase, 230V/3-phase or 400V/3-phase connection possible.
- **3C-A .. E/C range:** standard, the heaters are factory wired to a terminal block in a sealed junction box and connected for 230V/1 and 400V/3.
- **3C-A .. R/L range:** optional heaters and wiring (E1U and E2U).
- The condensate is recovered in an intermediate drain pan and then drained via a large drain fitting (Ø 1" G).
- Hot gas or glycol water defrost in option.

## DESIGNATION

# 3C-A<sup>(1)</sup> 3<sup>(2)</sup> 3<sup>(3)</sup> 54<sup>(4)</sup> -R<sup>(5)</sup>

- (1) **ADVANCED** range
- (2) Fan diameter: **3** = Ø 300 mm - **4** = Ø 450 mm
- (3) Number of fans
- (4) Model
- (5) Fin spacing: **R/E** = 4 mm - **L/C** = 6 mm

Ø 300 mm  
**3C-A 3XXX R/L**  
Chill temperature range



Ø 300 mm  
**3C-A 3XXX E/C**  
Low temperature range



**NEW VENTILATION**  
with metal fan blades  
and air stream deflector

Ø 450 mm  
**3C-A 4XXX R/L/E/C**  
Chill temperature range  
Low temperature range



Defrost	Models	Number of heaters							
		Mounting		Ø 300 mm			Ø 450 mm		
		Kit	Factory	Models	Coil	Drain pan	Models	Coil	Drain pan
Light	3C-A .. R/L	E1K option	E1U option	3xxx except 3142	3 2	-	all	3	-
				all	2	1			
Intermediate	3C-A .. R/L	E2K option	-	all	2	1	all	5	1
	3C-A .. E/C	-	E2U option						
Full	3C-A .. L	E3K option	-	3xx3	3	1	4xxx except 4263	8 5	1 1
	3C-A .. C	-	Standard	3xx4	3	1			
	3C-A .. R	E3K option	-	3xx5	4	1			
	3C-A .. E	-	Standard	3xx2	2	1	4xxx except 4263	8 5	1 1
3C-A .. E	-	Standard	3xx3	3	1				
3C-A .. E	-	Standard	Standard	3xxx	5	1			

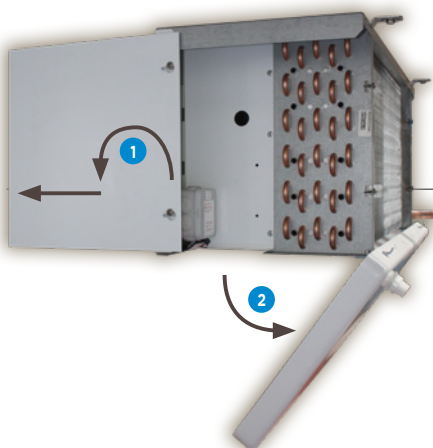


## AVANTAGES

### Installation / Entretien / Maintenance

Large space available for easy installation of the expansion valve.

Large electrical enclosure rendering maintenance tasks easier.



1 Easy removable side panels and 2 articulated drain pans (interior and exterior), offering fast and easy access to all unit cooler elements (coil, fans, defrost heaters, connections...).

## APPLICATION OF OPTIONS

### Homogenous distribution of air flow

**RFA option - Air stream deflector (streamer)**  
Provides increased air throw, optimized air flow and efficient distribution of air in the cold room.



### Application requiring installation of a textile duct



**VGT option** used to fasten the textile duct (not supplied).

### Defrost for low-temperature applications



**VPM option - Shell / air stream deflector (streamer) + flexible defrost sleeve**  
Avoid circulation of hot air during defrost cycles.  
Reduction of defrost cycle time for energy saving.



### Kit Factory

## OPTIONS

### Casing

- PEI** White painted casing.
- CIN** Stainless steel frame.
- EIS** Insulated drain pan.
- DPK** Intermediate drain pan Kit (3C-A .. R/L).

### Ventilation

- M23** Fan 230-400V/3/50Hz (Ø 450mm).
- MM5** Fan 230V/1/50Hz (Ø 450mm).
- M60** Fan 230-400V/3/60Hz (Ø 450mm).
- MP5** High air pressure fan 400V/3/50Hz (available air pressure 50Pa - Ø 450mm).
- 2V5** 2 speed 400V/3/50Hz fan assembly (Ø 450mm).
- RFA** Shell / air stream deflector (streamer).
- VGT** RFA + mounting parts for textile duct.
- MSD** Flexible defrost sleeve.
- VPM** VGT + MSD

- EC3** Dual speed EC fans (electronic commutation).

### Coil

- BAE** Paint coil protection.
- BXT** Blygold Polual XT coil protection.
- BHE** Heresite coil protection.
- WCO** Glycol water, coolant (please contact us for details).
- CO2** R744 optimization DX (please contact us for details).

### Defrost

- HG1** Hot gas (coil: hot gas, drain pan: electric heating elements).
- HGT** Hot gas (coil and drain pan).
- DEG** Hot glycol water defrost.
- E1K E1U** Light electric defrost: 3 coil heaters
- E2K E2U** Intermediate electric defrost: 2 coil heaters + 1 drain pan heater + intermediate drain pan.
- E3K** Full electric defrost: 5 coil heaters + 1 drain pan heater + intermediate drain pan.
- RVK RVU** Shell defrost heaters.
- HDA** Suction hood defrost.
- 2TH** Defrost and safety thermostats (5709L + 5708L).
- THD** Defrost thermostat (5709L).
- THS** Safety thermostat (5708L).

### Fully equipped unit coolers

- DMP** Expansion valve fitted.
- EVL** DMP + solenoid valve fitted.
- EEC** EVL + copper siphon equipped with a ball valve delivered not fitted.



### 3C-A (2/2)

4 mm

Capacity	SC2	3C-A .... -R	3444	3445	4263	3455	3545	4264	4265	4266	4364	4366	4386	4466
CO <sub>2</sub> (6)	DT = 8K - SC2	kW	10,3	11,1	12,7	12,8	13,6	15,4	17,4	18,9	23,1	28,0	34,8	37,7
R134a	DT = 8K - SC2	kW	8,5	9,4	10,5	10,8	11,8	12,7	14,4	15,3	19,3	22,6	28,7	29,7
R449A	DTM = 8K - SC2	kW	9,7	10,9	11,2	12,5	13,7	13,8	15,9	17,6	20,9	26,1	33,2	34,4
R452A	DTM = 8K - SC2	kW	9,7	10,8	11,5	12,3	13,5	14,2	16,5	17,5	21,6	25,8	32,8	34,0
R404A (1)	DT1 = 8K - SC2	kW	9,4	10,4	11,6	11,8	13,0	14,0	15,8	16,8	21,2	24,8	31,5	32,7
W (7)	DT = 8K	kW	8,9	10,6	8,7	12,3	12,9	12,4	14,6	17,3	16,6	23,9	28,4	29,9

Capacity	SC3	3C-A .... -E	3444	3445	4263	3455	3545	4264	4265	4266	4364	4366	4386	4466
CO <sub>2</sub> (6)	DT = 7K - SC3	kW	8,4	9,0	10,3	10,1	10,7	12,6	14,3	15,6	18,9	22,3	28,3	30,5
R449A	DTM = 7K - SC3	kW	7,2	8,0	8,0	9,3	9,6	9,7	11,6	12,8	15,0	19,8	23,7	25,6
R452A	DTM = 7K - SC3	kW	7,7	8,3	8,7	9,3	10,0	10,7	12,7	13,5	16,4	20,8	24,7	26,8
R404A (1)	DT1 = 7K - SC3	kW	7,4	8,1	8,8	9,0	9,6	10,6	12,3	13,0	16,2	20,0	23,9	25,8
Capacity	SC4	3C-A .... -E	3444	3445	4263	3455	3545	4264	4265	4266	4364	4366	4386	4466
CO <sub>2</sub> (6)	DT = 6K - SC4	kW	6,8	7,3	8,2	8,2	8,6	10,1	11,5	12,6	15,2	17,8	22,8	24,5
R449A	DTM = 6K - SC4	kW	5,7	6,4	6,2	7,2	7,6	7,5	9,0	10,1	11,6	15,5	18,5	19,9
R452A	DTM = 6K - SC4	kW	6,0	6,6	6,9	7,4	7,8	8,4	10,0	10,6	13,0	16,3	19,3	20,8
R404A (1)	DT1 = 6K - SC4	kW	5,9	6,4	6,9	7,2	7,6	8,3	9,7	10,3	12,7	15,9	18,8	20,2

			3444	3445	4263	3455	3545	4264	4265	4266	4364	4366	4386	4466
Surface		m <sup>2</sup>	32,8	41,0	27,6	51,2	51,2	36,9	46,1	55,3	55,3	82,9	110,6	110,6
Circuit volume		dm <sup>3</sup>	5,2	6,5	4,4	8,1	8,1	5,8	7,3	8,7	8,7	13,1	17,4	17,4
Air flow		m <sup>3</sup> /h	5460	5070	11740	5700	6340	10990	10310	8270	16480	12400	16780	16540
Air throw (2)		m	22	21	32	23	24	31	30	29	35	33	35	36
		Nb	4	4	2	4	5	2	2	2	3	3	3	4
		∅	300	300	450	300	300	450	450	450	450	450	450	450
Fan														
1320 r.p.m.	230 V/1/50-60 Hz	W max	288	288	-	288	360	-	-	-	-	-	-	-
		A max (3)	1,28	1,28	-	1,28	1,60	-	-	-	-	-	-	-
	400 V/3/50 Hz	W max	-	-	1000	-	-	1000	1000	1000	1500	1500	1500	2000
		A max (3)	-	-	2,00	-	-	2,00	2,00	2,00	3,00	3,00	3,00	4,00
		Nb	3	3	3	3	3	3	3	3	3	3	3	3
		W Total	3450	3450	2160	4320	4320	2160	2160	2160	3240	3240	3960	3960
3C-A .... -R	230 V/1/50 Hz	A Total	15,0	15,0	9,4	-	-	9,4	9,4	9,4	14,1	14,1	-	-
Electric defrost	400 V/3/50 Hz	A Total	-	-	-	6,2	6,2	-	-	-	-	-	5,7	5,7
EIK (4)														
3C-A .... -E	Coil + Drain pan	Nb	5 + 1	5 + 1	5 + 1	5 + 1	5 + 1	8 + 1	8 + 1	8 + 1	8 + 1	8 + 1	8 + 1	8 + 1
		W Total	6900	6900	4320	8640	8640	6480	6480	6480	9720	9720	11880	11880
Standard electric defrost	230 V/1/50 Hz	A Total	-	-	-	-	-	-	-	-	-	-	-	-
	400 V/3/50 Hz	A Total	10,0	10,0	6,3	12,5	12,5	9,4	9,4	9,4	14,0	14,0	17,1	17,1
Dimensions	Length	mm	1967	1967	1611	2673	2673	1611	1611	1611	2211	2211	2811	2811
	Width	mm	484	484	610	484	484	610	610	610	610	610	610	610
	Height	mm	428	428	635	428	428	635	635	635	635	635	635	635
Connections (5)	Inlet	∅ OD	5/8"	7/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"
R404A	Outlet	∅ OD	7/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 5/8"	2 1/8"	2 1/8"	2 1/8"
Net weight		kg	54	57	58	65	70	62	65	69	84	95	114	123

(1) Standard conditions:

SC2 : 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K  
 SC3 : -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K  
 SC4 : -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

(2) Residual air speed: 0.25 m/s.

(3) 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.

(4) Electric defrost option.

(5) OD : Male connector - ODF: Female to receive a tube of the same diameter.

(6) Specific coil - Operating pressure 60 bar - Tube diameter to define the order.

(7) 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.

	HG1	HGT	DEG	EIK	EIU	E2K	E2U	E3K	RVK	RVU	HDA	2TH	THD	THS	DMP	EVL	EEC
3C-A .... -R	-	-	-	○	○	○	-	○	-	-	-	○	○	○	○	○	👤
3C-A .... -E	👤	👤	👤	-	-	-	○	-	○	○	👤	○	○	○	○	○	👤





### 3C-A (2/2)

6 mm

Capacity	SC2	3C-A .... -L	4166	3444	3445	4263	3455	3545	4264	4266	4364	4366	4386	4466
CO <sub>2</sub> (6)	DT = 8K - SC2	kW	8,6	9,1	10,2	10,9	11,7	12,6	13,5	17,3	20,3	25,7	31,6	34,6
R134a	DT = 8K - SC2	kW	7,0	7,6	8,6	9,3	9,9	10,9	11,2	14,3	16,9	21,6	26,2	28,6
R449A	DTM = 8K - SC2	kW	7,9	8,5	9,8	9,8	11,4	12,6	12,2	16,0	18,6	24,3	29,5	32,0
R452A	DTM = 8K - SC2	kW	8,0	8,7	9,9	10,1	11,3	12,5	12,8	16,3	19,3	24,7	29,9	32,7
R404A (1)	DT1 = 8K - SC2	kW	7,7	8,4	9,5	10,2	10,8	12,0	12,3	15,7	18,6	23,7	28,7	31,4
W (7)	DT = 8K	kW	8,5	8,0	9,7	7,9	11,3	11,9	12,3	15,8	16,1	22,2	26,3	27,8

Capacity	SC3	3C-A .... -C	4166	3444	3445	4263	3455	3545	4264	4266	4364	4366	4386	4466
CO <sub>2</sub> (6)	DT = 7K - SC3	kW	7,1	7,5	8,3	8,9	9,4	10,0	11,1	14,3	16,6	20,7	25,8	28,1
R449A	DTM = 7K - SC3	kW	5,4	6,0	7,2	6,8	8,1	8,8	8,4	11,2	12,8	17,0	20,7	22,1
R452A	DTM = 7K - SC3	kW	5,9	6,5	7,6	7,5	8,6	9,3	9,4	12,1	14,2	18,4	22,1	23,9
R404A (1)	DT1 = 7K - SC3	kW	5,7	6,3	7,4	7,6	8,2	8,9	9,0	11,7	13,7	17,7	21,3	23,1
Capacity	SC4	3C-A .... -C	4166	3444	3445	4263	3455	3545	4264	4266	4364	4366	4386	4466
CO <sub>2</sub> (6)	DT = 6K - SC4	kW	5,7	6,1	6,7	7,2	7,6	8,1	8,9	11,5	13,4	16,6	20,8	22,6
R449A	DTM = 6K - SC4	kW	4,2	4,7	5,7	5,3	6,5	6,9	6,5	8,8	9,9	13,5	16,2	17,2
R452A	DTM = 6K - SC4	kW	4,6	5,1	6,1	5,9	6,8	7,3	7,3	9,5	11,1	14,4	17,3	18,6
R404A (1)	DT1 = 6K - SC4	kW	4,5	5,0	5,9	5,9	6,6	7,1	7,1	9,2	10,8	14,1	16,9	18,1

			4166	3444	3445	4263	3455	3545	4264	4266	4364	4366	4386	4466
Surface	m <sup>2</sup>		19,1	22,7	28,3	19,1	35,4	35,4	25,5	38,2	38,2	57,4	76,5	76,5
Circuit volume	dm <sup>3</sup>		4,4	5,2	6,5	4,4	8,1	8,1	5,8	8,7	8,7	13,1	17,4	17,4
Air flow	m <sup>3</sup> /h		5290	5880	5540	12300	6060	6920	11690	10580	17540	15870	17780	21160
Air throw (2)	m		25	23	22	33	24	25	32	31	36	34	36	37
	Nb		1	4	4	2	4	5	2	2	3	3	3	4
	∅		450	300	300	450	300	300	450	450	450	450	450	450
Fan														
1320 r.p.m.	230 V/1/50-60 Hz	W max	-	288	288	-	288	360	-	-	-	-	-	-
		A max (3)	-	1,28	1,28	-	1,28	1,60	-	-	-	-	-	-
	400 V/3/50 Hz	W max	500	-	-	1000	-	-	1000	1000	1500	1500	1500	2000
		A max (3)	1,00	-	-	2,00	-	-	2,00	2,00	3,00	3,00	3,00	4,00
		Nb	3	3	3	3	3	3	3	3	3	3	3	3
		W Total	1080	3450	3450	2160	4320	4320	2160	2160	3240	3240	3960	3960
3C-A .... -L														
Electric defrost	230 V/1/50 Hz	A Total	4,7	15,0	15,0	9,4	-	-	9,4	9,4	14,1	14,1	-	-
EIK (4)	400 V/3/50 Hz	A Total	-	-	-	-	6,2	6,2	-	-	-	-	5,7	5,7
3C-A .... -C														
Coil + Drain pan		Nb	8 + 1	3 + 1	4 + 1	5 + 1	4 + 1	4 + 1	8 + 1	8 + 1	8 + 1	8 + 1	8 + 1	8 + 1
		W Total	3240	4600	5750	4320	7200	7200	6480	6480	9720	9720	11880	11880
Standard electric defrost	230 V/1/50 Hz	A Total	14,1	-	-	-	-	-	-	-	-	-	-	-
	400 V/3/50 Hz	A Total	-	6,6	8,3	6,3	10,4	10,4	9,4	9,4	14,0	14,0	17,1	17,1
Dimensions														
	Length	mm	1011	1967	1967	1611	2673	2673	1611	1611	2211	2211	2811	2811
	Width	mm	610	484	484	610	484	484	610	610	610	610	610	610
	Height	mm	635	428	428	635	428	428	635	635	635	635	635	635
Connections (5)	Inlet	∅ OD	7/8"	5/8"	7/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"
R404A	Outlet	∅ OD	7/8"	7/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 5/8"	2 1/8"	2 1/8"	2 1/8"
Net weight		kg	41	52	55	56	62	66	59	65	81	90	108	117

(1) Standard conditions:

SC2 : 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K  
 SC3 : -18°C (air inlet temp.) / -25°C (evaporating temp.) / DT1 = 7K  
 SC4 / -25°C (air inlet temp.) / -31°C (evaporating temp.) / DT1 = 6K

(2) Residual air speed: 0.25 m/s.

(3) 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.

(4) Electric defrost option.

(5) OD : Male connector - ODF: Female to receive a tube of the same diameter.

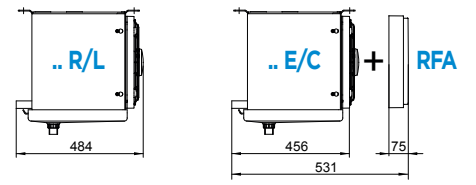
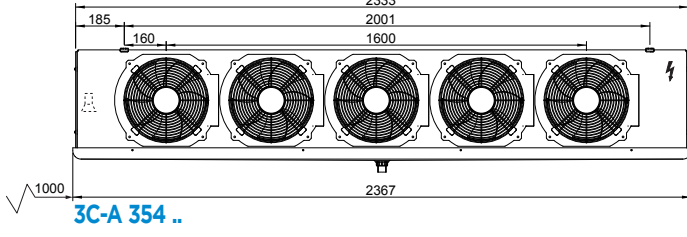
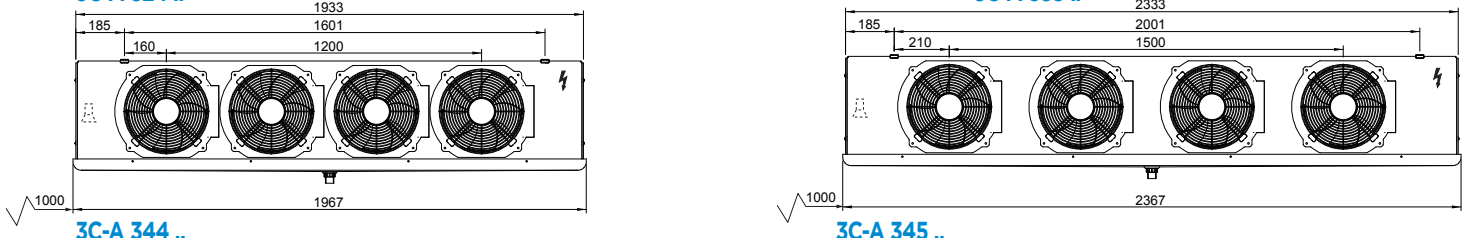
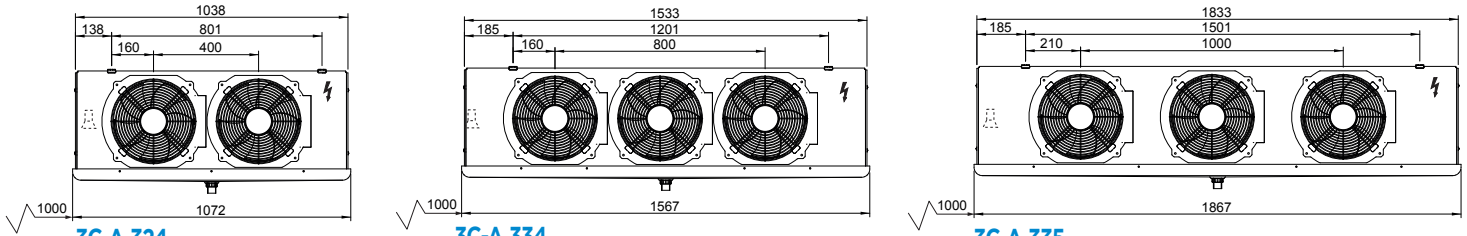
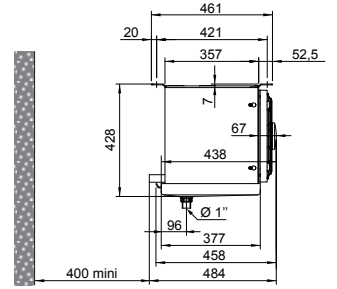
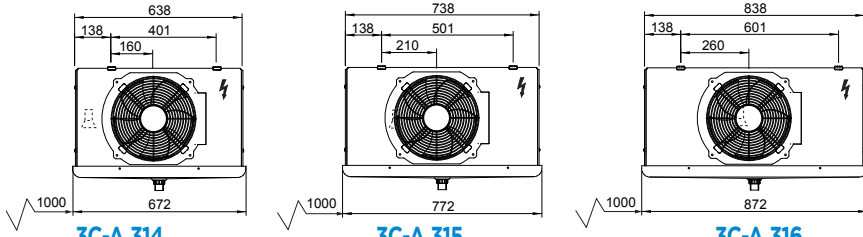
(6) Specific coil - Operating pressure 60 bar - Tube diameter to define the order.

(7) 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.

	HG1	HGT	DEG	EIK	EIU	E2K	E2U	E3K	RVK	RVU	HDA	2TH	THD	THS	DMP	EVL	EEC
3C-A .... -L	-	-	-	○	○	○	-	○	-	-	-	○	○	○	○	○	👤
3C-A .... -C	👤	👤	👤	-	-	-	○	-	○	○	👤	○	○	○	○	○	👤

Ø 300 MM



Ø 450 MM

