

ARCTIC AL

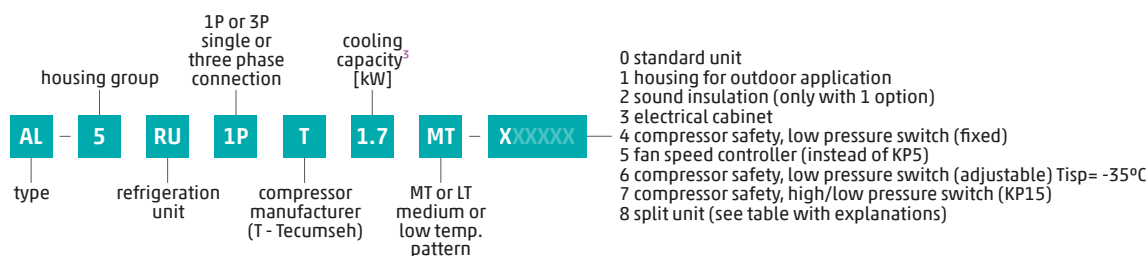


- Ideal solution for cold rooms and refrigerated display cases
- Suitable for commercial facilities
- Compact design allows for easy handling and installation in confined spaces
- Anti-corrosion construction ensures reliable operation in all climatic conditions

TABLE WITH OPTIONS

OPTION	EQUIPMENT	NOTE
BASIC	<ul style="list-style-type: none"> • hermetic compressor • crankcase heater for units with high capacity compressor • air-cooled condenser with fan • liquid receiver • safety valve² • filter-drier with sight glass • vibration absorbers 	<ul style="list-style-type: none"> • when choosing a refrigerant unit, in addition to unit's name please also specify the number of the option. • e.g. unit AL - SRU1PT1.7MT - 0; with standard units only (see left) • e.g. unit AL - SRU1PT1.7MT - 134; with protective housing, power supply and protection and a fixed protective pressure switch of the LP compressor • e.g. unit AL - SRU1PT1.7MT - 8; contains all equipment from option 1 and option 3, and comes with an evaporator unit and a control unit
	<ul style="list-style-type: none"> • protect. pressure switch of the HP compressor • pressostatic regulation of cond. pressure 	<ul style="list-style-type: none"> • protect. pressure switch of the compressor
OPTIONS	EQUIPMENT	NOTE
OPTION 1	<ul style="list-style-type: none"> • protective housing 	<ul style="list-style-type: none"> • standard with option 8
OPTION 2	<ul style="list-style-type: none"> • sound insulation 	<ul style="list-style-type: none"> • only with option 1
OPTION 3	<ul style="list-style-type: none"> • power supply and protection - compressor switch, el. heater, condenser fans, main switch (option 3) 	<ul style="list-style-type: none"> • power distribution cabinet • to choose only with option 1. Electrical cabinet • power dist. cabinet standard with option 8 - plus stand. equipment (see left) • power dist. cabinet has consumer fuses (evaporator fans, el. defrost heater)
OPTION 4	<ul style="list-style-type: none"> • fixed prot. pressure switch of the LP compressor 	<ul style="list-style-type: none"> • automatic reset
OPTION 5	<ul style="list-style-type: none"> • fan speed controller 	<ul style="list-style-type: none"> • the fan speed controller regulates pressure in the condenser so by selecting option 5 the pressure switch is removed from the stand. equipment
OPTION 6	<ul style="list-style-type: none"> • adjustable protective pressure switch of the LP compressor for Tisp= -35°C 	<ul style="list-style-type: none"> • with option 6, an adjust. prot. pressure switch of the compressor is installed • applied in case when the desired evaporating of the LT model is -35°C
OPTION 7	<ul style="list-style-type: none"> • adjustable prot. pressure switch of the HP/LP compressor 	<ul style="list-style-type: none"> • with option 7, an adjust. high/low pressure switch of the compressor is installed • with option 7 the fixed LP protective pressure switch is not installed • options 4 and 6 are not added with option 7
OPTION 8	<ul style="list-style-type: none"> • split unit • protective housing for outdoor use • power supply and protection - compressor switch, consumer fuses (condenser and evaporator fans, electric defrost heater), main switch 	<ul style="list-style-type: none"> • option 8 completes the cooling system (condensing unit, evaporator unit and control unit)

NOMENCLATURE



² Except for AL-3RU1PT0.7MT and AL-3RU1PT0.8MT

³ Under conditions: For R449A

• MT Te/Ta = -10°C/+32°C

• LT Te/Ta = -30°C/+32°C

• superheat 10K

• subcooling 2K

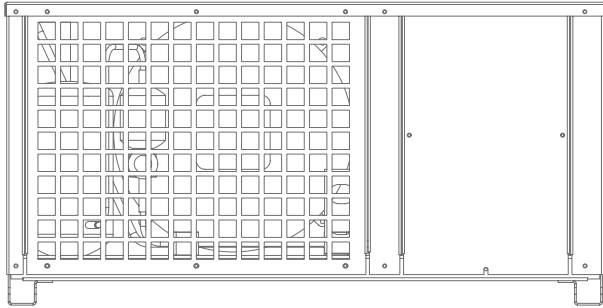
• Te evaporation temperature

• Ta ambient temperature

Note: The system can be filled with other refrigerants (R404A, R407F, R448A). Cooling capacities differ from those shown in the table in this data sheet. When option 8 is chosen, the cooling system may only be filled with R449A or R448A.

REFRIGERATION UNITS

REFRIGERATION UNIT OUTSIDE THE COLD ROOM



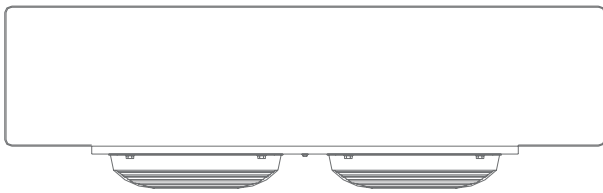
STANDARD UNIT

- hermetic compressor
- oil sump heater for higher power compressors¹
- air-cooled condenser with fan
- liquid operating substance tank
- safety valve²
- filter-drier with inspection glass
- fixed protective pressure switch of the HP compressor
- regulation of condensation pressure via pressure switch
- anti-vibrants on units where $\rho_{SL} \geq 22\text{mm}$

STANDARD UNIT (WITH OPTION 8)

- protective housing for outdoor use
- fixed protective pressure switch of the LP compressor, automatic
- power supply and protection - compressor switch, consumer fuses (condenser and evaporator fans, electric defrost heater), main switch

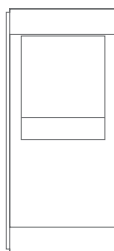
EVAPORATOR UNIT INSIDE THE COLD ROOM



STANDARD UNIT (OPTION 8)

- Evaporator with electric defrost (ED - electric defrost)
- Electromagnetic valve
- Thermal expansion valve with nozzle

CONTROL UNIT OUTSIDE THE COLD ROOM



STANDARD UNIT (OPTION 8)

- SmartCella
- two temperature probes

FEATURES	ACCESSORIES
compact design	protective housing for outdoor use (standard with option 8)
PED I	sound insulation (with protective housing only)
easy mounting	power supply and protection (with protective housing only; standard with option 8)
design with anti-corrosion protection	fixed protective pressure switch of the LP compressor
refrigerant with GWP = 1397, R449A	fan speed controller
ASSEMBLY ACCESSORIES	fixed protective pressure switch of the LP compressor for $T_{isp} = -35\text{ }^{\circ}\text{C}$
floor stand	adjustable protective pressure switch of the HP/LP compressor
mounting brackets	refrigeration units

² Except for 3CU1PT0.7MT and 3CU1PT0.8MT

Note: The system can be filled with other refrigerants (R404A, R407F, R448A). Cooling capacities differ from those shown in the table in this data sheet. With option 8, the cooling system may only be filled with R449A or R448A).

TECHNICAL DATA

COOLING CAPACITY

Refrigeration unit MT MODEL	Condensing unit				Evaporator unit (option 8) ⁴
	Compressor	Cooling capacity [kW] ³	Connections		
		Te/Ta -10°C/+32°C	ρSL	ρLL	
AL-3RU1PT0.7MT	AE 4450 Z	0,7	10	6	EVS 61 ED
AL-3RU1PT0.8MT	AE 4460 Z	0,8	10	6	EVS 101 ED
AL-4RU1PT1.1MT	CAJ 9480 Z	1,1	12	10	EVS 131 ED
AL-4RU1PT1.3MT	CAJ 9510 Z	1,3	16	10	EVS 201 ED
AL-5RU1PT1.7MT	CAJ 9513 Z	1,7	16	10	EVS 201 ED
AL-5RU1PT1.9MT	CAJ 4517 Z	1,9	16	10	EVS 181 ED
AL-6RU1PT2.5MT	CAJ 4519 Z	2,5	16	10	EVS 291 ED
AL-6RU3PT2.8MT	FH4524-XG1A	2,8	16	10	EVS 391 ED
AL-6RU3PT3.6MT	FH4532-XG1A	3,6	22	10	EVS 521 ED
AL-7RU3PT4.7MT	FH4538Z-XG1A	4,7	22	10	GCE 254E8 ED
AL-7RU3PT5.7MT	TAG 4553 Z	5,7	22	10	GCE 352E8 ED
AL-7RU3PT6.6MT	TAG 4561 Z	6,6	28	10	GCE 313F8 ED
AL-7RU3PT7.8MT	TAG 4568 Z	7,8	28	10	GCE 314F8 ED
AL-7RU3PT8.4MT	TAG 4573 Z	8,4	28	10	GCE 314F8 ED

Refrigeration unit LT MODEL	Condensing unit				Evaporator unit (option 8) ⁴
	Compressor	Cooling capacity [kW] ³	Connections		
		Te/Ta -30°C/+32°C	ρSL	ρLL	
AL-4RU1PT0.8LT	CAJ 2464 Z	0,8	16	10	GCE 251E8R ED
AL-5RU1PT1.1LT	FH 2480 Z-XC	1,1	16	10	GCE 251E8 ED
AL-5RU3PT1.1LT	FH 2480 Z-XG	1,1	16	10	GCE 251E8 ED
AL-5RU3PT1.4LT	FH 2511 Z-XG	1,4	16	10	GCE 252G8 ED
AL-7RU3PT1.8LT	TAG 2516 Z	1,8	22	10	GCE 253E8 ED
AL-7RU3PT2.3LT	TAG 2519 Z	2,3	22	10	GCE 253E8 ED
AL-7RU3PT2.6LT	TAG 2522 Z	2,6	22	10	GCE 253E8 ED



REPLACEMENT FOR FH/TFH compressors

- TECUMSEH is replacing FH and TFH compressors with new FH2 compressors to be installed when the stock of existing FH and TFH runs out.
- The table below shows the new designation of the compressor that is being replaced in the Arctic AL product series.

MODEL TYPE	CAJ/TAG	AJ/AG
LT MODELS	CAJ 9510 Z	AJ 4510 P-FZ
	CAJ 9513 Z	AJ 4513 P-FZ
	CAJ 4519 Z	AJ 4519 P-FZ
	TAG 4553 Z	AG 4553 P-TZ
	TAG 4561 Z	AG 4561 P-TZ
MT MODELS	TAG 2516 Z	AG 2516 P-TZ
	TAG 2519 Z	AG 2519 P-TZ
	TAG 2522 Z	AG 2522 P-TZ

³ Under conditions: For R449A

• MT Te/Ta = -10°C/+32°C
• LT Te/Ta = -30°C/+32°C

⁴ Applies only for R449A

• superheat 10K
• subcooling 2K
• Te evaporation temperature
• Ta ambient temperature

• XC single phase
• XG three phase
• ρSL suction line
• ρLL liquid line

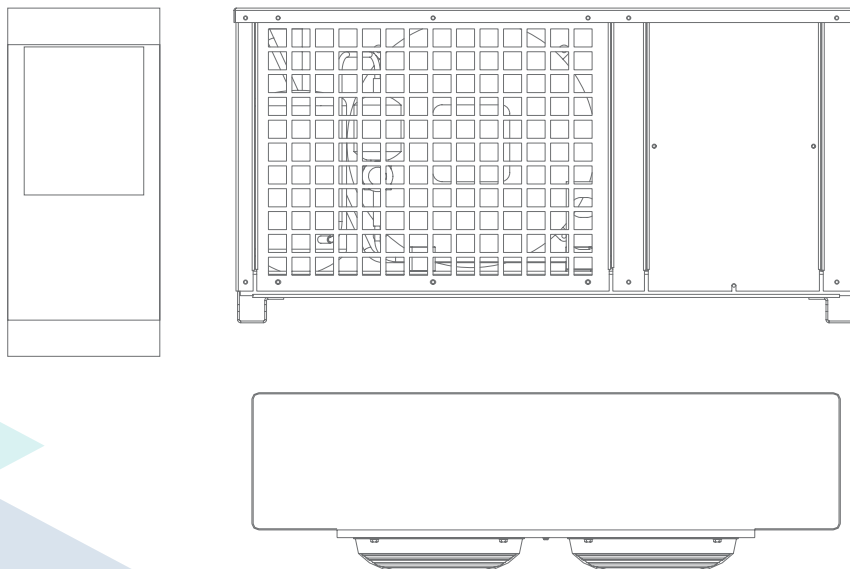
OPTION 8 (SPLIT UNIT)

CHOOSING A SPLIT UNIT (OPTION 8)

The table below refers to temperature maintenance in rooms i.e. goods enter the room already cooled. Cold rooms must be properly insulated.

MAX. COLD ROOM VOLUME			
Cooling temperature	0°C/+2°C	+4°C	+6°C
AL-3RU1PT0.7MT	4 m ³	5 m ³	6 m ³
AL-3RU1PT0.8MT	6 m ³	8 m ³	9 m ³
AL-4RU1PT1.1MT	10 m ³	12 m ³	14 m ³
AL-4RU1PT1.3MT	14 m ³	16 m ³	18 m ³
AL-5RU1PT1.7MT	18 m ³	22 m ³	25 m ³
AL-5RU1PT1.9MT	20 m ³	24 m ³	27 m ³
AL-6RU1PT2.5MT	28 m ³	32 m ³	35 m ³
AL-6RU3PT2.8MT	38 m ³	45 m ³	50 m ³
AL-6RU3PT3.6MT	50 m ³	60 m ³	65 m ³
AL-7RU3PT4.7MT	70 m ³	80 m ³	90 m ³
AL-7RU3PT5.7MT	80 m ³	90 m ³	100 m ³
AL-7RU3PT6.6MT	95 m ³	105 m ³	110 m ³
AL-7RU3PT7.8MT	120 m ³	130 m ³	140 m ³
AL-7RU3PT8.4MT	140 m ³	150 m ³	160 m ³

MAX. COLD ROOM VOLUME	
Cooling temperature	-20°C/-18°C
AL-4RU1PT0.8LT	5 m ³
AL-5RU1PT1.1LT	8 m ³
AL-5RU3PT1.1LT	8 m ³
AL-5RU3PT1.4LT	15 m ³
AL-7RU3PT1.8LT	25 m ³
AL-7RU3PT2.3LT	30 m ³
AL-7RU3PT2.6LT	40 m ³



TECHNICAL DATA

POWER SUPPLY

Refrigeration unit MT MODEL	Condensing unit				Evaporator unit			
	Compressor	Power supply	I _{max} [A]	P _{max} [kW]	Evaporator	Power supply	I _{max} [A]	P _{max} [kW]
AL-3RU1PT0.7MT	AE 4450 Z	230 V/1~/50 Hz	6,2	0,7	EVS 61 ED	230 V/1~/50 Hz	2,4	0,5
AL-3RU1PT0.8MT	AE 4460 Z	230 V/1~/50 Hz	6,3	0,8	EVS 101 ED	230 V/1~/50 Hz	3,5	0,8
AL-4RU1PT1.1MT	CAJ 9480 Z	230 V/1~/50 Hz	7,6	1,1	EVS 131 ED	230 V/1~/50 Hz	3,7	0,8
AL-4RU1PT1.3MT	CAJ 9510 Z	230 V/1~/50 Hz	9,2	1,3	EVS 201 ED	230 V/1~/50 Hz	3,7	0,8
AL-5RU1PT1.7MT	CAJ 9513 Z	230 V/1~/50 Hz	11,6	1,6	EVS 201 ED	230 V/1~/50 Hz	3,7	0,8
AL-5RU1PT1.9MT	CAJ 4517 Z	230 V/1~/50 Hz	13	1,8	EVS 181 ED	230 V/1~/50 Hz	5,7	1,3
AL-6RU1PT2.5MT	CAJ 4519 Z	230 V/1~/50 Hz	17,2	2,5	EVS 291 ED	230 V/1~/50 Hz	6,3	1,4
AL-6RU3PT2.8MT	FH4524-XG1A	400 V/3~/50 Hz	8,1	2,7	EVS 391 ED	230 V/1~/50 Hz	6,3	1,4
AL-6RU3PT3.6MT	FH4532-XG1A	400 V/3~/50 Hz	8,9	3,5	EVS 521 ED	230 V/1~/50 Hz	8,4	1,8
AL-7RU3PT4.7MT	FH4538Z-XG1A	400 V/3~/50 Hz	10,8	4,5	GCE 254E8 ED	400 V/3~/50 Hz	9,1	4,8
AL-7RU3PT5.7MT	TAG 4553 Z	400 V/3~/50 Hz	15,9	5,6	GCE 352E8 ED	400 V/3~/50 Hz	6,5	3,6
AL-7RU3PT6.6MT	TAG 4561 Z	400 V/3~/50 Hz	16,9	6,4	GCE 313F8 ED	400 V/3~/50 Hz	8,7	5,2
AL-7RU3PT7.8MT	TAG 4568 Z	400 V/3~/50 Hz	19,4	7,2	GCE 314F8 ED	400 V/3~/50 Hz	11,21	6,8
AL-7RU3PT8.4MT	TAG 4573 Z	400 V/3~/50 Hz	20,6	8	GCE 314F8 ED	400 V/3~/50 Hz	11,21	6,8

Refrigeration unit LT MODEL	Condensing unit				Evaporator unit			
	Compressor	Power supply	I _{max} [A]	P _{max} [kW]	Evaporator	Power supply	I _{max} [A]	P _{max} [kW]
AL-4RU1PT0.8LT	CAJ 2464 Z	230 V/1~/50 Hz	10,8	1,6	GCE 251E8R ED	230 V/1~/50 Hz	3,9	0,8
AL-5RU1PT1.1LT	FH 2480 Z-XC	230 V/1~/50 Hz	16,3	2,3	GCE 251E8 ED	230 V/1~/50 Hz	5,6	1,2
AL-5RU3PT1.1LT	FH 2480 Z-XG	400 V/3~/50 Hz	5,1	2,3	GCE 251E8 ED	230 V/1~/50 Hz	5,6	1,2
AL-5RU3PT1.4LT	FH 2511 Z-XG	400 V/3~/50 Hz	7,5	3	GCE 252G8 ED	230 V/1~/50 Hz	11,1	2,4
AL-7RU3PT1.8LT	TAG 2516 Z	400 V/3~/50 Hz	10,1	4	GCE 253E8 ED	400 V/3~/50 Hz	5,5	3,6
AL-7RU3PT2.3LT	TAG 2519 Z	400 V/3~/50 Hz	11	4,2	GCE 253E8 ED	400 V/3~/50 Hz	5,5	3,6
AL-7RU3PT2.6LT	TAG 2522 Z	400 V/3~/50 Hz	14	5	GCE 253E8 ED	400 V/3~/50 Hz	5,5	3,6



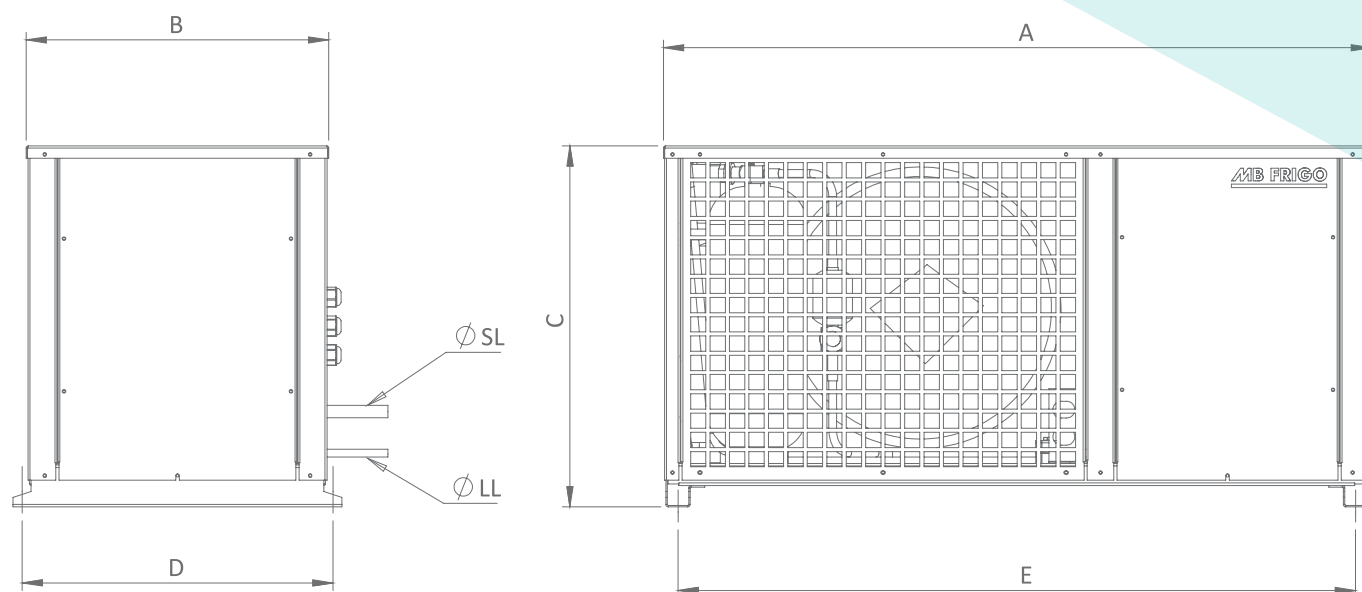
REPLACEMENT FOR FH/TFH compressors

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- The table below shows the new designation of the compressor that is being replaced in the Arctic AL product series.

MODEL TYPE	CAJ/TAG	AJ/AG
LT MODELS	CAJ 9510 Z	AJ 4510 P-FZ
	CAJ 9513 Z	AJ 4513 P-FZ
	CAJ 4519 Z	AJ 4519 P-FZ
	TAG 4553 Z	AG 4553 P-TZ
	TAG 4561 Z	AG 4561 P-TZ
MT MODELS	TAG 2516 Z	AG 2516 P-TZ
	TAG 2519 Z	AG 2519 P-TZ
	TAG 2522 Z	AG 2522 P-TZ

TECHNICAL DATA

CONDENSING UNIT OUTSIDE THE COLD ROOM



Refrigeration unit MT MODEL	DIMENSIONS (mm)					WEIGHT ⁵ (kg)
	A	B	C	D	E	
AL-3RU1PT0.7MT	691	367	348	383	651	30
AL-3RU1PT0.8MT	691	367	348	383	651	31
AL-4RU1PT1.1MT	846	367	398	383	806	57
AL-4RU1PT1.3MT	846	367	398	383	806	58
AL-5RU1PT1.7MT	978	397	473	413	938	66
AL-5RU1PT1.9MT	978	397	473	413	938	68
AL-6RU1PT2.5MT	1052	454	573	470	1012	86
AL-6RU3PT2.8MT	1052	454	573	470	1012	95
AL-6RU3PT3.6MT	1052	454	573	470	1012	96
AL-7RU3PT4.7MT	1359	553	674	564	1319	131
AL-7RU3PT5.7MT	1359	553	674	564	1319	131
AL-7RU3PT6.6MT	1359	553	674	564	1319	144
AL-7RU3PT7.8MT	1359	553	674	564	1319	146
AL-7RU3PT8.4MT	1359	553	674	564	1319	146

Refrigeration unit LT MODEL	DIMENSIONS (mm)					WEIGHT ⁵ (kg)
	A	B	C	D	E	
AL-4RU1PT0.8LT	846	367	398	383	806	59
AL-5RU1PT1.1LT	978	397	473	413	938	83
AL-5RU3PT1.1LT	978	397	473	413	938	78
AL-5RU3PT1.4LT	978	397	473	413	938	79
AL-7RU3PT1.8LT	1359	553	674	564	1319	145
AL-7RU3PT2.3LT	1359	553	674	564	1319	145
AL-7RU3PT2.6LT	1359	553	674	564	1319	165

⁵ Units weight includes housing for outdoor application, power supply and protection. Weights are approximate and are subject to change.

TECHNICAL DATA

EVAPORATOR UNIT INSIDE THE COLD ROOM

Evaporator	DIMENSIONS (mm)			WEIGHT (kg)
	D	Š	V	
EVS 61 ED	411	433	120	4,6
EVS 101 ED	611	433	120	6,7
EVS 131 ED	611	433	120	7,3
EVS 201 ED	605	435	170	10,7
EVS 181 ED	1111	433	120	10,5
EVS 291 ED	1111	433	120	11,5
EVS 391 ED	1105	435	170	17
EVS 521 ED	1455	435	170	23
GCE 254E8 ED	2124	509	431	39
GCE 313F8 ED	1974	561	468	45
GCE 314F8 ED	2524	561	424	58,5
GCE 251E8R ED	674	409	390	12
GCE 251E8 ED	774	509	431	13,5
GCE 252G8 ED	1224	509	431	20
GCE 253E8 ED	1674	509	431	31
GCE 352E8 ED	1130	608	499	39,5