

ARCTIC AC

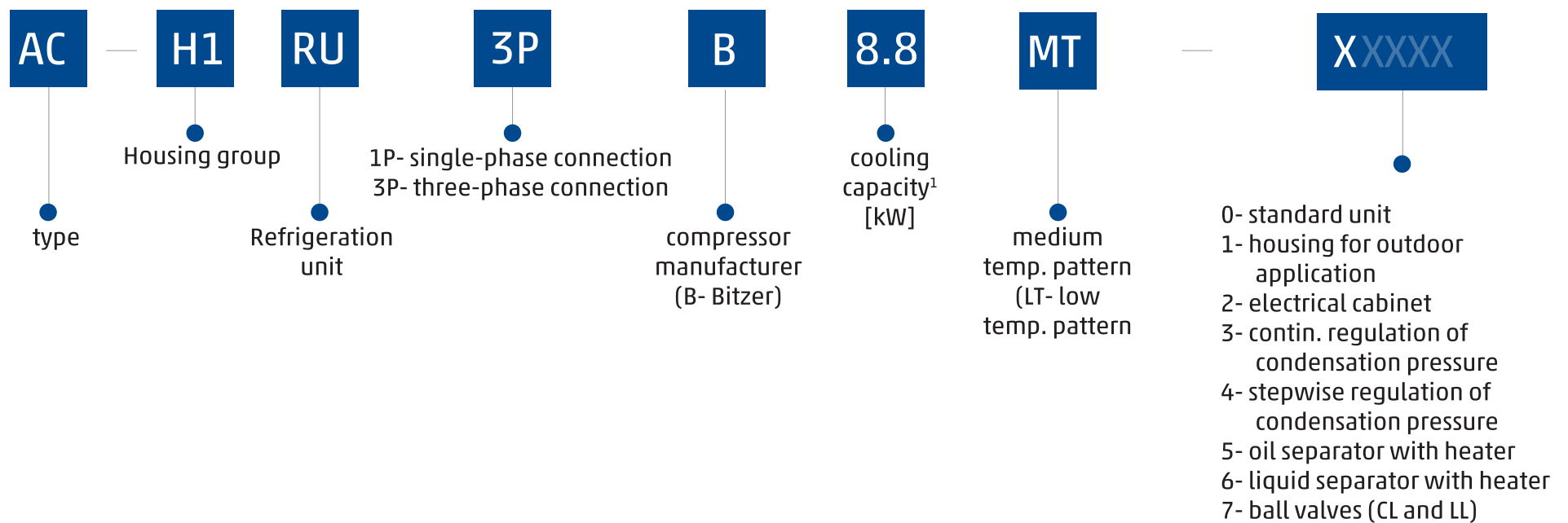
COMPRESSOR UNITS



ARCTIC AC industrial compressor units

Arctic AC compressor units are the ideal solution for large-scale system for various industries. Arctic AC compressor units are equipped with semi-hermetic compressors that provide a high degree of serviceability.

▶ NOMENCLATURE:



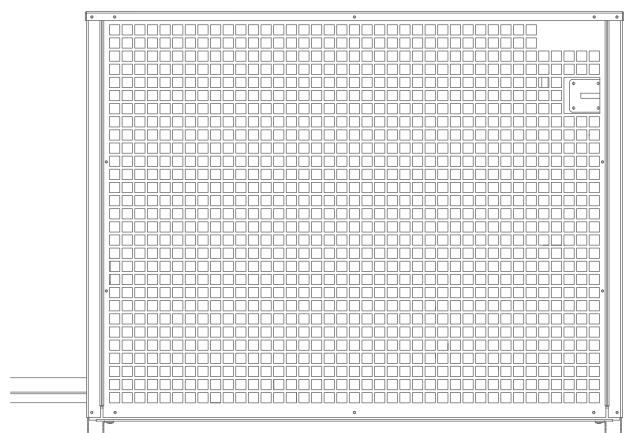
▶ TABLE WITH OPTIONS

	EQUIPMENT	NOTE
BASIC EQUIPMENT	<ul style="list-style-type: none"> • semi-hermetic compressor with oil crankcase heater • liquid receiver • safety valve up to 28 bar • filter-drier with slight glass • adjustable high/low pressure switch of the compressor • stepwise regulation of condensation pressure • pressostatic oil pressure regulation² • anti-vibration pipes • cooling fan for the compressor head (LT models only) 	<ul style="list-style-type: none"> • when choosing a cooling unit in addition to its name please also specify the number of the option. • e.g. unit AC- H1RU3PB8.8MT- 0; standard unit • e.g. unit AC- H1KU3PB8.8MT- 12; with housing for outdoor application • and power supply and protection.
OPTIONS	EQUIPMENT	NOTE
OPTION 1	<ul style="list-style-type: none"> • protective housing 	<ul style="list-style-type: none"> • -
OPTION 2	<ul style="list-style-type: none"> • power supply and protection-compressor switch, el. heater, condenser fans, main switch 	<ul style="list-style-type: none"> • power distribution cabinet
OPTION 3	<ul style="list-style-type: none"> • continuous regulation of condensation pressure 	<ul style="list-style-type: none"> • Danfoss XGE 4C I is installed. • speed regulator regulates the pressure of the condenser • for MBF condensers only • See table with explanations on p. 6.
OPTION 4	<ul style="list-style-type: none"> • oil separator with heater 	<ul style="list-style-type: none"> • -
OPTION 5	<ul style="list-style-type: none"> • liquid separator with heater 	<ul style="list-style-type: none"> • -
OPTION 6	<ul style="list-style-type: none"> • ball valves CL and LL 	<ul style="list-style-type: none"> • Ball valve on condensation and liquid piping
OPTION 7	<ul style="list-style-type: none"> • non-return valve on the pressure side of the compressor 	<ul style="list-style-type: none"> • -

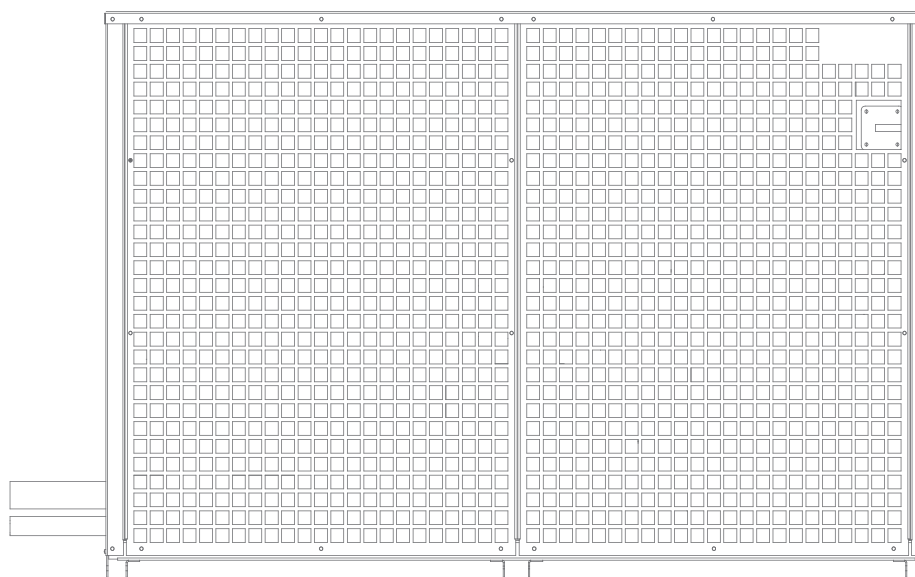
¹ under the following conditions:

- MT Te/Ta = -10 C/+32 C
- LT Te/Ta = -30 C/+32 C
- superheat 10 K
- subcooling 2 K

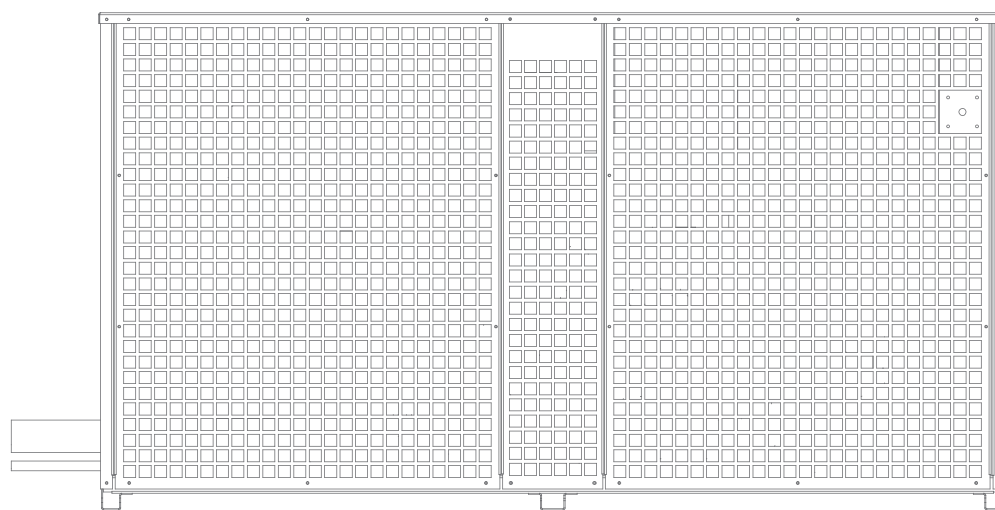
▶ COMPRESSOR UNIT outside the cold room



• design group H1



• design group H2



• design group H3

STANDARD UNIT

- semi-hermetic compressor with oil crankcase heater
- liquid receiver
- safety valve up to 28 bar
- filter-drier with sight glass
- adjustable protective pressure switch of the HP/LP compressor
- pressostatic regulation of oil pressure²
- antivibration pipes on pressure and suction
- cooling fan for the compressor's head (LT models only)

FEATURES:

- designed with anti-corrosion protection
- refrigerant with low GWP (GWP = 1397), R449A

ASSEMBLY ACCESSORIES:

- floor stands
- mounting brackets

ACCESSORIES (see table with options):

- housing for outdoor application
- electrical cabinet
- continuous regulation of condensation pressure
- oil separator with heater
- liquid separator with heater
- ball valves (CL and LL)
- non-return valve on the pressure side of the compressor

COOLING CAPACITY:

•R449A

Compressor unit MT MODEL	Compressor	Cooling capacity [kW]			Connections		Connections	
		te/ta			Evaporator		Condenser	
		-10°C/+32°C	-5°C/+32°C	0°C/+32°C	φSL	φLL	φDL	φCL
AC-H1RU3PB8.8MT	4FES-5Y	8,8	10,8	13,4	22	12	16	16
AC-H1RU3PB11.1MT	4EES-6Y	11,1	13,5	16,8	28	12	16	16
AC-H1RU3PB12.6MT	4DES-7Y	12,6	15,4	19,2	28	16	22	18
AC-H1RU3PB16.1MT	4CES-9Y	16,1	19,6	24,4	28	16	22	18
AC-H2RU3PB16.6MT	4VES-10Y	16,6	20,3	25,5	28	16	22	18
AC-H2RU3PB20.1MT	4TES-12Y	20,1	24,6	30,8	35	16	28	18
AC-H2RU3PB22.8MT	4PES-15Y	22,8	27,9	35,2	42	16	28	22
AC-H2RU3PB27.5MT	4NES-20Y	27,5	33,6	42,0	42	22	28	22

Compressor unit MT MODEL	Compressor	Cooling capacity [kW]			Connections		Connections	
		te/ta			Evaporator		Condenser	
		-35°C/+32°C	-30°C/+32°C	-25°C/+32°C	φSL	φLL	φDL	φCL
AC-H1RU3PB3.6LT	4EES-4Y	2,4	3,6	4,7	22	10	12	12
AC-H1RU3PB4.1LT	4DES-5Y	2,7	4,1	5,4	22	10	12	12
AC-H1RU3PB5.4LT	4CES-6Y	3,6	5,4	7,0	28	10	12	12
AC-H2RU3PB6.5LT	4TES-9Y	4,2	6,5	8,5	28	10	16	12
AC-H2RU3PB6.9LT	4PES-12Y	4,3	6,9	9,3	35	10	16	12
AC-H2RU3PB8.8LT	4NES-14Y	5,7	8,8	11,5	35	12	16	16
AC-H3RU3PB10.6LT ²	4JE-15Y ²	7,0	10,6	13,9	42	12	18	16
AC-H3U3PB12.8LT ²	4HE-18Y ²	8,6	12,8	16,62	42	16	18	18
AC-H3U3PB15.4LT ²	4GE-23Y ²	10,6	15,4	19,72	54	16	22	18

- Te Evaporating temperature
- Ta ambient temperature
- P_{MAX} maximum electrical power
- I_{MAX} maximum electric current
- φ SL suction pipe
- φ LL liquid pipe

WORKING CONDITIONS:

- superheat 10K
- subcooling 2K

▶ POWER SUPPLY:

Compressor unit MT MODEL	Compressor unit			
	Compressor	Power supply	I _{max}	P _{max}
			[A]	[kW]
AC-H1RU3PB8.8MT	4FES-5Y	400 V/3~/50 Hz	10,8	5,8
AC-H1RU3PB11.1MT	4EES-6Y	400 V/3~/50 Hz	13,6	7,6
AC-H1RU3PB12.6MT	4DES-7Y	400 V/3~/50 Hz	16,5	8,9
AC-H1RU3PB16.1MT	4CES-9Y	400 V/3~/50 Hz	20,2	11,3
AC-H2RU3PB16.6MT	4VES-10Y	400 V/3~/50 Hz	19,9	12,0
AC-H2RU3PB20.1MT	4TES-12Y	400 V/3~/50 Hz	25,1	14,0
AC-H2RU3PB22.8MT	4PES-15Y	400 V/3~/50 Hz	28,2	16,0
AC-H2RU3PB27.5MT	4NES-20Y	400 V/3~/50 Hz	33,2	19,0

Compressor unit MT MODEL	Compressor unit			
	Compressor	Power supply	I _{max}	P _{max}
			[A]	[kW]
AC-H1RU3PB3.6LT	4EES-4Y	400 V/3~/50 Hz	12,2	6,9
AC-H1RU3PB4.1LT	4DES-5Y	400 V/3~/50 Hz	14,5	8,1
AC-H1RU3PB5.4LT	4CES-6Y	400 V/3~/50 Hz	17,7	9,7
AC-H2RU3PB6.5LT	4TES-9Y	400 V/3~/50 Hz	19,9	13,0
AC-H2RU3PB6.9LT	4PES-12Y	400 V/3~/50 Hz	22,7	14,0
AC-H2RU3PB8.8LT	4NES-14Y	400 V/3~/50 Hz	26,6	17,0
AC-H3RU3PB10.6LT ²	4JE-15Y ²	400 V/3~/50 Hz	30,8	19,0
AC-H3U3PB12.8LT ²	4HE-18Y ²	400 V/3~/50 Hz	36,7	22
AC-H3U3PB15.4LT ²	4GE-23Y ²	400 V/3~/50 Hz	43,9	27

- T_e evaporation temperature
- T_a ambient temperature
- P_{max} maximum electrical power
- I_{max} maximum electric current
- ϕ SL suction line
- ϕ LL liquid line

WORKING CONDITIONS:

- superheat 10K
- subcooling 2K

▶ OPTION 3 - Continuous regulation of condensation pressure:

It is used when an MBF condenser is delivered with the system, and the desired regulation of the condensation pressure is continuous using the speed regulator. The table lists the units and paired MBF condensers according to which the operating speed is installed and the appropriate electrical preparation is carried out. Option 3 does NOT include the condenser in the "package".

MT MODEL	Condenser	Speed reg. no.	IT MODEL	Condenser	Speed reg. no.
AC-H1RU3PB8.8MT	MBF 08	2	AC-H1RU3PB3.6IT	MBF 07	1
AC-H1RU3PB11.1MT	MBF 08	2	AC-H1RU3PB4.1IT	MBF 07	1
AC-H1RU3PB12.6MT	MBF 08	2	AC-H1RU3PB5.4IT	MBF 07	1
AC-H1RU3PB16.1MT	MBF 08	2	AC-H2RU3PB6.5IT	MBF 07	1
AC-H2RU3PB16.6MT	MBF 08	2	AC-H2RU3PB6.9IT	MBF 08	2
AC-H2RU3PB20.1MT	MBF 09	2	AC-H2RU3PB8.8IT	MBF 08	2
AC-H2RU3PB22.8MT	MBF 10	3	AC-H3RU3PB10.6IT ²	MBF 08	2
AC-H2RU3PB27.5MT	MBF 10	3	AC-H3U3PB12.8IT ²	MBF 08	2
-	-	-	AC-H3U3PB15.4IT ²	MBF 09	2

Check the MBF condensers capacity rating in the following table.

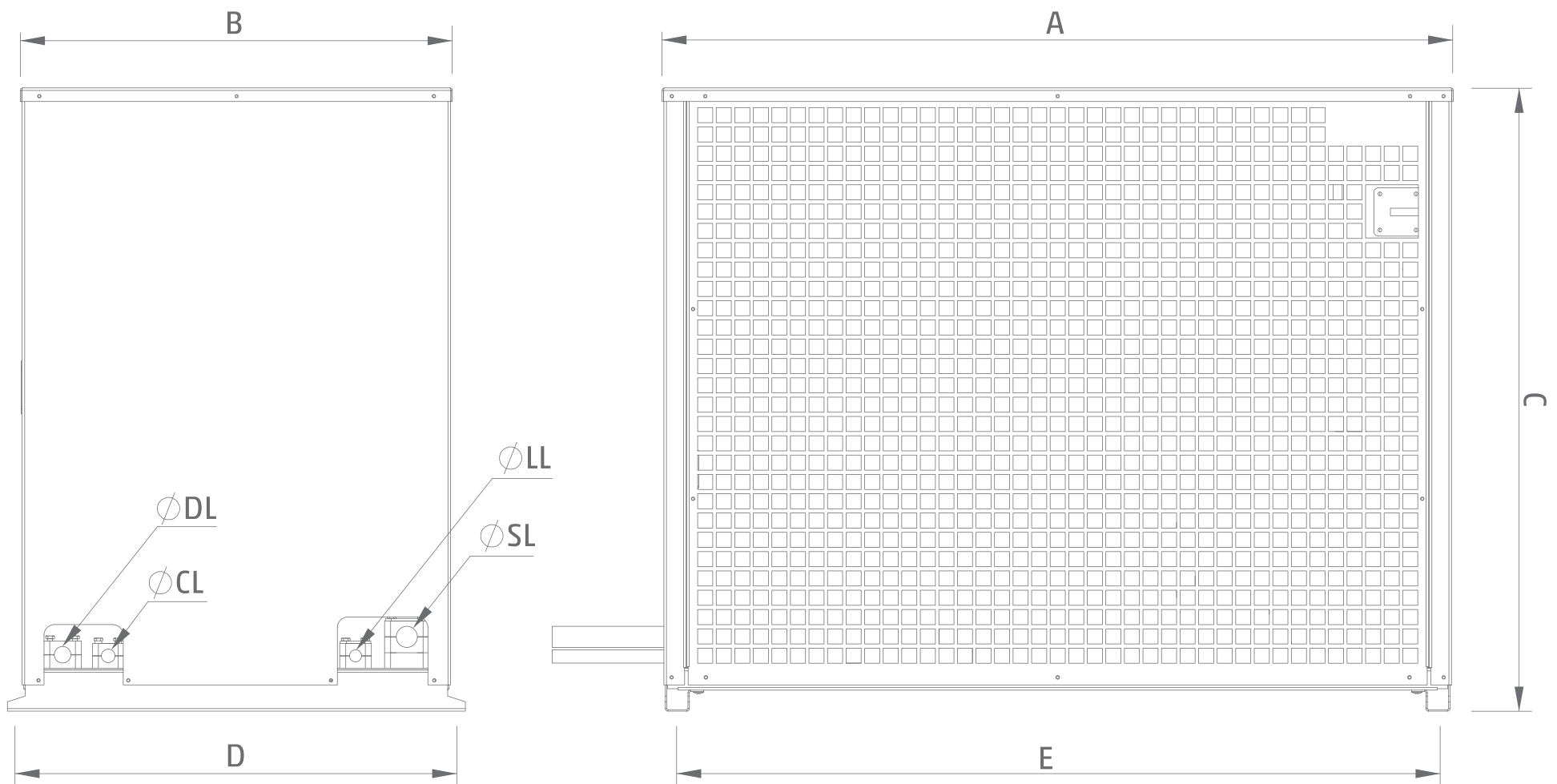
Arctic AC compressor units come with a safety valve of up to 28 bar. It is not possible to fill the unit with, e.g. R134 without modifying the device (replacing the safety valve and adjusting the parameters of the protective pressure switches).

MODEL	dT	R134a	R404A	R407F	R452A	R449A	Fan	Fans no.
	K	kW	kW	kW	kW	kW		
MBF 07	10	7,9	-	-	8,6	8,9	S6E450-AM13-50	1
	11	8,7	8,7	9,8	9,5	9,8		
	12	9,6	9,5	10,7	10,4	10,6		
MBF 07	10	11,5	-	-	12,2	12,5	S4E450-AU03-01	1
	11	12,4	12,5	14	13,9	13,8		
	12	14	13,7	15,3	14,6	15,1		
MBF 08	10	15,5	-	-	16,6	17,1	S6E450-AM13-50	2
	11	17,1	16,8	19	18,3	18,8		
	12	18,7	18,4	20,7	20	20,6		
MBF 08	10	22,1	-	-	23,2	24	S4E450-AU03-01	2
	11	24,5	23,8	26,8	25,6	26,4		
	12	27	26,2	29,3	28	28,9		
MBF 09	10	25,3	24,8	28,2	27,1	28	S6E500-AJ05-01	2
	11	27,9	27,5	31	29,9	30,8		
	12	30,6	30,2	33,8	32,6	33,6		
MBF 10	10	37,3	36,7	41,6	40	41,3	S6E500-AJ05-01	3
	11	41,2	40,7	45,8	44,1	45,4		
	12	45,2	44,6	49,9	48,1	49,5		

► COMPRESSOR UNIT outside the cold room

Arctic AC compressor units are placed on a base (with housing) in three housing groups. Each design group is divided into two subgroups. The subgroup "a" is used when, as an option, the compressor unit is not equipped with a liquid separator. The subgroup "b" is used when the unit is equipped with a liquid separator

► HOUSING GROUP H1

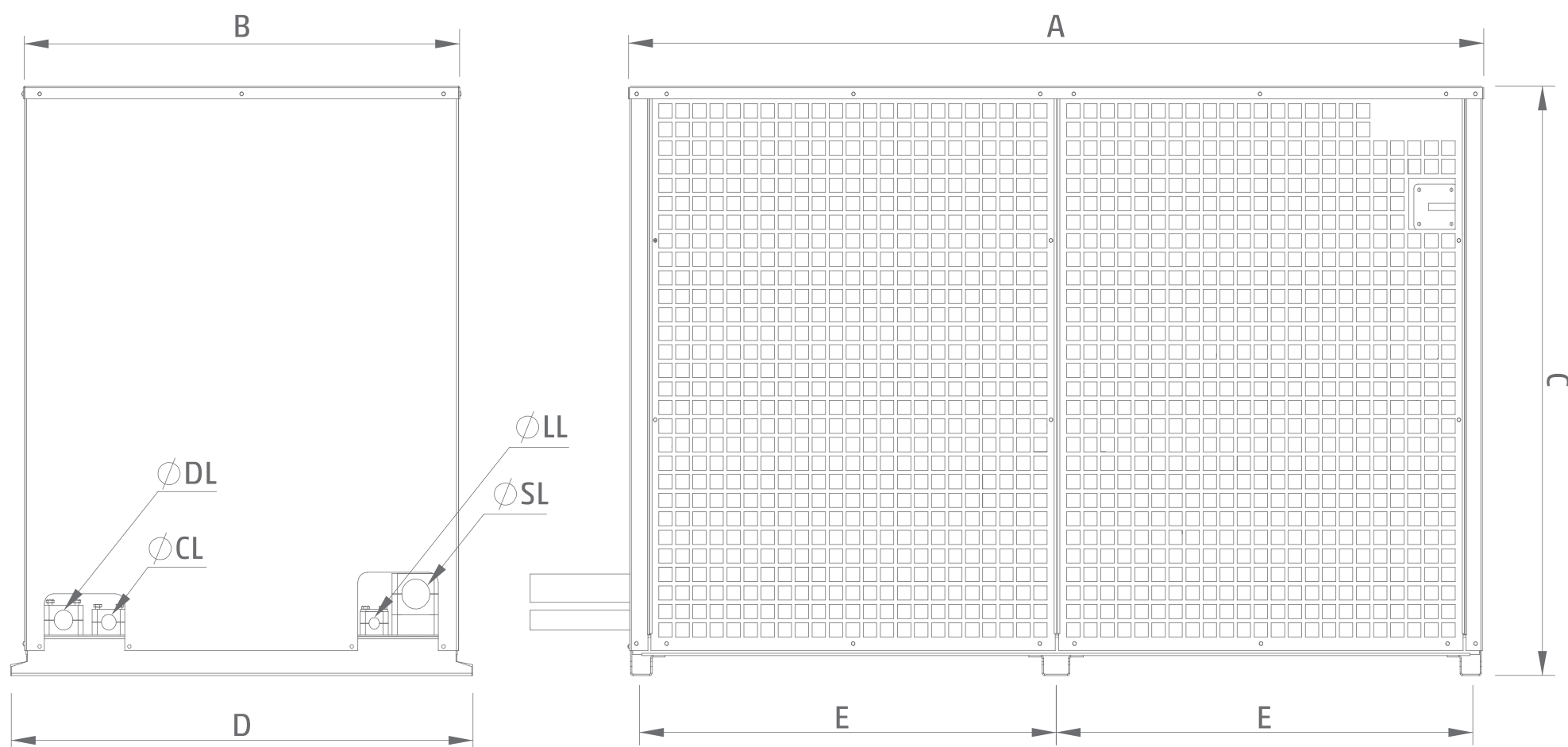


Compressor unit MT MODEL	Subgroup	Dimensions [mm]					Weight ⁴ [kg]
		A	B	C	D	E	
AC-H1RU3PB8.8MT	a	1049	573	827	589	1008	-
	b	1133	612	827	629	1093	-
AC-H1RU3PB11.1MT	a	1049	573	827	589	1008	-
	b	1133	612	827	629	1093	-
AC-H1RU3PB12.6MT	a	1049	573	827	589	1008	-
	b	1133	612	827	629	1093	-
AC-H1RU3PB16.1MT	a	1049	573	827	589	1008	-
	b	1133	612	827	629	1093	-

Compressor unit MT MODEL	Subgroup	Dimensions [mm]					Weight ⁴ [kg]
		A	B	C	D	E	
AC-H1RU3PB3.6IT	a	1049	573	827	589	1008	-
	b	1133	612	827	629	1093	-
AC-H1RU3PB4.1IT	a	1049	573	827	589	1008	-
	b	1133	612	827	629	1093	-
AC-H1RU3PB5.4IT	a	1049	573	827	589	1008	-
	b	1133	612	827	629	1093	-

⁴ Units weights include protective housing, power supply and protection.

▶ HOUSING GROUP H2

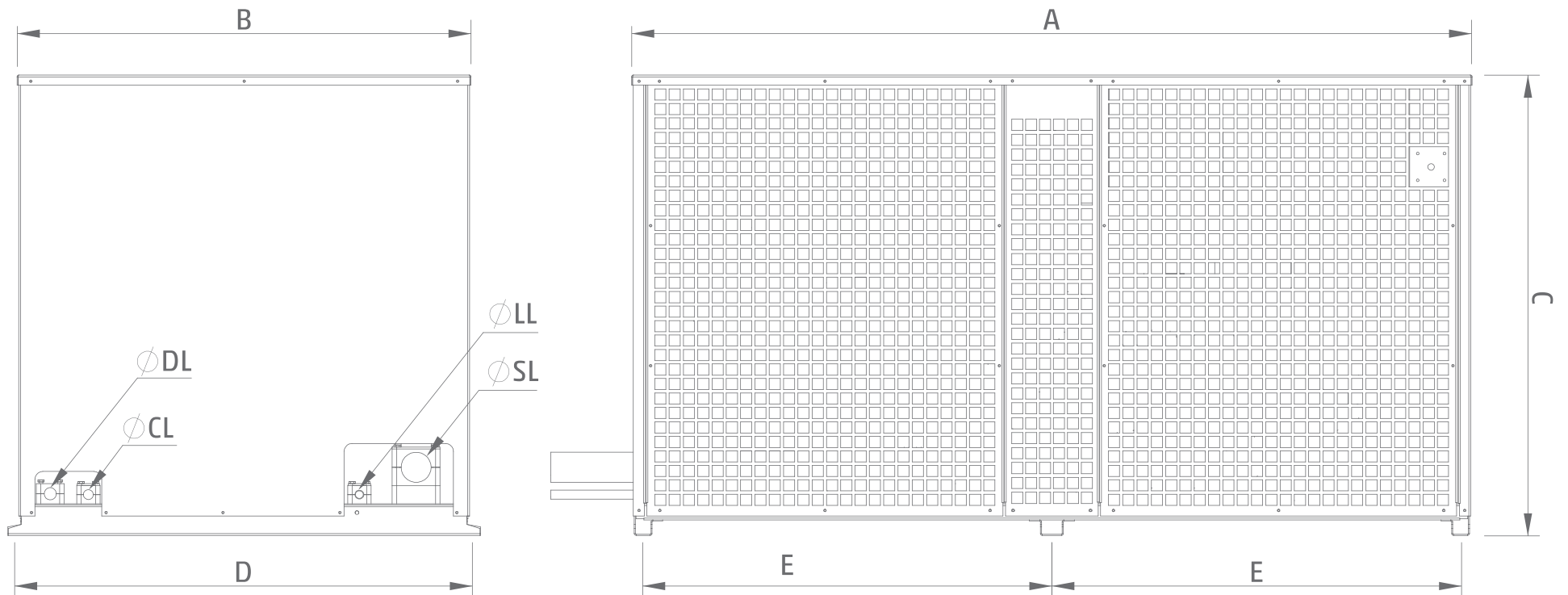


Compressor unit MT MODEL	subgroup	Dimensions [mm]					Weight ⁴ [kg]
		A	B	C	D	E	
AC-H2RU3PB16.6MT	a	1277	651	827	669	619	-
	b	1410	765	827	779	684	-
AC-H2RU3PB20.1MT	a	1277	651	827	669	619	-
	b	1410	765	827	779	684	-
AC-H2RU3PB22.8MT	a	1277	651	827	669	619	265
	b	1410	765	827	779	684	295
AC-H2RU3PB27.5MT	a	1277	651	827	669	619	265
	b	1410	765	827	779	684	-

Compressor unit MT MODEL	subgroup	Dimensions [mm]					Weight ⁴ [kg]
		A	B	C	D	E	
AC-H2RU3PB6.5IT	a	1277	651	827	669	619	-
	b	1410	765	827	779	684	-
AC-H2RU3PB6.9IT	a	1277	651	827	669	619	-
	b	1410	765	827	779	684	-
AC-H2RU3PB8.8IT	a	1277	651	827	669	619	-
	b	1410	765	827	779	684	-

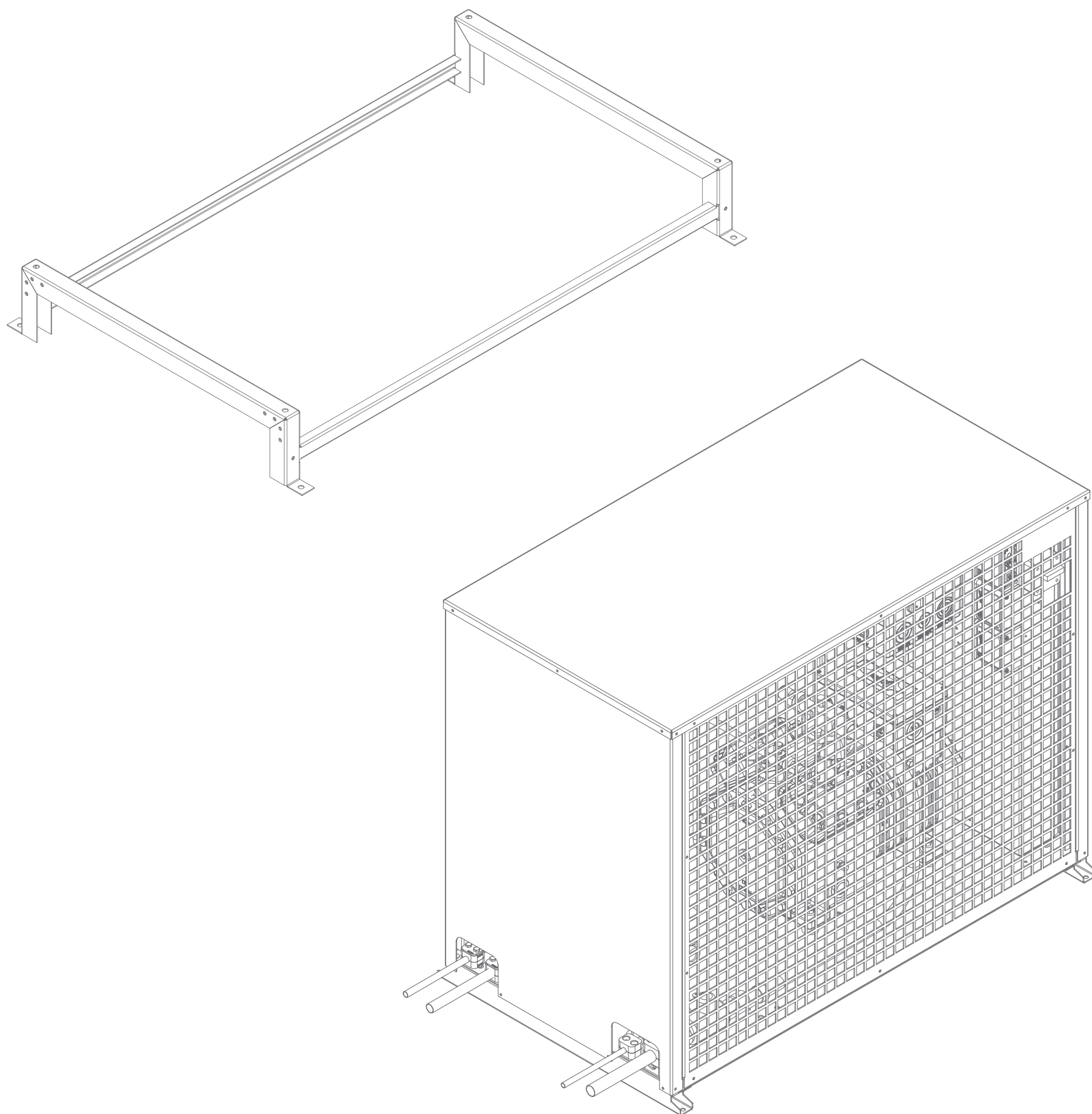
4 Units weights include protective housing, power supply and protection.

► HOUSING GROUP H3



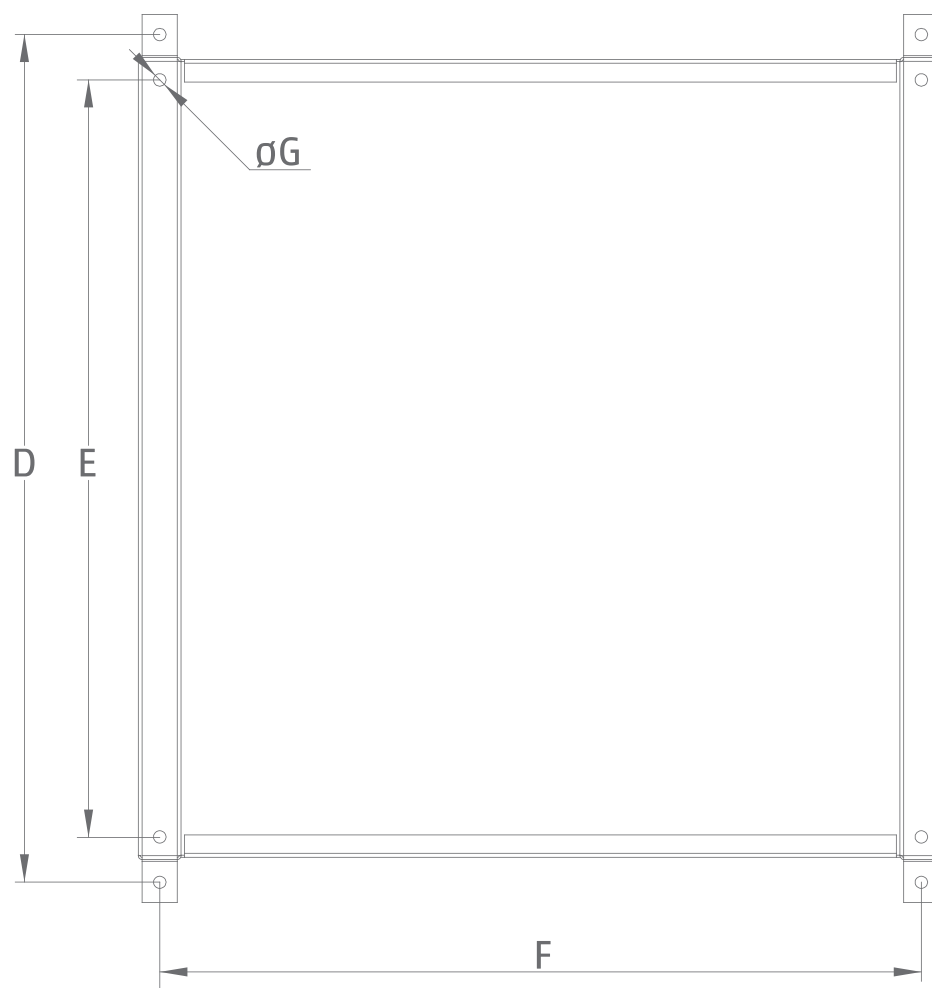
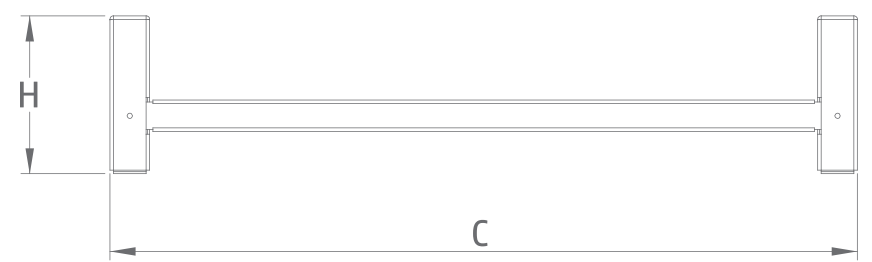
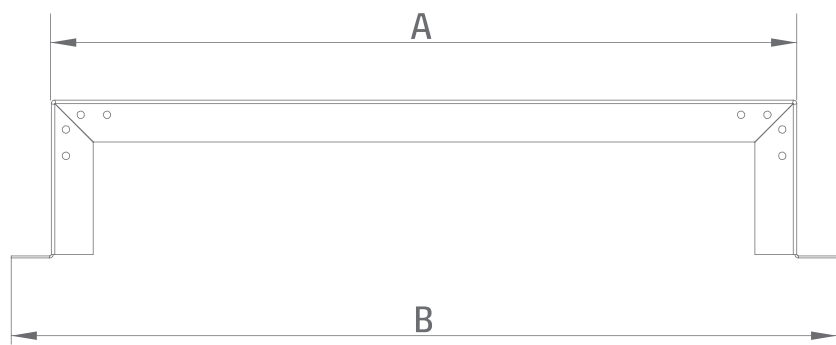
Compressor unit MT MODEL	subgroup	Dimensions [mm]					Weight ⁴
		A	B	C	D	E	[kg]
AC-H3RU3PB10.6IT	a	1410	765	827	779	684	-
	b	1510	816	827	829	734	-
AC-H3U3PB12.8IT	a	1410	765	827	779	684	-
	b	1510	816	827	829	734	-
AC-H3U3PB15.4IT	a	1410	765	827	779	684	-
	b	1510	816	827	829	734	-

⁴ Units weights include protective housing, power supply and protection.

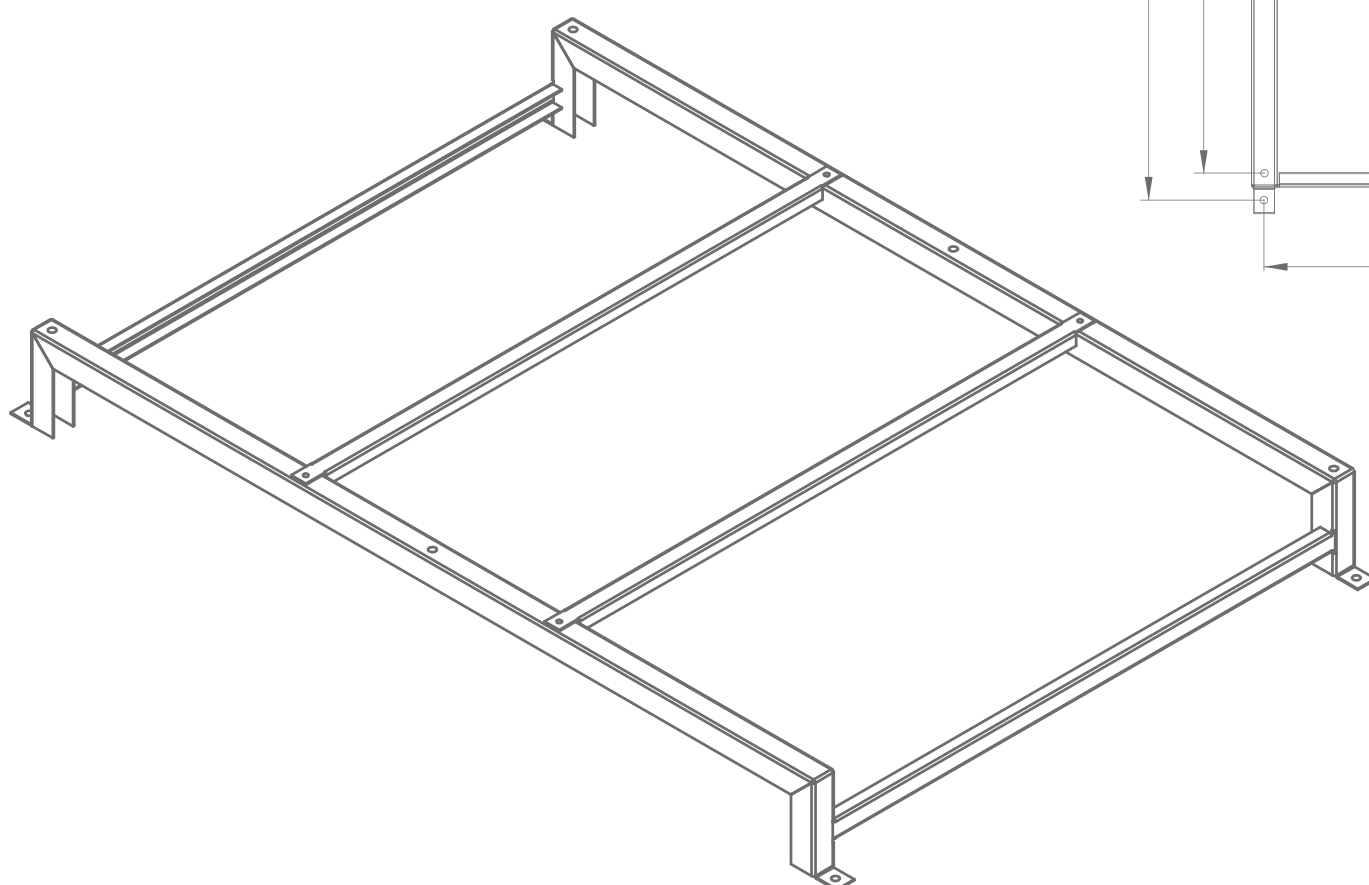
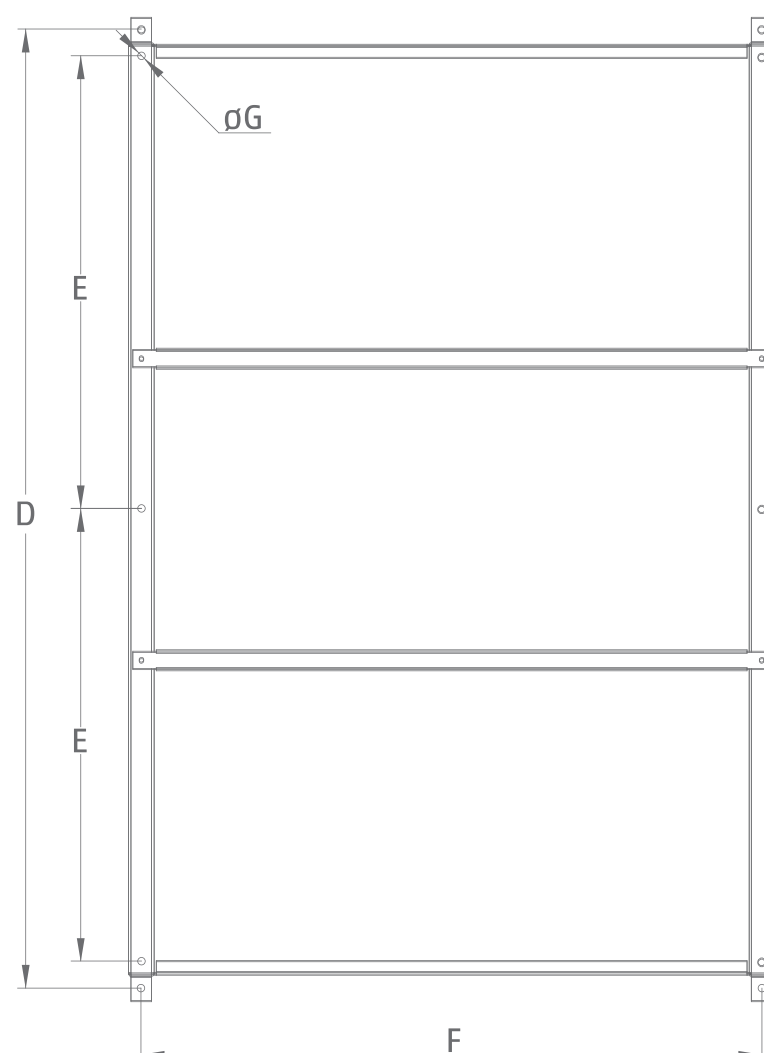
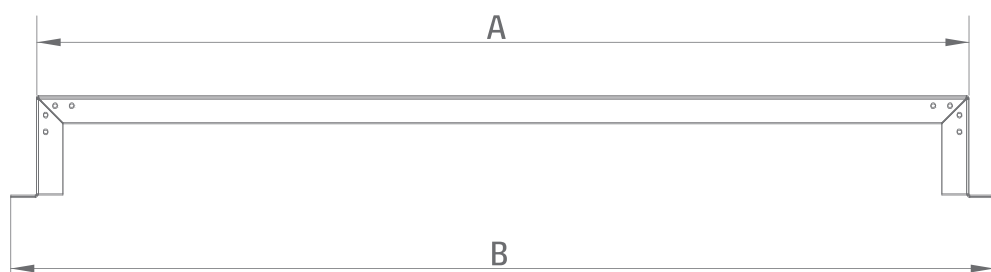


Housing group	Subgroup	A	B	C	D	E	F	G	H
H1	a	629	705	1046	669	589	1008	11	150
	b	669	745	1131	709	629	1093	11	150

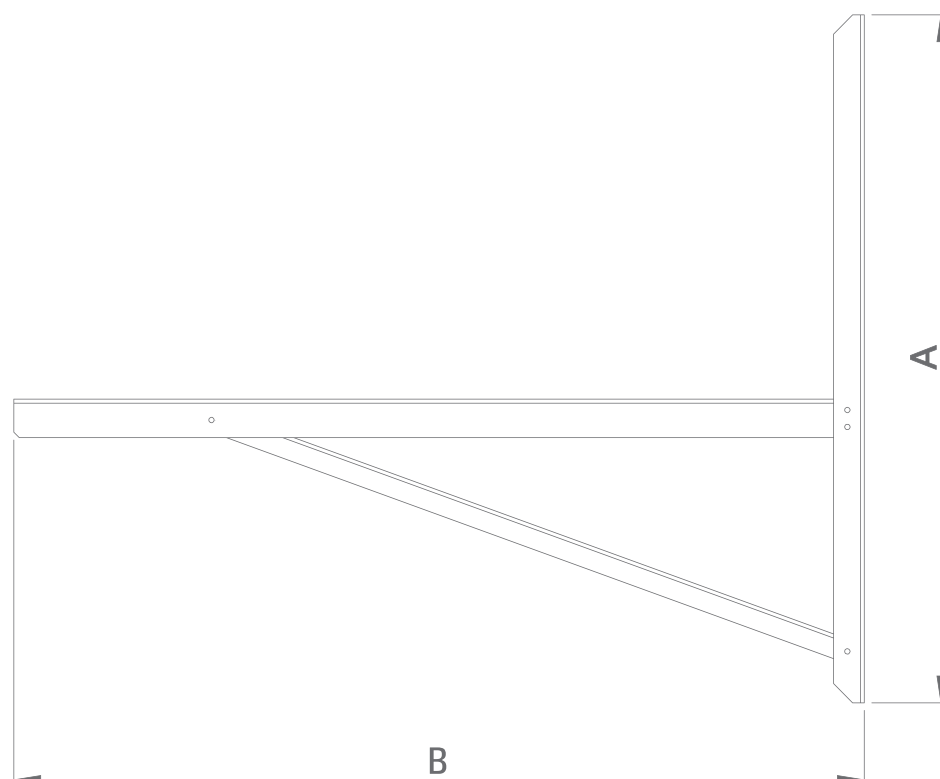
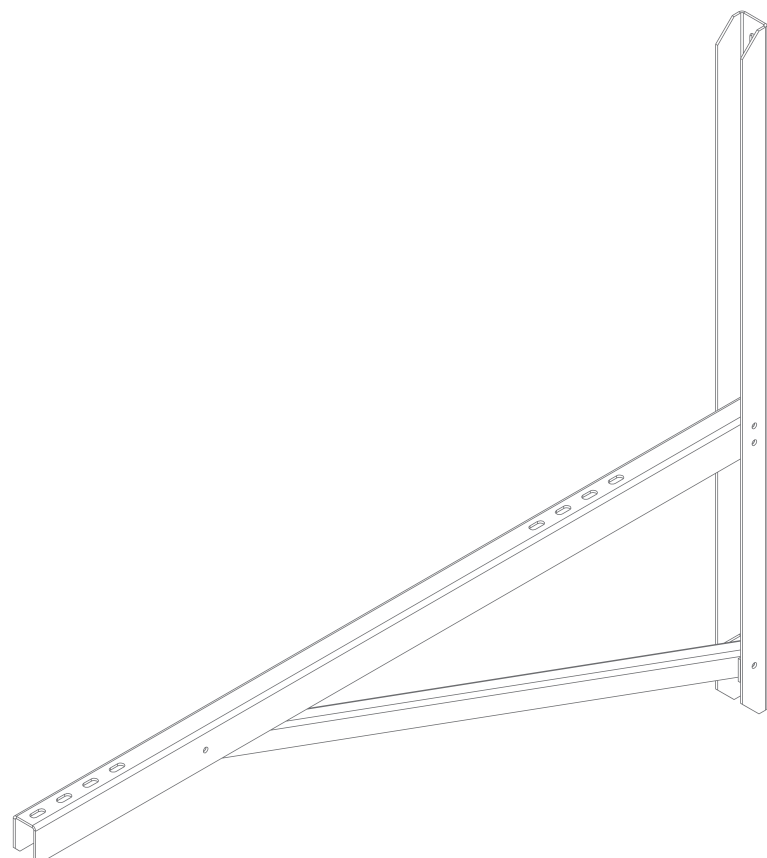
Dimensions are expressed in millimeters



Housing group	Subgroup	A	B	C	D	E	F	G	H
H2	a	1278	1354	707	1318	619	619	11	150
	b	1408	1484	817	1448	684	779	11	150
H3	a	1408	1484	817	1448	684	779	11	150
	b	1508	1584	867	1548	734	829	11	150



Dimensions are expressed in millimeters



Housing group	Name	A	B	Slots
5	Wall bracket 800	800	806	φ9x20
5 and 6	Wall bracket 1000	874	1006	φ9x20
6 and 7	Wall bracket 1100	895	1106	φ9x20