HEATCRAFT™ Worldwide Refrigeration

Cubic unit cooler

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

E Solutions Efficiency • Environment

MUC/LUC commercial range

- The MUC-LUC range meets the requirements of medium size cold rooms (up to 70 m^3).
- New guard design with air stream straighteners guaranteeing excellent air flow up to 30 m.
- The drain pan is designed with rounded corners and a base sloping toward the drain pipe o ensure maximum safety and hygiene.
- Supplied with factory wired fans as standard.

Natural fluids:
Glycol water
CO_2 (R744)*

** Chill applications - Operating pressure 60 bar*

1 ▁▂▃▅ 13.7 kW

FRIGA-BOHN

HK® REFRIGERATION

Market segments

FFS *Bars - Restaurants – Corner shops – Mini-markets*
FSM *Hard Discount - Supermarkets - Hypermarkets*

Description

Casing

- Sturdy and aesthetic casing made of white pre-painted sheet steel.
- Drain pan with rounded corners (photo n°1) to eliminate condensate retention zones which favour the development of harmful germs and no sharp or cutting edges to guarantee total safety.

Ventilation

- MUC-LUC range is fitted with permanently lubricated, axial fans, factory wired:
  - Ø 300 mm: standard type, 230 V/1/50-60 Hz, enclosed motor, class B, internal overload protection. New design (photo n°2): plastic fan guard with air stream straighteners guaranteeing maximum air throw in compliance with safety standards.
  - Ø 450 mm: standard type, 230-400 V/3/50 Hz, enclosed motors with drain holes, IP54, class F, internal overload protections to be connected.
- The plastic guards (Ø 450 mm) are compliant with safety standards.

Coil

- The highly efficient and compact MUC-LUC 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 fitted diaphragm distributor.

Defrost

- Shielded electric heating elements are inserted in slots both on the front and rear coil faces (photo n°3).
- One of these elements is fastened in the drain pan.
- The heaters are factory wired on a terminal block in a sealed junction box.
  230V /1 power supply for LUC 155 E, 210 E, 295 E and 150 C, 205 C models.
  230-400V/3 power supply for LUC 350 E to 841 E and 290 C to 836 C models.
- Condensation is collected in the drain pan then evacuated through a large drain fitting (Ø 1" G).

Certifications

Advantages

Installation

Large space available for easy installation of the expansion valve.

The expansion valve may be supplied factory pre-fitted (option DM), as well as fully equipped (option EEC) to help reduce installation time.

Servicing / Maintenance

Side panels and drain pan may be easily removed offering fast and easy access to all unit cooler elements (coil, fans, defrost heaters, connections...).

The electric heating elements are fitted in slots under the coil offering unimpeded front access (LUC) (photo n°3).

Large electrical enclosure rendering maintenance tasks easier.

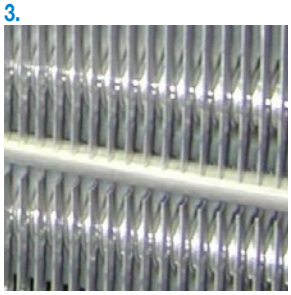
Designation

MUC 320(1) R(2)

(1) Model
(2) Fin spacing: **R/E** = 4,23 mm - **L/C** = 6,35 mm

1.


2.


3.


4.

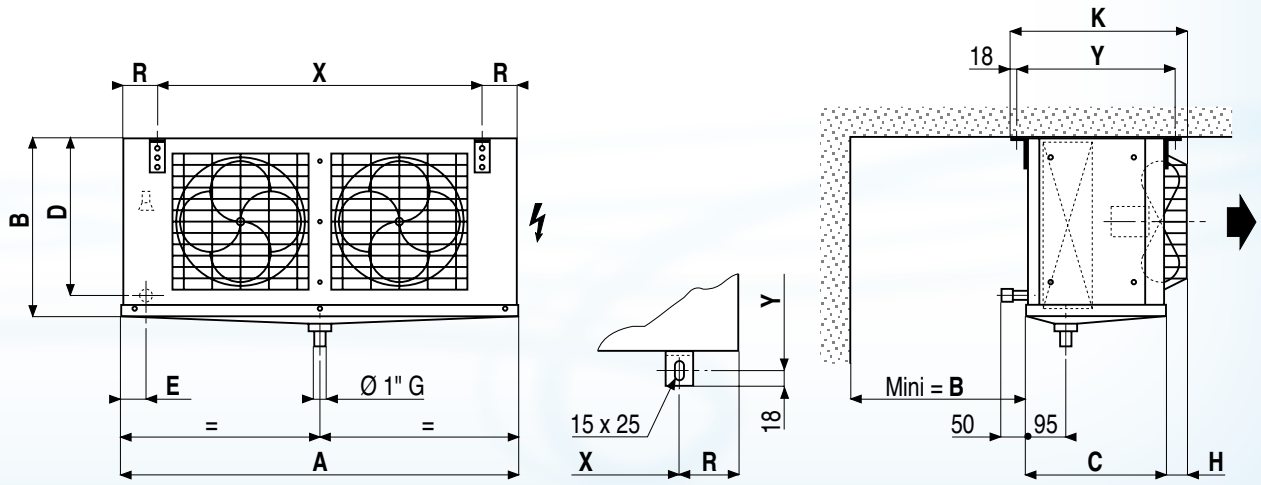

Kit	Factory	Options
		Ventilation
	M60	**Ø 300 mm:** 400V/3/50-60H (adapted fan blades). **Ø 450 mm:** 230-400V/3/50-60Hz (adapted fan blades).
		Coil
	BAE	Paint coil protection.
	BXT	Blygold Polual XT coil protection.
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
	2TH	**TH 5709L:** end of defrost thermostat with single-pole, reversing switch at +12 °C (±3 °C) and delayed fan start up +2 °C (±3 °C). **THS 5708L:** single-pole thermostat for overheating protection set at +24 °C (±3 °C). Recommended with electric defrost.
	HG1	Defrost with hot gas (LUC) (coil: hot gas, drain pan: electric heating elements).
ECK	ECU	Additional electric defrost (drain pan) (LUC).
E1K	E1U	Light electric defrost (MUC): heating elements fitted in sleeves (photo n°4) (requiring side space for fitting).
ERK	ERU	Reinforced drip tray electrical defrost (recommended for intensive-use, low-temperature applications).
		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.

MUC ... R

4,23 mm

		MUC ... R	145	200	285	320	420	520	620	640	660	670	781
Capacity R404A (1)	DT1 = 8 K - SC2	kW	1,44	2,31	3,48	3,83	4,94	5,89	7,17	8,23	9,56	10,89	12,01
Capacity CO2 (7)	DT1 = 8 K - SC2	kW	1,52	2,00	2,85	3,27	4,12	4,93	6,00	6,73	7,35	8,29	10,75
Surface		m^2	5,6	8,6	10,0	13,4	18,3	21,4	25,7	40,2	48,7	48,7	38,6
Circuit volume		dm^3	1	1,5	1,7	2,3	3,1	3,7	4,4	6,9	8,4	8,4	6,6
Air flow		m^3/h	1250	1240	2340	2080	2560	3250	3700	3260	3490	4170	7900
Fan 1500 r.p.m.	Air throw (2)	m	12	12	12	12	12	12	12	12	12	12	30
	Num. x Ø	mm	1 x 300	1 x 300	2 x 300	2 x 300	2 x 300	3 x 300	3 x 300	3 x 300	3 x 300	4 x 300	2 x 450
	230 V/1/50-60 Hz	W max	1 x 145	1 x 145	2 x 145	2 x 145	2 x 145	3 x 145	3 x 145	3 x 145	3 x 145	4 x 145	-
		A max (3)	1 x 0,85	1 x 0,85	2 x 0,85	2 x 0,85	2 x 0,85	3 x 0,85	3 x 0,85	3 x 0,85	3 x 0,85	4 x 0,85	-
	230-400 V/3/50 Hz	W max	-	-	-	-	-	-	-	-	-	-	2 x 360
		A max (3)	-	-	-	-	-	-	-	-	-	-	2 x 1,0
Electric defrost E1K (4)		Nb	3	3	3	3	3	3	3	3	3	3	3/6
		W Total	420	630	780	960	1320	1560	1860	2550	3150	3150	1740/3480
	230 V/1/50 Hz	A Total	1,8	2,8	3,4	4,2	5,8	6,8	8,1	-	-	-	-
	400 V/3/50 Hz	A Total	-	-	-	-	-	-	-	3,7	4,6	4,6	2,5/5,0
Net weight		kg	16	18	22	27	32	43	44	56	68	70	73
Dimensions	A	mm	575	575	981	981	1235	1355	1665	1998	2348	2348	1657
	B	mm	400	464	400	400	400	464	400	400	400	400	590
	C	mm	365	365	365	365	365	365	365	365	365	365	482
	D	mm	355	419	355	355	355	419	352	350	350	350	538
	E	mm	42	39	89	89	89	89	110	110	110	110	110
	H	mm	53	53	53	53	53	53	53	53	53	53	78
	K	mm	456	456	456	456	456	456	456	456	456	456	606
	R	mm	72	72	122	122	122	122	147	147	147	147	147
	X	mm	416	416	722	722	976	976	1356	1686	2036	2036	1356
	Y	mm	412	412	412	412	412	412	412	412	412	412	536
Connections R404A	Inlet	Ø (5)	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 7/8"	D 7/8"	D 1"1/8
	Outlet	Ø ODF (6)	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"	7/8"	7/8"	7/8"	7/8"	1"3/8
Connections CO2	Inlet	Ø	3/8" (6)	3/8" (6)	3/8" (6)	3/8" (6)	3/8" (6)	3/8" (6)	1/2" (5)	1/2" (5)	1/2" (5)	1/2" (5)	1/2" (5)
	Outlet	Ø ODF (6)	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"

(1) See page 10.
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(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) Distributor: Male to be brazed.
(6) ODF: Female to receive a tube of the same diameter.
(7) Operating pressure 60 bar



M60*	BAE	BXT	WCO	CO2	2TH	HG1	ECK	ECU	E1K	E1U	ERK	DM	EEC
O	O	O	-		O	-	-	-	O	O	-	O	O

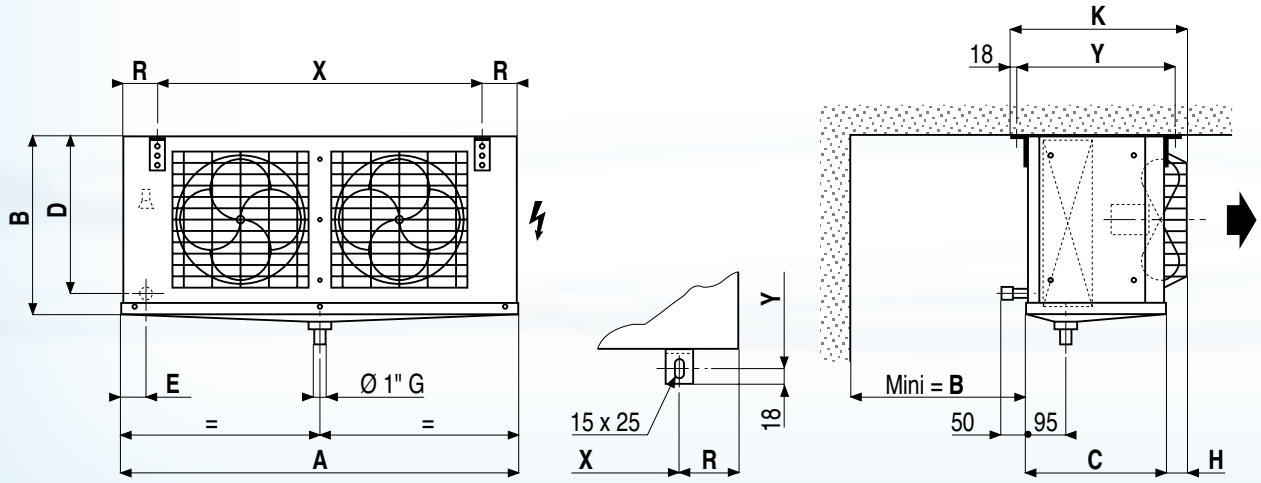
* Only three-phase motors

MUC ... L

6,35 mm

		MUC ... L	140	195	280	315	415	515	615	635	655	665	776
Capacity R404A (1)	DT1 = 8 K - SC2	kW	1,70	2,07	3,17	3,43	4,52	5,49	6,42	6,89	7,41	9,00	10,61
Capacity CO2 (7)	DT1 = 8 K - SC2	kW	1,55	1,96	2,88	3,17	3,97	4,75	5,84	5,92	6,45	7,39	10,45
Capacity W (8)	DT1 = 8 K	kW	1,62	-	3,33	-	4,53	-	6,88	-	-	8,38	-
Surface		m^2	5,1	7,5	9,3	11,6	15,8	18,5	22,3	27,8	33,7	33,7	33,4
Circuit volume		dm^3	1,3	1,9	2,3	2,9	3,9	4,6	5,5	6,9	8,4	8,4	8,3
Air flow		m^3/h	1220	1240	2270	2080	2560	3250	3690	3440	3620	4440	7890
Fan 1500 r.p.m.	Air throw (2)	m	12	12	12	12	12	12	12	12	12	12	30
	Num. x Ø	mm	1 x 300	1 x 300	2 x 300	2 x 300	2 x 300	3 x 300	3 x 300	3 x 300	3 x 300	4 x 300	2 x 450
	230 V/1/50-60 Hz	W max	1 x 145	1 x 145	2 x 145	2 x 145	2 x 145	3 x 145	3 x 145	3 x 145	3 x 145	4 x 145	-
		A max (3)	1 x 0,85	1 x 0,85	2 x 0,85	2 x 0,85	2 x 0,85	3 x 0,85	3 x 0,85	3 x 0,85	3 x 0,85	4 x 0,85	-
	230-400 V/3/50 Hz	W max	-	-	-	-	-	-	-	-	-	-	2 x 360
		A max (3)	-	-	-	-	-	-	-	-	-	-	2 x 1,0
Electric defrost E1K (4)		Nb	3	3	3	3	3	3	3	3	3	3	3/6
		W Total	420	630	780	960	1320	1560	1860	2550	3150	3150	1740/3480
	230 V/1/50 Hz	A Total	1,8	2,8	3,4	4,2	5,8	6,8	8,1	-	-	-	-
	400 V/3/50 Hz	A Total	-	-	-	-	-	-	-	3,7	4,6	4,6	2,5/5,0
Net weight		kg	16	18	22	27	32	44	45	56	68	70	74
Dimensions	A	mm	575	575	981	981	1235	1355	1665	1998	2348	2348	1657
	B	mm	400	464	400	400	400	464	400	400	400	400	590
	C	mm	365	365	365	365	365	365	365	365	365	365	482
	D	mm	355	419	355	355	355	419	352	350	350	350	538
	E	mm	42	39	89	89	89	89	110	110	110	110	110
	H	mm	53	53	53	53	53	53	53	53	53	53	78
	K	mm	456	456	456	456	456	456	456	456	456	456	606
	R	mm	72	72	122	122	122	122	147	147	147	147	147
	X	mm	416	416	722	722	976	976	1356	1686	2036	2036	1356
	Y	mm	412	412	412	412	412	412	412	412	412	412	536
Connections R404A	Inlet	Ø (5)	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 7/8"	D 1"1/8
	Outlet	Ø ODF (6)	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"	7/8"	7/8"	7/8"	7/8"	1"1/8
Connections CO2	Inlet	Ø	3/8" (6)	3/8" (6)	3/8" (6)	3/8" (6)	3/8" (6)	3/8" (6)	1/2" (5)	1/2" (5)	1/2" (5)	1/2" (5)	1/2" (5)
	Outlet	Ø ODF (6)	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"

(1) See page 10.
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(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) Distributor: Male to be brazed.
(6) ODF: Female to receive a tube of the same diameter.
(7) Operating pressure 60 bar
(8) Glycol water:
Fluid: Percentage of glycol = 30 % - Fluid inlet temperature = -8 °C – Fluid outlet temperature = -4 °C
Inlet dry temperature = +2 °C - relative humidity = 85 % - Other conditions: please contact us.



M60*	BAE	BXT	WCO	CO2	2TH	HG1	ECK	ECU	E1K	E1U	ERK	DM	EEC
O	O	O	+👤	+👤	O	-	-	-	O	O	-	O	O

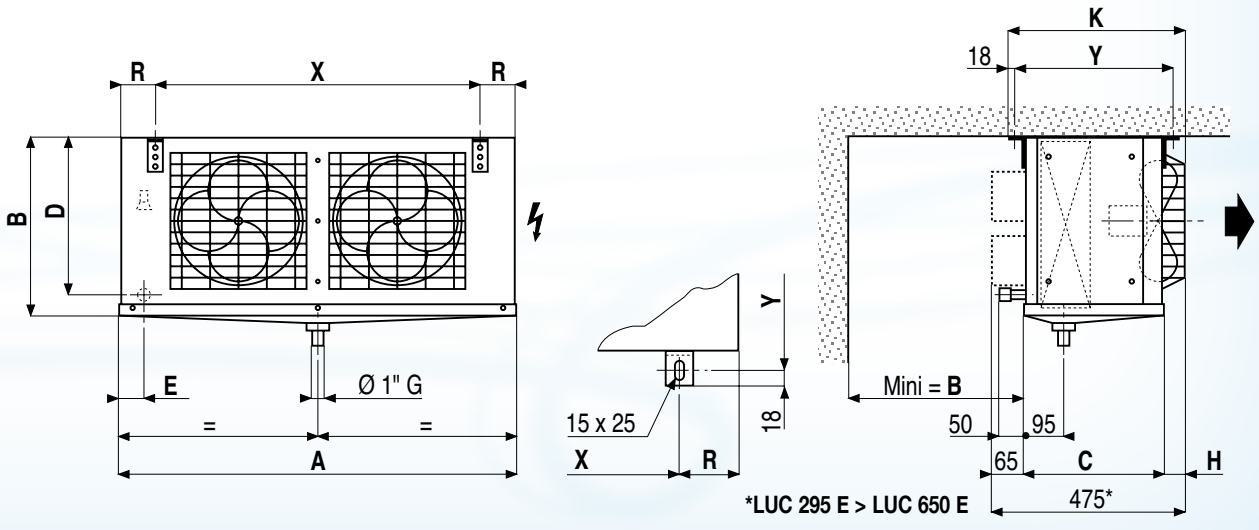
* Only three-phase motors

LUC ... E

4,23 mm

		LUC ... E	155	210	295	350	440	550	650	700	710	720	841
Capacity R404A (1)	**DT1 = 7 K - SC3**	**kW**	**1,42**	**1,84**	**2,69**	**3,03**	**3,96**	**4,86**	**5,68**	**6,92**	**7,51**	**8,47**	**9,24**
	DT1 = 6 K - SC4	**kW**	**1,10**	**1,44**	**2,04**	**2,37**	**3,12**	**3,82**	**4,48**	**5,73**	**6,22**	**6,94**	**7,26**
Surface		**m^2**	5,6	8,6	10,0	13,4	18,3	21,4	25,7	40,2	48,7	48,7	38,6
Circuit volume		**dm^3**	1,0	1,5	1,7	2,3	3,1	3,7	4,4	6,9	8,4	8,4	6,6
Air flow		**m^3/h**	1250	1240	2340	2080	2560	3250	3700	3260	3490	4170	7900
Fan 1500 r.p.m.	Air throw (2)	**m**	12	12	12	12	12	12	12	12	12	12	30
	Num. x Ø	**mm**	1 x 300	1 x 300	2 x 300	2 x 300	2 x 300	3 x 300	3 x 300	3 x 300	3 x 300	4 x 300	2 x 450
	230 V/1/50-60 Hz	**W max**	1 x 145	1 x 145	2 x 145	2 x 145	2 x 145	3 x 145	3 x 145	3 x 145	3 x 145	4 x 145	-
		A max (3)	1 x 0,85	1 x 0,85	2 x 0,85	2 x 0,85	2 x 0,85	3 x 0,85	3 x 0,85	3 x 0,85	3 x 0,85	4 x 0,85	-
	230-400 V/3/50 Hz	**W max**	-	-	-	-	-	-	-	-	-	-	2 x 360
		A max (3)	-	-	-	-	-	-	-	-	-	-	2 x 1,0
Electric defrost	Coil	**Nb**	1	2	3	5	5	5	5	5	5	5	8
	Drain pan	**Nb**	1	1	1	1	1	1	1	1	1	1	1
		W Total	1300	2150	2000	3000	3600	3600	5640	6900	8400	8400	8460
	230 V/1/50 Hz	**A Total**	5,7	9,4	8,7	-	-	-	-	-	-	-	-
	400 V/3/50 Hz	**A Total**	-	-	-	4,4	5,2	5,2	8,2	9,9	12,1	12,1	12,2
Net weight		**kg**	16	18	22	27	32	43	44	57	69	71	73
Dimensions	**A**	**mm**	575	575	981	981	1235	1355	1665	1998	2348	2348	1657
	B	**mm**	400	464	400	400	400	464	400	400	400	400	590
	C	**mm**	365	365	365	365	365	365	365	365	365	365	482
	D	**mm**	355	419	355	355	355	419	342	340	340	340	538
	E	**mm**	42	39	89	89	89	89	110	110	110	110	110
	H	**mm**	53	53	53	53	53	53	53	53	53	53	78
	K	**mm**	456	456	456	456	456	456	456	456	456	456	606
	R	**mm**	72	72	122	122	122	122	147	147	147	147	147
	X	**mm**	416	416	722	722	976	976	1356	1686	2036	2036	1356
	Y	**mm**	412	412	412	412	412	412	412	412	412	412	536
Connections R404A	Inlet	**Ø (5)**	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 7/8"	D 7/8"	D 7/8"	D 1"1/8
	Outlet	**Ø ODF (6)**	1/2"	5/8"	3/4"	3/4"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8

(1) See page 10.
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(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.
(5) Distributor: Male to be brazed.
(6) ODF: Female to receive a tube of the same diameter.



M60*	BAE	BXT	WCO	CO2	2TH	HG1	ECK	ECU	E1K	E1U	ERK	DM	EEC
O	-	-	-	-	O	O	O	O	-	-	O	O	O

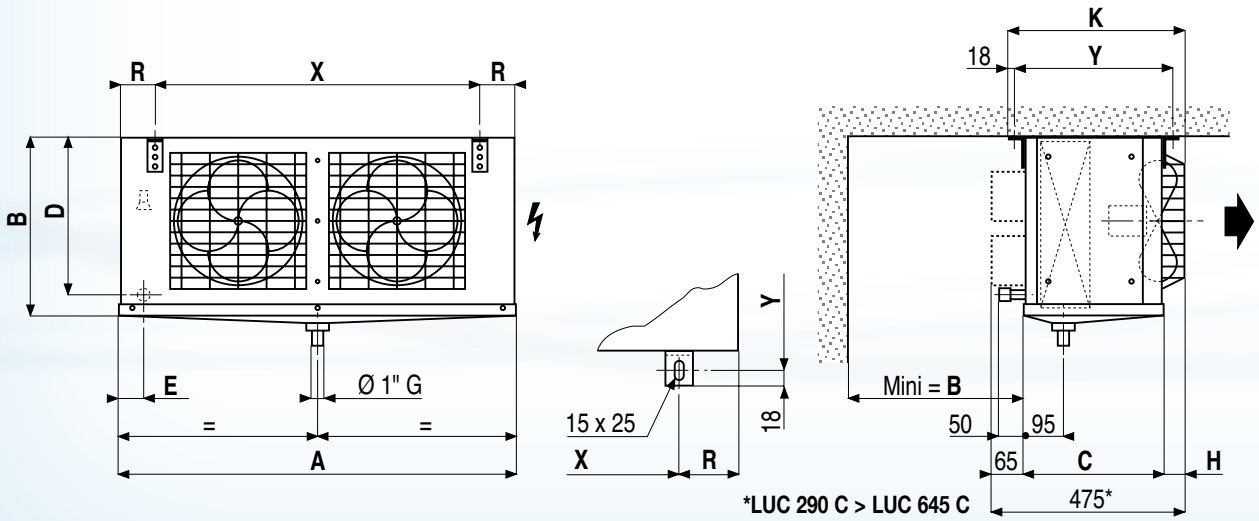
* Only three-phase motors

LUC ... C

6,35 mm

		LUC ... C	150	205	290	345	435	545	645	695	705	715	836
Capacity R404A (1)	DT1 = 7 K - SC3	kW	1,30	1,67	2,48	2,78	3,58	4,39	5,17	5,68	6,21	7,08	8,38
	DT1 = 6 K - SC4	kW	1,03	1,31	1,96	2,20	2,83	3,48	4,11	4,76	5,18	5,89	6,61
Capacity CO2 (7)	DT1 = 7 K - SC3	kW	1,18	1,50	2,17	2,44	3,14	3,86	4,50	4,61	5,06	5,81	-
	DT1 = 6 K - SC4	kW	1,00	1,28	1,83	2,08	2,68	3,29	3,83	3,94	4,33	4,97	-
Surface		m^2	5,1	7,5	9,3	11,6	15,8	18,5	22,3	27,8	33,7	33,7	33,4
Circuit volume		dm^3	1,3	1,9	2,3	2,9	3,9	4,6	5,5	6,9	8,4	8,4	8,3
Air flow		m^3/h	1220	1240	2270	2080	2560	3250	3690	3440	3620	4440	7890
Fan 1500 r.p.m.	Air throw (2)	m	12	12	12	12	12	12	12	12	12	12	30
	Num. x Ø	mm	1 x 300	1 x 300	2 x 300	2 x 300	2 x 300	3 x 300	3 x 300	3 x 300	3 x 300	4 x 300	2 x 450
	230 V/1/50-60 Hz	W max	1 x 145	1 x 145	2 x 145	2 x 145	2 x 145	3 x 145	3 x 145	3 x 145	3 x 145	4 x 145	-
		A max (3)	1 x 0,85	1 x 0,85	2 x 0,85	2 x 0,85	2 x 0,85	3 x 0,85	3 x 0,85	3 x 0,85	3 x 0,85	4 x 0,85	-
	230-400 V/3/50 Hz	W max	-	-	-	-	-	-	-	-	-	-	2 x 360
		A max (3)	-	-	-	-	-	-	-	-	-	-	2 x 1,0
Electric defrost	Coil	Nb	2	2	5	5	5	5	5	5	5	5	8
	Drain pan	Nb	1	1	1	1	1	1	1	1	1	1	1
		W Total	2150	2150	3000	3000	3600	3600	5640	6900	8400	8400	8460
	230 V/1/50 Hz	A Total	9,8	9,4	-	-	-	-	-	-	-	-	-
	400 V/3/50 Hz	A Total	-	-	4,4	4,4	5,2	5,2	8,2	9,9	12,1	12,1	12,2
Net weight		kg	16	18	22	27	32	44	45	57	69	71	74
Dimensions	A	mm	575	575	981	981	1235	1355	1665	1998	2348	2348	1657
	B	mm	400	464	400	400	400	464	400	400	400	400	590
	C	mm	365	365	365	365	365	365	365	365	365	365	482
	D	mm	355	419	355	355	355	419	342	340	340	340	538
	E	mm	42	39	89	89	89	89	110	110	110	110	110
	H	mm	53	53	53	53	53	53	53	53	53	53	78
	K	mm	456	456	456	456	456	456	456	456	456	456	606
	R	mm	72	72	122	122	122	122	147	147	147	147	147
	X	mm	416	416	722	722	976	976	1356	1686	2036	2036	1356
	Y	mm	412	412	412	412	412	412	412	412	412	412	536
Connections R404A	Inlet	Ø (5)	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 1/2"	D 7/8"	D 7/8"	D 7/8"	D 7/8"	D 1"1/8
	Outlet	Ø ODF (6)	5/8"	5/8"	3/4"	3/4"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8
Connections CO2	Inlet	Ø (5)	3/8"	3/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
	Outlet	Ø ODF (6)	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"	3/4"	3/4"	7/8"

(1) See page 10.
(2) Residual air speed: 0.25 m/s, in compliance with standard.
(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.
(5) Distributor: Male to be brazed.
(6) ODF: Female to receive a tube of the same diameter.
(7) Operating pressure 60 bar



M60*	BAE	BXT	WCO	CO2	2TH	HG1	ECK	ECU	E1K	E1U	ERK	DM	EEC
O	-	-	-		O	O	O	O	-	-	O	O	O

* Only three-phase motors