

Unit Coolers

MUC-LUC



1 kW

13,7 kW



Frigo-Bohn reserves itself the right to make changes of any time without preliminary notice - Photos non-contractual

EUROVENT
CERTIFIED PERFORMANCE



CERTIFY ALL
DX AIR COOLERS

FRIGA-BOHN



www.friga-bohn.com

MUC-LUC cubic unit coolers are suitable for chilling or low temperature storage applications. 48 basic models with capacities ranging from 1 to 13,7 kW.

NOMENCLATURE ...



DESCRIPTION ...

CASING

- Robust and attractive casing made of white enamelled steel, which enables easy cleaning of the unit.

DRAIN PAN

- Drain pan with rounded corners eliminating retention zones in which pathogenic germs may develop and guaranteeing total safety by the absence of sharp edges and corners.

VENTILATION

- MUC-LUC range is fitted with life lubricated, propeller motorfans, factory wired:
- Ø 300 mm: standard type, 230 V/1/ 50-60 Hz, enclosed frame motor, class B, overload protector included. Fan guards are in conformity with safety regulations, fitted with air stream straighteners thus ensuring a long air throw.
- Ø 400 and 450 mm: standard type, 230-400 V/3/ 50-60 Hz, enclosed frame motor with drain holes, IP54, class F, including overload protector for field wiring. Fans Ø 450 mm fitted with plastic guards, fans Ø 400 mm fitted with plastic coated steel wire guards.
- Guard design conform to safety regulations.

ACCESSIBILITY

- Side panels and drain pan easily removed, facilitating a full access to all unit components (coil, motorfans, defrost heaters, connections...).

HIGH PERFORMANCE HEAT EXCHANGER

- 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 grooved internal structure copper tubes.
- The refrigerant distributors are nozzle type (nozzle factory fitted).

DEFROST

- Tubular electric heaters are inserted in slots both on the front and rear coil faces. No lateral space is required for heater removing, except for MUC-R and MUC-L, equipped of kit E1K.
- One of these heaters is located in the drain pan.
- Heaters are wired in our works, to a terminal block located in a sealed junction box :
- LUC 155 E, 210 E, 295 E and 150 C, 205 C models are factory coupled for 230 V/1 supply.
- LUC 350 E to 1030 E and 290 C to 1025 C models are factory coupled for 230-400 V/3 supply.
- Defrost water is collected in the drain pan then drained through a large drain fitting (Ø 1" G).

CERTIFICATIONS



EUROVENT : The performance published of our products are certified in conformity with european standards EN328.

ISO 9001 : Our company is certified by LRQA to comply with quality standards ISO 9001 : 2000.

RoHS - WEEE : Our products are compliant with regards to european guideline 2002/95/CE and 2002/96/CE concerning electric and enlectronic components.

CE : Our products are in conformity with european guidelines.

GOST : Products in conformity with "GOST" agreement.



MUC-LUC



OPTIONS ...

COIL

- BAE** Coating of the fins.
WCO Glycol water, brine (please consult us).
CO2 R744 optimization (please consult us).

DEFROST

- 2TH** **TH 5709L** : defrost termination and fan delay thermostat with single-pole, reversing switch at +12 °C (±3 °C) and +2 °C (±3 °C).
THS 5708L : single-pole thermostat for overheating safety at +24 °C (±3°C). Recommended with electric defrost.
- HG1** Hot gas (**LUC**) (coil: hot gas, drain pan: electrical heaters).
ETU Light electrical defrost.

MOTORFANS

- M60** Special fans for 60 Hz application.
MM5 Single phase 230 V 50 Hz fan assembly.

KIT

- E1K** Electrical defrost MUC-R and MUC-L: heaters located in sleeves (required lateral space for fitting).

OTHER OPTIONS

Please consult us.



Natural refrigerants

TECHNICAL DATA ...

MUC ... L

6,35 mm

| Models | MUC ... L | 140 | 195 | 280 | 315 | 415 | 515 | 615 | 635 | 655 | 665 | 775 | 955 | |
|--------------------------------|---------------------|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|-----------|
| Capacity | DT1 = 8 K - SC2 (1) | kW | 1,70 | 2,07 | 3,17 | 3,46 | 4,52 | 5,49 | 6,42 | 6,89 | 7,41 | 9,00 | 10,61 | 12,20 |
| Glycol water* | DT1 = 8 K - SC2 (1) | kW | 1,62 | - | 3,33 | - | 4,53 | - | 6,88 | - | 8,38 | - | - | - |
| Surface | | m ² | 5,17 | 7,54 | 9,33 | 11,66 | 15,98 | 18,64 | 22,43 | 27,80 | 33,70 | 33,70 | 28,04 | 33,65 |
| Circuit volume | | dm ³ | 1,5 | 2,3 | 2,5 | 3,3 | 4,4 | 5,0 | 6,0 | 6,9 | 8,4 | 8,4 | 7,5 | 9,0 |
| Air flow | | m ³ /h | 1217 | 1239 | 2267 | 2075 | 2561 | 3250 | 3694 | 3435 | 3624 | 4436 | 7093 | 7893 |
| | Air throw (2) | m | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 28 | 45 | |
| | 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 | 4 x 300 | 2 x 400 | 2 x 450 | |
| Fan 50-60 Hz 1500 r.p.m. | 230 V/1/50 Hz | W Total | 145 | 145 | 290 | 290 | 290 | 435 | 435 | 435 | 580 | - | - | |
| | | A Total | 0,85 | 0,85 | 1,70 | 1,70 | 1,70 | 2,55 | 2,55 | 2,55 | 3,40 | - | - | |
| | 400 V/3/50 Hz | W max | - | - | - | - | - | - | - | - | - | 2 x 360 | 2 x 360 | |
| | | A max (3) | - | - | - | - | - | - | - | - | - | 2 x 1,0 | 2 x 1,0 | |
| Electric defrost E1K (4) | 230 V/1/50 Hz | W Total | 420 | 630 | 780 | 960 | 1320 | 1560 | 1860 | 2550 | 3150 | 3150 | 2340 | 1740/3480 |
| | | 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 | 3,4 | 2,5/5,0 |
| | | Num. | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3/6 |
| Net weight | | kg | 16 | 18 | 22 | 27 | 32 | 43 | 44 | 56 | 68 | 70 | 63 | 73 |
| Dimensions | A | mm | 575 | 575 | 981 | 981 | 1235 | 1355 | 1665 | 1998 | 2348 | 2348 | 1657 | 1657 |
| | B | mm | 400 | 464 | 400 | 400 | 400 | 464 | 400 | 400 | 400 | 400 | 495 | 590 |
| | C | mm | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 365 | 482 | 482 |
| | D | mm | 355 | 419 | 355 | 355 | 355 | 419 | 352 | 350 | 350 | 350 | 447 | 543 |
| | E | mm | 42 | 39 | 89 | 89 | 89 | 89 | 110 | 110 | 110 | 110 | 110 | 110 |
| | H | mm | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 68 | 78 |
| | K | mm | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 596 | 606 |
| | R | mm | 72 | 72 | 122 | 122 | 122 | 182 | 147 | 147 | 147 | 147 | 147 | 147 |
| | X | mm | 416 | 416 | 722 | 722 | 976 | 976 | 1356 | 1686 | 2036 | 2036 | 1356 | 1356 |
| | Y | mm | 412 | 412 | 412 | 412 | 412 | 412 | 412 | 412 | 412 | 412 | 536 | 536 |
| 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 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" | 1 1/8" | |

(1) See pages "APPENDIX".

(2) Residual air velocity: 0.25 m/s, in accordance with norm.

(3) Setting of overload protections. For room temperatures 'ti' other than +20 °C, multiply the given amperage by the ratio 293/(273 + 'ti') so as to obtain the approximate amperage after the room pull down.

(4) Electric defrost option.

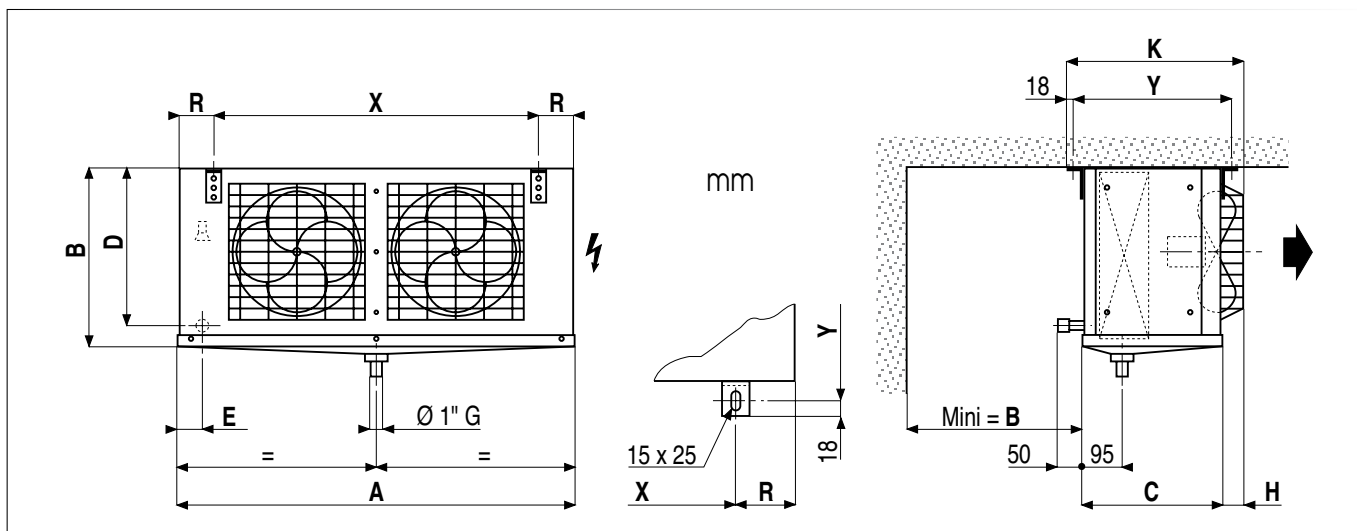
(5) Liquid distributor: male to be brazed.

(6) ODF: female sweat type connection.

* Glycol water:

Fluid : Percentage of glycol = 30 % - Fluid inlet temperature = - 8° C - Fluid outlet temperature = - 4° C

Air Dry air inlet temperature = + 2° C - Relative humidity = 85 % - Other conditions: please consult us.



OPTIONS ...

| | BAE | WCO | CO2 | 2TH | HG1 | E1U | M60* | MM5* | E1K |
|-----------|-----|------------|-----|-----|-----|-----|------|------|-----|
| MUC ... L | ○ | consult us | - | ○ | - | ○ | ○ | ○ | ○ |

* Only three-phase motors