USER MANUAL

# ED/OD/BD

## INDUSTRIAL DUAL FLOW EVAPORATORS / BRINE COOLERS

Multiple instructions:
Consult the specific part

Read and understand the instructions before undertaking any work on the unit

RETAIN FOR FUTURE REFERENCE

## Declaration of conformity

We declare under our own responsibility that the below equipment complies in all parts with the CEE and EN directives. The declaration of conformity is enclosed to the technical booklet enclosed with the unit.

## INDEX

# 1. INTRODUCTION

## 1.1 General information

These installation, operation and maintenance instructions are given as a guide to good practice in the installation, putting into service, operation, and maintenance by the user of 'ED-OD-BD' units.
They do not contain full service procedures necessary for the continued successful operation of this equipment. The services of a qualified technician should be employed through the medium of a maintenance contract with a reputable service company.

## 1.2 Cautions & Warnings

Cautions and warnings appear at appropriate places in this instruction manual. Your personal safety and the proper operation of this machine require that you fallow them carefully. The manufacturer assumes no liability far installations or servicing performed by unqualified personnel.

## 1.3 Reception & inspection of the unit

On arrival , inspect the unit before signing the delivery note. Specify any damage on the delivery note, and send a registered letter of protest to the last carrier of the goods within 72 hours of delivery.
Notify immediately to the company. The unit should be totally inspected within 7 days of delivery. If any concealed damage is discover, send a registered letter of protest to the carrier within 7 days of delivery and Notify immediately to the company. Units are shipped with 1.5 bar of Nitrogen and should be examined pressing the schrader valve and hearing the sound of charge of nitrogen or with an electronic leak detector to determine the hermetic integrity of the unit.

## 1.4 Refrigerant

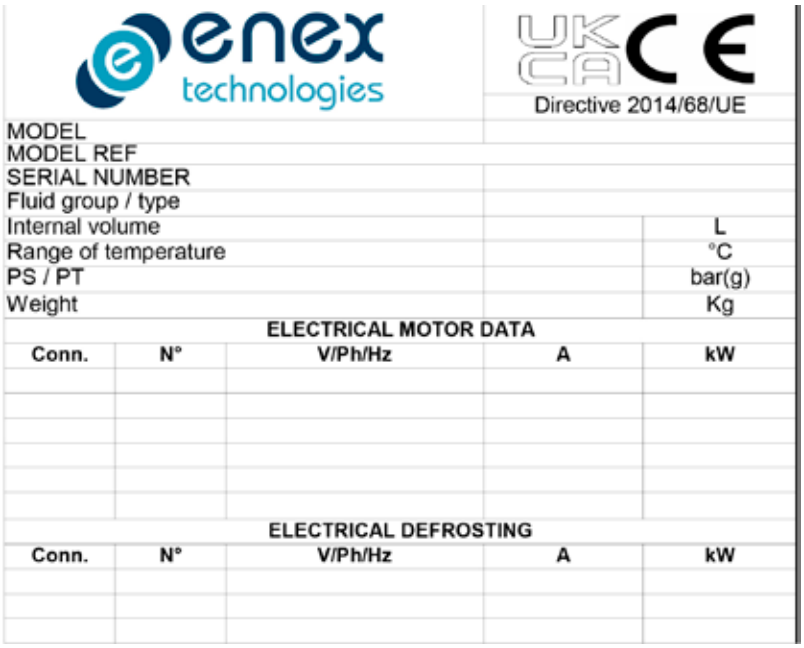
The unit is sent without refrigerant. The refrigerant charge must be done by a certified company and qualified personnel. After the installation of the system, this must be checked far any possible leak by qualified personal. Not complying with any of these requirements, or not justifying them with the compulsory data registration in the units will void the warranty.

## 1.5 Warranty

Warranty is based on the general terms and conditions of the attached ENEX TECHNOLOGIES warranty policy far Authorized Dealers of ENEX TECHNOLOGIES. The warranty is void if the equipment is repaired or modified without the written approval of ENEX TECHNOLOGIES, if the operating limits are exceeded or if the control system or the electrical wiring is modified.
Damage due to misuse, lack of maintenance or failure to comply with the manufacturer's instructions or recommendations is not covered by the warranty obligation. If the user does not conform to the rules of chapter "Maintenance", it may entail cancellation of warranty and liabilities by ENEX TECHNOLOGIES.

## 1.6 Unit identification

Each unit has a rating plate that provides key information regarding the machine. The rating plate may differ from the one shown below as the example is for a standard unit without accessories. For all electrical information not provided on the label, refer to the wiring diagram. A facsimile of the label is shown below:



| | | | | |
|---|---|---|---|---|
| Directive 2014/68/UE | | | | |
| MODEL | | | | |
| MODEL REF | | | | |
| SERIAL NUMBER | | | | |
| Fluid group / type | | | | |
| Internal volume | | | | L |
| Range of temperature | | | | °C |
| PS / PT | | | | bar(g) |
| Weight | | | | Kg |
| ELECTRICAL MOTOR DATA | | | | |
| Conn. | N° | V/Ph/Hz | A | kW |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| ELECTRICAL DEFROSTING | | | | |
| Conn. | N° | V/Ph/Hz | A | kW |
| | | | | |
| | | | | |
| | | | | |

# 2. PRODUCT INFORMATION

## 2.1 ED-OD-BD description

### 2.1.1 Finned coils

- Built with copper tubes Ø 3/8", 12mm and 5/8 are built in compliance with CUPROCLIMA specifications.
- The arrangement of copper tubes across selfspaced corrugated fins accurately links tubes and fins for high coil performance.
- All coils are subjected to resistance and leakage tests under a rated pressure of, ED; 43bar (PS 30bar), OD; 86bar (PS 60bar) / 115 bar (PS 80bar), BD; 23bar (PS 16bar), and pressurized using nitrogen at 2 bar to avoid inner surface corrosion of the copper tubes.
- A wide range of fin spacings is available: 3mm / 3,5mm / 4mm / 5,5mm / 7mm / 7,5mm / 10mm.

### 2.1.2 Casework

- The case structure of the unit is manufactured in pre-painted aluminium (OD50/63) and galvanized steel painted epoxy-polyester and then baked and cured at 180°C (OD45), giving it a high protection against corrosion even in extreme environmental conditions, also allowing the casing to meet more demanding food hygiene standards.
- Includes double-drip tray for easier drainage of water resulting from defrost.
- For better maintenance, the drip tray and fan plates are easily dismounted from the casework for faster access to the inside of the unit cooler.

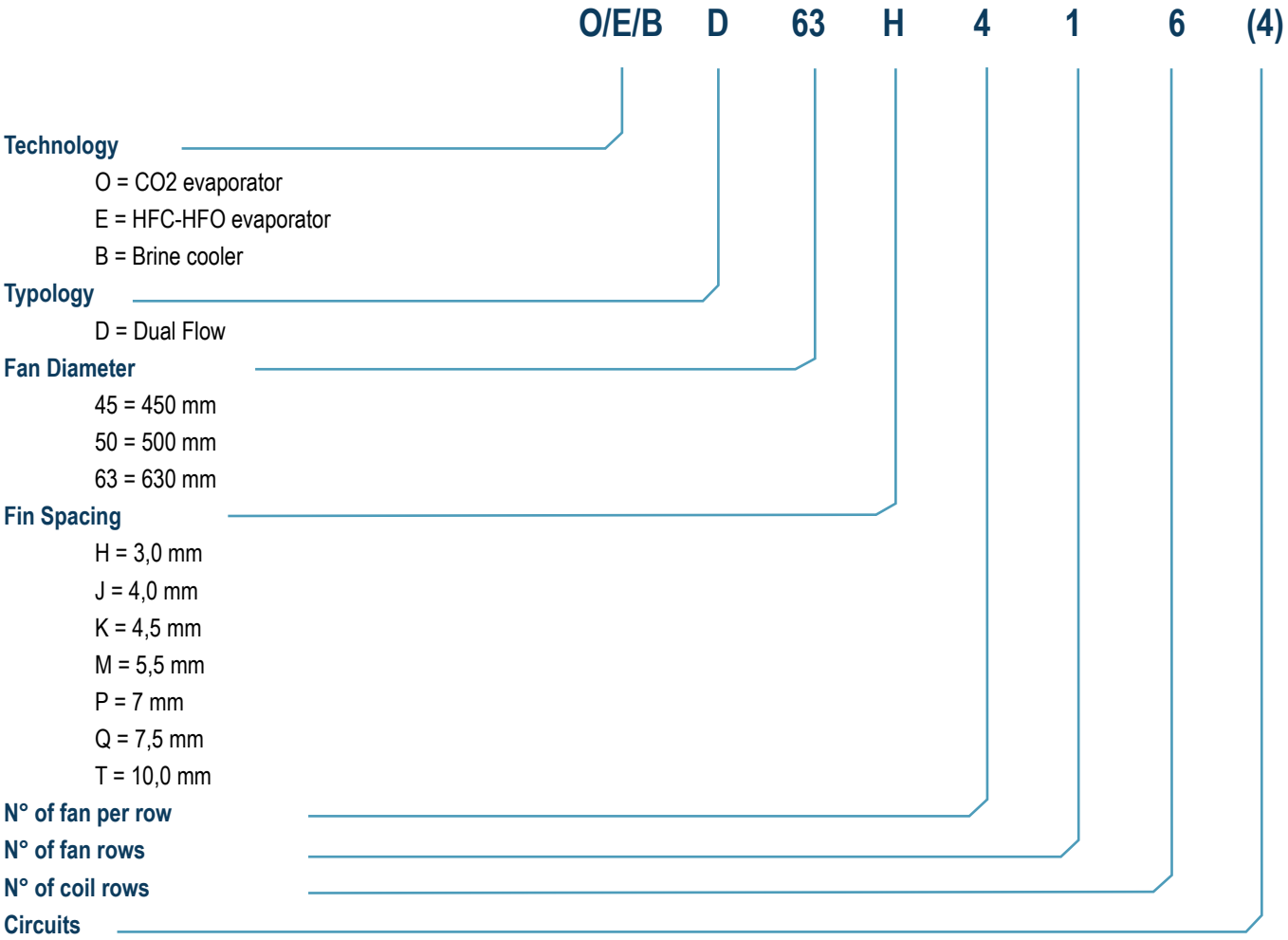
### 2.1.3 Fans

- Available fans' diameters: Ø 450 / 500 / 630 / 800 / 900mm.
- Axial fans with external rotor 400V III @ 50Hz (for Ø 630mm) and 400V III @ 50/60Hz (for Ø 500 mm).
- Equipped as standard with AC fan motors with excellent acoustic performance.
- All motors have class B insulation, grade IP-54 protection, a thermal protection device and operate at a temperature range from –40° C up to + 60° C.
- Painted fan guards are made of zinc-plated steel wire and support a watertight fan motor terminal box.

### 2.1.4 Electric defrost

- Electric heaters are optional for all series and are recommended for use below 2° C air inlet temperature.
- Heaters are strategically located across the finned coil to provide suitable and uniform defrosting.

## 2.2 Nomenclature



## 2.3 Options & accessories

### 2.3.1 Coil

- PS=45bar (for ED)
- PS=80bar (for OD)
- Copper Fins
- Coated Fins
- Other material
- AquaAero treatment
- Blygold treatment
- Cataphoresis treatment
- Stainless-steel headers (for OD PS=60bar)
- Cooling connections on top (D50/63)

### 2.3.2 Casing

- Stainless-steel casing
- Insulated drip tray (D50/63)

### 2.3.3 Defrost

- Electric defrost
- Stronger electric defrost (wired) (D50/63)
- Hot gas defrost, including in coil and electric defrost in tray
- Hot gas defrost with serpentine
- Water defrost
- Fan ring heaters

### 2.3.4 Other

- EC fans
- Wiring into centralized box (D45 as standard)
- Service switch

## 2.4 Technical data

### 2.4.1 $CO_2$ Evaporators

#### Fin pitch 4mm, Fan Ø = 500mm, RPM = 1.300

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD50J114 | 9,7 | 7,4 | 6,2 | 41,1 | 4,3 | 7.312 | 2 x 13 | 1 | 0,7 | 1,6 | 3,4 | 14,9 | 12 | 12 | 61 |
| OD50J116 | 12,7 | 9,8 | 8,4 | 61,7 | 6,5 | 6.914 | 2 x 12 | 1 | 0,7 | 1,6 | 6,8 | 29,8 | 12 | 12 | 71 |
| OD50J118 | 15,2 | 11,3 | 9,7 | 82,2 | 8,7 | 6.511 | 2 x 11 | 1 | 0,7 | 1,6 | 8,5 | 37,2 | 12 | 12 | 80 |
| OD50J11C | 17,4 | 12,9 | 11,2 | 123,3 | 13,0 | 5.763 | 2 x 9 | 1 | 0,7 | 1,7 | 11,9 | 52,1 | 16 | 22 | 99 |
| OD50J214 | 19,5 | 14,9 | 12,6 | 82,2 | 8,7 | 14.598 | 2 x 16 | 2 | 1,4 | 3,3 | 6,8 | 29,8 | 12 | 12 | 107 |
| OD50J216 | 26,1 | 19,7 | 16,8 | 123,3 | 13,0 | 13.802 | 2 x 15 | 2 | 1,4 | 3,3 | 13,6 | 59,5 | 16 | 22 | 126 |
| OD50J218 | 30,5 | 22,9 | 19,6 | 164,4 | 17,4 | 13.001 | 2 x 14 | 2 | 1,4 | 3,3 | 17,0 | 74,4 | 22 | 28 | 145 |
| OD50J21C | 34,9 | 26,0 | 22,4 | 246,7 | 26,1 | 11.512 | 2 x 11 | 2 | 1,5 | 3,4 | 23,8 | 104,2 | 22 | 28 | 183 |
| OD50J314 | 28,7 | 22,6 | 19,1 | 123,3 | 13,0 | 21.844 | 2 x 21 | 3 | 2,0 | 4,9 | 10,2 | 44,6 | 22 | 28 | 154 |
| OD50J316 | 39,0 | 29,7 | 25,4 | 185,0 | 19,6 | 20.648 | 2 x 19 | 3 | 2,1 | 4,9 | 20,4 | 89,3 | 22 | 28 | 182 |
| OD50J318 | 45,8 | 34,2 | 29,4 | 246,7 | 26,1 | 19.452 | 2 x 17 | 3 | 2,1 | 4,9 | 25,5 | 111,6 | 22 | 28 | 210 |
| OD50J31C | 51,9 | 38,9 | 33,7 | 370,0 | 39,1 | 17.232 | 2 x 14 | 3 | 2,2 | 5,1 | 35,7 | 156,2 | 28 | 35 | 267 |
| OD50J414 | 39,2 | 30,2 | 25,6 | 164,4 | 17,4 | 29.053 | 2 x 27 | 4 | 2,7 | 6,5 | 13,6 | 59,5 | 22 | 28 | 200 |
| OD50J416 | 52,2 | 39,6 | 33,7 | 246,7 | 26,1 | 27.458 | 2 x 24 | 4 | 2,8 | 6,6 | 27,2 | 119,0 | 22 | 28 | 237 |
| OD50J418 | 61,1 | 45,9 | 39,4 | 328,9 | 34,8 | 25.869 | 2 x 21 | 4 | 2,8 | 6,6 | 34,0 | 148,8 | 28 | 35 | 275 |
| OD50J41C | 69,8 | 52,3 | 45,0 | 493,3 | 52,1 | 22.925 | 2 x 17 | 4 | 2,9 | 6,8 | 47,6 | 208,3 | 28 | 35 | 351 |
| OD50J514 | 49,0 | 37,6 | 31,8 | 205,5 | 21,7 | 36.233 | 2 x 34 | 5 | 3,4 | 8,1 | 17,0 | 74,4 | 22 | 28 | 246 |
| OD50J516 | 64,7 | 49,4 | 42,1 | 308,3 | 32,6 | 34.234 | 2 x 30 | 5 | 3,5 | 8,2 | 34,0 | 148,8 | 22 | 28 | 293 |
| OD50J518 | 76,3 | 57,4 | 49,3 | 411,1 | 43,5 | 32.254 | 2 x 27 | 5 | 3,5 | 8,2 | 42,5 | 186,0 | 28 | 35 | 340 |
| OD50J51C | 87,1 | 65,3 | 56,2 | 616,6 | 65,2 | 28.599 | 2 x 21 | 5 | 3,7 | 8,5 | 59,5 | 260,4 | 28 | 35 | 434 |

#### Fin pitch 4mm, Fan Ø = 500mm, RPM = 1.025

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD50J114 | 8,8 | 6,6 | 5,6 | 41,1 | 4,3 | 5.897 | 2 x 10 | 1 | 0,4 | 0,8 | 3,4 | 14,9 | 12 | 12 | 61 |
| OD50J116 | 11,2 | 8,6 | 7,3 | 61,7 | 6,5 | 5.503 | 2 x 9 | 1 | 0,5 | 0,8 | 6,8 | 29,8 | 12 | 12 | 71 |
| OD50J118 | 13,1 | 9,8 | 8,4 | 82,2 | 8,7 | 5.145 | 2 x 8 | 1 | 0,5 | 0,8 | 8,5 | 37,2 | 12 | 12 | 80 |
| OD50J11C | 14,4 | 10,9 | 9,3 | 123,3 | 13,0 | 4.475 | 2 x 7 | 1 | 0,5 | 0,8 | 11,9 | 52,1 | 16 | 22 | 99 |
| OD50J214 | 17,7 | 13,4 | 11,4 | 82,2 | 8,7 | 11.773 | 2 x 12 | 2 | 0,9 | 1,5 | 6,8 | 29,8 | 12 | 12 | 107 |
| OD50J216 | 23,0 | 17,3 | 14,8 | 123,3 | 13,0 | 10.990 | 2 x 11 | 2 | 0,9 | 1,6 | 13,6 | 59,5 | 16 | 22 | 126 |
| OD50J218 | 26,4 | 0,0 | 16,9 | 164,4 | 17,4 | 10.276 | 2 x 10 | 2 | 0,9 | 1,6 | 17,0 | 74,4 | 22 | 28 | 145 |
| OD50J21C | 29,0 | 21,9 | 18,7 | 246,7 | 26,1 | 8.944 | 2 x 8 | 2 | 1,0 | 1,6 | 23,8 | 104,2 | 22 | 28 | 183 |
| OD50J314 | 25,9 | 20,1 | 17,1 | 123,3 | 13,0 | 17.612 | 2 x 15 | 3 | 1,3 | 2,3 | 10,2 | 44,6 | 22 | 28 | 154 |
| OD50J316 | 34,3 | 26,0 | 22,3 | 185,0 | 19,6 | 16.448 | 2 x 13 | 3 | 1,4 | 2,4 | 20,4 | 89,3 | 22 | 28 | 182 |
| OD50J318 | 39,7 | 29,3 | 25,3 | 246,7 | 26,1 | 15.382 | 2 x 12 | 3 | 1,4 | 2,4 | 25,5 | 111,6 | 22 | 28 | 210 |
| OD50J31C | 43,1 | 32,8 | 28,2 | 370,0 | 39,1 | 13.395 | 2 x 9 | 3 | 1,4 | 2,5 | 35,7 | 156,2 | 22 | 28 | 267 |
| OD50J414 | 35,4 | 26,9 | 23,0 | 164,4 | 17,4 | 23.419 | 2 x 18 | 4 | 1,8 | 3,1 | 13,6 | 59,5 | 22 | 28 | 200 |
| OD50J416 | 46,1 | 34,6 | 29,7 | 246,7 | 26,1 | 21.879 | 2 x 16 | 4 | 1,8 | 3,1 | 27,2 | 119,0 | 22 | 28 | 237 |
| OD50J418 | 52,8 | 39,4 | 33,9 | 328,9 | 34,8 | 20.462 | 2 x 14 | 4 | 1,8 | 3,2 | 34,0 | 148,8 | 28 | 35 | 275 |
| OD50J41C | 58,0 | 44,1 | 37,5 | 493,3 | 52,1 | 17.832 | 2 x 11 | 4 | 1,9 | 3,3 | 47,6 | 208,3 | 28 | 35 | 351 |
| OD50J514 | 44,2 | 33,7 | 28,6 | 205,5 | 21,7 | 29.197 | 2 x 22 | 5 | 2,2 | 3,9 | 17,0 | 74,4 | 22 | 28 | 246 |
| OD50J516 | 57,4 | 43,0 | 36,9 | 308,3 | 32,6 | 27.286 | 2 x 19 | 5 | 2,3 | 3,9 | 34,0 | 148,8 | 22 | 28 | 293 |
| OD50J518 | 66,0 | 49,3 | 42,5 | 411,1 | 43,5 | 25.523 | 2 x 17 | 5 | 2,3 | 4,0 | 42,5 | 186,0 | 28 | 35 | 340 |
| OD50J51C | 72,4 | 55,1 | 46,9 | 616,6 | 65,2 | 22.256 | 2 x 13 | 5 | 2,4 | 4,1 | 59,5 | 260,4 | 28 | 35 | 434 |

### Fin pitch 4mm, Fan Ø = 630mm, RPM = 1.330

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD63J114 | 19,5 | 15,1 | 12,8 | 76,2 | 8,1 | 16.312 | 2 x 31 | 1 | 2,4 | 4,6 | 6,3 | 27,6 | 12 | 12 | 118 |
| OD63J116 | 26,6 | 20,3 | 17,2 | 114,3 | 12,1 | 15.658 | 2 x 29 | 1 | 2,4 | 4,6 | 10,5 | 46,0 | 16 | 22 | 134 |
| OD63J118 | 31,9 | 24,2 | 20,6 | 152,3 | 16,1 | 15.044 | 2 x 27 | 1 | 2,5 | 4,7 | 12,6 | 55,1 | 22 | 28 | 151 |
| OD63J11C | 38,2 | 28,5 | 24,5 | 228,5 | 24,2 | 13.704 | 2 x 24 | 1 | 2,5 | 4,7 | 21,0 | 91,9 | 22 | 28 | 185 |
| OD63J214 | 38,5 | 30,6 | 25,9 | 152,3 | 16,1 | 32.544 | 2 x 43 | 2 | 4,8 | 9,2 | 12,6 | 55,1 | 22 | 28 | 208 |
| OD63J216 | 53,4 | 40,3 | 34,2 | 228,5 | 24,2 | 31.234 | 2 x 40 | 2 | 4,8 | 9,3 | 21,0 | 91,9 | 22 | 28 | 241 |
| OD63J218 | 63,7 | 48,5 | 41,4 | 304,7 | 32,2 | 30.014 | 2 x 38 | 2 | 4,9 | 9,3 | 25,2 | 110,3 | 22 | 28 | 274 |
| OD63J21C | 76,8 | 57,0 | 49,2 | 457,0 | 48,3 | 27.340 | 2 x 33 | 2 | 5,0 | 9,5 | 42,0 | 183,8 | 28 | 35 | 341 |
| OD63J314 | 59,0 | 45,9 | 38,8 | 228,5 | 24,2 | 48.666 | 2 x 60 | 3 | 7,2 | 13,7 | 18,9 | 82,7 | 22 | 28 | 297 |
| OD63J316 | 80,2 | 61,6 | 52,3 | 342,8 | 36,2 | 46.704 | 2 x 56 | 3 | 7,3 | 13,9 | 31,5 | 137,9 | 28 | 35 | 348 |
| OD63J318 | 96,4 | 73,1 | 62,4 | 457,0 | 48,3 | 44.887 | 2 x 52 | 3 | 7,4 | 14,0 | 37,8 | 165,4 | 28 | 35 | 398 |
| OD63J31C | 115,2 | 86,0 | 74,2 | 685,6 | 72,5 | 40.876 | 2 x 44 | 3 | 7,5 | 14,3 | 63,0 | 275,7 | 35 | 35 | 498 |
| OD63J414 | 77,0 | 61,3 | 51,9 | 304,7 | 32,2 | 64.716 | 2 x 83 | 4 | 9,6 | 18,3 | 25,2 | 110,3 | 28 | 35 | 387 |
| OD63J416 | 106,8 | 82,0 | 69,8 | 456,5 | 47,2 | 62.089 | 2 x 77 | 4 | 9,7 | 18,5 | 42,0 | 183,8 | 28 | 35 | 454 |
| OD63J418 | 128,6 | 97,3 | 83,0 | 609,4 | 64,4 | 59.679 | 2 x 72 | 4 | 9,8 | 18,7 | 50,4 | 220,6 | 35 | 35 | 521 |
| OD63J41C | 152,9 | 114,0 | 98,6 | 914,1 | 96,6 | 54.334 | 2 x 60 | 4 | 10,1 | 19,0 | 84,0 | 367,6 | 35 | 35 | 655 |

### Fin pitch 4mm, Fan Ø = 630mm, RPM = 1.040

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD63J114 | 17,7 | 13,6 | 11,5 | 76,2 | 8,1 | 13.033 | 2 x 22 | 1 | 1,6 | 2,8 | 6,3 | 27,6 | 12 | 12 | 118 |
| OD63J116 | 23,6 | 17,9 | 15,2 | 114,3 | 12,1 | 12.373 | 2 x 21 | 1 | 1,7 | 2,8 | 10,5 | 46,0 | 16 | 22 | 134 |
| OD63J118 | 27,6 | 20,7 | 17,8 | 152,3 | 16,1 | 11.713 | 2 x 19 | 1 | 1,7 | 2,8 | 12,6 | 55,1 | 22 | 28 | 151 |
| OD63J11C | 31,8 | 23,7 | 20,4 | 228,5 | 24,2 | 10.475 | 2 x 16 | 1 | 1,7 | 2,9 | 21,0 | 91,9 | 22 | 28 | 185 |
| OD63J214 | 35,1 | 27,3 | 23,2 | 152,3 | 16,1 | 26.001 | 2 x 30 | 2 | 3,3 | 5,5 | 12,6 | 55,1 | 16 | 22 | 208 |
| OD63J216 | 47,4 | 35,5 | 30,2 | 228,5 | 24,2 | 24.681 | 2 x 28 | 2 | 3,3 | 5,6 | 21,0 | 91,9 | 22 | 28 | 241 |
| OD63J218 | 55,4 | 41,4 | 35,6 | 304,7 | 32,2 | 23.375 | 2 x 26 | 2 | 3,3 | 5,6 | 25,2 | 110,3 | 22 | 28 | 274 |
| OD63J21C | 63,8 | 47,6 | 40,8 | 457,0 | 48,3 | 20.917 | 2 x 22 | 2 | 3,4 | 5,7 | 42,0 | 183,8 | 28 | 35 | 341 |
| OD63J314 | 53,4 | 41,1 | 34,9 | 228,5 | 24,2 | 38.880 | 2 x 41 | 3 | 4,9 | 8,3 | 18,9 | 82,7 | 22 | 28 | 297 |
| OD63J316 | 71,0 | 54,0 | 46,1 | 342,8 | 36,2 | 36.901 | 2 x 37 | 3 | 5,0 | 8,4 | 31,5 | 137,9 | 28 | 35 | 348 |
| OD63J318 | 83,6 | 62,6 | 53,8 | 457,0 | 48,3 | 34.966 | 2 x 34 | 3 | 5,0 | 8,4 | 37,8 | 165,4 | 28 | 35 | 398 |
| OD63J31C | 95,8 | 71,6 | 61,5 | 685,6 | 72,5 | 31.307 | 2 x 28 | 3 | 5,1 | 8,6 | 63,0 | 275,7 | 35 | 35 | 498 |
| OD63J414 | 70,5 | 54,6 | 46,4 | 304,7 | 32,2 | 51.691 | 2 x 55 | 4 | 6,6 | 11,0 | 25,2 | 110,3 | 22 | 28 | 387 |
| OD63J416 | 94,5 | 71,7 | 61,2 | 456,5 | 47,2 | 49.046 | 2 x 50 | 4 | 6,6 | 11,2 | 42,0 | 183,8 | 28 | 35 | 454 |
| OD63J418 | 111,2 | 83,5 | 71,6 | 609,4 | 64,4 | 46.493 | 2 x 45 | 4 | 6,7 | 11,2 | 50,4 | 220,6 | 35 | 35 | 521 |
| OD63J41C | 127,5 | 95,3 | 81,8 | 914,1 | 96,6 | 41.654 | 2 x 37 | 4 | 6,8 | 11,4 | 84,0 | 367,6 | 35 | 35 | 655 |

### Fin pitch 4,5mm, Fan Ø = 450mm, RPM = 1.330

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD45K215 | 23,8 | 16,9 | 14,3 | 77,5 | 20,4 | 12.100 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 5/8" | 7/8" | 129 |
| OD45K216 | 26,2 | 18,4 | 15,5 | 93,0 | 24,5 | 11.800 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 5/8" | 7/8" | 154 |
| OD45K315 | 35,6 | 25,3 | 21,4 | 115,9 | 29,9 | 18.150 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 5/8" | 7/8" | 179 |
| OD45K316 | 39,4 | 27,8 | 23,4 | 139,4 | 36,8 | 17.700 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 5/8" | 1 1/8" | 223 |
| OD45K415 | 46,7 | 32,7 | 27,5 | 154,5 | 39,8 | 24.200 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 5/8" | 1 1/8" | 238 |
| OD45K416 | 52,6 | 37,1 | 31,2 | 185,9 | 49,0 | 23.600 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 5/8" | 1 1/8" | 294 |
| OD45K418 | 51,4 | 36,8 | 30,3 | 246,2 | 61,3 | 20.400 | 2x5 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 5/8" | 1 1/8" | 406 |

### Fin pitch 4,5mm, Fan Ø = 450mm, RPM = 970

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD45K215 | 20,7 | 14,6 | 12,4 | 77,5 | 17,3 | 9.600 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 5/8" | 7/8" | 129 |
| OD45K216 | 22,6 | 16,0 | 13,4 | 93,0 | 24,2 | 9.300 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 5/8" | 7/8" | 154 |
| OD45K315 | 30,9 | 21,8 | 18,6 | 115,9 | 27,7 | 14.400 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 5/8" | 7/8" | 179 |
| OD45K316 | 33,9 | 24,0 | 20,1 | 139,4 | 34,6 | 13.950 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 5/8" | 1 1/8" | 223 |
| OD45K415 | 40,9 | 28,8 | 24,1 | 154,5 | 28,8 | 19.200 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 5/8" | 1 1/8" | 238 |
| OD45K416 | 45,3 | 32,1 | 26,9 | 185,9 | 41,5 | 18.600 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 5/8" | 1 1/8" | 294 |
| OD45K418 | 43,3 | 30,2 | 25,0 | 246,2 | 54,2 | 16.000 | 2x3 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 5/8" | 1 1/8" | 406 |

*Conditions: Air Inlet Temperature 2°C, Fluid Inlet Temperature -8°C, Fluid Outlet Temperature -4°C, Ethylene Glycol 35%.
** Sections size can change drastically by fluid used and boundary conditions

### Fin pitch 7mm, Fan Ø = 450mm, RPM = 1.330

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD45P215 | 19,8 | 13,9 | 11,8 | 52,8 | 20,4 | 12.200 | 2x7 | 2 | 1,3 | 2,2 | 18,3 | 14,2 | 5/8" | 7/8" | 125 |
| OD45P216 | 22,4 | 15,7 | 13,2 | 63,3 | 24,5 | 12.000 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 5/8" | 7/8" | 150 |
| OD45P315 | 29,6 | 20,8 | 17,6 | 78,8 | 29,9 | 18.300 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 5/8" | 7/8" | 174 |
| OD45P316 | 33,6 | 23,6 | 19,8 | 94,9 | 36,8 | 18.000 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 5/8" | 1 1/8" | 219 |
| OD45P415 | 39,3 | 27,5 | 23,0 | 105,0 | 39,8 | 24.400 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 5/8" | 1 1/8" | 232 |
| OD45P416 | 44,9 | 31,5 | 26,4 | 126,5 | 49,0 | 24.000 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 5/8" | 1 1/8" | 288 |
| OD45P418 | 46,8 | 32,9 | 26,8 | 167,1 | 61,3 | 22.800 | 2x6 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 5/8" | 1 1/8" | 400 |

### Fin pitch 7mm, Fan Ø = 450mm, RPM = 970

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD45P215 | 17,4 | 12,2 | 10,3 | 52,8 | 17,3 | 9.800 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 5/8" | 7/8" | 125 |
| OD45P216 | 19,5 | 13,7 | 11,5 | 63,3 | 24,2 | 9.600 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 5/8" | 7/8" | 150 |
| OD45P315 | 25,9 | 18,2 | 15,4 | 78,8 | 27,7 | 14.700 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 5/8" | 7/8" | 174 |
| OD45P316 | 29,3 | 20,6 | 17,2 | 94,9 | 34,6 | 14.400 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 5/8" | 1 1/8" | 219 |
| OD45P415 | 34,7 | 24,3 | 20,3 | 105,0 | 28,8 | 19.600 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 5/8" | 1 1/8" | 232 |
| OD45P416 | 39,1 | 27,5 | 23,0 | 126,5 | 41,5 | 19.200 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 5/8" | 1 1/8" | 288 |
| OD45P418 | 39,1 | 26,7 | 21,9 | 167,1 | 54,2 | 17.400 | 2x4 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 5/8" | 1 1/8" | 400 |

*Conditions: Air Inlet Temperature 2°C, Fluid Inlet Temperature -8°C, Fluid Outlet Temperature -4°C, Ethylene Glycol 35%.
** Sections size can change drastically by fluid used and boundary conditions

### Fin pitch 7,5mm, Fan Ø = 500mm, RPM = 1.300

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD50Q114 | 7,1 | 5,4 | 4,6 | 22,9 | 4,3 | 7.542 | 2 x 13 | 1 | 0,7 | 1,6 | 3,4 | 14,9 | 12 | 12 | 57 |
| OD50Q116 | 9,6 | 7,4 | 6,3 | 34,4 | 6,5 | 7.273 | 2 x 13 | 1 | 0,7 | 1,6 | 6,8 | 29,8 | 12 | 12 | 65 |
| OD50Q118 | 12,3 | 9,2 | 7,8 | 45,8 | 8,7 | 6.988 | 2 x 12 | 1 | 0,7 | 1,6 | 8,5 | 37,2 | 12 | 12 | 74 |
| OD50Q11C | 15,4 | 11,4 | 9,8 | 68,8 | 13,0 | 6.426 | 2 x 11 | 1 | 0,7 | 1,6 | 11,9 | 52,1 | 16 | 22 | 91 |
| OD50Q214 | 14,3 | 10,9 | 9,3 | 45,8 | 8,7 | 15.062 | 2 x 17 | 2 | 1,3 | 3,2 | 6,8 | 29,8 | 12 | 12 | 100 |
| OD50Q216 | 20,0 | 15,1 | 12,9 | 68,8 | 13,0 | 14.518 | 2 x 16 | 2 | 1,4 | 3,3 | 13,6 | 59,5 | 16 | 22 | 117 |
| OD50Q218 | 24,7 | 18,4 | 15,7 | 91,5 | 16,9 | 13.946 | 2 x 15 | 2 | 1,4 | 3,3 | 17,0 | 74,4 | 16 | 22 | 134 |
| OD50Q21C | 31,2 | 22,9 | 19,7 | 137,5 | 26,1 | 12.826 | 2 x 13 | 2 | 1,4 | 3,3 | 23,8 | 104,2 | 22 | 28 | 169 |
| OD50Q314 | 21,3 | 16,1 | 13,7 | 68,8 | 13,0 | 22.541 | 2 x 22 | 3 | 2,0 | 4,8 | 10,2 | 44,6 | 12 | 12 | 143 |
| OD50Q316 | 29,9 | 22,6 | 19,3 | 103,2 | 19,6 | 21.720 | 2 x 21 | 3 | 2,0 | 4,9 | 20,4 | 89,3 | 16 | 22 | 169 |
| OD50Q318 | 37,3 | 27,6 | 23,6 | 137,5 | 26,1 | 20.856 | 2 x 19 | 3 | 2,1 | 4,9 | 25,5 | 111,6 | 22 | 28 | 194 |
| OD50Q31C | 46,6 | 34,2 | 29,5 | 206,3 | 39,1 | 19.185 | 2 x 17 | 3 | 2,1 | 4,9 | 35,7 | 156,2 | 22 | 28 | 246 |
| OD50Q414 | 28,7 | 21,8 | 18,6 | 91,7 | 17,4 | 29.986 | 2 x 28 | 4 | 2,7 | 6,5 | 13,6 | 59,5 | 22 | 28 | 186 |
| OD50Q416 | 40,4 | 30,3 | 25,8 | 137,5 | 26,1 | 28.879 | 2 x 26 | 4 | 2,7 | 6,5 | 27,2 | 119,0 | 22 | 28 | 220 |
| OD50Q418 | 49,2 | 36,9 | 31,6 | 183,4 | 34,8 | 27.725 | 2 x 24 | 4 | 2,8 | 6,5 | 34,0 | 148,8 | 28 | 35 | 255 |
| OD50Q41C | 62,3 | 46,0 | 39,5 | 275,1 | 52,1 | 25.507 | 2 x 21 | 4 | 2,8 | 6,6 | 47,6 | 208,3 | 28 | 35 | 324 |
| OD50Q514 | 36,1 | 27,3 | 23,2 | 114,6 | 21,7 | 37.404 | 2 x 36 | 5 | 3,3 | 8,1 | 17,0 | 74,4 | 22 | 28 | 229 |
| OD50Q516 | 50,5 | 37,6 | 32,0 | 171,9 | 32,6 | 36.002 | 2 x 33 | 5 | 3,4 | 8,2 | 34,0 | 148,8 | 22 | 28 | 272 |
| OD50Q518 | 62,1 | 46,2 | 39,5 | 229,2 | 43,5 | 34.566 | 2 x 31 | 5 | 3,5 | 8,2 | 42,5 | 186,0 | 28 | 35 | 315 |
| OD50Q51C | 77,8 | 57,5 | 49,3 | 343,9 | 65,2 | 31.789 | 2 x 26 | 5 | 3,5 | 8,3 | 59,5 | 260,4 | 28 | 35 | 401 |

### Fin pitch 7,5mm, Fan Ø = 500mm, RPM = 1.025

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD50Q114 | 6,5 | 4,9 | 4,1 | 22,9 | 4,3 | 6.136 | 2 x 10 | 1 | 0,4 | 0,8 | 3,4 | 14,9 | 12 | 12 | 57 |
| OD50Q116 | 8,6 | 6,5 | 5,6 | 34,4 | 6,5 | 5.851 | 2 x 9 | 1 | 0,4 | 0,8 | 6,8 | 29,8 | 12 | 12 | 65 |
| OD50Q118 | 10,8 | 8,0 | 6,9 | 45,8 | 8,7 | 5.571 | 2 x 9 | 1 | 0,5 | 0,8 | 8,5 | 37,2 | 12 | 12 | 74 |
| OD50Q11C | 13,1 | 9,7 | 8,4 | 68,8 | 13,0 | 5.060 | 2 x 8 | 1 | 0,5 | 0,8 | 11,9 | 52,1 | 16 | 22 | 91 |
| OD50Q214 | 13,0 | 9,8 | 8,3 | 45,8 | 8,7 | 12.254 | 2 x 13 | 2 | 0,9 | 1,5 | 6,8 | 29,8 | 12 | 12 | 100 |
| OD50Q216 | 17,9 | 13,4 | 11,4 | 68,8 | 13,0 | 11.677 | 2 x 12 | 2 | 0,9 | 1,6 | 13,6 | 59,5 | 12 | 12 | 117 |
| OD50Q218 | 21,8 | 16,1 | 13,8 | 91,5 | 16,9 | 11.120 | 2 x 11 | 2 | 0,9 | 1,6 | 17,0 | 74,4 | 16 | 22 | 134 |
| OD50Q21C | 26,6 | 19,7 | 16,9 | 137,5 | 26,1 | 10.103 | 2 x 9 | 2 | 0,9 | 1,6 | 23,8 | 104,2 | 22 | 28 | 169 |
| OD50Q314 | 19,5 | 14,4 | 12,3 | 68,8 | 13,0 | 18.344 | 2 x 16 | 3 | 1,3 | 2,3 | 10,2 | 44,6 | 12 | 12 | 143 |
| OD50Q316 | 26,9 | 20,0 | 17,1 | 103,2 | 19,6 | 17.466 | 2 x 14 | 3 | 1,3 | 2,3 | 20,4 | 89,3 | 16 | 22 | 169 |
| OD50Q318 | 32,8 | 24,1 | 20,7 | 137,5 | 26,1 | 16.635 | 2 x 13 | 3 | 1,4 | 2,4 | 25,5 | 111,6 | 22 | 28 | 194 |
| OD50Q31C | 40,0 | 29,6 | 25,2 | 206,3 | 39,1 | 15.119 | 2 x 11 | 3 | 1,4 | 2,4 | 35,7 | 156,2 | 22 | 28 | 246 |
| OD50Q414 | 26,0 | 19,6 | 16,7 | 91,7 | 17,4 | 24.408 | 2 x 19 | 4 | 1,8 | 3,1 | 13,6 | 59,5 | 22 | 28 | 186 |
| OD50Q416 | 36,1 | 26,8 | 22,9 | 137,5 | 26,1 | 23.221 | 2 x 18 | 4 | 1,8 | 3,1 | 27,2 | 119,0 | 22 | 28 | 220 |
| OD50Q418 | 43,3 | 32,2 | 27,6 | 183,4 | 34,8 | 22.121 | 2 x 16 | 4 | 1,8 | 3,1 | 34,0 | 148,8 | 22 | 28 | 255 |
| OD50Q41C | 53,2 | 39,5 | 33,8 | 275,1 | 52,1 | 20.108 | 2 x 14 | 4 | 1,9 | 3,2 | 47,6 | 208,3 | 28 | 35 | 324 |
| OD50Q514 | 32,8 | 24,5 | 20,9 | 114,6 | 21,7 | 30.454 | 2 x 24 | 5 | 2,2 | 3,8 | 17,0 | 74,4 | 22 | 28 | 229 |
| OD50Q516 | 45,1 | 33,4 | 28,6 | 171,9 | 32,6 | 28.952 | 2 x 22 | 5 | 2,2 | 3,9 | 34,0 | 148,8 | 22 | 28 | 272 |
| OD50Q518 | 54,7 | 40,3 | 34,6 | 229,2 | 43,5 | 27.583 | 2 x 20 | 5 | 2,3 | 3,9 | 42,5 | 186,0 | 28 | 35 | 315 |
| OD50Q51C | 66,6 | 49,4 | 42,2 | 343,9 | 65,2 | 25.076 | 2 x 16 | 5 | 2,3 | 4,0 | 59,5 | 260,4 | 28 | 35 | 401 |

### Fin pitch 7,5mm, Fan Ø = 630mm, RPM = 1.330

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD63Q114 | 14,3 | 11,0 | 9,3 | 42,5 | 8,1 | 16.689 | 2 x 32 | 1 | 2,4 | 4,5 | 6,3 | 27,6 | 12 | 12 | 110 |
| OD63Q116 | 20,2 | 15,4 | 13,1 | 63,7 | 12,1 | 16.245 | 2 x 31 | 1 | 2,4 | 4,6 | 10,5 | 46,0 | 16 | 22 | 126 |
| OD63Q118 | 25,4 | 19,1 | 16,2 | 85,0 | 16,1 | 15.783 | 2 x 29 | 1 | 2,4 | 4,6 | 12,6 | 55,1 | 16 | 22 | 141 |
| OD63Q11C | 33,0 | 24,4 | 20,9 | 127,4 | 24,2 | 14.916 | 2 x 27 | 1 | 2,5 | 4,7 | 21,0 | 91,9 | 22 | 28 | 172 |
| OD63Q214 | 28,9 | 21,7 | 18,4 | 85,0 | 16,1 | 33.358 | 2 x 45 | 2 | 4,7 | 9,1 | 12,6 | 55,1 | 16 | 22 | 195 |
| OD63Q216 | 41,0 | 30,9 | 26,2 | 127,4 | 24,2 | 32.402 | 2 x 43 | 2 | 4,8 | 9,2 | 21,0 | 91,9 | 22 | 28 | 226 |
| OD63Q218 | 51,1 | 38,0 | 32,3 | 169,9 | 32,2 | 31.474 | 2 x 41 | 2 | 4,8 | 9,2 | 25,2 | 110,3 | 22 | 28 | 257 |
| OD63Q21C | 66,4 | 49,0 | 41,9 | 254,9 | 48,3 | 29.752 | 2 x 37 | 2 | 4,9 | 9,3 | 42,0 | 183,8 | 28 | 35 | 319 |
| OD63Q314 | 43,5 | 33,2 | 28,1 | 127,4 | 24,2 | 49.905 | 2 x 62 | 3 | 7,1 | 13,6 | 18,9 | 82,7 | 22 | 28 | 280 |
| OD63Q316 | 60,7 | 46,5 | 39,6 | 191,1 | 36,2 | 48.449 | 2 x 59 | 3 | 7,2 | 13,8 | 31,5 | 137,9 | 28 | 35 | 326 |
| OD63Q318 | 76,7 | 57,5 | 49,0 | 254,9 | 48,3 | 47.051 | 2 x 56 | 3 | 7,3 | 13,9 | 37,8 | 165,4 | 28 | 35 | 373 |
| OD63Q31C | 99,4 | 73,6 | 63,1 | 382,3 | 72,5 | 44.481 | 2 x 51 | 3 | 7,4 | 14,0 | 63,0 | 275,7 | 35 | 35 | 466 |
| OD63Q414 | 57,9 | 43,7 | 37,0 | 169,9 | 32,2 | 66.377 | 2 x 87 | 4 | 9,5 | 18,2 | 25,2 | 110,3 | 22 | 28 | 365 |
| OD63Q416 | 82,0 | 61,9 | 52,6 | 254,9 | 48,3 | 64.412 | 2 x 83 | 4 | 9,6 | 18,4 | 42,0 | 183,8 | 28 | 35 | 427 |
| OD63Q418 | 102,3 | 76,8 | 65,6 | 339,8 | 64,4 | 62.545 | 2 x 78 | 4 | 9,7 | 18,5 | 50,4 | 220,6 | 28 | 35 | 489 |
| OD63Q41C | 132,7 | 97,9 | 83,9 | 509,7 | 96,6 | 59.137 | 2 x 70 | 4 | 9,9 | 18,7 | 84,0 | 367,6 | 35 | 35 | 612 |

### Fin pitch 7,5mm, Fan Ø = 630mm, RPM = 1040

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| OD63Q114 | 12,9 | 9,8 | 8,4 | 42,5 | 8,1 | 13.412 | 2 x 23 | 1 | 1,6 | 2,7 | 6,3 | 27,6 | 12 | 12 | 110 |
| OD63Q116 | 18,0 | 13,6 | 11,6 | 63,7 | 12,1 | 12.960 | 2 x 22 | 1 | 1,6 | 2,8 | 10,5 | 46,0 | 16 | 22 | 126 |
| OD63Q118 | 22,5 | 16,6 | 14,2 | 85,0 | 16,1 | 12.491 | 2 x 21 | 1 | 1,7 | 2,8 | 12,6 | 55,1 | 16 | 22 | 141 |
| OD63Q11C | 28,2 | 20,7 | 17,8 | 127,4 | 24,2 | 11.574 | 2 x 19 | 1 | 1,7 | 2,8 | 21,0 | 91,9 | 22 | 28 | 172 |
| OD63Q214 | 26,2 | 19,6 | 16,6 | 85,0 | 16,1 | 26.772 | 2 x 32 | 2 | 3,3 | 5,5 | 12,6 | 55,1 | 16 | 22 | 195 |
| OD63Q216 | 36,6 | 27,4 | 23,4 | 127,4 | 24,2 | 25.847 | 2 x 30 | 2 | 3,3 | 5,5 | 21,0 | 91,9 | 22 | 28 | 226 |
| OD63Q218 | 45,2 | 33,3 | 28,5 | 169,9 | 32,2 | 24.914 | 2 x 28 | 2 | 3,3 | 5,6 | 25,2 | 110,3 | 22 | 28 | 257 |
| OD63Q21C | 56,8 | 41,7 | 35,8 | 254,9 | 48,3 | 23.088 | 2 x 25 | 2 | 3,3 | 5,6 | 42,0 | 183,8 | 28 | 35 | 319 |
| OD63Q314 | 39,4 | 29,7 | 25,2 | 127,4 | 24,2 | 40.067 | 2 x 43 | 3 | 4,9 | 8,2 | 18,9 | 82,7 | 22 | 28 | 280 |
| OD63Q316 | 54,2 | 41,1 | 35,0 | 191,1 | 36,2 | 38.645 | 2 x 40 | 3 | 4,9 | 8,3 | 31,5 | 137,9 | 28 | 35 | 326 |
| OD63Q318 | 67,6 | 50,3 | 43,0 | 254,9 | 48,3 | 37.250 | 2 x 38 | 3 | 5,0 | 8,4 | 37,8 | 165,4 | 28 | 35 | 373 |
| OD63Q31C | 84,8 | 62,4 | 53,8 | 382,3 | 72,5 | 34.526 | 2 x 33 | 3 | 5,0 | 8,4 | 63,0 | 275,7 | 35 | 35 | 466 |
| OD63Q414 | 52,6 | 39,4 | 33,4 | 169,9 | 32,2 | 53.310 | 2 x 58 | 4 | 6,5 | 10,9 | 25,2 | 110,3 | 22 | 28 | 365 |
| OD63Q416 | 73,4 | 54,7 | 46,7 | 254,9 | 48,3 | 51.375 | 2 x 54 | 4 | 6,6 | 11,0 | 42,0 | 183,8 | 28 | 35 | 427 |
| OD63Q418 | 90,3 | 67,0 | 57,3 | 339,8 | 64,4 | 49.523 | 2 x 51 | 4 | 6,6 | 11,2 | 50,4 | 220,6 | 28 | 35 | 489 |
| OD63Q41C | 113,4 | 83,7 | 71,6 | 509,7 | 96,6 | 45.902 | 2 x 44 | 4 | 6,7 | 11,3 | 84,0 | 367,6 | 35 | 35 | 612 |

### 2.4.2 HFC-HFO Evaporators

#### Fin pitch 4mm, Fan Ø = 500mm, RPM = 1.300

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED50 (HS) | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED50J114 | 9,1 | 7,1 | 5,8 | 40,1 | 7,7 | 7.135 | 2 x 12 | 1 | 0,7 | 1,6 | 3,4 | 14,9 | 16 | 22 | 59 |
| ED50J116 | 12,1 | 9,6 | 8,0 | 60,1 | 11,5 | 6.643 | 2 x 11 | 1 | 0,7 | 1,6 | 6,8 | 29,8 | 16 | 22 | 68 |
| ED50J118 | 14,1 | 11,0 | 9,3 | 80,2 | 15,3 | 6.170 | 2 x 10 | 1 | 0,7 | 1,7 | 8,5 | 37,2 | 22 | 28 | 77 |
| ED50J11C | 15,9 | 12,0 | 10,2 | 120,3 | 23,0 | 5.277 | 2 x 8 | 1 | 0,8 | 1,7 | 11,9 | 52,1 | 28 | 35 | 95 |
| ED50J214 | 18,4 | 14,5 | 12,1 | 80,2 | 15,3 | 14.229 | 2 x 16 | 2 | 1,4 | 3,3 | 6,8 | 29,8 | 22 | 28 | 103 |
| ED50J216 | 24,4 | 19,2 | 16,0 | 120,3 | 23,0 | 13.248 | 2 x 14 | 2 | 1,4 | 3,3 | 13,6 | 59,5 | 28 | 35 | 121 |
| ED50J218 | 28,5 | 22,2 | 18,9 | 160,4 | 30,7 | 12.310 | 2 x 13 | 2 | 1,4 | 3,3 | 17,0 | 74,4 | 35 | 42 | 139 |
| ED50J21C | 32,0 | 24,4 | 20,9 | 240,6 | 46,0 | 10.539 | 2 x 10 | 2 | 1,5 | 3,4 | 23,8 | 104,2 | 35 | 42 | 175 |
| ED50J314 | 27,0 | 22,2 | 18,8 | 120,3 | 23,0 | 21.268 | 2 x 20 | 3 | 2,1 | 4,9 | 10,2 | 44,6 | 28 | 35 | 147 |
| ED50J316 | 36,7 | 28,9 | 24,1 | 180,4 | 34,5 | 19.802 | 2 x 18 | 3 | 2,1 | 4,9 | 20,4 | 89,3 | 35 | 42 | 174 |
| ED50J318 | 42,5 | 32,7 | 27,8 | 240,2 | 44,8 | 18.407 | 2 x 16 | 3 | 2,2 | 5,0 | 25,5 | 111,6 | 35 | 42 | 201 |
| ED50J31C | 47,9 | 36,8 | 31,4 | 360,8 | 69,0 | 15.774 | 2 x 12 | 3 | 2,3 | 5,1 | 35,7 | 156,2 | 35 | 42 | 255 |
| ED50J414 | 36,6 | 29,3 | 24,5 | 160,4 | 30,7 | 28.263 | 2 x 25 | 4 | 2,7 | 6,5 | 13,6 | 59,5 | 35 | 42 | 191 |
| ED50J416 | 48,4 | 38,4 | 32,7 | 240,6 | 46,0 | 26.311 | 2 x 22 | 4 | 2,8 | 6,6 | 27,2 | 119,0 | 35 | 42 | 227 |
| ED50J418 | 56,4 | 44,6 | 38,1 | 320,7 | 61,3 | 24.466 | 2 x 19 | 4 | 2,9 | 6,7 | 34,0 | 148,8 | 35 | 42 | 263 |
| ED50J41C | 63,9 | 48,9 | 42,0 | 481,1 | 92,0 | 20.988 | 2 x 15 | 4 | 3,0 | 6,9 | 47,6 | 208,3 | 35 | 42 | 335 |
| ED50J514 | 46,2 | 35,6 | 29,5 | 200,5 | 38,3 | 35.238 | 2 x 32 | 5 | 3,4 | 8,2 | 17,0 | 74,4 | 35 | 42 | 235 |
| ED50J516 | 61,2 | 46,4 | 38,5 | 300,7 | 57,5 | 32.790 | 2 x 28 | 5 | 3,5 | 8,2 | 34,0 | 148,8 | 35 | 42 | 280 |
| ED50J518 | 71,4 | 54,0 | 45,7 | 400,9 | 76,6 | 30.504 | 2 x 24 | 5 | 3,6 | 8,3 | 42,5 | 186,0 | 35 | 42 | 325 |
| ED50J51C | 80,0 | 61,0 | 52,3 | 601,4 | 115,0 | 26.189 | 2 x 18 | 5 | 3,8 | 8,6 | 59,5 | 260,4 | 35 | 42 | 415 |

#### Fin pitch 4mm, Fan Ø = 500mm, RPM = 1.025

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED50 (LS) | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED50J114 | 8,2 | 6,2 | 5,2 | 40,1 | 7,7 | 5.713 | 2 x 9 | 1 | 0,5 | 0,8 | 3,4 | 14,9 | 16 | 22 | 59 |
| ED50J116 | 10,7 | 8,2 | 6,9 | 60,1 | 11,5 | 5.269 | 2 x 8 | 1 | 0,5 | 0,8 | 6,8 | 29,8 | 16 | 22 | 68 |
| ED50J118 | 12,3 | 9,5 | 8,0 | 80,2 | 15,3 | 4.849 | 2 x 7 | 1 | 0,5 | 0,8 | 8,5 | 37,2 | 22 | 28 | 77 |
| ED50J11C | 13,2 | 9,9 | 8,4 | 120,3 | 23,0 | 4.050 | 2 x 6 | 1 | 0,5 | 0,8 | 11,9 | 52,1 | 28 | 35 | 95 |
| ED50J214 | 16,7 | 13,1 | 11,1 | 80,2 | 15,3 | 11.396 | 2 x 11 | 2 | 0,9 | 1,6 | 6,8 | 29,8 | 22 | 28 | 103 |
| ED50J216 | 21,7 | 16,5 | 13,9 | 120,3 | 23,0 | 10.513 | 2 x 10 | 2 | 0,9 | 1,6 | 13,6 | 59,5 | 28 | 35 | 121 |
| ED50J218 | 24,7 | 19,1 | 16,1 | 160,4 | 30,7 | 9.682 | 2 x 9 | 2 | 0,9 | 1,6 | 17,0 | 74,4 | 35 | 42 | 139 |
| ED50J21C | 26,5 | 19,9 | 17,2 | 240,6 | 46,0 | 8.094 | 2 x 7 | 2 | 1,0 | 1,7 | 23,8 | 104,2 | 35 | 42 | 175 |
| ED50J314 | 24,7 | 19,8 | 16,6 | 120,3 | 23,0 | 17.040 | 2 x 14 | 3 | 1,4 | 2,3 | 10,2 | 44,6 | 28 | 35 | 147 |
| ED50J316 | 32,5 | 25,0 | 21,2 | 180,4 | 34,5 | 15.722 | 2 x 12 | 3 | 1,4 | 2,4 | 20,4 | 89,3 | 35 | 42 | 174 |
| ED50J318 | 37,0 | 28,3 | 24,2 | 240,6 | 46,0 | 14.491 | 2 x 11 | 3 | 1,4 | 2,4 | 25,5 | 111,6 | 35 | 42 | 201 |
| ED50J31C | 39,7 | 29,9 | 25,9 | 360,8 | 69,0 | 12.126 | 2 x 8 | 3 | 1,5 | 2,5 | 35,7 | 156,2 | 35 | 42 | 255 |
| ED50J414 | 33,0 | 26,3 | 22,3 | 160,4 | 30,7 | 22.649 | 2 x 17 | 4 | 1,8 | 3,1 | 13,6 | 59,5 | 35 | 42 | 191 |
| ED50J416 | 43,0 | 33,9 | 28,9 | 240,6 | 46,0 | 20.895 | 2 x 15 | 4 | 1,8 | 3,2 | 27,2 | 119,0 | 35 | 42 | 227 |
| ED50J418 | 49,1 | 38,3 | 32,4 | 320,2 | 59,8 | 19.278 | 2 x 13 | 4 | 1,9 | 3,2 | 34,0 | 148,8 | 35 | 42 | 263 |
| ED50J41C | 53,0 | 40,0 | 34,5 | 481,1 | 92,0 | 16.148 | 2 x 9 | 4 | 1,9 | 3,3 | 47,6 | 208,3 | 35 | 42 | 335 |
| ED50J514 | 41,9 | 31,8 | 26,3 | 200,5 | 38,3 | 28.231 | 2 x 21 | 5 | 2,3 | 3,9 | 17,0 | 74,4 | 35 | 42 | 235 |
| ED50J516 | 54,3 | 41,1 | 34,7 | 300,7 | 57,5 | 26.049 | 2 x 18 | 5 | 2,3 | 4,0 | 34,0 | 148,8 | 35 | 42 | 280 |
| ED50J518 | 61,9 | 46,7 | 39,9 | 400,9 | 76,6 | 24.053 | 2 x 15 | 5 | 2,3 | 4,0 | 42,5 | 186,0 | 35 | 42 | 325 |
| ED50J51C | 66,3 | 50,1 | 43,0 | 601,4 | 115,0 | 20.166 | 2 x 11 | 5 | 2,4 | 4,2 | 59,5 | 260,4 | 35 | 42 | 415 |

### Fin pitch 4,5mm, Fan Ø = 450mm, RPM = 1.330

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED45K215 | 17,5 | 13,6 | 11,4 | 79,7 | 17,3 | 12.100 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 7/8" | 1 5/8" | 92 |
| ED45K216 | 19,8 | 15,1 | 12,4 | 95,6 | 24,2 | 11.800 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 7/8" | 1 5/8" | 112 |
| ED45K315 | 26,0 | 20,3 | 16,6 | 120,1 | 27,7 | 18.150 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 1 1/8" | 1 5/8" | 128 |
| ED45K316 | 29,9 | 22,5 | 18,7 | 145,1 | 34,6 | 17.700 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 1 1/8" | 1 5/8" | 162 |
| ED45K415 | 35,1 | 27,9 | 23,4 | 157,6 | 28,8 | 24.200 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 170 |
| ED45K416 | 39,7 | 30,7 | 25,4 | 191,2 | 41,5 | 23.600 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 214 |
| ED45K418 | 52,3 | 38,0 | 32,1 | 258,8 | 54,2 | 20.400 | 2x5 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 406 |

### Fin pitch 4,5mm, Fan Ø = 450mm, RPM = 970

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED45K215 | 15,6 | 12,0 | 9,9 | 79,7 | 17,3 | 9.600 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 7/8" | 1 5/8" | 92 |
| ED45K216 | 17,4 | 12,9 | 10,7 | 95,6 | 24,2 | 9.300 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 7/8" | 1 5/8" | 112 |
| ED45K315 | 23,1 | 17,5 | 14,4 | 120,1 | 27,7 | 14.400 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 1 1/8" | 1 5/8" | 128 |
| ED45K316 | 26,3 | 19,6 | 16,2 | 145,1 | 34,6 | 13.950 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 1 1/8" | 1 5/8" | 162 |
| ED45K415 | 31,4 | 24,6 | 20,4 | 157,6 | 28,8 | 19.200 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 170 |
| ED45K416 | 34,9 | 26,4 | 21,9 | 191,2 | 41,5 | 18.600 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 214 |
| ED45K418 | 45,0 | 32,6 | 27,6 | 258,8 | 54,2 | 16.000 | 2x3 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 406 |

### Fin pitch 4,5mm, Fan Ø = 630mm, RPM = 1.330

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED63 (HS) | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED63H114 | 19,9 | 16,4 | 13,9 | 97,4 | 14,2 | 15.759 | 2 x 29 | 1 | 2,4 | 4,6 | 6,3 | 27,6 | 28 | 35 | 113 |
| ED63H116 | 26,1 | 21,6 | 18,5 | 146,1 | 21,3 | 14.898 | 2 x 27 | 1 | 2,5 | 4,7 | 10,5 | 46,0 | 28 | 35 | 129 |
| ED63H118 | 31,4 | 25,2 | 21,5 | 194,8 | 28,4 | 13.944 | 2 x 25 | 1 | 2,5 | 4,7 | 12,6 | 55,1 | 35 | 42 | 145 |
| ED63H11C | 36,0 | 28,0 | 23,8 | 292,2 | 42,6 | 12.140 | 2 x 20 | 1 | 2,6 | 4,9 | 21,0 | 91,9 | 35 | 42 | 177 |
| ED63H214 | 40,1 | 33,1 | 28,0 | 194,8 | 28,4 | 31.412 | 2 x 41 | 2 | 4,8 | 9,2 | 12,6 | 55,1 | 35 | 42 | 199 |
| ED63H216 | 53,6 | 43,0 | 36,4 | 292,2 | 42,6 | 29.704 | 2 x 37 | 2 | 4,9 | 9,4 | 21,0 | 91,9 | 35 | 42 | 231 |
| ED63H218 | 63,3 | 50,0 | 42,7 | 389,6 | 56,8 | 27.797 | 2 x 33 | 2 | 5,0 | 9,5 | 25,2 | 110,3 | 35 | 42 | 263 |
| ED63H21C | 72,1 | 56,3 | 48,0 | 584,3 | 85,2 | 24.235 | 2 x 27 | 2 | 5,3 | 9,9 | 42,0 | 183,8 | 35 | 42 | 327 |
| ED63H314 | 60,2 | 49,1 | 40,9 | 292,2 | 42,6 | 46.945 | 2 x 56 | 3 | 7,3 | 13,9 | 18,9 | 82,7 | 35 | 42 | 285 |
| ED63H316 | 79,6 | 58,5 | 49,6 | 438,2 | 63,9 | 44.405 | 2 x 51 | 3 | 7,4 | 14,0 | 31,5 | 137,9 | 35 | 42 | 333 |
| ED63H318 | 94,3 | 75,3 | 64,4 | 584,3 | 85,2 | 41.535 | 2 x 46 | 3 | 7,5 | 14,2 | 37,8 | 165,4 | 35 | 42 | 381 |
| ED63H31C | 108,3 | 84,6 | 72,3 | 876,5 | 127,8 | 36.271 | 2 x 36 | 3 | 7,9 | 14,8 | 63,0 | 275,7 | 35 | 42 | 477 |
| ED63H414 | 80,4 | 66,4 | 56,2 | 389,6 | 56,8 | 62.491 | 2 x 78 | 4 | 9,7 | 18,5 | 25,2 | 110,3 | 35 | 42 | 371 |
| ED63H416 | 100,8 | 86,6 | 72,3 | 584,3 | 85,2 | 59.077 | 2 x 70 | 4 | 9,9 | 18,7 | 42,0 | 183,8 | 35 | 42 | 435 |
| ED63H418 | 126,7 | 98,1 | 83,1 | 779,1 | 113,6 | 55.193 | 2 x 62 | 4 | 10,0 | 19,0 | 50,4 | 220,6 | 35 | 42 | 499 |
| ED63H41C | 145,3 | 108,8 | 93,3 | 1168,7 | 170,4 | 48.273 | 2 x 48 | 4 | 10,6 | 19,7 | 84,0 | 367,6 | 35 | 42 | 627 |

### Fin pitch 4,5mm, Fan Ø = 630mm, RPM = 1.040

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED63 (LS) | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED63J114 | 16,5 | 13,4 | 11,3 | 74,3 | 14,2 | 12.727 | 2 x 22 | 1 | 16,5 | 2,8 | 6,3 | 27,6 | 28 | 35 | 113 |
| ED63J116 | 21,9 | 17,5 | 14,6 | 111,4 | 21,3 | 11.921 | 2 x 20 | 1 | 16,7 | 2,8 | 10,5 | 46,0 | 28 | 35 | 129 |
| ED63J118 | 25,6 | 20,2 | 17,1 | 148,6 | 28,4 | 11.180 | 2 x 18 | 1 | 16,8 | 2,8 | 12,6 | 55,1 | 35 | 42 | 145 |
| ED63J11C | 29,4 | 22,1 | 19,0 | 222,9 | 42,6 | 9.694 | 2 x 15 | 1 | 17,3 | 2,9 | 21,0 | 91,9 | 35 | 42 | 177 |
| ED63J214 | 33,0 | 26,8 | 22,7 | 148,6 | 28,4 | 25.368 | 2 x 29 | 2 | 33,0 | 5,5 | 12,6 | 55,1 | 35 | 42 | 199 |
| ED63J216 | 44,4 | 35,0 | 29,9 | 222,5 | 41,7 | 23.761 | 2 x 26 | 2 | 33,4 | 5,6 | 21,0 | 91,9 | 35 | 42 | 231 |
| ED63J218 | 52,2 | 40,7 | 34,6 | 297,2 | 56,8 | 22.285 | 2 x 24 | 2 | 33,7 | 5,7 | 25,2 | 110,3 | 35 | 42 | 263 |
| ED63J21C | 58,7 | 44,4 | 38,2 | 445,7 | 85,2 | 19.353 | 2 x 19 | 2 | 34,6 | 5,8 | 42,0 | 183,8 | 35 | 42 | 327 |
| ED63J314 | 50,1 | 40,3 | 34,1 | 222,9 | 42,6 | 37.910 | 2 x 39 | 3 | 49,5 | 8,3 | 18,9 | 82,7 | 35 | 42 | 285 |
| ED63J316 | 66,7 | 49,0 | 40,2 | 334,3 | 63,9 | 35.509 | 2 x 35 | 3 | 50,1 | 8,4 | 31,5 | 137,9 | 35 | 42 | 333 |
| ED63J318 | 78,2 | 61,2 | 52,0 | 445,7 | 85,2 | 33.295 | 2 x 31 | 3 | 50,5 | 8,5 | 37,8 | 165,4 | 35 | 42 | 381 |
| ED63J31C | 88,6 | 66,7 | 57,4 | 668,6 | 127,8 | 28.964 | 2 x 25 | 3 | 51,9 | 8,7 | 63,0 | 275,7 | 35 | 42 | 477 |
| ED63J414 | 67,5 | 51,3 | 42,6 | 297,2 | 56,8 | 50.388 | 2 x 52 | 4 | 66,1 | 11,1 | 25,2 | 110,3 | 35 | 42 | 371 |
| ED63J416 | 83,7 | 65,6 | 55,3 | 445,7 | 85,2 | 47.187 | 2 x 46 | 4 | 66,8 | 11,2 | 42,0 | 183,8 | 35 | 42 | 435 |
| ED63J418 | 104,4 | 79,1 | 67,0 | 594,3 | 113,6 | 44.245 | 2 x 41 | 4 | 67,4 | 11,3 | 50,4 | 220,6 | 35 | 42 | 499 |
| ED63J41C | 118,0 | 89,6 | 76,8 | 891,5 | 170,4 | 38.545 | 2 x 32 | 4 | 69,3 | 11,6 | 84,0 | 367,6 | 35 | 42 | 627 |

### Fin pitch 7mm, Fan Ø = 450mm, RPM = 1.330

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED45P215 | 16,1 | 12,2 | 10,0 | 53,4 | 17,3 | 12.200 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 7/8" | 1 5/8" | 88 |
| ED45P216 | 18,8 | 13,9 | 11,5 | 66,6 | 24,2 | 12.000 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 7/8" | 1 5/8" | 108 |
| ED45P315 | 22,3 | 17,2 | 14,2 | 80,1 | 27,7 | 18.300 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 1 1/8" | 1 5/8" | 123 |
| ED45P316 | 24,6 | 19,1 | 15,9 | 95,2 | 34,6 | 18.000 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 1 1/8" | 1 5/8" | 157 |
| ED45P415 | 32,8 | 25,0 | 20,6 | 105,1 | 28,8 | 24.400 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 164 |
| ED45P416 | 36,9 | 28,4 | 23,3 | 131,5 | 41,5 | 24.000 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 208 |
| ED45P418 | 48,6 | 36,7 | 31,1 | 172,4 | 54,2 | 22.800 | 2x6 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 400 |

### Fin pitch 7mm, Fan Ø = 450mm, RPM = 970

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED45P215 | 14,0 | 10,5 | 8,8 | 53,4 | 17,3 | 9.800 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 7/8" | 1 5/8" | 88 |
| ED45P216 | 16,5 | 12,0 | 9,9 | 66,6 | 24,2 | 9.600 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 7/8" | 1 5/8" | 108 |
| ED45P315 | 19,2 | 14,9 | 12,4 | 80,1 | 27,7 | 14.700 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 1 1/8" | 1 5/8" | 123 |
| ED45P316 | 21,2 | 16,5 | 13,8 | 95,2 | 34,6 | 14.400 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 1 1/8" | 1 5/8" | 157 |
| ED45P415 | 29,1 | 21,6 | 17,9 | 105,1 | 28,8 | 19.600 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 164 |
| ED45P416 | 32,7 | 24,3 | 20,2 | 131,5 | 41,5 | 19.200 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 208 |
| ED45P418 | 41,5 | 30,9 | 26,1 | 172,4 | 54,2 | 17.400 | 2x4 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 1 1/8" | 2 1/8" | 400 |

### Fin pitch 7,5mm, Fan Ø = 500mm, RPM = 1.300

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED50 (HS) | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED50Q114 | 6,9 | 5,3 | 4,4 | 22,6 | 7,7 | 7.416 | 2 x 13 | 1 | 0,7 | 1,6 | 3,4 | 14,9 | 16 | 22 | 54 |
| ED50Q116 | 9,6 | 7,3 | 6,1 | 34,0 | 11,5 | 7.077 | 2 x 12 | 1 | 0,7 | 1,6 | 6,8 | 29,8 | 16 | 22 | 62 |
| ED50Q118 | 11,8 | 9,0 | 7,5 | 45,3 | 15,3 | 6.731 | 2 x 11 | 1 | 0,7 | 1,6 | 8,5 | 37,2 | 22 | 28 | 71 |
| ED50Q11C | 14,6 | 11,0 | 9,2 | 67,9 | 23,0 | 6.055 | 2 x 10 | 1 | 0,7 | 1,7 | 11,9 | 52,1 | 28 | 35 | 87 |
| ED50Q214 | 13,9 | 10,9 | 9,2 | 45,3 | 15,3 | 14.796 | 2 x 17 | 2 | 1,3 | 3,2 | 6,8 | 29,8 | 22 | 28 | 95 |
| ED50Q216 | 19,4 | 14,8 | 12,5 | 67,9 | 23,0 | 14.109 | 2 x 16 | 2 | 1,4 | 3,3 | 13,6 | 59,5 | 28 | 35 | 112 |
| ED50Q218 | 23,6 | 18,1 | 15,3 | 90,6 | 30,7 | 13.416 | 2 x 14 | 2 | 1,4 | 3,3 | 17,0 | 74,4 | 35 | 42 | 128 |
| ED50Q21C | 29,4 | 22,2 | 18,7 | 135,8 | 46,0 | 12.076 | 2 x 12 | 2 | 1,4 | 3,3 | 23,8 | 104,2 | 35 | 42 | 161 |
| ED50Q314 | 21,0 | 15,5 | 12,7 | 67,9 | 23,0 | 22.126 | 2 x 21 | 3 | 2,0 | 4,9 | 10,2 | 44,6 | 28 | 35 | 136 |
| ED50Q316 | 28,7 | 22,6 | 19,1 | 101,9 | 34,5 | 21.085 | 2 x 20 | 3 | 2,1 | 4,9 | 20,4 | 89,3 | 35 | 42 | 161 |
| ED50Q318 | 35,7 | 27,3 | 23,1 | 135,8 | 46,0 | 20.040 | 2 x 18 | 3 | 2,1 | 4,9 | 25,5 | 111,6 | 35 | 42 | 186 |
| ED50Q31C | 44,2 | 33,1 | 27,9 | 203,8 | 69,0 | 18.051 | 2 x 15 | 3 | 2,2 | 5,0 | 35,7 | 156,2 | 35 | 42 | 235 |
| ED50Q414 | 27,1 | 21,9 | 18,5 | 90,6 | 30,7 | 29.416 | 2 x 27 | 4 | 2,7 | 6,5 | 13,6 | 59,5 | 35 | 42 | 177 |
| ED50Q416 | 39,0 | 30,2 | 25,3 | 135,8 | 46,0 | 28.015 | 2 x 25 | 4 | 2,8 | 6,5 | 27,2 | 119,0 | 35 | 42 | 210 |
| ED50Q418 | 47,3 | 36,4 | 30,3 | 180,6 | 59,8 | 26.618 | 2 x 23 | 4 | 2,8 | 6,6 | 34,0 | 148,8 | 35 | 42 | 243 |
| ED50Q41C | 58,9 | 43,9 | 37,1 | 271,7 | 92,0 | 23.988 | 2 x 19 | 4 | 2,9 | 6,7 | 47,6 | 208,3 | 35 | 42 | 309 |
| ED50Q514 | 34,9 | 27,0 | 22,7 | 113,2 | 38,3 | 36.681 | 2 x 35 | 5 | 3,4 | 8,1 | 17,0 | 74,4 | 35 | 42 | 218 |
| ED50Q516 | 48,4 | 37,3 | 31,5 | 169,8 | 57,5 | 34.914 | 2 x 31 | 5 | 3,4 | 8,2 | 34,0 | 148,8 | 35 | 42 | 259 |
| ED50Q518 | 59,0 | 45,6 | 38,6 | 226,4 | 76,6 | 33.159 | 2 x 28 | 5 | 3,5 | 8,2 | 42,5 | 186,0 | 35 | 42 | 301 |
| ED50Q51C | 72,8 | 55,9 | 47,0 | 339,6 | 115,0 | 29.899 | 2 x 23 | 5 | 3,6 | 8,4 | 59,5 | 260,4 | 35 | 42 | 383 |

### Fin pitch 7,5mm, Fan Ø = 500mm, RPM = 1.025

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED50 (LS) | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED50Q114 | 6,3 | 4,8 | 4,0 | 22,6 | 7,7 | 6.013 | 2 x 10 | 1 | 0,4 | 0,8 | 3,4 | 14,9 | 16 | 22 | 54 |
| ED50Q116 | 8,6 | 6,6 | 5,5 | 34,0 | 11,5 | 5.655 | 2 x 9 | 1 | 0,5 | 0,8 | 6,8 | 29,8 | 16 | 22 | 62 |
| ED50Q118 | 10,4 | 7,9 | 6,6 | 45,3 | 15,3 | 5.344 | 2 x 8 | 1 | 0,5 | 0,8 | 8,5 | 37,2 | 22 | 28 | 71 |
| ED50Q11C | 12,5 | 9,2 | 7,8 | 67,9 | 23,0 | 4.752 | 2 x 7 | 1 | 0,5 | 0,8 | 11,9 | 52,1 | 28 | 35 | 87 |
| ED50Q214 | 12,7 | 9,8 | 8,2 | 45,3 | 15,3 | 11.994 | 2 x 12 | 2 | 0,9 | 1,5 | 6,8 | 29,8 | 22 | 28 | 95 |
| ED50Q216 | 17,4 | 13,2 | 11,2 | 67,9 | 23,0 | 11.278 | 2 x 11 | 2 | 0,9 | 1,6 | 13,6 | 59,5 | 28 | 35 | 112 |
| ED50Q218 | 20,8 | 15,9 | 13,4 | 90,6 | 30,7 | 10.654 | 2 x 10 | 2 | 0,9 | 1,6 | 17,0 | 74,4 | 35 | 42 | 128 |
| ED50Q21C | 25,2 | 18,7 | 15,8 | 135,8 | 46,0 | 9.487 | 2 x 9 | 2 | 0,9 | 1,6 | 23,8 | 104,2 | 35 | 42 | 161 |
| ED50Q314 | 19,1 | 14,1 | 11,8 | 67,9 | 23,0 | 17.932 | 2 x 15 | 3 | 1,3 | 2,3 | 10,2 | 44,6 | 28 | 35 | 136 |
| ED50Q316 | 25,7 | 20,0 | 16,8 | 101,9 | 34,5 | 16.858 | 2 x 13 | 3 | 1,4 | 2,3 | 20,4 | 89,3 | 28 | 35 | 161 |
| ED50Q318 | 31,5 | 23,8 | 19,9 | 135,8 | 46,0 | 15.928 | 2 x 12 | 3 | 1,4 | 2,4 | 25,5 | 111,6 | 35 | 42 | 186 |
| ED50Q31C | 37,8 | 28,1 | 23,7 | 203,8 | 69,0 | 14.194 | 2 x 10 | 3 | 1,4 | 2,4 | 35,7 | 156,2 | 35 | 42 | 235 |
| ED50Q414 | 24,6 | 19,7 | 16,4 | 90,6 | 30,7 | 23.833 | 2 x 18 | 4 | 1,8 | 3,1 | 13,6 | 59,5 | 28 | 35 | 177 |
| ED50Q416 | 34,9 | 26,3 | 22,0 | 135,8 | 46,0 | 22.405 | 2 x 16 | 4 | 1,8 | 3,1 | 27,2 | 119,0 | 35 | 42 | 210 |
| ED50Q418 | 41,7 | 31,0 | 26,1 | 180,6 | 59,8 | 21.172 | 2 x 15 | 4 | 1,8 | 3,2 | 34,0 | 148,8 | 35 | 42 | 243 |
| ED50Q41C | 50,4 | 37,5 | 31,7 | 271,7 | 92,0 | 18.878 | 2 x 12 | 4 | 1,9 | 3,2 | 47,6 | 208,3 | 35 | 42 | 309 |
| ED50Q514 | 31,7 | 24,4 | 20,6 | 113,2 | 38,3 | 29.708 | 2 x 23 | 5 | 2,2 | 3,9 | 17,0 | 74,4 | 35 | 42 | 218 |
| ED50Q516 | 43,1 | 33,3 | 28,2 | 169,8 | 57,5 | 27.925 | 2 x 20 | 5 | 2,3 | 3,9 | 34,0 | 148,8 | 35 | 42 | 259 |
| ED50Q518 | 51,8 | 39,9 | 33,7 | 226,4 | 76,6 | 26.390 | 2 x 18 | 5 | 2,3 | 4,0 | 42,5 | 186,0 | 35 | 42 | 301 |
| ED50Q51C | 62,8 | 46,7 | 39,8 | 339,6 | 115,0 | 23.549 | 2 x 14 | 5 | 2,4 | 4,0 | 59,5 | 260,4 | 35 | 42 | 383 |

### Fin pitch 7,5mm, Fan Ø = 630mm, RPM = 1.330

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED63 (HS) | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED63Q114 | 13,8 | 11,0 | 9,2 | 42,0 | 14,2 | 16.489 | 2 x 31 | 1 | 2,4 | 4,6 | 6,3 | 27,6 | 16 | 22 | 105 |
| ED63Q116 | 19,6 | 14,6 | 12,1 | 62,9 | 21,3 | 15.923 | 2 x 30 | 1 | 2,4 | 4,6 | 10,5 | 46,0 | 28 | 35 | 120 |
| ED63Q118 | 24,3 | 18,8 | 15,5 | 83,9 | 28,4 | 15.381 | 2 x 28 | 1 | 2,4 | 4,6 | 12,6 | 55,1 | 28 | 35 | 135 |
| ED63Q11C | 31,4 | 23,7 | 20,0 | 125,9 | 42,6 | 14.283 | 2 x 25 | 1 | 2,5 | 4,7 | 21,0 | 91,9 | 35 | 42 | 165 |
| ED63Q214 | 27,9 | 22,1 | 18,6 | 83,9 | 28,4 | 32.880 | 2 x 44 | 2 | 4,7 | 9,1 | 12,6 | 55,1 | 28 | 35 | 187 |
| ED63Q216 | 39,4 | 30,8 | 25,8 | 125,9 | 42,6 | 31.725 | 2 x 41 | 2 | 4,8 | 9,2 | 21,0 | 91,9 | 35 | 42 | 216 |
| ED63Q218 | 49,0 | 37,9 | 31,6 | 167,8 | 56,8 | 30.642 | 2 x 39 | 2 | 4,9 | 9,3 | 25,2 | 110,3 | 35 | 42 | 246 |
| ED63Q21C | 63,0 | 46,7 | 39,3 | 251,7 | 85,2 | 28.425 | 2 x 35 | 2 | 5,0 | 9,4 | 42,0 | 183,8 | 35 | 42 | 305 |
| ED63Q314 | 42,2 | 33,2 | 28,0 | 125,9 | 42,6 | 49.148 | 2 x 61 | 3 | 7,1 | 13,7 | 18,9 | 82,7 | 35 | 42 | 268 |
| ED63Q316 | 59,5 | 44,6 | 36,6 | 188,8 | 63,9 | 47.396 | 2 x 57 | 3 | 7,2 | 13,8 | 31,5 | 137,9 | 35 | 42 | 312 |
| ED63Q318 | 73,8 | 56,9 | 47,1 | 251,7 | 85,2 | 45.768 | 2 x 54 | 3 | 7,3 | 14,0 | 37,8 | 165,4 | 35 | 42 | 357 |
| ED63Q31C | 94,5 | 70,9 | 60,0 | 377,6 | 127,8 | 42.422 | 2 x 47 | 3 | 7,5 | 14,2 | 63,0 | 275,7 | 35 | 42 | 445 |
| ED63Q414 | 56,1 | 43,5 | 36,5 | 167,8 | 56,8 | 65.345 | 2 x 85 | 4 | 9,5 | 18,3 | 25,2 | 110,3 | 35 | 42 | 349 |
| ED63Q416 | 76,6 | 53,3 | 43,5 | 251,7 | 85,2 | 62.986 | 2 x 79 | 4 | 9,7 | 18,5 | 42,0 | 183,8 | 35 | 42 | 408 |
| ED63Q418 | 97,8 | 75,4 | 63,7 | 335,6 | 113,6 | 60.809 | 2 x 74 | 4 | 9,8 | 18,6 | 50,4 | 220,6 | 35 | 42 | 467 |
| ED63Q41C | 124,8 | 96,4 | 81,9 | 503,4 | 170,4 | 56.315 | 2 x 64 | 4 | 10,0 | 18,9 | 84,0 | 367,6 | 35 | 42 | 586 |

### Fin pitch 7,5mm, Fan Ø = 630mm, RPM = 1.040

| Model | Capacity (kW) | | | Surface | Internal Volume | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Inlet | Outlet | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ED63 (LS) | SC2 | SC3 | SC4 | m² | dm³ | m³/h | m | N° | kW | A | kW | A | mm | mm | kg |
| ED63Q114 | 12,6 | 9,9 | 8,1 | 42,0 | 14,2 | 13.219 | 2 x 23 | 1 | | 2,7 | 6,3 | 27,6 | 16 | 22 | 105 |
| ED63Q116 | 17,6 | 13,1 | 10,9 | 62,9 | 21,3 | 12.633 | 2 x 21 | 1 | 16,5 | 2,8 | 10,5 | 46,0 | 28 | 35 | 120 |
| ED63Q118 | 21,5 | 16,0 | 13,4 | 83,9 | 28,4 | 12.059 | 2 x 20 | 1 | 16,7 | 2,8 | 12,6 | 55,1 | 28 | 35 | 135 |
| ED63Q11C | 26,8 | 20,1 | 16,9 | 125,9 | 42,6 | 10.963 | 2 x 18 | 1 | 16,9 | 2,8 | 21,0 | 91,9 | 35 | 42 | 165 |
| ED63Q214 | 25,4 | 19,8 | 16,4 | 83,9 | 28,4 | 26.351 | 2 x 31 | 2 | 32,7 | 5,5 | 12,6 | 55,1 | 28 | 35 | 187 |
| ED63Q216 | 35,4 | 27,0 | 22,7 | 125,9 | 42,6 | 25.170 | 2 x 29 | 2 | 33,0 | 5,6 | 21,0 | 91,9 | 35 | 42 | 216 |
| ED63Q218 | 43,3 | 33,0 | 27,9 | 167,8 | 56,8 | 24.020 | 2 x 27 | 2 | 33,3 | 5,6 | 25,2 | 110,3 | 35 | 42 | 246 |
| ED63Q21C | 53,8 | 39,8 | 33,5 | 251,7 | 85,2 | 21.840 | 2 x 23 | 2 | 33,8 | 5,7 | 42,0 | 183,8 | 35 | 42 | 305 |
| ED63Q314 | 38,4 | 29,8 | 24,7 | 125,9 | 42,6 | 39.384 | 2 x 42 | 3 | 49,0 | 8,2 | 18,9 | 82,7 | 35 | 42 | 268 |
| ED63Q316 | 53,2 | 40,0 | 33,6 | 188,8 | 63,9 | 37.607 | 2 x 38 | 3 | 49,6 | 8,3 | 31,5 | 137,9 | 35 | 42 | 312 |
| ED63Q318 | 65,0 | 48,8 | 41,2 | 251,7 | 85,2 | 35.877 | 2 x 35 | 3 | 50,0 | 8,4 | 37,8 | 165,4 | 35 | 42 | 357 |
| ED63Q31C | 80,5 | 60,7 | 51,5 | 377,6 | 127,8 | 32.622 | 2 x 30 | 3 | 50,8 | 8,5 | 63,0 | 275,7 | 35 | 42 | 445 |
| ED63Q414 | 50,8 | 39,4 | 33,2 | 167,8 | 56,8 | 52.354 | 2 x 56 | 4 | 65,4 | 11,0 | 25,2 | 110,3 | 35 | 42 | 349 |
| ED63Q416 | 69,4 | 48,7 | 39,4 | 251,7 | 85,2 | 49.976 | 2 x 52 | 4 | 66,2 | 11,1 | 42,0 | 183,8 | 35 | 42 | 408 |
| ED63Q418 | 85,8 | 66,4 | 56,2 | 335,6 | 113,6 | 47.660 | 2 x 47 | 4 | 66,7 | 11,2 | 50,4 | 220,6 | 35 | 42 | 467 |
| ED63Q41C | 106,6 | 81,6 | 68,6 | 503,4 | 170,4 | 43.335 | 2 x 40 | 4 | 67,7 | 11,4 | 84,0 | 367,6 | 35 | 42 | 586 |

### 2.4.3 Brine Coolers

#### Fin pitch 4mm, Fan Ø = 500mm, RPM = 1.300

| Model | Capacity (kW) | Surface | Internal Volume | Fluid Flow | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Manifolds** | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC* | m² | dm³ | m³/h | m³/h | m | N° | kW | A | kW | A | mm | kg |
| BD50J114 | 8,5 | 40,1 | 7,7 | 2,0 | 7.059 | 2 x 12 | 1 | 0,7 | 1,6 | 3,4 | 14,9 | 18 | 59 |
| BD50J116 | 8,9 | 60,1 | 11,5 | 2,1 | 6.578 | 2 x 11 | 1 | 0,7 | 1,6 | 6,8 | 29,8 | 28 | 68 |
| BD50J118 | 15,3 | 80,2 | 15,3 | 3,6 | 6.119 | 2 x 10 | 1 | 0,7 | 1,7 | 8,5 | 37,2 | 22 | 77 |
| BD50J11C | 17,8 | 120,3 | 23,0 | 4,2 | 5.238 | 2 x 8 | 1 | 0,8 | 1,7 | 11,9 | 52,1 | 28 | 95 |
| BD50J214 | 11,3 | 80,2 | 15,3 | 2,7 | 14.118 | 2 x 16 | 2 | 1,4 | 3,3 | 6,8 | 29,8 | 28 | 103 |
| BD50J216 | 27,1 | 120,3 | 23,0 | 6,4 | 13.156 | 2 x 14 | 2 | 1,4 | 3,3 | 13,6 | 59,5 | 28 | 121 |
| BD50J218 | 30,2 | 160,4 | 30,7 | 7,1 | 12.237 | 2 x 13 | 2 | 1,4 | 3,3 | 17,0 | 74,4 | 35 | 139 |
| BD50J21C | 35,3 | 240,6 | 46,0 | 8,3 | 10.475 | 2 x 10 | 2 | 1,5 | 3,4 | 23,8 | 104,2 | 35 | 175 |
| BD50J314 | 29,3 | 120,1 | 22,4 | 6,9 | 21.177 | 2 x 20 | 3 | 2,1 | 4,9 | 10,2 | 44,6 | 28 | 147 |
| BD50J316 | 36,6 | 180,4 | 34,5 | 8,6 | 19.733 | 2 x 18 | 3 | 2,1 | 4,9 | 20,4 | 89,3 | 35 | 174 |
| BD50J318 | 27,2 | 240,2 | 44,8 | 6,4 | 18.355 | 2 x 16 | 3 | 2,2 | 5,0 | 25,5 | 111,6 | 42 | 201 |
| BD50J31C | 52,8 | 360,8 | 69,0 | 12,4 | 15.712 | 2 x 12 | 3 | 2,3 | 5,1 | 35,7 | 156,2 | 42 | 255 |
| BD50J414 | 17,9 | 160,4 | 30,7 | 4,2 | 28.236 | 2 x 25 | 4 | 2,7 | 6,5 | 13,6 | 59,5 | 35 | 191 |
| BD50J416 | 24,9 | 240,6 | 46,0 | 5,9 | 26.311 | 2 x 22 | 4 | 2,8 | 6,6 | 27,2 | 119,0 | 42 | 227 |
| BD50J418 | 31,2 | 320,7 | 61,3 | 7,3 | 24.473 | 2 x 19 | 4 | 2,9 | 6,7 | 34,0 | 148,8 | 48 | 263 |
| BD50J41C | 70,2 | 481,1 | 92,0 | 16,5 | 20.949 | 2 x 15 | 4 | 3,0 | 6,9 | 47,6 | 208,3 | 48 | 335 |
| BD50J514 | 48,6 | 200,5 | 38,3 | 11,4 | 35.295 | 2 x 32 | 5 | 3,4 | 8,2 | 17,0 | 74,4 | 35 | 235 |
| BD50J516 | 62,5 | 300,7 | 57,5 | 14,7 | 32.888 | 2 x 28 | 5 | 3,5 | 8,2 | 34,0 | 148,8 | 42 | 280 |
| BD50J518 | 68,9 | 400,9 | 76,6 | 16,2 | 30.592 | 2 x 24 | 5 | 3,6 | 8,3 | 42,5 | 186,0 | 48 | 325 |
| BD50J51C | 51,3 | 601,4 | 115,0 | 12,1 | 26.187 | 2 x 18 | 5 | 3,8 | 8,6 | 59,5 | 260,4 | 54 | 415 |

#### Fin pitch 4mm, Fan Ø = 630mm, RPM = 1.330

| Model | Capacity (kW) | Surface | Internal Volume | Fluid Flow | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Manifolds** | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC* | m² | dm³ | m³/h | m³/h | m | N° | kW | A | kW | A | mm | kg |
| BD63J114 | 16,5 | 122,5 | 16,0 | 3,9 | 16.128 | 2 x 30 | 1 | 2,4 | 4,6 | 6,3 | 27,6 | 22 | 127 |
| BD63J116 | 13,5 | 183,8 | 24,1 | 3,2 | 15.476 | 2 x 29 | 1 | 2,4 | 4,6 | 10,5 | 46,0 | 35 | 146 |
| BD63J118 | 31,5 | 245,1 | 32,1 | 7,4 | 14.873 | 2 x 27 | 1 | 2,5 | 4,7 | 12,6 | 55,1 | 28 | 164 |
| BD63J214 | 32,4 | 245,1 | 32,1 | 7,6 | 32.256 | 2 x 42 | 2 | 4,8 | 9,2 | 12,6 | 55,1 | 35 | 225 |
| BD63J216 | 51,8 | 367,6 | 48,1 | 12,2 | 30.951 | 2 x 40 | 2 | 4,9 | 9,3 | 21,0 | 91,9 | 35 | 261 |
| BD63J218 | 62,3 | 490,2 | 64,1 | 14,7 | 29.746 | 2 x 37 | 2 | 4,9 | 9,3 | 25,2 | 110,3 | 42 | 297 |
| BD63J314 | 53,4 | 367,3 | 46,9 | 12,6 | 48.383 | 2 x 59 | 3 | 7,2 | 13,8 | 18,9 | 82,7 | 35 | 322 |
| BD63J316 | 72,5 | 551,5 | 72,2 | 17,1 | 46.426 | 2 x 55 | 3 | 7,3 | 13,9 | 31,5 | 137,9 | 42 | 377 |
| BD63J318 | 86,9 | 734,6 | 93,8 | 20,4 | 44.618 | 2 x 51 | 3 | 7,4 | 14,0 | 37,8 | 165,4 | 48 | 431 |
| BD63J414 | 57,5 | 490,2 | 64,1 | 13,5 | 64.511 | 2 x 83 | 4 | 9,6 | 18,4 | 25,2 | 110,3 | 42 | 420 |
| BD63J416 | 76,0 | 735,3 | 96,2 | 17,9 | 61.901 | 2 x 77 | 4 | 9,7 | 18,6 | 42,0 | 183,8 | 54 | 492 |
| BD63J418 | 49,4 | 980,4 | 128,3 | 11,6 | 59.491 | 2 x 71 | 4 | 9,8 | 18,7 | 50,4 | 220,6 | 67 | 564 |

*Conditions: Air Inlet Temperature 2°C, Fluid Inlet Temperature -8°C, Fluid Outlet Temperature -4°C, Ethylene Glycol 35%.
** Sections size can change drastically by fluid used and boundary conditions

### Fin pitch 4,5mm, Fan Ø = 450 (HS) mm, RPM = 1.330

| Model | Capacity (kW) | Surface | Internal Volume | Fluid Flow | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Manifolds** | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC* | m² | dm³ | m³/h | m³/h | m | N° | kW | A | kW | A | mm | kg |
| BD45K215 (D) | 12,9 | 76,7 | 17,3 | 3,0 | 12.100 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 1 3/8" | 128 |
| BD45K216 (D) | 27,2 | 93,0 | 24,2 | 6,4 | 11.800 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 1 5/8" | 133 |
| BD45K315 (D) | 35,8 | 116,2 | 27,7 | 8,4 | 18.150 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 2 1/8" | 157 |
| BD45K316 (D) | 42,6 | 139,4 | 34,6 | 10,0 | 17.700 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 2 1/8" | 162 |
| BD45K415 (D) | 49,1 | 154,9 | 28,8 | 11,6 | 24.200 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 2 1/8" | 167 |
| BD45K416 (D) | 54,1 | 185,9 | 41,5 | 12,7 | 23.600 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 2 1/8" | 164 |
| BD45K418 (D) | 61,8 | 246,2 | 54,2 | 14,5 | 20.400 | 2x5 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 2 1/8" | 170 |

### Fin pitch 4,5mm, Fan Ø = 450 (LS) mm, RPM = 970

| Model | Capacity (kW) | Surface | Internal Volume | Fluid Flow | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Manifolds** | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC* | m² | dm³ | m³/h | m³/h | m | N° | kW | A | kW | A | mm | kg |
| BD45K215 (S) | 12,0 | 76,7 | 17,3 | 2,8 | 9.600 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 1 1/8" | 128 |
| BD45K216 (S) | 22,6 | 93,0 | 24,2 | 5,3 | 9.300 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 1 5/8" | 133 |
| BD45K315 (S) | 29,9 | 116,2 | 27,7 | 7,0 | 14.400 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 2 1/8" | 157 |
| BD45K316 (S) | 35,8 | 139,4 | 34,6 | 8,4 | 13.950 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 2 1/8" | 162 |
| BD45K415 (S) | 41,4 | 154,9 | 28,8 | 9,7 | 19.200 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 2 1/8" | 167 |
| BD45K416 (S) | 44,8 | 185,9 | 41,5 | 10,5 | 18.600 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 2 1/8" | 164 |
| BD45K418 (S) | 50,8 | 246,2 | 54,2 | 11,9 | 16.000 | 2x3 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 2 1/8" | 170 |

*Conditions: Air Inlet Temperature 2°C, Fluid Inlet Temperature -8°C, Fluid Outlet Temperature -4°C, Ethylene Glycol 35%.
** Sections size can change drastically by fluid used and boundary conditions

### Fin pitch 7mm, Fan Ø = 450 (HS) mm, RPM = 1.330

| Model | Capacity (kW) | Surface | Internal Volume | Fluid Flow | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Manifolds** | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC* | m² | dm³ | m³/h | m³/h | m | N° | kW | A | kW | A | mm | kg |
| BD45P215 (D) | 19,1 | 52,8 | 17,3 | 4,5 | 12.200 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 1 3/8" | 176 |
| BD45P216 (D) | 21,4 | 63,3 | 24,2 | 5,0 | 12.000 | 2x7 | 2 | 1,3 | 2,2 | 9,7 | 14,2 | 1 5/8" | 208 |
| BD45P315 (D) | 17,1 | 77,9 | 27,7 | 4,0 | 18.300 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 1 3/8" | 214 |
| BD45P316 (D) | 34,1 | 94,9 | 34,6 | 8,0 | 18.000 | 2x7 | 3 | 1,9 | 3,3 | 14,1 | 20,8 | 2 1/8" | 220 |
| BD45P415 (D) | 37,9 | 105,4 | 28,8 | 8,9 | 24.400 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 2 1/8" | 400 |
| BD45P416 (D) | 42,4 | 126,5 | 41,5 | 10,0 | 24.000 | 2x7 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 2 1/8" | 406 |
| BD45P418 (D) | 54,8 | 167,1 | 54,2 | 12,9 | 22.800 | 2x6 | 4 | 2,5 | 4,4 | 18,3 | 27,0 | 2 1/8" | 406 |

### Fin pitch 7mm, Fan Ø = 450 (LS) mm, RPM = 970

| Model | Capacity (kW) | Surface | Internal Volume | Fluid Flow | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Manifolds** | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC* | m² | dm³ | m³/h | m³/h | m | N° | kW | A | kW | A | mm | kg |
| BD45P215 (S) | 13,5 | 52,8 | 17,3 | 3,2 | 9.800 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 1 3/8" | 176 |
| BD45P216 (S) | 15,5 | 63,3 | 24,2 | 3,6 | 9.600 | 2x5 | 2 | 0,9 | 1,4 | 9,7 | 14,2 | 1 3/8" | 208 |
| BD45P315 (S) | 15,9 | 77,9 | 27,7 | 3,7 | 14.700 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 1 3/8" | 214 |
| BD45P316 (S) | 28,8 | 94,9 | 34,6 | 6,8 | 14.400 | 2x5 | 3 | 1,3 | 2,1 | 14,1 | 20,8 | 1 5/8" | 220 |
| BD45P415 (S) | 23,6 | 105,4 | 28,8 | 5,5 | 19.600 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 1 5/8" | 400 |
| BD45P416 (S) | 27,2 | 126,5 | 41,5 | 6,4 | 19.200 | 2x5 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 1 5/8" | 406 |
| BD45P418 (S) | 44,4 | 167,1 | 54,2 | 10,4 | 17.400 | 2x4 | 4 | 1,7 | 2,8 | 18,3 | 27,0 | 2 1/8" | 406 |

*Conditions: Air Inlet Temperature 2°C, Fluid Inlet Temperature -8°C, Fluid Outlet Temperature -4°C, Ethylene Glycol 35%.
** Sections size can change drastically by fluid used and boundary conditions

### Fin pitch 7,5mm, Fan Ø = 500mm, RPM = 1.300

| Model | Capacity (kW) | Surface | Internal Volume | Fluid Flow | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Manifolds** | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC* | m² | dm³ | m³/h | m³/h | m | N° | kW | A | kW | A | mm | kg |
| BD50Q114 | 6,8 | 22,6 | 7,7 | 1,6 | 7.328 | 2 x 13 | 1 | 0,7 | 1,6 | 3,4 | 14,9 | 18 | 54 |
| BD50Q116 | 8,2 | 34,0 | 11,5 | 1,9 | 6.976 | 2 x 12 | 1 | 0,7 | 1,6 | 6,8 | 29,8 | 18 | 62 |
| BD50Q118 | 12,2 | 45,1 | 14,8 | 2,9 | 6.624 | 2 x 11 | 1 | 0,7 | 1,6 | 8,5 | 37,2 | 22 | 71 |
| BD50Q11C | 16,1 | 67,7 | 22,4 | 3,8 | 5.966 | 2 x 10 | 1 | 0,7 | 1,7 | 11,9 | 52,1 | 22 | 87 |
| BD50Q214 | 13,5 | 45,3 | 15,3 | 3,2 | 14.655 | 2 x 16 | 2 | 1,4 | 3,3 | 6,8 | 29,8 | 22 | 95 |
| BD50Q216 | 21,4 | 67,9 | 23,0 | 5,0 | 13.951 | 2 x 15 | 2 | 1,4 | 3,3 | 13,6 | 59,5 | 28 | 112 |
| BD50Q218 | 25,7 | 90,3 | 29,9 | 6,0 | 13.248 | 2 x 14 | 2 | 1,4 | 3,3 | 17,0 | 74,4 | 28 | 128 |
| BD50Q21C | 33,2 | 135,7 | 45,6 | 7,8 | 11.932 | 2 x 12 | 2 | 1,5 | 3,4 | 23,8 | 104,2 | 35 | 161 |
| BD50Q314 | 12,9 | 67,7 | 22,4 | 3,0 | 21.982 | 2 x 21 | 3 | 2,0 | 4,9 | 10,2 | 44,6 | 28 | 136 |
| BD50Q316 | 32,0 | 101,9 | 34,5 | 7,5 | 20.926 | 2 x 19 | 3 | 2,1 | 4,9 | 20,4 | 89,3 | 28 | 161 |
| BD50Q318 | 38,3 | 135,8 | 46,0 | 9,0 | 19.872 | 2 x 18 | 3 | 2,1 | 4,9 | 25,5 | 111,6 | 35 | 186 |
| BD50Q31C | 34,4 | 203,8 | 69,0 | 8,1 | 17.898 | 2 x 15 | 3 | 2,2 | 5,0 | 35,7 | 156,2 | 42 | 235 |
| BD50Q414 | 14,8 | 90,6 | 30,7 | 3,5 | 29.309 | 2 x 27 | 4 | 2,7 | 6,5 | 13,6 | 59,5 | 35 | 177 |
| BD50Q416 | 42,5 | 135,8 | 46,0 | 10,0 | 27.901 | 2 x 25 | 4 | 2,8 | 6,5 | 27,2 | 119,0 | 35 | 210 |
| BD50Q418 | 51,1 | 180,6 | 59,8 | 12,0 | 26.496 | 2 x 22 | 4 | 2,8 | 6,6 | 34,0 | 148,8 | 42 | 243 |
| BD50Q41C | 43,3 | 271,7 | 92,0 | 10,2 | 23.864 | 2 x 18 | 4 | 2,9 | 6,7 | 47,6 | 208,3 | 48 | 309 |
| BD50Q514 | 18,5 | 113,2 | 38,3 | 4,4 | 36.636 | 2 x 35 | 5 | 3,4 | 8,1 | 17,0 | 74,4 | 35 | 218 |
| BD50Q516 | 26,9 | 169,8 | 57,5 | 6,3 | 34.876 | 2 x 31 | 5 | 3,4 | 8,2 | 34,0 | 148,8 | 42 | 259 |
| BD50Q518 | 34,4 | 226,4 | 76,6 | 8,1 | 33.120 | 2 x 28 | 5 | 3,5 | 8,2 | 42,5 | 186,0 | 48 | 301 |
| BD50Q51C | 47,1 | 339,6 | 115,0 | 11,1 | 29.830 | 2 x 23 | 5 | 3,6 | 8,4 | 59,5 | 260,4 | 54 | 383 |

### Fin pitch 7,5mm, Fan Ø = 630mm, RPM = 1.330

| Model | Capacity (kW) | Surface | Internal Volume | Fluid Flow | Air Flow | Air Throw | Fans Data | | | Electrical defrost | | Manifolds** | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SC* | m² | dm³ | m³/h | m³/h | m | N° | kW | A | kW | A | mm | kg |
| BD63Q114 | 13,0 | 67,4 | 16,0 | 3,1 | 16.522 | 2 x 31 | 1 | 2,4 | 4,6 | 6,3 | 27,6 | 22 | 119 |
| BD63Q116 | 18,4 | 101,1 | 24,1 | 4,3 | 16.021 | 2 x 30 | 1 | 2,4 | 4,6 | 10,5 | 46,0 | 28 | 136 |
| BD63Q118 | 24,4 | 134,4 | 30,9 | 5,7 | 15.551 | 2 x 29 | 1 | 2,4 | 4,6 | 12,6 | 55,1 | 28 | 153 |
| BD63Q214 | 25,7 | 134,7 | 32,1 | 6,1 | 33.044 | 2 x 44 | 2 | 4,7 | 9,1 | 12,6 | 55,1 | 28 | 211 |
| BD63Q216 | 36,3 | 202,1 | 48,1 | 8,5 | 32.041 | 2 x 42 | 2 | 4,8 | 9,2 | 21,0 | 91,9 | 35 | 245 |
| BD63Q218 | 50,4 | 269,1 | 62,5 | 11,9 | 31.101 | 2 x 40 | 2 | 4,9 | 9,3 | 25,2 | 110,3 | 35 | 278 |
| BD63Q314 | 35,1 | 201,8 | 46,9 | 8,3 | 49.566 | 2 x 62 | 3 | 7,1 | 13,7 | 18,9 | 82,7 | 35 | 303 |
| BD63Q316 | 60,3 | 303,2 | 72,2 | 14,2 | 48.062 | 2 x 58 | 3 | 7,2 | 13,8 | 31,5 | 137,9 | 42 | 353 |
| BD63Q318 | 75,3 | 404,2 | 96,2 | 17,7 | 46.651 | 2 x 56 | 3 | 7,3 | 13,9 | 37,8 | 165,4 | 42 | 404 |
| BD63Q414 | 23,2 | 269,5 | 64,1 | 5,5 | 66.088 | 2 x 87 | 4 | 9,5 | 18,2 | 25,2 | 110,3 | 42 | 395 |
| BD63Q416 | 80,2 | 404,2 | 96,2 | 18,9 | 64.082 | 2 x 82 | 4 | 9,6 | 18,4 | 42,0 | 183,8 | 42 | 462 |
| BD63Q418 | 100,2 | 538,1 | 125,1 | 23,5 | 62.201 | 2 x 77 | 4 | 9,7 | 18,5 | 50,4 | 220,6 | 48 | 529 |

*Conditions: Air Inlet Temperature 2°C, Fluid Inlet Temperature -8°C, Fluid Outlet Temperature -4°C, Ethylene Glycol 35%.
** Sections size can change drastically by fluid used and boundary conditions

## 2.5 Heat exchanger information

The heat exchanger coils are manufactured according to state of art and to be incorporated to a product submitted to Machinery Directive 2006/42/EC.

- The heat exchanger is designed and manufactured under the EN-14276-2 norm in combination with section 5.2.2.2 of the EN-378-2 norm.
- The heat exchanger coil must be used correctly and for the purpose for which it has been designed.
- Care should be taken to avoid damage due to sharp edges, and excessive vibration should be avoided.
- The heat exchanger coil must be used within the operating limits of PS (maximum allowable pressure) and TS (maximum allowable temperature) as indicated on the unit's nameplate.
- Every single coil is tested under its corresponding PT (1,43 times its PS).
- We regularly carry out some bursting tests up to 3 times its PS.
- The heat exchanger will be protected by the regulatory safety elements in the design of an installation
- Periodic maintenance must be carried out on the installation to ensure correct working conditions, since cumulative dirt or possible leaks will lead to loss efficiency.
- Heat exchanger coils are fragile and must only be handled by a competent engineer, who should be suitably protected against the sharp edges of the coil (appropriate personnel protective equipment).

# 3. INSTALLATION

**Installation responsibilities**

Generally, the contractor must do the following when installing the unit:

1. Install the units on a flat surface, level (within 1/4" [6 mm] across the length of the unit), and strong enough to support unit loading.
2. Install any optional sensors and make electrical connections when needed.
3. Connect the unit to the system.
4. Provide and install field wiring.
5. Start the unit under the supervision of a qualified service technician.

**Storage**

If the unit is stored for a long period of time prior to installation, store the unit in a safe place sheltered from bad weat her.

**Bedplate**

Provide rigid, non-warping mounting pads for concrete foundation of sufficient strength and mass to support the unit's operating weight (that is, including completed piping, and full operating char ges of refrigerant, oil, and wat er). After it is in place, the unit must be levelled within 1/4" (6 mm) over its length and width. Use shims if necessary.

The manufacturer is not responsible for equipment problems resulting from an improperly designed or constructed foundation.

The unit must be positioned so that the airflow through the condensation coils is not hindered by any obstacle. The condensation coils must be protected from side winds when their speed exceeds 16 km/h.

Never install, temporally or premanently, objects over the unit (tarp or roof) over the unit, because recycling of hot air would reduce the capacity of the condensation coils. Discharged air from the fans must not be obstructed.

**Releasing the Nitrogen Holding Charge**

The nitrogen holding charge can be released into the atmosphere.

When releasing nitrogen holding charge, ventilate the room. Avoid breathing in the nitrogen.

**Isolation**

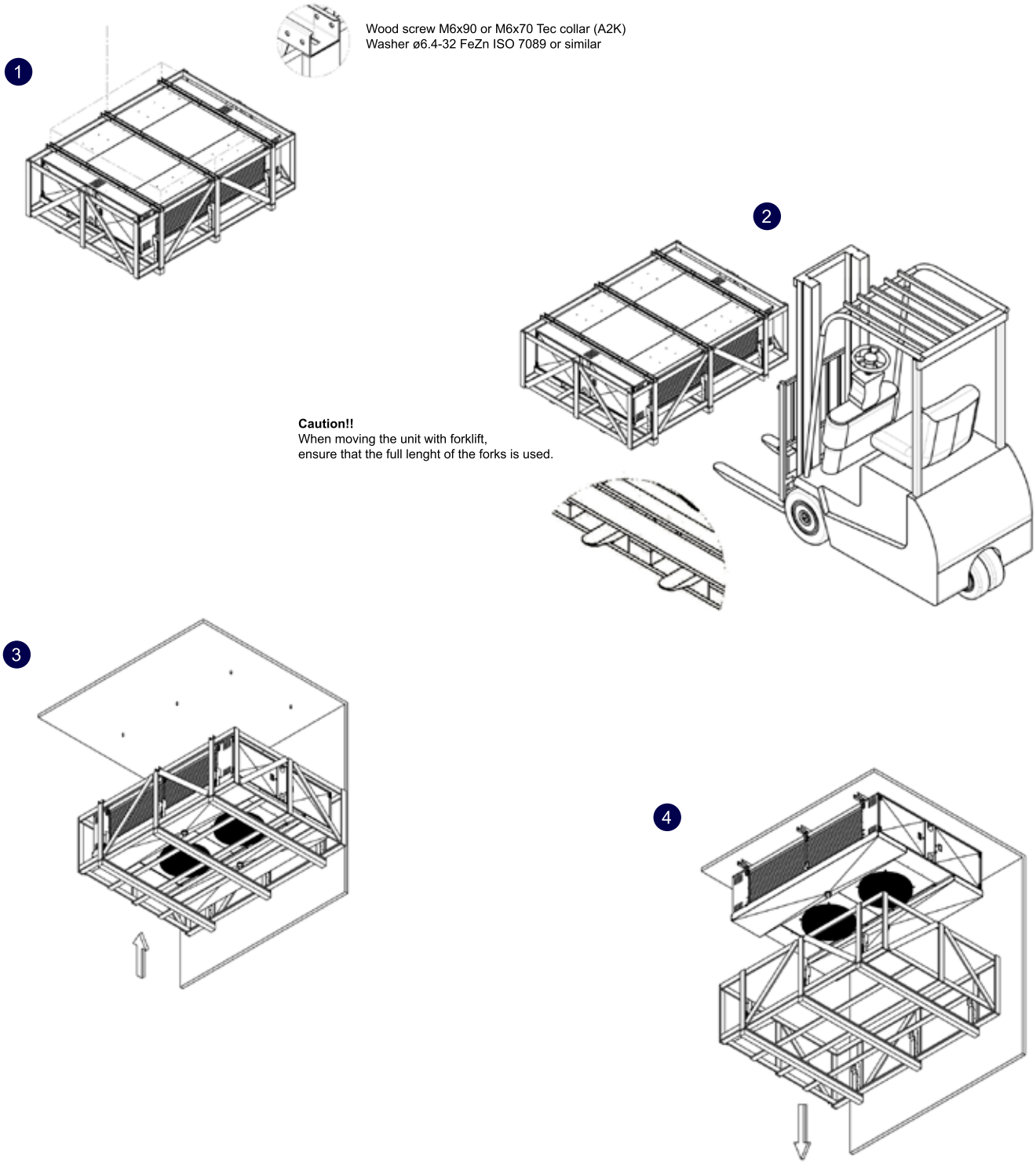
The most effective form of isolation is to locate the unit away from any sound-sensitive area. Structurally transmitted sound can be reduced by elastomeric vibration eliminators. Consult an acoustical engineer in critical sound applications. For maximum isolation effect, isolate electrical conduit. Wall sleeves and rubber-isolated piping hangers can be used to reduce the sound transmitted through refrigerant piping. To reduce the sound transmitted through electrical conduit, use flexible electrical conduit. State and local codes on sound emissions should always be considered.

**Special Lifting and Moving Instructions.**

The following instructions comprehension is a must for transporting, manipulating and installing the unit:

1. Remove screws and washers from top
2. Use forklift or scaffold to lift the unit
3. Lift the unit
4. After having secured and fix the cooler, remove screw from all legs. the forks may be lowered with cage and legs.

Caution!! Provide sufficient space for air intake.
NOTE: All lifting procedures must be carefully carried out by qualified personnel, ensuring safety at all times.



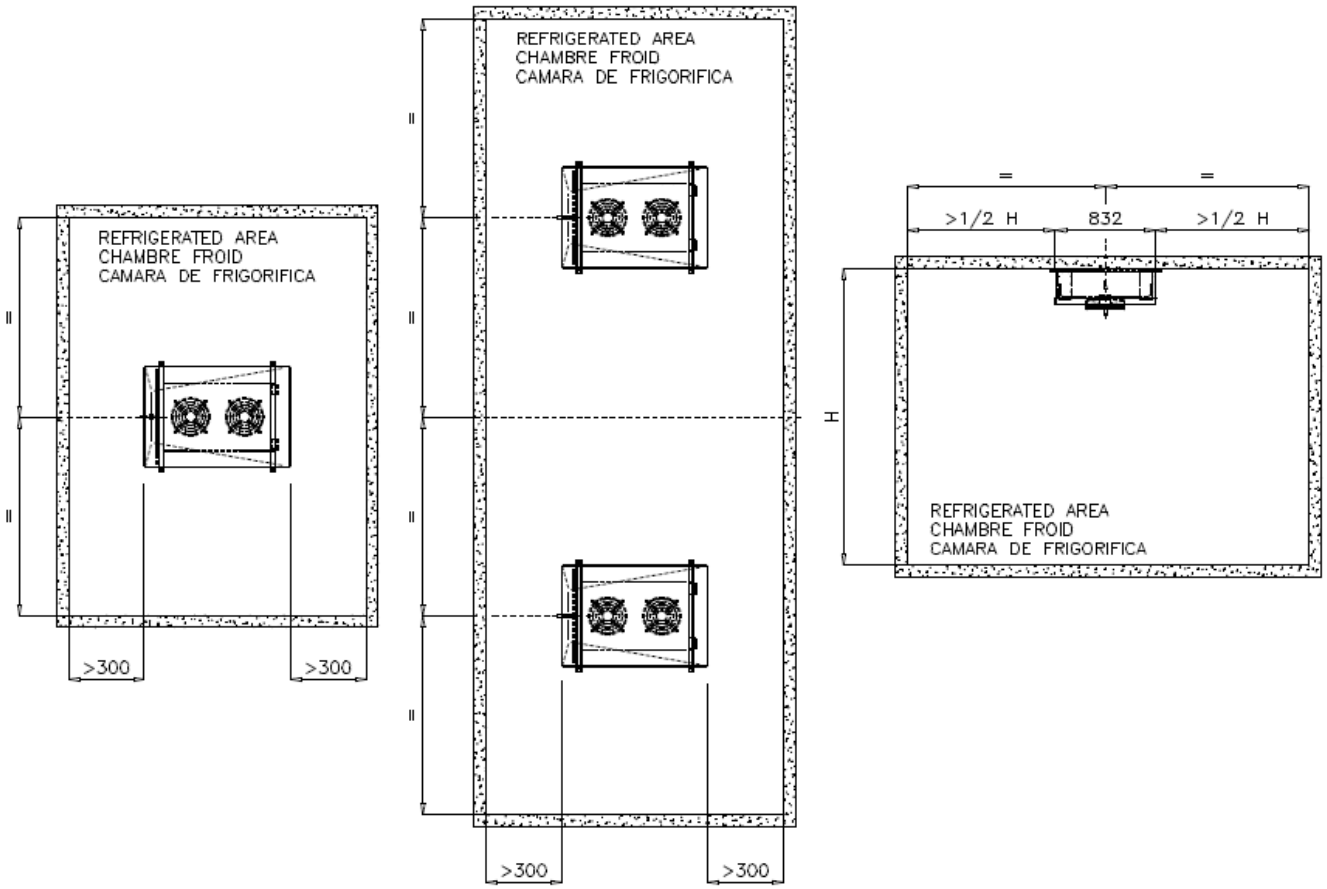
## 3.1 Installation advices

### 3.1.1 Location

Provide enough space around the unit to allow the installation and maintenance personnel unrestricted access to all service points. Unobstructed flow of unit air is essential to maintain the capacity and operating efficiency. When determining unit placement, give careful consideration to ensuring a sufficient flow of air across the unit heat-transfer surface.

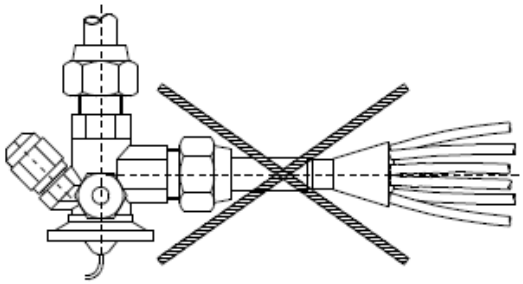
Recommended minimum clearances for installation.

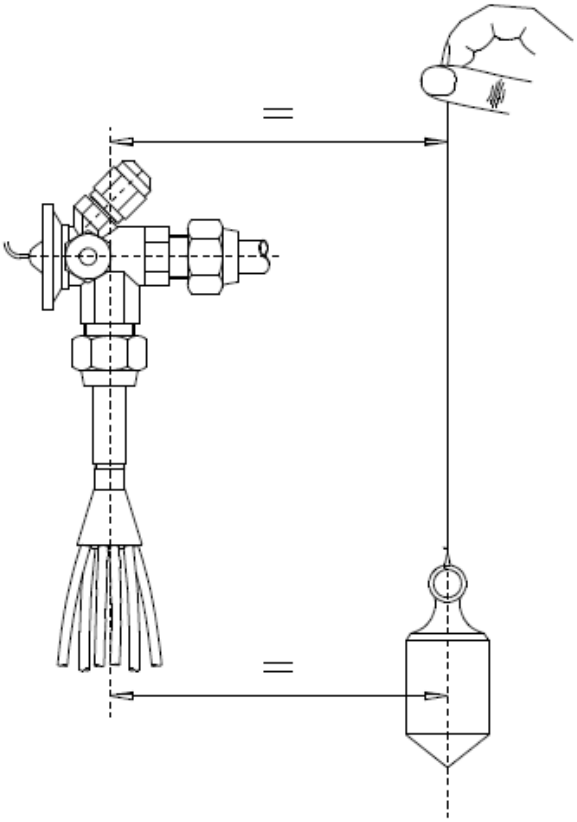
NOTICE: If the unit has electric defrost, >300mm will be > 1m, in order to allows the change of heaters.



### 3.1.2 Thermostatic valve assembly

The expansion valve must be installed in the liquid line before the evaporator, with its bulb close to the suction line as close as possible to the evaporator.

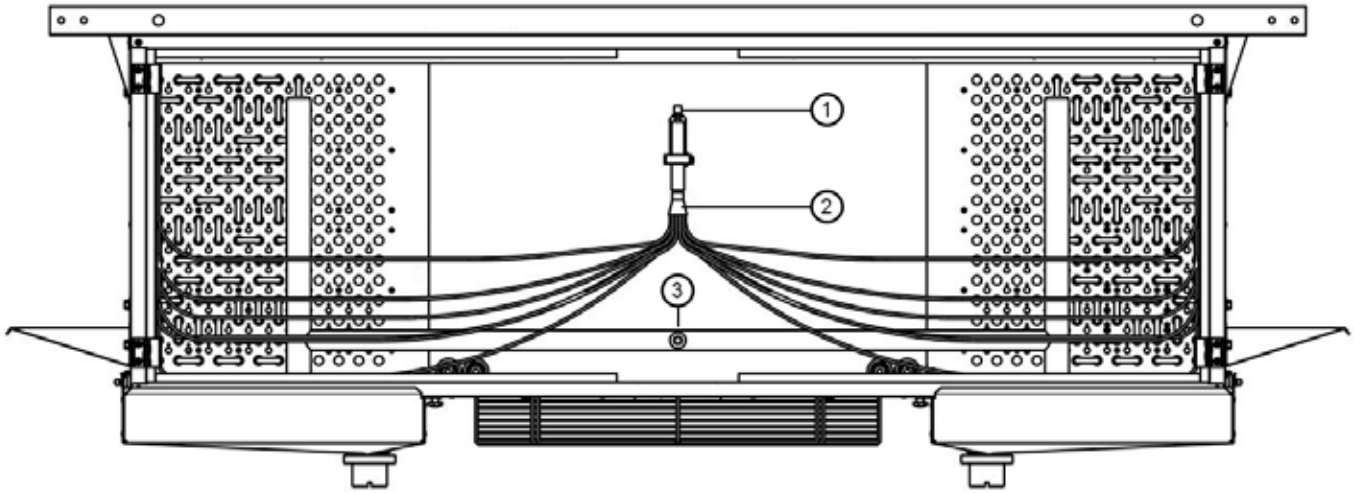




## 3.2 Operating modes

### 3.2.1 Direct expansion operating principle

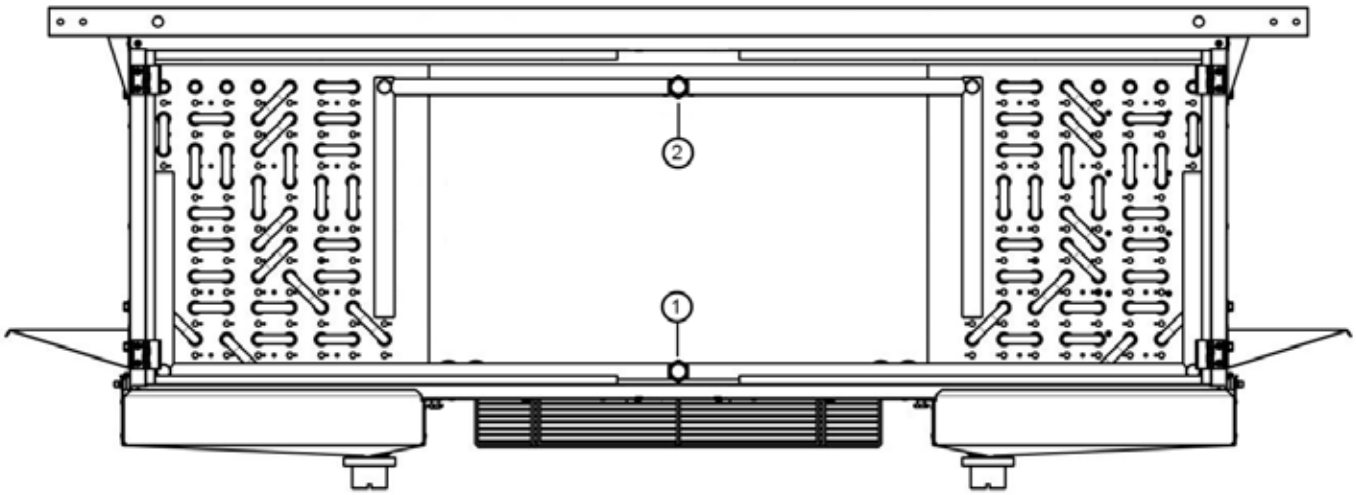
With direct expansion, the liquid working fluid evaporates in the evaporator. The working fluid enters the evaporator via the expansion valve (1) and is evenly distributed in the pipingsystem through a distributor (2) (if applicable). At the same time, the working fluid absorbsheat and evaporates. The compressor sucks in the working fluid gas; the working fluid leavesthe evaporator via the outlet (3). The working fluid is compressed under high pressure in thecompressor, thus raising the temperature level. The working fluid is liquefied again in the condenser. During this process, it releases the absorbed evaporation and compressor heat again.The expansion valve expands the working fluid, and the cycle starts again from the beginning.




| | DESCRIPTION |
|---|---|
| **1** | Inlet of refrigerant via expansion valve |
| **2** | Distributor |
| **3** | Outlet of refrigerant |

### 3.2.2 Pump (forced circulation) operating principle

With pump operating principle, the liquid working fluid absorbs heat as it passes through the brine cooler without changing its state of matter. It leaves the unit as liquid working fluid.




| | DESCRIPTION |
|---|---|
| **1** | Inlet of cold brine (brine cooler) / refrigerant (evaporator) |
| **2** | Outlet of cold brine (brine cooler) / refrigerant (evaporator) |

## 3.3 Recommendations for adiabatic spray system

### 3.3.1 Water specifications

Adiabatic Ramp can operate on untreated drinking water and demineralized water.
The particles of water sprayed by the nozzles don't evaporate completely before reaching the finned pack of the coil, both due to the short distance available, and the varying air conditions; consequently, the heat exchanger fins will be wetted, thus increasing the overall efficiency of the system. Following the evaporation process, the minerals dissolved in the supply water will partly be carried by the flow of air, in the form of fine dust, and will thus accumulate on the surface of the heat exchanger fins. The nature and quantity of minerals contained in the supply water affect the frequency of the routine maintenance operations required due to the formation of dirt and, in extreme cases, corrosion of the materials. Theses problems can be minimised by using demineralised water from reverse osmosis, as specified by the relevant standards, such as UNI 8884.

In particular, UNI 8884 "Characteristics and treatment of the water in cooling and humidification circuits" suggests that adiabatic humidifiers should be supplied with drinking water (as shown in directive 98/83/EC), with the following characteristics:

- Electrical conductivity <100 µS/cm;
- Total hardness <5 °fH (50 ppm CaCO3);
- 6.5<pH< 8.5;
- Chloride content <20 mg/l;
- Silica content <5 mg/l;

To limit accumulation of dirt on the surface of the coils when untreated water is used, operate Adiabatic Ramp only when necessary, and in any case no more than 200 hours a year. Upstream of the cabinet, connect the following to the water line:

- A water filter with a filter size no greater than 10 µ;
- An expansion vessel with a capacity of at least 5 litres, to avoid water hammer that may damage the installation.

# 4. ELECTRICAL CONNECTIONS

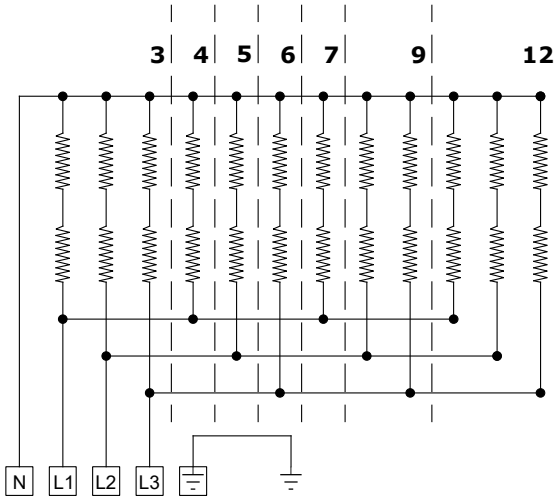
## 4.1 Electrical connections performed by the installer

All wiring must comply with local codes.
Specific electrical schematics and connection diagrams are shipped with the unit.

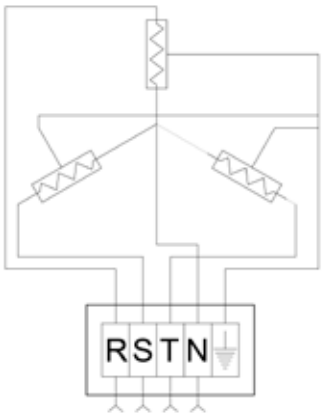
To connect fans, follow attached fan instructions and consider:
To avoid corrosion and overheating at terminal connections, use copper conductors only. Failure to do so may result in damage to the equipment. Do not allow conduit to interfere with other compo nents, structural members or equipment. Control voltage (10 V) wiring in conduit must be separate from conduit carrying low voltage (<30 V) wiring. To prevent control malfunctions, do not run low voltage wiring (<30 V) in conduit with conductors carrying more than 30 V.

## 4.2 Electrical heaters connections · 400 V / 3 PH / 50 HZ

**D50 / D63 (From 4 up to 12 heaters)**

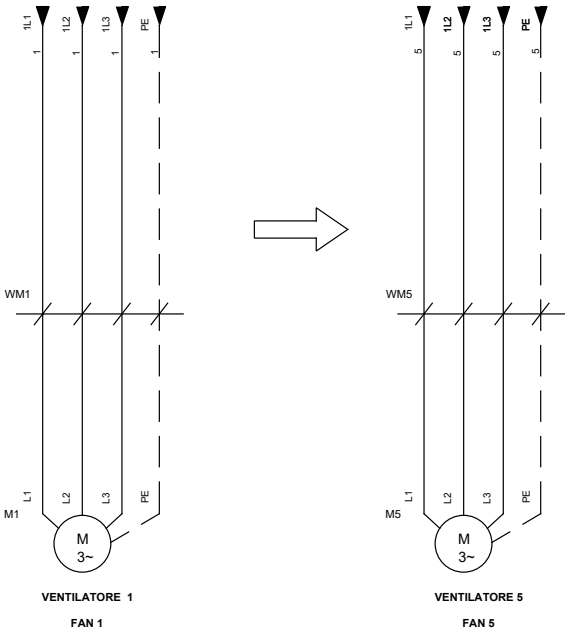



**D45 (from 1 up to all heaters)**

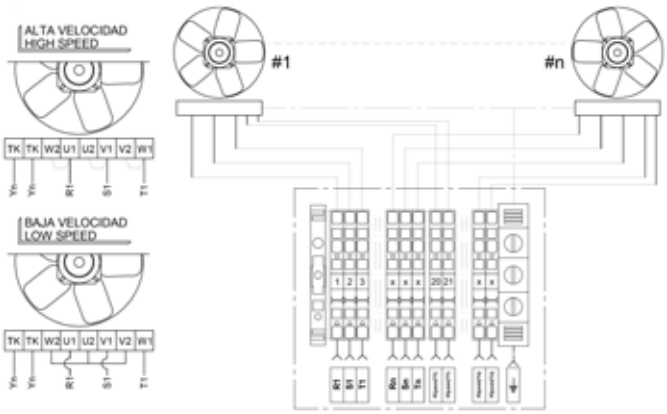



## 4.3 Fan electrical connections · 400 V / 3 PH / 50 HZ

**D50 / D63 (From 1 fan up to 5 fans)**

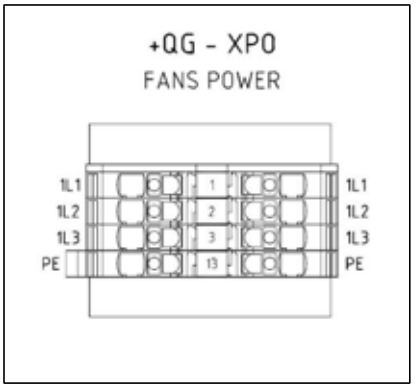



**D45 (from 1 up to all fans)**

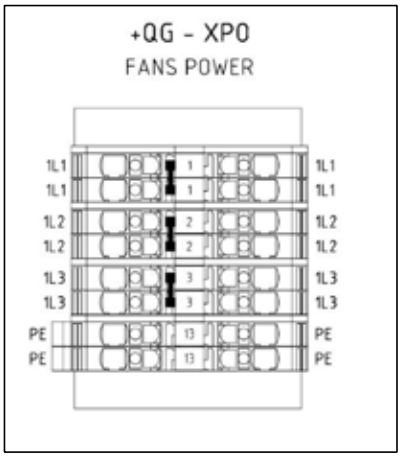


## 4.4 Standard electrical boxes diagrams · AC Fans (D50/D63)

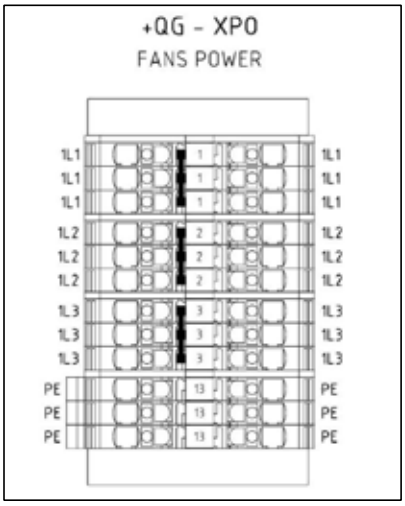
**(From 1 fan to 5 fans)**



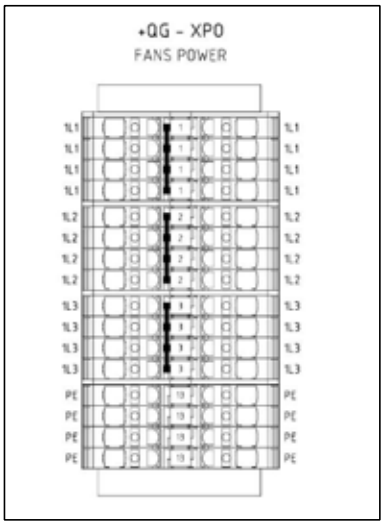

1 FAN



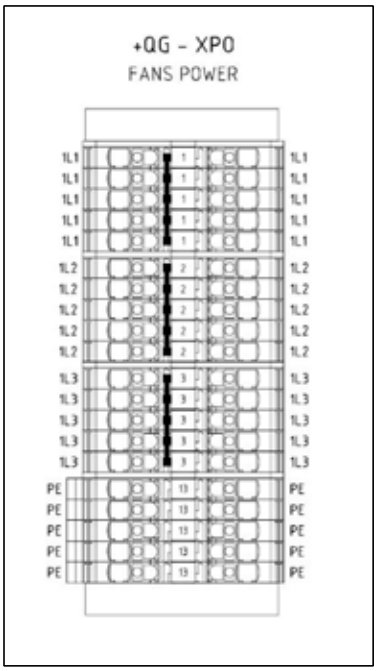

2 FAN




3 FAN




4 FAN




5 FAN

### 4.5 Connecting the unit to the system

Danger of injuries and damage to property with escaping refrigerant!
Incorrect installation risks working fluid escaping when the unit is operated, causing injuries or damage to property.
Prevent working fluid from escaping from the unit into the environment.

- Secure all working fluid carrying lines against mechanical damage.
- In areas that are used for internal traffic, only lay the pipelines to and from the unit with connections and fittings that cannot be removed.

Ensure that the on site connections do not exercise any forces upon the distribution and header points.
This can cause leaks on the working fluid connection points of the unit and on connection points of the on-site pipe-laying.

Danger of injuries and damage to property!
Improper connection to the the system causes hazards:

- Leaks result in escaping refrigerant.
- Soldering and welding work on pressurised parts can result in fires or explosions.
- Ensure that stresses and vibrations from the system are not passed on to the unit.
- Only lay working fluid side connections stress free! The on site pipeline system must be braced be fore connecting to the unit!
- Soldering and welding work is only permitted on unpressurised units!
- Low permissible water content in a refrigeration system! Ensure that the unit's level of dryness corresponds with the low permissible water content in a refrigeration system!
- The use of open fire at the installation site is forbidden. Fire extinguishers and extinguishing agents used to protect the equipment and the operating staff must comply with the requirements of EN 378-3.
- Install the pipes in acc. with EN 378-1 and EN 378-3. Ensure here: Avoid transmitting vibrations to the unit via conduits or pipes. If necessary, use vibration dampers.

## 5. START UP

### 5.1 Pre-start checks

When installation is complete, but prior to putting the unit into service, the fallowing pre-start procedures must be reviewed and verified:

- Inspect all wiring connections to be sure they are clean and tight.
- Disconnect all electric power, including remote disconnects, before servicing. Failure to disconnect power before servicing can cause severe personal injury or death.

### 5.2 Unit Voltage Imbalance

Excessive voltage imbalance between the phases of a threephase system can cause motors to overheat and eventually fail. The maximum allowable imbalance is 2%.
Voltage imbalance is determined using the fallowing calculations:

- % Imbalance = [(Vx -V ave) x 100]/V ave
- V ave= (Vl + V2 + V3)/3
- Vx = phase with the greatest difference from V ave (without regard to the sign)

For example, if the three measured voltages are 391, 407, and 402 volts, the average would be:
- (391+407+402)/3 = 400

The percentage of the imbalance is then:
- [100(400-391)]/400 = 2.25%
- This exceeds the maximum allowable (2%) by 0.25%

# 6. MAINTENANCE

## 6.1 Coil Maintenance

Cleaning four times a year may be required or even more if conditions are very poor or if corrosion damage begins to occur. To clean the coils, use a soft brush and a sprayer (garden pumpup type). A high-quality detergent is recommended for both standard and coils with aluminum coating. Follow the directions included with the detergent.

## 6.2 Caution!

If the detergent used is strongly alkaline (pH greater than 8.5), an inhibitor must be added. Rinse the coil thoroughly after cleaning. Failure to completely flush the detergent from the coil can result in accelerated coil corrosion. Blow excess water from the coil using low-pressure air. The water used to clean the coils should always be clean, fresh water (it should not be brackish, or contain excessive dissolved minerals, chlorine, or water softener salts).

## 6.3 Safety recommendations

To avoid accidents and damage, the following recommendations should be observed during maintenance and service visits.

- Disconnect the main supply before any servicing on the unit.
- Service work on the refrigeration system and the electrical system should be carried out only by qualified and experienced personnel.

## 6.4 Maintenance contract

It is strongly recommended that you sign a maintenance contract with your local Service Agency. This contract provides regular maintenance of your installation by a specialist in our equipment. Regular maintenance ensures that any malfunction is detected and corrected in good time and minimizes the possibility that serious damage will occur. Finally, regular maintenance ensures the maximum operating life of your equipment. We would remind you that failure to respect these installation and maintenance instructions may result in immediate cancellation of the warranty.

# 7. SERVICE & AFTER SALES

## 7.1 Spare parts

### ED45/OD45/BD45 - Ø450MM

| Model description | | | Fan code | Drip tray Left code | Drip tray Right code |
|---|---|---|---|---|---|
| ED45*215 | OD45*215 | BD45*215 | 120.039 | L70.0250 | L70.0248 |
| ED45*216 | OD45*216 | BD45*216 | 120.039 | L70.0250 | L70.0248 |
| ED45*315 | OD45*315 | BD45*315 | 120.039 | L70.0254 | L70.0252 |
| ED45*316 | OD45*316 | BD45*316 | 120.039 | L70.0254 | L70.0252 |
| ED45*415 | OD45*415 | BD45*415 | 120.039 | L70.0258 | L70.0256 |
| ED45*416 | OD45*416 | BD45*416 | 120.039 | L70.0258 | L70.0256 |
| ED45*418 | OD45*418 | BD45*418 | 120.039 | L700646001 | L700646000 |

### ED45/OD45/BD45 - Ø450MM

| Model description | | | Coil Electrical Heater code | Tray Electrical Heater code |
|---|---|---|---|---|
| ED45*215 | OD45*215 | BD45*215 | 130.013 | 131.020 |
| ED45*216 | OD45*216 | BD45*216 | 130.013 | 131.020 |
| ED45*315 | OD45*315 | BD45*315 | 130.015 | 131.021 |
| ED45*316 | OD45*316 | BD45*316 | 130.015 | 131.021 |
| ED45*415 | OD45*415 | BD45*415 | 130.031 | 131.022 |
| ED45*416 | OD45*416 | BD45*416 | 130.031 | 131.022 |
| ED45*418 | OD45*418 | BD45*418 | 1300770005 | 131.022 |

## ED50/OD50/BD50 - Ø500MM

| Model description | | | Fan Code | Electrical Heater code |
|---|---|---|---|---|
| ED50*114 | OD50*114 | BD50*114 | 2202100237 | 2202120248 |
| ED50*116 | OD50*116 | BD50*116 | 2202100237 | 2202120248 |
| ED50*118 | OD50*118 | BD50*118 | 2202100237 | 2202120248 |
| ED50*11C | OD50*11C | BD50*11C | 2202100237 | 2202120248 |
| ED50*214 | OD50*214 | BD50*214 | 2202100237 | 2202120249 |
| ED50*216 | OD50*216 | BD50*216 | 2202100237 | 2202120249 |
| ED50*218 | OD50*218 | BD50*218 | 2202100237 | 2202120249 |
| ED50*21C | OD50*21C | BD50*21C | 2202100237 | 2202120249 |
| ED50*314 | OD50*314 | BD50*314 | 2202100237 | 2202120250 |
| ED50*316 | OD50*316 | BD50*316 | 2202100237 | 2202120250 |
| ED50*318 | OD50*318 | BD50*318 | 2202100237 | 2202120250 |
| ED50*31C | OD50*31C | BD50*31C | 2202100237 | 2202120250 |
| ED50*414 | OD50*414 | BD50*414 | 2202100237 | 2202120251 |
| ED50*416 | OD50*416 | BD50*416 | 2202100237 | 2202120251 |
| ED50*418 | OD50*418 | BD50*418 | 2202100237 | 2202120251 |
| ED50*41C | OD50*41C | BD50*41C | 2202100237 | 2202120251 |
| ED50*514 | OD50*514 | BD50*514 | 2202100237 | 2202120252 |
| ED50*516 | OD50*516 | BD50*516 | 2202100237 | 2202120252 |
| ED50*518 | OD50*518 | BD50*518 | 2202100237 | 2202120252 |
| ED50*51C | OD50*51C | BD50*51C | 2202100237 | 2202120252 |

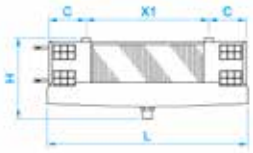
## ED63/OD63/BD63 - Ø630MM

| Model description | | | Fan Code | Electrical Heater code |
|---|---|---|---|---|
| ED63Q114 | OD63Q114 | BD63Q114 | 2202100030 | 2202120245 |
| ED63Q116 | OD63Q116 | BD63Q116 | 2202100030 | 2202120245 |
| ED63Q118 | OD63Q118 | BD63Q118 | 2202100030 | 2202120245 |
| ED63Q11C | OD63Q11C | BD63Q11C | 2202100030 | 2202120245 |
| ED63Q214 | OD63Q214 | BD63Q214 | 2202100030 | 2202120253 |
| ED63Q216 | OD63Q216 | BD63Q216 | 2202100030 | 2202120253 |
| ED63Q218 | OD63Q218 | BD63Q218 | 2202100030 | 2202120253 |
| ED63Q21C | OD63Q21C | BD63Q21C | 2202100030 | 2202120253 |
| ED63Q314 | OD63Q314 | BD63Q314 | 2202100030 | 2202120254 |
| ED63Q316 | OD63Q316 | BD63Q316 | 2202100030 | 2202120254 |
| ED63Q318 | OD63Q318 | BD63Q318 | 2202100030 | 2202120254 |
| ED63Q31C | OD63Q31C | BD63Q31C | 2202100030 | 2202120254 |
| ED63Q414 | OD63Q414 | BD63Q414 | 2202100030 | 2202120252 |
| ED63Q416 | OD63Q416 | BD63Q416 | 2202100030 | 2202120252 |
| ED63Q418 | OD63Q418 | BD63Q418 | 2202100030 | 2202120252 |
| ED63Q41C | OD63Q41C | BD63Q41C | 2202100030 | 2202120252 |

## 7.2 Contacts

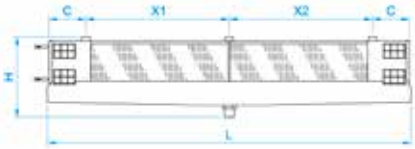
For any information related to maintenance and support, please contact our team via email at: service@enextechnologies.com

# 8. DRAWINGS



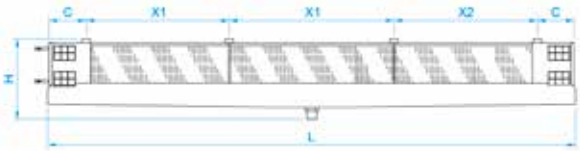

| MODEL | L | S | H | X1 | X2 | X3 | C |
|---|---|---|---|---|---|---|---|
| *D50_11 | 1476 | 1810 | 671 | 850 | 0 | 1947 | 276 |
| *D63_11 | 1676 | 1940 | 839 | 1050 | 0 | 2077 | 276 |

* ED/OD/BD



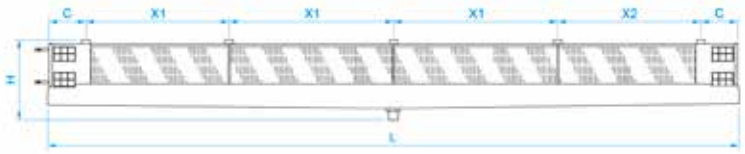

| MODEL | L | S | H | X1 | X2 | X3 | C |
|---|---|---|---|---|---|---|---|
| *D45_21 | 1560 | 1290 | 700 | 650 | 680 | 1340 | 150 |
| *D50_21 | 2326 | 1810 | 671 | 850 | 850 | 1947 | 276 |
| *D63_21 | 2726 | 1940 | 839 | 1050 | 1050 | 2077 | 276 |

* ED/OD/BD



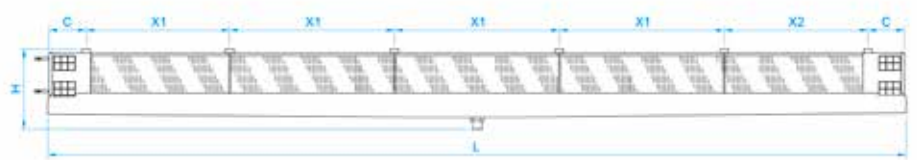

| MODEL | L | S | H | X1 | X2 | X3 | C |
|---|---|---|---|---|---|---|---|
| *D45_31 | 2210 | 1290 | 700 | 650 | 680 | 1340 | 150 |
| *D50_31 | 3176 | 1810 | 671 | 850 | 850 | 1947 | 276 |
| *D63_31 | 3776 | 1940 | 839 | 1050 | 1050 | 2077 | 276 |

* ED/OD/BD




| MODEL | L | S | H | X1 | X2 | X3 | C |
|---|---|---|---|---|---|---|---|
| *D45_41 | 2860 | 1290 | 700 | 650 | 680 | 1340 | 150 |
| *D50_41 | 4026 | 1810 | 671 | 850 | 850 | 1947 | 276 |
| *D63_41 | 4826 | 1940 | 839 | 1050 | 1050 | 2077 | 276 |

* ED/OD/BD




| MODEL | L | S | H | X1 | X2 | X3 | C |
|---|---|---|---|---|---|---|---|
| *D50_51 | 4876 | 1810 | 671 | 850 | 850 | 1947 | 276 |

* ED/OD/BD

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