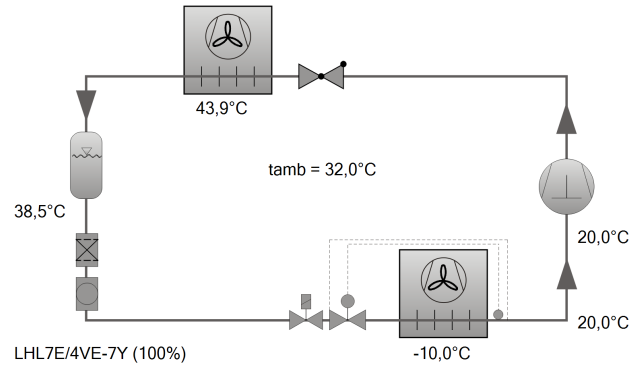




### Selection: Condensing Units

#### Input Values

|                         |                 |
|-------------------------|-----------------|
| Unit type               | LHL7E/4VE-7Y    |
| Series                  | ECOLITE         |
| Refrigerant             | R449A           |
| Reference temperature   | Dew point temp. |
| Evaporating SST         | -10,00 °C       |
| Ambient temp.           | 32,0 °C         |
| Suction gas temperature | 20,00 °C        |
| Useful superheat        | 100%            |
| Operating mode          | Auto            |
| Power supply            | 400V-3-50Hz     |
| Capacity control        | 100%            |

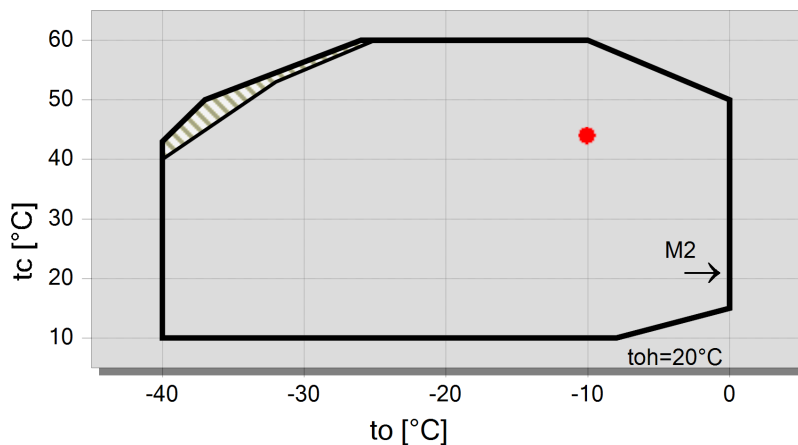


#### Result

|                       |                         |
|-----------------------|-------------------------|
| <b>Unit type</b>      | <b>LHL7E/4VE-7Y-40P</b> |
| Capacity steps        | 100%                    |
| Cooling capacity      | 16,96 kW                |
| Evaporator capacity   | 16,96 kW                |
| Heating Capacity (HR) | 23,7 kW                 |
| Power input           | 6,73 kW                 |
| Current (400V)        | 11,59 A                 |
| Voltage range         | 380-420V                |
| Mass flow             | 376 kg/h                |
| Condensing SDT        | 43,9 °C                 |
| Liquid subcooling     | 1,00 K                  |
| Operating mode        | Standard                |

Tentative Data.  
Power input compressor, power input fan see "T. Data"

### Application Limits LHL7E/4VE-7



#### Legend

suction gas superheat ≤20K

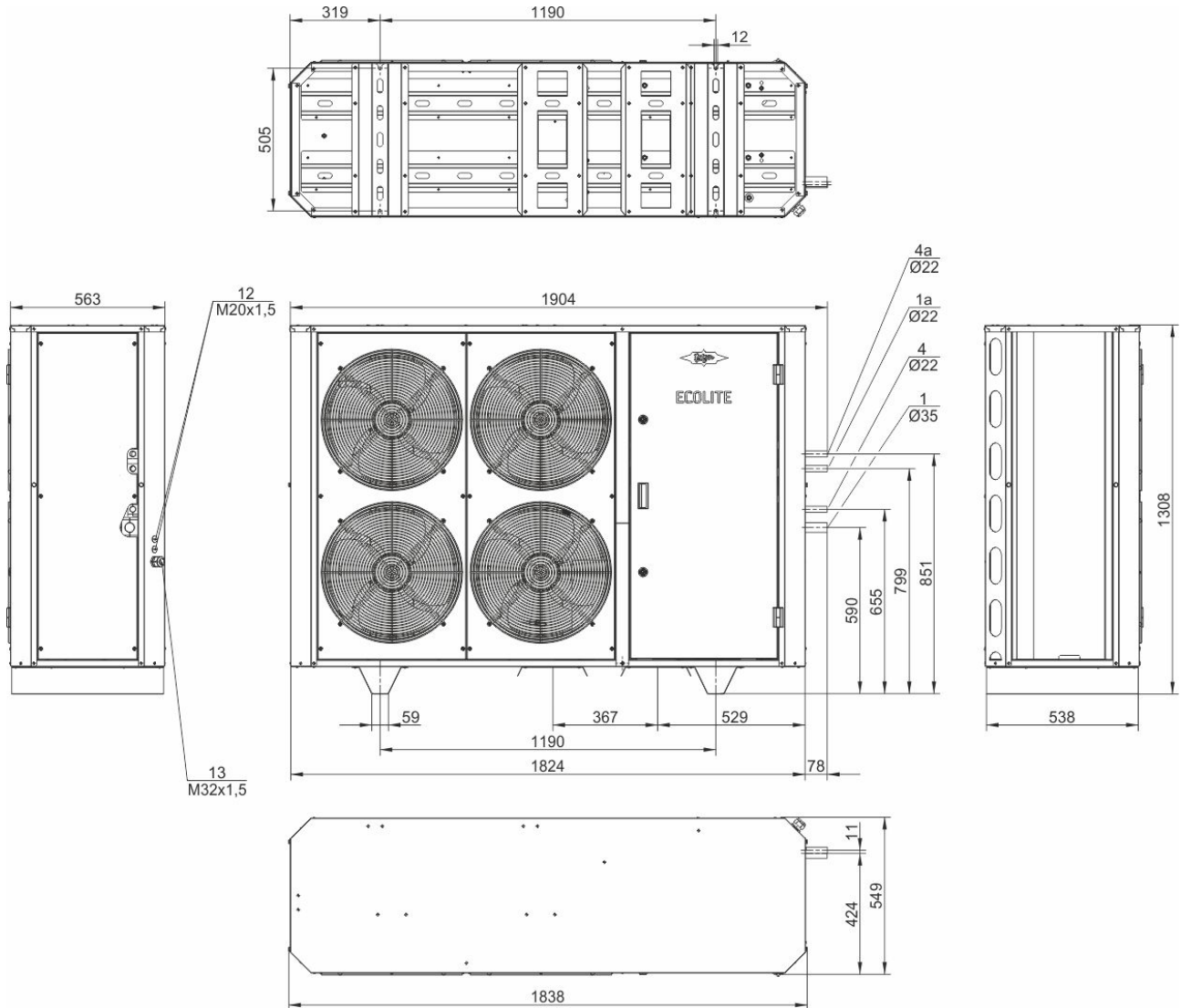
M2: motor 2

A



## Technical Data: LHL7E/4VE-7Y

### Dimensions and Connections





## Technical Data

### Technical Data

|  |                         |
|--|-------------------------|
| Weight   | 347 kg                  |
| Total width                                    | 1904 mm                 |
| Total depth                                    | 563 mm                  |
| Total height                                   | 1308 mm                 |
| Connection suction line                        | 35 mm - 1 3/8"          |
| Connection liquid line                         | 22 mm - 7/8"            |
| Voltage (50Hz, more on request)                | 230V-1-50Hz (Standard)  |
| Current / Power consumption of each fan (50Hz) | 120 W                   |
| Air flow condenser 50Hz                        | 12000 m <sup>3</sup> /h |
| Coil Volume                                    | 4,55 dm <sup>3</sup>    |

### Extent of delivery (standard)

|  |             |
|--|-------------|
| *According PED 2014/68/EU  | Standard    |
| ECOLITE controller with display                                      | Standard    |
| ECOLINE with VARISTEP (CRII)   | 100 .. 50 % |
| Liquid receiver with shut-off valve                                  | Standard    |
| Complete piping and wiring with main switch and compressor contactor | Standard    |
| High and low pressure switch   | Standard    |
| High and low pressure transmitter                                    | Standard    |
| Sight glass and filter drier in liquid line                          | Standard    |
| Oil heater   | Standard    |
| Discharge gas temperature sensor                                     | Standard    |
| suction gas temperature sensor                                       | Standard    |
| Ambient temperature sensor   | Standard    |
| Discharge gas line   | Standard    |
| Weather protective housing   | Standard    |
| Fans: elect. Speed regulator   | Standard    |
| Sound insulation for compressor housing                              | Standard    |
| Additional cooling with EC fan                                       | Standard    |
| Connection for pressure relief valve                                 | Standard    |
| Fans: Number   | 4           |
| Protective charge  | Standard    |

### Available options

|   |           |
|---|-----------|
| Second capacity regulator (CRII)  | 100-10 %  |
| Condenser with improved corrosion protection, plastic coated fins or copper fins            | Option    |
| Oil separator with check valve  | Option    |
| Adjustable high and low pressure switch   | Option    |
| Connection for heat recovery  | Option    |
| Oil level monitoring  | DELTA-PII |
| check valve for liquid line (additional pressure relief valve according to EN 378 required) | Option    |
| Cold store temperature sensor   | Option    |
| BEST interface converter  | Option    |

### Sound measurement

|  |                          |
|--|--------------------------|
| Sound pressure in 10m (to=-10°C, t <sub>amb</sub> =32°C) | 41,0 dB(A) @ 50Hz, R513A |
| Data of compressors: see compressor program              |                          |

### Max. refrigerant charge 90% at 20°C / 68°F

|                          |         |
|--------------------------|---------|
| Receiver type (Standard) | FS252E  |
| R22                      | 27,2 kg |
| R134a                    | 27,6 kg |
| R407C                    | 26,1 kg |
| R404A/R507A              | 24,0 kg |
| R448A                    | 25,0 kg |
| R449A                    | 25,1 kg |
| R450A                    | 26,8 kg |



|             |         |
|-------------|---------|
| R454C       | 22,6 kg |
| R455A       | 23,4 kg |
| R513A       | 27,6 kg |
| R1234yf     | 25 kg   |
| R1234ze     | 26,5 kg |
| R22         | 32,7 kg |
| R134a       | 33,1 kg |
| R407C       | 31,3 kg |
| R404A/R507A | 28,8 kg |
| R448A       | 30,1 kg |
| R449A       | 30,2 kg |
| R450A       | 32,2 kg |
| R454C       | 28,7 kg |
| R455A       | 28,5 kg |
| R513A       | 33,1 kg |
| R1234yf     | 30 kg   |
| R1234ze     | 31,8 kg |



## Condensing Units

**Motor 1** = e.g. LH..E/4TES-12 with 12"HP", primary for air-conditioning (e.g. R22,R407C) and medium temperature application (e.g. R134a, R407F, R407A, R404A, R507A, R22) and air-conditioning with R134a at high ambient temperatures.

**Motor 2** = e.g. LH..E/4TES-9 with 8"HP", for medium and low temperature application (e.g. R134a, R407F, R407A, R404A, R507A, R22) and air-conditioning with R134a.

For more information concerning the application range use the "limits" button.

### Operation modes for LH..E/4VES-7 to LH../6HE-28 with R22

CIC = liquid injection with low temperature application, suction gas cooled motor.

### Specifications for sound emission

The data are based on 50Hz operation.

Sound pressure: Data are valid for free field conditions with a block-shaped reference area in a distance of 10m.

For further information see technical information for sound data.

### Legend of connection positions according to "Dimensions":

- 1 Suction gas valve
- 2 Discharge gas line
- 3 Condensate line
- 4 Refrigerant outlet (liquid line)
- 5 Pressure relief valve connection
- 6 Liquid injection (operation without liquid subcooler and with thermostatic expansion valve)
- 7 Refrigerant inlet at liquid subcooler
- 8 Refrigerant outlet at liquid subcooler
- 9 Suction gas line
- 10 Sight glass
- 11 Load suspension points
- 12 Plug for screwed cable gland
- 13 Cable bushing (for cables  $\varnothing$  9-17 mm) (only ECOLITE)

Dimensions can show tolerances according to EN ISO 13920-B.

### Heat radiation

The heat radiation amounts to 2% of the electrical power consumption.

### ECOLITE family

#### ECOLITE - Overview Capacity Control

|         |              |                  | Standard ex-factory                 | Optional ex-factory or retrofit kit |
|---------|--------------|------------------|-------------------------------------|-------------------------------------|
| ECOLITE | Housing size | Compressor model | Capacity control (VARISTEP)         | Capacity control (VARISTEP)         |
| LHL3E   | CE2S         | 2EES .. 2CES     | 1x CRII: 50% .. 100%                | -                                   |
| LHL5E   | CE3S         | 4FES .. 4CES     | 1x CRII: 50% .. 100%                | 2x CRII: 50% .. 100%                |
| LHL7E   | CE4          | 4VE .. 4NE       | 1x CRII: 50% .. 100%                | 2x CRII: 50% .. 100%                |
| ECOLITE | Housing size | Compressor model | Capacity control (VARIPACK with CR) |                                     |
| LHL7EF  | CE4          | 4VE .. 4NE       | FI + 1x CR: 21% .. 100%             | -                                   |

### ECOLITE with VARISTEP

The VARISTEP (CRII) enables precise and efficient quasi-stepless mechanical capacity control based on the principle of blocked suction.

1 CRII means a partial load control range between 50% and 100% refrigeration capacity. This is standard for the ECOLITE with VARISTEP.



For a partial load control range between 10% and 100% refrigeration capacity, an additional (second) CRII can be used as an option.

#### **ECOLITE with VARIPACK and CR**

The VARIPACK - an in-house product from BITZER - stands for the highest reliability and the best possible cooperation between compressor, frequency inverter and CR capacity control.

Its speed control enables simple and precise refrigeration capacity regulation.

In the ECOLITE VARIPACK with CR, it regulates within a frequency range of 30 to 70Hz. In combination with the CR, this means a partial load control range between 21% and 100% refrigeration capacity.