

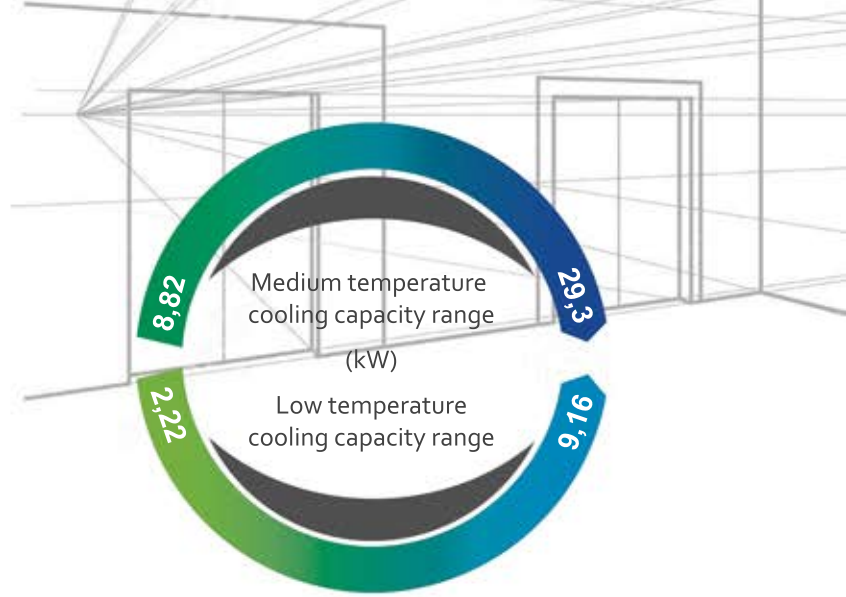


**Refra<sup>®</sup>**  
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**COMPRESSOR-RECEIVER UNITS**

## UNIT DESCRIPTION

Refrigeration units are designed for small and medium size commercial and industrial refrigeration. Our units are equipped with compact semi-hermetic reciprocating compressor - it combines high efficiency, smooth running, a wide range of applications and flexibility in refrigerant selection, solid design and high reliability. Also we provide a variety of options which can improve refrigeration system work.



## BASIC UNIT EQUIPMENT

### Compresor

Piston compressor equipped with shut-off valves on suction and discharge lines, pressure limiters for high and low pressure protection, motor with PTC sensor, oil charge, sigh glass, SE-B1 motor protection device, enclosure class IP65 plastic terminal box and elastomer damper elements for vibration damping.

### Receiver

20/27 l Horizontal liquid receiver with base plate RAL 9005 MAT, shut-off valves on condensing and liquid lines, sigh glass and safety valve.

### Connections

Cooper suction and delivery pipes, insulated suction line.

## ADDITIONAL OPTIONS

- P** - Electrical cabinet without electronic controller
- F** - Compressor head cooling
- OLC-K1** - Electronic oil level control
- CR** - Capacity control
- OS** - Oil separator
- VGA** - Vibration absorber on HP line
- K** - Condensation pressure control1
- NRD** - Differential valve1
- DCH** - Check valve on discharge line1
- CHC** - Check valve on condensing line1
- LL** - Liquid level sensor
- FD** - Filter drier on liquid line
- SG** - Sigh glass on liquid line
- BV** - Liquid line ball valve
- SS** - Suction line liquid separator
- VGA** - Vibration absorber on LP line

# TECHNICAL DATA

## Low temperature with Bitzer compressors technical data

| Series                     |                        |         | CE3S          |         |         |         |         |         |         |         | CE4S    |          |         |          |          |          |          |          |
|----------------------------|------------------------|---------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|----------|----------|----------|----------|
| Model                      |                        |         | 4FES-3Y       | 4FES-5Y | 4EES-4Y | 4EES-6Y | 4DES-5Y | 4DES-7Y | 4CES-6Y | 4CES-9Y | 4VES-7Y | 4VES-10Y | 4TES-9Y | 4TES-12Y | 4PES-12Y | 4PES-15Y | 4NES-14Y | 4NES-20Y |
| Cooling capacity [1]       |                        | kW      | 3,03          | 3,03    | 3,83    | 3,7     | 4,57    | 4,57    | 5,4     | 5,4     | 5,08    | 5,11     | 6,48    | 6,45     | 6,97     | 6,88     | 8,82     | 8,86     |
| Unit power consumption [1] |                        |         | 2,24          | 2,26    | 2,77    | 2,71    | 3,3     | 3,31    | 3,86    | 3,86    | 3,48    | 3,51     | 4,44    | 4,41     | 4,74     | 4,72     | 6,03     | 6,03     |
| Compressor                 | Quantity               | no      | 1             |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Refrigerant            |         | R404A/R507    |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Type                   |         | Reciprocating |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Oil type               |         | BSE32         |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Oil charge             | dm3     | 2,0           |         |         |         |         |         |         |         | 2,6     |          |         |          |          |          |          |          |
| Liquid receiver            | Sigh glass             | model   | SW-36         |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Safety valve           | model   | 3060/45C275   |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Volume                 | l       | 20            |         |         |         |         |         |         |         | 27      |          |         |          |          |          |          |          |
| Connections                | Discharge line         | mm      | 16            | 16      | 16      | 16      | 16      | 16      | 22      | 22      | 22      | 22       | 22      | 22       | 22       | 22       | 22       | 22       |
|                            | Suction line           |         | 22            | 22      | 28      | 28      | 28      | 28      | 35      | 35      | 35      | 35       | 35      | 35       | 35       | 35       | 35       |          |
|                            | Condensing line        |         | 16            | 16      | 16      | 16      | 18      | 18      | 18      | 18      | 22      | 22       | 22      | 22       | 22       | 22       | 22       |          |
|                            | Liquid line            |         | 16            | 16      | 16      | 16      | 16      | 16      | 16      | 16      | 16      | 16       | 18      | 18       | 18       | 18       | 18       |          |
| Electrical characteristics | Power supply           | V/Ph/Hz | 380-420/3~/50 |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Max. operating current | A       | 9,5           | 10,8    | 12,2    | 13,6    | 14,5    | 16,5    | 17,7    | 20,2    | 16,6    | 19,9     | 19,9    | 25,1     | 22,7     | 28,2     | 26,6     | 33,2     |
|                            | Starting current       |         | 44,2          | 62,2    | 53,5    | 62,2    | 62,2    | 82,4    | 82,4    | 82,4    | 39/68   | 59/99    | 49/81   | 69/113   | 59/99    | 81/132   | 69/113   | 97/158   |
| Sound pressure             | STD [2]                | dB(A)   | 60,6          | 60,6    | 63,3    | 63,6    | 65,66   | 65,66   | 66,11   | 66,11   | 64,3    | 64,3     | 66,3    | 66,3     | 68,3     | 68,3     | 70,3     | 70,3     |
| Dimensions                 | Picture                | no      | 1             |         |         |         |         |         |         |         | 2       |          |         |          |          |          |          |          |
|                            | Length                 | mm      | 620           |         |         |         |         |         |         |         | 800     |          |         |          |          |          |          |          |
|                            | Width                  |         | 478           |         |         |         |         |         |         |         | 520     |          |         |          |          |          |          |          |
|                            | Height                 |         | 756           |         |         |         |         |         |         |         | 774     |          |         |          |          |          |          |          |
| Unit weight [3]            |                        | kg      | 104           | 108     | 106     | 108     | 107,5   | 110,5   | 112,5   | 112,5   | 159     | 169      | 164     | 171      | 169      | 172      | 171      | 180      |

[1] Cond. Temp. +40 °C Evap. Temp. -35 °C Suction gas temperature 20 °C, without liquid subcooling

[2] Db(A)10 m

[3] Unit weight - ~Basic delivery weight

## Medium temperature with Bitzer compressors technical data

| Series                     |                        |         | CE3S                 |         |         |         |         |         |         |         | CE4S    |          |         |          |          |          |          |          |
|----------------------------|------------------------|---------|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|----------|----------|----------|----------|
| Model                      |                        |         | 4FES-3Y              | 4FES-5Y | 4EES-4Y | 4EES-6Y | 4DES-5Y | 4DES-7Y | 4CES-6Y | 4CES-9Y | 4VES-7Y | 4VES-10Y | 4TES-9Y | 4TES-12Y | 4PES-12Y | 4PES-15Y | 4NES-14Y | 4NES-20Y |
| Cooling capacity [1]       |                        | kW      | 9,1                  | 9,1     | 11,6    | 11,4    | 13,8    | 13,8    | 16,7    | 16,7    | 17,2    | 17,2     | 20,99   | 20,9     | 23,8     | 23,7     | 28,6     | 28,6     |
| Unit power consumption [1] |                        |         | 4,17                 | 4,09    | 5,34    | 5,14    | 6,3     | 6,16    | 7,51    | 7,51    | 7,59    | 7,32     | 9,28    | 9,02     | 10,27    | 10,17    | 12,48    | 12,2     |
| Compressor                 | Quantity               | no      | 1                    |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Refrigerant            |         | R404A/R507           |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Type                   |         | Reciprocating        |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Oil type               |         | BSE32                |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Oil charge             | dm3     | 2,0                  |         |         |         |         |         |         |         |         |          | 2,6     |          |          |          |          |          |
| Liquid receiver            | Sigh glass             |         | Yes                  |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Safety valve           |         | Instaled PS 27,5 bar |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Volume                 | l       | 20                   |         |         |         |         |         |         |         |         |          | 27      |          |          |          |          |          |
| Connections                | Discharge line         | mm      | 16                   | 16      | 16      | 16      | 16      | 16      | 22      | 22      | 22      | 22       | 22      | 22       | 22       | 22       | 22       | 22       |
|                            | Suction line           |         | 22                   | 22      | 28      | 28      | 28      | 28      | 35      | 35      | 35      | 35       | 35      | 35       | 35       | 35       | 35       | 35       |
|                            | Condensing line        |         | 16                   | 16      | 16      | 16      | 18      | 18      | 18      | 18      | 22      | 22       | 22      | 22       | 22       | 22       | 22       | 22       |
|                            | Liquid line            |         | 16                   | 16      | 16      | 16      | 16      | 16      | 16      | 16      | 16      | 16       | 18      | 18       | 18       | 18       | 18       | 18       |
| Electrical characteristics | Power supply           | V/Ph/Hz | 380-420/3~/50        |         |         |         |         |         |         |         |         |          |         |          |          |          |          |          |
|                            | Max. operating current | A       | 9,5                  | 10,8    | 12,2    | 13,6    | 14,5    | 16,5    | 17,7    | 20,2    | 16,6    | 19,9     | 19,9    | 25,1     | 22,7     | 28,2     | 26,6     | 33,2     |
|                            | Starting current       |         | 44,2                 | 62,2    | 53,5    | 62,2    | 62,2    | 82,4    | 82,4    | 82,4    | 39/68   | 59/99    | 49/81   | 69/113   | 59/99    | 81/132   | 69/113   | 97/158   |
| Sound pressure             | STD [2]                | dB(A)   | 60,6                 | 60,6    | 63,3    | 63,6    | 65,66   | 65,66   | 66,11   | 66,11   | 64,3    | 64,3     | 66,3    | 66,3     | 68,3     | 68,3     | 70,3     | 70,3     |
| Dimensions                 | Picture                | no      | 1                    |         |         |         |         |         |         |         |         |          | 2       |          |          |          |          |          |
|                            | Length                 | mm      | 620                  |         |         |         |         |         |         |         |         |          | 800     |          |          |          |          |          |
|                            | Width                  |         | 478                  |         |         |         |         |         |         |         |         |          | 520     |          |          |          |          |          |
|                            | Height                 |         | 756                  |         |         |         |         |         |         |         |         |          | 774     |          |          |          |          |          |
| Unit weight [3]            |                        | kg      | 104                  | 108     | 106     | 108     | 107,5   | 110,5   | 112,5   | 112,5   | 159     | 169      | 164     | 171      | 169      | 172      | 171      | 180      |

[1] Cond. Temp. +45 °C Evap. Temp. -10 °C Suction gas temperature 20 °C, without liquid subcooling

[2] Db(A)10 m

[3] Unit weight - ~Basic delivery weight

# TECHNICAL DATA

## Low temperature with Gea compressors technical data

| Series                     |                        |         | HGX34e                    |       |       |       | HGX44e |       |       |
|----------------------------|------------------------|---------|---------------------------|-------|-------|-------|--------|-------|-------|
| Model                      |                        |         | 215-4                     | 255-4 | 315-4 | 380-4 | 475-4  | 565-4 | 665-4 |
| Cooling capacity [1]       |                        | kW      | 2,22                      | 3,01  | 3,88  | 4,96  | 6,67   | 8,23  | 9,16  |
| Unit power consumption [1] |                        |         | 1,89                      | 2,38  | 2,98  | 3,72  | 4,64   | 5,5   | 6,49  |
| Compressor                 | Quantity               | no      | 1                         |       |       |       |        |       |       |
|                            | Refrigerant            |         | R404A/R507                |       |       |       |        |       |       |
|                            | Type                   |         | Reciprocating             |       |       |       |        |       |       |
|                            | Oil type               |         | FUCHS Reniso Triton SE 55 |       |       |       |        |       |       |
| Liquid receiver            | Oil charge             | dm3     | 2,0                       |       |       |       | 2,6    |       |       |
|                            | Sigh glass             | model   | SW-36                     |       |       |       |        |       |       |
|                            | Safety valve           | model   | 3060/45C275               |       |       |       |        |       |       |
|                            | Volume                 | l       | 20                        |       |       |       | 27     |       |       |
| Connections                | Discharge line         | mm      | 22                        | 22    | 22    | 22    | 28     | 28    | 28    |
|                            | Suction line           |         | 28                        | 28    | 28    | 28    | 35     | 35    | 42    |
|                            | Condensing line        |         | 16                        | 16    | 18    | 18    | 22     | 22    | 22    |
|                            | Liquid line            |         | 16                        | 16    | 16    | 16    | 18     | 18    | 18    |
| Electrical characteristics | Power supply           | V/Ph/Hz | 380-420/3~/50             |       |       |       |        |       |       |
|                            | Max. operating current | A       | 8,1                       | 9,8   | 12,2  | 15,1  | 19     | 22    | 26    |
|                            | Starting current       |         | 51                        | 50    | 64    | 64    | 83     | 83    | 115   |
| Sound pressure             | STD [2]                | dB(A)   | 60,6                      | 63,3  | 65,66 | 66,11 | 64,3   | 66,3  | 68,3  |
| Dimensions                 | Picture                | no      | 1                         |       |       |       | 2      |       |       |
|                            | Length                 | mm      | 620                       |       |       |       | 800    |       |       |
|                            | Width                  |         | 478                       |       |       |       | 520    |       |       |
|                            | Height                 |         | 756                       |       |       |       | 774    |       |       |
| Unit weight [3]            |                        | kg      | 114                       | 114   | 116   | 115   | 194    | 194   | 201   |

[1] Cond. Temp. +40 °C Evap. Temp. -35 °C Suction gas temperature 20 °C, without liquid subcooling

[2] Db(A)10 m

[3] Unit weight - ~Basic delivery weight

## Medium temperature with Gea compressors technical data

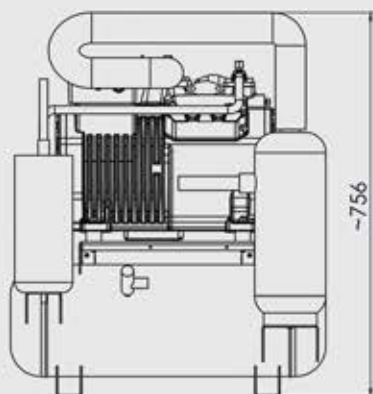
| Series                     |                        |         | HGX34e                    |        |       |        |       |        |       |        | HGX44e |        |       |        |       |        |  |
|----------------------------|------------------------|---------|---------------------------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-------|--------|-------|--------|--|
| Model                      |                        |         | 215-4                     | 215-4S | 255-4 | 255-4S | 315-4 | 315-4S | 380-4 | 380-4S | 475-4  | 475-4S | 565-4 | 565-4S | 665-4 | 665-4S |  |
| Cooling capacity [1]       |                        | kW      | 8,82                      | 8,91   | 10,6  | 10,7   | 13,3  | 13,3   | 16    | 16,5   | 21     | 21,2   | 25,1  | 25,6   | 29,1  | 29,3   |  |
| Unit power consumption [1] |                        |         | 4,11                      | 4,08   | 4,97  | 4,89   | 6,11  | 6,02   | 7,6   | 7,47   | 9,01   | 9,02   | 10,7  | 10,7   | 12,6  | 12,5   |  |
| Compressor                 | Quantity               | no      | 1                         |        |       |        |       |        |       |        |        |        |       |        |       |        |  |
|                            | Refrigerant            |         | R404A/R507                |        |       |        |       |        |       |        |        |        |       |        |       |        |  |
|                            | Type                   |         | Reciprocating             |        |       |        |       |        |       |        |        |        |       |        |       |        |  |
|                            | Oil type               |         | FUCHS Reniso Triton SE 55 |        |       |        |       |        |       |        |        |        |       |        |       |        |  |
|                            | Oil charge             | dm3     | 1,3                       |        |       |        |       |        |       |        |        | 2,3    |       |        |       |        |  |
| Liquid receiver            | Sigh glass             |         | Yes                       |        |       |        |       |        |       |        |        |        |       |        |       |        |  |
|                            | Safety valve           |         | Instaled PS 27,5 bar      |        |       |        |       |        |       |        |        |        |       |        |       |        |  |
|                            | Volume                 | l       | 20                        |        |       |        |       |        |       |        |        | 27     |       |        |       |        |  |
| Connections                | Discharge line         | mm      | 22                        | 22     | 22    | 22     | 22    | 22     | 22    | 22     | 28     | 28     | 28    | 28     | 28    | 28     |  |
|                            | Suction line           |         | 28                        | 28     | 28    | 28     | 28    | 28     | 28    | 28     | 35     | 35     | 35    | 42     | 42    | 42     |  |
|                            | Condensing line        |         | 16                        | 16     | 16    | 16     | 18    | 18     | 18    | 18     | 22     | 22     | 22    | 22     | 22    | 22     |  |
|                            | Liquid line            |         | 16                        | 16     | 16    | 16     | 16    | 16     | 16    | 16     | 18     | 18     | 18    | 18     | 18    | 18     |  |
| Electrical characteristics | Power supply           | V/Ph/Hz | 380-420/3~/50             |        |       |        |       |        |       |        |        |        |       |        |       |        |  |
|                            | Max. operating current | A       | 8,1                       | 10,5   | 9,8   | 12,2   | 12,2  | 14,7   | 15,1  | 18     | 19     | 23     | 22    | 26     | 26    | 30     |  |
|                            | Starting current       |         | 51                        | 76     | 50    | 76     | 64    | 76     | 64    | 76     | 83     | 115    | 83    | 133    | 115   | 133    |  |
| Sound pressure             | STD [2]                | dB(A)   | 60,6                      | 60,6   | 63,3  | 63,6   | 65,66 | 65,66  | 66,11 | 66,11  | 64,3   | 64,3   | 66,3  | 66,3   | 68,3  | 68,3   |  |
| Dimensions                 | Picture                | no      | 1                         |        |       |        |       |        |       |        |        | 2      |       |        |       |        |  |
|                            | Length                 | mm      | 620                       |        |       |        |       |        |       |        |        | 800    |       |        |       |        |  |
|                            | Width                  |         | 478                       |        |       |        |       |        |       |        |        | 520    |       |        |       |        |  |
|                            | Height                 |         | 756                       |        |       |        |       |        |       |        |        | 774    |       |        |       |        |  |
| Unit weight [3]            |                        | kg      | 114                       | 119    | 114   | 118    | 116   | 119    | 115   | 118    | 194    | 198    | 194   | 200    | 201   | 198    |  |

[1] Cond. Temp. +45 °C Evap. Temp. -10 °C Suction gas temperature 20 °C, without liquid subcooling

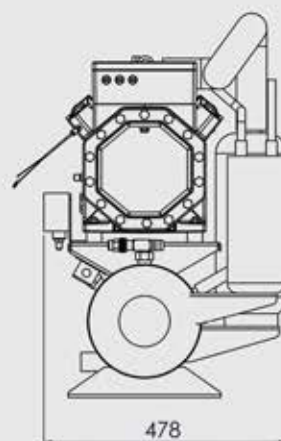
[2] Db(A)10 m

[3] Unit weight - ~Basic delivery weight

## DIMENSIONS

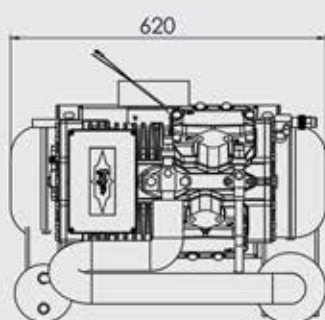


Front view



Side view

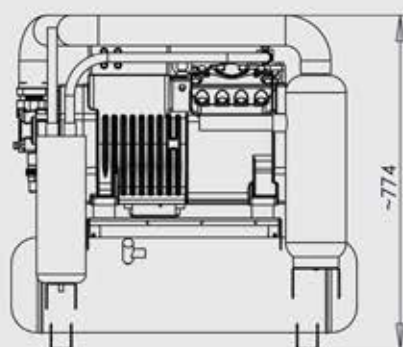
1  
Picture



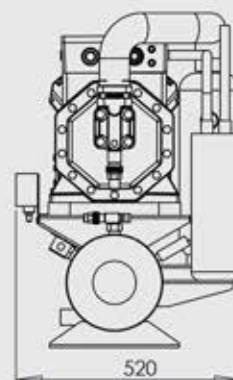
Top view



Orthographic view

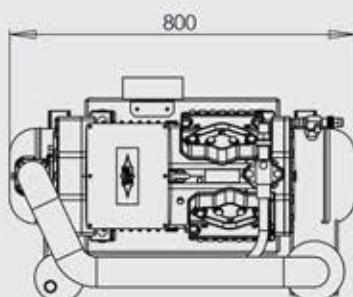


Front view



Side view

2  
Picture



Top view



Orthographic view

**UAB "REFRA" Main factory**

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