

## Model

|             |                  |                         |             |                 |
|-------------|------------------|-------------------------|-------------|-----------------|
| Designation | <b>KLF4.8CND</b> | <b>220-240V/50Hz 1~</b> | Sales code: | <b>106H2510</b> |
|-------------|------------------|-------------------------|-------------|-----------------|

## Compressor design

|                            |                                 |                       |                                |
|----------------------------|---------------------------------|-----------------------|--------------------------------|
| Oil type                   | Polyolester                     | Refrigerant(s)        | <b>R290, 0, 0</b>              |
| Oil viscosity              | 10,4cSt                         | Displacement          | 4,8cm <sup>3</sup> / 0,29cu.in |
| Oil quantity               | 170cm <sup>3</sup> / 5,7fl.oz   | Compressors on pallet | 100                            |
| Refr. charge - tech. limit | 200g / 7,1oz                    |                       |                                |
| Free gas volume comp.      | 1615cm <sup>3</sup> / 54,6fl.oz |                       |                                |
| Weight                     | 9,2kg / 20,3lbs                 |                       |                                |
| Motor protection           | external                        |                       |                                |
| Winding resistance main    | 13,1Ω (at 25°C)                 |                       |                                |
| Winding resistance aux     | 25,3Ω (at 25°C)                 |                       |                                |
| Max. winding temp.         | 125°C / 257°F                   |                       |                                |
| Max. discharge temp.       | 130°C / 266°F                   |                       |                                |



## General - Configurations with KLF4.8CND

|                        |                                                                   |
|------------------------|-------------------------------------------------------------------|
|                        | <b>Conf. 1</b>                                                    |
| Motor configuration    | CSIR                                                              |
| Power supply (nominal) | 220-240V/50Hz                                                     |
| Number of phases       | 1                                                                 |
| Voltage range          | 198-254V                                                          |
| Approvals              | VDE, CCC                                                          |
| Starting torque        | HST                                                               |
| Note                   | Electrical equipment is included and pre-assembled to compressor. |

## Applications with KLF4.8CND

|                         |                |
|-------------------------|----------------|
|                         | <b>Conf. 1</b> |
| Refrigerant             | R290           |
| Application             | LBP+MBP        |
| System cooling          | fan 3m/s       |
| Hot gas defrost         | OK             |
| Long interval pull down | OK             |

## Electrical data - Configurations with KLF4.8CND

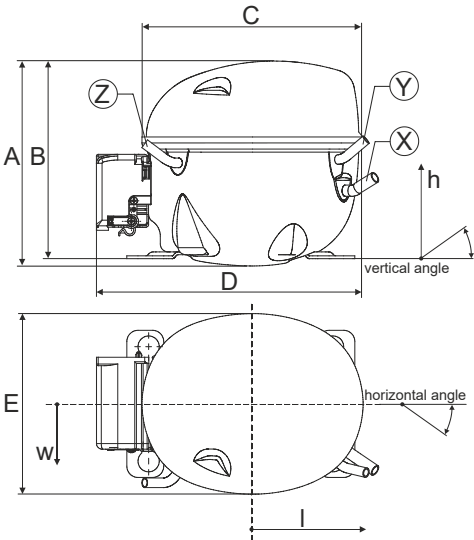
|                                    |                |
|------------------------------------|----------------|
|                                    | <b>Conf. 1</b> |
| Starting device type               | relay          |
| Run capacitor                      | -/-            |
| Start capacitor                    | 80μF           |
| LRA (locked rotor amps / 4s/ U(N)) | 9,9A           |
| RLA (rated load amps / 1s/ U(N))   | 1,4A           |
| Cut in current (U(N))              | 10,2A          |

|             |           |                  |                      |
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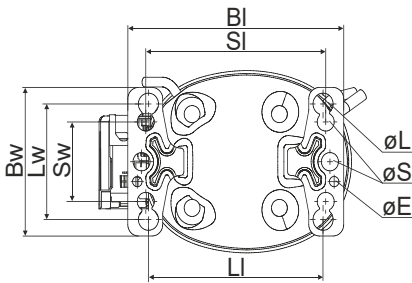
Compressor dimensions

|         |                   |                |
|---------|-------------------|----------------|
| Housing | A Height          | 182mm / 7,17in |
|         | B Height          | 175mm / 6,89in |
|         | C Length shell    | 198mm / 7,8in  |
|         | D Length w. cover | 238mm / 9,37in |
|         | E Width           | 160mm / 6,3in  |

| Connectors       |      | Suction      | Discharge    | Process      |
|------------------|------|--------------|--------------|--------------|
|                  |      | X            | Y            | Z            |
| Diameter         | [mm] | øi 8,11-8,29 | øi 6,11-6,29 | øi 6,11-6,29 |
|                  | [in] | øi 0,32-0,33 | øi 0,24-0,25 | øi 0,24-0,25 |
| Material         |      | copper       | copper       | copper       |
| Horizontal angle | ±2°  | 35°          | 13°          | 0°           |
| Vertical angle   | ±2°  | 30°          | 40°          | 145°         |
| Position l/h/w   | [mm] | 119/73/59    | 117/107/66   | -88/101/71   |
|                  | [in] | 4,7/2,9/2,3  | 4,6/4,2/2,6  | -3,5/4/2,8   |
| Straight tube l. | [mm] | 14           | 14           | 14           |
|                  | [in] | 0,5          | 0,5          | 0,5          |

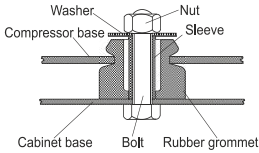


Compressor fixation

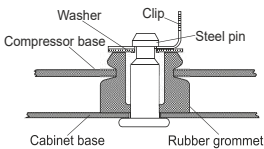


| Baseplate   | [mm]  | [inch] |
|-------------|-------|--------|
| BI          | 204   | 8.03   |
| BW          | 132   | 5.2    |
| øE          | ø 9.7 | ø 0.38 |
| Large holes | [mm]  | [inch] |
| LI          | 165   | 6.5    |
| LW          | 101.6 | 4      |
| øL          | ø 19  | ø 0.75 |
| Small holes | [mm]  | [inch] |
| SI          | 170   | 6.7    |
| SW          | 70    | 2.76   |
| øS          | ø 16  | ø 0.63 |

Bolt joint



Snap-on



| Mounting accessories       | one comp. | multi pack |
|----------------------------|-----------|------------|
| Bolt joint   M6   ø16mm    | 118-1917  | 118-1918   |
| Bolt joint   ø1/4"   ø16mm | 118-1946  |            |
| Bolt joint   ø1/4"   ø19mm | 118-1949  |            |
| Snap-on   ø7,3   ø16mm     | 118-1947  | 118-1919   |

Application notes

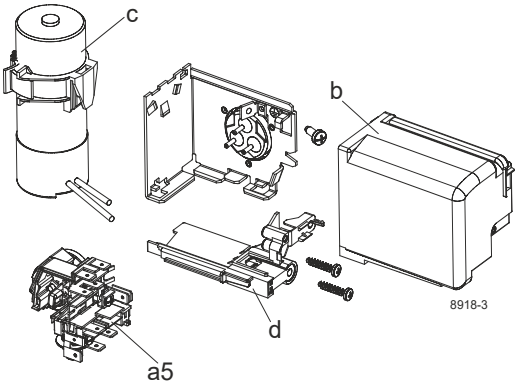
Provision for PE Grounding is located at the PE Stamp on the compressor

|             |           |               |         |             |          |
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Configuration

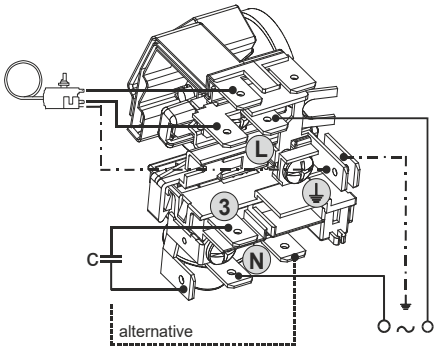
Electrical accessories / wiring diagram

|                        |                  |      |
|------------------------|------------------|------|
| Motor configuration    | CSIR             | CSIR |
| Power supply (nominal) | 220-240V/50Hz 1~ |      |
| Refrigerant            | R290             |      |
| Application            | LBP+MBP          |      |
| Voltage range          | 198-254V         |      |
| Starting torque        | HST              |      |
| Approvals              | VDE              |      |
|                        | CCC              |      |

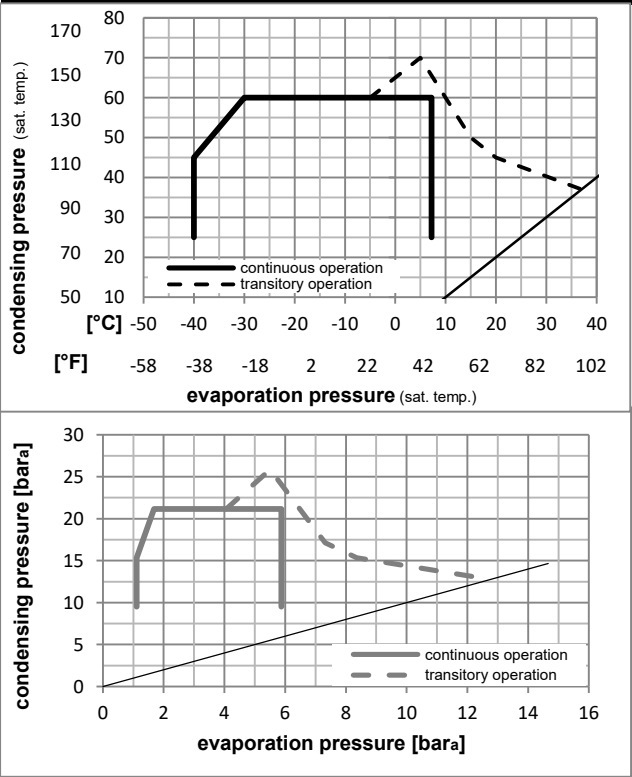


Ambient/ machine room temperatures minimum /maximum

|                                 |                        |
|---------------------------------|------------------------|
| Ambient temperature range:      | 10 - 43°C / 50 - 110°F |
| Machine room temperature range: | 10 - 48°C / 50 - 119°F |
| Compressor cooling:             | fan 3m/s               |



Operation pressure range



Components (incl. and pre. assemb.)

|    |                               |          |
|----|-------------------------------|----------|
| a5 | current relay (T1189/L6-S3)   | 117U7073 |
| c  | start capacitor (80µF, 6.3mm) | 117U5001 |
| b  | cover terminal board          | 10636401 |
| .  | screw uni en iso 4757         | 10641201 |

Alternative comp.

|   |                 |          |
|---|-----------------|----------|
| . | cable clamp     | 16058100 |
| . | screw - uni6954 | 10636000 |
| . | screw - uni6954 | 10636200 |

## Model

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## Optimization + standard conditions

R290, 220V/50Hz, CSIR, fan 3m/s, VDE, CCC

| Evaporating pressure (saturation temperature) |      |     |      |     | Condensing pressure (saturation temperature) |          |       |          |           |      | Power consumption   |        |                |             |
|-----------------------------------------------|------|-----|------|-----|----------------------------------------------|----------|-------|----------|-----------|------|---------------------|--------|----------------|-------------|
| Return gas temp.                              |      |     |      |     | Liquid temp.                                 |          |       |          |           |      | Current consumption |        |                |             |
| Cooling capacity                              |      |     |      |     | COP                                          |          | EER   |          | P1        |      | I                   |        | Ref. mass flow |             |
| pe                                            | pc   | RGT | Tliq | [W] | [Btu/h]                                      | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | [W]  | [A]                 | ṁ      |                |             |
| [°C]                                          | [°C] |     |      |     |                                              |          |       |          |           |      |                     | [kg/h] |                |             |
| [°C]                                          | -23  | 54  | 32   | 32  | 230,0                                        | 786      | 197,9 | 1,50     | 5,12      | 1,29 | 153,4               | 1,07   | 2,33           | ASHRAE LBP  |
| [°F]                                          | -10  | 130 | 90   | 90  |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |      |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | -25  | 55  | 32   | 55  | 171,4                                        | 585      | 147,5 | 1,15     | 3,93      | 0,99 | 148,9               | 1,06   | 2,13           | cecomaf LBP |
| [°F]                                          | -13  | 131 | 90   | 131 |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |      |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | -35  | 40  | 20   | 40  | 126,8                                        | 433      | 109,1 | 1,07     | 3,66      | 0,92 | 118,3               | 0,98   | 1,45           | EN12900 LBP |
| [°F]                                          | -31  | 104 | 68   | 104 |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |      |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | -7   | 54  | 35   | 46  | 410,2                                        | 1401     | 353,0 | 2,06     | 7,05      | 1,78 | 198,7               | 1,22   | 4,68           | ASHRAE MBP  |
| [°F]                                          | 20   | 130 | 95   | 115 |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |      |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | -10  | 55  | 32   | 55  | 326,0                                        | 1113     | 280,5 | 1,71     | 5,82      | 1,47 | 191,1               | 1,20   | 4,12           | cecomaf MBP |
| [°F]                                          | 14   | 131 | 90   | 131 |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |      |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | -10  | 45  | 20   | 45  | 367,7                                        | 1256     | 316,4 | 2,13     | 7,27      | 1,83 | 172,7               | 1,13   | 4,51           | EN12900 MBP |
| [°F]                                          | 14   | 113 | 68   | 113 |                                              |          |       |          |           |      |                     |        |                |             |

## Performance tables

R290, 220V/50Hz, CSIR, fan 3m/s, VDE, CCC

|                  | pe   |      | Cooling capacity |         |          | COP   | EER      |           | P1    | I    | m      |
|------------------|------|------|------------------|---------|----------|-------|----------|-----------|-------|------|--------|
|                  | [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | [W]   | [A]  | [kg/h] |
| [°C / °F]        | -40  | -40  | 78,6             | 269     | 67,7     | 0,73  | 2,49     | 0,63      | 107,7 | 0,96 | 0,88   |
| cond. pressure   | -35  | -31  | 119,0            | 406     | 102,4    | 0,99  | 3,39     | 0,85      | 120,0 | 0,98 | 1,33   |
| pc= 45/113       | -25  | -13  | 207,0            | 707     | 178,1    | 1,45  | 4,95     | 1,25      | 142,9 | 1,04 | 2,33   |
| return gas temp. | -15  | 5    | 316,1            | 1079    | 272,0    | 1,93  | 6,61     | 1,66      | 163,4 | 1,10 | 3,60   |
| RGT= 32/90       | -5   | 23   | 459,8            | 1570    | 395,7    | 2,54  | 8,66     | 2,18      | 181,4 | 1,16 | 5,29   |
| liquid temp      | 0    | 32   | 548,9            | 1874    | 472,4    | 2,90  | 9,90     | 2,49      | 189,4 | 1,19 | 6,37   |
| Tliq= 45/113     | 7,2  | 45   | 701,7            | 2396    | 603,9    | 3,51  | 12,00    | 3,02      | 199,7 | 1,23 | 8,24   |
| [°C / °F]        | -40  | -40  | 51,9             | 177     | 44,6     | 0,51  | 1,73     | 0,44      | 102,5 | 0,94 | 0,64   |
| cond. pressure   | -35  | -31  | 90,6             | 310     | 78,0     | 0,77  | 2,61     | 0,66      | 118,4 | 0,98 | 1,12   |
| pc= 55/131       | -25  | -13  | 171,4            | 585     | 147,5    | 1,15  | 3,93     | 0,99      | 148,9 | 1,06 | 2,13   |
| return gas temp  | -15  | 5    | 267,7            | 914     | 230,4    | 1,51  | 5,15     | 1,30      | 177,5 | 1,15 | 3,37   |
| RGT= 32/90       | -5   | 23   | 393,2            | 1343    | 338,4    | 1,92  | 6,57     | 1,66      | 204,3 | 1,24 | 5,01   |
| liquid temp      | 0    | 32   | 471,0            | 1609    | 405,4    | 2,17  | 7,42     | 1,87      | 216,9 | 1,29 | 6,05   |
| Tliq= 55/131     | 7,2  | 45   | 605,3            | 2067    | 520,9    | 2,59  | 8,83     | 2,22      | 234,1 | 1,36 | 7,89   |