

## Single Pack KLE4.0GFTX 220-240V 50Hz / 208-230V 60Hz CSIR

Single pack code number: **195B4758**

| Position | Title   | Code     | Amount |
|----------|---|----------|--------|
| 1        | Compressor KLE4.0GFTX                                   | 106G5403 | 1      |
| 2        | Starting capacitor (80 $\mu$ F 220V, 6.3mm)             | 117U5001 | 1      |
| 3        | Starting relay (QLZ-4.6A, overload protector T1189/L6)  | 117U7073 | 1      |
| 4        | KL accessories  | 103N1060 | 1      |
| 5        | Bolt joint for one compressor   M6   $\varnothing$ 16mm | 118-1917 | 1      |

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## Model

|             |                   |                                   |             |                 |
|-------------|-------------------|-----------------------------------|-------------|-----------------|
| Designation | <b>KLE4.0GFTX</b> | 220-240V/50Hz 1~ 208-230V/60Hz 1~ | Sales code: | <b>106G5403</b> |
|-------------|-------------------|-----------------------------------|-------------|-----------------|

## Compressor design

|                            |  |                       |                              |
|----------------------------|--|-----------------------|------------------------------|
| Oil type                   | Polyolester  | Refrigerant(s)        | <b>R134a, R513A</b>          |
| Oil viscosity              | 19,2cSt  | Displacement          | 4cm <sup>3</sup> / 0,24cu.in |
| Oil quantity               | 240cm <sup>3</sup> / 8,1fl.oz  | Compressors on pallet | 100                          |
| Refr. charge - tech. limit | 250g / 8,8oz   |                       |                              |
| Free gas volume comp.      | 1560cm <sup>3</sup> / 52,7fl.oz  |                       |                              |
| Weight                     | 8,9kg / 19,6lbs  |                       |                              |
| 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  |                       |                              |
| Additional note            | Good robustness against liquid intake.<br>Ice-cube maker optimization - indirect suction intake. |                       |                              |



## General - Configurations with KLE4.0GFTX

|                        | Conf. 1                  | Conf. 2                  |
|------------------------|--------------------------|--------------------------|
| Motorconfiguration     | CSIR                     | CSIR                     |
| Power supply (nominal) | 220-240V/50Hz            | 208-230V/60Hz            |
| Number of phases       | 1                        | 1                        |
| Voltage range          | 187-254V                 | 198-253V                 |
| Approvals              | VDE, (UL,CB) in progress | VDE, (UL,CB) in progress |
| Starting torque        | HST                      | HST                      |
| Note                   | - / -                    |                          |

## Applications with KLE4.0GFTX

|                         | Conf. 1     | Conf. 2 |
|-------------------------|-------------|---------|
| Refrigerant             | R134a       | R134a   |
| Application             | LBP+MBP+HBP | LBP+MBP |
| System cooling          | static      | static  |
| Hot gas defrost         | OK          | OK      |
| Long interval pull down | OK          | OK      |

## Electrical data - Configurations with KLE4.0GFTX

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

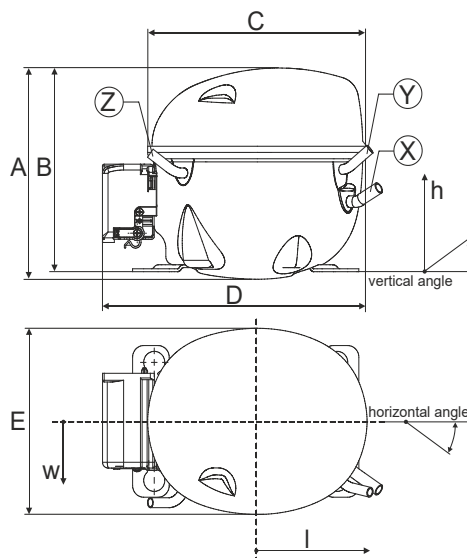
## Model

|             |                   |                                   |             |                 |
|-------------|-------------------|-----------------------------------|-------------|-----------------|
| Designation | <b>KLE4.0GFTX</b> | 220-240V/50Hz 1~ 208-230V/60Hz 1~ | Sales code: | <b>106G5403</b> |
|-------------|-------------------|-----------------------------------|-------------|-----------------|

## Compressor dimensions

|                |                   |                |
|----------------|-------------------|----------------|
| <b>Housing</b> | 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 6,16-6,24 | øi 5,1-5,2  | øi 6,11-6,29 |
| (i:inside, o:outside) | [in] | øi 0,24-0,25 | øi 0,2-0,2  | 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          |



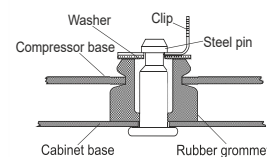
## Compressor fixation



### 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

Suctiongas connector and Process connector can be switched (minor loss of cooling capacity)

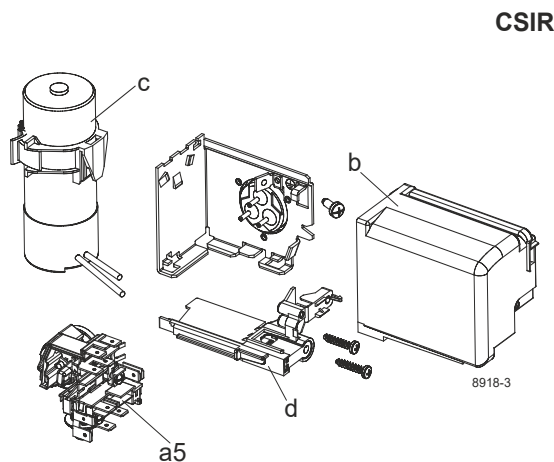
### Model

|             |                   |                      |         |             |                 |
|-------------|-------------------|----------------------|---------|-------------|-----------------|
| Designation | <b>KLE4.0GFTX</b> | <b>220-240V/50Hz</b> | Conf. 1 | Sales code: | <b>106G5403</b> |
|-------------|-------------------|----------------------|---------|-------------|-----------------|

### Configuration

|                        |                            |
|------------------------|----------------------------|
| Motorconfiguration     | CSIR                       |
| Power supply (nominal) | 220-240V/50Hz 1~           |
| Refrigerant            | R134a                      |
| Application            | LBP+MBP+HBP                |
| Voltage range          | 187-254V                   |
| Starting torque        | HST                        |
| Approvals              | VDE<br>(UL,CB) in progress |

### Electrical accessories / wiring diagram



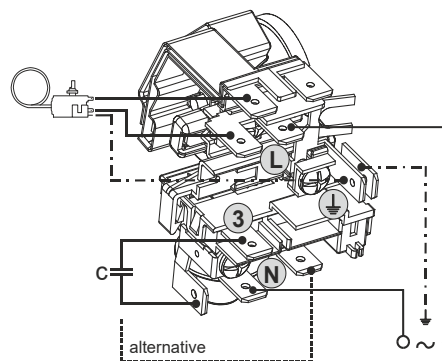
CSIR

### Ambient/ machine room temperatures minimum /maximum

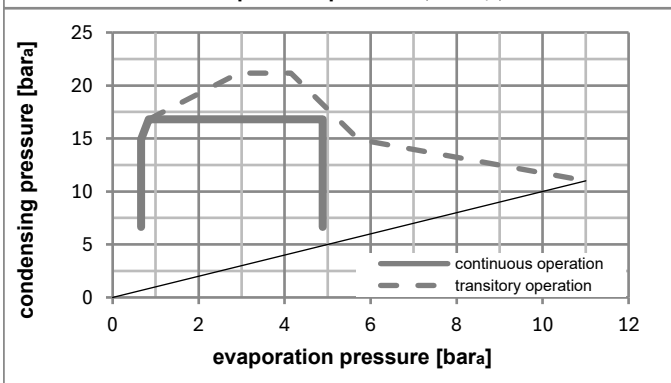
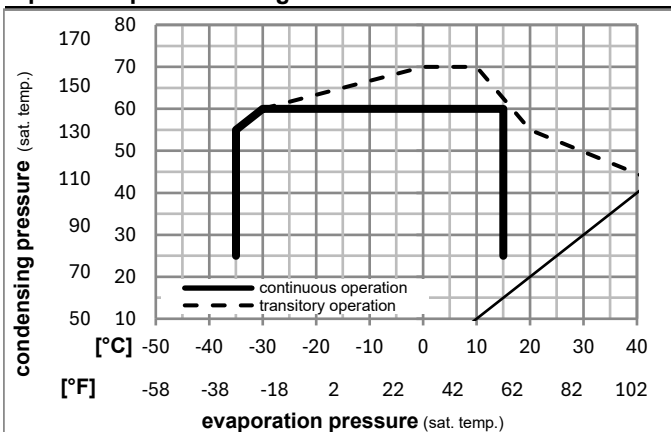
Ambient temperature range: 10 - 43°C / 50 - 110°F

Machine room temperature range: 10 - 48°C / 50 - 119°F

Compressor cooling: static



### Operation pressure range



### Components

|      |                                    |          |
|------|------------------------------------|----------|
| a5   | current relay (T1189/L6-S3)        | 117U7073 |
| c    | start capacitor (80μF, 6.3mm)      | 117U5001 |
| b, d | cover + clamp + screws(5VA) in bag | 103N1060 |

### Alternative components

|      |                                    |          |
|------|------------------------------------|----------|
| b, d | 100x cover + clamp + screws(5VA)   | 103N2060 |
| b, d | cover + clamp + screws(5VA-compl.) | 103N0600 |

## Model

Designation **KLE4.0GFTX** **220-240V/50Hz** Conf. 1 Sales code: **106G5403**

## Optimization + standard conditions

R134a, 220V/50Hz, CSIR, static, VDE, (UL,CB) in progress

|      | Evaporating pressure (saturation temperature) |     |     |      | Cooling capacity |         |          | COP  | EER   |          |           | Power consumption |      |             | ASHRAE LBP |
|------|---|-----|-----|------|------------------|---------|----------|------|-------|----------|-----------|-------------------|------|-------------|------------|
|      | pe  | pc  | RGT | Tliq | [W]              | [Btu/h] | [kcal/h] |      | [W/W] | [Btu/Wh] | [kcal/Wh] | P1                | I    | m           |            |
| [°C] | -23   | 54  | 32  | 32   | 101,4            | 346     | 87,3     | 1,14 | 3,90  | 0,98     | 88,8      | 1,15              | 1,97 |             |            |
| [°F] | -10   | 130 | 90  | 90   |                  |         |          |      |       |          |           |                   |      |             |            |
| [°C] | -7  | 54  | 35  | 46   | 221,7            | 757     | 190,8    | 1,77 | 6,03  | 1,52     | 125,5     | 1,23              | 4,84 | ASHRAE MBP  |            |
| [°F] | 20  | 130 | 95  | 115  |                  |         |          |      |       |          |           |                   |      |             |            |
| [°C] | 7,2   | 54  | 35  | 46   | 398,3            | 1360    | 342,8    | 2,58 | 8,81  | 2,22     | 154,4     | 1,31              | 8,84 | ASHRAE HBP  |            |
| [°F] | 45  | 130 | 95  | 115  |                  |         |          |      |       |          |           |                   |      |             |            |
| [°C] | -35   | 40  | 20  | 40   | 46,0             | 157     | 39,6     | 0,72 | 2,47  | 0,62     | 63,5      | 1,10              | 1,01 | EN12900 LBP |            |
| [°F] | -31   | 104 | 68  | 104  |                  |         |          |      |       |          |           |                   |      |             |            |
| [°C] | -10   | 45  | 20  | 45   | 191,3            | 653     | 164,6    | 1,74 | 5,93  | 1,49     | 110,1     | 1,20              | 4,48 | EN12900 MBP |            |
| [°F] | 14  | 113 | 68  | 113  |                  |         |          |      |       |          |           |                   |      |             |            |
| [°C] | 5   | 50  | 20  | 50   | 339,4            | 1159    | 292,1    | 2,36 | 8,07  | 2,03     | 143,6     | 1,28              | 8,55 | EN12900 HBP |            |
| [°F] | 41  | 122 | 68  | 122  |                  |         |          |      |       |          |           |                   |      |             |            |

## Performance tables

R134a, 220V/50Hz, CSIR, static, VDE, (UL,CB) in progress

|                  | pe   |      | Cooling capacity |         |          | COP  | EER   |          |           | P1   | I     | m |
|------------------|------|------|------------------|---------|----------|------|-------|----------|-----------|------|-------|---|
|                  | [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] |      | [W/W] | [Btu/Wh] | [kcal/Wh] |      |       |   |
| [°C / °F]        | -35  | -31  | 43,4             | 148     | 37,4     | 0,69 | 2,34  | 0,59     | 63,3      | 1,10 | 0,94  |   |
| cond. pressure   | -25  | -13  | 86,8             | 296     | 74,7     | 1,05 | 3,57  | 0,90     | 82,9      | 1,14 | 1,88  |   |
| pc= 45/113       | -15  | 5    | 154,2            | 527     | 132,7    | 1,52 | 5,20  | 1,31     | 101,2     | 1,18 | 3,36  |   |
| return gas temp. | -10  | 14   | 198,5            | 678     | 170,8    | 1,80 | 6,15  | 1,55     | 110,1     | 1,20 | 4,34  |   |
| RGT= 32/90       | 0    | 32   | 310,9            | 1062    | 267,6    | 2,43 | 8,31  | 2,09     | 127,7     | 1,24 | 6,88  |   |
| liquid temp      | 5    | 41   | 380,4            | 1299    | 327,4    | 2,78 | 9,51  | 2,40     | 136,6     | 1,26 | 8,47  |   |
| Tliq= 45/113     | 15   | 59   | 548,6            | 1874    | 472,1    | 3,54 | 12,09 | 3,05     | 154,9     | 1,31 | 12,43 |   |
| [°C / °F]        | -35  | -31  | 35,4             | 121     | 30,5     | 0,59 | 2,01  | 0,51     | 60,0      | 1,10 | 0,84  |   |
| cond. pressure   | -25  | -13  | 73,8             | 252     | 63,5     | 0,87 | 2,97  | 0,75     | 84,9      | 1,15 | 1,76  |   |
| pc= 55/131       | -15  | 5    | 132,4            | 452     | 114,0    | 1,23 | 4,19  | 1,06     | 107,8     | 1,19 | 3,19  |   |
| return gas temp  | -10  | 14   | 170,8            | 583     | 147,0    | 1,44 | 4,91  | 1,24     | 118,8     | 1,22 | 4,13  |   |
| RGT= 32/90       | 0    | 32   | 268,7            | 918     | 231,3    | 1,92 | 6,55  | 1,65     | 140,0     | 1,27 | 6,57  |   |
| liquid temp      | 5    | 41   | 329,4            | 1125    | 283,5    | 2,19 | 7,48  | 1,88     | 150,5     | 1,30 | 8,12  |   |
| Tliq= 55/131     | 15   | 59   | 477,3            | 1630    | 410,8    | 2,78 | 9,50  | 2,40     | 171,5     | 1,36 | 11,99 |   |

## Model

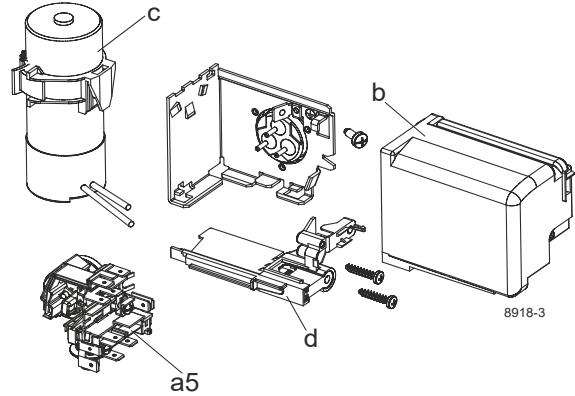
|             |                   |                      |                |             |                 |
|-------------|-------------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>KLE4.0GFTX</b> | <b>208-230V/60Hz</b> | <b>Conf. 2</b> | Sales code: | <b>106G5403</b> |
|-------------|-------------------|----------------------|----------------|-------------|-----------------|

## Configuration

|                        |                            |
|------------------------|----------------------------|
| Motorconfiguration     | CSIR                       |
| Power supply (nominal) | 208-230V/60Hz 1~           |
| Refrigerant            | R134a                      |
| Application            | LBP+MBP                    |
| Voltage range          | 198-253V                   |
| Starting torque        | HST                        |
| Approvals              | VDE<br>(UL,CB) in progress |

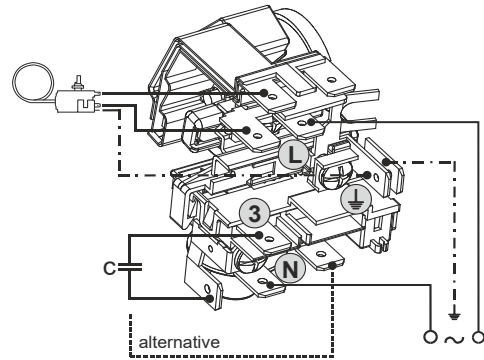
## Electrical accessories / wiring diagram

CSIR

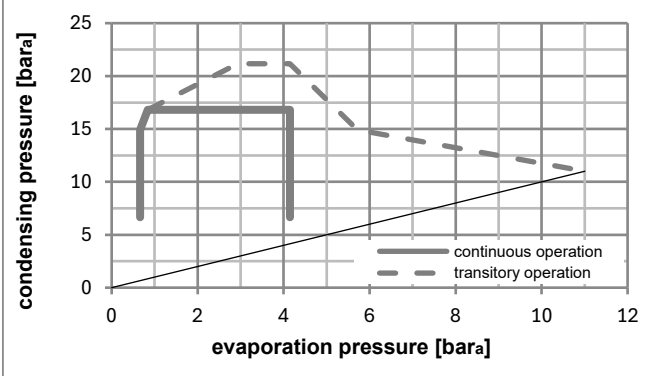
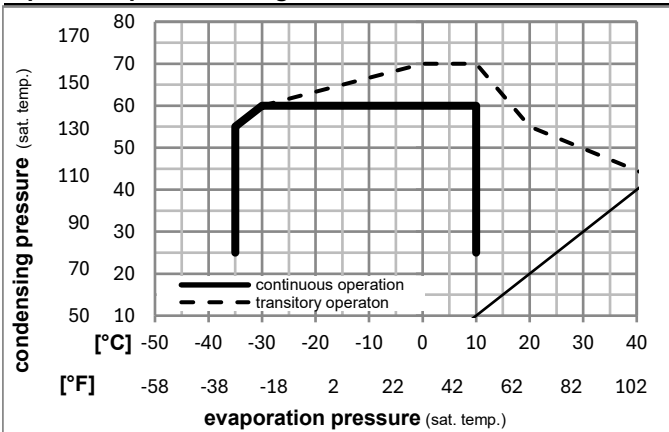


## Ambient/ machine room temperatures minimum /maximum

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



## Operation pressure range



## Components

|      |                                    |          |
|------|------------------------------------|----------|
| a5   | current relay (T1189/L6-S3)        | 117U7073 |
| c    | start capacitor (80µF, 6.3mm)      | 117U5001 |
| b, d | cover + clamp + screws(5VA) in bag | 103N1060 |

## Alternative components

|      |                                    |          |
|------|------------------------------------|----------|
| b, d | 100x cover + clamp + screws(5VA)   | 103N2060 |
| b, d | cover + clamp + screws(5VA-compl.) | 103N0600 |

### Model

Designation **KLE4.0GFTX** **208-230V/60Hz** Conf. 2 Sales code: **106G5403**

### Optimization + standard conditions

R134a, 230V/60Hz, CSIR, static, VDE, (UL,CB) in progress

|  | Evaporating pressure (saturation temperature) |      |      |      | Cooling capacity |         |          | COP   | EER      | P1        | Power consumption |      | ASHRAE |             |
|--|---|------|------|------|------------------|---------|----------|-------|----------|-----------|-------------------|------|--------|-------------|
|  | pe  | pc   | RGT  | Tliq | [W]              | [Btu/h] | [kcal/h] |       |          |           | I                 | m    |        |             |
|  | [°C]  | [°F] | [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | [W]               | [A]  | [kg/h] |             |
|  | -23   | 54   | 32   | 32   | 122,9            | 420     | 105,8    | 1,20  | 4,10     | 1,03      | 102,4             | 1,10 | 2,39   | ASHRAE LBP  |
|  | -10   | 130  | 90   | 90   |                  |         |          |       |          |           |                   |      |        |             |
|  | -7  | 54   | 35   | 46   | 261,5            | 893     | 225,1    | 1,81  | 6,20     | 1,56      | 144,1             | 1,19 | 5,71   | ASHRAE MBP  |
|  | 20  | 130  | 95   | 115  |                  |         |          |       |          |           |                   |      |        |             |
|  | 7,2   | 54   | 35   | 46   | 465,1            | 1589    | 400,3    | 2,58  | 8,82     | 2,22      | 180,1             | 1,28 | 10,32  | ASHRAE HBP  |
|  | 45  | 130  | 95   | 115  |                  |         |          |       |          |           |                   |      |        |             |
|  | -35   | 40   | 20   | 40   | 55,1             | 188     | 47,4     | 0,76  | 2,59     | 0,65      | 72,7              | 1,06 | 1,21   | EN12900 LBP |
|  | -31   | 104  | 68   | 104  |                  |         |          |       |          |           |                   |      |        |             |
|  | -10   | 45   | 20   | 45   | 224,4            | 767     | 193,2    | 1,76  | 6,00     | 1,51      | 127,8             | 1,15 | 5,25   | EN12900 MBP |
|  | 14  | 113  | 68   | 113  |                  |         |          |       |          |           |                   |      |        |             |
|  | 5   | 50   | 20   | 50   | 395,7            | 1351    | 340,6    | 2,34  | 7,98     | 2,01      | 169,3             | 1,25 | 9,97   | EN12900 HBP |
|  | 41  | 122  | 68   | 122  |                  |         |          |       |          |           |                   |      |        |             |

### Performance tables

R134a, 230V/60Hz, CSIR, static, VDE, (UL,CB) in progress

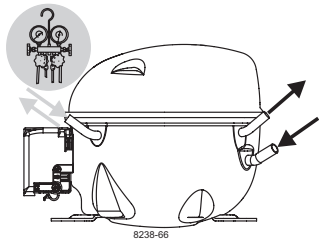
|                  | pe   |      | Cooling capacity |         |          | COP  | EER   | P1   | I     | m    |       |
|------------------|------|------|------------------|---------|----------|------|-------|------|-------|------|-------|
|                  | [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] |      |       |      |       |      |       |
| [°C / °F]        | -35  | -31  | 50,9             | 174     | 43,8     | 0,71 | 2,42  | 0,61 | 71,8  | 1,06 | 1,10  |
| cond. pressure   | -25  | -13  | 104,5            | 357     | 90,0     | 1,10 | 3,77  | 0,95 | 94,7  | 1,09 | 2,26  |
| pc= 45/113       | -15  | 5    | 182,4            | 623     | 157,0    | 1,56 | 5,33  | 1,34 | 116,8 | 1,13 | 3,98  |
| return gas temp. | -10  | 14   | 232,9            | 795     | 200,4    | 1,82 | 6,22  | 1,57 | 127,8 | 1,15 | 5,10  |
| RGT= 32/90       | 0    | 32   | 361,9            | 1236    | 311,5    | 2,40 | 8,21  | 2,07 | 150,6 | 1,20 | 8,00  |
| liquid temp      | 5    | 41   | 442,5            | 1511    | 380,8    | 2,72 | 9,29  | 2,34 | 162,6 | 1,23 | 9,85  |
| Tliq= 45/113     | 15   | 59   | 640,8            | 2188    | 551,5    | 3,40 | 11,60 | 2,92 | 188,7 | 1,30 | 14,51 |
| [°C / °F]        | -35  | -31  | 38,9             | 133     | 33,5     | 0,54 | 1,85  | 0,47 | 71,7  | 1,06 | 0,93  |
| cond. pressure   | -25  | -13  | 89,4             | 305     | 77,0     | 0,91 | 3,10  | 0,78 | 98,4  | 1,10 | 2,14  |
| pc= 55/131       | -15  | 5    | 158,6            | 542     | 136,5    | 1,28 | 4,38  | 1,10 | 123,7 | 1,14 | 3,82  |
| return gas temp  | -10  | 14   | 202,7            | 692     | 174,5    | 1,49 | 5,08  | 1,28 | 136,2 | 1,17 | 4,90  |
| RGT= 32/90       | 0    | 32   | 314,9            | 1075    | 271,0    | 1,95 | 6,66  | 1,68 | 161,6 | 1,23 | 7,70  |
| liquid temp      | 5    | 41   | 385,0            | 1315    | 331,3    | 2,20 | 7,53  | 1,90 | 174,7 | 1,26 | 9,49  |
| Tliq= 55/131     | 15   | 59   | 558,0            | 1906    | 480,3    | 2,76 | 9,41  | 2,37 | 202,5 | 1,34 | 14,02 |



# KL Compressors



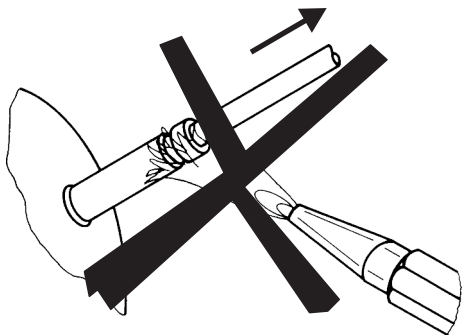




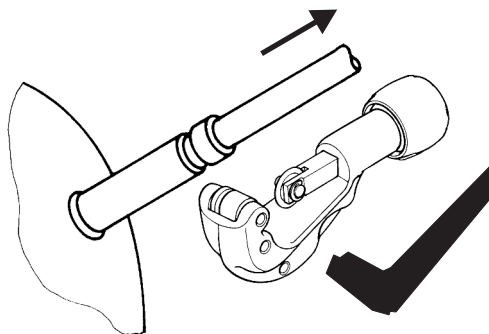
# KL Compressors



## Service/Repair – R290



8545



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