

## Single Pack TL4CL 220-240V 50Hz CSIR

Single pack code number: **195B4130**

| Position | Title   | Code     | Amount |
|----------|---|----------|--------|
| 1        | Compressor TL4CL  | 102U2071 | 1      |
| 2        | Starting relay  | 117U6000 | 1      |
| 3        | Starting capacitor (60 $\mu$ F 220V, 6.3mm)             | 117U5014 | 1      |
| 4        | Cord relief   | 103N1010 | 1      |
| 5        | Cover   | 103N2010 | 1      |
| 6        | Bolt joint for one compressor   M6   $\varnothing$ 16mm | 118-1917 | 1      |

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**Model**

|             |              |                         |             |                 |
|-------------|--------------|-------------------------|-------------|-----------------|
| Designation | <b>TL4CL</b> | <b>220-240V/50Hz 1~</b> | Sales code: | <b>102U2071</b> |
|-------------|--------------|-------------------------|-------------|-----------------|

**Compressor design**

|                            |                                 |                       |                                 |
|----------------------------|---------------------------------|-----------------------|---------------------------------|
| Oil type                   | Polyolester                     | Refrigerant(s)        | <b>R404A, R452A, R507</b>       |
| Oil viscosity              | 32cSt                           | Displacement          | 3,86cm <sup>3</sup> / 0,24cu.in |
| Oil quantity               | 280cm <sup>3</sup> / 9,5fl.oz   | Compressors on pallet | 125                             |
| Refr. charge - tech. limit | 600g / 21,2oz                   |                       |                                 |
| Free gas volume comp.      | 1690cm <sup>3</sup> / 57,1fl.oz |                       |                                 |
| Weight                     | 7,6kg / 16,8lbs                 |                       |                                 |
| Motor protection           | 1# internal                     |                       |                                 |
| Winding resistance main    | 14,5Ω (at 25°C)                 |                       |                                 |
| Winding resistance aux     | 14,8Ω (at 25°C)                 |                       |                                 |
| Max. winding temp.         | 125°C / 257°F                   |                       |                                 |
| Max. discharge temp.       | 130°C / 266°F                   |                       |                                 |



**General - Configurations with TL4CL**

|                        | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------|----------------|----------------|
| Motorconfiguration     | CSIR           | CSIR           |
| Power supply (nominal) | 220-240V/50Hz  | 220-240V/50Hz  |
| Number of phases       | 1              | 1              |
| Voltage range          | 198-254V       | 198-254V       |
| Approvals              | VDE            | VDE            |
| Starting torque        | HST            | HST            |
| Note                   | - / -          |                |

**Applications with TL4CL**

|                         | <b>Conf. 1</b> | <b>Conf. 2</b> |
|-------------------------|----------------|----------------|
| Refrigerant             | R404A          | R452A          |
| Application             | LBP            | LBP            |
| System cooling          | fan 3m/s       | fan 3m/s       |
| Hot gas defrost         | OK             | OK             |
| Long interval pull down | - / -          | - / -          |

**Electrical data - Configurations with TL4CL**

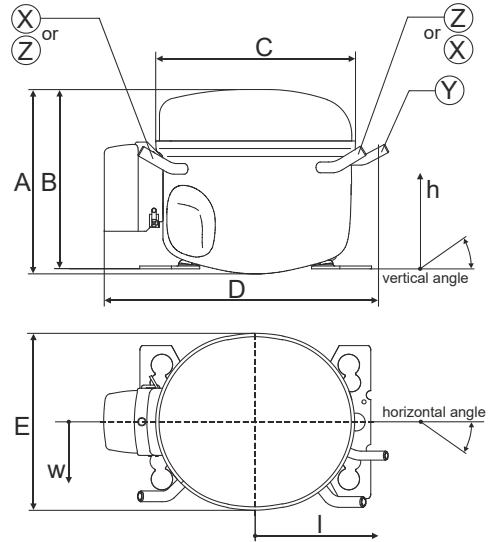
|                              | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------------|----------------|----------------|
| Starting device type         | relay          | relay          |
| Run capacitor                | - / -          | - / -          |
| Start capacitor              | 60μF           | 60μF           |
| LRA (locked rotor amps / 4s) | 5,7A           | 5,7A           |
| RLA (rated load amps / 1s)   | 1,1A           | 1,1A           |
| Cut in current               | 9,7A           | 9,7A           |
| IP class                     | 21             | 21             |

**Model**

|             |              |                         |             |                 |
|-------------|--------------|-------------------------|-------------|-----------------|
| Designation | <b>TL4CL</b> | <b>220-240V/50Hz 1~</b> | Sales code: | <b>102U2071</b> |
|-------------|--------------|-------------------------|-------------|-----------------|

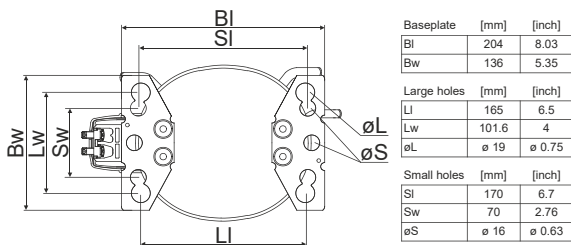
**Compressor dimensions**

|                |                   |                |
|----------------|-------------------|----------------|
| <b>Housing</b> | A Height          | 174mm / 6,85in |
|                | B Height          | 170mm / 6,69in |
|                | C Length shell    | 176mm / 6,93in |
|                | D Length w. cover | 222mm / 8,74in |
|                | E Width           | 157mm / 6,18in |

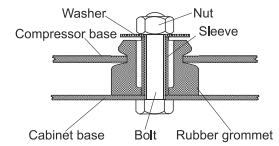


| <b>Connectors</b>     |      | <b>Suction</b> | <b>Discharge</b> | <b>Process</b> |
|-----------------------|------|----------------|------------------|----------------|
|                       |      | <b>X</b>       | <b>Y</b>         | <b>Z</b>       |
| Diameter              | [mm] | øi 6,11-6,29   | øi 5,12-5,22     | øi 6,11-6,29   |
| (i:inside, o:outside) | [in] | øi 0,24-0,25   | øi 0,2-0,21      | øi 0,24-0,25   |
| Material              |      | copper         | copper           | copper         |
| Horizontal angle      | ±2°  | 0°             | 0°               | 0°             |
| Vertical angle        | ±2°  | 150°           | 28°              | 31,5°          |
| Position l/h/w        | [mm] | -102/105/66    | 117/108/30       | 96/105/71      |
|                       | [in] | -4/4,1/2,6     | 4,6/4,3/1,2      | 3,8/4,1/2,8    |
| Straight tube l.      | [mm] | 12             | 12               | 12             |
|                       | [in] | 0,5            | 0,5              | 0,5            |

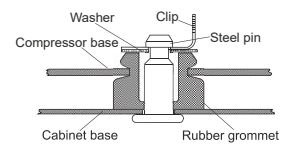
**Compressor fixation**



**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   |

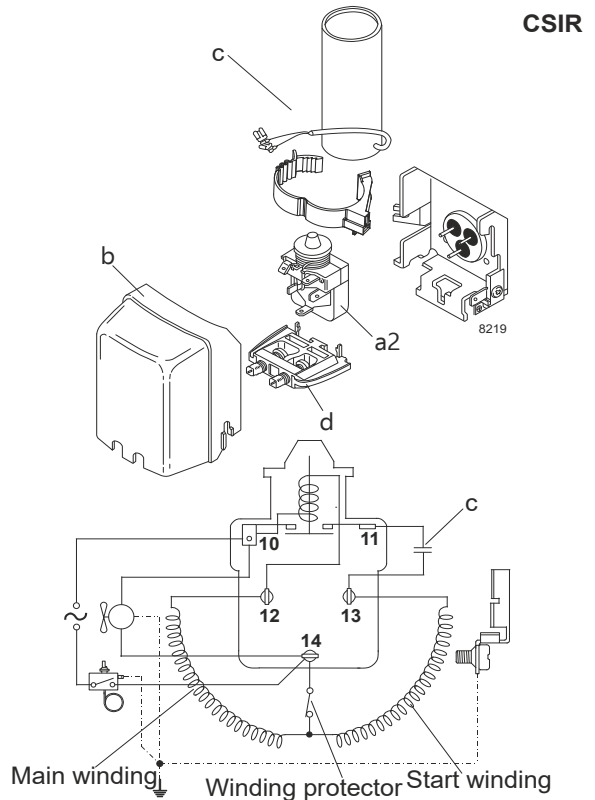
**Model**

|             |              |                      |                |             |                 |
|-------------|--------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>TL4CL</b> | <b>220-240V/50Hz</b> | <b>Conf. 1</b> | Sales code: | <b>102U2071</b> |
|-------------|--------------|----------------------|----------------|-------------|-----------------|

**Configuration**

|                        |                  |
|------------------------|------------------|
| Motorconfiguration     | CSIR             |
| Power supply (nominal) | 220-240V/50Hz 1~ |
| Refrigerant            | R404A            |
| Application            | LBP              |
| Voltage range          | 198-254V         |
| Starting torque        | HST              |
| Approvals              | VDE              |

**Electrical accessories / wiring diagram**

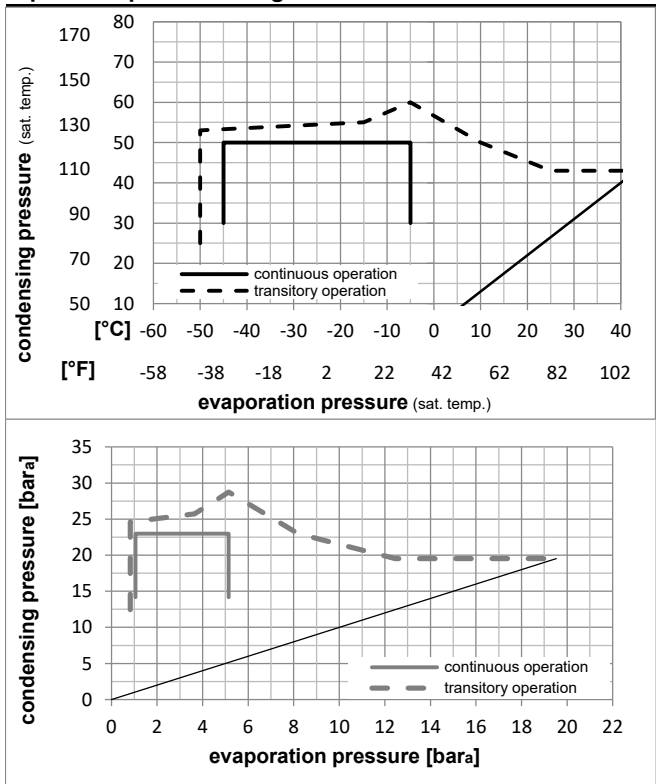


**Ambient temperatures / system cooling**

|                           |              |
|---------------------------|--------------|
| Ambient temperature min.: | 10°C / 50°F  |
| Ambient temperature max.: | 38°C / 101°F |

| System cooling (n/a: outside limits) |          |     |     |
|--------------------------------------|----------|-----|-----|
| T ambient                            | LBP      | MBP | HBP |
| 32°C / 90°F                          | fan 3m/s | n/a | n/a |
| 38°C / 100°F                         | fan 3m/s | n/a | n/a |
| 43°C / 110°F                         | n/a      | n/a | n/a |

**Operation pressure range**



Components

|    |                        |          |
|----|------------------------|----------|
| a2 | relay                  | 117U6000 |
| c  | start capacitor (60µF) | 117U5014 |
| d  | cord relief            | 103N1010 |
| b  | plastic cover          | 103N2010 |

Alternative components

|   |               |          |
|---|---------------|----------|
| b | plastic cover | 103N2011 |
|---|---------------|----------|

**Model**

Designation **TL4CL 220-240V/50Hz** Conf. 1 Sales code: **102U2071**

**Optimization + standard conditions**

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

| Evaporating pressure (saturation temperature) |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
|---|-------|------|------|------|-------|---------|----------|-------|----------|-----------|-------|------|--------|-------------|
| Condensing pressure (saturation temperature)  |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
| Return gas temp.                              |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
| Liquid temp.                                  |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
| Cooling capacity                              |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
| COP   |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
| EER   |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
| Power consumption                             |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
| Current consumption                           |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
| Ref. mass flow                                |       |      |      |      |       |         |          |       |          |           |       |      |        |             |
|   | pe    | pc   | RGT  | Tliq | [W]   | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | P1    | I    | m      |             |
| [°C]  | [°C]  | [°C] | [°C] | [°C] | [W]   | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | [W]   | [A]  | [kg/h] |             |
| [°C]  | -23,3 | 54,4 | 32,2 | 32,2 | 151,2 | 516     | 130,1    | 1,03  | 3,50     | 0,88      | 147,5 | 1,12 | 3,52   | ASHRAE LBP  |
| [°F]  | -10   | 130  | 90   | 90   |       |         |          |       |          |           |       |      |        |             |
| [°C]  | -25   | 55   | 32   | 55   | 101,0 | 345     | 86,9     | 0,72  | 2,47     | 0,62      | 139,6 | 1,08 | 3,16   | cecomaf LBP |
| [°F]  | -13   | 131  | 89,6 | 131  |       |         |          |       |          |           |       |      |        |             |
| [°C]  | -35   | 40   | 20   | 40   | 94,1  | 321     | 80,9     | 0,90  | 3,07     | 0,77      | 104,7 | 0,90 | 2,56   | EN12900 LBP |
| [°F]  | -31   | 104  | 68   | 104  |       |         |          |       |          |           |       |      |        |             |
| [°C]  | -6,66 | 54,4 | 35   | 46,1 | 310,7 | 1061    | 267,4    | 1,39  | 4,75     | 1,20      | 223,5 | 1,52 | 8,55   | ASHRAE MBP  |
| [°F]  | 20    | 130  | 95   | 115  |       |         |          |       |          |           |       |      |        |             |
| [°C]  | -10   | 55   | 32   | 55   | 227,6 | 777     | 195,9    | 1,09  | 3,71     | 0,93      | 209,6 | 1,45 | 7,29   | cecomaf MBP |
| [°F]  | 14    | 131  | 89,6 | 131  |       |         |          |       |          |           |       |      |        |             |
| [°C]  | -10   | 45   | 20   | 45   | 269,7 | 921     | 232,1    | 1,36  | 4,65     | 1,17      | 198,1 | 1,39 | 8,12   | EN12900 MBP |
| [°F]  | 14    | 113  | 68   | 113  |       |         |          |       |          |           |       |      |        |             |

**Performance tables**

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

|                  | 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]        | -45  | -49  | 51,9             | 177     | 44,7     | 0,64  | 2,18     | 0,55      | 81,2  | 0,80 | 1,38   |   |
| cond. pressure   | -35  | -31  | 84,2             | 288     | 72,5     | 0,81  | 2,75     | 0,69      | 104,6 | 0,91 | 2,25   |   |
| pc= 45/113       | -30  | -22  | 109,7            | 375     | 94,4     | 0,90  | 3,09     | 0,78      | 121,3 | 0,99 | 2,95   |   |
| return gas temp. | -25  | -13  | 142,1            | 485     | 122,3    | 1,02  | 3,47     | 0,87      | 140,0 | 1,08 | 3,83   |   |
| RGT= 32/90       | -20  | -4   | 182,0            | 622     | 156,6    | 1,14  | 3,89     | 0,98      | 159,7 | 1,19 | 4,94   |   |
| liquid temp      | -15  | 5    | 229,9            | 785     | 197,8    | 1,28  | 4,38     | 1,10      | 179,4 | 1,29 | 6,28   |   |
| Tliq= 45/113     | -5   | 23   | 351,7            | 1201    | 302,7    | 1,64  | 5,59     | 1,41      | 214,8 | 1,49 | 9,78   |   |
| [°C / °F]        | -45  | -49  | 35,8             | 122     | 30,8     | 0,51  | 1,74     | 0,44      | 70,2  | 0,73 | 1,10   |   |
| cond. pressure   | -35  | -31  | 55,4             | 189     | 47,7     | 0,56  | 1,93     | 0,49      | 98,1  | 0,87 | 1,71   |   |
| pc= 55/131       | -30  | -22  | 74,7             | 255     | 64,3     | 0,63  | 2,17     | 0,55      | 117,7 | 0,97 | 2,32   |   |
| return gas temp  | -25  | -13  | 101,0            | 345     | 86,9     | 0,72  | 2,47     | 0,62      | 139,6 | 1,08 | 3,16   |   |
| RGT= 32/90       | -20  | -4   | 134,9            | 461     | 116,1    | 0,83  | 2,83     | 0,71      | 162,9 | 1,20 | 4,25   |   |
| liquid temp      | -15  | 5    | 177,0            | 604     | 152,3    | 0,95  | 3,24     | 0,82      | 186,5 | 1,33 | 5,61   |   |
| Tliq= 55/131     | -5   | 23   | 287,5            | 982     | 247,4    | 1,24  | 4,25     | 1,07      | 231,0 | 1,56 | 9,30   |   |

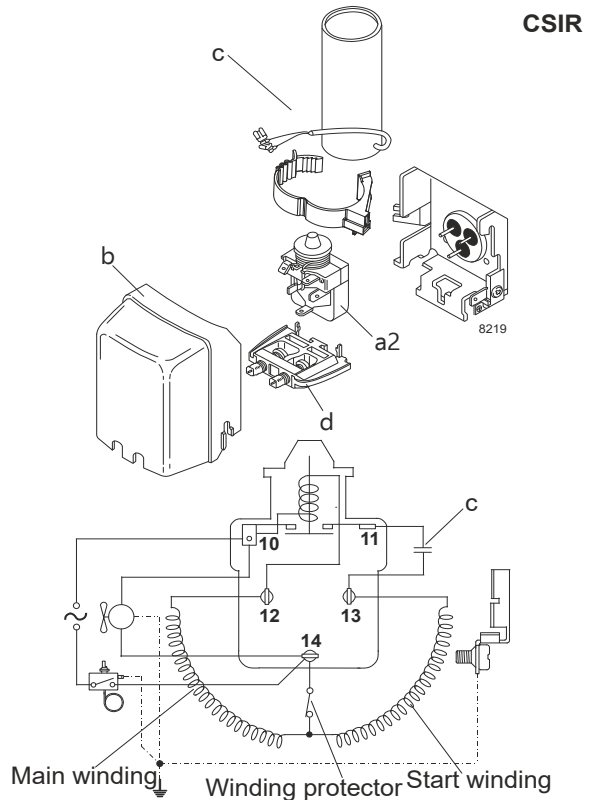
**Model**

|             |              |                      |                |             |                 |
|-------------|--------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>TL4CL</b> | <b>220-240V/50Hz</b> | <b>Conf. 2</b> | Sales code: | <b>102U2071</b> |
|-------------|--------------|----------------------|----------------|-------------|-----------------|

**Configuration**

|                        |                  |
|------------------------|------------------|
| Motorconfiguration     | CSIR             |
| Power supply (nominal) | 220-240V/50Hz 1~ |
| Refrigerant            | R452A            |
| Application            | LBP              |
| Voltage range          | 198-254V         |
| Starting torque        | HST              |
| Approvals              | VDE              |

**Electrical accessories / wiring diagram**

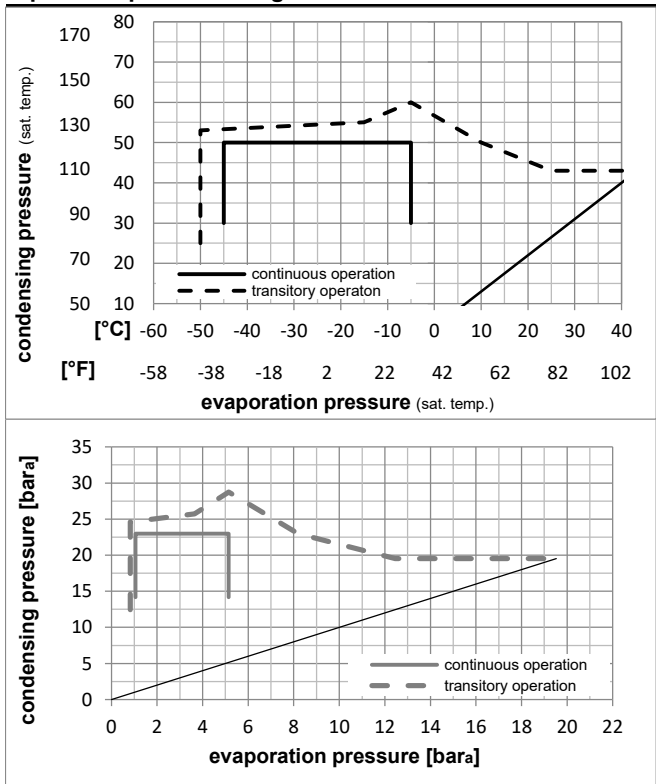


**Ambient temperatures / system cooling**

|                           |              |
|---------------------------|--------------|
| Ambient temperature min.: | 10°C / 50°F  |
| Ambient temperature max.: | 38°C / 101°F |

| System cooling (n/a: outside limits) |          |     |     |
|--------------------------------------|----------|-----|-----|
| T ambient                            | LBP      | MBP | HBP |
| 32°C / 90°F                          | fan 3m/s | n/a | n/a |
| 38°C / 100°F                         | fan 3m/s | n/a | n/a |
| 43°C / 110°F                         | n/a      | n/a | n/a |

**Operation pressure range**



Components

|    |                        |          |
|----|------------------------|----------|
| a2 | relay                  | 117U6000 |
| c  | start capacitor (60µF) | 117U5014 |
| d  | cord relief            | 103N1010 |
| b  | plastic cover          | 103N2010 |

Alternative components

|   |               |          |
|---|---------------|----------|
| b | plastic cover | 103N2011 |
|---|---------------|----------|

**Model**

Designation **TL4CL 220-240V/50Hz** Conf. **2** Sales code: **102U2071**

**Optimization + standard conditions**

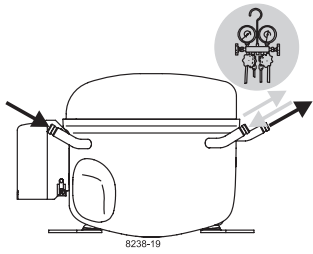
220V/50Hz, CSIR, fan 3m/s, VDE

| Evaporating pressure (saturation temperature) |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
|---|-------|------|------|------|---------|----------|----------|----------|-----------|-----------|-------|--------|------|-------------|
| Condensing pressure (saturation temperature)  |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
| Return gas temp.                              |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
| Liquid temp.                                  |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
| Cooling capacity                              |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
| COP   |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
| EER   |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
| Power consumption                             |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
| Current consumption                           |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
| Ref. mass flow                                |       |      |      |      |         |          |          |          |           |           |       |        |      |             |
|   | pe    | pc   | RGT  | Tliq | [W]     | [Btu/h]  | [kcal/h] | [W/W]    | [Btu/Wh]  | [kcal/Wh] | P1    | I      | m    |             |
| [°C]  | [°C]  | [°C] | [°C] | [W]  | [Btu/h] | [kcal/h] | [W/W]    | [Btu/Wh] | [kcal/Wh] | [W]       | [A]   | [kg/h] |      |             |
| [°C]  | -23,3 | 54,4 | 32,2 | 32,2 | 138,1   | 472      | 118,9    | 1,00     | 3,43      | 0,86      | 137,7 | 1,08   | 3,32 | ASHRAE LBP  |
| [°F]  | -10   | 130  | 90   | 90   |         |          |          |          |           |           |       |        |      |             |
| [°C]  | -25   | 55   | 32   | 55   | 93,0    | 318      | 80,0     | 0,72     | 2,44      | 0,62      | 130,0 | 1,03   | 2,96 | cecomaf LBP |
| [°F]  | -13   | 131  | 89,6 | 131  |         |          |          |          |           |           |       |        |      |             |
| [°C]  | -35   | 40   | 20   | 40   | 84,8    | 290      | 73,0     | 0,87     | 2,99      | 0,75      | 96,9  | 0,86   | 2,37 | EN12900 LBP |
| [°F]  | -31   | 104  | 68   | 104  |         |          |          |          |           |           |       |        |      |             |
| [°C]  | -6,66 | 54,4 | 35   | 46,1 | 294,0   | 1004     | 253,0    | 1,38     | 4,72      | 1,19      | 212,9 | 1,47   | 8,27 | ASHRAE MBP  |
| [°F]  | 20    | 130  | 95   | 115  |         |          |          |          |           |           |       |        |      |             |
| [°C]  | -10   | 55   | 32   | 55   | 215,8   | 737      | 185,7    | 1,09     | 3,71      | 0,93      | 198,8 | 1,40   | 7,01 | cecomaf MBP |
| [°F]  | 14    | 131  | 89,6 | 131  |         |          |          |          |           |           |       |        |      |             |
| [°C]  | -10   | 45   | 20   | 45   | 254,7   | 870      | 219,2    | 1,35     | 4,62      | 1,17      | 188,1 | 1,34   | 7,83 | EN12900 MBP |
| [°F]  | 14    | 113  | 68   | 113  |         |          |          |          |           |           |       |        |      |             |

**Performance tables**

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

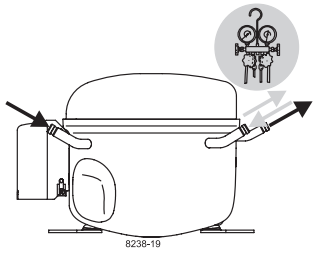
|                  | pe  | Cooling capacity |       |      | COP   | EER  | P1   | I    | m     |         |          |
|------------------|-----|------------------|-------|------|-------|------|------|------|-------|---------|----------|
|                  |     | [°C]             | [°F]  | [W]  |       |      |      |      |       | [Btu/h] | [kcal/h] |
| [°C / °F]        | -45 | -49              | 44,9  | 153  | 38,6  | 0,61 | 2,08 | 0,52 | 73,8  | 0,74    | 1,22     |
| cond. pressure   | -35 | -31              | 75,6  | 258  | 65,1  | 0,78 | 2,68 | 0,67 | 96,5  | 0,86    | 2,08     |
| pc= 45/113       | -30 | -22              | 99,9  | 341  | 86,0  | 0,89 | 3,03 | 0,76 | 112,7 | 0,94    | 2,75     |
| return gas temp. | -25 | -13              | 130,9 | 447  | 112,6 | 1,00 | 3,41 | 0,86 | 130,9 | 1,04    | 3,62     |
| RGT= 32/90       | -20 | -4               | 169,1 | 578  | 145,6 | 1,13 | 3,85 | 0,97 | 150,1 | 1,14    | 4,70     |
| liquid temp      | -15 | 5                | 215,3 | 735  | 185,3 | 1,27 | 4,34 | 1,09 | 169,5 | 1,24    | 6,02     |
| Tliq= 45/113     | -5  | 23               | 333,6 | 1139 | 287,1 | 1,63 | 5,56 | 1,40 | 205,1 | 1,43    | 9,48     |
| [°C / °F]        | -45 | -49              | 30,7  | 105  | 26,4  | 0,49 | 1,67 | 0,42 | 62,7  | 0,68    | 0,96     |
| cond. pressure   | -35 | -31              | 49,3  | 168  | 42,4  | 0,55 | 1,88 | 0,47 | 89,7  | 0,82    | 1,56     |
| pc= 55/131       | -30 | -22              | 67,7  | 231  | 58,3  | 0,62 | 2,13 | 0,54 | 108,7 | 0,92    | 2,14     |
| return gas temp  | -25 | -13              | 93,0  | 318  | 80,0  | 0,72 | 2,44 | 0,62 | 130,0 | 1,03    | 2,96     |
| RGT= 32/90       | -20 | -4               | 125,7 | 429  | 108,2 | 0,82 | 2,81 | 0,71 | 152,7 | 1,15    | 4,02     |
| liquid temp      | -15 | 5                | 166,4 | 568  | 143,2 | 0,95 | 3,23 | 0,81 | 175,9 | 1,28    | 5,36     |
| Tliq= 55/131     | -5  | 23               | 274,4 | 937  | 236,1 | 1,25 | 4,25 | 1,07 | 220,3 | 1,51    | 9,01     |



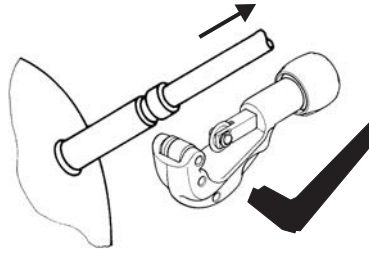
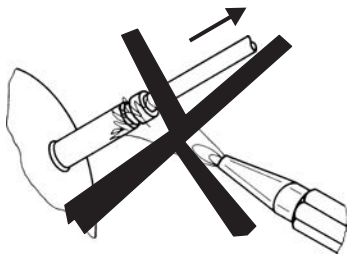
# TL Compressors







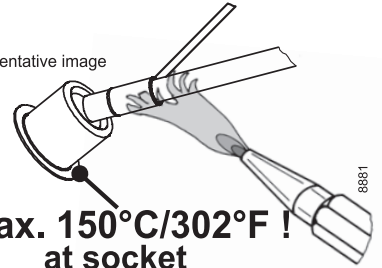
## Service/Repair – R600a, R290



8545

## Brazing on Suction Connectors (Direct Intake)

representative image



**! max. 150°C/302°F !  
at socket**  
brazing solder: phosphor (LP7) or silver

Refer to Product Bulletin:  
**Brazing on Suction Connectors  
(Compressors with Direct Suction Intake)**

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