

## Single Pack TL4GH 220-240V 50Hz / 208-230V 60Hz CSIR

Single pack code number: **195B4140**

| Position | Title   | Code     | Amount |
|----------|---|----------|--------|
| 1        | Compressor TL4GH  | 102G4455 | 1      |
| 2        | Starting relay  | 117U6000 | 1      |
| 3        | Starting capacitor (60 $\mu$ F 220V, 6.3mm)             | 117U5014 | 1      |
| 4        | Cord relief   | 103N1010 | 1      |
| 5        | Cover   | 103N2011 | 1      |
| 6        | Bolt joint for one compressor   M6   $\varnothing$ 16mm | 118-1917 | 1      |

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## Model

|             |              |  |             |                 |
|-------------|--------------|--|-------------|-----------------|
| Designation | <b>TL4GH</b> | <b>220-240V/50Hz 1~ 208-230V/60Hz 1~</b> | Sales code: | <b>102G4455</b> |
|-------------|--------------|--|-------------|-----------------|

## Compressor design

|                            |                                 |                       |                                 |
|----------------------------|---------------------------------|-----------------------|---------------------------------|
| Oil type                   | Polyolester                     | Refrigerant(s)        | <b>R134a, R513A</b>             |
| Oil viscosity              | 32cST                           | Displacement          | 3,86cm <sup>3</sup> / 0,24cu.in |
| Oil quantity               | 283cm <sup>3</sup> / 9,6fl.oz   | Compressors on pallet | 125                             |
| Refr. charge - tech. limit | 600g / 21,2oz                   |                       |                                 |
| Free gas volume comp.      | 1690cm <sup>3</sup> / 57,1fl.oz |                       |                                 |
| Weight                     | 7,5kg / 16,5lbs                 |                       |                                 |
| 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 TL4GH

|                        | <b>Conf. 1</b> | <b>Conf. 2</b> | <b>Conf. 3</b> | <b>Conf. 4</b> |
|------------------------|----------------|----------------|----------------|----------------|
| Motorconfiguration     | CSIR           | CSIR           | CSIR           | CSIR           |
| Power supply (nominal) | 220-240V/50Hz  | 220-240V/50Hz  | 208-230V/60Hz  | 208-230V/60Hz  |
| Number of phases       | 1              | 1              | 1              | 1              |
| Voltage range          | 198-254V       | 198-254V       | 198-254V       | 198-254V       |
| Approvals              | VDE, UL, CCC   | VDE, UL, CCC   | VDE, UL, CCC   | VDE, UL, CCC   |
| Starting torque        | HST            | HST            | HST            | HST            |
| Note                   | - / -          |                |                |                |

## Applications with TL4GH

|                         | <b>Conf. 1</b> | <b>Conf. 2</b> | <b>Conf. 3</b> | <b>Conf. 4</b> |
|-------------------------|----------------|----------------|----------------|----------------|
| Refrigerant             | R134a          | R513A          | R134a          | R513A          |
| Application             | MBP+HBP        | MBP+HBP        | MBP+HBP        | MBP+HBP        |
| System cooling          | fan 3m/s       | fan 3m/s       | fan 3m/s       | fan 3m/s       |
| Hot gas defrost         | OK             | OK             | OK             | OK             |
| Long interval pull down | OK             | OK             | OK             | OK             |

## Electrical data - Configurations with TL4GH

|                              | <b>Conf. 1</b> | <b>Conf. 2</b> | <b>Conf. 3</b> | <b>Conf. 4</b> |
|------------------------------|----------------|----------------|----------------|----------------|
| Starting device type         | relay          | relay          | relay          | relay          |
| Run capacitor                | - / -          | - / -          | - / -          | - / -          |
| Start capacitor              | 60μF           | 60μF           | 60μF           | 60μF           |
| LRA (locked rotor amps / 4s) | 5,7A           | 5,7A           | 5,7A           | 5,7A           |
| RLA (rated load amps / 1s)   | 1,1A           | 1,1A           | 1,1A           | 1,1A           |
| Cut in current               | 9,7A           | 9,7A           | 9,7A           | 9,7A           |

## Model

Designation

**TL4GH**

220-240V/50Hz 1~ 208-230V/60Hz 1~

Sales code:

**102G4455**

## 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 |

| Connectors       |                            | Suction      | Discharge    | Process      |
|------------------|----------------------------|--------------|--------------|--------------|
|                  |                            | X            | Y            | Z            |
| 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



| Baseplate   | [mm]  | [inch] |
|-------------|-------|--------|
| BI          | 204   | 8.03   |
| Bw          | 136   | 5.35   |
| Large holes |       |        |
| LI          | 165   | 6.5    |
| Lw          | 101.6 | 4      |
| øL          | ø 19  | ø 0.75 |
| Small holes |       |        |
| 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

LRA value on compressor label and datasheet may differ due to different test conditions for UL approval.

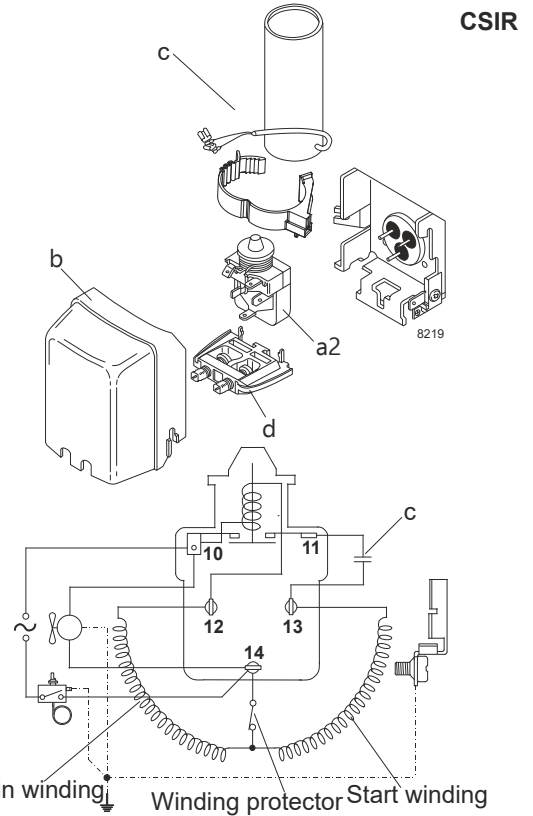
## Model

|             |              |                      |                |             |                 |
|-------------|--------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>TL4GH</b> | <b>220-240V/50Hz</b> | <b>Conf. 1</b> | Sales code: | <b>102G4455</b> |
|-------------|--------------|----------------------|----------------|-------------|-----------------|

## Configuration

|                        |                  |        |
|------------------------|------------------|--------|
| Motorconfiguration     | CSIR             |        |
| Power supply (nominal) | 220-240V/50Hz 1~ |        |
| Refrigerant            | R134a            |        |
| Application            | MBP+HBP          |        |
| Voltage range          | 198-254V         |        |
| Starting torque        | HST              |        |
| Approvals              | VDE              |        |
|                        | UL               | SA3693 |
|                        | CCC              |        |

## Electrical accessories / wiring diagram

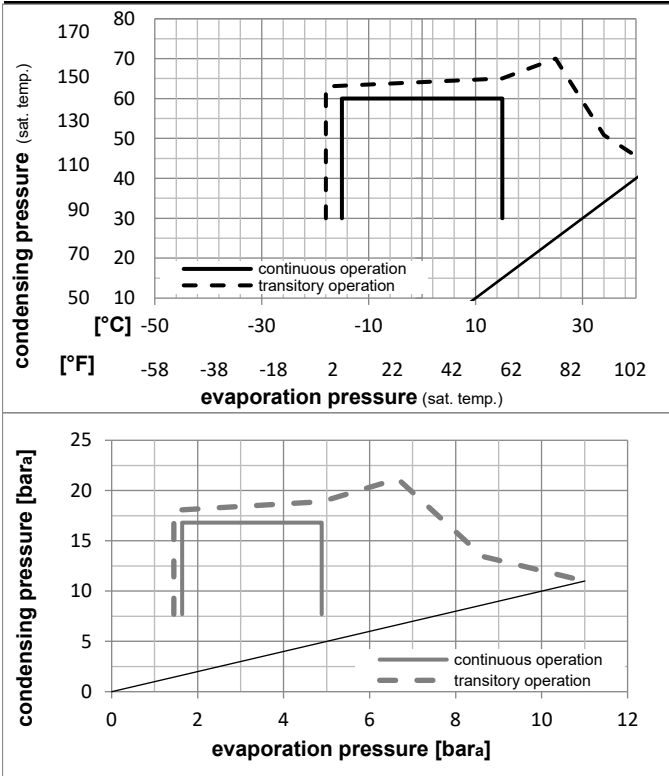


## Ambient/ machine room temperatures minimum /maximum

|                                 |                        |
|---------------------------------|------------------------|
| 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 Limits

## Operation pressure range



## Components

|    |                        |          |
|----|------------------------|----------|
| a2 | relay                  | 117U6000 |
| c  | start capacitor (60μF) | 117U5014 |
| d  | cord relief            | 103N1010 |
| b  | plastic cover          | 103N2011 |

## Model

Designation **TL4GH** **220-240V/50Hz** Conf. 1 Sales code: **102G4455**

## Optimization + standard conditions

R134a, 220V/50Hz, CSIR, fan 3m/s, VDE, UL, CCC

|      | Evaporating pressure (saturation temperature) |     |     |      | Condensing pressure (saturation temperature) |         |          | Return gas temp. | Liquid temp. | Cooling capacity | COP  | EER  | Power consumption |             |                | ASHRAE LBP |
|------|---|-----|-----|------|--|---------|----------|------------------|--------------|------------------|------|------|-------------------|-------------|----------------|------------|
|      | pe  | pc  | RGT | Tliq | [W]  | [Btu/h] | [kcal/h] |                  |              |                  |      |      | P1                | I           | Ref. mass flow |            |
| [°C] |   |     |     |      |  |         |          |                  |              |                  |      |      |                   |             |                |            |
| [°F] |   |     |     |      |  |         |          |                  |              |                  |      |      |                   |             |                |            |
|      | -23   | 54  | 32  | 32   | 69,2   | 236     | 59,5     | 0,75             | 2,57         | 0,65             | 92,0 | 0,90 | 1,34              | ASHRAE LBP  |                |            |
|      | -10   | 130 | 90  | 90   |  |         |          |                  |              |                  |      |      |                   |             |                |            |
|      | -25   | 55  | 32  | 55   | 46,8   | 160     | 40,2     | 0,52             | 1,78         | 0,45             | 89,7 | 0,89 | 1,12              | cecomaf LBP |                |            |
|      | -13   | 131 | 90  | 131  |  |         |          |                  |              |                  |      |      |                   |             |                |            |
|      | -35   | 40  | 20  | 40   | 30,4   | 104     | 26,2     | 0,45             | 1,53         | 0,39             | 67,6 | 0,82 | 0,67              | EN12900 LBP |                |            |
|      | -31   | 104 | 68  | 104  |  |         |          |                  |              |                  |      |      |                   |             |                |            |
|      | -23   | 49  | 4,4 | 49   | 62,7   | 214     | 53,9     | 0,70             | 2,40         | 0,61             | 89,0 | 0,89 | 1,66              | ARI540 LBP  |                |            |
|      | -10   | 120 | 40  | 120  |  |         |          |                  |              |                  |      |      |                   |             |                |            |
|      | -23   | 41  | 32  | 32   | 93,5   | 319     | 80,5     | 1,08             | 3,69         | 0,93             | 86,5 | 0,88 | 1,82              | AHAM LBP    |                |            |
|      | -10   | 105 | 90  | 90   |  |         |          |                  |              |                  |      |      |                   |             |                |            |
|      | -35   | 45  | 32  | 45   | 20,8   | 71      | 17,9     | 0,29             | 1,01         | 0,25             | 70,4 | 0,81 | 0,45              | opt         |                |            |
|      | -31   | 113 | 90  | 113  |  |         |          |                  |              |                  |      |      |                   |             |                |            |

## Performance tables

R134a, 220V/50Hz, CSIR, fan 3m/s, VDE, UL, 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]        | -15  | 5    | 130,5            | 446     | 112,3    | 1,24  | 4,25     | 1,07      | 105,0 | 0,93 | 2,85   |
| cond. pressure   | -10  | 14   | 170,0            | 581     | 146,3    | 1,46  | 4,99     | 1,26      | 116,3 | 0,96 | 3,72   |
| pc= 45/113       | -5   | 23   | 216,4            | 739     | 186,2    | 1,70  | 5,79     | 1,46      | 127,6 | 0,99 | 4,76   |
| return gas temp. | 0    | 32   | 270,7            | 924     | 232,9    | 1,96  | 6,68     | 1,68      | 138,4 | 1,02 | 5,99   |
| RGT= 32/90       | 5    | 41   | 333,9            | 1140    | 287,3    | 2,25  | 7,70     | 1,94      | 148,1 | 1,05 | 7,43   |
| liquid temp      | 10   | 50   | 407,1            | 1390    | 350,3    | 2,61  | 8,90     | 2,24      | 156,2 | 1,08 | 9,13   |
| Tliq= 45/113     | 15   | 59   | 491,2            | 1678    | 422,8    | 3,03  | 10,34    | 2,61      | 162,3 | 1,11 | 11,13  |
| [°C / °F]        | -15  | 5    | 104,2            | 356     | 89,7     | 0,96  | 3,26     | 0,82      | 109,1 | 0,97 | 2,51   |
| cond. pressure   | -10  | 14   | 139,9            | 478     | 120,4    | 1,16  | 3,95     | 1,00      | 120,9 | 1,01 | 3,38   |
| pc= 55/131       | -5   | 23   | 181,7            | 620     | 156,3    | 1,36  | 4,65     | 1,17      | 133,6 | 1,05 | 4,42   |
| return gas temp  | 0    | 32   | 230,4            | 787     | 198,3    | 1,57  | 5,38     | 1,35      | 146,4 | 1,09 | 5,64   |
| RGT= 32/90       | 5    | 41   | 287,3            | 981     | 247,2    | 1,81  | 6,17     | 1,56      | 159,0 | 1,12 | 7,08   |
| liquid temp      | 10   | 50   | 353,2            | 1206    | 304,0    | 2,07  | 7,07     | 1,78      | 170,7 | 1,16 | 8,78   |
| Tliq= 55/131     | 15   | 59   | 429,3            | 1466    | 369,5    | 2,37  | 8,10     | 2,04      | 181,0 | 1,20 | 10,78  |

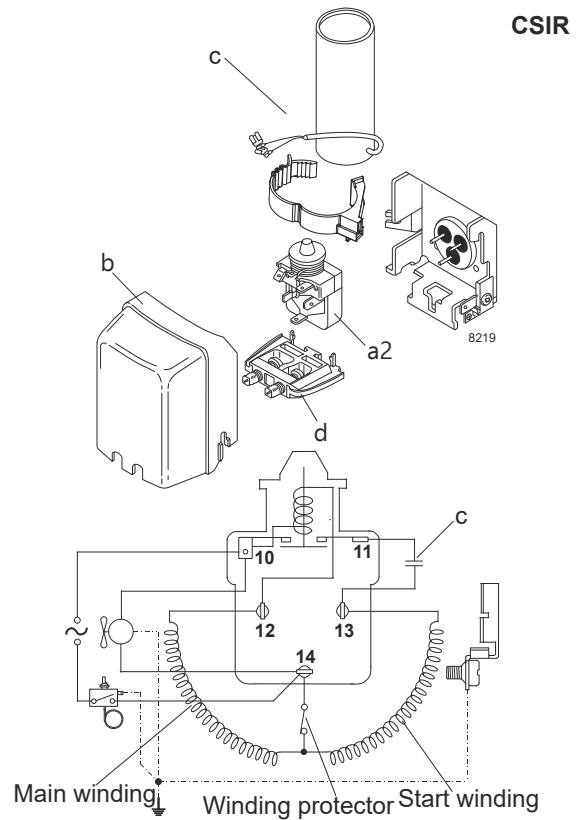
## Model

|             |              |                      |                |             |                 |
|-------------|--------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>TL4GH</b> | <b>220-240V/50Hz</b> | <b>Conf. 2</b> | Sales code: | <b>102G4455</b> |
|-------------|--------------|----------------------|----------------|-------------|-----------------|

## Configuration

|                        |                  |        |
|------------------------|------------------|--------|
| Motorconfiguration     | CSIR             |        |
| Power supply (nominal) | 220-240V/50Hz 1~ |        |
| Refrigerant            | R513A            |        |
| Application            | MBP+HBP          |        |
| Voltage range          | 198-254V         |        |
| Starting torque        | HST              |        |
| Approvals              | VDE              |        |
|                        | UL               | SA3693 |
|                        | CCC              |        |

## Electrical accessories / wiring diagram

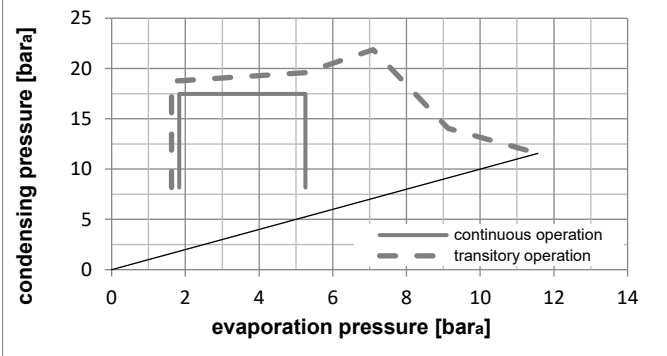
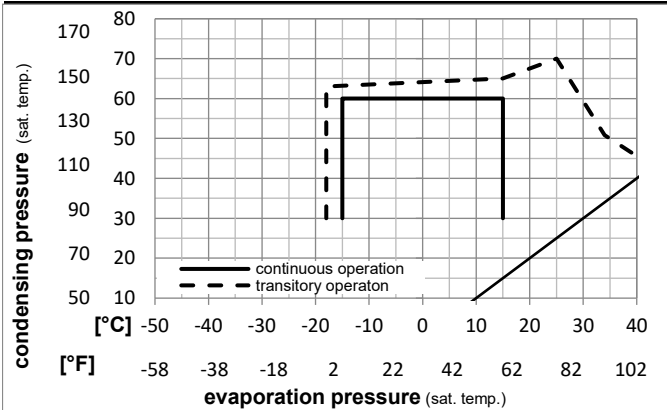


## Ambient/ machine room temperatures minimum /maximum

|                                 |                        |
|---------------------------------|------------------------|
| 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 Limits

## Operation pressure range



## Components

|    |                        |          |
|----|------------------------|----------|
| a2 | relay                  | 117U6000 |
| c  | start capacitor (60μF) | 117U5014 |
| d  | cord relief            | 103N1010 |
| b  | plastic cover          | 103N2011 |

### Model

Designation **TL4GH** **220-240V/50Hz** Conf. 2 Sales code: **102G4455**

### Optimization + standard conditions

R513A, 220V/50Hz, CSIR, fan 3m/s, VDE, UL, CCC

|      | 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] |                  |              |                  |      |      |                   |                     |                |  |
| [°C] | -23   | 54  | 32  | 32   | 77,4   | 264     | 66,6     | 0,81             | 2,76         | 0,70             | 95,6 | 0,89 | 1,67              | ASHRAE LBP          |                |  |
| [°F] | -10   | 130 | 90  | 90   |  |         |          |                  |              |                  |      |      |                   |                     |                |  |
| [°C] | -25   | 55  | 32  | 55   | 51,1   | 175     | 44,0     | 0,55             | 1,88         | 0,47             | 93,1 | 0,88 | 1,40              | cecomaf LBP         |                |  |
| [°F] | -13   | 131 | 90  | 131  |  |         |          |                  |              |                  |      |      |                   |                     |                |  |
| [°C] | -35   | 40  | 20  | 40   | 35,4   | 121     | 30,4     | 0,51             | 1,74         | 0,44             | 69,5 | 0,80 | 0,87              | EN12900 LBP         |                |  |
| [°F] | -31   | 104 | 68  | 104  |  |         |          |                  |              |                  |      |      |                   |                     |                |  |
| [°C] | -23   | 49  | 4,4 | 49   | 66,6   | 227     | 57,3     | 0,72             | 2,46         | 0,62             | 92,5 | 0,88 | 2,04              | ARI540 LBP          |                |  |
| [°F] | -10   | 120 | 40  | 120  |  |         |          |                  |              |                  |      |      |                   |                     |                |  |
| [°C] | -23   | 41  | 32  | 32   | 103,2  | 352     | 88,8     | 1,15             | 3,92         | 0,99             | 89,9 | 0,87 | 2,22              | AHAM LBP            |                |  |
| [°F] | -9,9994                                       | 105 | 90  | 90   |  |         |          |                  |              |                  |      |      |                   |                     |                |  |
| [°C] | -35   | 45  | 32  | 45   | 25,0   | 85      | 21,5     | 0,35             | 1,19         | 0,30             | 72,1 | 0,81 | 0,61              | opt                 |                |  |
| [°F] | -31   | 113 | 90  | 113  |  |         |          |                  |              |                  |      |      |                   |                     |                |  |

### Performance tables

R513A, 220V/50Hz, CSIR, fan 3m/s, VDE, UL, 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]        | -15  | 5    | 139,2            | 475     | 119,8    | 1,28  | 4,36     | 1,10      | 109,1 | 0,94 | 3,41   |
| cond. pressure   | -10  | 14   | 179,6            | 613     | 154,5    | 1,49  | 5,08     | 1,28      | 120,7 | 0,98 | 4,41   |
| pc= 45/113       | -5   | 23   | 226,6            | 774     | 195,0    | 1,71  | 5,85     | 1,48      | 132,2 | 1,02 | 5,59   |
| return gas temp. | 0    | 32   | 281,2            | 960     | 242,0    | 1,97  | 6,72     | 1,69      | 143,0 | 1,06 | 6,98   |
| RGT= 32/90       | 5    | 41   | 344,6            | 1177    | 296,5    | 2,26  | 7,71     | 1,94      | 152,7 | 1,10 | 8,59   |
| liquid temp      | 10   | 50   | 417,5            | 1426    | 359,3    | 2,60  | 8,87     | 2,24      | 160,7 | 1,13 | 10,48  |
| Tliq= 45/113     | 15   | 59   | 501,1            | 1711    | 431,3    | 3,01  | 10,28    | 2,59      | 166,5 | 1,15 | 12,68  |
| [°C / °F]        | -15  | 5    | 109,8            | 375     | 94,5     | 0,97  | 3,30     | 0,83      | 113,6 | 0,96 | 3,02   |
| cond. pressure   | -10  | 14   | 145,7            | 498     | 125,4    | 1,16  | 3,96     | 1,00      | 125,8 | 1,00 | 4,03   |
| pc= 55/131       | -5   | 23   | 187,3            | 640     | 161,2    | 1,35  | 4,61     | 1,16      | 138,6 | 1,05 | 5,20   |
| return gas temp  | 0    | 32   | 235,6            | 805     | 202,8    | 1,55  | 5,31     | 1,34      | 151,6 | 1,09 | 6,58   |
| RGT= 32/90       | 5    | 41   | 291,6            | 996     | 250,9    | 1,78  | 6,07     | 1,53      | 164,1 | 1,14 | 8,19   |
| liquid temp      | 10   | 50   | 356,2            | 1217    | 306,6    | 2,03  | 6,92     | 1,74      | 175,7 | 1,18 | 10,09  |
| Tliq= 55/131     | 15   | 59   | 430,5            | 1470    | 370,5    | 2,32  | 7,91     | 1,99      | 185,8 | 1,22 | 12,30  |

## Model

|             |              |                      |                |             |                 |
|-------------|--------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>TL4GH</b> | <b>208-230V/60Hz</b> | <b>Conf. 3</b> | Sales code: | <b>102G4455</b> |
|-------------|--------------|----------------------|----------------|-------------|-----------------|

## Configuration

|                        |                  |        |
|------------------------|------------------|--------|
| Motorconfiguration     | CSIR             |        |
| Power supply (nominal) | 208-230V/60Hz 1~ |        |
| Refrigerant            | R134a            |        |
| Application            | MBP+HBP          |        |
| Voltage range          | 198-254V         |        |
| Starting torque        | HST              |        |
| Approvals              | VDE              |        |
|                        | UL               | SA3693 |
|                        | CCC              |        |

## Electrical accessories / wiring diagram

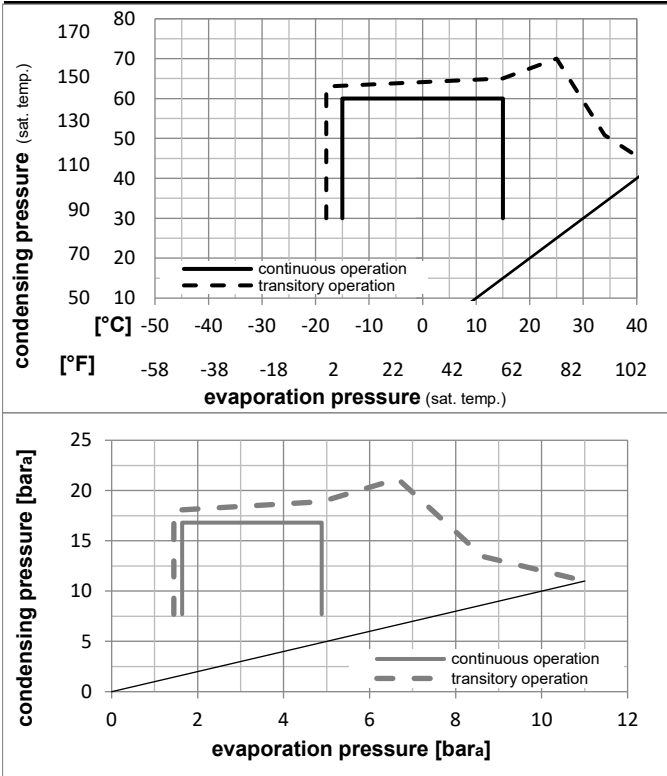


## Ambient/ machine room temperatures minimum /maximum

|                                 |                        |
|---------------------------------|------------------------|
| 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 Limits

## Operation pressure range



## Components

|    |                        |          |
|----|------------------------|----------|
| a2 | relay                  | 117U6000 |
| c  | start capacitor (60μF) | 117U5014 |
| d  | cord relief            | 103N1010 |
| b  | plastic cover          | 103N2011 |



### Model

Designation **TL4GH** **208-230V/60Hz** Conf. 3 Sales code: **102G4455**

### Optimization + standard conditions

R134a, 230V/60Hz, CSIR, fan 3m/s, VDE, UL, CCC

|      | Evaporating pressure (saturation temperature) |      |      |       | Cooling capacity |          |          | COP      | EER       | P1    | Power consumption |                |             | ASHRAE LBP |
|------|---|------|------|-------|------------------|----------|----------|----------|-----------|-------|-------------------|----------------|-------------|------------|
|      | pe  | pc   | RGT  | Tliq  | [W]              | [Btu/h]  | [kcal/h] |          |           |       | l                 | Ref. mass flow |             |            |
| [°C] | [°C]  | [°C] | [°C] | [W]   | [Btu/h]          | [kcal/h] | [W/W]    | [Btu/Wh] | [kcal/Wh] | [W]   | [A]               | [kg/h]         |             |            |
| -23  | 54  | 32   | 32   | 76,6  | 262              | 66,0     | 0,76     | 2,61     | 0,66      | 100,4 | 0,79              | 1,49           | ASHRAE LBP  |            |
| [°F] | -10   | 130  | 90   |       |                  |          |          |          |           |       |                   |                |             |            |
| -25  | 55  | 32   | 55   | 49,6  | 169              | 42,7     | 0,51     | 1,75     | 0,44      | 97,0  | 0,77              | 1,19           | cecomaf LBP |            |
| [°F] | -13   | 131  | 90   |       |                  |          |          |          |           |       |                   |                |             |            |
| -35  | 40  | 20   | 40   | 48,7  | 166              | 41,9     | 0,67     | 2,29     | 0,58      | 72,6  | 0,71              | 1,07           | EN12900 LBP |            |
| [°F] | -31   | 104  | 68   |       |                  |          |          |          |           |       |                   |                |             |            |
| -23  | 49  | 4,4  | 49   | 79,1  | 270              | 68,1     | 0,81     | 2,75     | 0,69      | 98,2  | 0,79              | 2,09           | ARI540 LBP  |            |
| [°F] | -10   | 120  | 40   |       |                  |          |          |          |           |       |                   |                |             |            |
| -23  | 41  | 32   | 32   | 123,8 | 423              | 106,5    | 1,28     | 4,39     | 1,11      | 96,3  | 0,80              | 2,40           | AHAM LBP    |            |
| [°F] | -10   | 105  | 90   |       |                  |          |          |          |           |       |                   |                |             |            |
| -35  | 45  | 32   | 45   | 33,9  | 116              | 29,1     | 0,45     | 1,55     | 0,39      | 74,5  | 0,70              | 0,73           | opt         |            |
| [°F] | -31   | 113  | 90   |       |                  |          |          |          |           |       |                   |                |             |            |

### Performance tables

R134a, 230V/60Hz, CSIR, fan 3m/s, VDE, UL, CCC

|                  | pe   |      | Cooling capacity |         |          | COP  | EER  | P1   | l     | m    |       |
|------------------|------|------|------------------|---------|----------|------|------|------|-------|------|-------|
|                  | [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] |      |      |      |       |      |       |
| [°C / °F]        | -15  | 5    | 162,3            | 554     | 139,7    | 1,36 | 4,64 | 1,17 | 119,5 | 0,87 | 3,54  |
| cond. pressure   | -10  | 14   | 207,1            | 707     | 178,2    | 1,54 | 5,26 | 1,33 | 134,5 | 0,92 | 4,53  |
| pc= 45/113       | -5   | 23   | 259,4            | 886     | 223,2    | 1,73 | 5,90 | 1,49 | 150,2 | 0,98 | 5,70  |
| return gas temp. | 0    | 32   | 320,3            | 1094    | 275,7    | 1,93 | 6,58 | 1,66 | 166,2 | 1,04 | 7,08  |
| RGT= 32/90       | 5    | 41   | 391,0            | 1335    | 336,5    | 2,15 | 7,33 | 1,85 | 182,2 | 1,10 | 8,71  |
| liquid temp      | 10   | 50   | 472,8            | 1615    | 406,9    | 2,39 | 8,17 | 2,06 | 197,7 | 1,16 | 10,61 |
| Tliq= 45/113     | 15   | 59   | 566,8            | 1936    | 487,8    | 2,67 | 9,11 | 2,30 | 212,4 | 1,22 | 12,84 |
| [°C / °F]        | -15  | 5    | 118,2            | 404     | 101,8    | 0,96 | 3,29 | 0,83 | 122,8 | 0,89 | 2,85  |
| cond. pressure   | -10  | 14   | 159,9            | 546     | 137,6    | 1,15 | 3,94 | 0,99 | 138,7 | 0,95 | 3,87  |
| pc= 55/131       | -5   | 23   | 208,0            | 710     | 179,0    | 1,33 | 4,55 | 1,15 | 156,0 | 1,02 | 5,06  |
| return gas temp  | 0    | 32   | 263,8            | 901     | 227,1    | 1,51 | 5,17 | 1,30 | 174,3 | 1,09 | 6,45  |
| RGT= 32/90       | 5    | 41   | 328,5            | 1122    | 282,7    | 1,70 | 5,80 | 1,46 | 193,3 | 1,16 | 8,09  |
| liquid temp      | 10   | 50   | 403,1            | 1377    | 346,9    | 1,90 | 6,48 | 1,63 | 212,5 | 1,23 | 10,02 |
| Tliq= 55/131     | 15   | 59   | 489,0            | 1670    | 420,9    | 2,11 | 7,21 | 1,82 | 231,6 | 1,31 | 12,28 |

## Model

|             |              |                      |                |             |                 |
|-------------|--------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>TL4GH</b> | <b>208-230V/60Hz</b> | <b>Conf. 4</b> | Sales code: | <b>102G4455</b> |
|-------------|--------------|----------------------|----------------|-------------|-----------------|

## Configuration

|                        |                  |        |
|------------------------|------------------|--------|
| Motorconfiguration     | CSIR             |        |
| Power supply (nominal) | 208-230V/60Hz 1~ |        |
| Refrigerant            | R513A            |        |
| Application            | MBP+HBP          |        |
| Voltage range          | 198-254V         |        |
| Starting torque        | HST              |        |
| Approvals              | VDE              |        |
|                        | UL               | SA3693 |
|                        | CCC              |        |

## Electrical accessories / wiring diagram

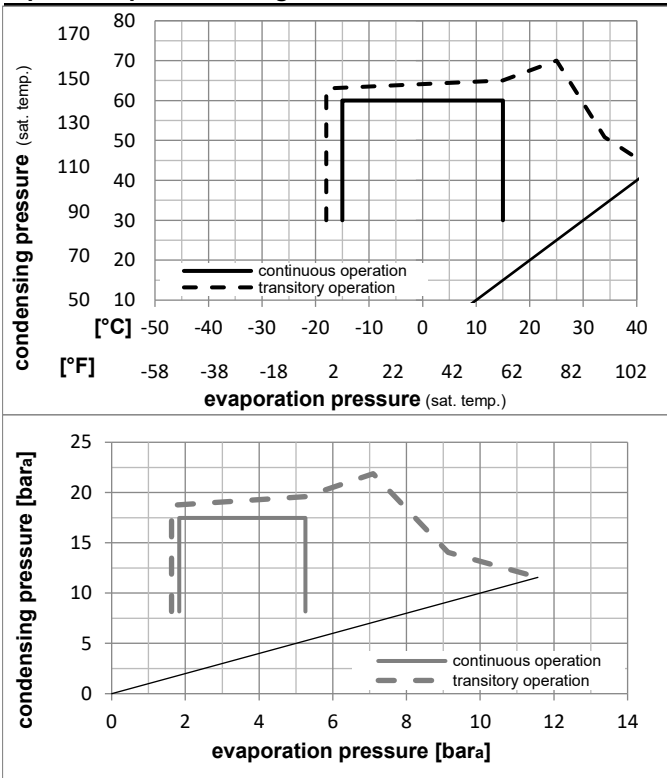


## Ambient/ machine room temperatures minimum /maximum

|                                 |                        |
|---------------------------------|------------------------|
| 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 Limits

## Operation pressure range



## Components

|    |                        |          |
|----|------------------------|----------|
| a2 | relay                  | 117U6000 |
| c  | start capacitor (60μF) | 117U5014 |
| d  | cord relief            | 103N1010 |
| b  | plastic cover          | 103N2011 |

### Model

|             |              |                      |                |             |                 |
|-------------|--------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>TL4GH</b> | <b>208-230V/60Hz</b> | <b>Conf. 4</b> | Sales code: | <b>102G4455</b> |
|-------------|--------------|----------------------|----------------|-------------|-----------------|

### Optimization + standard conditions

R513A, 230V/60Hz, CSIR, fan 3m/s, VDE, UL, CCC

|         | Evaporating pressure (saturation temperature) |     |     |       | Condensing pressure (saturation temperature) |         |          | Return gas temp. | Liquid temp. | Cooling capacity | COP  | EER  | Power consumption |   |   | ASHRAE LBP |  |
|---------|---|-----|-----|-------|--|---------|----------|------------------|--------------|------------------|------|------|-------------------|---|---|------------|--|
|         | pe  | pc  | RGT | Tliq  | [W]  | [Btu/h] | [kcal/h] |                  |              |                  |      |      | P1                | I | m |            |  |
| [°C]    |   |     |     |       |  |         |          |                  |              |                  |      |      |                   |   |   |            |  |
| [°F]    |   |     |     |       |  |         |          |                  |              |                  |      |      |                   |   |   |            |  |
| -23     | 54  | 32  | 32  | 85,9  | 293  | 73,9    | 0,80     | 2,72             | 0,69         | 107,7            | 0,82 | 1,85 | ASHRAE LBP        |   |   |            |  |
| -9,9994 | 130   | 90  | 90  |       |  |         |          |                  |              |                  |      |      |                   |   |   |            |  |
| -25     | 55  | 32  | 55  | 54,5  | 186  | 46,9    | 0,52     | 1,78             | 0,45         | 104,2            | 0,80 | 1,49 | cecomaf LBP       |   |   |            |  |
| -13     | 131   | 90  | 131 |       |  |         |          |                  |              |                  |      |      |                   |   |   |            |  |
| -35     | 40  | 20  | 40  | 56,2  | 192  | 48,4    | 0,73     | 2,50             | 0,63         | 76,7             | 0,70 | 1,39 | EN12900 LBP       |   |   |            |  |
| -31     | 104   | 68  | 104 |       |  |         |          |                  |              |                  |      |      |                   |   |   |            |  |
| -23     | 49  | 4,4 | 49  | 84,0  | 287  | 72,3    | 0,80     | 2,73             | 0,69         | 104,9            | 0,81 | 2,57 | ARI540 LBP        |   |   |            |  |
| -9,9994 | 120   | 40  | 120 |       |  |         |          |                  |              |                  |      |      |                   |   |   |            |  |
| -23     | 41  | 32  | 32  | 136,5 | 466  | 117,5   | 1,33     | 4,55             | 1,15         | 102,4            | 0,80 | 2,94 | AHAM LBP          |   |   |            |  |
| -9,9994 | 105   | 90  | 90  |       |  |         |          |                  |              |                  |      |      |                   |   |   |            |  |
| -35     | 45  | 32  | 45  | 40,2  | 137  | 34,6    | 0,51     | 1,73             | 0,44         | 79,1             | 0,71 | 0,98 | opt               |   |   |            |  |
| -31     | 113   | 90  | 113 |       |  |         |          |                  |              |                  |      |      |                   |   |   |            |  |

### Performance tables

R513A, 230V/60Hz, CSIR, fan 3m/s, VDE, UL, 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]        | -15  | 5    | 173,1            | 591     | 148,9    | 1,37  | 4,67     | 1,18      | 126,7 | 0,89 | 4,24   |
| cond. pressure   | -10  | 14   | 218,7            | 747     | 188,2    | 1,54  | 5,26     | 1,33      | 142,0 | 0,95 | 5,38   |
| pc= 45/113       | -5   | 23   | 271,5            | 927     | 233,7    | 1,72  | 5,87     | 1,48      | 157,9 | 1,01 | 6,70   |
| return gas temp. | 0    | 32   | 332,7            | 1136    | 286,4    | 1,91  | 6,53     | 1,65      | 174,0 | 1,08 | 8,25   |
| RGT= 32/90       | 5    | 41   | 403,5            | 1378    | 347,2    | 2,12  | 7,25     | 1,83      | 190,0 | 1,14 | 10,06  |
| liquid temp      | 10   | 50   | 484,8            | 1656    | 417,3    | 2,36  | 8,06     | 2,03      | 205,4 | 1,20 | 12,17  |
| Tliq= 45/113     | 15   | 59   | 578,0            | 1974    | 497,4    | 2,63  | 8,98     | 2,26      | 219,9 | 1,26 | 14,62  |
| [°C / °F]        | -15  | 5    | 124,5            | 425     | 107,1    | 0,95  | 3,25     | 0,82      | 130,8 | 0,91 | 3,43   |
| cond. pressure   | -10  | 14   | 166,4            | 568     | 143,2    | 1,13  | 3,87     | 0,97      | 146,9 | 0,97 | 4,60   |
| pc= 55/131       | -5   | 23   | 214,4            | 732     | 184,5    | 1,31  | 4,46     | 1,12      | 164,3 | 1,04 | 5,96   |
| return gas temp  | 0    | 32   | 269,7            | 921     | 232,1    | 1,48  | 5,04     | 1,27      | 182,7 | 1,11 | 7,53   |
| RGT= 32/90       | 5    | 41   | 333,3            | 1138    | 286,8    | 1,65  | 5,65     | 1,42      | 201,6 | 1,18 | 9,37   |
| liquid temp      | 10   | 50   | 406,5            | 1388    | 349,8    | 1,84  | 6,29     | 1,58      | 220,8 | 1,26 | 11,51  |
| Tliq= 55/131     | 15   | 59   | 490,3            | 1674    | 421,9    | 2,04  | 6,98     | 1,76      | 239,8 | 1,33 | 14,00  |



# 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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