

## Single Pack TFS4.5FT 115-127V 60Hz CSIR

Single pack code number: **195B4517**

| Position | Title   | Code     | Amount |
|----------|---|----------|--------|
| 1        | Compressor TFS4.5FT                                     | 102G3432 | 1      |
| 2        | Starting relay (overload protector MRP39AIL-6)          | 117U4126 | 1      |
| 3        | Starting capacitor (320 $\mu$ F 125V, 6.3mm)            | 117U5022 | 1      |
| 4        | Cord relief   | 117U0349 | 1      |
| 5        | Cover   | 117U1021 | 1      |
| 6        | Bolt joint for one compressor   M6   $\varnothing$ 16mm | 118-1917 | 1      |

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## Model

|             |                 |                  |             |                 |
|-------------|-----------------|------------------|-------------|-----------------|
| Designation | <b>TFS4.5FT</b> | 115-127V/60Hz 1~ | Sales code: | <b>102G3432</b> |
|-------------|-----------------|------------------|-------------|-----------------|

## Compressor design

|                            |                                 |                       |                                 |
|----------------------------|---------------------------------|-----------------------|---------------------------------|
| Oil type                   | Polyolester                     | Refrigerant(s)        | <b>R134a, R513A, 0</b>          |
| Oil viscosity              | 15cST                           | Displacement          | 4,63cm <sup>3</sup> / 0,28cu.in |
| Oil quantity               | 285cm <sup>3</sup> / 9,7fl.oz   | Compressors on pallet | 125                             |
| Refr. charge - tech. limit | 400g / 14,1oz                   |                       |                                 |
| Free gas volume comp.      | 1790cm <sup>3</sup> / 60,5fl.oz |                       |                                 |
| Weight                     | 6,7kg / 14,8lbs                 |                       |                                 |
| Motor protection           | external                        |                       |                                 |
| Winding resistance main    | 3,33Ω (at 25°C)                 |                       |                                 |
| Winding resistance aux     | 8,76Ω (at 25°C)                 |                       |                                 |
| Max. winding temp.         | 125°C / 257°F                   |                       |                                 |
| Max. discharge temp.       | 130°C / 266°F                   |                       |                                 |



## General - Configurations with TFS4.5FT

|                        | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------|----------------|----------------|
| Motorconfiguration     | CSIR           | RSIR           |
| Power supply (nominal) | 115-127V/60Hz  | 115-127V/60Hz  |
| Number of phases       | 1              | 1              |
| Voltage range          | 95-135V        | 95-135V        |
| Approvals              | UL             | UL             |
| Starting torque        | HST            | LST            |
| Note                   | - / -          |                |

## Applications with TFS4.5FT

|                         | <b>Conf. 1</b> | <b>Conf. 2</b> |
|-------------------------|----------------|----------------|
| Refrigerant             | R134a          | R134a          |
| Application             | LBP+MBP        | LBP+MBP        |
| System cooling          | fan 1,5m/s     | fan 1,5m/s     |
| Hot gas defrost         | -/-            | -/-            |
| Long interval pull down | OK             | OK             |

## Electrical data - Configurations with TFS4.5FT

|                                    | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------------------|----------------|----------------|
| Starting device type               | relay          | PTC            |
| Run capacitor                      | -/-            | -/-            |
| Start capacitor                    | 320μF          | -/-            |
| LRA (locked rotor amps / 4s/ U(N)) | 20,1A          |                |
| RLA (rated load amps / 1s/ U(N))   | 2,4A           | -/-A           |
| Cut in current (U(N))              | 20,1A          |                |

## Model

Designation

**TFS4.5FT**

115-127V/60Hz 1~

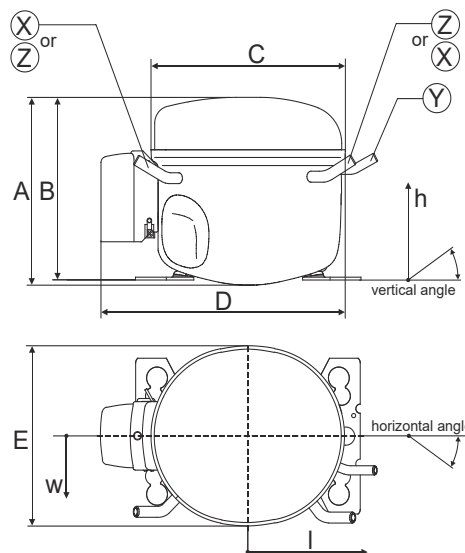
Sales code:

**102G3432**

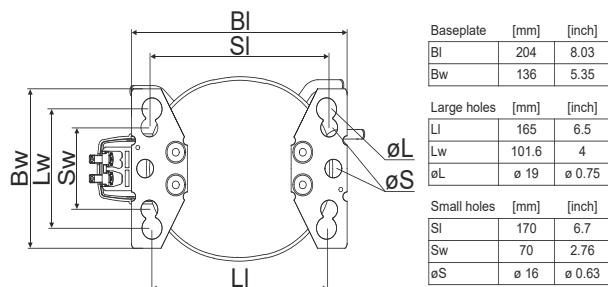
## Compressor dimensions

| Housing | A Height          | 173mm / 6,81in |
|---------|-------------------|----------------|
|         | B Height          | 169mm / 6,65in |
|         | 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 6,41-6,59 | øi 4,86-5,02 | øi 6,41-6,59 |
|                  | (i:inside, o:outside) [in] | øi 0,25-0,26 | øi 0,19-0,2  | øi 0,25-0,26 |
| Material         |                            | steel/CU     | steel/CU     | steel/CU     |
| Horizontal angle | ±2°                        | 0°           | 0°           | 0°           |
| Vertical angle   | ±2°                        | 150°         | 28°          | 31,5°        |
| Position l/h/w   | [mm]                       | -102/105/66  | 117/107/29   | 96/105/71    |
|                  | [in]                       | -4/4,1/2,6   | 4,6/4,2/1,1  | 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   |

## Application notes

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

### Model

|             |                 |                      |         |             |                 |
|-------------|-----------------|----------------------|---------|-------------|-----------------|
| Designation | <b>TFS4.5FT</b> | <b>115-127V/60Hz</b> | Conf. 1 | Sales code: | <b>102G3432</b> |
|-------------|-----------------|----------------------|---------|-------------|-----------------|

### Configuration

|                        |                  |
|------------------------|------------------|
| Motorconfiguration     | CSIR             |
| Power supply (nominal) | 115-127V/60Hz 1~ |
| Refrigerant            | R134a            |
| Application            | LBP+MBP          |
| Voltage range          | 95-135V          |
| Starting torque        | HST              |
| Approvals              | UL               |

### Electrical accessories / wiring diagram



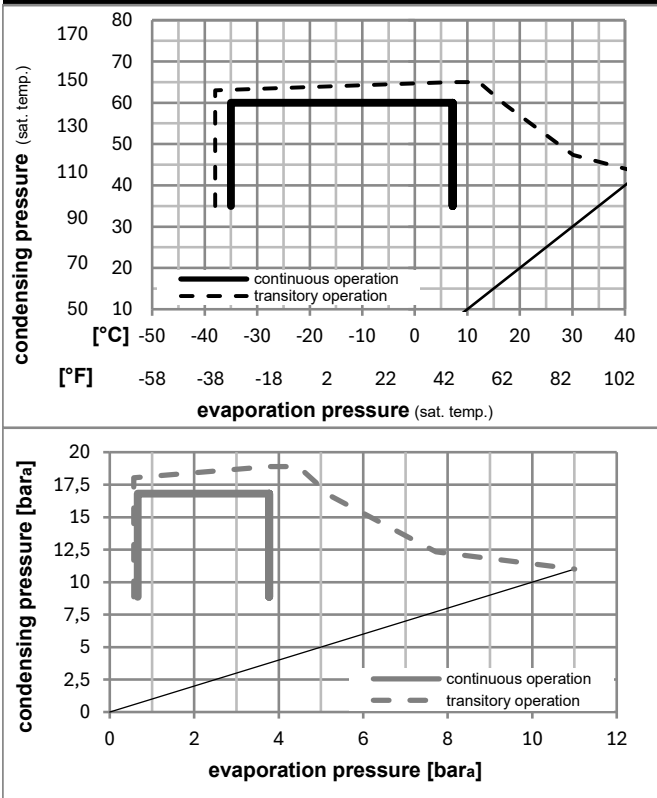
### Ambient/ machine room temperatures minimum /maximum

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

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

Compressor cooling: fan 1,5m/s

### Operation pressure range



### Components

|      |   |          |
|------|---|----------|
| a2   | assy. relay + ext. protector (MRP39AIL-6) | 117U4126 |
| c    | start capacitor (320µF)                   | 117U5022 |
| b    | plastic cover                             | 117U1021 |
| d/dc | cord relief                               | 117U0349 |
| d/dc | cord relief                               | 117U0349 |

### Alternative components

|   |               |          |
|---|---------------|----------|
| b | plastic cover | 117U1027 |
|---|---------------|----------|

## Model

Designation **TFS4.5FT** **115-127V/60Hz** Conf. 1 Sales code: **102G3432**

## Optimization + standard conditions

R134a, 115V/60Hz, CSIR, fan 1,5m/s, UL

|      | Evaporating pressure (saturation temperature) |     |     |      | Cooling capacity |         |          | COP  | EER  | P1   | Power consumption |      | ASHRAE LBP |             |
|------|---|-----|-----|------|------------------|---------|----------|------|------|------|-------------------|------|------------|-------------|
|      | pe  | pc  | RGT | Tliq | [W]              | [Btu/h] | [kcal/h] |      |      |      | I                 | m    |            |             |
| [°C] | -23   | 54  | 32  | 32   | 139,8            | 477     | 120,3    | 1,10 | 3,76 | 0,95 | 127,1             | 2,02 | 2,71       |             |
| [°F] | -10   | 130 | 90  | 90   |                  |         |          |      |      |      |                   |      |            |             |
| [°C] | -25   | 55  | 32  | 55   | 102,0            | 348     | 87,8     | 0,84 | 2,88 | 0,73 | 121,0             | 1,99 | 2,44       | cecomaf LBP |
| [°F] | -13   | 131 | 90  | 131  |                  |         |          |      |      |      |                   |      |            |             |
| [°C] | -35   | 40  | 20  | 40   | 82,3             | 281     | 70,8     | 0,88 | 3,01 | 0,76 | 93,5              | 1,87 | 1,81       | EN12900 LBP |
| [°F] | -31   | 104 | 68  | 104  |                  |         |          |      |      |      |                   |      |            |             |
| [°C] | -7  | 54  | 35  | 46   | 298,3            | 1019    | 256,7    | 1,51 | 5,17 | 1,30 | 197,2             | 2,41 | 6,51       | ASHRAE MBP  |
| [°F] | 20  | 130 | 95  | 115  |                  |         |          |      |      |      |                   |      |            |             |
| [°C] | -10   | 55  | 32  | 55   | 231,1            | 789     | 198,9    | 1,27 | 4,34 | 1,09 | 181,9             | 2,31 | 5,59       | cecomaf MBP |
| [°F] | 14  | 131 | 90  | 131  |                  |         |          |      |      |      |                   |      |            |             |
| [°C] | -10   | 45  | 20  | 45   | 259,1            | 885     | 223,0    | 1,47 | 5,03 | 1,27 | 176,1             | 2,28 | 6,07       | EN12900 MBP |
| [°F] | 14  | 113 | 68  | 113  |                  |         |          |      |      |      |                   |      |            |             |

## Performance tables

R134a, 115V/60Hz, CSIR, fan 1,5m/s, UL

|                  | pe   |      | Cooling capacity |         |          | COP  | EER      |           | P1    | I    | m     |
|------------------|------|------|------------------|---------|----------|------|----------|-----------|-------|------|-------|
|                  | [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] |      | [Btu/Wh] | [kcal/Wh] |       |      |       |
| [°C / °F]        | -35  | -31  | 75,0             | 256     | 64,5     | 0,81 | 2,78     | 0,70      | 92,1  | 1,87 | 1,62  |
| cond. pressure   | -23  | -10  | 141,0            | 481     | 121,3    | 1,12 | 3,81     | 0,96      | 126,3 | 2,00 | 3,06  |
| pc= 45/113       | -15  | 5    | 214,2            | 732     | 184,4    | 1,37 | 4,69     | 1,18      | 156,0 | 2,16 | 4,67  |
| return gas temp. | -9   | 15   | 275,4            | 941     | 237,0    | 1,54 | 5,27     | 1,33      | 178,4 | 2,29 | 6,03  |
| RGT= 32/90       | -4   | 25   | 346,7            | 1184    | 298,4    | 1,71 | 5,83     | 1,47      | 202,9 | 2,47 | 7,63  |
| liquid temp      | 0    | 32   | 402,6            | 1375    | 346,5    | 1,82 | 6,21     | 1,56      | 221,4 | 2,61 | 8,90  |
| Tliq= 45/113     | 7,2  | 45   | 519,9            | 1776    | 447,5    | 2,01 | 6,86     | 1,73      | 258,7 | 2,93 | 11,61 |
| [°C / °F]        | -35  | -31  | 56,0             | 191     | 48,2     | 0,64 | 2,17     | 0,55      | 88,0  | 1,87 | 1,33  |
| cond. pressure   | -23  | -10  | 112,8            | 385     | 97,0     | 0,89 | 3,03     | 0,76      | 127,1 | 2,02 | 2,70  |
| pc= 55/131       | -15  | 5    | 179,9            | 614     | 154,8    | 1,12 | 3,84     | 0,97      | 160,1 | 2,18 | 4,33  |
| return gas temp  | -9   | 15   | 237,3            | 810     | 204,2    | 1,29 | 4,39     | 1,11      | 184,5 | 2,32 | 5,74  |
| RGT= 32/90       | -4   | 25   | 304,8            | 1041    | 262,3    | 1,45 | 4,94     | 1,24      | 210,9 | 2,50 | 7,42  |
| liquid temp      | 0    | 32   | 358,3            | 1224    | 308,3    | 1,55 | 5,30     | 1,34      | 230,7 | 2,64 | 8,76  |
| Tliq= 55/131     | 7,2  | 45   | 471,2            | 1609    | 405,5    | 1,74 | 5,96     | 1,50      | 270,2 | 2,96 | 11,65 |

## Model

|             |                 |                      |                |             |                 |
|-------------|-----------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>TFS4.5FT</b> | <b>115-127V/60Hz</b> | <b>Conf. 2</b> | Sales code: | <b>102G3432</b> |
|-------------|-----------------|----------------------|----------------|-------------|-----------------|

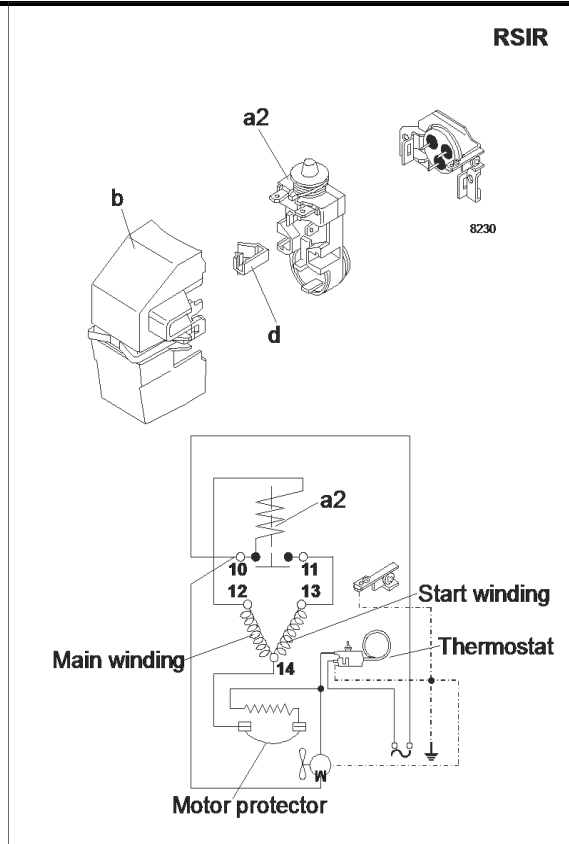
## Configuration

|                        |                  |
|------------------------|------------------|
| Motorconfiguration     | RSIR             |
| Power supply (nominal) | 115-127V/60Hz 1~ |
| Refrigerant            | R134a            |
| Application            | LBP+MBP          |
| Voltage range          | 95-135V          |
| Starting torque        | LST              |
| Approvals              | UL               |

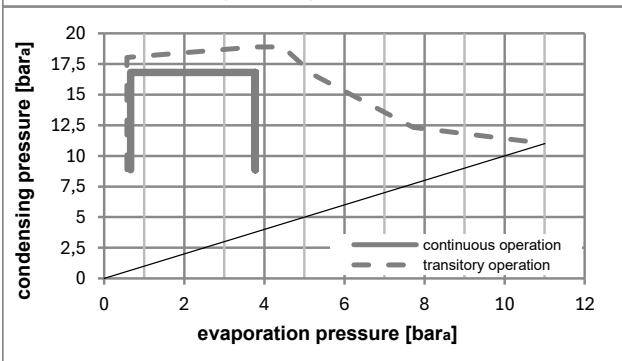
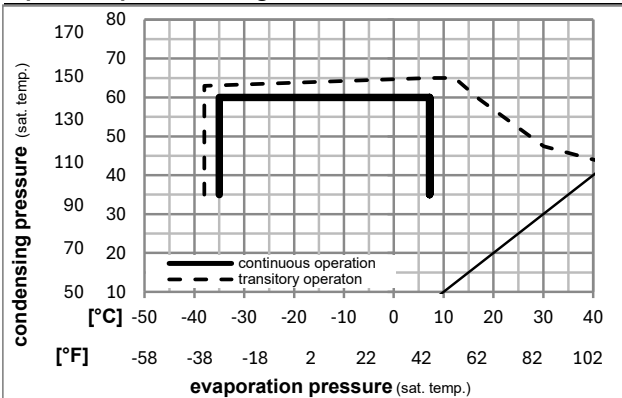
## Electrical accessories / wiring diagram

### 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 1,5m/s             |



### Operation pressure range



### Components

|      |   |          |
|------|---|----------|
| a2   | assy. relay + ext. protector (MRP39AIL-6) | 117U4113 |
| b    | plastic cover                             | 117U1021 |
| d/dc | cord relief                               | 117U0349 |

### Model

Designation **TFS4.5FT** **115-127V/60Hz** Conf. 2 Sales code: **102G3432**

### Optimization + standard conditions

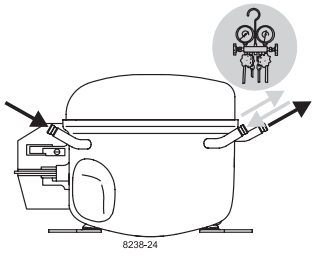
R134a, 115V/60Hz, RSIR, fan 1,5m/s, UL

|  | pe   | pc   | RGT  | Tliq | Cooling capacity | COP   | EER       | P1    | I    | Ref. mass flow |             |
|--|------|------|------|------|------------------|-------|-----------|-------|------|----------------|-------------|
|  | [°C] | [°C] | [°C] | [°C] | [W]              | [W/W] | [Btu/Wh]  | [W]   | [A]  | [kg/h]         |             |
|  | -23  | 54   | 32   | 32   | 139,8            | 1,10  | 3,76      | 127,1 | 2,02 | 2,71           | ASHRAE LBP  |
|  | [°F] |      |      |      | [Btu/h]          |       | [kcal/h]  |       |      |                |             |
|  | -10  | 130  | 90   | 90   | 477              | 1,10  | 3,76      | 127,1 | 2,02 | 2,71           |             |
|  |      |      |      |      | [kcal/h]         |       | [kcal/Wh] |       |      |                |             |
|  |      |      |      |      | 139,8            | 1,10  | 3,76      | 127,1 | 2,02 | 2,71           |             |
|  |      |      |      |      | 477              | 1,10  | 3,76      | 127,1 | 2,02 | 2,71           |             |
|  |      |      |      |      | 120,3            | 1,10  | 3,76      | 127,1 | 2,02 | 2,71           |             |
|  |      |      |      |      | 102,0            | 0,84  | 2,88      | 121,0 | 1,99 | 2,44           | cecomaf LBP |
|  |      |      |      |      | 348              | 0,84  | 2,88      | 121,0 | 1,99 | 2,44           |             |
|  |      |      |      |      | 87,8             | 0,84  | 2,88      | 121,0 | 1,99 | 2,44           |             |
|  |      |      |      |      | 102,0            | 0,84  | 2,88      | 121,0 | 1,99 | 2,44           |             |
|  |      |      |      |      | 348              | 0,84  | 2,88      | 121,0 | 1,99 | 2,44           |             |
|  |      |      |      |      | 87,8             | 0,84  | 2,88      | 121,0 | 1,99 | 2,44           |             |
|  |      |      |      |      | 82,3             | 0,88  | 3,01      | 93,5  | 1,87 | 1,81           | EN12900 LBP |
|  |      |      |      |      | 281              | 0,88  | 3,01      | 93,5  | 1,87 | 1,81           |             |
|  |      |      |      |      | 70,8             | 0,88  | 3,01      | 93,5  | 1,87 | 1,81           |             |
|  |      |      |      |      | 82,3             | 0,88  | 3,01      | 93,5  | 1,87 | 1,81           |             |
|  |      |      |      |      | 298,3            | 1,51  | 5,17      | 197,2 | 2,41 | 6,51           | ASHRAE MBP  |
|  |      |      |      |      | 1019             | 1,51  | 5,17      | 197,2 | 2,41 | 6,51           |             |
|  |      |      |      |      | 256,7            | 1,51  | 5,17      | 197,2 | 2,41 | 6,51           |             |
|  |      |      |      |      | 298,3            | 1,51  | 5,17      | 197,2 | 2,41 | 6,51           |             |
|  |      |      |      |      | 231,1            | 1,27  | 4,34      | 181,9 | 2,31 | 5,59           | cecomaf MBP |
|  |      |      |      |      | 789              | 1,27  | 4,34      | 181,9 | 2,31 | 5,59           |             |
|  |      |      |      |      | 198,9            | 1,27  | 4,34      | 181,9 | 2,31 | 5,59           |             |
|  |      |      |      |      | 231,1            | 1,27  | 4,34      | 181,9 | 2,31 | 5,59           |             |
|  |      |      |      |      | 259,1            | 1,47  | 5,03      | 176,1 | 2,28 | 6,07           | EN12900 MBP |
|  |      |      |      |      | 885              | 1,47  | 5,03      | 176,1 | 2,28 | 6,07           |             |
|  |      |      |      |      | 223,0            | 1,47  | 5,03      | 176,1 | 2,28 | 6,07           |             |
|  |      |      |      |      | 259,1            | 1,47  | 5,03      | 176,1 | 2,28 | 6,07           |             |

### Performance tables

R134a, 115V/60Hz, RSIR, fan 1,5m/s, UL

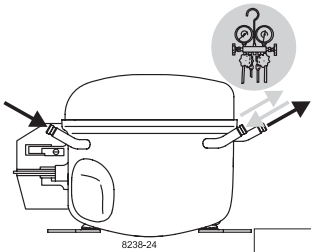
|                  | pe   | Cooling capacity |       |         | COP      | EER   | P1       | I         | m     |      |        |
|------------------|------|------------------|-------|---------|----------|-------|----------|-----------|-------|------|--------|
|                  | [°C] | [°F]             | [W]   | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | [W]   | [A]  | [kg/h] |
| [°C / °F]        | -35  | -31              | 75,0  | 256     | 64,5     | 0,81  | 2,78     | 0,70      | 92,1  | 1,87 | 1,62   |
| cond. pressure   | -23  | -10              | 141,0 | 481     | 121,3    | 1,12  | 3,81     | 0,96      | 126,3 | 2,00 | 3,06   |
| pc= 45/113       | -15  | 5                | 214,2 | 732     | 184,4    | 1,37  | 4,69     | 1,18      | 156,0 | 2,16 | 4,67   |
| return gas temp. | -9   | 15               | 275,4 | 941     | 237,0    | 1,54  | 5,27     | 1,33      | 178,4 | 2,29 | 6,03   |
| RGT= 32/90       | -4   | 25               | 346,7 | 1184    | 298,4    | 1,71  | 5,83     | 1,47      | 202,9 | 2,47 | 7,63   |
| liquid temp      | 0    | 32               | 402,6 | 1375    | 346,5    | 1,82  | 6,21     | 1,56      | 221,4 | 2,61 | 8,90   |
| Tliq= 45/113     | 7,2  | 45               | 519,9 | 1776    | 447,5    | 2,01  | 6,86     | 1,73      | 258,7 | 2,93 | 11,61  |
| [°C / °F]        | -35  | -31              | 56,0  | 191     | 48,2     | 0,64  | 2,17     | 0,55      | 88,0  | 1,87 | 1,33   |
| cond. pressure   | -23  | -10              | 112,8 | 385     | 97,0     | 0,89  | 3,03     | 0,76      | 127,1 | 2,02 | 2,70   |
| pc= 55/131       | -15  | 5                | 179,9 | 614     | 154,8    | 1,12  | 3,84     | 0,97      | 160,1 | 2,18 | 4,33   |
| return gas temp  | -9   | 15               | 237,3 | 810     | 204,2    | 1,29  | 4,39     | 1,11      | 184,5 | 2,32 | 5,74   |
| RGT= 32/90       | -4   | 25               | 304,8 | 1041    | 262,3    | 1,45  | 4,94     | 1,24      | 210,9 | 2,50 | 7,42   |
| liquid temp      | 0    | 32               | 358,3 | 1224    | 308,3    | 1,55  | 5,30     | 1,34      | 230,7 | 2,64 | 8,76   |
| Tliq= 55/131     | 7,2  | 45               | 471,2 | 1609    | 405,5    | 1,74  | 5,96     | 1,50      | 270,2 | 2,96 | 11,65  |



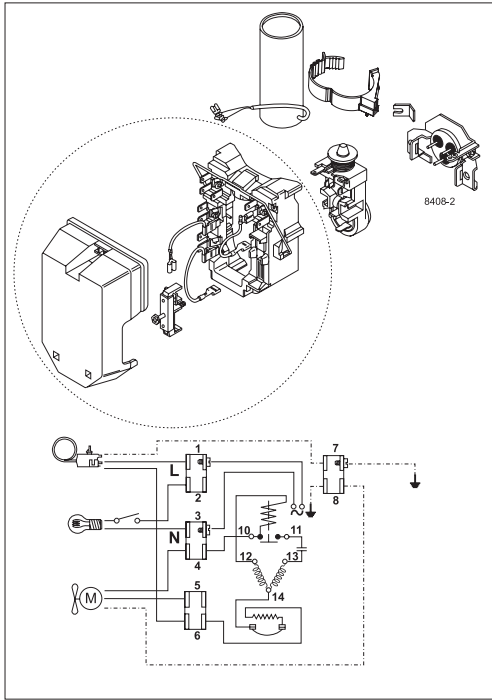
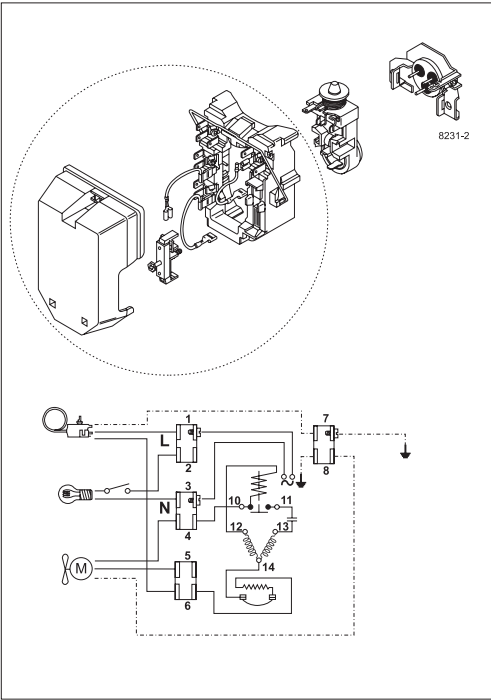
# TF Compressors







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