

Model  
NL7F

Sales code:  
105G6706

Compressor Data

|                            |                      |
|----------------------------|----------------------|
| Refrigerant(s)             | R134a                |
| Refr. charge - tech. limit | 400g / 14.11oz       |
| Weight                     | 9.60 kg / 21.16lbs   |
| Displacement               | 7.27 cm3 / 0.44cu.in |
| Compressors on pallet      | 80                   |



General – Configurations With NL7F

| -                      | Conf. 1         | Conf. 2         |
|------------------------|-----------------|-----------------|
| Motor configuration    | CSIR            | RSIR            |
| Power supply (nominal) | 220-240 V/50 Hz | 220-240 V/50 Hz |
| Number of phases       | 1               | 1               |
| Voltage range          | 198-254 V       | 198-254 V       |
| Approvals              | VDE, EAC        | VDE, EAC        |
| Starting torque        | HST             | LST             |
| Refrigerant            | R134a           | R134a           |
| Application            | LBP             | LBP             |

Application Notes

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

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### Compressor Design

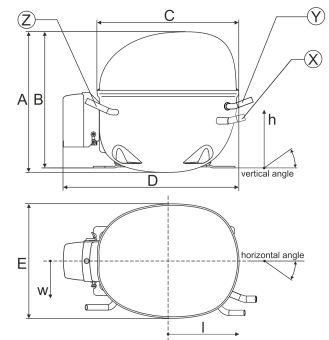
|                       |                                    |                         |               |
|-----------------------|------------------------------------|-------------------------|---------------|
| Oil type              | POE                                | Winding resistance main | 13.3 Ohm      |
| Oil viscosity         | 19,2cSt                            | Winding resistance aux  | 14.1 Ohm      |
| Oil quantity          | 265 / 8.96fl.oz                    | Max. winding temp.      | 125 °C        |
| Free gas volume comp. | 2,180 cm <sup>3</sup> / 73.71fl.oz | Max. discharge temp.    | 130°C / 266°F |
| Motor protection      | internal                           |                         |               |

### Compressor Dimensions

#### Housing

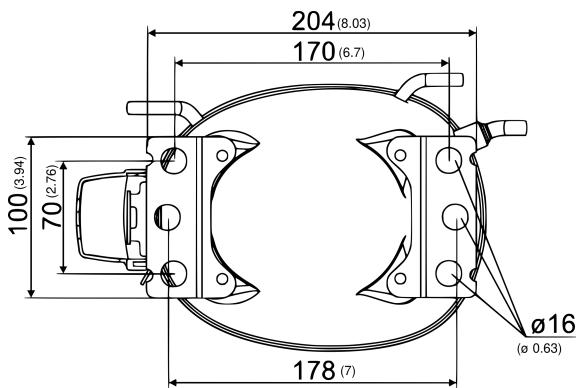
|                   |                  |
|-------------------|------------------|
| A Height          | 189.5mm / 7.46in |
| B Height          | 183.5mm / 7.22in |
| C Length shell    | 205mm / 8.07in   |
| D Length w. cover | 254mm / 10.00in  |
| E Width           | 166mm / 6.54in   |

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| Connectors            | Suction X                        | Discharge Y                     | Process Z                        |
|-----------------------|----------------------------------|---------------------------------|----------------------------------|
| Diameter [mm]         | øi 6.11–6.29 / 0.24–0.25in       | øi 5.12–5.22 / 0.20–0.21in      | øi 6.11–6.29 / 0.24–0.25in       |
| Material              | CU                               | CU                              | CU                               |
| Horizontal angle ±2°  | 0°                               | 0°                              | 0°                               |
| Vertical angle ±2°    | 15°                              | 35°                             | 155°                             |
| Position l/h/w [mm]   | 125.5/75.5/78 / 4.94/2.97/3.07in | 133/102.5/54 / 5.24/4.04/2.13in | -107/93.5/72 / -4.21/3.68/2.83in |
| Straight tube l. [mm] | 12 / 0.47in                      | 12 / 0.47in                     | 12 / 0.47in                      |

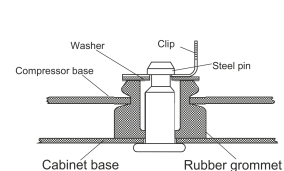
### Mounting Accessories



#### Bolt joint



#### Snap-on



Dimensions in mm [in]

|                            | one comp. | multi pack |
|----------------------------|-----------|------------|
| Bolt joint   M6   Ø16mm    | 118-1917  | 118-1918   |
| Bolt joint   Ø1/4"   Ø16mm | 118-1946  | –          |
| Snap-on   Ø7,3   Ø16mm     | 118-1947  | 118-1919   |

Model

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Configuration 1

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### Configuration

|                                    |                           |
|------------------------------------|---------------------------|
| Motor configuration                | <b>CSIR</b>               |
| Power supply (nominal)             | <b>220-240 V/50 Hz 1~</b> |
| Refrigerant                        | <b>R134a</b>              |
| Application                        | <b>LBP</b>                |
| Voltage range                      | <b>198-254 V</b>          |
| Starting torque                    | <b>HST</b>                |
| Approvals                          | <b>VDE, EAC</b>           |
| Starting device type               | <b>relay</b>              |
| Run capacitor                      | <b>-/-</b>                |
| Start capacitor                    | <b>80 µF</b>              |
| LRA (locked rotor amps / 4s/ U(N)) | <b>5.9 A</b>              |
| RLA (rated load amps / 1s/ U(N))   | <b>1.2 A</b>              |
| Cut in current (U(N))              | <b>10.4 A</b>             |

### Ambient/ machine room temperatures minimum /maximum

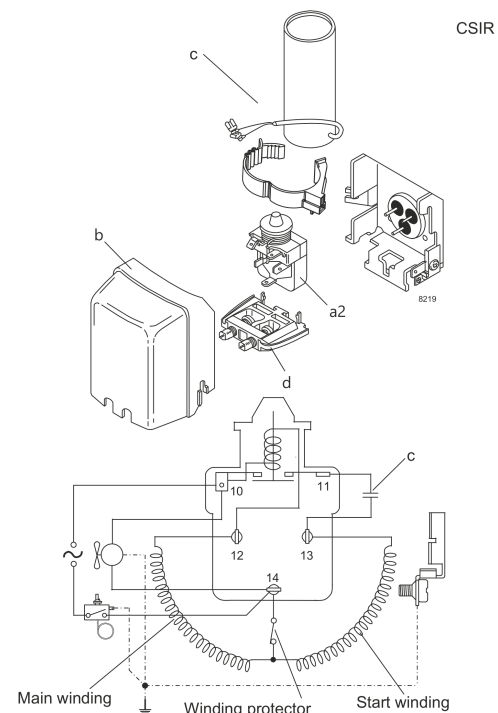
Ambient temperature range: 10 - 38°C / 50 - 100°F

Machine room temp. compressor: 10 - 43°C / 50 - 109°F

### System Cooling

static

### Electrical Accessories / Wiring Diagram



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### Components

**a2** relay 117U6000

**c** start capacitor (80µF) 117U5015

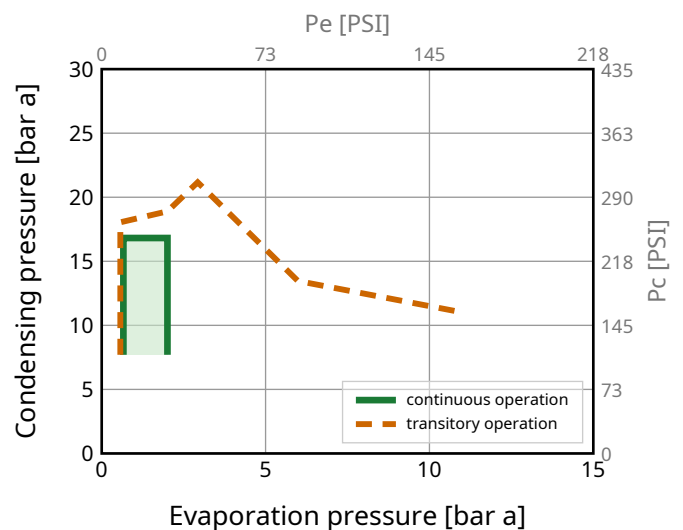
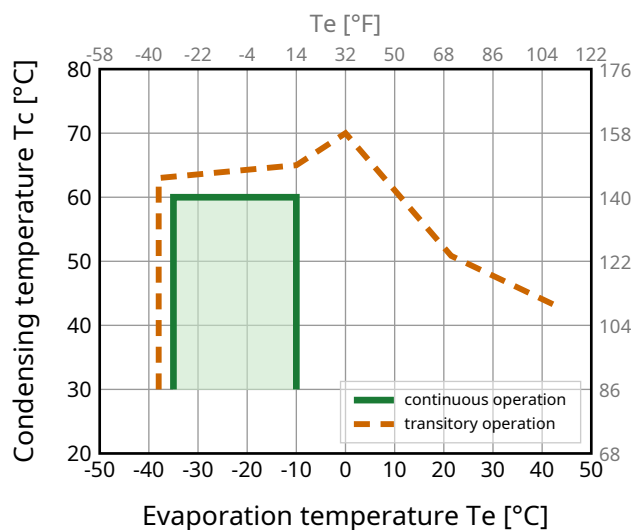
**b** plastic cover 103N2010

**d** cord relief 103N1010

### Alternative components

**b** plastic cover 103N2011

### Operation Pressure Range



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Configuration 1

Sales code:  
105G6706

Standard Conditions

R134a, 220 V/50 Hz, CSIR, static

| pe           | pc            | RGT          | Tliq          | Cooling capacity |         |          | COP   | EER      | P   | I    | m      |             |
|--------------|---------------|--------------|---------------|------------------|---------|----------|-------|----------|-----|------|--------|-------------|
| [°C]<br>[°F] | [°C]<br>[°F]  | [°C]<br>[°F] | [°C]<br>[°F]  | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W] | [A]  | [kg/h] |             |
| -23.3<br>-10 | 54.4<br>129.9 | 32.2<br>90   | 32.2<br>90    | 186              | 635     | 160      | 1.21  | 4.11     | 154 | 1.04 | 3.61   | ASHRAE LBP  |
| -25<br>-13   | 55<br>131     | 32<br>89.6   | 55<br>131     | 136              | 464     | 117      | 0.93  | 3.18     | 146 | 1.02 | 3.25   | CECOMAF LBP |
| -35<br>-31   | 40<br>104     | 20<br>68     | 40<br>104     | 90               | 306     | 77       | 0.86  | 2.94     | 104 | 0.97 | 1.96   | EN12900 LBP |
| -23.3<br>-10 | 48.8<br>119.8 | 4.4<br>39.9  | 48.8<br>119.8 | 155              | 529     | 133      | 1.03  | 3.52     | 150 | 1.02 | 4.06   | ARI540 LBP  |
| -23.3<br>-10 | 40.6<br>105.1 | 32.2<br>90   | 32.2<br>90    | 210              | 716     | 180      | 1.45  | 4.94     | 145 | 1.01 | 4.07   | AHAM LBP    |
| -35<br>-31   | 45<br>113     | 32<br>89.6   | 45<br>113     | 84               | 287     | 72       | 0.83  | 2.84     | 101 | 0.95 | 1.81   | opt LBP     |

Performance Tables

R134a, 220 V/50 Hz, CSIR, static

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

| pe   |      | Cooling capacity |         |          | COP   | EER      | P   | I    | m      |
|------|------|------------------|---------|----------|-------|----------|-----|------|--------|
| [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W] | [A]  | [kg/h] |
| -35  | -31  | 84               | 287     | 72       | 0.83  | 2.84     | 101 | 0.95 | 1.81   |
| -30  | -22  | 120              | 408     | 103      | 1.00  | 3.40     | 120 | 0.96 | 2.58   |
| -25  | -13  | 164              | 559     | 141      | 1.17  | 3.99     | 140 | 1.00 | 3.54   |
| -20  | -4   | 217              | 741     | 187      | 1.34  | 4.58     | 162 | 1.05 | 4.71   |
| -15  | 5    | 280              | 955     | 241      | 1.51  | 5.14     | 186 | 1.13 | 6.09   |
| -10  | 14   | 352              | 1201    | 303      | 1.66  | 5.67     | 212 | 1.24 | 7.69   |

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

|     |     |     |      |     |      |      |     |      |      |
|-----|-----|-----|------|-----|------|------|-----|------|------|
| -35 | -31 | 71  | 242  | 61  | 0.73 | 2.49 | 97  | 0.92 | 1.68 |
| -30 | -22 | 99  | 338  | 85  | 0.82 | 2.80 | 121 | 0.96 | 2.35 |
| -25 | -13 | 136 | 464  | 117 | 0.93 | 3.18 | 146 | 1.02 | 3.25 |
| -20 | -4  | 182 | 622  | 157 | 1.06 | 3.61 | 173 | 1.10 | 4.36 |
| -15 | 5   | 238 | 812  | 205 | 1.18 | 4.04 | 201 | 1.20 | 5.71 |
| -10 | 14  | 303 | 1034 | 261 | 1.31 | 4.46 | 232 | 1.33 | 7.30 |

Model

NL7F

Configuration 2

Sales code:

105G6706

Configuration

|                                    |                    |
|------------------------------------|--------------------|
| Motor configuration                | RSIR               |
| Power supply (nominal)             | 220-240 V/50 Hz 1~ |
| Refrigerant                        | R134a              |
| Application                        | LBP                |
| Voltage range                      | 198-254 V          |
| Starting torque                    | LST                |
| Approvals                          | VDE, EAC           |
| Starting device type               | PTC                |
| Run capacitor                      | -/-                |
| Start capacitor                    | -/-                |
| LRA (locked rotor amps / 4s/ U(N)) | 5.9 A              |
| RLA (rated load amps / 1s/ U(N))   | 1.2 A              |
| Cut in current (U(N))              | 10.4 A             |

Ambient/ machine room temperatures minimum /maximum

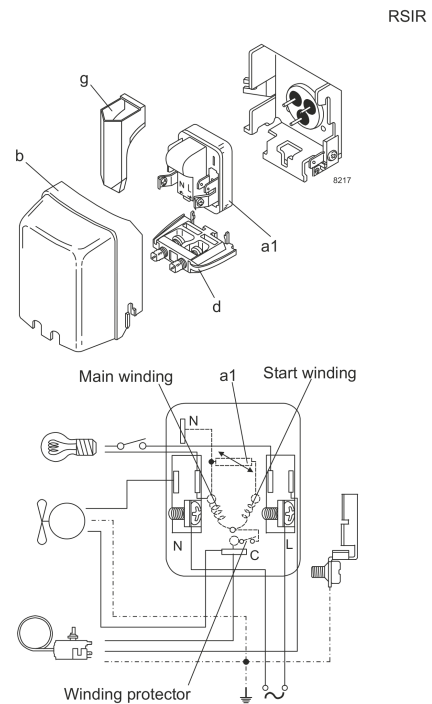
Ambient temperature range: 10 - 38°C / 50 - 100°F

Machine room temp. compressor: 10 - 43°C / 50 - 109°F

System Cooling

static

Electrical Accessories / Wiring Diagram



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Components

a1 PTC starter (220V, 250Ohm, 4.8mm) 103N0018

b plastic cover 103N2010

d cord relief 103N1010

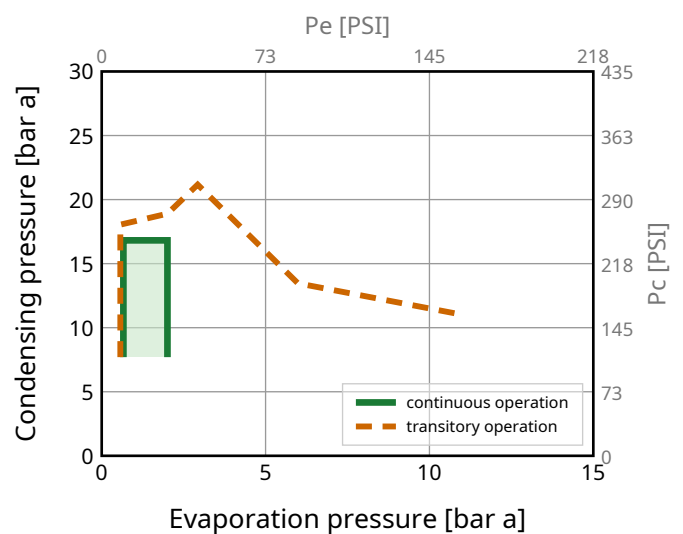
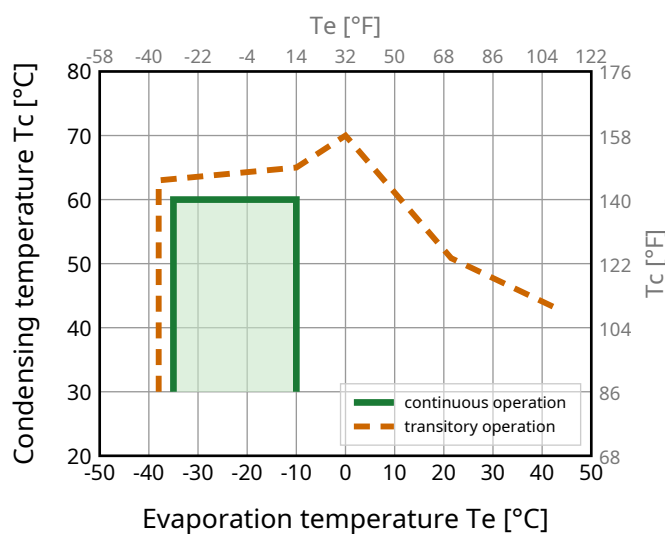
g protection screen for PTC 103N0476

Alternative components

a1 PTC starter (220V, 250Ohm, 6.3mm) 103N0011

b plastic cover 103N2011

Operation Pressure Range



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Configuration 2

Sales code:  
105G6706

Standard Conditions

R134a, 220 V/50 Hz, RSIR, static

| pe           | pc            | RGT          | Tliq          | Cooling capacity |         |          | COP   | EER      | P   | I    | m      |             |
|--------------|---------------|--------------|---------------|------------------|---------|----------|-------|----------|-----|------|--------|-------------|
| [°C]<br>[°F] | [°C]<br>[°F]  | [°C]<br>[°F] | [°C]<br>[°F]  | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W] | [A]  | [kg/h] |             |
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| -25<br>-13   | 55<br>131     | 32<br>89.6   | 55<br>131     | 136              | 464     | 117      | 0.93  | 3.18     | 146 | 1.02 | 3.25   | CECOMAF LBP |
| -35<br>-31   | 40<br>104     | 20<br>68     | 40<br>104     | 90               | 306     | 77       | 0.86  | 2.94     | 104 | 0.97 | 1.96   | EN12900 LBP |
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Performance Tables

R134a, 220 V/50 Hz, RSIR, static

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

| pe   |      | Cooling capacity |         |          | COP   | EER      | P   | I    | m      |
|------|------|------------------|---------|----------|-------|----------|-----|------|--------|
| [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W] | [A]  | [kg/h] |
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| -30  | -22  | 120              | 408     | 103      | 1.00  | 3.40     | 120 | 0.96 | 2.58   |
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pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

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| -35 | -31 | 71  | 242  | 61  | 0.73 | 2.49 | 97  | 0.92 | 1.68 |
| -30 | -22 | 99  | 338  | 85  | 0.82 | 2.80 | 121 | 0.96 | 2.35 |
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