Single
Packs

# Single Pack NL7F 220-240V 50Hz CSIR

Single pack code number: **195B4397**

| Position | Title | Code | Amount |
|---|---|---|---|
| 1 | Compressor NL7F | 105G6706 | 1 |
| 2 | Starting relay | 117U6000 | 1 |
| 3 | Starting capacitor (80µF 220V, 6.3mm) | 117U5015 | 1 |
| 4 | Cord relief | 103N1010 | 1 |
| 5 | Cover | 103N2010 | 1 |
| 6 | Bolt joint for one compressor \| M6 \| ø16mm | 118-1917 | 1 |

**Secop GmbH** • Lise-Meitner-Straße 29 • 24941 Flensburg, Germany • Tel: +49 461 4941 0 • **www.secop.com**

Secop accepts no responsibility for possible errors in catalogs, brochures, and other printed material. Secop reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary to specifications already agreed. All trademarks in this material are the property of the respective companies. Secop and the Secop logotype are trademarks of Secop GmbH. All rights reserved.

**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

**Model**
**NL7F**

Sales code:
**105G6706**

## Compressor Design

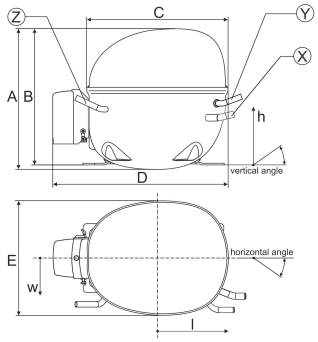
| | | | |
|---|---|---|---|
| Oil type | **POE** | Winding resistance main | **13.3 Ohm** |
| Oil viscosity | **19,2cSt** | Winding resistance aux | **14.1 Ohm** |
| Oil quantity | **265 / 8.96fl.oz** | Max. winding temp. | **125 °C** |
| Free gas volume comp. | **2,180 cm3 / 73.71fl.oz** | Max. discharge temp. | **130°C / 266°F** |
| Motor protection | **internal** | | |

## Compressor Dimensions

**Housing**

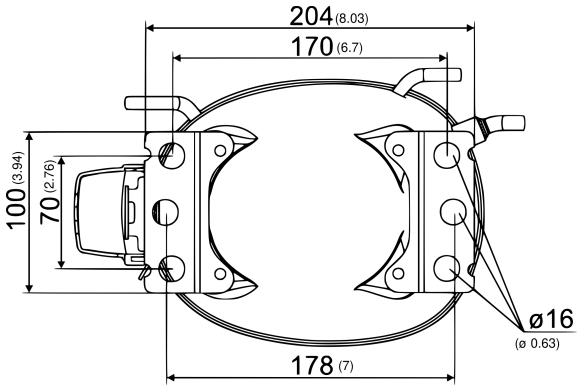
| | |
|---|---|
| A Height | **189.5mm / 7.46in** |
| B Height | **183.5mm / 7.22in** |
| C Length shell | **205mm / 8.07in** |
| D Length w. cover | **254mm / 10.00in** |
| E Width | **166mm / 6.54in** |

Find 3D Model here



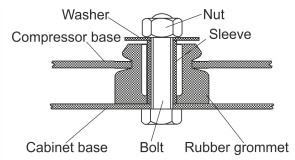

| Connectors | Suction X | Discharge Y | Process Z |
|---|---|---|---|
| Diameter [mm] | øi 6.11–6.29 / 0.24–0.25in | øi 5.12–5.22 / 0.20–0.21in | øi 6.11–6.29 / 0.24–0.25in |
| Material | CU | CU | CU |
| Horizontal angle ±2° | 0° | 0° | 0° |
| Vertical angle ±2° | 15° | 35° | 155° |
| Position l/h/w [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

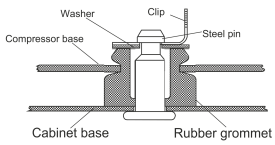



Dimensions in mm [in]

Bolt joint




Snap-on




| | 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**
**NL7F** Configuration 1

Sales code:
**105G6706**

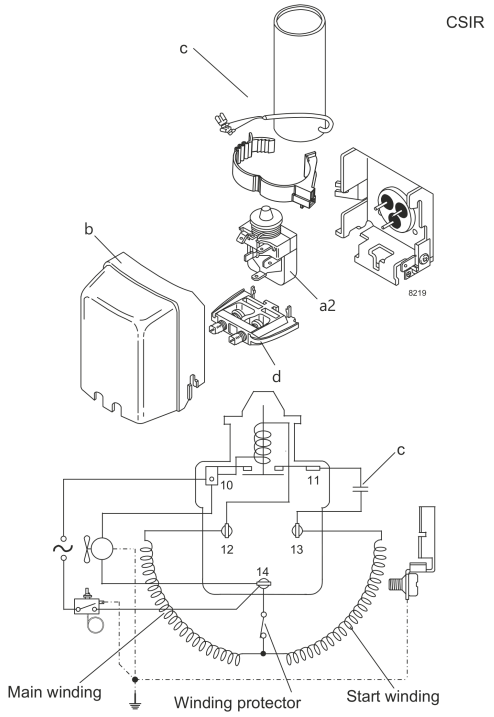
## Configuration

| | |
|---|---|
| Motor configuration | **CSIR** |
| Power supply (nominal) | **220-240 V/50 Hz 1~** |
| Refrigerant | **R134a** |
| Application | **LBP** |
| Voltage range | **198-254 V** |
| Starting torque | **HST** |
| Approvals | **VDE, EAC** |
| Starting device type | **relay** |
| Run capacitor | **-/-** |
| Start capacitor | **80 µF** |
| 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

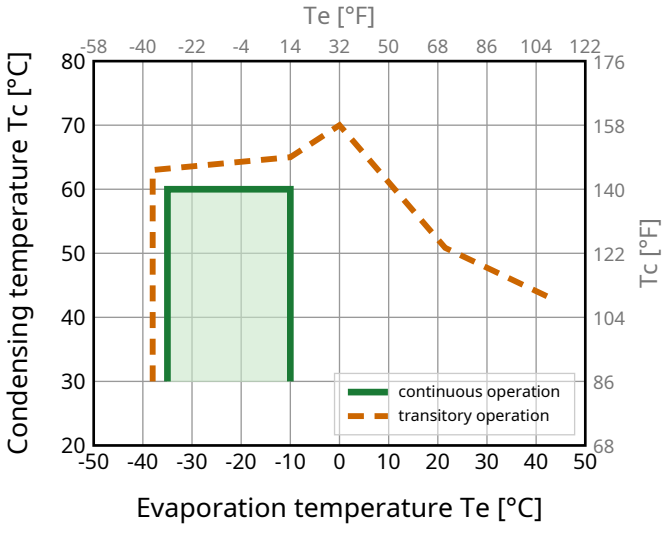


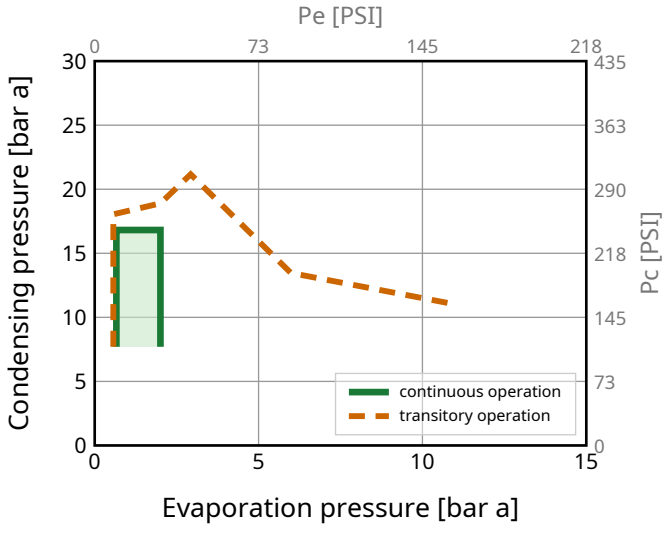

View full size

**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



**Model** Sales code:

**NL7F** Configuration 1 **105G6706**

## Standard Conditions

**R134a**, 220 V/50 Hz, CSIR, static

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

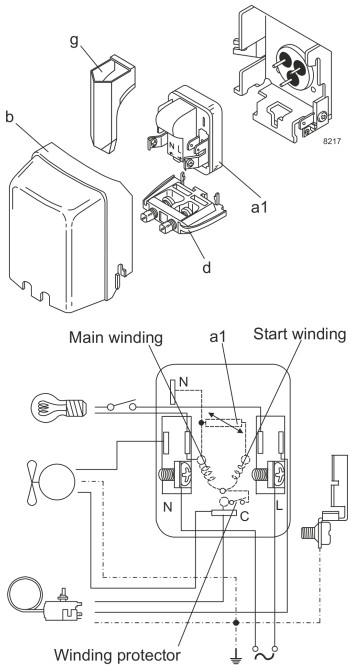
| | |
|---|---|
| Motor configuration | **RSIR** |
| Power supply (nominal) | **220-240 V/50 Hz 1~** |
| Refrigerant | **R134a** |
| Application | **LBP** |
| Voltage range | **198-254 V** |
| Starting torque | **LST** |
| Approvals | **VDE, EAC** |
| Starting device type | **PTC** |
| Run capacitor | **-/-** |
| 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

RSIR

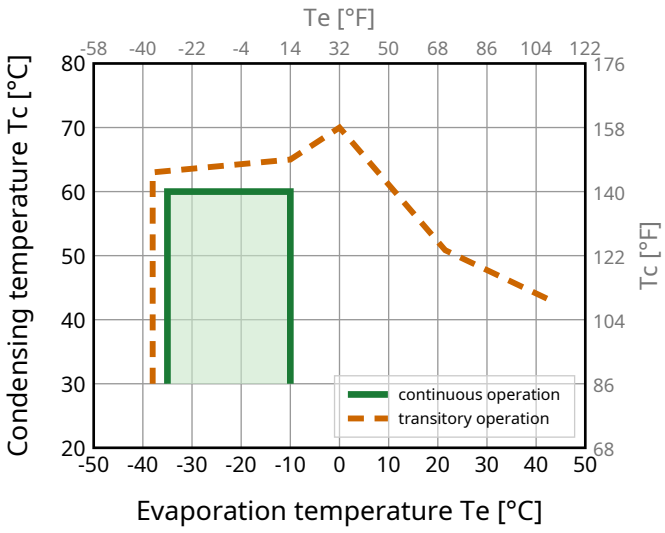


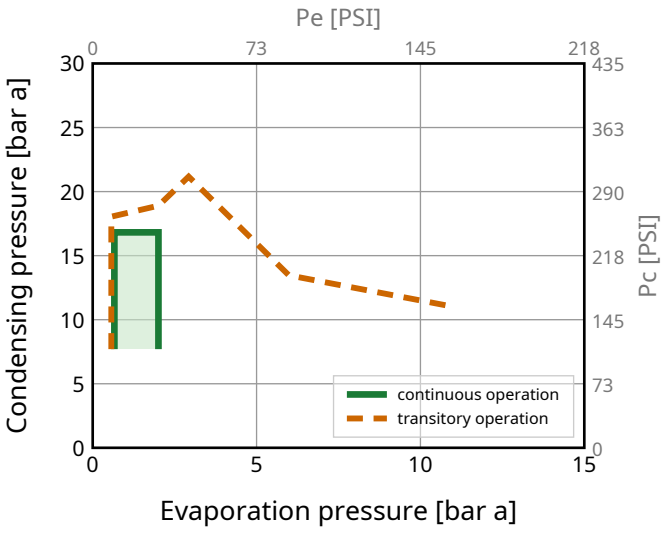

View full size

**Components**
**a1** PTC starter (220V, 25Ohm, 4.8mm) 103N0018
**b** plastic cover 103N2010
**d** cord relief 103N1010
**g** protection screen for PTC 103N0476

**Alternative components**
**a1** PTC starter (220V, 25Ohm, 6.3mm) 103N0011
**b** plastic cover 103N2011

## Operation Pressure Range



**Model** Sales code:

**NL7F** Configuration 2 **105G6706**

## Standard Conditions

**R134a**, 220 V/50 Hz, RSIR, static

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

## Performance Tables

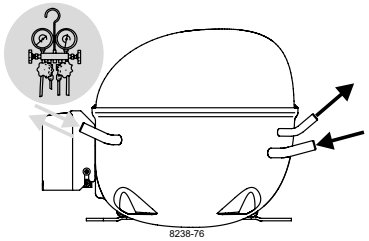
**R134a**, 220 V/50 Hz, RSIR, static

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

| pe | | Cooling capacity | | | COP | EER | P | I | ṁ |
|---|---|---|---|---|---|---|---|---|---|
| [°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 |



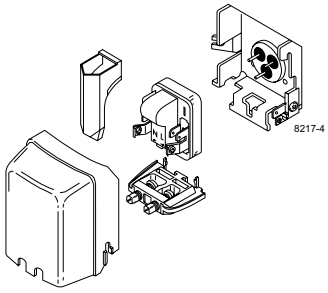

# NL Compressors

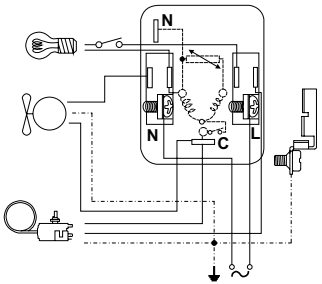
SECOP

Keep electrical equipment clear from oil, chemicals, and water

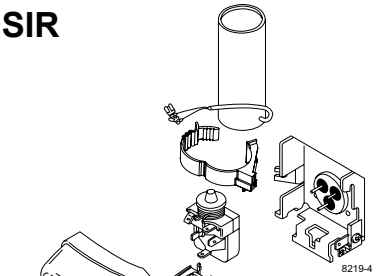
When operated with a flammable refrigerant, only spark-proof starting equipment is allowed.

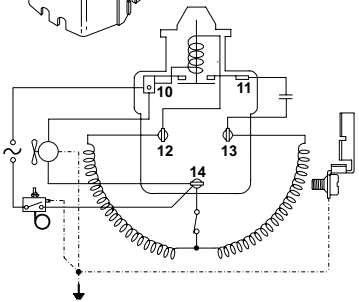
## RSIR



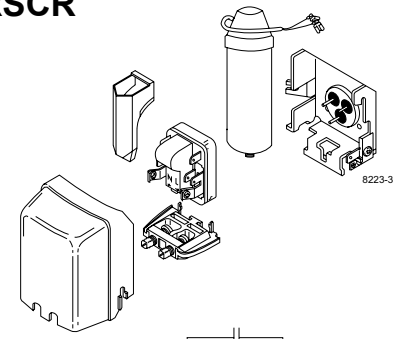



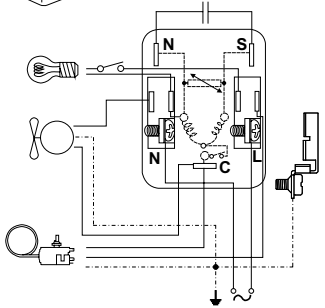

## CSIR

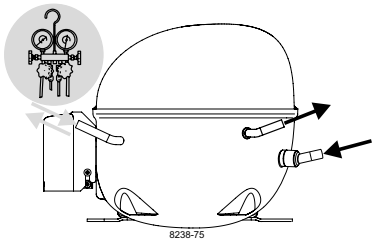



## RSCR






# NL Compressors

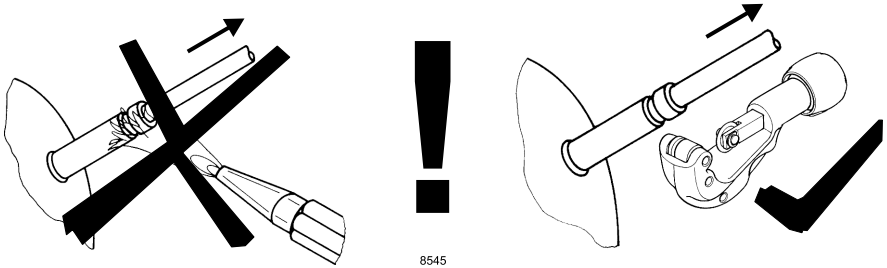
SECOP

Keep electrical equipment clear from oil, chemicals, and water

When operated with a flammable refrigerant, only spark-proof starting equipment is allowed.

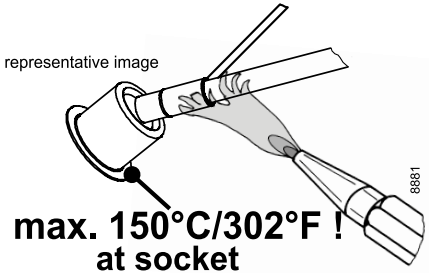
## Service/Repair – R290, R600a, R170, R1270, R1234yf

(applies to all flammable refrigerants)




## 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)**

**Dismantling, recycling, disposal:** At the end of a compressor's lifecycle, proceed by separating and storing components according to their environmental impact. Parts that may cause pollution must be clearly identified and handled separately, ensuring appropriate disposal. Refrigerant gas must not be released into the environment and should be recovered by qualified operators. Compressor oil must also be collected separately. The compressor should be disposed of at specialized disposal centers in accordance with the applicable regulations. **Subject to modifications/alterations. www.secop.com**