

## Model

|             |               |                         |             |                 |
|-------------|---------------|-------------------------|-------------|-----------------|
| Designation | <b>NL11MF</b> | <b>220-240V/50Hz 1~</b> | Sales code: | <b>105G6156</b> |
|-------------|---------------|-------------------------|-------------|-----------------|

## Compressor design

|                            |                                 |                       |                                  |
|----------------------------|---------------------------------|-----------------------|----------------------------------|
| Oil type                   | Polyolester                     | Refrigerant(s)        | <b>R134a</b>                     |
| Oil viscosity              | 32cSt                           | Displacement          | 11,15cm <sup>3</sup> / 0,68cu.in |
| Oil quantity               | 298cm <sup>3</sup> / 10,1fl.oz  | Compressors on pallet | 80                               |
| Refr. charge - tech. limit | 600g / 21,2oz                   |                       |                                  |
| Free gas volume comp.      | 2360cm <sup>3</sup> / 79,8fl.oz |                       |                                  |
| Weight                     | 10,5kg / 23,1lbs                |                       |                                  |
| Motor protection           | 1# internal                     |                       |                                  |
| Winding resistance main    | 6,1Ω (at 25°C)                  |                       |                                  |
| Winding resistance aux     | 18,35Ω (at 25°C)                |                       |                                  |
| Max. winding temp.         | 125°C / 257°F                   |                       |                                  |
| Max. discharge temp.       | 130°C / 266°F                   |                       |                                  |



## General - Configurations with NL11MF

|                        | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------|----------------|----------------|
| Motor configuration    | CSIR           | RSIR           |
| Power supply (nominal) | 220-240V/50Hz  | 220-240V/50Hz  |
| Number of phases       | 1              | 1              |
| Voltage range          | 187-254V       | 187-254V       |
| Approvals              | VDE, CCC, EAC  | VDE, CCC, EAC  |
| Starting torque        | HST            | LST            |
| Note                   | - / -          |                |

## Applications with NL11MF

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

## Electrical data - Configurations with NL11MF

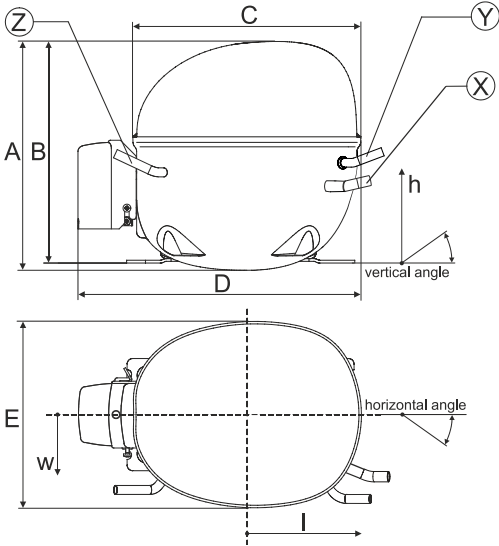
|                                    | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------------------|----------------|----------------|
| Starting device type               | relay          | PTC            |
| Run capacitor                      | -/-            | -/-            |
| Start capacitor                    | 125μF          | -/-            |
| LRA (locked rotor amps / 4s/ U(N)) | 16,6A          | 13A            |
| RLA (rated load amps / 1s/ U(N))   | 2,8A           | 2,8A           |
| Cut in current (U(N))              | 17A            | 17A            |

|             |        |                  |                      |
|-------------|--------|------------------|----------------------|
| Model       |        |                  |                      |
| Designation | NL11MF | 220-240V/50Hz 1~ | Sales code: 105G6156 |

Compressor dimensions

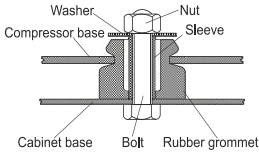
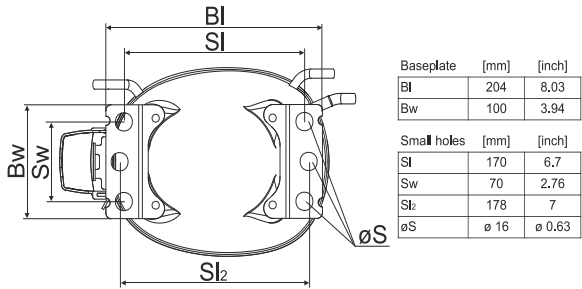
|         |                   |                |
|---------|-------------------|----------------|
| Housing | A Height          | 203mm / 7,99in |
|         | B Height          | 197mm / 7,76in |
|         | C Length shell    | 205mm / 8,07in |
|         | D Length w. cover | 254mm / 10in   |
|         | E Width           | 166mm / 6,54in |

| Connectors       |                            | Suction<br>X | Discharge<br>Y | Process<br>Z |
|------------------|----------------------------|--------------|----------------|--------------|
| Diameter         | [mm]                       | øi 8,11-8,29 | øi 6,11-6,29   | øi 6,11-6,29 |
|                  | (i:inside, o:outside) [in] | øi 0,32-0,33 | øi 0,24-0,25   | øi 0,24-0,25 |
| Material         |                            | copper       | copper         | copper       |
| Horizontal angle |                            | ±2° 0°       | 0°             | 0°           |
| Vertical angle   |                            | ±2° 15°      | 35°            | 155°         |
| Position l/h/w   | [mm]                       | 126/76/78    | 133/103/54     | -107/94/72   |
|                  | [in]                       | 4,9/3/3,1    | 5,2/4/2,1      | -4,2/3,7/2,8 |
| Straight tube l. | [mm]                       | 12           | 12             | 12           |
|                  | [in]                       | 0,5          | 0,5            | 0,5          |

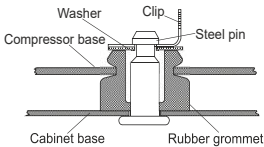


Compressor fixation

Bolt joint



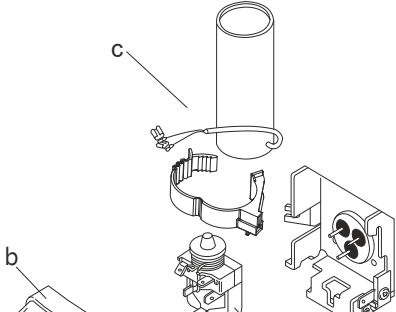
Snap-on



| 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

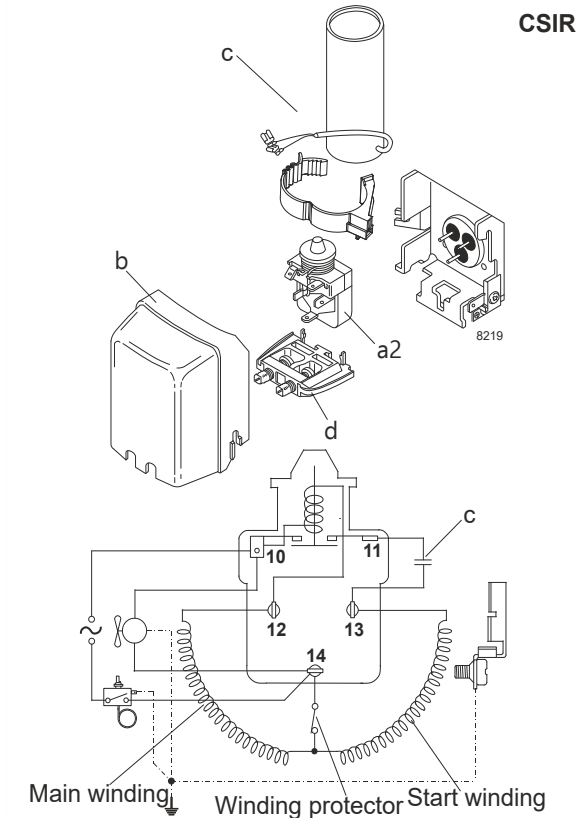
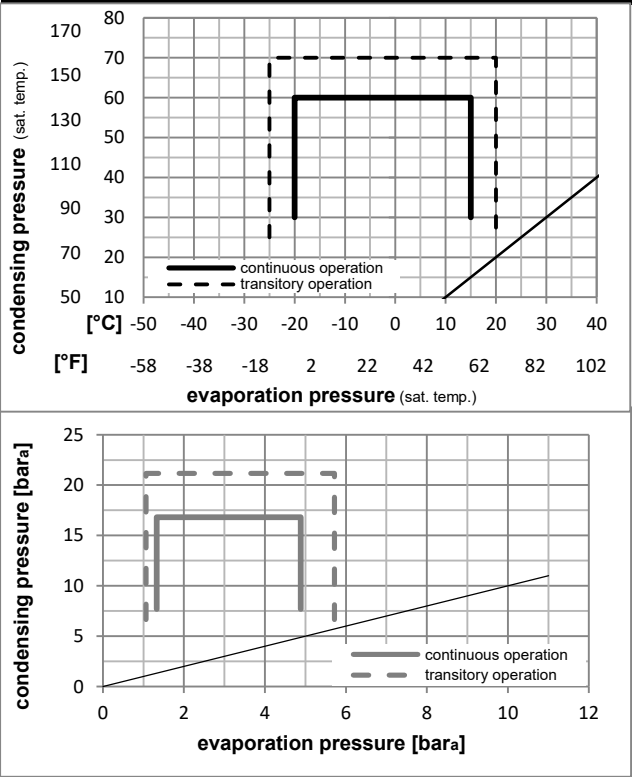
Provision for PE Grounding is located at the PE Stamp on the compressor

| Model                  |                  |                                                                                    |         |                      |
|------------------------|------------------|------------------------------------------------------------------------------------|---------|----------------------|
| Designation            | NL11MF           | 220-240V/50Hz                                                                      | Conf. 1 | Sales code: 105G6156 |
| Configuration          |                  | Electrical accessories / wiring diagram                                            |         |                      |
| Motor configuration    | CSIR             |  |         |                      |
| Power supply (nominal) | 220-240V/50Hz 1~ |                                                                                    |         |                      |
| Refrigerant            | R134a            |                                                                                    |         |                      |
| Application            | MBP+HBP          |                                                                                    |         |                      |
| Voltage range          | 187-254V         |                                                                                    |         |                      |
| Starting torque        | HST              |                                                                                    |         |                      |
| Approvals              | VDE              |                                                                                    |         |                      |
|                        | CCC              |                                                                                    |         |                      |
|                        | EAC              |                                                                                    |         |                      |

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 pressure range



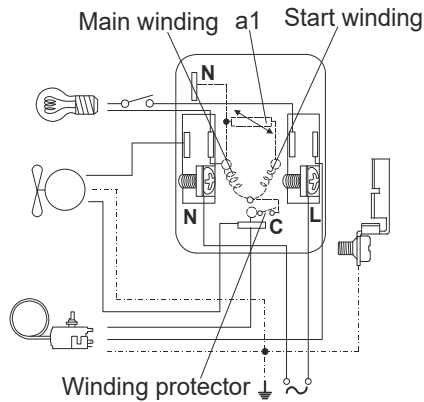
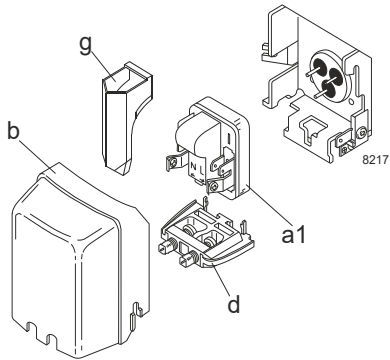
| Components |                 |          |
|------------|-----------------|----------|
| a2         | relay           | 117U6022 |
| c          | start capacitor | 117U5018 |
| b          | plastic cover   | 103N2011 |
| d          | cord relief     | 103N1010 |



|             |        |               |         |             |          |
|-------------|--------|---------------|---------|-------------|----------|
| Model       |        |               |         |             |          |
| Designation | NL11MF | 220-240V/50Hz | Conf. 2 | Sales code: | 105G6156 |

|               |                                         |
|---------------|-----------------------------------------|
| Configuration | Electrical accessories / wiring diagram |
|---------------|-----------------------------------------|

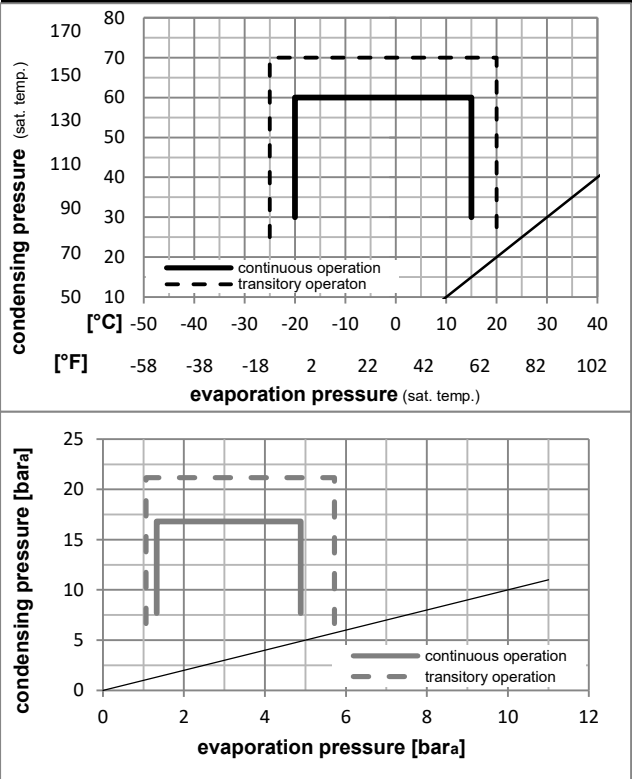
|                        |                  |      |
|------------------------|------------------|------|
| Motor configuration    | RSIR             | RSIR |
| Power supply (nominal) | 220-240V/50Hz 1~ |      |
| Refrigerant            | R134a            |      |
| Application            | MBP+HBP          |      |
| Voltage range          | 187-254V         |      |
| Starting torque        | LST              |      |
| Approvals              | VDE              |      |
|                        | CCC              |      |
|                        | EAC              |      |



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 pressure range



Components

|    |                                  |          |
|----|----------------------------------|----------|
| a1 | PTC starter (220V, 250hm, 4.8mm) | 103N0018 |
| b  | plastic cover                    | 103N2011 |
| d  | cord relief                      | 103N1010 |
| g  | protection screen for PTC        | 103N0476 |

Alternative components

|    |                                  |          |
|----|----------------------------------|----------|
| a1 | PTC starter (220V, 250hm, 6.3mm) | 103N0011 |
| b  | plastic cover                    | 103N2010 |
| d  | cord relief                      | 103N1010 |
| g  | protection screen for PTC        | 103N0476 |

## Model

Designation **NL11MF** **220-240V/50Hz** Conf. 2 Sales code: **105G6156**

## Optimization + standard conditions

R134a, 220V/50Hz, RSIR, fan 3m/s, VDE, CCC, EAC

| Evaporating pressure (saturation temperature) |     |     |      |     | Condensing pressure (saturation temperature) |          |       |          |           | Power consumption   |       |        |       |             |
|-----------------------------------------------|-----|-----|------|-----|----------------------------------------------|----------|-------|----------|-----------|---------------------|-------|--------|-------|-------------|
| Return gas temp.                              |     |     |      |     | Liquid temp.                                 |          |       |          |           | Current consumption |       |        |       |             |
| Cooling capacity                              |     |     |      |     | COP                                          |          |       |          |           | EER                 |       |        |       |             |
| pe                                            | pc  | RGT | Tliq | [W] | [Btu/h]                                      | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | P1                  | I     | m      |       |             |
| [°C]                                          |     |     |      |     |                                              |          |       |          |           | [W]                 | [A]   | [kg/h] |       |             |
| [°F]                                          | -7  | 54  | 35   | 46  | 626,5                                        | 2140     | 539,2 | 1,61     | 5,51      | 1,39                | 388,4 | 2,46   | 13,67 | ASHRAE MBP  |
|                                               | 20  | 130 | 95   | 115 |                                              |          |       |          |           |                     |       |        |       |             |
| [°C]                                          | -10 | 55  | 32   | 55  | 485,0                                        | 1656     | 417,4 | 1,35     | 4,60      | 1,16                | 360,0 | 2,37   | 11,73 | cecomaf MBP |
| [°F]                                          | 14  | 131 | 90   | 131 |                                              |          |       |          |           |                     |       |        |       |             |
| [°C]                                          | -10 | 45  | 20   | 45  | 546,1                                        | 1865     | 470,0 | 1,59     | 5,44      | 1,37                | 342,8 | 2,31   | 12,78 | EN12900 MBP |
| [°F]                                          | 14  | 113 | 68   | 113 |                                              |          |       |          |           |                     |       |        |       |             |
| [°C]                                          | -7  | 49  | 18   | 49  | 594,7                                        | 2031     | 511,8 | 1,58     | 5,40      | 1,36                | 376,3 | 2,42   | 14,69 | ARI540 MBP  |
| [°F]                                          | 20  | 120 | 65   | 120 |                                              |          |       |          |           |                     |       |        |       |             |
| [°C]                                          | -10 | 45  | 32   | 45  | 566,6                                        | 1935     | 487,6 | 1,65     | 5,64      | 1,42                | 342,8 | 2,31   | 12,40 | opt         |
| [°F]                                          | 14  | 113 | 90   | 113 |                                              |          |       |          |           |                     |       |        |       |             |
| [°C]                                          | -25 | 45  | 32   | 45  | 264,5                                        | 903      | 227,6 | 1,14     | 3,90      | 0,98                | 231,4 | 2,07   | 5,73  | opt         |
| [°F]                                          | -13 | 113 | 90   | 113 |                                              |          |       |          |           |                     |       |        |       |             |

## Performance tables

R134a, 220V/50Hz, RSIR, fan 3m/s, VDE, CCC, EAC

|                  | 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]        | -20  | -4   | 347,6            | 1187    | 299,2    | 1,30  | 4,44     | 1,12      | 267,5 | 2,13 | 7,55   |
| cond. pressure   | -15  | 5    | 447,5            | 1528    | 385,1    | 1,47  | 5,01     | 1,26      | 304,8 | 2,21 | 9,75   |
| pc= 45/113       | -10  | 14   | 566,6            | 1935    | 487,6    | 1,65  | 5,64     | 1,42      | 342,8 | 2,31 | 12,40  |
| return gas temp. | -5   | 23   | 707,6            | 2417    | 609,0    | 1,86  | 6,34     | 1,60      | 381,2 | 2,42 | 15,56  |
| RGT= 32/90       | 0    | 32   | 873,3            | 2982    | 751,6    | 2,08  | 7,11     | 1,79      | 419,5 | 2,55 | 19,31  |
| liquid temp      | 5    | 41   | 1066,2           | 3641    | 917,6    | 2,33  | 7,96     | 2,01      | 457,3 | 2,70 | 23,74  |
| Tliq= 45/113     | 15   | 59   | 1544,2           | 5274    | 1328,9   | 2,91  | 9,95     | 2,51      | 529,8 | 3,03 | 34,98  |
| [°C / °F]        | -20  | -4   | 292,0            | 997     | 251,3    | 1,06  | 3,63     | 0,92      | 274,5 | 2,14 | 7,00   |
| cond. pressure   | -15  | 5    | 380,1            | 1298    | 327,1    | 1,20  | 4,10     | 1,03      | 316,5 | 2,25 | 9,15   |
| pc= 55/131       | -10  | 14   | 485,0            | 1656    | 417,4    | 1,35  | 4,60     | 1,16      | 360,0 | 2,37 | 11,73  |
| return gas temp  | -5   | 23   | 609,3            | 2081    | 524,4    | 1,51  | 5,15     | 1,30      | 404,5 | 2,51 | 14,81  |
| RGT= 32/90       | 0    | 32   | 755,7            | 2581    | 650,4    | 1,68  | 5,74     | 1,45      | 449,5 | 2,67 | 18,49  |
| liquid temp      | 5    | 41   | 926,8            | 3165    | 797,6    | 1,87  | 6,40     | 1,61      | 494,6 | 2,84 | 22,84  |
| Tliq= 55/131     | 15   | 59   | 1353,8           | 4623    | 1165,1   | 2,32  | 7,92     | 2,00      | 583,7 | 3,23 | 34,00  |