**Model**
**NLV12.6CN**

Sales code:
**105H7365**

## Compressor Data

| | |
|---|---|
| Refrigerant(s) | **R290** |
| Refr. charge - tech. limit | **300g / 10.58oz** |
| Weight | **10.80 kg / 23.81lbs** |
| Displacement | **12.55 cm3 / 0.77cu.in** |
| Compressors on pallet | **80** |

## General – Configurations With NLV12.6CN and Controller

| – | **Conf. 1** | **Conf. 2** | **Conf. 3** | **Conf. 4** |
|---|---|---|---|---|
| Sales code single pack: | 105N4866 | 105N4910 | 105N4960 | 105N4962 |
| Power supply (nominal) | 100-240 V,50/60 Hz | 220-240 V,50/60 Hz | 100-240 V,50/60 Hz | 100-240 V,50/60 Hz |
| Number of phases | 1~AC | 1~AC | 1~AC | 1~AC |
| Approvals | CB, CCC, VDE, UL | CB, CCC, VDE, UL | CB, CCC, VDE, UL | CB, CCC, VDE, UL |
| Starting torque | HST | HST | HST | HST |
| Refrigerant | R290 | R290 | R290 | R290 |
| Application | L+MBP | L+MBP | L+MBP | L+MBP |
| Hot gas defrost | OK | OK | OK | OK |
| Long interval pull down | OK | OK | OK | OK |
| Protection | Mechanic | Mechanic | Mechanic | Mechanic |

## Application Notes

- Provision for PE Grounding is located at the PE Stamp on the compressor
- Direct suction intake with telescope

**Model**
**NLV12.6CN**

Sales code:
**105H7365**

## Compressor Design

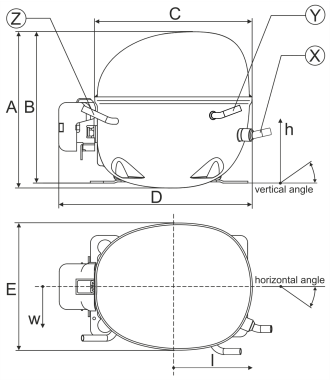
| | | | |
|---|---|---|---|
| Oil type | **POE** | Motor protection | **internal** |
| Oil viscosity | **32cSt** | Max. winding temp. | **125 °C** |
| Oil quantity | **300 / 10.14fl.oz** | Max. discharge temp. | **130°C / 266°F** |
| Free gas volume comp. | **2,360 cm3 / 79.80fl.oz** | | |

## Compressor Dimensions

**Housing**

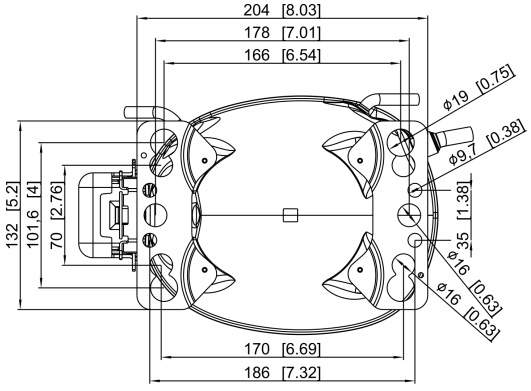
| | |
|---|---|
| A Height | **203mm / 7.99in** |
| B Height | **197mm / 7.76in** |
| C Length shell | **205mm / 8.07in** |
| D Length w. cover | **252mm / 9.92in** |
| E Width | **166mm / 6.54in** |

Find 3D Model here



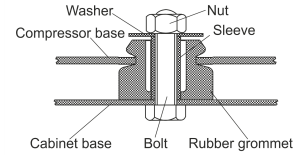

| Connectors | Suction X | Discharge Y | Process Z |
|---|---|---|---|
| Diameter [mm] | øi 8.11–8.29 / 0.32–0.33in | øi 6.11–6.29 / 0.24–0.25in | øi 6.11–6.29 / 0.24–0.25in |
| Material | CU | CU | CU |
| Horizontal angle ±2° | 0° | 0° | 0° |
| Vertical angle ±2° | 15° | 21° | 155° |
| Position l/h/w [mm] | 132/68.5/56.7 / 5.20/2.70/2.23in | 94/101.7/81 / 3.70/4.00/3.19in | -109.3/94.3/72 / -4.30/3.71/2.83in |
| Straight tube l. [mm] | 12 / 0.47in | 12 / 0.47in | 12 / 0.47in |

## Mounting Accessories

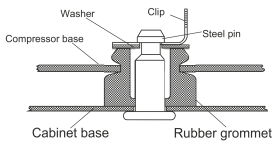



Dimensions in mm [in]

Bolt joint




Snap-on



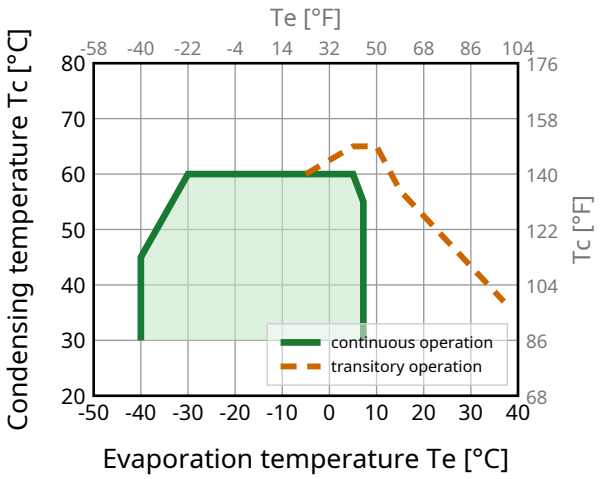

| | one comp. | multi pack |
|---|---|---|
| Bolt joint \| M6 \| ø16mm | 118-1917 | 118-1918 |
| Bolt joint \| ø1/4" \| ø16mm | 118-1946 | – |
| Bolt joint \| ø1/4" \| ø19mm | 118-1949 | – |
| Snap-on \| ø7,3 \| ø16mm | 118-1947 | 118-1919 |

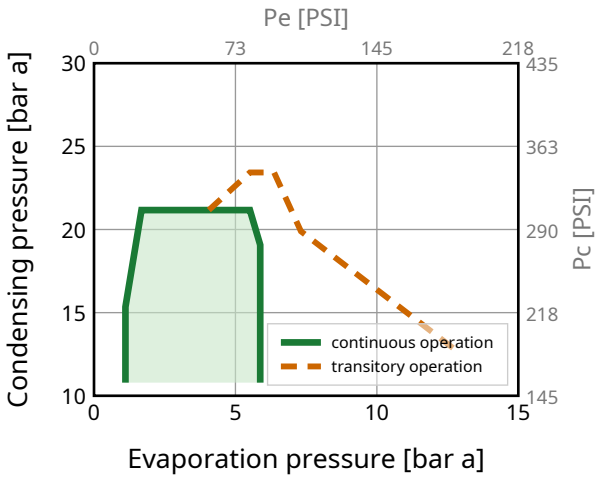
**Model**
**NLV12.6CN** System Design

Sales code:
**105H7365**

## System Design

### Operation Pressure Range R290



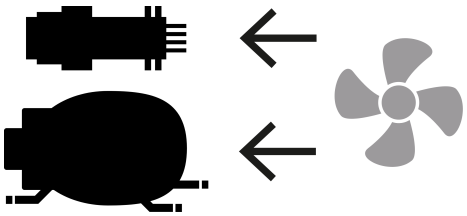




## System Cooling

**Compressor and Controller Cooling:** fan 3m/s

Ensure proper airflow of 3 m/s at both compressor and electronic units.

The airflow for the electronics must be directed to the heat sink.



## Accessories (Compressor + Controller)

| | | |
|---|---|---|
| 103N2008 | plastic cover | 1 pcs |

**Model**

**NLV12.6CN** Controller Overview

Sales code:

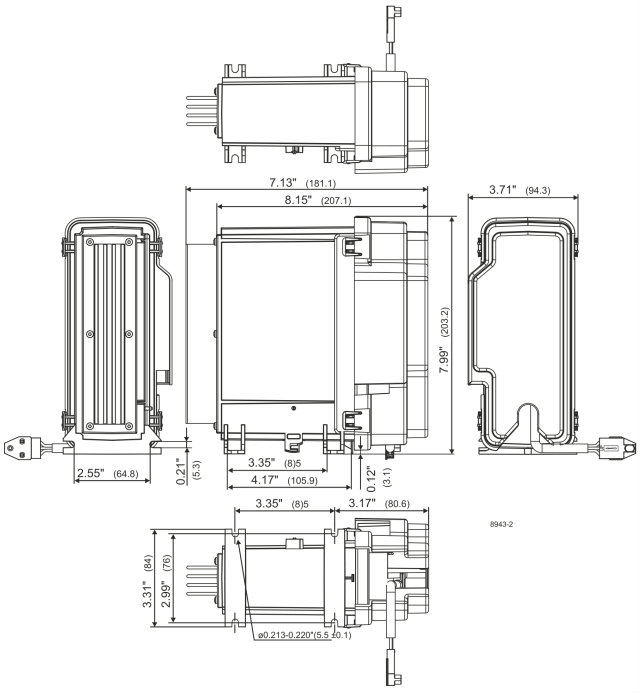
**105H7365**

## Controller Overview

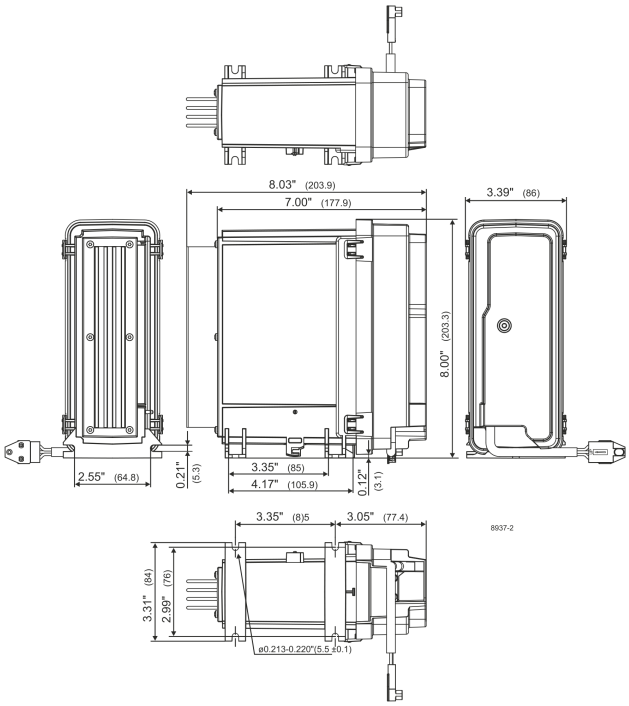
| – | **Conf. 1** | **Conf. 2** | **Conf. 3** | **Conf. 4** |
|---|---|---|---|---|
| Sales code single pack: | 105N4866 | 105N4910 | 105N4960 | 105N4962 |
| Sales code industry pack: | 105N4867 (8) | 105N4911 (8) | 105N4961 (8) | 105N4963 (8) |
| Voltage nom.: | 100-240 V,50/60 Hz | 220-240 V,50/60 Hz | 100-240 V,50/60 Hz | 100-240 V,50/60 Hz |
| Voltage range | 90-150/180-270 V | 180-270 V | 90-150/180-270 V | 90-150/180-270 V |
| Max output power | 1000 W | 1000 W | 1000 W | 1000 W |
| Compressor speed range: | 2000-4500 rpm | 2000-4500 rpm | 2000-4500 rpm | 2000-4500 rpm |
| Cable length: | 680 mm | 680 mm | 680 mm | 915 mm |
| Protection class: | IP43 | IP54 | IP54 | IP54 |
| LRA (Locked Rotor Amperage): | 1,2 A | 1,2 A | 1,2 A | 1,2 A |
| AEO and Defrost pin | – | Yes | Yes | Yes |
| Frequency input | – | Yes | Yes | Yes |
| Modbus input | RS485 | SWI | SWI | SWI |
| Controller Wiring | » Controller Wiring | » Controller Wiring | » Controller Wiring | » Controller Wiring |

## Controller Dimensions

**Conf. 1**




**Conf. 2, 3, 4**




## Operating Instructions

For proper installation and operation of variable-speed compressors and controllers, please refer to the Operating Instructions. The document covers electrical installation, speed control, and technical data for the controller.

» Download Operating Instructions

**Model**
**NLV12.6CN**

Sales code:
**105H7365**

## Standard Conditions — 2000 rpm

**R290**, 240 V/50 Hz, fan 3m/s

| 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 | **440** | 1501 | 378 | **1.77** | 6.03 | 249 | 1.09 | 4.47 | **ASHRAE LBP** |
| -25 -13 | 55 131 | 32 89.6 | 55 131 | **329** | 1122 | 283 | **1.38** | 4.69 | 239 | 1.05 | 4.12 | **CECOMAF LBP** |
| -35 -31 | 40 104 | 20 68 | 40 104 | **242** | 825 | 208 | **1.47** | 5.01 | 164 | 0.77 | 2.77 | **EN12900 LBP** |
| -6.7 20 | 54.4 129.9 | 35 95 | 46.1 115 | **767** | 2618 | 660 | **2.18** | 7.45 | 351 | 1.52 | 8.78 | **ASHRAE MBP** |
| -10 14 | 55 131 | 32 89.6 | 55 131 | **613** | 2091 | 527 | **1.83** | 6.25 | 334 | 1.45 | 7.79 | **CECOMAF MBP** |
| -10 14 | 45 113 | 20 68 | 45 113 | **667** | 2275 | 574 | **2.25** | 7.67 | 297 | 1.29 | 8.21 | **EN12900 MBP** |

## Performance Tables — 2000 rpm

**R290**, 240 V/50 Hz, fan 3m/s

**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] |
| -40 | -40 | **174** | 594 | 150 | **1.19** | 4.04 | 147 | 0.71 | 1.96 |
| -30 | -22 | **299** | 1021 | 257 | **1.53** | 5.23 | 195 | 0.88 | 3.38 |
| -20 | -4 | **468** | 1599 | 403 | **1.89** | 6.44 | 248 | 1.09 | 5.33 |
| -10 | 14 | **693** | 2366 | 596 | **2.34** | 7.98 | 297 | 1.29 | 7.96 |
| 0 | 32 | **985** | 3361 | 847 | **2.98** | 10.15 | 331 | 1.44 | 11.45 |
| 10 | 50 | **1355** | 4623 | 1165 | **3.96** | 13.50 | 342 | 1.48 | 16.02 |

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| -40 | -40 | **143** | 487 | 123 | **0.91** | 3.12 | 156 | 0.74 | 1.77 |
| -30 | -22 | **258** | 879 | 222 | **1.24** | 4.22 | 209 | 0.93 | 3.22 |
| -20 | -4 | **411** | 1401 | 353 | **1.51** | 5.17 | 271 | 1.19 | 5.17 |
| -10 | 14 | **613** | 2091 | 527 | **1.83** | 6.25 | 334 | 1.45 | 7.79 |
| 0 | 32 | **875** | 2987 | 753 | **2.25** | 7.68 | 389 | 1.68 | 11.29 |
| 10 | 50 | **1210** | 4127 | 1040 | **2.84** | 9.70 | 425 | 1.82 | 15.89 |

**Model**
**NLV12.6CN**

Sales code:
**105H7365**

## Standard Conditions — 4500 rpm

**R290**, 240 V/50 Hz, fan 3m/s

| 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 | **1025** | 3499 | 882 | **1.81** | 6.18 | 566 | 2.42 | 10.42 | **ASHRAE LBP** |
| -25 -13 | 55 131 | 32 89.6 | 55 131 | **767** | 2617 | 660 | **1.41** | 4.82 | 542 | 2.32 | 9.61 | **CECOMAF LBP** |
| -35 -31 | 40 104 | 20 68 | 40 104 | **564** | 1924 | 485 | **1.50** | 5.10 | 377 | 1.64 | 6.47 | **EN12900 LBP** |
| -6.7 20 | 54.4 129.9 | 35 95 | 46.1 115 | **1774** | 6053 | 1526 | **2.13** | 7.25 | 834 | 3.55 | 20.31 | **ASHRAE MBP** |
| -10 14 | 55 131 | 32 89.6 | 55 131 | **1419** | 4843 | 1221 | **1.81** | 6.19 | 783 | 3.33 | 18.05 | **CECOMAF MBP** |
| -10 14 | 45 113 | 20 68 | 45 113 | **1540** | 5255 | 1325 | **2.14** | 7.29 | 720 | 3.07 | 18.95 | **EN12900 MBP** |

## Performance Tables — 4500 rpm

**R290**, 240 V/50 Hz, fan 3m/s

**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] |
| -40 | -40 | **405** | 1383 | 349 | **1.24** | 4.24 | 326 | 1.43 | 4.56 |
| -30 | -22 | **698** | 2381 | 600 | **1.56** | 5.31 | 448 | 1.93 | 7.88 |
| -20 | -4 | **1087** | 3710 | 935 | **1.87** | 6.38 | 582 | 2.49 | 12.37 |
| -10 | 14 | **1601** | 5463 | 1377 | **2.22** | 7.58 | 720 | 3.07 | 18.39 |
| 0 | 32 | **2266** | 7732 | 1949 | **2.64** | 9.00 | 859 | 3.65 | 26.35 |
| 10 | 50 | **3109** | 10607 | 2673 | **3.14** | 10.71 | 990 | 4.21 | 36.77 |

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| -40 | -40 | **329** | 1124 | 283 | **0.98** | 3.33 | 337 | 1.47 | 4.09 |
| -30 | -22 | **602** | 2053 | 517 | **1.28** | 4.38 | 469 | 2.02 | 7.52 |
| -20 | -4 | **956** | 3262 | 822 | **1.54** | 5.26 | 620 | 2.65 | 12.03 |
| -10 | 14 | **1419** | 4843 | 1221 | **1.81** | 6.19 | 783 | 3.33 | 18.05 |
| 0 | 32 | **2018** | 6887 | 1736 | **2.12** | 7.23 | 952 | 4.05 | 26.03 |
| 10 | 50 | **2780** | 9486 | 2391 | **2.48** | 8.45 | 1123 | 4.77 | 36.53 |

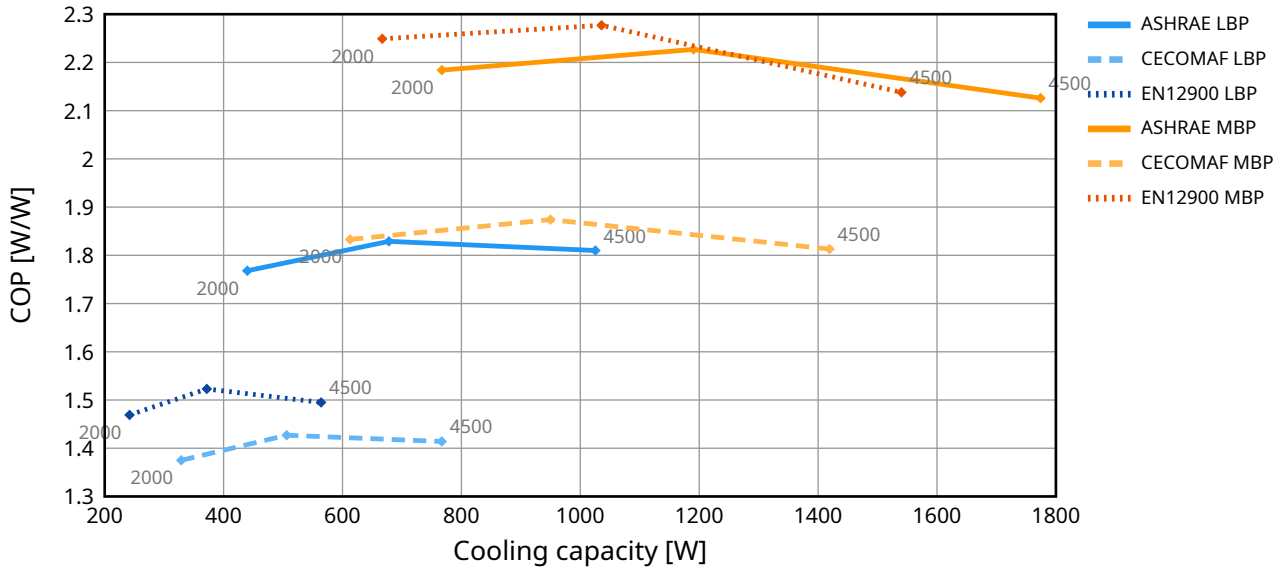
**Model**
**NLV12.6CN**

Sales code:
**105H7365**

## Optimal Performance

**R290**, 240 V/50 Hz, fan 3m/s
Shows the speed (RPM) that achieves the highest COP at each standard condition.

| pe | pc | RGT | Tliq | Cooling capacity | | | COP | EER | P | RPM | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| [°C] [°F] | [°C] [°F] | [°C] [°F] | [°C] [°F] | [W] | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W] | [rpm] | |
| -23.3 -10 | 54.4 129.9 | 32.2 90 | 32.2 90 | **678** | 2313 | 583 | **1.83** | 6.24 | 371 | **3000** | **ASHRAE LBP** |
| -25 -13 | 55 131 | 32 89.6 | 55 131 | **506** | 1727 | 435 | **1.43** | 4.87 | 355 | **3000** | **CECOMAF LBP** |
| -35 -31 | 40 104 | 20 68 | 40 104 | **372** | 1269 | 320 | **1.52** | 5.20 | 244 | **3000** | **EN12900 LBP** |
| -6.7 20 | 54.4 129.9 | 35 95 | 46.1 115 | **1190** | 4062 | 1024 | **2.23** | 7.60 | 535 | **3000** | **ASHRAE MBP** |
| -10 14 | 55 131 | 32 89.6 | 55 131 | **950** | 3240 | 817 | **1.87** | 6.39 | 507 | **3000** | **CECOMAF MBP** |
| -10 14 | 45 113 | 20 68 | 45 113 | **1036** | 3534 | 891 | **2.28** | 7.77 | 455 | **3000** | **EN12900 MBP** |

## Cooling Capacity vs. COP

**R290**, 240 V/50 Hz, fan 3m/s