

## NLV12.6CN Variable Speed Drive Compressor R290 220-240V 50/60Hz

- with 105N4710 Controller



### General

|                                       |                    |
|---------------------------------------|--------------------|
| Code number (without electronic unit) | 105H6355           |
| Electronic unit                       | 105N4710           |
| Approvals                             | EN 60335-2-34, CCC |
| Compressors on pallet                 | 80                 |

### Application

| Application                                    | LBP/MBP |           |           |  |
|------------------------------------------------|---------|-----------|-----------|--|
| Frequency                                      | Hz      | 50        | 60        |  |
| Evaporating temperature                        | °C      | -40 to 10 | -40 to 10 |  |
| Voltage range                                  | V       | 198 - 254 | 198 - 254 |  |
| Max. condensing temperature continuous (short) | °C      | 60 (65)   | 60 (65)   |  |
| Max. winding temperature continuous (short)    | °C      | 125 (135) | 125 (149) |  |

### Cooling requirements

| Frequency               | Hz | 50             |                |     | 60             |                |     |
|-------------------------|----|----------------|----------------|-----|----------------|----------------|-----|
| Application             |    | LBP            | MBP            | HBP | LBP            | MBP            | HBP |
| 32°C                    |    | F <sub>2</sub> | F <sub>2</sub> | -   | F <sub>2</sub> | F <sub>2</sub> | -   |
| 38°C                    |    | F <sub>2</sub> | F <sub>2</sub> | -   | F <sub>2</sub> | F <sub>2</sub> | -   |
| 43°C                    |    | F <sub>2</sub> | F <sub>2</sub> | -   | F <sub>2</sub> | F <sub>2</sub> | -   |
| Remarks on application: |    |                |                |     |                |                |     |

### Features

|                                    |     |                             |
|------------------------------------|-----|-----------------------------|
| Speed range                        | rpm | 2000 - 4500                 |
| Thermostat                         |     | integrated, electronic      |
| Protections                        |     | current, speed, temperature |
| Protection class (electronic unit) |     | IP54                        |

### Motor

|                                   |   |                    |
|-----------------------------------|---|--------------------|
| Motor type                        |   | permanent magnet   |
| LRA (rated after 4 sec. UL984),   | A | electronic cut off |
| Maximum current                   | A | 7.0                |
| Resistance, all 3 windings (25°C) | Ω | 5.3                |

### Design

|                                     |                 |                   |
|-------------------------------------|-----------------|-------------------|
| Displacement                        | cm <sup>3</sup> | 12.55             |
| Oil quantity (type)                 | cm <sup>3</sup> | 320 (polyolester) |
| Maximum refrigerant charge          | g               | 150               |
| Free gas volume in compressor       | cm <sup>3</sup> | 2360              |
| Weight - Compressor/Electronic unit | kg              | 11.6 / 1.2        |

### Dimensions

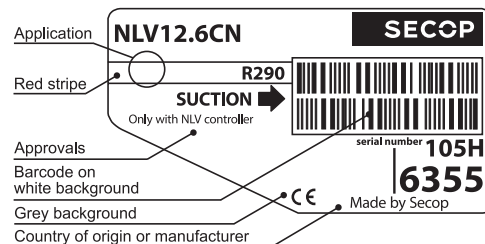
|                      |                          |   |                      |
|----------------------|--------------------------|---|----------------------|
| Height               | mm                       | A | 203                  |
|                      |                          | B | 197                  |
| Suction connector    | location/I.D. mm   angle | C | 8.2   15°            |
|                      | material   comment       |   | Copper   Rubber plug |
| Process connector    | location/I.D. mm   angle | D | 6.2   25°            |
|                      | material   comment       |   | Copper   Rubber plug |
| Discharge connector  | location/I.D. mm   angle | E | 6.2   21°            |
|                      | material   comment       |   | Copper   Rubber plug |
| Oil cooler connector | location/I.D. mm   angle | F | -                    |
|                      | material   comment       |   | -                    |
| Connector tolerance  | I.D. mm                  |   | ±0.09                |

### Accessories

|       |             |
|-------|-------------|
|       | Code number |
| Cover | 103N2008    |

### Mounting accessories

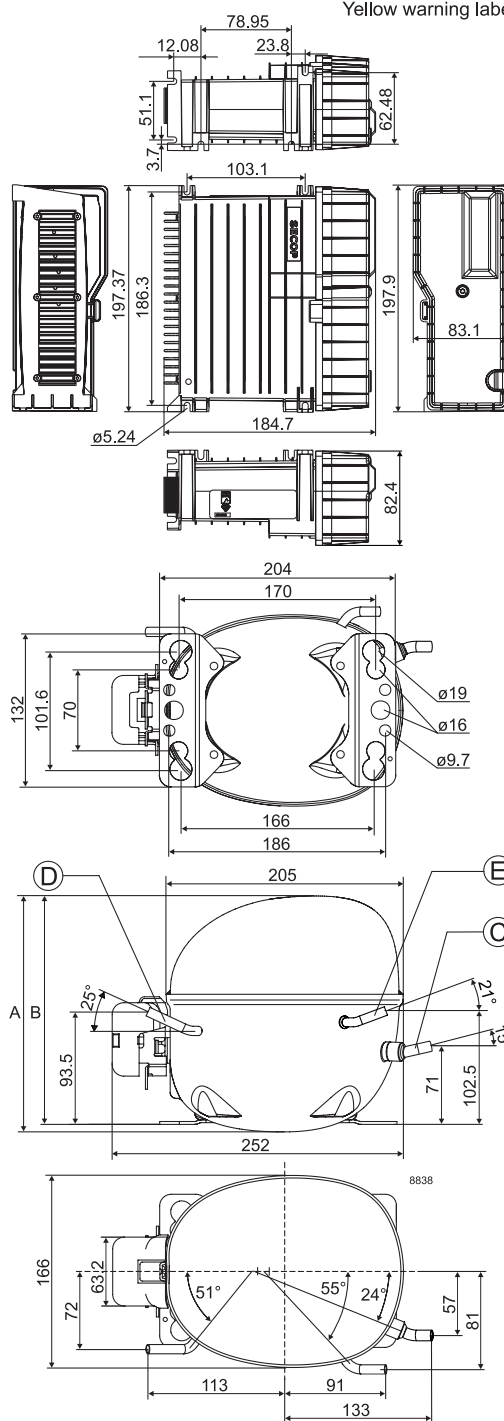
|                               |                   |
|-------------------------------|-------------------|
|                               | Code number       |
| Bolt joint for one compressor | Ø: 16 mm 118-1917 |
| Bolt joint in quantities      | Ø: 16 mm 118-1918 |
| Snap-on in quantities         | Ø: 16 mm 118-1919 |



- S = Static cooling normally sufficient  
O = Oil cooling  
F<sub>1</sub> = Fan cooling 1.5 m/s (compressor compartment temp. equal to ambient temperature)  
F<sub>2</sub> = Fan cooling 3.0 m/s necessary  
SG = Suction gas cooling normally sufficient  
- = not applicable in this area



Yellow warning label



**LBP: ASHRAE** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |      |      |      |      |       |      |      |      |
|-------------------|------|------|------|------|-------|------|------|------|
| Speed (rpm)       | 2000 | 2250 | 2500 | 2750 | 3000  | 3500 | 4000 | 4500 |
| Capacity [W]      | 422  | 481  | 541  | 597  | 653   | 748  | 843  | 938  |
| Power cons. [W]   | 251  | 280  | 309  | 340  | 370.7 | 436  | 500  | 565  |
| Current cons. [A] | 1.23 | 1.36 | 1.49 | 1.63 | 1.77  | 2.06 | 2.35 | 2.64 |
| COP [W/W]         | 1.68 | 1.72 | 1.75 | 1.76 | 1.76  | 1.72 | 1.69 | 1.66 |

**Test conditions**

|                        |          |
|------------------------|----------|
| Evaporation pressure   | -23.3 °C |
| Condensing pressure    | 54.4 °C  |
| Liquid temperature     | 32.2 °C  |
| Return gas temperature | 32.2 °C  |

**LBP: CECOMAF** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|
| Speed (rpm)       | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [W]      | 316  | 360  | 404  | 448  | 492  | 562  | 633  | 703  |
| Power cons. [W]   | 243  | 269  | 296  | 326  | 357  | 419  | 482  | 545  |
| Current cons. [A] | 1.19 | 1.31 | 1.43 | 1.57 | 1.70 | 1.99 | 2.27 | 2.55 |
| COP [W/W]         | 1.30 | 1.34 | 1.37 | 1.37 | 1.38 | 1.34 | 1.31 | 1.29 |

**Test conditions**

|                        |        |
|------------------------|--------|
| Evaporation pressure   | -25 °C |
| Condensing pressure    | 55 °C  |
| Liquid temperature     | 55 °C  |
| Return gas temperature | 32 °C  |

**LBP: EN12900** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|
| Speed (rpm)       | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [W]      | 257  | 281  | 306  | 333  | 360  | 430  | 500  | 570  |
| Power cons. [W]   | 189  | 203  | 217  | 239  | 261  | 311  | 361  | 411  |
| Current cons. [A] | 0.91 | 0.98 | 1.04 | 1.13 | 1.22 | 1.44 | 1.66 | 1.87 |
| COP [W/W]         | 1.36 | 1.38 | 1.41 | 1.39 | 1.38 | 1.38 | 1.38 | 1.39 |

**Test conditions**

|                        |        |
|------------------------|--------|
| Evaporation pressure   | -35 °C |
| Condensing pressure    | 40 °C  |
| Liquid temperature     | 40 °C  |
| Return gas temperature | 20 °C  |

**MBP: ASHRAE** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|
| Speed (rpm)       | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [W]      | 750  | 849  | 947  | 1040 | 1132 | 1310 | 1489 | 1667 |
| Power cons. [W]   | 343  | 390  | 436  | 475  | 514  | 612  | 710  | 808  |
| Current cons. [A] | 1.66 | 1.87 | 2.08 | 2.26 | 2.44 | 2.89 | 3.33 | 3.78 |
| COP [W/W]         | 2.18 | 2.18 | 2.18 | 2.19 | 2.20 | 2.14 | 2.10 | 2.06 |

**Test conditions**

|                        |         |
|------------------------|---------|
| Evaporation pressure   | -6.7 °C |
| Condensing pressure    | 54.4 °C |
| Liquid temperature     | 46.1 °C |
| Return gas temperature | 35 °C   |

**MBP: CECOMAF** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|
| Speed (rpm)       | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [W]      | 598  | 679  | 760  | 832  | 905  | 1046 | 1188 | 1329 |
| Power cons. [W]   | 330  | 375  | 419  | 456  | 493  | 585  | 677  | 769  |
| Current cons. [A] | 1.58 | 1.78 | 1.99 | 2.15 | 2.32 | 2.73 | 3.15 | 3.56 |
| COP [W/W]         | 1.81 | 1.81 | 1.81 | 1.83 | 1.83 | 1.79 | 1.75 | 1.73 |

**Test conditions**

|                        |        |
|------------------------|--------|
| Evaporation pressure   | -10 °C |
| Condensing pressure    | 55 °C  |
| Liquid temperature     | 55 °C  |
| Return gas temperature | 32 °C  |

**MBP: EN12900** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|
| Speed (rpm)       | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [W]      | 686  | 769  | 852  | 932  | 1011 | 1183 | 1354 | 1525 |
| Power cons. [W]   | 320  | 359  | 398  | 434  | 471  | 559  | 647  | 735  |
| Current cons. [A] | 1.47 | 1.64 | 1.80 | 1.96 | 2.12 | 2.49 | 2.87 | 3.25 |
| COP [W/W]         | 2.14 | 2.14 | 2.14 | 2.15 | 2.15 | 2.12 | 2.09 | 2.07 |

**Test conditions**

|                        |        |
|------------------------|--------|
| Evaporation pressure   | -10 °C |
| Condensing pressure    | 45 °C  |
| Liquid temperature     | 45 °C  |
| Return gas temperature | 20 °C  |

**Optimization Point** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |       |       |       |       |       |       |       |       |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Speed (rpm)       | 2000  | 2250  | 2500  | 2750  | 3000  | 3500  | 4000  | 4500  |
| Capacity [W]      | 428   | 481   | 535   | 583   | 630   | 737   | 844   | 951   |
| Power cons. [W]   | 217   | 238   | 259   | 284   | 309   | 368   | 427   | 486   |
| Current cons. [A] | 1.08  | 1.17  | 1.26  | 1.38  | 1.49  | 1.76  | 2.02  | 2.29  |
| COP [W/W]         | 1.972 | 2.025 | 2.069 | 2.052 | 2.038 | 2.002 | 1.976 | 1.956 |

**Test conditions**

|                        |        |
|------------------------|--------|
| Evaporation pressure   | -25 °C |
| Condensing pressure    | 35 °C  |
| Liquid temperature     | 35 °C  |
| Return gas temperature | 32 °C  |

**Optimization Point** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|
| Speed (rpm)       | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [W]      | 701  | 786  | 870  | 952  | 1033 | 1208 | 1383 | 1558 |
| Power cons. [W]   | 305  | 342  | 379  | 413  | 448  | 532  | 616  | 700  |
| Current cons. [A] | 1.47 | 1.64 | 1.80 | 1.96 | 2.12 | 2.49 | 2.87 | 3.25 |
| COP [W/W]         | 2.30 | 2.30 | 2.30 | 2.30 | 2.31 | 2.27 | 2.25 | 2.23 |

**Test conditions**

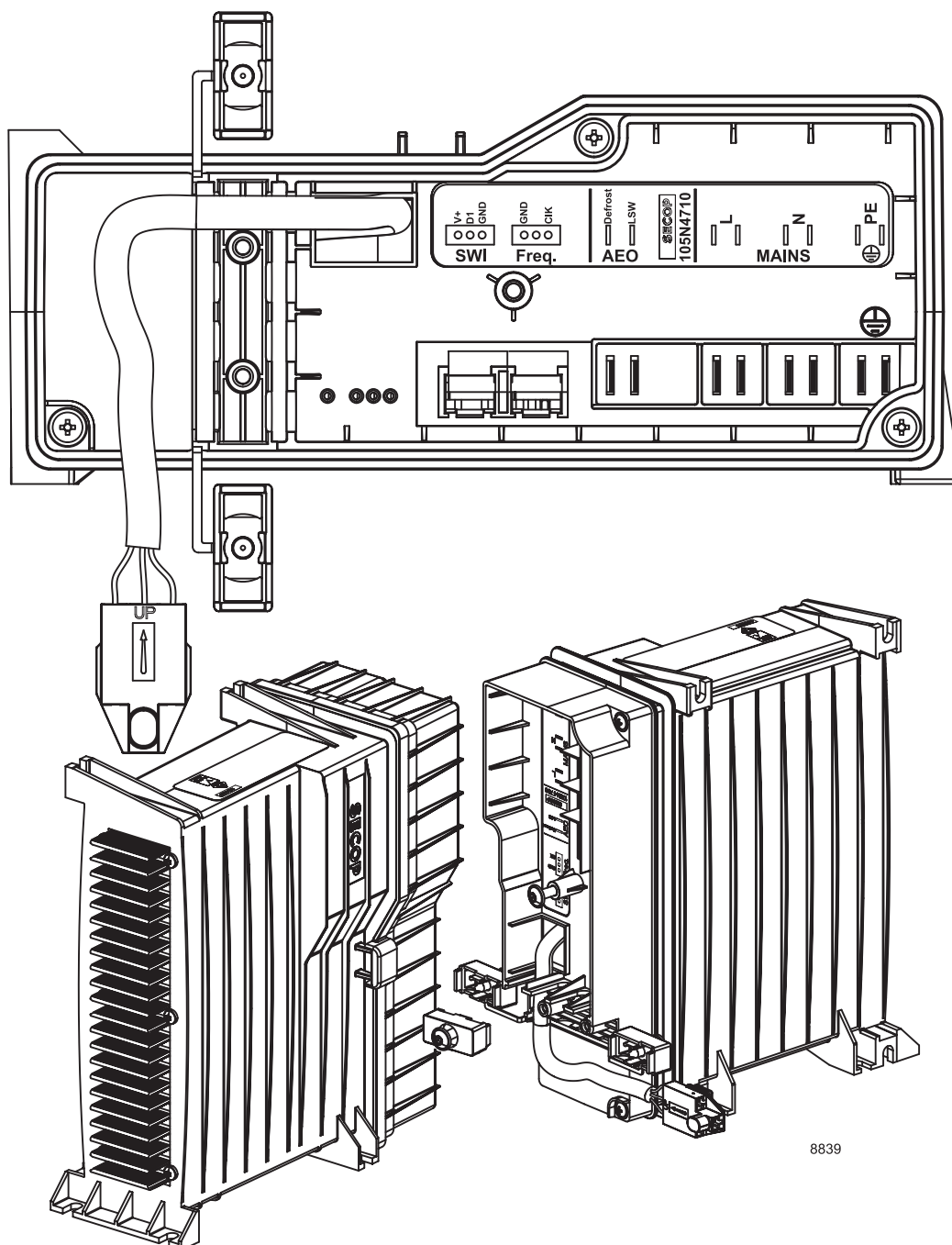
|                        |        |
|------------------------|--------|
| Evaporation pressure   | -10 °C |
| Condensing pressure    | 45 °C  |
| Liquid temperature     | 45 °C  |
| Return gas temperature | 32 °C  |

**Optimization Point** 220V, 50/60Hz, fan cooling F<sub>2</sub>

|                   |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|
| Speed (rpm)       | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [W]      | 1197 | 1330 | 1462 | 1618 | 1774 | 2070 | 2366 | 2662 |
| Power cons. [W]   | 372  | 410  | 447  | 502  | 556  | 664  | 772  | 879  |
| Current cons. [A] | 1.77 | 1.94 | 2.11 | 2.36 | 2.60 | 3.09 | 3.57 | 4.06 |
| COP [W/W]         | 3.22 | 3.25 | 3.27 | 3.22 | 3.19 | 3.12 | 3.07 | 3.03 |

**Test conditions**

|                        |       |
|------------------------|-------|
| Evaporation pressure   | 5 °C  |
| Condensing pressure    | 45 °C |
| Liquid temperature     | 45 °C |
| Return gas temperature | 32 °C |



RAST 2.5

Spade connectors 6.3 x 0.8

