

DLV4.0CN Variable Speed Drive Compressor R290, 100-127V 50/60Hz - with 105N4460 Controller



General

| | |
|---------------------------------------|-----------------------------|
| Code number (without electronic unit) | 102H3486 |
| Electronic unit | 105N4460 |
| Approvals | UL 60335-2-34 with Annex AA |
| Compressors on pallet | 100 |

Application

| Application | LBP/MBP | | | |
|--|---------|-----------|-----------|--|
| Frequency | Hz | 50 | 60 | |
| Evaporating temperature | °F | -31 to 45 | -31 to 45 | |
| Voltage range | V | 90 - 140 | 90 - 140 | |
| Max. condensing temperature continuous (short) | °F | 140 (149) | 140 (149) | |
| Max. winding temperature continuous (short) | °F | 257 (275) | 257 (275) | |

Cooling requirements

| Frequency | Hz | 50 | | | 60 | | |
|-------------|----|----------------|----------------|-----|----------------|----------------|-----|
| Application | | LBP | MBP | HBP | LBP | MBP | HBP |
| 32°C | | F ₂ | F ₂ | - | F ₂ | F ₂ | - |
| 38°C | | F ₂ | F ₂ | - | F ₂ | F ₂ | - |
| 43°C | | F ₂ | F ₂ | - | F ₂ | F ₂ | - |

Remarks on application:

Features

| | | |
|------------------------------------|-----|-----------------------------|
| Speed range | rpm | 2000 - 4500 |
| Speed control | | AEO, frequency, serial com. |
| 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 | 6.5 |
| Resistance, all 3 windings (25°C) | Ω | 1.2 |

Design

| | | |
|-------------------------------------|--------|-------------------|
| Displacement | cu.in | 0.24 |
| Oil quantity (type) | fl.oz. | 7.8 (polyolester) |
| Maximum refrigerant charge | oz. | 5.3 |
| Free gas volume in compressor | fl.oz. | 49.5 |
| Weight - Compressor/Electronic unit | lbs. | 17.2 / 1.15 |

Dimensions

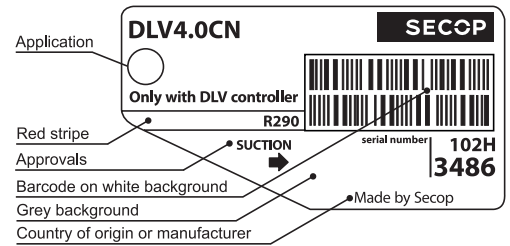
| | | | |
|---------------------|--------------------------|---|----------------------|
| Height | inch | A | 6.89 |
| | | B | 6.65 |
| Suction connector | location/I.D. mm angle | C | 0.320-0.327 18° |
| | material comment | | Copper Rubber plug |
| Process connector | location/O.D. mm angle | D | 0.252-0.259 61° |
| | material comment | | Copper Rubber plug |
| Discharge connector | location/O.D. mm angle | E | 0.252-0.259 25° |
| | material comment | | Copper Rubber plug |

Accessories

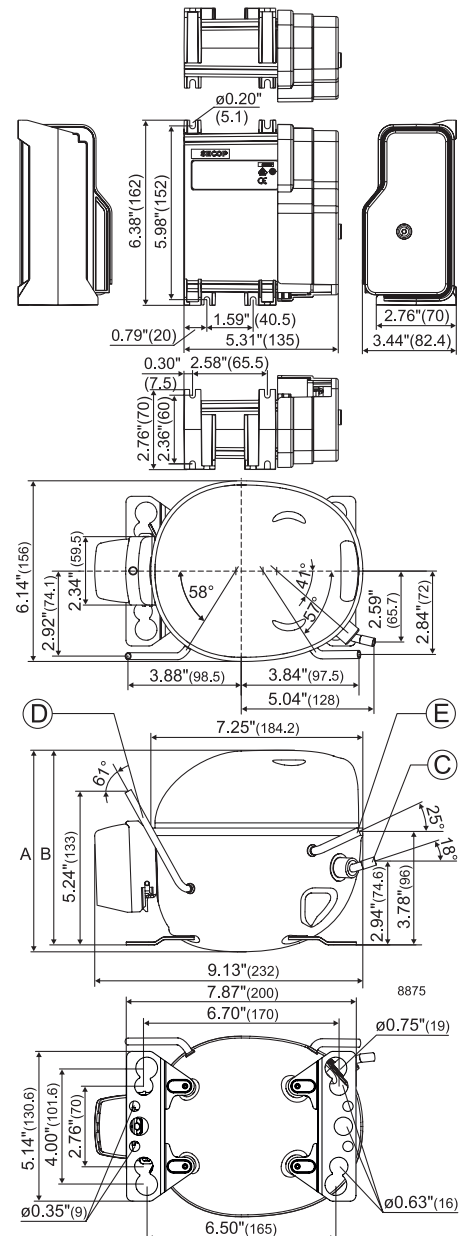
| | Code number |
|--------------------------------------|-------------|
| Cover | 103N0492 |
| Cord relief | 103N1010 |
| Motor cable 35.4 in. cable length | 105B4477 |

Mounting accessories

| | Code number |
|---|-------------|
| Bolt joint for one compressor Ø: 3/4 in. | 118-1949 |
| Bolt joint in quantities Ø: 5/8 in. | 118-1946 |
| Snap-on in quantities Ø: 5/8 in. | 118-1947 |



- S = Static cooling normally sufficient
- O = Oil cooling
- F₁ = Fan cooling 1.5 m/s (compressor compartment temperature equal to ambient temperature)
- F₂ = Fan cooling 3.0 m/s necessary
- = not applicable in this area



LBP: ASHRAE 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|------|------|------|-------|-------|-------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 409 | 465 | 522 | 577 | 632 | 741 | 849 | 958 |
| Power cons. [W] | 77.6 | 87.6 | 97.5 | 107.1 | 116.7 | 137.0 | 157.3 | 177.5 |
| Current cons. [A] | 1.07 | 1.25 | 1.42 | 1.60 | 1.79 | 2.23 | 2.68 | 3.12 |
| EER [BTU/Wh] | 5.27 | 5.31 | 5.35 | 5.38 | 5.42 | 5.41 | 5.40 | 5.39 |

Test conditions

| | | |
|------------------------|-------|---------|
| Evaporation pressure | -10°F | -23.3°C |
| Condensing pressure | 130°F | 54.4°C |
| Liquid temperature | 90°F | 32.2°C |
| Return gas temperature | 90°F | 32.2°C |

LBP: CECOMAF 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|------|------|------|-------|-------|-------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 302 | 343 | 385 | 425 | 466 | 546 | 626 | 706 |
| Power cons. [W] | 75.0 | 84.3 | 93.6 | 102.9 | 112.2 | 131.6 | 151.1 | 170.6 |
| Current cons. [A] | 1.03 | 1.19 | 1.35 | 1.52 | 1.70 | 2.12 | 2.54 | 2.95 |
| EER [BTU/Wh] | 4.02 | 4.07 | 4.11 | 4.13 | 4.16 | 4.15 | 4.14 | 4.14 |

Test conditions

| | | |
|------------------------|-------|-------|
| Evaporation pressure | -13°F | -25°C |
| Condensing pressure | 131°F | 55°C |
| Liquid temperature | 131°F | 55°C |
| Return gas temperature | 90°F | 32°C |

LBP: EN12900 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|------|------|------|------|------|------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 222 | 252 | 283 | 313 | 342 | 401 | 460 | 519 |
| Power cons. [W] | 58.1 | 63.0 | 68.0 | 75.2 | 82.4 | 96.6 | 110.8 | 124.9 |
| Current cons. [A] | 0.76 | 0.84 | 0.92 | 1.03 | 1.15 | 1.42 | 1.68 | 1.95 |
| EER [BTU/Wh] | 3.81 | 4.00 | 4.16 | 4.16 | 4.16 | 4.16 | 4.15 | 4.15 |

Test conditions

| | | |
|------------------------|-------|-------|
| Evaporation pressure | -31°F | -35°C |
| Condensing pressure | 104°F | 40°C |
| Liquid temperature | 104°F | 40°C |
| Return gas temperature | 68°F | 20°C |

MBP: ASHRAE 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 783 | 891 | 999 | 1105 | 1210 | 1418 | 1626 | 1834 |
| Power cons. [W] | 103.1 | 118.3 | 133.5 | 146.4 | 159.3 | 186.9 | 214.6 | 242.2 |
| Current cons. [A] | 1.52 | 1.82 | 2.12 | 2.40 | 2.68 | 3.40 | 4.11 | 4.83 |
| EER [BTU/Wh] | 7.60 | 7.53 | 7.48 | 7.54 | 7.60 | 7.59 | 7.58 | 7.57 |

Test conditions

| | | |
|------------------------|-------|--------|
| Evaporation pressure | 20°F | -6.7°C |
| Condensing pressure | 130°F | 54.4°C |
| Liquid temperature | 115°F | 46.1°C |
| Return gas temperature | 95°F | 35°C |

MBP: CECOMAF 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 616 | 700 | 785 | 869 | 952 | 1115 | 1278 | 1442 |
| Power cons. [W] | 99.0 | 113.4 | 127.9 | 140.2 | 152.6 | 179.0 | 205.5 | 232.0 |
| Current cons. [A] | 1.45 | 1.73 | 2.01 | 2.27 | 2.54 | 3.20 | 3.87 | 4.54 |
| EER [BTU/Wh] | 6.22 | 6.18 | 6.14 | 6.19 | 6.24 | 6.23 | 6.22 | 6.21 |

Test conditions

| | | |
|------------------------|-------|-------|
| Evaporation pressure | 14°F | -10°C |
| Condensing pressure | 131°F | 55°C |
| Liquid temperature | 131°F | 55°C |
| Return gas temperature | 90°F | 32°C |

MBP: EN12900 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 694 | 790 | 885 | 979 | 1073 | 1257 | 1441 | 1625 |
| Power cons. [W] | 89.7 | 102.3 | 115.0 | 126.1 | 137.3 | 161.1 | 185.0 | 208.8 |
| Current cons. [A] | 1.28 | 1.51 | 1.75 | 1.97 | 2.20 | 2.77 | 3.33 | 3.90 |
| EER [BTU/Wh] | 7.74 | 7.72 | 7.70 | 7.76 | 7.82 | 7.80 | 7.79 | 7.78 |

Test conditions

| | | |
|------------------------|-------|-------|
| Evaporation pressure | 14°F | -10°C |
| Condensing pressure | 113°F | 45°C |
| Liquid temperature | 113°F | 45°C |
| Return gas temperature | 68°F | 20°C |

Optimization Point 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|------|------|------|------|------|-------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 428 | 487 | 546 | 604 | 661 | 775 | 889 | 1002 |
| Power cons. [W] | 67.9 | 75.5 | 83.2 | 91.5 | 99.9 | 117.2 | 134.5 | 151.8 |
| Current cons. [A] | 0.91 | 1.04 | 1.16 | 1.31 | 1.46 | 1.81 | 2.16 | 2.51 |
| EER [BTU/Wh] | 6.30 | 6.45 | 6.56 | 6.59 | 6.62 | 6.61 | 6.60 | 6.60 |

Test conditions

| | | |
|------------------------|-------|-------|
| Evaporation pressure | -13°F | -25°C |
| Condensing pressure | 95°F | 35°C |
| Liquid temperature | 95°F | 35°C |
| Return gas temperature | 90°F | 32°C |

Optimization Point 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 722 | 822 | 922 | 1019 | 1117 | 1309 | 1500 | 1692 |
| Power cons. [W] | 89.7 | 102.3 | 115.0 | 126.1 | 137.3 | 161.1 | 185.0 | 208.8 |
| Current cons. [A] | 1.28 | 1.51 | 1.75 | 1.97 | 2.20 | 2.77 | 3.33 | 3.90 |
| EER [BTU/Wh] | 8.06 | 8.03 | 8.01 | 8.08 | 8.14 | 8.12 | 8.11 | 8.10 |

Test conditions

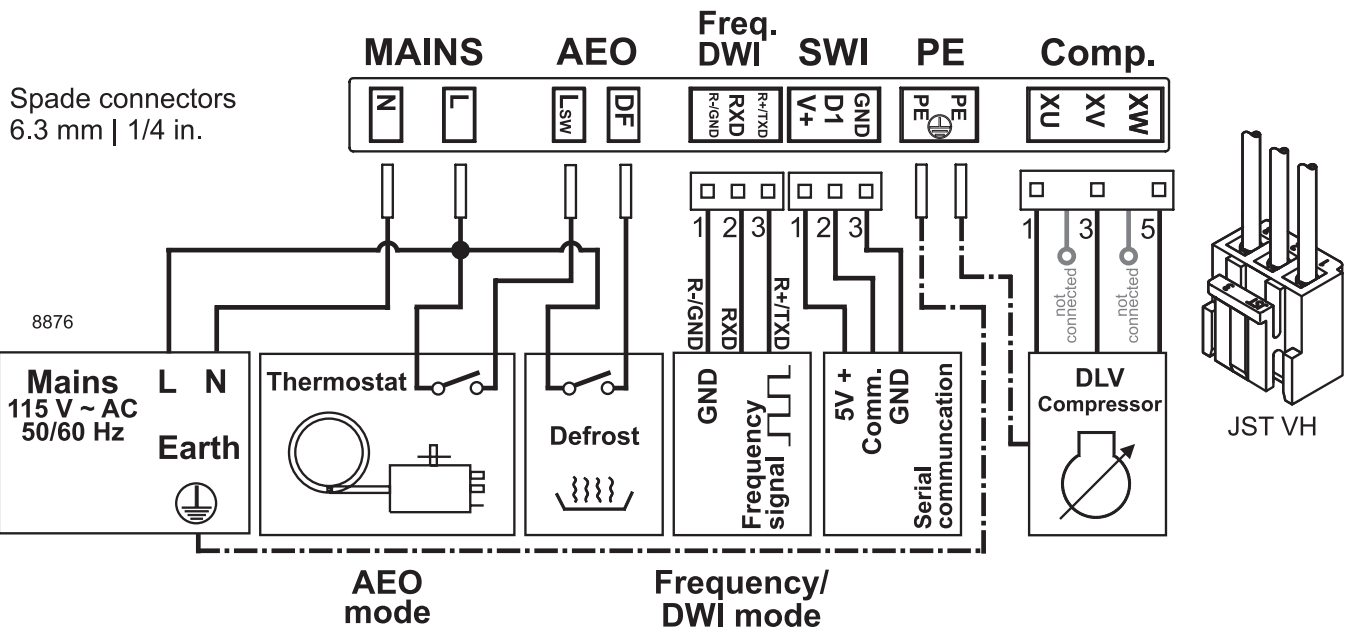
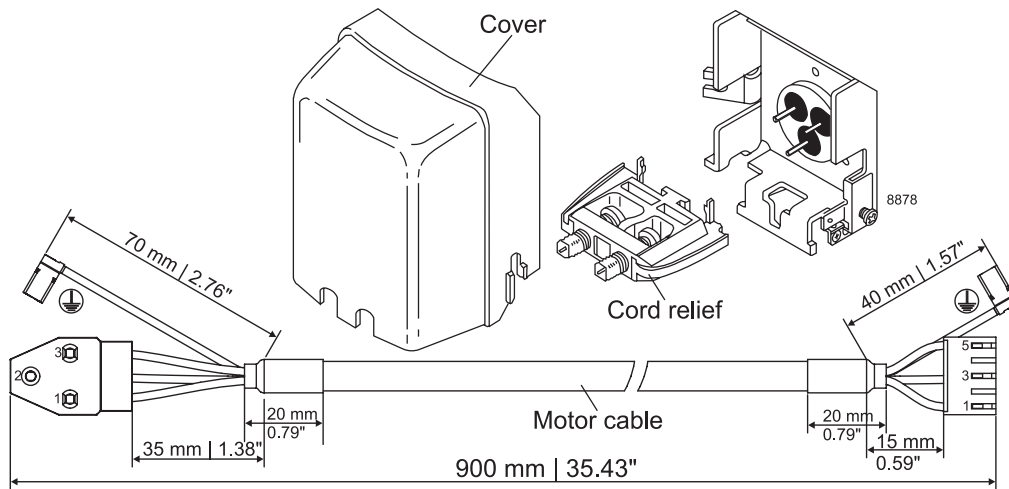
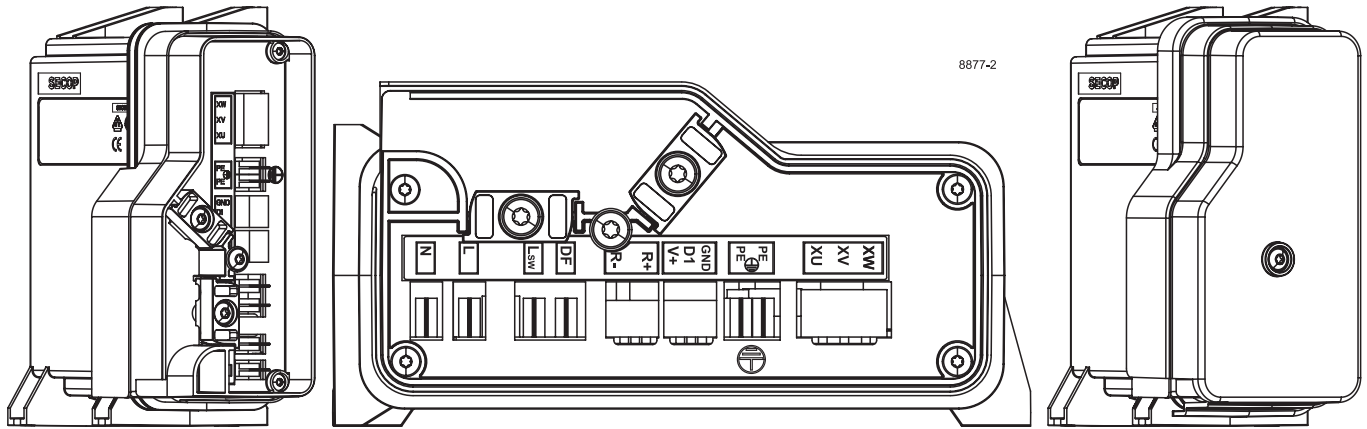
| | | |
|------------------------|-------|-------|
| Evaporation pressure | 14°F | -10°C |
| Condensing pressure | 113°F | 45°C |
| Liquid temperature | 113°F | 45°C |
| Return gas temperature | 90°F | 32°C |

Optimization Point 115V, 50/60Hz, fan cooling F₂

| | | | | | | | | |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Speed (rpm) | 2000 | 2250 | 2500 | 2750 | 3000 | 3500 | 4000 | 4500 |
| Capacity [BTU/h] | 1267 | 1441 | 1616 | 1787 | 1958 | 2294 | 2630 | 2966 |
| Power cons. [W] | 100.6 | 115.4 | 130.1 | 142.7 | 155.3 | 182.2 | 209.2 | 236.1 |
| Current cons. [A] | 1.48 | 1.76 | 2.05 | 2.32 | 2.60 | 3.28 | 3.97 | 4.66 |
| EER [BTU/Wh] | 12.59 | 12.49 | 12.42 | 12.52 | 12.61 | 12.59 | 12.58 | 12.56 |

Test conditions

| | | |
|------------------------|-------|------|
| Evaporation pressure | 41°F | 5°C |
| Condensing pressure | 113°F | 45°C |
| Liquid temperature | 113°F | 45°C |
| Return gas temperature | 90°F | 32°C |



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