

## Single Pack BD250GH.2 48V DC PM

Single pack code number: **195B4556**

| Position | Title                                      | Code     | Amount |
|----------|--|----------|--------|
| 1        | Compressor BD250GH.2                       | 101Z0405 | 1      |
| 2        | Electronic unit - Telecom                  | 101N0732 | 1      |
| 3        | Bolt joint for one compressor   M6   ø16mm | 118-1917 | 1      |

## BD250GH.2 Direct Current Compressor R134a 48V DC



### General

|  |                            |
|--|----------------------------|
| Code number (without electronic units) | 101Z0405                   |
| Electronic unit - Telecom              | 101N0732, 36 pcs: 101N0733 |
| Approvals                              | UL                         |
| Compressors on pallet                  | 150                        |

### Application

|   |             |  |
|---|-------------|--|
| Application                                       | LBP/MBP/HBP |  |
| Evaporating temperature °C                        | -25 to 15   |  |
| Voltage range VDC                                 | 32 - 60     |  |
| Max. condensing temperature continuous (short) °C | 60 (70)     |  |
| Max. winding temperature continuous (short) °C    | 125 (135)   |  |

### Cooling requirements

| Application             | LBP | MBP | HBP            |
|-------------------------|-----|-----|----------------|
| 32°C                    | S   | S   | S              |
| 38°C                    | S   | S   | S              |
| 43°C                    | S   | S   | F <sub>1</sub> |
| Remarks on application: |     |     |                |

### Motor

|                                     |                |  |
|-------------------------------------|----------------|--|
| Motor type                          | variable speed |  |
| Resistance, all 3 windings (25°C) Ω | 1.03           |  |

### Design

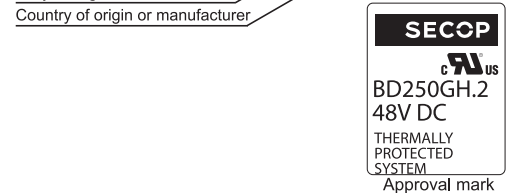
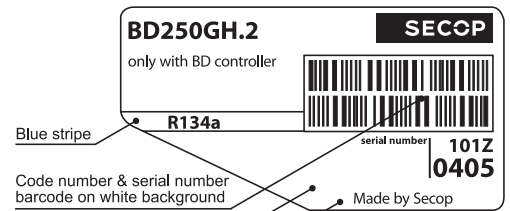
|   |                   |  |
|---|-------------------|--|
| Displacement cm <sup>3</sup>                  | 2.50              |  |
| Oil quantity (type) cm <sup>3</sup>           | 150 (polyolester) |  |
| Maximum refrigerant charge g                  | 300               |  |
| Free gas volume in compressor cm <sup>3</sup> | 870               |  |
| Weight - Compressor/Electronic unit kg        | 4.4/0.24          |  |

### Battery protection settings

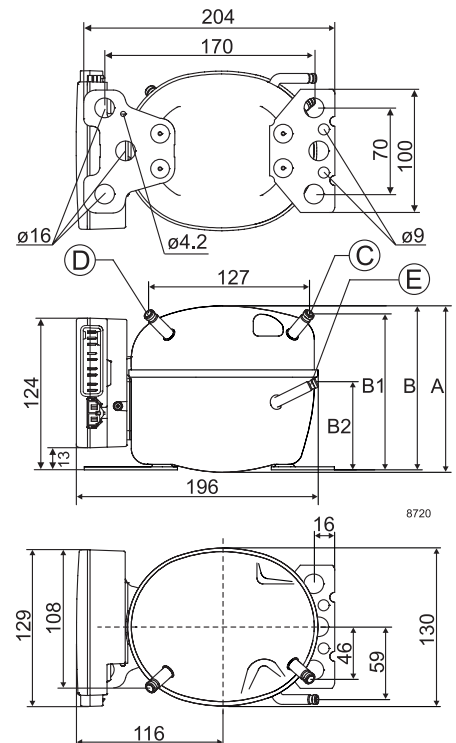
| Voltage                      | Min. value | Default | Max. value |
|------------------------------|------------|---------|------------|
| Cut out (0.1 steps) VDC      | 32         | 36      | 60         |
| Cut in diff. (0.1 steps) VDC | 0.5        | 4.0     | 10.0       |

### Dimensions

|  |   |                          |
|--|---|--------------------------|
| Height mm                                    | A   | 137                      |
|  | B   | 135                      |
|  | B1  | 128                      |
|  | B2  | 73                       |
| Suction connector location/I.D. mm   angle   | C   | 6.2   40°                |
|  | material   comment  | Cu-plated steel   Al cap |
| Process connector location/I.D. mm   angle   | D   | 6.2   45°                |
|  | material   comment  | Cu-plated steel   Al cap |
| Discharge connector location/I.D. mm   angle | E   | 5.0   21°                |
|  | material   comment  | Cu-plated steel   Al cap |
| Connector tolerance I.D. mm                  | ±0.09, on 5.0 +0.12/+0.20   |                          |
| Remarks:                                     | Clearance between electronic unit and baseplate does not allow the snap-on option for mounting. |                          |



- S = Static cooling normally sufficient
- O = Oil cooling
- F<sub>1</sub> = Fan cooling 1.5 m/s  
(compressor compartment temperature 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



**Capacity (EN 12900 Household/CECOMAF) 53V DC, fan cooling F<sub>1</sub> watt**

|          |      |       |      |      |      |      |     |     |     |     |     |     |
|----------|------|-------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| rpm \ °C | -25  | -23.3 | -20  | -15  | -10  | -6.7 | -5  | 0   | 5   | 7.2 | 10  | 15  |
| 2,500    | 31.4 | 36.6  | 47.2 | 65.5 | 87.0 | 103  | 112 | 143 | 178 | 195 | 219 | 267 |
| 3,100    | 42.9 | 49.1  | 62.1 | 84.8 | 112  | 132  | 144 | 181 | 224 | 246 | 275 | 333 |
| 3,800    | 55.0 | 62.4  | 78.3 | 106  | 139  | 165  | 179 | 224 | 277 | 303 | 337 | 408 |
| 4,400    | 64.3 | 72.8  | 91.1 | 124  | 162  | 191  | 208 | 261 | 322 | 352 | 392 | 472 |

**Capacity (ASHRAE LBP) 53V DC, fan cooling F<sub>1</sub> watt**

|          |      |       |      |      |     |      |     |     |     |     |     |     |
|----------|------|-------|------|------|-----|------|-----|-----|-----|-----|-----|-----|
| rpm \ °C | -25  | -23.3 | -20  | -15  | -10 | -6.7 | -5  | 0   | 5   | 7.2 | 10  | 15  |
| 2,500    | 40.1 | 46.3  | 59.3 | 81.8 | 108 | 129  | 140 | 177 | 222 | 243 | 273 | 334 |
| 3,100    | 54.0 | 61.6  | 77.6 | 106  | 139 | 164  | 178 | 225 | 279 | 306 | 342 | 416 |
| 3,800    | 68.7 | 77.9  | 97.4 | 132  | 173 | 204  | 222 | 279 | 345 | 377 | 421 | 509 |
| 4,400    | 80.0 | 90.5  | 113  | 153  | 201 | 237  | 257 | 323 | 400 | 437 | 488 | 589 |

**Power consumption 53V DC, fan cooling F<sub>1</sub> watt**

|          |      |       |      |      |      |      |      |      |      |      |      |      |
|----------|------|-------|------|------|------|------|------|------|------|------|------|------|
| rpm \ °C | -25  | -23.3 | -20  | -15  | -10  | -6.7 | -5   | 0    | 5    | 7.2  | 10   | 15   |
| 2,500    | 40.8 | 44.1  | 50.1 | 58.5 | 66.0 | 70.4 | 72.5 | 78.5 | 83.9 | 86.1 | 88.7 | 93.1 |
| 3,100    | 46.5 | 50.1  | 57.0 | 66.9 | 76.5 | 82.6 | 85.7 | 94.7 | 103  | 107  | 112  | 121  |
| 3,800    | 58.2 | 62.2  | 70.0 | 81.7 | 93.7 | 102  | 106  | 119  | 132  | 137  | 145  | 159  |
| 4,400    | 72.4 | 76.7  | 85.3 | 98.8 | 113  | 122  | 128  | 143  | 160  | 167  | 177  | 196  |

**Current consumption 53V DC, fan cooling F<sub>1</sub> A**

|          |      |       |      |      |      |      |      |      |      |      |      |      |
|----------|------|-------|------|------|------|------|------|------|------|------|------|------|
| rpm \ °C | -25  | -23.3 | -20  | -15  | -10  | -6.7 | -5   | 0    | 5    | 7.2  | 10   | 15   |
| 2,500    | 0.78 | 0.86  | 1.01 | 1.23 | 1.43 | 1.55 | 1.60 | 1.75 | 1.87 | 1.91 | 1.95 | 1.98 |
| 3,100    | 0.65 | 0.74  | 0.90 | 1.14 | 1.38 | 1.52 | 1.59 | 1.79 | 1.97 | 2.04 | 2.12 | 2.23 |
| 3,800    | 0.87 | 0.96  | 1.13 | 1.40 | 1.67 | 1.85 | 1.94 | 2.20 | 2.45 | 2.55 | 2.68 | 2.89 |
| 4,400    | 1.36 | 1.45  | 1.64 | 1.93 | 2.24 | 2.44 | 2.55 | 2.86 | 3.17 | 3.30 | 3.47 | 3.76 |

**COP (EN 12900 Household/CECOMAF) 53V DC, fan cooling F<sub>1</sub> W/W**

|          |      |       |      |      |      |      |      |      |      |      |      |      |
|----------|------|-------|------|------|------|------|------|------|------|------|------|------|
| rpm \ °C | -25  | -23.3 | -20  | -15  | -10  | -6.7 | -5   | 0    | 5    | 7.2  | 10   | 15   |
| 2,500    | 0.77 | 0.83  | 0.94 | 1.12 | 1.32 | 1.47 | 1.55 | 1.82 | 2.12 | 2.27 | 2.47 | 2.87 |
| 3,100    | 0.92 | 0.98  | 1.09 | 1.27 | 1.46 | 1.60 | 1.67 | 1.91 | 2.17 | 2.29 | 2.45 | 2.74 |
| 3,800    | 0.94 | 1.00  | 1.12 | 1.30 | 1.49 | 1.62 | 1.68 | 1.89 | 2.11 | 2.21 | 2.33 | 2.57 |
| 4,400    | 0.89 | 0.95  | 1.07 | 1.25 | 1.44 | 1.56 | 1.63 | 1.82 | 2.01 | 2.10 | 2.21 | 2.41 |

**COP (ASHRAE LBP) 53V DC, fan cooling F<sub>1</sub> W/W**

|          |      |       |      |      |      |      |      |      |      |      |      |      |
|----------|------|-------|------|------|------|------|------|------|------|------|------|------|
| rpm \ °C | -25  | -23.3 | -20  | -15  | -10  | -6.7 | -5   | 0    | 5    | 7.2  | 10   | 15   |
| 2,500    | 0.98 | 1.05  | 1.19 | 1.41 | 1.66 | 1.84 | 1.95 | 2.28 | 2.67 | 2.86 | 3.12 | 3.63 |
| 3,100    | 1.16 | 1.23  | 1.37 | 1.59 | 1.83 | 2.00 | 2.09 | 2.39 | 2.72 | 2.87 | 3.07 | 3.45 |
| 3,800    | 1.18 | 1.25  | 1.40 | 1.62 | 1.85 | 2.01 | 2.10 | 2.36 | 2.64 | 2.76 | 2.92 | 3.22 |
| 4,400    | 1.10 | 1.18  | 1.33 | 1.55 | 1.79 | 1.94 | 2.02 | 2.27 | 2.51 | 2.62 | 2.76 | 3.02 |

**Operational errors**

| Error code | Error type   |
|------------|--|
|            | Can be read out in the software <b>TOOL4COOL®</b>  |
| 6          | <b>Thermostat failure</b><br>(If the NTC thermistor is short-circuit or has no connection, the electronic unit will enter manual mode).  |
| 5          | <b>Thermal cut-out of electronic unit</b><br>(If the refrigeration system has been too heavily loaded, or if the ambient temperature is high, the electronic unit will run too hot). |
| 4          | <b>Minimum motor speed error</b><br>(If the refrigeration system is too heavily loaded, the motor cannot maintain minimum speed at approximately 1,850 rpm).                         |
| 3          | <b>Motor start error</b><br>(The rotor is blocked or the differential pressure in the refrigeration system is too high).   |
| 2          | <b>Fan over-current cut-out</b><br>(The fan loads the electronic unit with more than 1.8A <sub>peak</sub> ).   |
| 1          | <b>Battery protection cut-out</b><br>(The voltage is outside the cut-out setting).   |

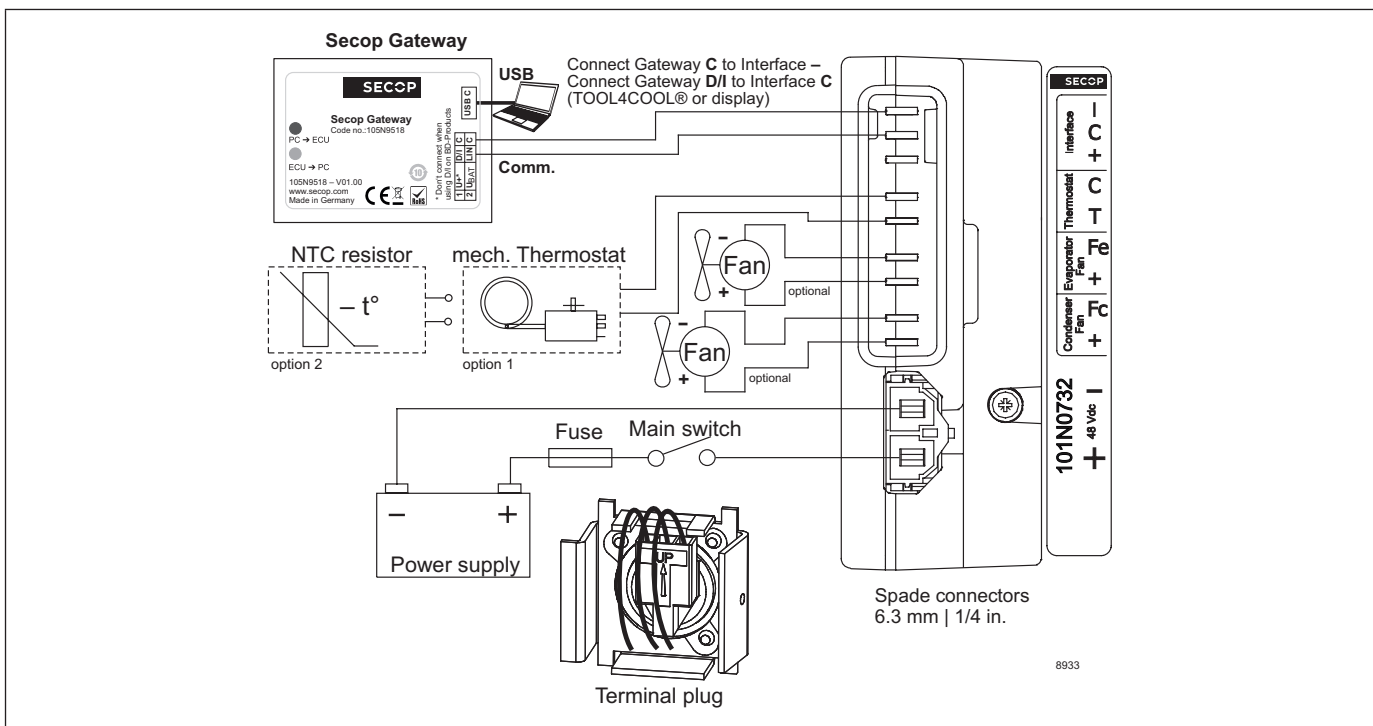
**Accessories for BD250GH.2**

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

| Electrical (cables, sensors, etc.) | Code number |                    |
|------------------------------------|-------------|--------------------|
|                                    | Single pack | 1 - Pack           |
| DC line cord, 900 mm               | 105N9542    | 105N9543, 36 pcs.  |
| DC line cord, 2000 mm              | 105N9540    | 105N9541, 36 pcs.  |
| DC line cord, 5000 mm              | 105N9538    | 105N9539, 36 pcs.  |
| Temperature sensor 470 mm          | 105N9612    | 105N9613, 200 pcs. |
| Temperature sensor 1000 mm         | 105N9614    | 105N9615, 100 pcs. |
| Temperature sensor 1500 mm         | 105N9616    | 105N9617, 100 pcs. |
| Secop Gateway                      | 105N9518    | -                  |

| Test conditions         | EN 12900/CECOMAF | ASHRAE LBP |
|-------------------------|------------------|------------|
| Condensing temperature  | 55°C             | 54.4°C     |
| Ambient temperature     | 32°C             | 32°C       |
| Suction gas temperature | 32°C             | 32°C       |
| Liquid temperature      | no subcooling    | 32°C       |

|                            |                   |
|----------------------------|-------------------|
| Not deliverable from Secop |                   |
| Slow-blow fuse             | 16A               |
| Main switch                | rated to min. 25A |



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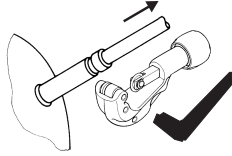
Instructions for Electronic Units  
are available for download on  
[www.secop.com](http://www.secop.com)



# BD Compressors



## Service/Repair



### BD Nano



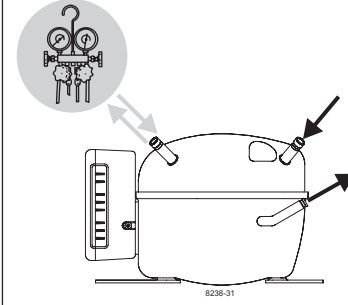
**! max. 150°C/302°F !  
at socket**  
brazing solder: silver with flux

Do not heat up the bottom of the discharge connector directly.  
Do not braze longer than 10 seconds and wait for 5 minutes for the next soldering attempt (Product Bulletin DES.N.101.M1).

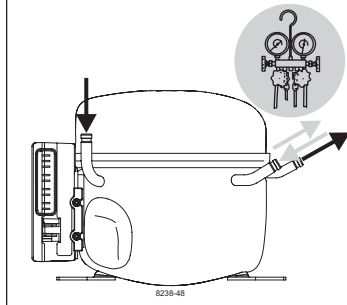
### BD Micro



### BD P-Housing



### BD T-Housing



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