

## Single Pack BD350GH 48V DC PM

Single pack code number: **195B4256**

| Position | Title                                      | Code     | Amount |
|----------|--|----------|--------|
| 1        | Compressor BD350GH                         | 102Z3031 | 1      |
| 2        | Electronic unit - Telecom                  | 101N0721 | 1      |
| 3        | Bolt joint for one compressor   M6   ø16mm | 118-1917 | 1      |

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## BD350GH Direct Current Compressor R134a 48-56V DC



### General

|  |                            |
|--|----------------------------|
| Code number (without electronic units) | 102Z3031                   |
| Electronic unit - Telecom              | 101N0720, 36 pcs: 101N0721 |
| Approvals                              | UL, CCC                    |
| Compressors on pallet                  | 125                        |

### 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        | F <sub>1</sub> | F <sub>1</sub> | F <sub>1</sub> |
| 38°C        | F <sub>1</sub> | F <sub>1</sub> | F <sub>1</sub> |
| 43°C        | F <sub>1</sub> | F <sub>1</sub> | F <sub>1</sub> |

Remarks on application:  
 - evaporator fan max. 60W  
 - condenser fan max. 40W  
 - starting ability: LST (low starting torque) only

### Motor

|                                     |                |
|-------------------------------------|----------------|
| Motor type                          | variable speed |
| Resistance, all 3 windings (25°C) Ω | 0.4            |

### Design

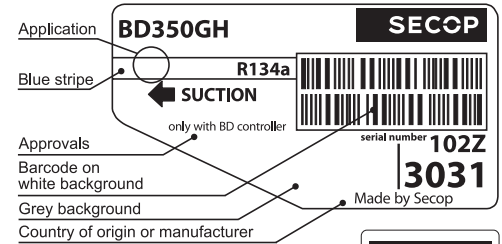
|   |                   |
|---|-------------------|
| Displacement cm <sup>3</sup>                  | 5.08              |
| Oil quantity (type) cm <sup>3</sup>           | 280 (polyolester) |
| Maximum refrigerant charge g                  | 400               |
| Free gas volume in compressor cm <sup>3</sup> | 1690              |
| Weight - Compressor/Electronic unit kg        | 7.9/0.27          |

### Battery protection settings

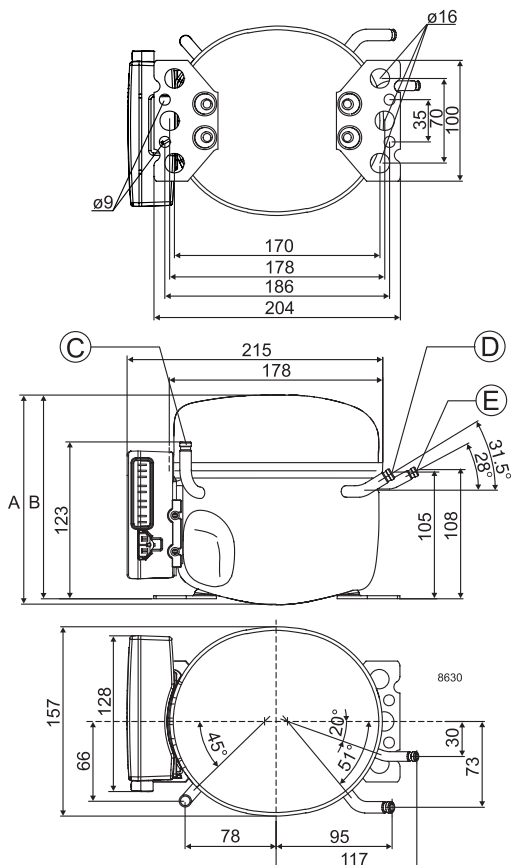
| Voltage                      | Min. value | Default | Max. value |
|------------------------------|------------|---------|------------|
| Cut out (0.1 steps) VDC      | 32         | 36      | 60         |
| Cut in diff. (0.1 steps) VDC | 0.5        | 4.0     | 10.0       |

### Dimensions

|  |                           |                          |
|--|---------------------------|--------------------------|
| Height mm                                    | A                         | 173                      |
|  | B                         | 169                      |
|  | B1                        | -                        |
|  | B2                        | -                        |
| Suction connector location/I.D. mm   angle   | C                         | 6.2   90°                |
|  | material   comment        | Cu-plated steel   Al cap |
| Process connector location/I.D. mm   angle   | D                         | 6.2   31.5°              |
|  | material   comment        | Cu-plated steel   Al cap |
| Discharge connector location/I.D. mm   angle | E                         | 5.0   28°                |
|  | material   comment        | Cu-plated steel   Al cap |
| Connector tolerance I.D. mm                  | ±0.09, on 5.0 +0.12/+0.20 |                          |
| Remarks                                      |                           |                          |



- 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) 56V 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    | 84,7 | 93,7  | 113 | 147 | 188 | 219  | 236 | 292 | 358 | 390 | 434 | 520 |
| 3,000    | 101  | 112   | 135 | 176 | 224 | 261  | 282 | 349 | 428 | 466 | 518 | 622 |
| 3,500    | 112  | 125   | 151 | 196 | 251 | 293  | 316 | 392 | 480 | 523 | 582 | 698 |
| 4,000    | 121  | 135   | 164 | 216 | 277 | 324  | 350 | 436 | 535 | 584 | 650 | 781 |

**Capacity (ASHRAE LBP) 56V 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    | 105 | 116   | 140 | 182 | 233 | 271  | 292 | 363 | 444 | 484 | 539 | 648 |
| 3,000    | 125 | 138   | 167 | 217 | 278 | 324  | 349 | 433 | 531 | 579 | 644 | 775 |
| 3,500    | 139 | 154   | 186 | 243 | 311 | 362  | 391 | 486 | 596 | 650 | 723 | 870 |
| 4,000    | 150 | 167   | 203 | 267 | 343 | 401  | 434 | 540 | 664 | 725 | 808 | 973 |

**Power consumption 56V 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    | 85.2 | 89.6  | 98.3 | 112 | 127 | 137  | 142 | 158 | 174 | 181 | 190 | 205 |
| 3,000    | 95.0 | 100   | 111  | 129 | 147 | 159  | 166 | 185 | 205 | 214 | 225 | 244 |
| 3,500    | 107  | 114   | 127  | 147 | 169 | 184  | 192 | 215 | 238 | 249 | 262 | 285 |
| 4,000    | 131  | 139   | 155  | 181 | 208 | 226  | 236 | 265 | 294 | 307 | 323 | 352 |

**Current consumption 56V 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    | 1.52 | 1.60  | 1.76 | 2.01 | 2.27 | 2.45 | 2.54 | 2.82 | 3.11 | 3.23 | 3.39 | 3.67 |
| 3,000    | 1.70 | 1.79  | 1.99 | 2.30 | 2.62 | 2.85 | 2.96 | 3.31 | 3.66 | 3.81 | 4.01 | 4.35 |
| 3,500    | 1.92 | 2.03  | 2.26 | 2.63 | 3.02 | 3.29 | 3.43 | 3.84 | 4.26 | 4.44 | 4.67 | 5.08 |
| 4,000    | 2.34 | 2.48  | 2.77 | 3.23 | 3.71 | 4.04 | 4.22 | 4.73 | 5.25 | 5.48 | 5.77 | 6.28 |

**COP (EN 12900 Household/CECOMAF) 56V 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    | 0.99 | 1.05  | 1.15 | 1.31 | 1.48 | 1.59 | 1.66 | 1.85 | 2.06 | 2.16 | 2.29 | 2.53 |
| 3,000    | 1.06 | 1.11  | 1.21 | 1.37 | 1.53 | 1.64 | 1.70 | 1.88 | 2.09 | 2.18 | 2.31 | 2.55 |
| 3,500    | 1.05 | 1.09  | 1.19 | 1.33 | 1.48 | 1.59 | 1.65 | 1.82 | 2.01 | 2.10 | 2.22 | 2.45 |
| 4,000    | 0.92 | 0.97  | 1.06 | 1.19 | 1.33 | 1.43 | 1.48 | 1.64 | 1.82 | 1.90 | 2.01 | 2.22 |

**COP (ASHRAE LBP) 56V 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    | 1.23 | 1.30  | 1.43 | 1.63 | 1.84 | 1.98 | 2.06 | 2.31 | 2.57 | 2.70 | 2.86 | 3.18 |
| 3,000    | 1.32 | 1.38  | 1.51 | 1.70 | 1.90 | 2.04 | 2.12 | 2.35 | 2.61 | 2.73 | 2.89 | 3.20 |
| 3,500    | 1.30 | 1.36  | 1.48 | 1.66 | 1.85 | 1.98 | 2.05 | 2.27 | 2.52 | 2.63 | 2.79 | 3.08 |
| 4,000    | 1.15 | 1.21  | 1.31 | 1.48 | 1.66 | 1.78 | 1.85 | 2.05 | 2.28 | 2.38 | 2.52 | 2.79 |

| 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       |

**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 BD350GH**

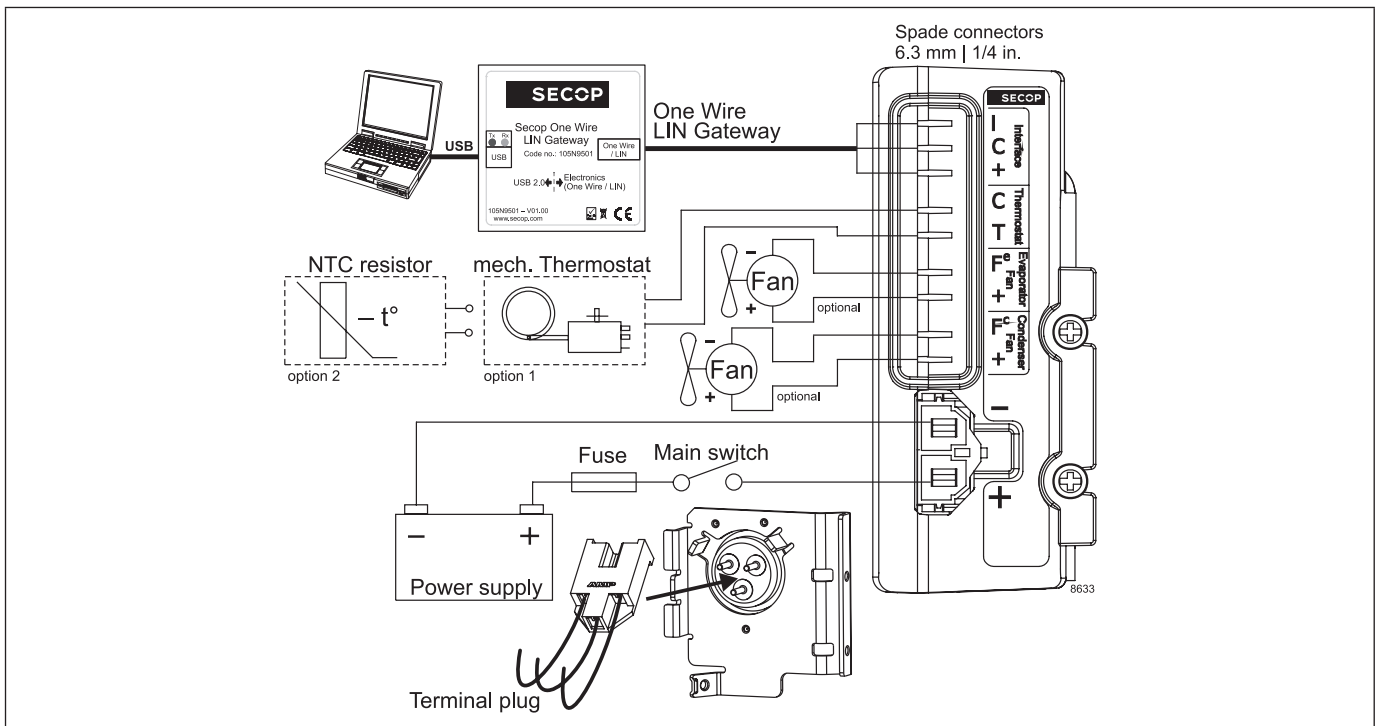
| Mounting                               | Code number |  |
|--|-------------|--|
| Bolt joint for one compressor Ø: 16 mm | 118-1917    |  |
| Bolt joint in quantities Ø: 16 mm      | 118-1918    |  |
| Snap-on in quantities Ø: 16 mm         | 118-1919    |  |

| Electrical (cables, sensors, etc.) | Code number |                    |
|------------------------------------|-------------|--------------------|
|                                    | Single pack | I - 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. |
| One Wire/LIN gateway               | 105N9501    | -                  |
| Comm. cable, 1500 mm               | -           | 105N9545, 100 pcs. |
| Comm. cable, 3000 mm               | -           | 105N9547, 50 pcs.  |

|                            |                   |
|----------------------------|-------------------|
| 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)



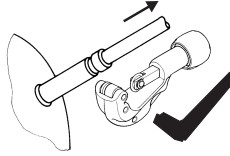
# BD Compressors



## Service/Repair



8545



R290



R600a

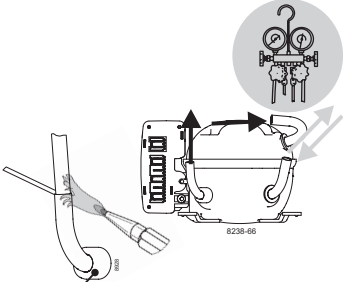


R170



R1234yf

### BD Nano



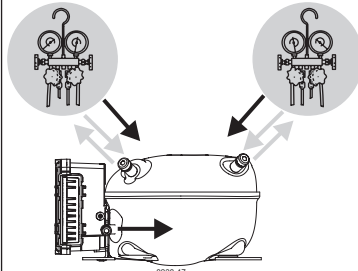
8238-66

**! max. 150°C/302°F !  
at socket**

brazing solder: silver with flux

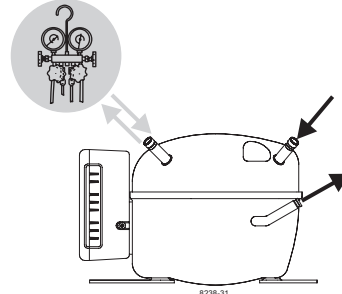
Do not heat up the bottom of the discharge connector directly.  
Do not braze longer than 10 seconds and wait for 5 minutes for the next soldering attempt (Product Bulletin DES.N.101.M1).

### BD Micro



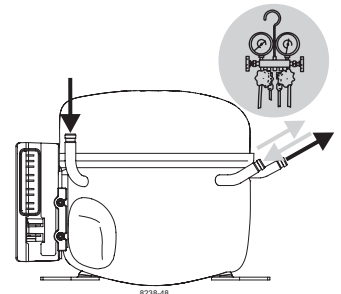
8238-47

### BD P-Housing



8238-31

### BD T-Housing



8238-48

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