

Provisional Technical Data Sheet

Compressor model **NBC30NR**
 Voltage **115-127V 60Hz ~1**
 Refrigerant **R290**

APPLICATION

COMPRESSOR

MOTOR

| | | | | | |
|--------------------|--------------------------|--------------|----------------------|--------------------------|-----------|
| Application | Low-Medium Back Pressure | Displacement | 3,10 cm ³ | Nominal Power | 1/7 hp |
| Refrigerant | R290 | Diameter | 17,20 mm | Voltage/Frequency | 115V 60Hz |
| Evaporating Temp. | -40,0 °C to 0,0 °C | Stroke | 13,40 mm | Voltage range | 103-140 V |
| Expansion | Capillar/Valve | Net Weight | 6,10 Kg | Type | CSIR |
| Comp. Cooling | Static/Fan cooled | Oil type | ISO VG 22 ESTER | Phase number | 1 PH |
| Max. ambient temp. | 43,0 °C | Oil charge | 120 cm ³ | Locked Rotor Amps (LRA) | 12,00 A |
| | | | | Main W. resist. at 25°C | 3,85 Ω |
| | | | | Start W. resist. at 25°C | 27,00 Ω |

NOMINAL PERFORMANCE

| | ASHRAE | CECOMAF |
|------------------|--------------|--------------|
| Cooling Capacity | 137 kCal/h | 118 W |
| COP | 1,40 W/W | 1,07 W/W |
| EER | 1,20 kCal/Wh | 0,92 kCal/Wh |
| Input Power | 114 W | 110 W |
| Current | 1,61 A | 1,59 A |

APPROVALS



TEST CYCLE CONDITIONS

| | ASHRAE LMBP (B) | CECOMAF LMBP (A) |
|---------------------------------------|--------------------|---------------------|
| Evaporating temp. (T _e) | -23,3 °C | -25,0 °C |
| Condensing temp. (T _c) | 55,0 °C | 55,0 °C |
| Liquid temp. (T _{liq.}) | 32,0 °C | 55,0 °C |
| Ambient temp. (T _{amb.}) | 32,0 °C | 32,0 °C |
| Suction temp. (T _{suction}) | 32,0 °C | 32,0 °C |
| Voltage/Frequency | 115 V 60 Hz | 115 V 60 Hz |

ELECTRICAL COMPONENTS

| | | | | |
|-------------------------|-------------------|--|--|--|
| Starting capacitor | 50 µF 330 V | | | |
| Relay | Option 1 | | | |
| Reference | QL2-5.30 B3 (011) | | | |
| Pick-Up | 5.3 A | | | |
| Drop-Out | 4.5 A | | | |
| Protector | Option 1 | | | |
| Reference | DRB18P61A1 (064) | | | |
| Current | | | | |
| Time check | | | | |
| Disc temp. (Open/Close) | 150,00 / 61,00 °C | | | |

This product is approved for R290 and R600a regarding explosion safety according to standard EN 60335-1 and EN 60335-2-34

Provisional Technical Data Sheet

ASHRAE

| Tc °C | Te °C | Cooling Capacity kCal/h | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|-------------------------------|------------------|--------------|------------|----------------|
| 40 | -40 | 59 | 70 | 1,37 | 0,98 | 0,84 |
| 40 | -35 | 80 | 78 | 1,41 | 1,20 | 1,03 |
| 40 | -30 | 108 | 86 | 1,45 | 1,46 | 1,25 |
| 40 | -25 | 143 | 95 | 1,50 | 1,75 | 1,51 |
| 40 | -23,3 | 157 | 98 | 1,52 | 1,86 | 1,60 |
| 40 | -20 | 185 | 104 | 1,55 | 2,07 | 1,78 |
| 40 | -15 | 234 | 113 | 1,60 | 2,41 | 2,07 |
| 40 | -10 | 289 | 122 | 1,66 | 2,76 | 2,37 |
| 40 | -5 | 351 | 131 | 1,72 | 3,11 | 2,67 |
| 40 | 0 | 420 | 141 | 1,79 | 3,46 | 2,98 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 45 | -40 | 57 | 72 | 1,38 | 0,92 | 0,79 |
| 45 | -35 | 77 | 81 | 1,43 | 1,10 | 0,95 |
| 45 | -30 | 104 | 90 | 1,47 | 1,33 | 1,15 |
| 45 | -25 | 137 | 100 | 1,53 | 1,60 | 1,37 |
| 45 | -23,3 | 150 | 103 | 1,55 | 1,69 | 1,45 |
| 45 | -20 | 178 | 110 | 1,58 | 1,88 | 1,62 |
| 45 | -15 | 225 | 120 | 1,65 | 2,18 | 1,88 |
| 45 | -10 | 279 | 130 | 1,71 | 2,49 | 2,14 |
| 45 | -5 | 339 | 140 | 1,79 | 2,81 | 2,42 |
| 45 | 0 | 407 | 151 | 1,86 | 3,13 | 2,70 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 50 | -40 | 55 | 74 | 1,39 | 0,86 | 0,74 |
| 50 | -35 | 74 | 84 | 1,44 | 1,02 | 0,87 |
| 50 | -30 | 99 | 94 | 1,50 | 1,22 | 1,05 |
| 50 | -25 | 131 | 105 | 1,56 | 1,45 | 1,25 |
| 50 | -23,3 | 144 | 109 | 1,58 | 1,54 | 1,32 |
| 50 | -20 | 170 | 116 | 1,62 | 1,71 | 1,47 |
| 50 | -15 | 216 | 127 | 1,69 | 1,98 | 1,70 |
| 50 | -10 | 268 | 138 | 1,77 | 2,26 | 1,95 |
| 50 | -5 | 328 | 149 | 1,85 | 2,55 | 2,19 |
| 50 | 0 | 394 | 161 | 1,94 | 2,85 | 2,45 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 55 | -40 | 53 | 76 | 1,40 | 0,81 | 0,70 |
| 55 | -35 | 70 | 87 | 1,46 | 0,94 | 0,81 |
| 55 | -30 | 94 | 98 | 1,52 | 1,11 | 0,96 |
| 55 | -25 | 125 | 110 | 1,59 | 1,32 | 1,14 |
| 55 | -23,3 | 137 | 114 | 1,61 | 1,40 | 1,20 |
| 55 | -20 | 163 | 122 | 1,66 | 1,55 | 1,33 |
| 55 | -15 | 207 | 134 | 1,74 | 1,80 | 1,55 |
| 55 | -10 | 258 | 146 | 1,83 | 2,06 | 1,77 |
| 55 | -5 | 316 | 158 | 1,92 | 2,32 | 2,00 |
| 55 | 0 | 381 | 171 | 2,02 | 2,59 | 2,23 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 60 | -40 | 51 | 78 | 1,41 | 0,76 | 0,65 |
| 60 | -35 | 67 | 90 | 1,47 | 0,86 | 0,74 |
| 60 | -30 | 89 | 102 | 1,54 | 1,02 | 0,87 |
| 60 | -25 | 119 | 115 | 1,62 | 1,20 | 1,03 |
| 60 | -23,3 | 130 | 119 | 1,64 | 1,27 | 1,09 |
| 60 | -20 | 155 | 128 | 1,70 | 1,41 | 1,21 |
| 60 | -15 | 198 | 141 | 1,79 | 1,64 | 1,41 |
| 60 | -10 | 248 | 154 | 1,89 | 1,87 | 1,61 |
| 60 | -5 | 305 | 167 | 1,99 | 2,12 | 1,82 |
| 60 | 0 | 368 | 181 | 2,10 | 2,36 | 2,03 |

CECOMAF

| Tc °C | Te °C | Cooling Capacity W | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|--------------------------|------------------|--------------|------------|----------------|
| 40 | -40 | 64 | 70 | 1,37 | 0,92 | 0,79 |
| 40 | -35 | 91 | 78 | 1,41 | 1,16 | 1,01 |
| 40 | -30 | 124 | 86 | 1,45 | 1,43 | 1,24 |
| 40 | -25 | 163 | 95 | 1,50 | 1,72 | 1,49 |
| 40 | -23,3 | 178 | 98 | 1,52 | 1,82 | 1,57 |
| 40 | -20 | 209 | 104 | 1,55 | 2,02 | 1,74 |
| 40 | -15 | 261 | 113 | 1,60 | 2,32 | 2,00 |
| 40 | -10 | 320 | 122 | 1,66 | 2,62 | 2,26 |
| 40 | -5 | 384 | 131 | 1,72 | 2,92 | 2,53 |
| 40 | 0 | 455 | 141 | 1,79 | 3,23 | 2,79 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 45 | -40 | 59 | 72 | 1,38 | 0,82 | 0,71 |
| 45 | -35 | 83 | 81 | 1,43 | 1,02 | 0,88 |
| 45 | -30 | 112 | 90 | 1,47 | 1,24 | 1,07 |
| 45 | -25 | 148 | 100 | 1,53 | 1,48 | 1,28 |
| 45 | -23,3 | 162 | 103 | 1,55 | 1,57 | 1,35 |
| 45 | -20 | 190 | 110 | 1,58 | 1,73 | 1,50 |
| 45 | -15 | 239 | 120 | 1,65 | 1,99 | 1,72 |
| 45 | -10 | 294 | 130 | 1,71 | 2,26 | 1,95 |
| 45 | -5 | 355 | 140 | 1,79 | 2,53 | 2,18 |
| 45 | 0 | 422 | 151 | 1,86 | 2,80 | 2,42 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 50 | -40 | 55 | 74 | 1,39 | 0,74 | 0,64 |
| 50 | -35 | 74 | 84 | 1,44 | 0,88 | 0,76 |
| 50 | -30 | 100 | 94 | 1,50 | 1,06 | 0,92 |
| 50 | -25 | 133 | 105 | 1,56 | 1,27 | 1,09 |
| 50 | -23,3 | 145 | 109 | 1,58 | 1,34 | 1,16 |
| 50 | -20 | 172 | 116 | 1,62 | 1,48 | 1,28 |
| 50 | -15 | 217 | 127 | 1,69 | 1,71 | 1,48 |
| 50 | -10 | 268 | 138 | 1,77 | 1,94 | 1,68 |
| 50 | -5 | 325 | 149 | 1,85 | 2,18 | 1,88 |
| 50 | 0 | 389 | 161 | 1,94 | 2,42 | 2,09 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 55 | -40 | 50 | 76 | 1,40 | 0,66 | 0,57 |
| 55 | -35 | 66 | 87 | 1,46 | 0,76 | 0,66 |
| 55 | -30 | 89 | 98 | 1,52 | 0,90 | 0,78 |
| 55 | -25 | 118 | 110 | 1,59 | 1,07 | 0,92 |
| 55 | -23,3 | 129 | 114 | 1,61 | 1,13 | 0,98 |
| 55 | -20 | 153 | 122 | 1,66 | 1,25 | 1,08 |
| 55 | -15 | 194 | 134 | 1,74 | 1,45 | 1,25 |
| 55 | -10 | 242 | 146 | 1,83 | 1,66 | 1,43 |
| 55 | -5 | 296 | 158 | 1,92 | 1,87 | 1,61 |
| 55 | 0 | 356 | 171 | 2,02 | 2,08 | 1,80 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 60 | -40 | 45 | 78 | 1,41 | 0,58 | 0,50 |
| 60 | -35 | 58 | 90 | 1,47 | 0,64 | 0,56 |
| 60 | -30 | 77 | 102 | 1,54 | 0,75 | 0,65 |
| 60 | -25 | 102 | 115 | 1,62 | 0,89 | 0,77 |
| 60 | -23,3 | 112 | 119 | 1,64 | 0,94 | 0,81 |
| 60 | -20 | 134 | 128 | 1,70 | 1,05 | 0,91 |
| 60 | -15 | 172 | 141 | 1,79 | 1,22 | 1,05 |
| 60 | -10 | 216 | 154 | 1,89 | 1,40 | 1,21 |
| 60 | -5 | 267 | 167 | 1,99 | 1,59 | 1,38 |
| 60 | 0 | 323 | 181 | 2,10 | 1,79 | 1,54 |

Provisional Technical Data Sheet

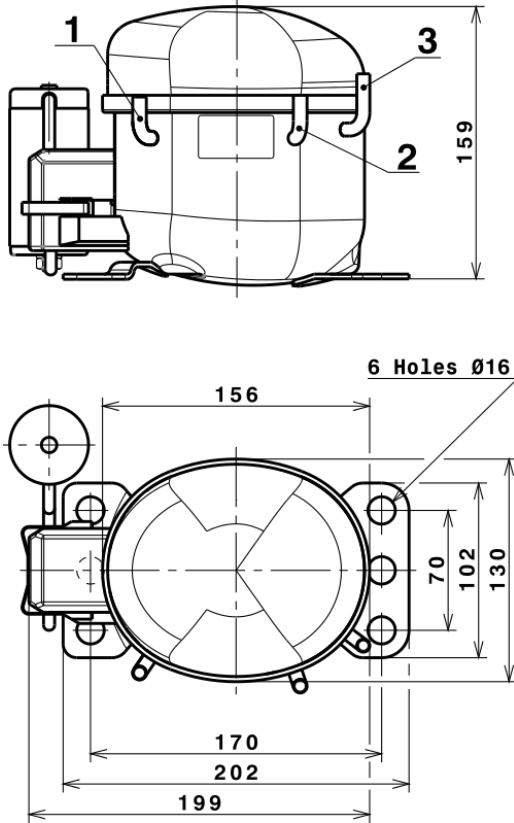
EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A) | Mass Flow (kg/h) |
|---|----------------------|-----------------|--------------|----------------------|
| 1 | 717,5559319345 | 62,6342594999 | 1,1550660082 | 6,6633970229848 |
| 2 | 20,3353804476 | 0,3838140618 | 0,0018509944 | 0,21638213387391 |
| 3 | -6,7450462259 | 2,0535822787 | 0,0164152108 | -0,033124702457881 |
| 4 | 0,1230202856 | 0,0049303231 | 0,0001363178 | 0,0018177542385949 |
| 5 | -0,1447484952 | 0,0411228507 | 0,0003608728 | -0,00070571819799995 |

| | |
|----------|---|
| Equation | $x_1 + x_2Te + x_3Tc + x_4Te^2 + x_5TeTc$ |
|----------|---|

Provisional Technical Data Sheet

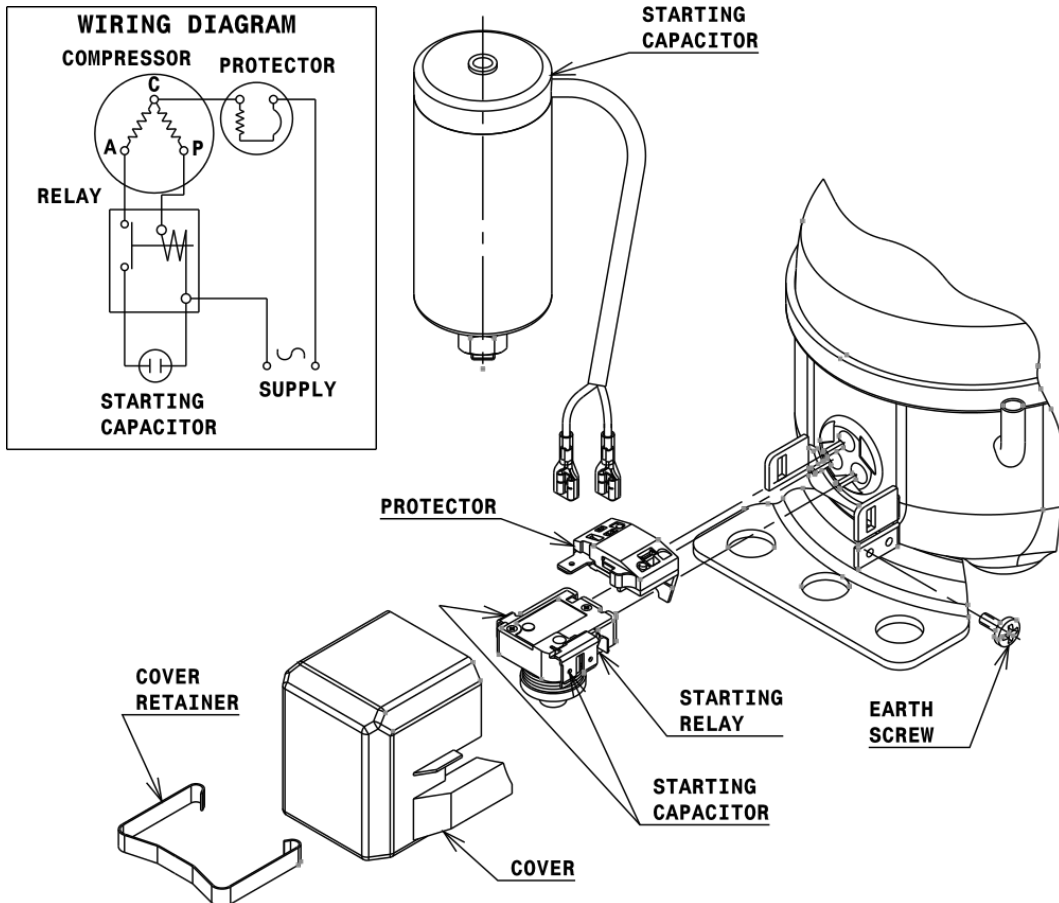
COMPRESSOR DIMENSIONS



| DESIGNATION | INTERNAL DIAM. |
|-------------|----------------|
| 1 Suction | 6,1 mm |
| 2 Service | 6,1 mm |
| 3 Discharge | 5,1 mm |

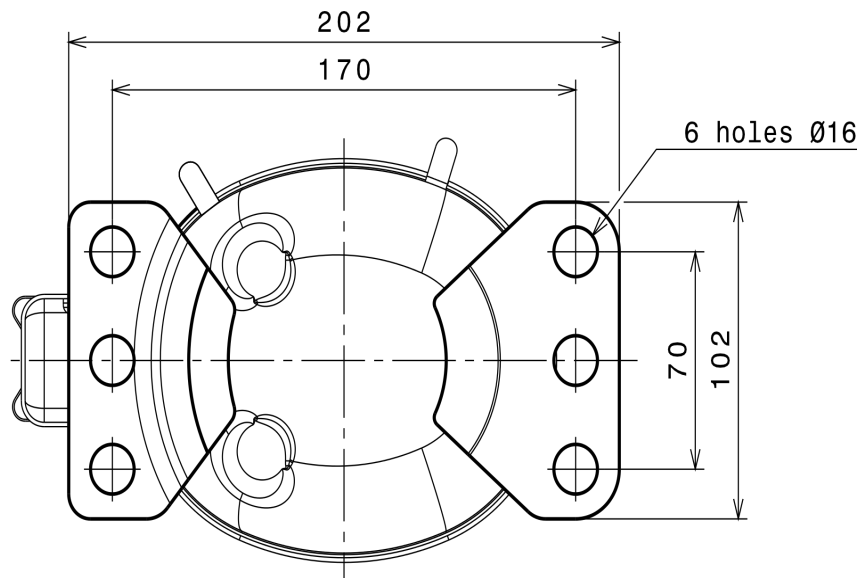
WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

CSIR CONNECTION (B, Small L ranges)



Provisional Technical Data Sheet

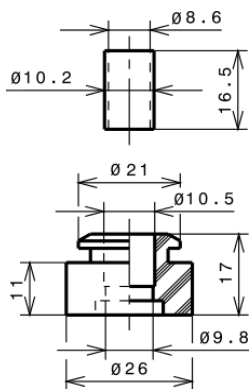
FIXINGS



SILENT BLOCKS (MOUNTING ACCESSORIES)

STANDARD

$\varnothing 16$ holes (170x70 net)



SOA

SOA R290 LMBP

