

Technical Data Sheet

ENGINEERING
TOMORROW



Compressor model **GL90TB**
Voltage **220-240V 50Hz ~1**
Refrigerant **R134a**

APPLICATION

COMPRESSOR

MOTOR

| | | | | | |
|----------------------|---------------------------|--------------|----------------------|--------------------------|---------------|
| Application | High-Medium Back Pressure | Displacement | 8,85 cm ³ | Nominal Power | 1/4 hp |
| Refrigerant | R134a | Diameter | 25,40 mm | Voltage/Frequency | 220-240V 50Hz |
| Evaporating Temp. | -25,0 °C to 10,0 °C | Stroke | 17,47 mm | Voltage range | 187-264 V |
| Expansion | Capillar/Valve | Net Weight | 9,66 Kg | Type | CSIR |
| Comp. Cooling | Fan cooled | Oil type | ISO VG 32 ESTER | Phase number | 1 PH |
| Max. ambient temp. | 43,0 °C | Oil charge | 295 cm ³ | Locked Rotor Amps (LRA) | 12,00 A |
| Compatible refriger. | R1234yf | | | Max. Cont. Current (MCC) | 3,00 A |
| | | | | Main W. resist. at 25°C | 11,30 Ω |
| | | | | Start W. resist. at 25°C | 27,80 Ω |

NOMINAL PERFORMANCE

| | ASHRAE | CECOMAF |
|------------------|--------------|--------------|
| Cooling Capacity | 680 kCal/h | 660 W |
| COP | 2,20 W/W | 1,90 W/W |
| EER | 1,89 kCal/Wh | 1,64 kCal/Wh |
| Input Power | 360 W | 348 W |
| Current | 2,10 A | 2,04 A |

APPROVALS



TEST CYCLE CONDITIONS

| | ASHRAE HMBP (D) | CECOMAF HMBP (C) |
|---------------------------------------|--------------------|---------------------|
| Evaporating temp. (T _e) | 7,2 °C | 5,0 °C |
| Condensing temp. (T _c) | 55,0 °C | 55,0 °C |
| Liquid temp. (T _{liq.}) | 46,0 °C | 55,0 °C |
| Ambient temp. (T _{amb.}) | 35,0 °C | 32,0 °C |
| Suction temp. (T _{suction}) | 35,0 °C | 32,0 °C |
| Voltage/Frequency | 220 V 50 Hz | 220 V 50 Hz |

ELECTRICAL COMPONENTS

| | Option 1 | Option 2 | | |
|-------------------------|-------------------|-------------------|--|--|
| Starting capacitor | 47- 56 μF 330 V | | | |
| Relay | Option 1 | Option 2 | | |
| Reference | 2014 138. | QLZ-6.1A | | |
| Pick-Up | 6,10 A | 6.10 A | | |
| Drop-Out | 5,20 A | 5.20 A | | |
| Protector | Option 1 | Option 2 | | |
| Reference | T0057 | AE39FHY | | |
| Current | 8,50 A | 9,00 A | | |
| Time check | 7,5-14 seg | 7,5-14 seg | | |
| Disc temp. (Open/Close) | 105,00 / 61,00 °C | 105,00 / 62,00 °C | | |

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TOMORROW



ASHRAE

| Tc °C | Te °C | Cooling Capacity kCal/h | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|-------------------------------|------------------|--------------|------------|----------------|
| 40 | -25 | 175 | 165 | 1,40 | 1,23 | 1,06 |
| 40 | -20 | 242 | 186 | 1,45 | 1,51 | 1,30 |
| 40 | -15 | 322 | 208 | 1,51 | 1,81 | 1,55 |
| 40 | -10 | 416 | 230 | 1,58 | 2,11 | 1,81 |
| 40 | -5 | 523 | 252 | 1,66 | 2,41 | 2,07 |
| 40 | 0 | 643 | 276 | 1,74 | 2,71 | 2,33 |
| 40 | 5 | 777 | 299 | 1,83 | 3,02 | 2,60 |
| 40 | 7,2 | 840 | 310 | 1,88 | 3,15 | 2,71 |
| 40 | 10 | 924 | 324 | 1,94 | 3,32 | 2,85 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 45 | -25 | 162 | 165 | 1,40 | 1,14 | 0,98 |
| 45 | -20 | 222 | 189 | 1,46 | 1,37 | 1,18 |
| 45 | -15 | 296 | 213 | 1,53 | 1,62 | 1,39 |
| 45 | -10 | 384 | 237 | 1,61 | 1,88 | 1,62 |
| 45 | -5 | 485 | 263 | 1,69 | 2,15 | 1,84 |
| 45 | 0 | 599 | 289 | 1,79 | 2,41 | 2,08 |
| 45 | 5 | 726 | 315 | 1,90 | 2,68 | 2,31 |
| 45 | 7,2 | 787 | 327 | 1,95 | 2,80 | 2,41 |
| 45 | 10 | 867 | 342 | 2,02 | 2,95 | 2,54 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 50 | -25 | 148 | 165 | 1,40 | 1,05 | 0,90 |
| 50 | -20 | 203 | 191 | 1,47 | 1,23 | 1,06 |
| 50 | -15 | 271 | 218 | 1,55 | 1,44 | 1,24 |
| 50 | -10 | 352 | 245 | 1,63 | 1,67 | 1,44 |
| 50 | -5 | 447 | 273 | 1,73 | 1,90 | 1,64 |
| 50 | 0 | 554 | 301 | 1,84 | 2,14 | 1,84 |
| 50 | 5 | 676 | 330 | 1,96 | 2,38 | 2,05 |
| 50 | 7,2 | 733 | 343 | 2,02 | 2,48 | 2,14 |
| 50 | 10 | 810 | 360 | 2,10 | 2,62 | 2,25 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 55 | -25 | 135 | 165 | 1,40 | 0,95 | 0,82 |
| 55 | -20 | 183 | 194 | 1,47 | 1,10 | 0,95 |
| 55 | -15 | 245 | 223 | 1,56 | 1,28 | 1,10 |
| 55 | -10 | 320 | 253 | 1,66 | 1,47 | 1,26 |
| 55 | -5 | 408 | 283 | 1,77 | 1,68 | 1,44 |
| 55 | 0 | 510 | 314 | 1,90 | 1,89 | 1,62 |
| 55 | 5 | 625 | 346 | 2,03 | 2,10 | 1,81 |
| 55 | 7,2 | 680 | 360 | 2,10 | 2,20 | 1,89 |
| 55 | 10 | 754 | 378 | 2,19 | 2,32 | 1,99 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 60 | -25 | 122 | 165 | 1,40 | 0,86 | 0,74 |
| 60 | -20 | 164 | 196 | 1,48 | 0,97 | 0,83 |
| 60 | -15 | 219 | 228 | 1,58 | 1,12 | 0,96 |
| 60 | -10 | 288 | 261 | 1,69 | 1,28 | 1,10 |
| 60 | -5 | 370 | 294 | 1,81 | 1,47 | 1,26 |
| 60 | 0 | 466 | 327 | 1,95 | 1,65 | 1,42 |
| 60 | 5 | 575 | 361 | 2,11 | 1,85 | 1,59 |
| 60 | 7,2 | 627 | 377 | 2,18 | 1,93 | 1,66 |
| 60 | 10 | 697 | 396 | 2,28 | 2,05 | 1,76 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 65 | -25 | 108 | 165 | 1,40 | 0,76 | 0,66 |
| 65 | -20 | 144 | 199 | 1,49 | 0,84 | 0,72 |
| 65 | -15 | 193 | 233 | 1,59 | 0,96 | 0,83 |
| 65 | -10 | 256 | 269 | 1,72 | 1,11 | 0,95 |
| 65 | -5 | 332 | 304 | 1,85 | 1,27 | 1,09 |
| 65 | 0 | 421 | 340 | 2,01 | 1,44 | 1,24 |
| 65 | 5 | 524 | 377 | 2,18 | 1,62 | 1,39 |
| 65 | 7,2 | 573 | 393 | 2,26 | 1,70 | 1,46 |
| 65 | 10 | 640 | 414 | 2,38 | 1,80 | 1,54 |

CECOMAF

| Tc °C | Te °C | Cooling Capacity W | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|--------------------------|------------------|--------------|------------|----------------|
| 40 | -25 | 189 | 166 | 1,40 | 1,14 | 0,98 |
| 40 | -20 | 261 | 187 | 1,46 | 1,40 | 1,21 |
| 40 | -15 | 348 | 209 | 1,52 | 1,67 | 1,44 |
| 40 | -10 | 449 | 231 | 1,59 | 1,95 | 1,68 |
| 40 | -5 | 564 | 254 | 1,66 | 2,22 | 1,92 |
| 40 | 0 | 693 | 277 | 1,75 | 2,50 | 2,16 |
| 40 | 5 | 837 | 301 | 1,84 | 2,78 | 2,40 |
| 40 | 7,2 | 904 | 312 | 1,89 | 2,90 | 2,50 |
| 40 | 10 | 994 | 326 | 1,94 | 3,05 | 2,64 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 45 | -25 | 173 | 166 | 1,40 | 1,04 | 0,90 |
| 45 | -20 | 239 | 190 | 1,46 | 1,26 | 1,09 |
| 45 | -15 | 319 | 214 | 1,53 | 1,49 | 1,29 |
| 45 | -10 | 412 | 239 | 1,61 | 1,73 | 1,49 |
| 45 | -5 | 520 | 264 | 1,70 | 1,97 | 1,70 |
| 45 | 0 | 642 | 290 | 1,80 | 2,21 | 1,91 |
| 45 | 5 | 778 | 317 | 1,91 | 2,45 | 2,12 |
| 45 | 7,2 | 842 | 329 | 1,96 | 2,56 | 2,21 |
| 45 | 10 | 928 | 344 | 2,03 | 2,70 | 2,33 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 50 | -25 | 158 | 166 | 1,40 | 0,95 | 0,82 |
| 50 | -20 | 216 | 192 | 1,47 | 1,13 | 0,97 |
| 50 | -15 | 289 | 219 | 1,55 | 1,32 | 1,14 |
| 50 | -10 | 375 | 247 | 1,64 | 1,52 | 1,32 |
| 50 | -5 | 476 | 275 | 1,74 | 1,73 | 1,50 |
| 50 | 0 | 590 | 303 | 1,85 | 1,95 | 1,68 |
| 50 | 5 | 719 | 333 | 1,97 | 2,16 | 1,87 |
| 50 | 7,2 | 780 | 346 | 2,03 | 2,26 | 1,95 |
| 50 | 10 | 862 | 362 | 2,11 | 2,38 | 2,06 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 55 | -25 | 143 | 166 | 1,40 | 0,86 | 0,74 |
| 55 | -20 | 194 | 195 | 1,48 | 1,00 | 0,86 |
| 55 | -15 | 259 | 224 | 1,57 | 1,16 | 1,00 |
| 55 | -10 | 338 | 254 | 1,66 | 1,33 | 1,15 |
| 55 | -5 | 432 | 285 | 1,78 | 1,51 | 1,31 |
| 55 | 0 | 539 | 316 | 1,90 | 1,70 | 1,47 |
| 55 | 5 | 660 | 348 | 2,04 | 1,90 | 1,64 |
| 55 | 7,2 | 718 | 362 | 2,11 | 1,98 | 1,71 |
| 55 | 10 | 796 | 381 | 2,20 | 2,09 | 1,81 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 60 | -25 | 128 | 166 | 1,40 | 0,77 | 0,66 |
| 60 | -20 | 172 | 197 | 1,49 | 0,87 | 0,75 |
| 60 | -15 | 229 | 230 | 1,58 | 1,00 | 0,86 |
| 60 | -10 | 301 | 262 | 1,69 | 1,15 | 0,99 |
| 60 | -5 | 387 | 296 | 1,82 | 1,31 | 1,13 |
| 60 | 0 | 488 | 329 | 1,96 | 1,48 | 1,28 |
| 60 | 5 | 602 | 364 | 2,12 | 1,65 | 1,43 |
| 60 | 7,2 | 656 | 379 | 2,19 | 1,73 | 1,50 |
| 60 | 10 | 730 | 399 | 2,29 | 1,83 | 1,58 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 65 | -25 | 112 | 166 | 1,40 | 0,68 | 0,59 |
| 65 | -20 | 149 | 200 | 1,49 | 0,75 | 0,64 |
| 65 | -15 | 200 | 235 | 1,60 | 0,85 | 0,74 |
| 65 | -10 | 264 | 270 | 1,72 | 0,98 | 0,85 |
| 65 | -5 | 343 | 306 | 1,86 | 1,12 | 0,97 |
| 65 | 0 | 436 | 342 | 2,02 | 1,27 | 1,10 |
| 65 | 5 | 543 | 379 | 2,19 | 1,43 | 1,24 |
| 65 | 7,2 | 594 | 396 | 2,28 | 1,50 | 1,30 |
| 65 | 10 | 664 | 417 | 2,39 | 1,59 | 1,38 |

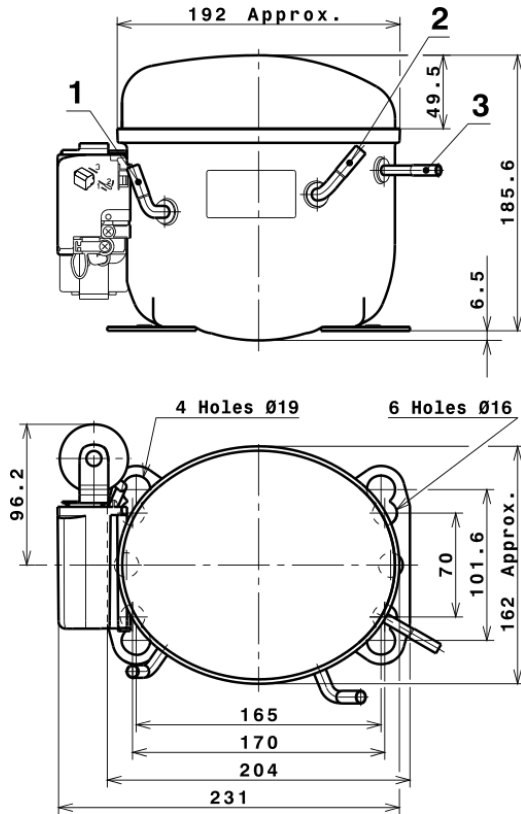


EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A) | Mass Flow (kg/h) |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 1.108,0205830309 | 177,3568099702 | 1,2656279676 | 18,925390568274 |
| 2 | 38,8815135982 | 0,6558281857 | 0,0013045039 | 0,73865613283421 |
| 3 | -10,5849037382 | 2,6777323582 | 0,0122866300 | -0,091891749657412 |
| 4 | 0,2760196588 | 0,0137721604 | 0,0002851524 | 0,0079776951788833 |
| 5 | -0,3001843003 | 0,1071092943 | 0,0004914652 | -0,0023032739683551 |

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

COMPRESSOR DIMENSIONS

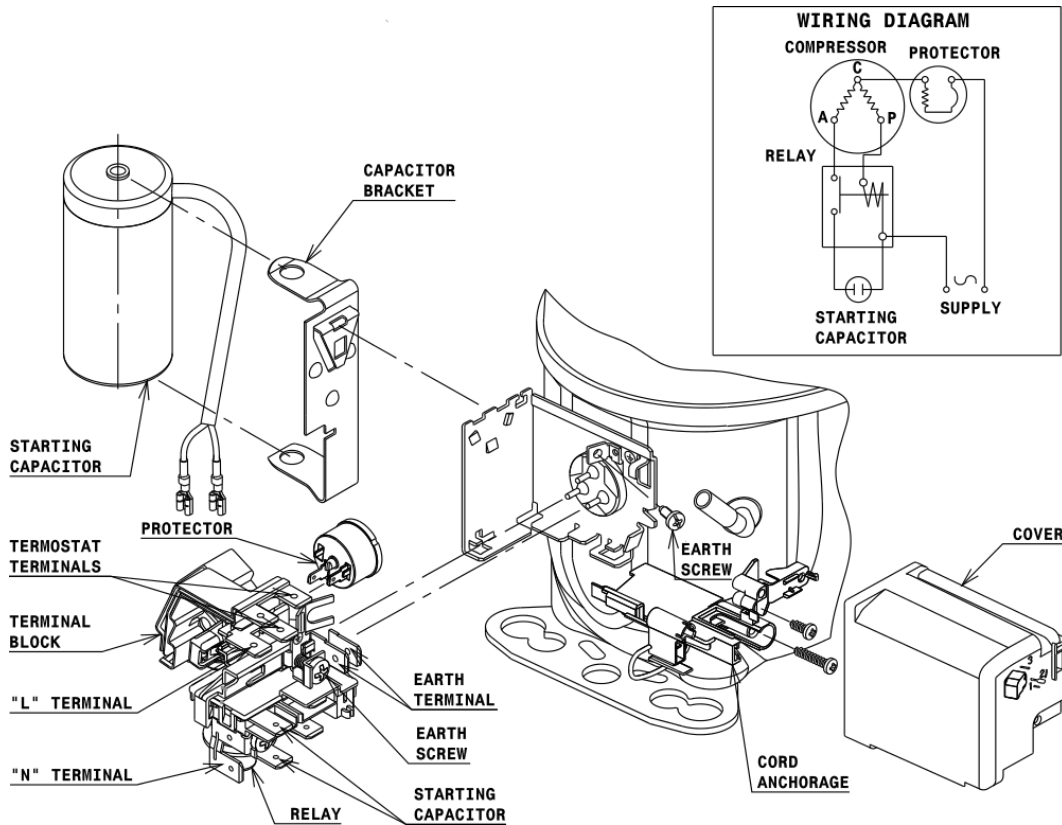


DESIGNATION INTERNAL DIAM.

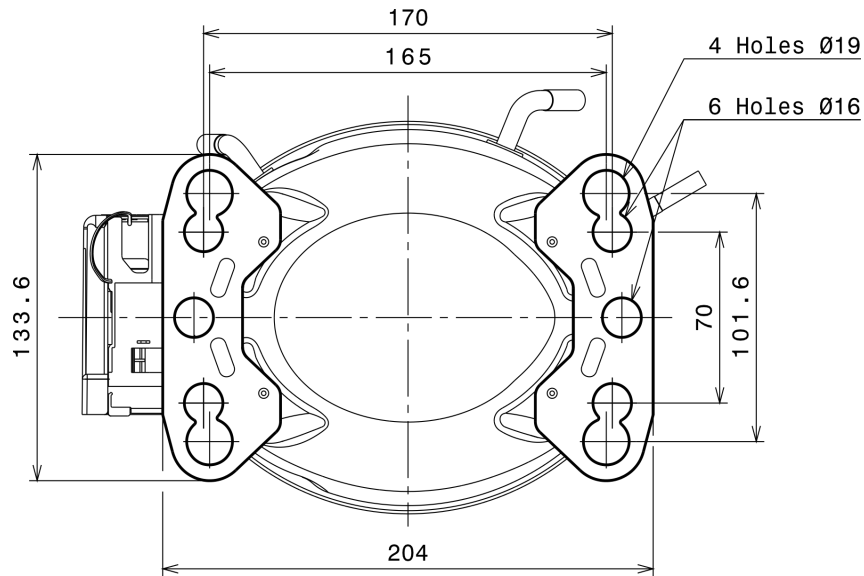
| DESIGNATION | INTERNAL DIAM. |
|-------------|----------------|
| 1 Suction | 6,5 mm |
| 2 Service | 6,5 mm |
| 3 Discharge | 4,9 mm |

WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

CSIR CONNECTION (L, P ranges)



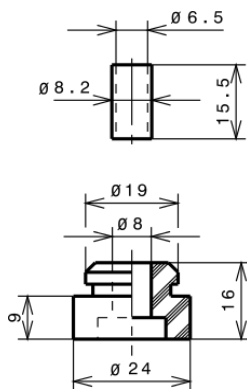
FIXINGS



SILENT BLOCKS (MOUNTING ACCESSORIES)

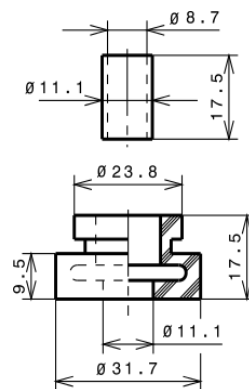
STANDARD

Ø16 holes (170x70 net)



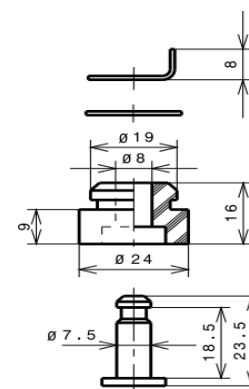
AMERICAN FEET

Ø19 holes (165x101.6 net)



SNAP-ON

Ø16 holes (170x70 net)



SOA

SOA R134a HMBP

