

# Technical Data Sheet

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

## APPLICATION

## COMPRESSOR

## MOTOR

|                      |                           |              |                      |                          |               |
|----------------------|---------------------------|--------------|----------------------|--------------------------|---------------|
| Application          | High-Medium Back Pressure | Displacement | 8,85 cm <sup>3</sup> | 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   | 300 cm <sup>3</sup>  | 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<br>HMBP (D) | CECOMAF<br>HMBP (C) |
|---------------------------------------|--------------------|---------------------|
| Evaporating temp. (T <sub>e</sub> )   | 7,2 °C             | 5,0 °C              |
| Condensing temp. (T <sub>c</sub> )    | 55,0 °C            | 55,0 °C             |
| Liquid temp. (T <sub>liq.</sub> )     | 46,0 °C            | 55,0 °C             |
| Ambient temp. (T <sub>amb.</sub> )    | 35,0 °C            | 32,0 °C             |
| Suction temp. (T <sub>suction</sub> ) | 35,0 °C            | 32,0 °C             |
| Voltage/Frequency                     | 220 V 50 Hz        | 220 V 50 Hz         |

## ELECTRICAL COMPONENTS

|                         |                   |                   |                   |
|-------------------------|-------------------|-------------------|-------------------|
| Starting capacitor      | 47- 56 µF 330 V   |                   |                   |
| Relay                   | Option 1          |                   |                   |
| Reference               | 2014 138.         |                   |                   |
| Pick-Up                 | 6,10 A            |                   |                   |
| Drop-Out                | 5,20 A            |                   |                   |
| Protector               | Option 1          | Option 2          | Option 3          |
| Reference               | MRP56AMK          | T0057             | AE39FHY           |
| Current                 | 9,40 A            | 8,50 A            | 9,00 A            |
| Time check              | 7,5-14 seg        | 7,5-14 seg        | 7,5-14 seg        |
| Disc temp. (Open/Close) | 105,00 / 61,00 °C | 105,00 / 61,00 °C | 105,00 / 62,00 °C |

## ASHRAE

| Tc<br>°C | Te<br>°C | Cooling<br>Capacity<br>kCal/h | Consumption<br>W | Current<br>A | COP<br>W/W | EER<br>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<br>°C | Te<br>°C | Cooling<br>Capacity<br>W | Consumption<br>W | Current<br>A | COP<br>W/W | EER<br>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 |

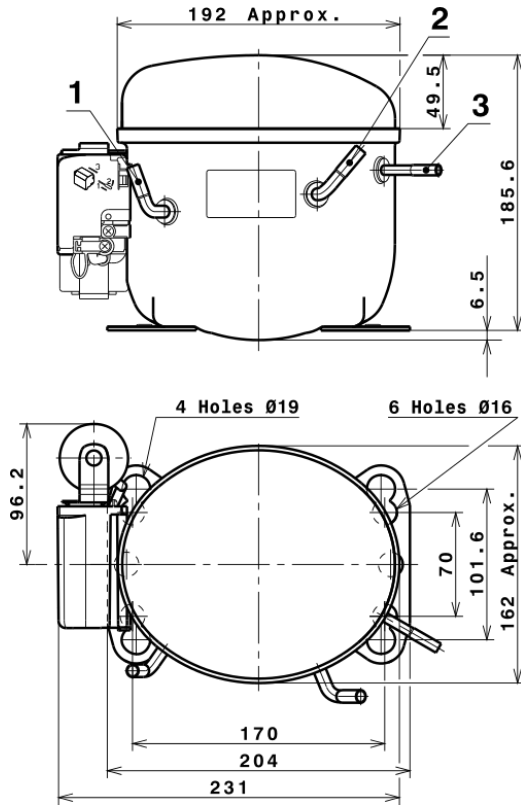
## EN12900

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

# Technical Data Sheet

## 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



# Technical Data Sheet

## 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

