

# Technical Data Sheet

ENGINEERING  
TOMORROW



Compressor model **GU80TB**  
Voltage **220-240V 50Hz ~1**  
Refrigerant **R134a**

## APPLICATION

## COMPRESSOR

## MOTOR

|                      |                     |              |                      |                          |               |
|----------------------|---------------------|--------------|----------------------|--------------------------|---------------|
| Application          | High Back Pressure  | Displacement | 8,10 cm <sup>3</sup> | Nominal Power            | 1/4 hp        |
| Refrigerant          | R134a               | Diameter     | 24,30 mm             | Voltage/Frequency        | 220-240V 50Hz |
| Evaporating Temp.    | -15,0 °C to 10,0 °C | Stroke       | 17,50 mm             | Voltage range            | 187-264 V     |
| Expansion            | Capillar/Valve      | Net Weight   | 9,23 Kg              | Type                     | CSIR          |
| Comp. Cooling        | Fan cooled          | Oil type     | POE                  | Phase number             | 1 PH          |
| Max. ambient temp.   | 43,0 °C             | Oil charge   | 220 cm <sup>3</sup>  | Locked Rotor Amps (LRA)  | 13,00 A       |
| Compatible refriger. | R1234yf             |              |                      | Max. Cont. Current (MCC) | 3,10 A        |
|                      |                     |              |                      | Main W. resist. at 25°C  | 9,69 Ω        |
|                      |                     |              |                      | Start W. resist. at 25°C | 35,59 Ω       |

## NOMINAL PERFORMANCE

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 714 kCal/h   | 686 W        |
| COP              | 2,31 W/W     | 1,98 W/W     |
| EER              | 1,98 kCal/Wh | 1,71 kCal/Wh |
| Input Power      | 360 W        | 346 W        |
| Current          | 2,20 A       | 2,14 A       |

## APPROVALS



## TEST CYCLE CONDITIONS

|                                       | ASHRAE<br>HBP (D) | CECOMAF<br>HBP (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      | 60-61 µF 330 V    |  |  |  |
| Relay                   | Option 1          |  |  |  |
| Reference               | QLZ-5.8A          |  |  |  |
| Pick-Up                 | 5.80 A            |  |  |  |
| Drop-Out                | 4.95 A            |  |  |  |
| Protector               | Option 1          |  |  |  |
| Reference               | B85-105           |  |  |  |
| Current                 | 8,50 A            |  |  |  |
| Time check              | 7,5-14 seg        |  |  |  |
| Disc temp. (Open/Close) | 105,00 / 61,00 °C |  |  |  |



## ASHRAE

| Tc | Te  | Cooling Capacity | Consumption | Current | COP  | EER     |
|----|-----|------------------|-------------|---------|------|---------|
| °C | °C  | kCal/h           | W           | A       | W/W  | kCal/Wh |
| 40 | -15 | 326              | 214         | 1,75    | 1,77 | 1,52    |
| 40 | -10 | 397              | 228         | 1,78    | 2,03 | 1,75    |
| 40 | -5  | 492              | 246         | 1,81    | 2,33 | 2,00    |
| 40 | 0   | 609              | 268         | 1,87    | 2,65 | 2,28    |
| 40 | 5   | 750              | 294         | 1,95    | 2,97 | 2,55    |
| 40 | 7,2 | 819              | 307         | 1,99    | 3,10 | 2,67    |
| 40 | 10  | 913              | 325         | 2,05    | 3,27 | 2,81    |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 45 | -15 | 307 | 221 | 1,76 | 1,62 | 1,39 |
| 45 | -10 | 375 | 237 | 1,80 | 1,84 | 1,58 |
| 45 | -5  | 466 | 257 | 1,84 | 2,11 | 1,81 |
| 45 | 0   | 580 | 282 | 1,91 | 2,39 | 2,06 |
| 45 | 5   | 716 | 311 | 2,00 | 2,68 | 2,31 |
| 45 | 7,2 | 784 | 325 | 2,05 | 2,81 | 2,41 |
| 45 | 10  | 876 | 344 | 2,13 | 2,97 | 2,55 |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 50 | -15 | 288 | 227 | 1,78 | 1,47 | 1,27 |
| 50 | -10 | 352 | 246 | 1,82 | 1,67 | 1,43 |
| 50 | -5  | 440 | 269 | 1,87 | 1,90 | 1,64 |
| 50 | 0   | 550 | 296 | 1,95 | 2,16 | 1,86 |
| 50 | 5   | 683 | 327 | 2,06 | 2,43 | 2,09 |
| 50 | 7,2 | 749 | 342 | 2,12 | 2,54 | 2,19 |
| 50 | 10  | 839 | 363 | 2,21 | 2,69 | 2,31 |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 55 | -15 | 269 | 234 | 1,79 | 1,34 | 1,15 |
| 55 | -10 | 330 | 255 | 1,84 | 1,50 | 1,29 |
| 55 | -5  | 413 | 280 | 1,90 | 1,71 | 1,47 |
| 55 | 0   | 520 | 310 | 2,00 | 1,95 | 1,68 |
| 55 | 5   | 650 | 344 | 2,13 | 2,20 | 1,89 |
| 55 | 7,2 | 714 | 360 | 2,20 | 2,31 | 1,98 |
| 55 | 10  | 802 | 382 | 2,30 | 2,44 | 2,10 |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 60 | -15 | 250 | 241 | 1,80 | 1,21 | 1,04 |
| 60 | -10 | 307 | 264 | 1,86 | 1,35 | 1,16 |
| 60 | -5  | 387 | 292 | 1,94 | 1,54 | 1,33 |
| 60 | 0   | 490 | 324 | 2,05 | 1,76 | 1,51 |
| 60 | 5   | 616 | 360 | 2,20 | 1,99 | 1,71 |
| 60 | 7,2 | 679 | 378 | 2,28 | 2,09 | 1,80 |
| 60 | 10  | 765 | 401 | 2,40 | 2,22 | 1,91 |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 65 | -15 | 231 | 247 | 1,82 | 1,09 | 0,93 |
| 65 | -10 | 284 | 273 | 1,88 | 1,21 | 1,04 |
| 65 | -5  | 361 | 304 | 1,98 | 1,38 | 1,19 |
| 65 | 0   | 460 | 338 | 2,11 | 1,58 | 1,36 |
| 65 | 5   | 583 | 377 | 2,28 | 1,80 | 1,55 |
| 65 | 7,2 | 644 | 395 | 2,37 | 1,89 | 1,63 |
| 65 | 10  | 728 | 420 | 2,50 | 2,02 | 1,73 |

## CECOMAF

| Tc | Te  | Cooling Capacity | Consumption | Current | COP  | EER     |
|----|-----|------------------|-------------|---------|------|---------|
| °C | °C  | W                | W           | A       | W/W  | kCal/Wh |
| 40 | -15 | 351              | 215         | 1,76    | 1,63 | 1,41    |
| 40 | -10 | 429              | 229         | 1,78    | 1,87 | 1,62    |
| 40 | -5  | 531              | 247         | 1,82    | 2,15 | 1,86    |
| 40 | 0   | 657              | 269         | 1,87    | 2,44 | 2,11    |
| 40 | 5   | 808              | 296         | 1,95    | 2,73 | 2,36    |
| 40 | 7,2 | 881              | 309         | 2,00    | 2,85 | 2,46    |
| 40 | 10  | 982              | 327         | 2,06    | 3,01 | 2,60    |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 45 | -15 | 329 | 222 | 1,77 | 1,48 | 1,28 |
| 45 | -10 | 402 | 238 | 1,80 | 1,69 | 1,46 |
| 45 | -5  | 500 | 259 | 1,85 | 1,93 | 1,67 |
| 45 | 0   | 621 | 283 | 1,91 | 2,19 | 1,89 |
| 45 | 5   | 767 | 313 | 2,01 | 2,45 | 2,12 |
| 45 | 7,2 | 839 | 327 | 2,06 | 2,57 | 2,22 |
| 45 | 10  | 937 | 346 | 2,14 | 2,71 | 2,34 |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 50 | -15 | 307 | 229 | 1,78 | 1,34 | 1,16 |
| 50 | -10 | 375 | 247 | 1,82 | 1,52 | 1,31 |
| 50 | -5  | 468 | 270 | 1,88 | 1,73 | 1,50 |
| 50 | 0   | 585 | 298 | 1,96 | 1,97 | 1,70 |
| 50 | 5   | 727 | 329 | 2,07 | 2,21 | 1,91 |
| 50 | 7,2 | 797 | 345 | 2,13 | 2,31 | 2,00 |
| 50 | 10  | 892 | 365 | 2,22 | 2,44 | 2,11 |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 55 | -15 | 285 | 235 | 1,79 | 1,21 | 1,04 |
| 55 | -10 | 349 | 257 | 1,84 | 1,36 | 1,17 |
| 55 | -5  | 437 | 282 | 1,91 | 1,55 | 1,34 |
| 55 | 0   | 550 | 312 | 2,01 | 1,76 | 1,52 |
| 55 | 5   | 686 | 346 | 2,14 | 1,98 | 1,71 |
| 55 | 7,2 | 754 | 362 | 2,21 | 2,08 | 1,80 |
| 55 | 10  | 847 | 384 | 2,32 | 2,20 | 1,90 |

|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 60 | -15 | 262 | 242 | 1,81 | 1,08 | 0,94 |
| 60 | -10 | 322 | 266 | 1,86 | 1,21 | 1,05 |
| 60 | -5  | 406 | 294 | 1,95 | 1,38 | 1,19 |
| 60 | 0   | 514 | 326 | 2,06 | 1,58 | 1,36 |
| 60 | 5   | 646 | 363 | 2,21 | 1,78 | 1,54 |
| 60 | 7,2 | 712 | 380 | 2,29 | 1,87 | 1,62 |
| 60 | 10  | 802 | 404 | 2,41 | 1,99 | 1,72 |

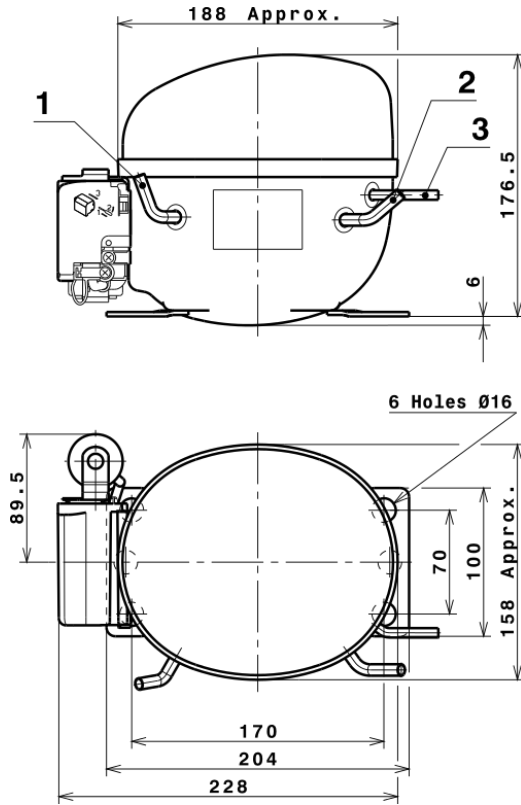
|    |     |     |     |      |      |      |
|----|-----|-----|-----|------|------|------|
| 65 | -15 | 240 | 249 | 1,82 | 0,97 | 0,83 |
| 65 | -10 | 295 | 275 | 1,89 | 1,07 | 0,93 |
| 65 | -5  | 374 | 305 | 1,98 | 1,23 | 1,06 |
| 65 | 0   | 478 | 340 | 2,12 | 1,40 | 1,21 |
| 65 | 5   | 605 | 379 | 2,29 | 1,60 | 1,38 |
| 65 | 7,2 | 669 | 398 | 2,38 | 1,68 | 1,45 |
| 65 | 10  | 757 | 423 | 2,52 | 1,79 | 1,55 |

## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)   | Mass Flow (kg/h)    |
|---|----------------------|-----------------|---------------|---------------------|
| 1 | 948,6408284527       | 159,6424702828  | 1,4180212247  | 15,139990410484     |
| 2 | 35,2317332624        | 0,9817185154    | -0,0055871488 | 0,61795753425367    |
| 3 | -7,5024792783        | 2,9151231604    | 0,0112355793  | -0,019040270459349  |
| 4 | 0,4757599016         | 0,0906721546    | 0,0006901736  | 0,013760314053808   |
| 5 | -0,1970732496        | 0,1028793436    | 0,0005708599  | 0,00093507081752188 |

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

## COMPRESSOR DIMENSIONS

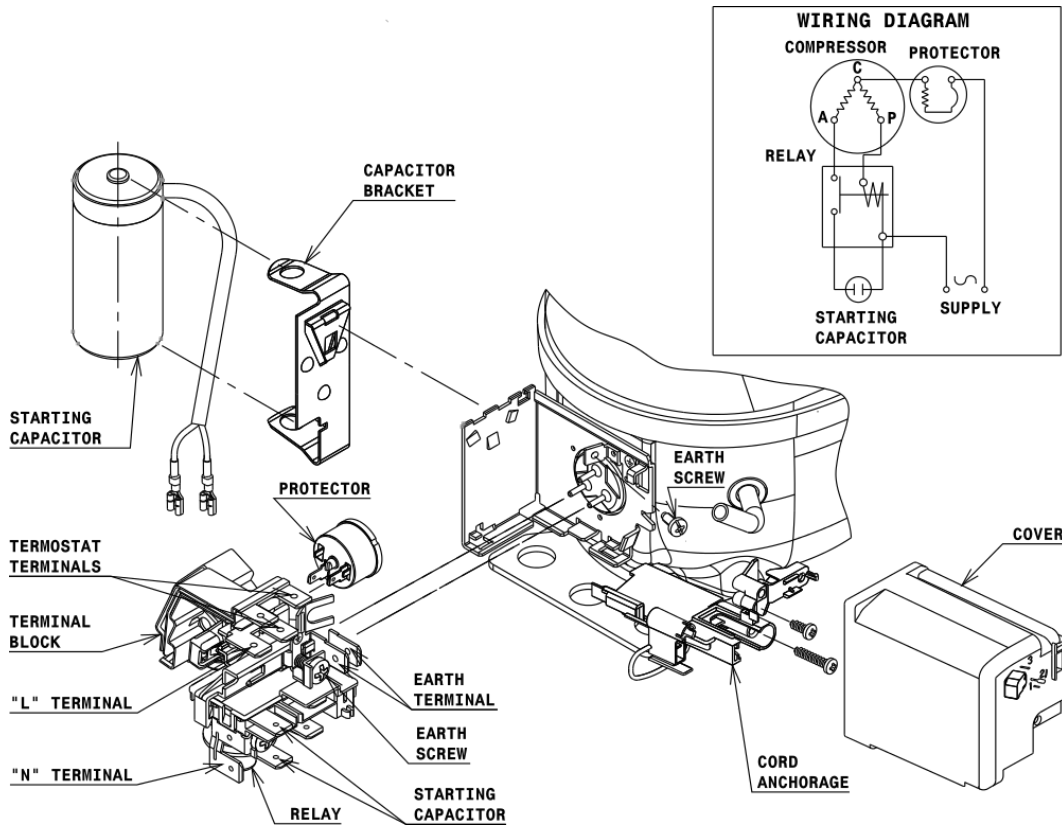


## DESIGNATION INTERNAL DIAM.

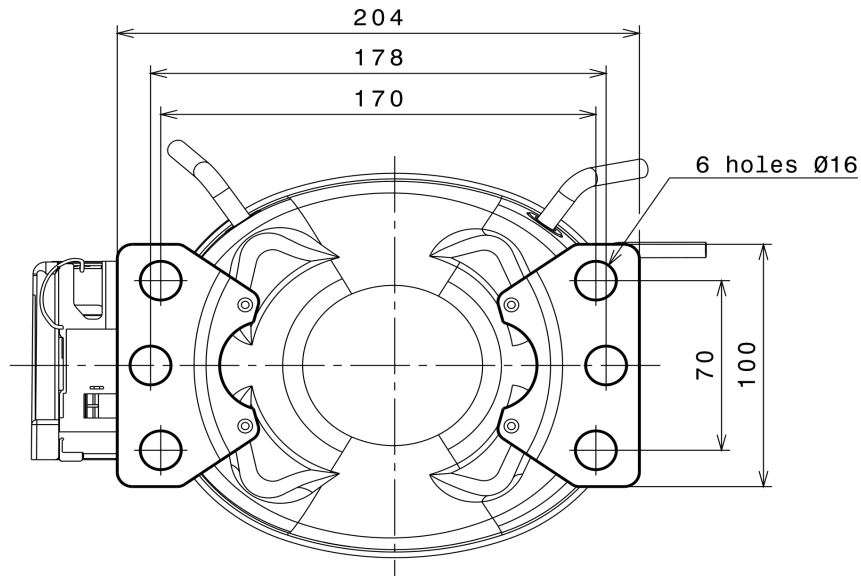
| DESIGNATION | INTERNAL DIAM. |
|-------------|----------------|
| 1 Service   | 6,2 mm         |
| 2 Suction   | 6,2 mm         |
| 3 Discharge | 4,9 mm         |

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSIR CONNECTION (U range)



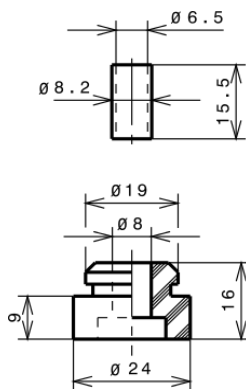
## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

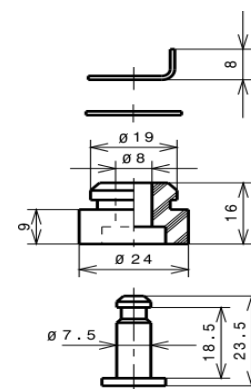
### STANDARD

$\varnothing 16$  holes (170x70 net)



### SNAP-ON

$\varnothing 16$  holes (170x70 net)



## SOA

SOA R134a HBP

