

# Technical Data Sheet

Compressor model **GX23TF**  
Voltage **208-230V 60Hz ~1**  
Refrigerant **R134a**

## APPLICATION

## COMPRESSOR

## MOTOR

|                      |                           |              |                       |                          |               |
|----------------------|---------------------------|--------------|-----------------------|--------------------------|---------------|
| Application          | High-Medium Back Pressure | Displacement | 23,20 cm <sup>3</sup> | Nominal Power            | 5/8 hp        |
| Refrigerant          | R134a                     | Diameter     | 34,93 mm              | Voltage/Frequency        | 208-230V 60Hz |
| Evaporating Temp.    | -25,0 °C to 10,0 °C       | Stroke       | 24,20 mm              | Voltage range            | 177-253 V     |
| Expansion            | Capillar/Valve            | Net Weight   | 16,43 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   | 500 cm <sup>3</sup>   | Locked Rotor Amps (LRA)  | 37,80 A       |
| Compatible refriger. | R1234yf                   |              |                       | Max. Cont. Current (MCC) | 10,20 A       |
|                      |                           |              |                       | Main W. resist. at 25°C  | 1,64 Ω        |
|                      |                           |              |                       | Start W. resist. at 25°C | 8,02 Ω        |

## NOMINAL PERFORMANCE

## APPROVALS

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 2.080 kCal/h | 2.008 W      |
| COP              | 1,96 W/W     | 1,70 W/W     |
| EER              | 1,69 kCal/Wh | 1,47 kCal/Wh |
| Input Power      | 1.234 W      | 1.184 W      |
| Current          | 7,41 A       | 7,23 A       |

## 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                     | 230 V 60 Hz        | 230 V 60 Hz         |

## ELECTRICAL COMPONENTS

|                         |                   |           |  |  |
|-------------------------|-------------------|-----------|--|--|
| Starting capacitor      | 72- 88 µF 330 V   |           |  |  |
| Relay                   | Option 1          | Option 2  |  |  |
| Reference               | 2014 180.         | QLZ-16.7A |  |  |
| Pick-Up                 | 16,70 A           | 16,70 A   |  |  |
| Drop-Out                | 14,00 A           | 14,00 A   |  |  |
| Protector               | Option 1          |           |  |  |
| Reference               | T0257             |           |  |  |
| Current                 | 24,00 A           |           |  |  |
| Time check              | 6,0-16 seg        |           |  |  |
| Disc temp. (Open/Close) | 120,00 / 52,00 °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      | 550                           | 538              | 5,34         | 1,19       | 1,02           |
| 40       | -20      | 721                           | 605              | 5,50         | 1,39       | 1,19           |
| 40       | -15      | 941                           | 680              | 5,68         | 1,61       | 1,38           |
| 40       | -10      | 1.209                         | 762              | 5,90         | 1,84       | 1,59           |
| 40       | -5       | 1.526                         | 853              | 6,16         | 2,08       | 1,79           |
| 40       | 0        | 1.892                         | 951              | 6,45         | 2,31       | 1,99           |
| 40       | 5        | 2.306                         | 1.058            | 6,79         | 2,54       | 2,18           |
| 40       | 7,2      | 2.504                         | 1.107            | 6,96         | 2,63       | 2,26           |
| 40       | 10       | 2.769                         | 1.172            | 7,19         | 2,75       | 2,36           |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 45 | -25 | 502   | 539   | 5,35 | 1,08 | 0,93 |
| 45 | -20 | 658   | 612   | 5,52 | 1,25 | 1,08 |
| 45 | -15 | 863   | 693   | 5,72 | 1,45 | 1,25 |
| 45 | -10 | 1.117 | 782   | 5,96 | 1,66 | 1,43 |
| 45 | -5  | 1.420 | 879   | 6,23 | 1,88 | 1,61 |
| 45 | 0   | 1.771 | 984   | 6,56 | 2,09 | 1,80 |
| 45 | 5   | 2.171 | 1.097 | 6,93 | 2,30 | 1,98 |
| 45 | 7,2 | 2.363 | 1.149 | 7,11 | 2,39 | 2,06 |
| 45 | 10  | 2.620 | 1.218 | 7,35 | 2,50 | 2,15 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 50 | -25 | 453   | 540   | 5,35 | 0,98 | 0,84 |
| 50 | -20 | 595   | 620   | 5,53 | 1,12 | 0,96 |
| 50 | -15 | 786   | 707   | 5,75 | 1,29 | 1,11 |
| 50 | -10 | 1.026 | 803   | 6,01 | 1,49 | 1,28 |
| 50 | -5  | 1.314 | 906   | 6,31 | 1,69 | 1,45 |
| 50 | 0   | 1.651 | 1.017 | 6,66 | 1,89 | 1,62 |
| 50 | 5   | 2.036 | 1.137 | 7,06 | 2,08 | 1,79 |
| 50 | 7,2 | 2.221 | 1.192 | 7,26 | 2,17 | 1,86 |
| 50 | 10  | 2.471 | 1.264 | 7,52 | 2,27 | 1,95 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 55 | -25 | 405   | 541   | 5,35 | 0,87 | 0,75 |
| 55 | -20 | 533   | 627   | 5,55 | 0,99 | 0,85 |
| 55 | -15 | 709   | 721   | 5,79 | 1,14 | 0,98 |
| 55 | -10 | 934   | 823   | 6,07 | 1,32 | 1,13 |
| 55 | -5  | 1.208 | 933   | 6,39 | 1,51 | 1,29 |
| 55 | 0   | 1.530 | 1.051 | 6,77 | 1,69 | 1,46 |
| 55 | 5   | 1.901 | 1.176 | 7,20 | 1,88 | 1,62 |
| 55 | 7,2 | 2.080 | 1.234 | 7,41 | 1,96 | 1,69 |
| 55 | 10  | 2.321 | 1.310 | 7,69 | 2,06 | 1,77 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 60 | -25 | 357   | 542   | 5,35 | 0,77 | 0,66 |
| 60 | -20 | 470   | 635   | 5,57 | 0,86 | 0,74 |
| 60 | -15 | 632   | 735   | 5,83 | 1,00 | 0,86 |
| 60 | -10 | 842   | 843   | 6,13 | 1,16 | 1,00 |
| 60 | -5  | 1.102 | 959   | 6,48 | 1,34 | 1,15 |
| 60 | 0   | 1.410 | 1.084 | 6,88 | 1,51 | 1,30 |
| 60 | 5   | 1.766 | 1.216 | 7,34 | 1,69 | 1,45 |
| 60 | 7,2 | 1.939 | 1.276 | 7,57 | 1,77 | 1,52 |
| 60 | 10  | 2.172 | 1.356 | 7,87 | 1,86 | 1,60 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 65 | -25 | 308   | 543   | 5,35 | 0,66 | 0,57 |
| 65 | -20 | 407   | 642   | 5,59 | 0,74 | 0,63 |
| 65 | -15 | 555   | 749   | 5,86 | 0,86 | 0,74 |
| 65 | -10 | 751   | 864   | 6,19 | 1,01 | 0,87 |
| 65 | -5  | 996   | 986   | 6,56 | 1,17 | 1,01 |
| 65 | 0   | 1.289 | 1.117 | 6,99 | 1,34 | 1,15 |
| 65 | 5   | 1.631 | 1.255 | 7,49 | 1,51 | 1,30 |
| 65 | 7,2 | 1.797 | 1.319 | 7,73 | 1,59 | 1,36 |
| 65 | 10  | 2.022 | 1.402 | 8,06 | 1,68 | 1,44 |

## 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      | 592                      | 541              | 5,35         | 1,10       | 0,95           |
| 40       | -20      | 779                      | 608              | 5,51         | 1,28       | 1,11           |
| 40       | -15      | 1.018                    | 683              | 5,69         | 1,49       | 1,29           |
| 40       | -10      | 1.307                    | 766              | 5,91         | 1,71       | 1,47           |
| 40       | -5       | 1.648                    | 858              | 6,17         | 1,92       | 1,66           |
| 40       | 0        | 2.040                    | 957              | 6,47         | 2,13       | 1,84           |
| 40       | 5        | 2.483                    | 1.064            | 6,82         | 2,33       | 2,02           |
| 40       | 7,2      | 2.695                    | 1.114            | 6,98         | 2,42       | 2,09           |
| 40       | 10       | 2.978                    | 1.180            | 7,21         | 2,52       | 2,18           |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 45 | -25 | 538   | 542   | 5,35 | 0,99 | 0,86 |
| 45 | -20 | 708   | 615   | 5,52 | 1,15 | 0,99 |
| 45 | -15 | 929   | 697   | 5,73 | 1,33 | 1,15 |
| 45 | -10 | 1.201 | 787   | 5,97 | 1,53 | 1,32 |
| 45 | -5  | 1.524 | 885   | 6,25 | 1,72 | 1,49 |
| 45 | 0   | 1.899 | 990   | 6,57 | 1,92 | 1,66 |
| 45 | 5   | 2.325 | 1.104 | 6,95 | 2,11 | 1,82 |
| 45 | 7,2 | 2.529 | 1.157 | 7,13 | 2,19 | 1,89 |
| 45 | 10  | 2.802 | 1.226 | 7,38 | 2,29 | 1,98 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 50 | -25 | 483   | 543   | 5,35 | 0,89 | 0,77 |
| 50 | -20 | 636   | 623   | 5,54 | 1,02 | 0,88 |
| 50 | -15 | 839   | 711   | 5,76 | 1,18 | 1,02 |
| 50 | -10 | 1.094 | 807   | 6,03 | 1,36 | 1,17 |
| 50 | -5  | 1.400 | 911   | 6,33 | 1,54 | 1,33 |
| 50 | 0   | 1.758 | 1.024 | 6,68 | 1,72 | 1,48 |
| 50 | 5   | 2.167 | 1.144 | 7,09 | 1,89 | 1,64 |
| 50 | 7,2 | 2.363 | 1.199 | 7,28 | 1,97 | 1,70 |
| 50 | 10  | 2.627 | 1.272 | 7,55 | 2,06 | 1,78 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 55 | -25 | 429   | 544   | 5,36 | 0,79 | 0,68 |
| 55 | -20 | 564   | 630   | 5,56 | 0,89 | 0,77 |
| 55 | -15 | 750   | 725   | 5,80 | 1,03 | 0,89 |
| 55 | -10 | 988   | 828   | 6,08 | 1,19 | 1,03 |
| 55 | -5  | 1.277 | 938   | 6,41 | 1,36 | 1,18 |
| 55 | 0   | 1.617 | 1.057 | 6,79 | 1,53 | 1,32 |
| 55 | 5   | 2.008 | 1.184 | 7,23 | 1,70 | 1,47 |
| 55 | 7,2 | 2.197 | 1.242 | 7,44 | 1,77 | 1,53 |
| 55 | 10  | 2.451 | 1.318 | 7,73 | 1,86 | 1,61 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 60 | -25 | 374   | 545   | 5,36 | 0,69 | 0,59 |
| 60 | -20 | 492   | 638   | 5,58 | 0,77 | 0,67 |
| 60 | -15 | 661   | 739   | 5,84 | 0,89 | 0,77 |
| 60 | -10 | 881   | 848   | 6,14 | 1,04 | 0,90 |
| 60 | -5  | 1.153 | 965   | 6,49 | 1,19 | 1,03 |
| 60 | 0   | 1.476 | 1.090 | 6,90 | 1,35 | 1,17 |
| 60 | 5   | 1.850 | 1.223 | 7,37 | 1,51 | 1,31 |
| 60 | 7,2 | 2.031 | 1.285 | 7,60 | 1,58 | 1,37 |
| 60 | 10  | 2.275 | 1.365 | 7,91 | 1,67 | 1,44 |

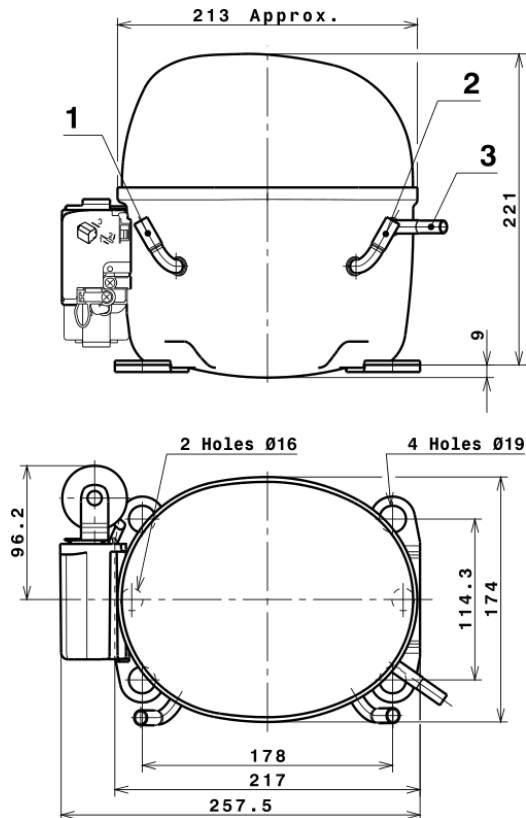
|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 65 | -25 | 319   | 546   | 5,36 | 0,59 | 0,51 |
| 65 | -20 | 420   | 645   | 5,60 | 0,65 | 0,56 |
| 65 | -15 | 572   | 753   | 5,88 | 0,76 | 0,66 |
| 65 | -10 | 775   | 868   | 6,20 | 0,89 | 0,77 |
| 65 | -5  | 1.029 | 992   | 6,58 | 1,04 | 0,90 |
| 65 | 0   | 1.335 | 1.124 | 7,02 | 1,19 | 1,03 |
| 65 | 5   | 1.692 | 1.263 | 7,52 | 1,34 | 1,16 |
| 65 | 7,2 | 1.865 | 1.327 | 7,76 | 1,41 | 1,21 |
| 65 | 10  | 2.100 | 1.411 | 8,09 | 1,49 | 1,29 |

## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)  | Mass Flow (kg/h)    |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 3.179,8721428771     | 708,1494860602  | 5,5332555914 | 53,033115094779     |
| 2 | 111,4528453755       | 10,8248809059   | 0,0323679233 | 2,0978537853454     |
| 3 | -29,1343918278       | 6,8473989582    | 0,0248148223 | -0,20740751257822   |
| 4 | 1,0063794809         | 0,1714364363    | 0,0010146999 | 0,02861066075817    |
| 5 | -0,7251560566        | 0,2656744453    | 0,0009737421 | -0,0026276264621507 |

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

## COMPRESSOR DIMENSIONS

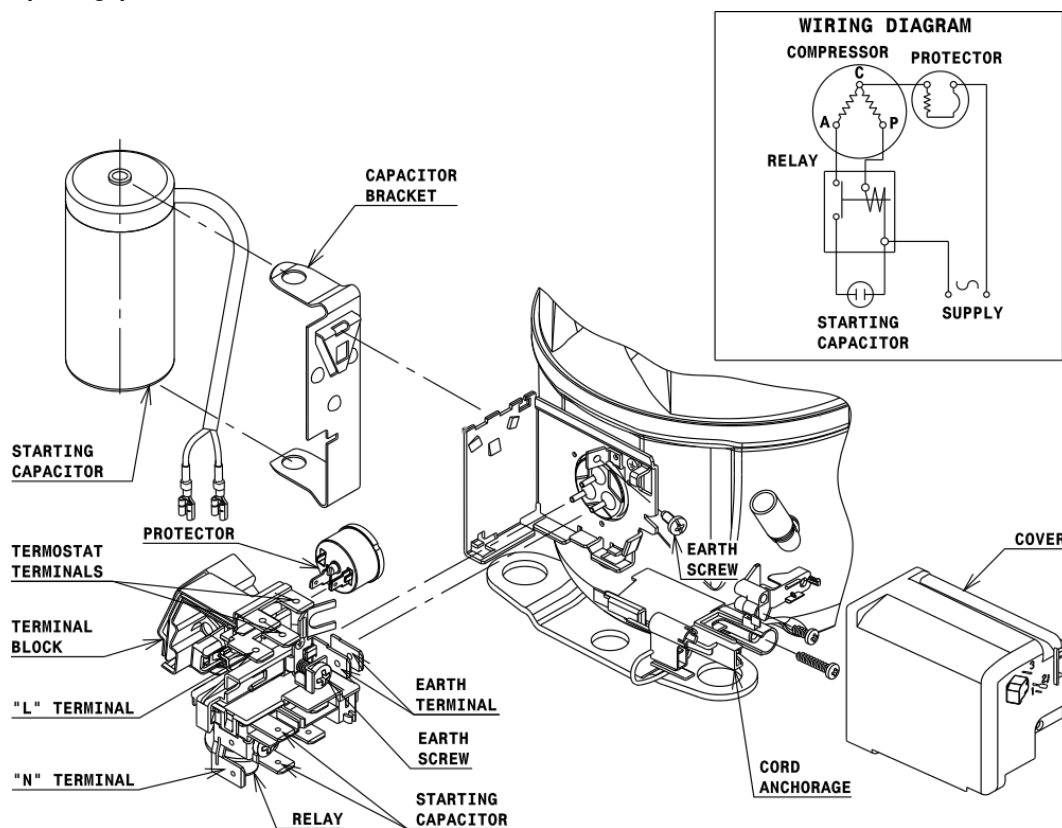


| DESIGNATION | INTERNAL DIAM. |
|-------------|----------------|
|-------------|----------------|

|   |           |        |
|---|-----------|--------|
| 1 | Service   | 9,7 mm |
| 2 | Suction   | 9,7 mm |
| 3 | Discharge | 6,5 mm |

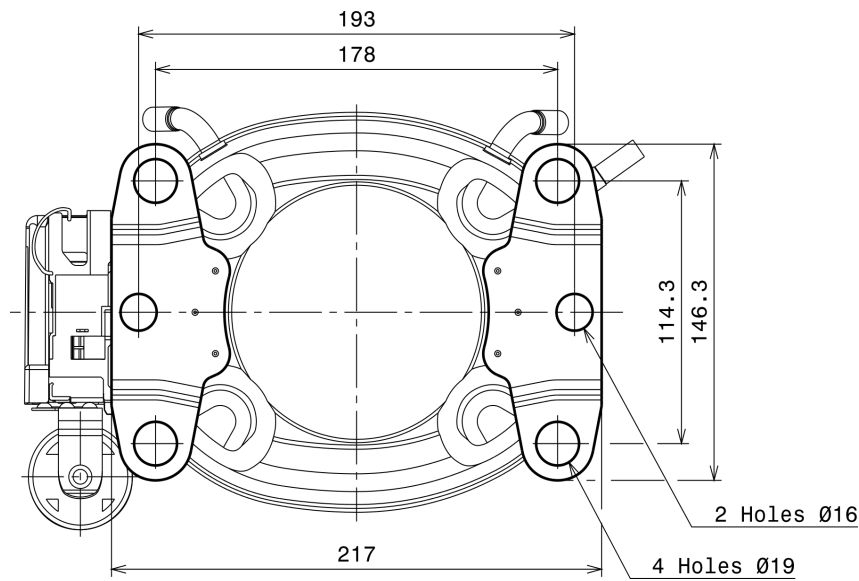
## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

## CSIR CONNECTION (X range)



# Technical Data Sheet

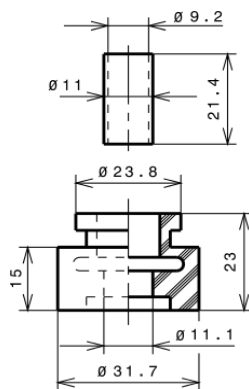
## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

### STANDARD

Ø19 holes (178x114.3 net)



## SOA

SOA R134a HMBP

