

# Technical Data Sheet

Compressor model **MX21FBa**  
 Voltage **220-240V 50Hz ~1**  
 Refrigerant **R404A**

## APPLICATION

Application Low Back Pressure  
 Refrigerant R404A  
 Evaporating Temp. -40,0 °C to -10,0 °C  
 Expansion Capillar/Valve  
 Comp. Cooling Fan cooled  
 Max. ambient temp. 43,0 °C

## COMPRESSOR

Displacement 20,72 cm<sup>3</sup>  
 Diameter 34,93 mm  
 Stroke 21,62 mm  
 Net Weight 16,66 Kg  
 Oil type ISO VG 32 ESTER  
 Oil charge 650 cm<sup>3</sup>

## MOTOR

Nominal Power 3/4 hp  
 Voltage/Frequency 220-240V 50Hz  
 Voltage range 187-255 V  
 Type CSR  
 Phase number 1 PH  
 Locked Rotor Amps (LRA) 24,00 A  
 Max. Cont. Current (MCC) 6,50 A  
 Main W. resist. at 25°C 3,04 Ω  
 Start W. resist. at 25°C 7,10 Ω

## NOMINAL PERFORMANCE

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 805 kCal/h   | 630 W        |
| COP              | 1,35 W/W     | 0,96 W/W     |
| EER              | 1,16 kCal/Wh | 0,83 kCal/Wh |
| Input Power      | 695 W        | 659 W        |
| Current          | 3,50 A       | 3,33 A       |

## APPROVALS



## TEST CYCLE CONDITIONS

|                                       | ASHRAE<br>LBP (B) | CECOMAF<br>LBP (A) |
|---------------------------------------|-------------------|--------------------|
| Evaporating temp. (T <sub>e</sub> )   | -23,3 °C          | -25,0 °C           |
| Condensing temp. (T <sub>c</sub> )    | 55,0 °C           | 55,0 °C            |
| Liquid temp. (T <sub>liq.</sub> )     | 32,0 °C           | 55,0 °C            |
| Ambient temp. (T <sub>amb.</sub> )    | 32,0 °C           | 32,0 °C            |
| Suction temp. (T <sub>suction</sub> ) | 32,0 °C           | 32,0 °C            |
| Voltage/Frequency                     | 220 V 50 Hz       | 220 V 50 Hz        |

## ELECTRICAL COMPONENTS

|                         |                    |                    |  |
|-------------------------|--------------------|--------------------|--|
| Starting capacitor      | 72- 88 μF 330 V    |                    |  |
| Run capacitor           | 16 μF 420 V        |                    |  |
| Relay                   | Option 1           | Option 2           |  |
| Reference               | 2014 170. + NTC15Ω | QLZ-12.1A + NTC15Ω |  |
| Pick-Up                 | 12,10 A            | 12.10 A            |  |
| Drop-Out                | 10,30 A            | 10.30 A            |  |
| Protector               | Option 1           | Option 2           |  |
| Reference               | MRA38134           | T0348              |  |
| Current                 | 15,80 A            | 15,40 A            |  |
| Time check              | 7,5-14 seg         | 7,5-14 seg         |  |
| Disc temp. (Open/Close) | 105,00 / 52,00 °C  | 105,00 / 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       | -40      | 358                           | 435              | 2,31         | 0,96       | 0,82           |
| 40       | -35      | 509                           | 501              | 2,61         | 1,18       | 1,01           |
| 40       | -30      | 693                           | 575              | 2,94         | 1,40       | 1,21           |
| 40       | -25      | 911                           | 655              | 3,31         | 1,62       | 1,39           |
| 40       | -23,3    | 993                           | 684              | 3,45         | 1,69       | 1,45           |
| 40       | -20      | 1.162                         | 742              | 3,72         | 1,82       | 1,57           |
| 40       | -15      | 1.446                         | 836              | 4,17         | 2,01       | 1,73           |
| 40       | -10      | 1.763                         | 938              | 4,67         | 2,19       | 1,88           |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 45 | -40   | 320   | 415 | 2,23 | 0,90 | 0,77 |
| 45 | -35   | 464   | 489 | 2,55 | 1,10 | 0,95 |
| 45 | -30   | 641   | 569 | 2,92 | 1,31 | 1,13 |
| 45 | -25   | 851   | 656 | 3,32 | 1,51 | 1,30 |
| 45 | -23,3 | 930   | 688 | 3,47 | 1,57 | 1,35 |
| 45 | -20   | 1.094 | 751 | 3,76 | 1,70 | 1,46 |
| 45 | -15   | 1.371 | 852 | 4,25 | 1,87 | 1,61 |
| 45 | -10   | 1.680 | 960 | 4,78 | 2,04 | 1,75 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 50 | -40   | 283   | 395 | 2,14 | 0,83 | 0,72 |
| 50 | -35   | 419   | 476 | 2,50 | 1,02 | 0,88 |
| 50 | -30   | 588   | 563 | 2,89 | 1,22 | 1,04 |
| 50 | -25   | 791   | 658 | 3,33 | 1,40 | 1,20 |
| 50 | -23,3 | 868   | 691 | 3,48 | 1,46 | 1,25 |
| 50 | -20   | 1.027 | 759 | 3,80 | 1,57 | 1,35 |
| 50 | -15   | 1.296 | 867 | 4,32 | 1,74 | 1,49 |
| 50 | -10   | 1.598 | 983 | 4,89 | 1,89 | 1,63 |

|    |       |       |       |      |      |      |
|----|-------|-------|-------|------|------|------|
| 55 | -40   | 245   | 375   | 2,05 | 0,76 | 0,65 |
| 55 | -35   | 374   | 463   | 2,44 | 0,94 | 0,81 |
| 55 | -30   | 536   | 557   | 2,86 | 1,12 | 0,96 |
| 55 | -25   | 731   | 659   | 3,33 | 1,29 | 1,11 |
| 55 | -23,3 | 805   | 695   | 3,50 | 1,35 | 1,16 |
| 55 | -20   | 959   | 767   | 3,84 | 1,45 | 1,25 |
| 55 | -15   | 1.221 | 883   | 4,40 | 1,61 | 1,38 |
| 55 | -10   | 1.515 | 1.005 | 5,00 | 1,75 | 1,51 |

|    |       |       |       |      |      |      |
|----|-------|-------|-------|------|------|------|
| 60 | -40   | 208   | 355   | 1,96 | 0,68 | 0,58 |
| 60 | -35   | 329   | 450   | 2,38 | 0,85 | 0,73 |
| 60 | -30   | 483   | 552   | 2,84 | 1,02 | 0,88 |
| 60 | -25   | 671   | 660   | 3,34 | 1,18 | 1,02 |
| 60 | -23,3 | 742   | 699   | 3,52 | 1,24 | 1,06 |
| 60 | -20   | 892   | 776   | 3,88 | 1,34 | 1,15 |
| 60 | -15   | 1.146 | 898   | 4,47 | 1,48 | 1,28 |
| 60 | -10   | 1.433 | 1.028 | 5,11 | 1,62 | 1,39 |

## 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       | -40      | 375                      | 435              | 2,31         | 0,86       | 0,74           |
| 40       | -35      | 554                      | 501              | 2,61         | 1,10       | 0,95           |
| 40       | -30      | 760                      | 575              | 2,94         | 1,32       | 1,14           |
| 40       | -25      | 995                      | 655              | 3,31         | 1,52       | 1,31           |
| 40       | -23,3    | 1.081                    | 684              | 3,45         | 1,58       | 1,37           |
| 40       | -20      | 1.257                    | 742              | 3,72         | 1,69       | 1,46           |
| 40       | -15      | 1.546                    | 836              | 4,17         | 1,85       | 1,60           |
| 40       | -10      | 1.863                    | 938              | 4,67         | 1,99       | 1,72           |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 45 | -40   | 320   | 415 | 2,23 | 0,77 | 0,67 |
| 45 | -35   | 477   | 489 | 2,55 | 0,98 | 0,84 |
| 45 | -30   | 661   | 569 | 2,92 | 1,16 | 1,00 |
| 45 | -25   | 873   | 656 | 3,32 | 1,33 | 1,15 |
| 45 | -23,3 | 951   | 688 | 3,47 | 1,38 | 1,20 |
| 45 | -20   | 1.113 | 751 | 3,76 | 1,48 | 1,28 |
| 45 | -15   | 1.380 | 852 | 4,25 | 1,62 | 1,40 |
| 45 | -10   | 1.674 | 960 | 4,78 | 1,74 | 1,51 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 50 | -40   | 266   | 395 | 2,14 | 0,67 | 0,58 |
| 50 | -35   | 400   | 476 | 2,50 | 0,84 | 0,73 |
| 50 | -30   | 562   | 563 | 2,89 | 1,00 | 0,86 |
| 50 | -25   | 751   | 658 | 3,33 | 1,14 | 0,99 |
| 50 | -23,3 | 822   | 691 | 3,48 | 1,19 | 1,03 |
| 50 | -20   | 968   | 759 | 3,80 | 1,28 | 1,10 |
| 50 | -15   | 1.213 | 867 | 4,32 | 1,40 | 1,21 |
| 50 | -10   | 1.485 | 983 | 4,89 | 1,51 | 1,31 |

|    |       |       |       |      |      |      |
|----|-------|-------|-------|------|------|------|
| 55 | -40   | 212   | 375   | 2,05 | 0,56 | 0,49 |
| 55 | -35   | 324   | 463   | 2,44 | 0,70 | 0,60 |
| 55 | -30   | 463   | 557   | 2,86 | 0,83 | 0,72 |
| 55 | -25   | 630   | 659   | 3,33 | 0,96 | 0,83 |
| 55 | -23,3 | 693   | 695   | 3,50 | 1,00 | 0,86 |
| 55 | -20   | 824   | 767   | 3,84 | 1,07 | 0,93 |
| 55 | -15   | 1.047 | 883   | 4,40 | 1,19 | 1,02 |
| 55 | -10   | 1.296 | 1.005 | 5,00 | 1,29 | 1,11 |

|    |       |       |       |      |      |      |
|----|-------|-------|-------|------|------|------|
| 60 | -40   | 157   | 355   | 1,96 | 0,44 | 0,38 |
| 60 | -35   | 247   | 450   | 2,38 | 0,55 | 0,47 |
| 60 | -30   | 364   | 552   | 2,84 | 0,66 | 0,57 |
| 60 | -25   | 508   | 660   | 3,34 | 0,77 | 0,67 |
| 60 | -23,3 | 564   | 699   | 3,52 | 0,81 | 0,70 |
| 60 | -20   | 680   | 776   | 3,88 | 0,88 | 0,76 |
| 60 | -15   | 880   | 898   | 4,47 | 0,98 | 0,85 |
| 60 | -10   | 1.107 | 1.028 | 5,11 | 1,08 | 0,93 |

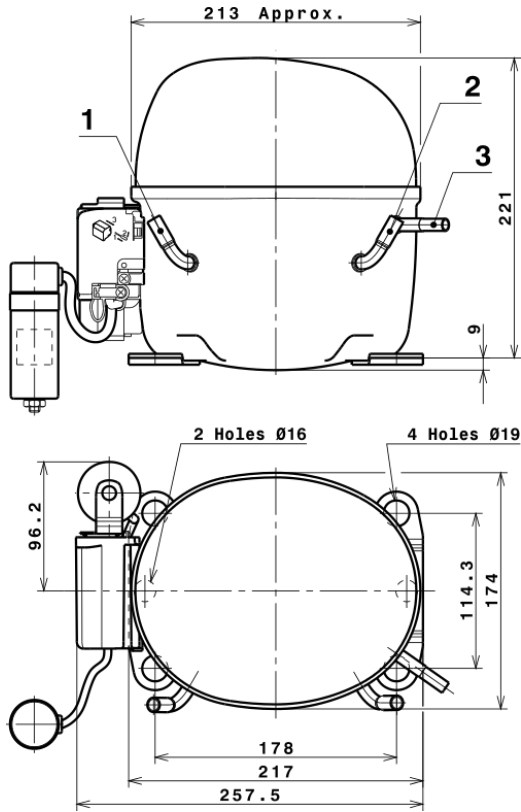
## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)  | Mass Flow (kg/h)    |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 4.395,9487453346     | 893,2342539940  | 4,4979564456 | 95,89251285007      |
| 2 | 111,0511619266       | 13,0110853038   | 0,0724366987 | 2,7695655680726     |
| 3 | -47,5109628787       | 7,5239227734    | 0,0367678645 | -0,57645950401137   |
| 4 | 0,5233556543         | 0,1471144203    | 0,0009225056 | 0,020757610985128   |
| 5 | -0,9195471692        | 0,2903121726    | 0,0013692594 | -0,0091703189235223 |

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

# Technical Data Sheet

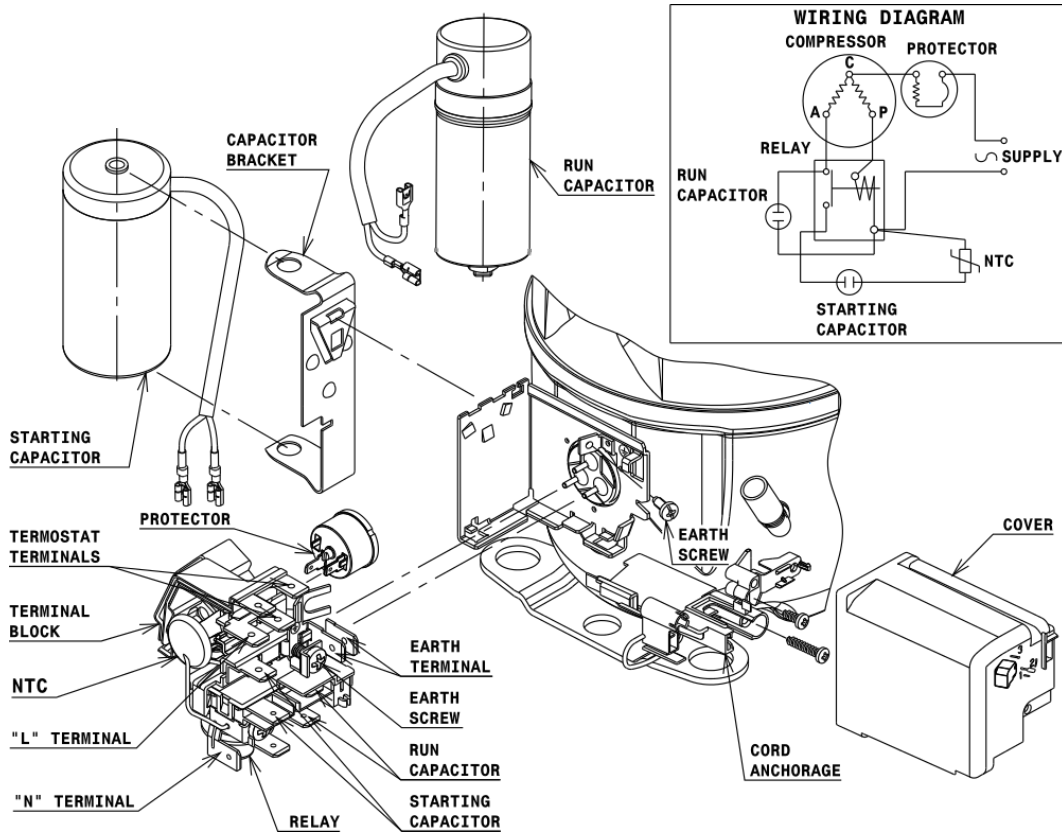
## COMPRESSOR DIMENSIONS



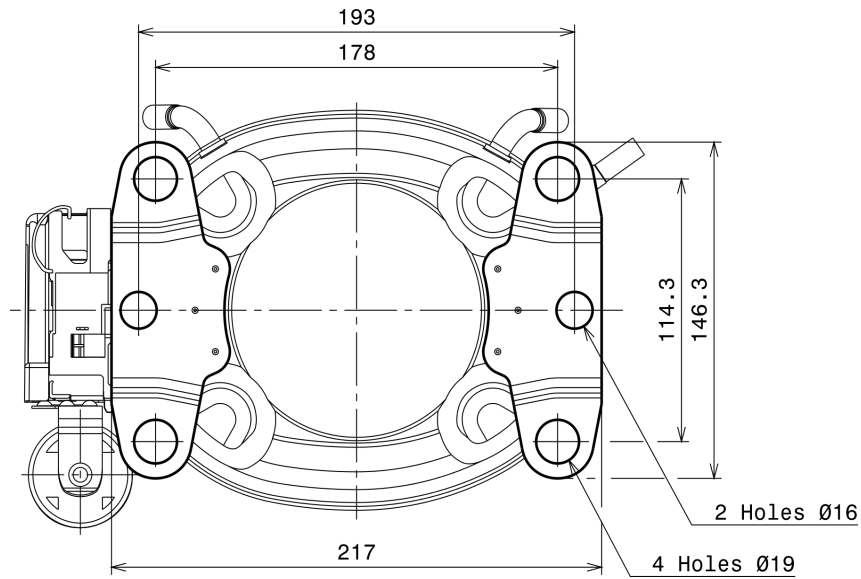
| DESIGNATION | INTERNAL DIAM. |
|-------------|----------------|
| 1 Service   | 9,7 mm         |
| 2 Suction   | 9,7 mm         |
| 3 Discharge | 6,5 mm         |

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSR CONNECTION (CURRENT RELAY + NTC) (X range)



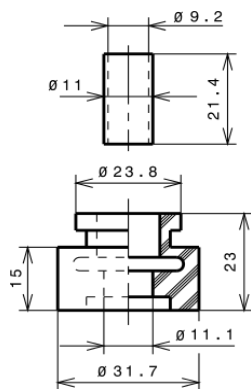
## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

### STANDARD

$\varnothing 19$  holes (178x114.3 net)



## SOA

SOA R404A LBP

