

# Technical Data Sheet

Compressor model **MLY12LAa**  
 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 10,70 cm<sup>3</sup>  
 Diameter 25,40 mm  
 Stroke 21,11 mm  
 Net Weight 10,85 Kg  
 Oil type ISO VG 32 ESTER  
 Oil charge 400 cm<sup>3</sup>

## MOTOR

Nominal Power 3/8 hp  
 Voltage/Frequency 220-240V 50Hz  
 Voltage range 198-255 V  
 Type CSIR  
 Phase number 1 PH  
 Locked Rotor Amps (LRA) 20,00 A  
 Max. Cont. Current (MCC) 3,90 A  
 Main W. resist. at 25°C 4,31 Ω  
 Start W. resist. at 25°C 16,96 Ω

## NOMINAL PERFORMANCE

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 490 kCal/h   | 387 W        |
| COP              | 1,33 W/W     | 0,94 W/W     |
| EER              | 1,14 kCal/Wh | 0,82 kCal/Wh |
| Input Power      | 430 W        | 410 W        |
| Current          | 2,95 A       | 2,89 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      | 47- 56 µF 330 V   |  |  |  |
| Relay                   | Option 1          |  |  |  |
| Reference               | 2014 149.         |  |  |  |
| Pick-Up                 | 7,80 A            |  |  |  |
| Drop-Out                | 6,65 A            |  |  |  |
| Protector               | Option 1          |  |  |  |
| Reference               | T0266             |  |  |  |
| Current                 | 11,00 A           |  |  |  |
| Time check              | 7,5-14 seg        |  |  |  |
| Disc temp. (Open/Close) | 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      | 223                           | 267              | 2,55         | 0,97       | 0,84           |
| 40       | -35      | 297                           | 305              | 2,63         | 1,13       | 0,97           |
| 40       | -30      | 391                           | 348              | 2,72         | 1,31       | 1,12           |
| 40       | -25      | 503                           | 395              | 2,85         | 1,48       | 1,27           |
| 40       | -23,3    | 546                           | 413              | 2,90         | 1,54       | 1,32           |
| 40       | -20      | 636                           | 448              | 3,01         | 1,65       | 1,42           |
| 40       | -15      | 787                           | 506              | 3,20         | 1,81       | 1,56           |
| 40       | -10      | 958                           | 569              | 3,45         | 1,96       | 1,68           |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 45 | -40   | 209 | 263 | 2,54 | 0,92 | 0,79 |
| 45 | -35   | 282 | 304 | 2,62 | 1,08 | 0,93 |
| 45 | -30   | 374 | 349 | 2,73 | 1,24 | 1,07 |
| 45 | -25   | 485 | 400 | 2,86 | 1,41 | 1,21 |
| 45 | -23,3 | 527 | 419 | 2,92 | 1,47 | 1,26 |
| 45 | -20   | 616 | 456 | 3,03 | 1,57 | 1,35 |
| 45 | -15   | 766 | 516 | 3,24 | 1,72 | 1,48 |
| 45 | -10   | 935 | 582 | 3,50 | 1,87 | 1,61 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 50 | -40   | 195 | 259 | 2,54 | 0,88 | 0,75 |
| 50 | -35   | 266 | 303 | 2,62 | 1,02 | 0,88 |
| 50 | -30   | 357 | 351 | 2,73 | 1,18 | 1,02 |
| 50 | -25   | 467 | 405 | 2,88 | 1,34 | 1,15 |
| 50 | -23,3 | 509 | 424 | 2,93 | 1,39 | 1,20 |
| 50 | -20   | 596 | 463 | 3,06 | 1,50 | 1,29 |
| 50 | -15   | 745 | 527 | 3,28 | 1,64 | 1,41 |
| 50 | -10   | 913 | 596 | 3,56 | 1,78 | 1,53 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 55 | -40   | 181 | 255 | 2,53 | 0,83 | 0,71 |
| 55 | -35   | 251 | 302 | 2,62 | 0,97 | 0,83 |
| 55 | -30   | 340 | 353 | 2,74 | 1,12 | 0,96 |
| 55 | -25   | 449 | 410 | 2,89 | 1,27 | 1,10 |
| 55 | -23,3 | 490 | 430 | 2,95 | 1,33 | 1,14 |
| 55 | -20   | 577 | 471 | 3,08 | 1,42 | 1,22 |
| 55 | -15   | 724 | 538 | 3,32 | 1,57 | 1,35 |
| 55 | -10   | 890 | 609 | 3,62 | 1,70 | 1,46 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 60 | -40   | 167 | 251 | 2,52 | 0,77 | 0,67 |
| 60 | -35   | 236 | 301 | 2,62 | 0,91 | 0,78 |
| 60 | -30   | 323 | 355 | 2,74 | 1,06 | 0,91 |
| 60 | -25   | 430 | 414 | 2,90 | 1,21 | 1,04 |
| 60 | -23,3 | 471 | 436 | 2,97 | 1,26 | 1,08 |
| 60 | -20   | 557 | 479 | 3,11 | 1,35 | 1,16 |
| 60 | -15   | 703 | 548 | 3,37 | 1,49 | 1,28 |
| 60 | -10   | 868 | 623 | 3,68 | 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      | 236                      | 267              | 2,55         | 0,88       | 0,76           |
| 40       | -35      | 326                      | 305              | 2,63         | 1,07       | 0,92           |
| 40       | -30      | 432                      | 348              | 2,72         | 1,24       | 1,07           |
| 40       | -25      | 554                      | 395              | 2,85         | 1,40       | 1,21           |
| 40       | -23,3    | 599                      | 413              | 2,90         | 1,45       | 1,25           |
| 40       | -20      | 692                      | 448              | 3,01         | 1,54       | 1,33           |
| 40       | -15      | 847                      | 506              | 3,20         | 1,67       | 1,45           |
| 40       | -10      | 1.017                    | 569              | 3,45         | 1,79       | 1,55           |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 45 | -40   | 209 | 263 | 2,54 | 0,80 | 0,69 |
| 45 | -35   | 289 | 304 | 2,62 | 0,95 | 0,82 |
| 45 | -30   | 386 | 349 | 2,73 | 1,10 | 0,95 |
| 45 | -25   | 498 | 400 | 2,86 | 1,24 | 1,08 |
| 45 | -23,3 | 540 | 419 | 2,92 | 1,29 | 1,11 |
| 45 | -20   | 627 | 456 | 3,03 | 1,37 | 1,19 |
| 45 | -15   | 771 | 516 | 3,24 | 1,49 | 1,29 |
| 45 | -10   | 932 | 582 | 3,50 | 1,60 | 1,38 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 50 | -40   | 183 | 259 | 2,54 | 0,71 | 0,61 |
| 50 | -35   | 253 | 303 | 2,62 | 0,84 | 0,72 |
| 50 | -30   | 340 | 351 | 2,73 | 0,97 | 0,84 |
| 50 | -25   | 442 | 405 | 2,88 | 1,09 | 0,94 |
| 50 | -23,3 | 481 | 424 | 2,93 | 1,13 | 0,98 |
| 50 | -20   | 561 | 463 | 3,06 | 1,21 | 1,05 |
| 50 | -15   | 696 | 527 | 3,28 | 1,32 | 1,14 |
| 50 | -10   | 847 | 596 | 3,56 | 1,42 | 1,23 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 55 | -40   | 156 | 255 | 2,53 | 0,61 | 0,53 |
| 55 | -35   | 217 | 302 | 2,62 | 0,72 | 0,62 |
| 55 | -30   | 294 | 353 | 2,74 | 0,83 | 0,72 |
| 55 | -25   | 387 | 410 | 2,89 | 0,94 | 0,82 |
| 55 | -23,3 | 422 | 430 | 2,95 | 0,98 | 0,85 |
| 55 | -20   | 495 | 471 | 3,08 | 1,05 | 0,91 |
| 55 | -15   | 620 | 538 | 3,32 | 1,15 | 1,00 |
| 55 | -10   | 762 | 609 | 3,62 | 1,25 | 1,08 |

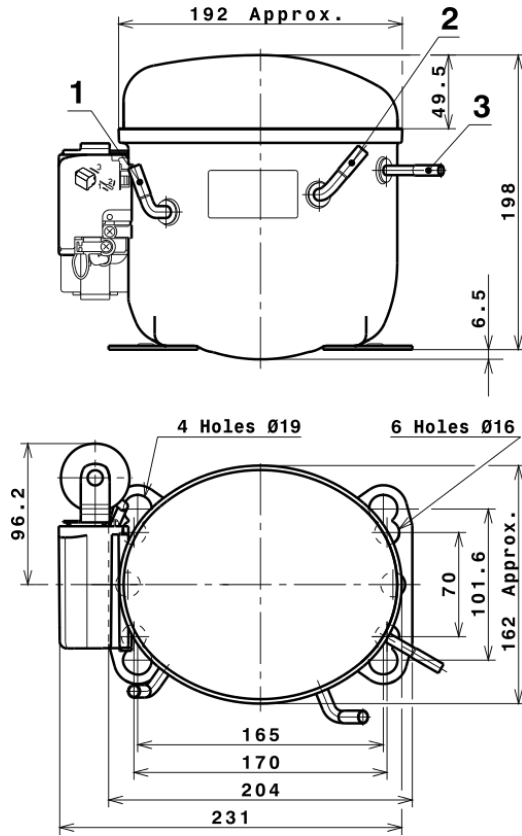
|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 60 | -40   | 130 | 251 | 2,52 | 0,52 | 0,45 |
| 60 | -35   | 181 | 301 | 2,62 | 0,60 | 0,52 |
| 60 | -30   | 248 | 355 | 2,74 | 0,70 | 0,60 |
| 60 | -25   | 331 | 414 | 2,90 | 0,80 | 0,69 |
| 60 | -23,3 | 363 | 436 | 2,97 | 0,83 | 0,72 |
| 60 | -20   | 430 | 479 | 3,11 | 0,90 | 0,78 |
| 60 | -15   | 545 | 548 | 3,37 | 0,99 | 0,86 |
| 60 | -10   | 676 | 623 | 3,68 | 1,09 | 0,94 |

## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)  | Mass Flow (kg/h)    |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 2.224,3393797778     | 570,6004563664  | 3,5076586652 | 45,772907112211     |
| 2 | 56,8392256996        | 10,8236286044   | 0,0581523723 | 1,3936865205216     |
| 3 | -21,5999091521       | 3,9692117800    | 0,0169100299 | -0,15372585154534   |
| 4 | 0,3053071851         | 0,1049780353    | 0,0008998498 | 0,012077203751283   |
| 5 | -0,4078882717        | 0,1196731152    | 0,0004597511 | -0,0018742458718253 |

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

## COMPRESSOR DIMENSIONS



## DESIGNATION INTERNAL DIAM.

| DESIGNATION | INTERNAL DIAM. |
|-------------|----------------|
| 1 Suction   | 8,1 mm         |
| 2 Service   | 8,1 mm         |
| 3 Discharge | 6,5 mm         |

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSIR CONNECTION (L, P ranges)



# 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 R404A LBP

