

# Technical Data Sheet

Compressor model **MPT14LA**  
 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 | 14,32 cm <sup>3</sup> |
| Diameter     | 29,37 mm              |
| Stroke       | 21,13 mm              |
| Net Weight   | 12,25 Kg              |
| Oil type     | ISO VG 32 ESTER       |
| Oil charge   | 400 cm <sup>3</sup>   |

## MOTOR

|                          |               |
|--------------------------|---------------|
| Nominal Power            | 1/2 hp        |
| Voltage/Frequency        | 220-240V 50Hz |
| Voltage range            | 187-264 V     |
| Type                     | CSR           |
| Phase number             | 1 PH          |
| Locked Rotor Amps (LRA)  | 16,00 A       |
| Max. Cont. Current (MCC) | 5,00 A        |
| Main W. resist. at 25°C  | 5,02 Ω        |
| Start W. resist. at 25°C | 9,67 Ω        |

## NOMINAL PERFORMANCE

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 670 kCal/h   | 534 W        |
| COP              | 1,38 W/W     | 0,99 W/W     |
| EER              | 1,19 kCal/Wh | 0,85 kCal/Wh |
| Input Power      | 565 W        | 541 W        |
| Current          | 2,80 A       | 2,70 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    |                   |  |
| Run capacitor           | 10 µF 420 V        |                   |  |
| Relay                   | Option 1           |                   |  |
| Reference               | 2014 158. + NTC15Ω |                   |  |
| Pick-Up                 | 9,05 A             |                   |  |
| Drop-Out                | 7,70 A             |                   |  |
| Protector               | Option 1           | Option 2          |  |
| Reference               | MRA38133           | T0267             |  |
| Current                 | 11,50 A            | 11,00 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      | 325                           | 369              | 1,92         | 1,03       | 0,88           |
| 40       | -35      | 424                           | 414              | 2,13         | 1,19       | 1,03           |
| 40       | -30      | 545                           | 461              | 2,35         | 1,37       | 1,18           |
| 40       | -25      | 687                           | 511              | 2,57         | 1,56       | 1,34           |
| 40       | -23,3    | 740                           | 529              | 2,64         | 1,63       | 1,40           |
| 40       | -20      | 850                           | 563              | 2,79         | 1,75       | 1,51           |
| 40       | -15      | 1.034                         | 618              | 3,02         | 1,95       | 1,67           |
| 40       | -10      | 1.240                         | 675              | 3,26         | 2,14       | 1,84           |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 45 | -40   | 310   | 360 | 1,88 | 1,00 | 0,86 |
| 45 | -35   | 407   | 411 | 2,12 | 1,15 | 0,99 |
| 45 | -30   | 525   | 465 | 2,36 | 1,31 | 1,13 |
| 45 | -25   | 664   | 521 | 2,61 | 1,48 | 1,27 |
| 45 | -23,3 | 717   | 541 | 2,70 | 1,54 | 1,33 |
| 45 | -20   | 825   | 580 | 2,86 | 1,66 | 1,42 |
| 45 | -15   | 1.007 | 640 | 3,12 | 1,83 | 1,57 |
| 45 | -10   | 1.210 | 703 | 3,37 | 2,00 | 1,72 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 50 | -40   | 295   | 352 | 1,84 | 0,98 | 0,84 |
| 50 | -35   | 389   | 409 | 2,11 | 1,11 | 0,95 |
| 50 | -30   | 505   | 469 | 2,38 | 1,25 | 1,08 |
| 50 | -25   | 642   | 531 | 2,65 | 1,41 | 1,21 |
| 50 | -23,3 | 693   | 553 | 2,75 | 1,46 | 1,25 |
| 50 | -20   | 800   | 596 | 2,93 | 1,56 | 1,34 |
| 50 | -15   | 979   | 662 | 3,21 | 1,72 | 1,48 |
| 50 | -10   | 1.180 | 732 | 3,49 | 1,88 | 1,61 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 55 | -40   | 280   | 343 | 1,80 | 0,95 | 0,82 |
| 55 | -35   | 372   | 407 | 2,10 | 1,06 | 0,91 |
| 55 | -30   | 485   | 473 | 2,40 | 1,19 | 1,03 |
| 55 | -25   | 619   | 541 | 2,70 | 1,33 | 1,14 |
| 55 | -23,3 | 670   | 565 | 2,80 | 1,38 | 1,19 |
| 55 | -20   | 775   | 612 | 3,00 | 1,47 | 1,27 |
| 55 | -15   | 952   | 685 | 3,30 | 1,62 | 1,39 |
| 55 | -10   | 1.150 | 760 | 3,60 | 1,76 | 1,51 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 60 | -40   | 265   | 335 | 1,76 | 0,92 | 0,79 |
| 60 | -35   | 354   | 404 | 2,09 | 1,02 | 0,88 |
| 60 | -30   | 465   | 477 | 2,41 | 1,13 | 0,98 |
| 60 | -25   | 597   | 551 | 2,74 | 1,26 | 1,08 |
| 60 | -23,3 | 647   | 577 | 2,85 | 1,30 | 1,12 |
| 60 | -20   | 750   | 628 | 3,07 | 1,39 | 1,19 |
| 60 | -15   | 924   | 707 | 3,39 | 1,52 | 1,31 |
| 60 | -10   | 1.120 | 789 | 3,71 | 1,65 | 1,42 |

## 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      | 345                      | 369              | 1,92         | 0,94       | 0,81           |
| 40       | -35      | 463                      | 414              | 2,13         | 1,12       | 0,97           |
| 40       | -30      | 598                      | 461              | 2,35         | 1,30       | 1,12           |
| 40       | -25      | 751                      | 511              | 2,57         | 1,47       | 1,27           |
| 40       | -23,3    | 807                      | 529              | 2,64         | 1,53       | 1,32           |
| 40       | -20      | 922                      | 563              | 2,79         | 1,64       | 1,41           |
| 40       | -15      | 1.111                    | 618              | 3,02         | 1,80       | 1,55           |
| 40       | -10      | 1.317                    | 675              | 3,26         | 1,95       | 1,69           |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 45 | -40   | 310   | 360 | 1,88 | 0,86 | 0,75 |
| 45 | -35   | 416   | 411 | 2,12 | 1,01 | 0,87 |
| 45 | -30   | 538   | 465 | 2,36 | 1,16 | 1,00 |
| 45 | -25   | 679   | 521 | 2,61 | 1,30 | 1,13 |
| 45 | -23,3 | 731   | 541 | 2,70 | 1,35 | 1,17 |
| 45 | -20   | 837   | 580 | 2,86 | 1,44 | 1,25 |
| 45 | -15   | 1.013 | 640 | 3,12 | 1,58 | 1,37 |
| 45 | -10   | 1.206 | 703 | 3,37 | 1,72 | 1,48 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 50 | -40   | 276   | 352 | 1,84 | 0,79 | 0,68 |
| 50 | -35   | 369   | 409 | 2,11 | 0,90 | 0,78 |
| 50 | -30   | 479   | 469 | 2,38 | 1,02 | 0,88 |
| 50 | -25   | 606   | 531 | 2,65 | 1,14 | 0,99 |
| 50 | -23,3 | 654   | 553 | 2,75 | 1,18 | 1,02 |
| 50 | -20   | 751   | 596 | 2,93 | 1,26 | 1,09 |
| 50 | -15   | 914   | 662 | 3,21 | 1,38 | 1,19 |
| 50 | -10   | 1.095 | 732 | 3,49 | 1,50 | 1,29 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 55 | -40   | 242 | 343 | 1,80 | 0,71 | 0,61 |
| 55 | -35   | 322 | 407 | 2,10 | 0,79 | 0,68 |
| 55 | -30   | 419 | 473 | 2,40 | 0,89 | 0,77 |
| 55 | -25   | 534 | 541 | 2,70 | 0,99 | 0,85 |
| 55 | -23,3 | 577 | 565 | 2,80 | 1,02 | 0,88 |
| 55 | -20   | 666 | 612 | 3,00 | 1,09 | 0,94 |
| 55 | -15   | 816 | 685 | 3,30 | 1,19 | 1,03 |
| 55 | -10   | 984 | 760 | 3,60 | 1,29 | 1,12 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 60 | -40   | 208 | 335 | 1,76 | 0,62 | 0,54 |
| 60 | -35   | 275 | 404 | 2,09 | 0,68 | 0,59 |
| 60 | -30   | 359 | 477 | 2,41 | 0,75 | 0,65 |
| 60 | -25   | 461 | 551 | 2,74 | 0,84 | 0,72 |
| 60 | -23,3 | 500 | 577 | 2,85 | 0,87 | 0,75 |
| 60 | -20   | 581 | 628 | 3,07 | 0,92 | 0,80 |
| 60 | -15   | 718 | 707 | 3,39 | 1,02 | 0,88 |
| 60 | -10   | 873 | 789 | 3,71 | 1,11 | 0,96 |

## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)  | Mass Flow (kg/h)    |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 2.849,4199929438     | 482,8688267664  | 2,4642474178 | 58,571922886331     |
| 2 | 69,3918790640        | 2,9451549016    | 0,0052232406 | 1,6929128423833     |
| 3 | -28,1263748692       | 8,3832327986    | 0,0333978339 | -0,21140224026431   |
| 4 | 0,3344903033         | 0,0506887063    | 0,0000177546 | 0,013483173484944   |
| 5 | -0,5308783213        | 0,2530218138    | 0,0010385580 | -0,0031637940291788 |

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

# Technical Data Sheet

## COMPRESSOR DIMENSIONS



## DESIGNATION INTERNAL DIAM.

|   |           |        |
|---|-----------|--------|
| 1 | Suction   | 8,1 mm |
| 2 | Service   | 8,1 mm |
| 3 | Discharge | 6,5 mm |

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

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

