

# Technical Data Sheet

Compressor model **MPT16LA**  
 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 | 16,15 cm <sup>3</sup> |
| Diameter     | 31,19 mm              |
| Stroke       | 21,13 mm              |
| Net Weight   | 12,37 Kg              |
| Oil type     | ISO VG 32 ESTER       |
| Oil charge   | 450 cm <sup>3</sup>   |

## MOTOR

|                          |               |
|--------------------------|---------------|
| Nominal Power            | 1/2 hp        |
| Voltage/Frequency        | 220-240V 50Hz |
| Voltage range            | 187-255 V     |
| Type                     | CSR           |
| Phase number             | 1 PH          |
| Locked Rotor Amps (LRA)  | 19,00 A       |
| Max. Cont. Current (MCC) | 4,00 A        |
| Main W. resist. at 25°C  | 5,30 Ω        |
| Start W. resist. at 25°C | 8,70 Ω        |

## NOMINAL PERFORMANCE

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 765 kCal/h   | 605 W        |
| COP              | 1,40 W/W     | 1,00 W/W     |
| EER              | 1,20 kCal/Wh | 0,86 kCal/Wh |
| Input Power      | 635 W        | 608 W        |
| Current          | 3,04 A       | 2,92 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           |                   |  |
| Reference               | 2014 158. + NTC15Ω |                   |  |
| Pick-Up                 | 9,05 A             |                   |  |
| Drop-Out                | 7,70 A             |                   |  |
| Protector               | Option 1           | Option 2          |  |
| Reference               | MRA38145           | T0266             |  |
| Current                 | 14,90 A            | 11,00 A           |  |
| Time check              | 2,8-5,2 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      | 337                           | 393              | 1,98         | 1,00       | 0,86           |
| 40       | -35      | 456                           | 441              | 2,18         | 1,20       | 1,03           |
| 40       | -30      | 603                           | 496              | 2,42         | 1,41       | 1,22           |
| 40       | -25      | 776                           | 556              | 2,68         | 1,62       | 1,40           |
| 40       | -23,3    | 842                           | 578              | 2,78         | 1,69       | 1,46           |
| 40       | -20      | 977                           | 622              | 2,98         | 1,83       | 1,57           |
| 40       | -15      | 1.205                         | 694              | 3,31         | 2,02       | 1,74           |
| 40       | -10      | 1.460                         | 772              | 3,67         | 2,20       | 1,89           |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 45 | -40   | 319   | 394 | 1,98 | 0,94 | 0,81 |
| 45 | -35   | 436   | 448 | 2,21 | 1,13 | 0,97 |
| 45 | -30   | 580   | 508 | 2,47 | 1,33 | 1,14 |
| 45 | -25   | 752   | 573 | 2,76 | 1,53 | 1,31 |
| 45 | -23,3 | 816   | 597 | 2,87 | 1,59 | 1,37 |
| 45 | -20   | 950   | 645 | 3,08 | 1,71 | 1,47 |
| 45 | -15   | 1.175 | 722 | 3,44 | 1,89 | 1,63 |
| 45 | -10   | 1.428 | 805 | 3,83 | 2,06 | 1,77 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 50 | -40   | 301   | 395 | 1,99 | 0,89 | 0,76 |
| 50 | -35   | 416   | 454 | 2,24 | 1,06 | 0,92 |
| 50 | -30   | 558   | 519 | 2,52 | 1,25 | 1,07 |
| 50 | -25   | 727   | 590 | 2,84 | 1,43 | 1,23 |
| 50 | -23,3 | 791   | 616 | 2,95 | 1,49 | 1,28 |
| 50 | -20   | 923   | 667 | 3,19 | 1,61 | 1,38 |
| 50 | -15   | 1.146 | 750 | 3,57 | 1,78 | 1,53 |
| 50 | -10   | 1.397 | 839 | 3,99 | 1,94 | 1,67 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 55 | -40   | 283   | 396 | 1,99 | 0,83 | 0,71 |
| 55 | -35   | 396   | 461 | 2,27 | 1,00 | 0,86 |
| 55 | -30   | 535   | 531 | 2,58 | 1,17 | 1,01 |
| 55 | -25   | 702   | 608 | 2,92 | 1,34 | 1,16 |
| 55 | -23,3 | 765   | 635 | 3,04 | 1,40 | 1,20 |
| 55 | -20   | 896   | 690 | 3,29 | 1,51 | 1,30 |
| 55 | -15   | 1.117 | 778 | 3,70 | 1,67 | 1,44 |
| 55 | -10   | 1.365 | 872 | 4,15 | 1,82 | 1,57 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 60 | -40   | 265   | 397 | 1,99 | 0,78 | 0,67 |
| 60 | -35   | 375   | 467 | 2,30 | 0,93 | 0,80 |
| 60 | -30   | 513   | 543 | 2,63 | 1,10 | 0,94 |
| 60 | -25   | 677   | 625 | 2,99 | 1,26 | 1,08 |
| 60 | -23,3 | 739   | 654 | 3,13 | 1,31 | 1,13 |
| 60 | -20   | 869   | 713 | 3,40 | 1,42 | 1,22 |
| 60 | -15   | 1.088 | 806 | 3,83 | 1,57 | 1,35 |
| 60 | -10   | 1.334 | 906 | 4,31 | 1,71 | 1,47 |

## 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      | 357                      | 393              | 1,98         | 0,91       | 0,78           |
| 40       | -35      | 499                      | 441              | 2,18         | 1,13       | 0,98           |
| 40       | -30      | 665                      | 496              | 2,42         | 1,34       | 1,16           |
| 40       | -25      | 852                      | 556              | 2,68         | 1,53       | 1,32           |
| 40       | -23,3    | 921                      | 578              | 2,78         | 1,59       | 1,38           |
| 40       | -20      | 1.063                    | 622              | 2,98         | 1,71       | 1,48           |
| 40       | -15      | 1.295                    | 694              | 3,31         | 1,87       | 1,61           |
| 40       | -10      | 1.551                    | 772              | 3,67         | 2,01       | 1,74           |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 45 | -40   | 319   | 394 | 1,98 | 0,81 | 0,70 |
| 45 | -35   | 447   | 448 | 2,21 | 1,00 | 0,86 |
| 45 | -30   | 597   | 508 | 2,47 | 1,18 | 1,02 |
| 45 | -25   | 770   | 573 | 2,76 | 1,34 | 1,16 |
| 45 | -23,3 | 834   | 597 | 2,87 | 1,40 | 1,21 |
| 45 | -20   | 965   | 645 | 3,08 | 1,50 | 1,29 |
| 45 | -15   | 1.183 | 722 | 3,44 | 1,64 | 1,42 |
| 45 | -10   | 1.423 | 805 | 3,83 | 1,77 | 1,53 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 50 | -40   | 282   | 395 | 1,99 | 0,71 | 0,62 |
| 50 | -35   | 395   | 454 | 2,24 | 0,87 | 0,75 |
| 50 | -30   | 530   | 519 | 2,52 | 1,02 | 0,88 |
| 50 | -25   | 687   | 590 | 2,84 | 1,16 | 1,01 |
| 50 | -23,3 | 746   | 616 | 2,95 | 1,21 | 1,05 |
| 50 | -20   | 868   | 667 | 3,19 | 1,30 | 1,12 |
| 50 | -15   | 1.070 | 750 | 3,57 | 1,43 | 1,23 |
| 50 | -10   | 1.296 | 839 | 3,99 | 1,55 | 1,34 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 55 | -40   | 245   | 396 | 1,99 | 0,62 | 0,53 |
| 55 | -35   | 342   | 461 | 2,27 | 0,74 | 0,64 |
| 55 | -30   | 462   | 531 | 2,58 | 0,87 | 0,75 |
| 55 | -25   | 605   | 608 | 2,92 | 1,00 | 0,86 |
| 55 | -23,3 | 658   | 635 | 3,04 | 1,04 | 0,90 |
| 55 | -20   | 770   | 690 | 3,29 | 1,12 | 0,96 |
| 55 | -15   | 958   | 778 | 3,70 | 1,23 | 1,06 |
| 55 | -10   | 1.168 | 872 | 4,15 | 1,34 | 1,16 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 60 | -40   | 207   | 397 | 1,99 | 0,52 | 0,45 |
| 60 | -35   | 290   | 467 | 2,30 | 0,62 | 0,54 |
| 60 | -30   | 395   | 543 | 2,63 | 0,73 | 0,63 |
| 60 | -25   | 522   | 625 | 2,99 | 0,84 | 0,72 |
| 60 | -23,3 | 571   | 654 | 3,13 | 0,87 | 0,75 |
| 60 | -20   | 672   | 713 | 3,40 | 0,94 | 0,82 |
| 60 | -15   | 845   | 806 | 3,83 | 1,05 | 0,91 |
| 60 | -10   | 1.041 | 906 | 4,31 | 1,15 | 0,99 |

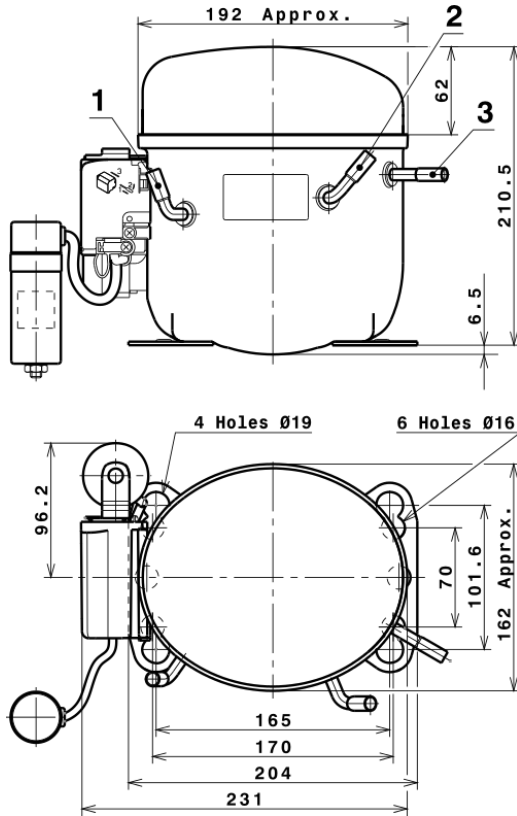
## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)  | Mass Flow (kg/h)    |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 3.362,1829001525     | 607,9057911504  | 2,8882650777 | 68,668162249381     |
| 2 | 85,0151846976        | 10,3320870430   | 0,0519916419 | 2,0654376965691     |
| 3 | -32,5548335048       | 9,1050030476    | 0,0438754093 | -0,21904919996161   |
| 4 | 0,4274901012         | 0,1243137426    | 0,0007317660 | 0,017111540000665   |
| 5 | -0,6260593207        | 0,2225143710    | 0,0010751288 | -0,0029379360044573 |

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

# Technical Data Sheet

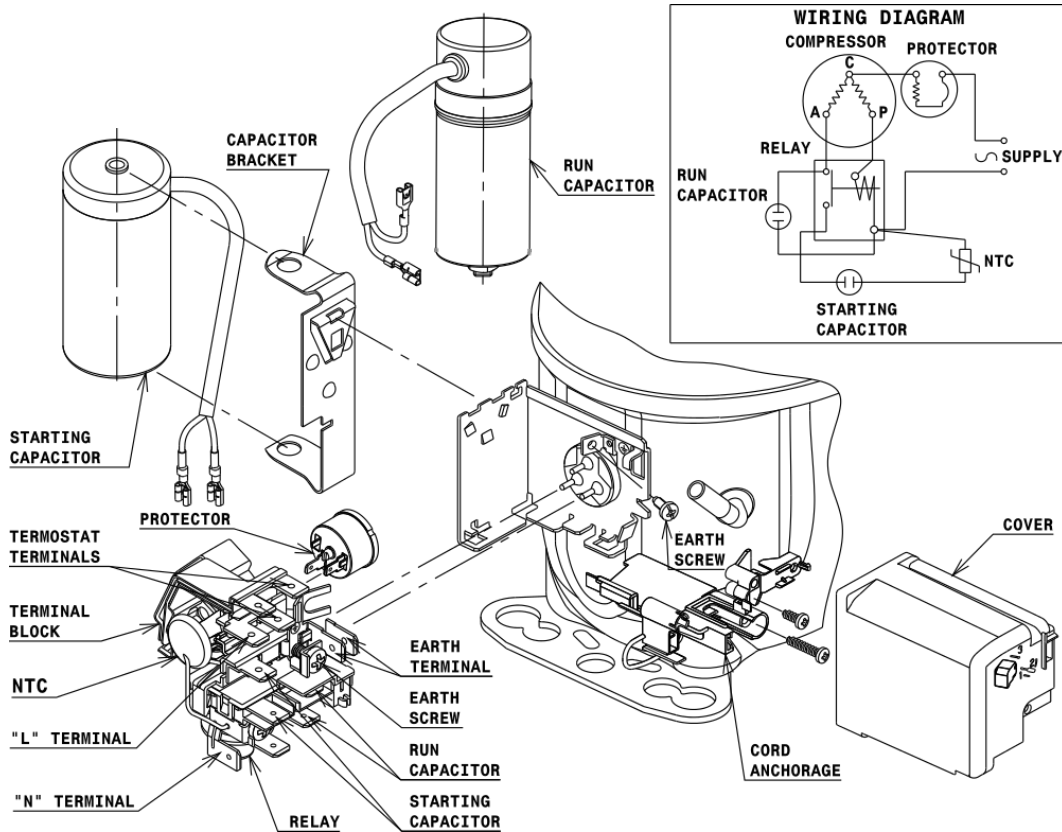
## COMPRESSOR DIMENSIONS



| 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

$\varnothing 16$  holes (170x70 net)



### AMERICAN FEET

$\varnothing 19$  holes (165x101.6 net)



### SNAP-ON

$\varnothing 16$  holes (170x70 net)



## SOA

SOA R404A LBP

