

Technical Data Sheet

Compressor model **MP14FB**
 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 14,17 cm³
 Diameter 31,19 mm
 Stroke 18,54 mm
 Net Weight 12,07 Kg
 Oil type ISO VG 32 ESTER
 Oil charge 400 cm³

MOTOR

Nominal Power 1/2 hp
 Voltage/Frequency 220-240V 50Hz
 Voltage range 187-264 V
 Type CSIR
 Phase number 1 PH
 Locked Rotor Amps (LRA) 17,50 A
 Max. Cont. Current (MCC) 5,00 A
 Main W. resist. at 25°C 4,86 Ω
 Start W. resist. at 25°C 17,03 Ω

NOMINAL PERFORMANCE

| | ASHRAE | CECOMAF |
|------------------|--------------|--------------|
| Cooling Capacity | 540 kCal/h | 421 W |
| COP | 1,12 W/W | 0,79 W/W |
| EER | 0,96 kCal/Wh | 0,69 kCal/Wh |
| Input Power | 560 W | 530 W |
| Current | 3,40 A | 3,29 A |

APPROVALS



TEST CYCLE CONDITIONS

| | ASHRAE LBP (B) | CECOMAF LBP (A) |
|---------------------------------------|-------------------|--------------------|
| Evaporating temp. (T _e) | -23,3 °C | -25,0 °C |
| Condensing temp. (T _c) | 55,0 °C | 55,0 °C |
| Liquid temp. (T _{liq.}) | 32,0 °C | 55,0 °C |
| Ambient temp. (T _{amb.}) | 32,0 °C | 32,0 °C |
| Suction temp. (T _{suction}) | 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 | | |
| Relay | Option 1 | | |
| Reference | 2014 158. | | |
| Pick-Up | 9,05 A | | |
| Drop-Out | 7,70 A | | |
| Protector | Option 1 | Option 2 | |
| Reference | MRP00AMK | T0425 | |
| Current | 11,70 A | 11,50 A | |
| Time check | 7,5-14 seg | 7,5-14 seg | |
| Disc temp. (Open/Close) | 105,00 / 61,00 °C | 105,00 / 61,00 °C | |

ASHRAE

| Tc °C | Te °C | Cooling Capacity kCal/h | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|-------------------------------|------------------|--------------|------------|----------------|
| 40 | -40 | 230 | 325 | 2,63 | 0,82 | 0,71 |
| 40 | -35 | 335 | 384 | 2,80 | 1,02 | 0,87 |
| 40 | -30 | 462 | 445 | 2,99 | 1,21 | 1,04 |
| 40 | -25 | 609 | 508 | 3,21 | 1,39 | 1,20 |
| 40 | -23,3 | 663 | 530 | 3,29 | 1,46 | 1,25 |
| 40 | -20 | 777 | 573 | 3,45 | 1,58 | 1,35 |
| 40 | -15 | 965 | 641 | 3,71 | 1,75 | 1,51 |
| 40 | -10 | 1.175 | 710 | 4,00 | 1,92 | 1,65 |

| | | | | | | |
|----|-------|-------|-----|------|------|------|
| 45 | -40 | 200 | 310 | 2,58 | 0,75 | 0,65 |
| 45 | -35 | 302 | 376 | 2,78 | 0,93 | 0,80 |
| 45 | -30 | 425 | 445 | 2,99 | 1,11 | 0,96 |
| 45 | -25 | 569 | 515 | 3,24 | 1,28 | 1,10 |
| 45 | -23,3 | 622 | 540 | 3,33 | 1,34 | 1,15 |
| 45 | -20 | 733 | 588 | 3,51 | 1,45 | 1,25 |
| 45 | -15 | 919 | 663 | 3,80 | 1,61 | 1,39 |
| 45 | -10 | 1.125 | 740 | 4,13 | 1,77 | 1,52 |

| | | | | | | |
|----|-------|-------|-----|------|------|------|
| 50 | -40 | 170 | 295 | 2,54 | 0,67 | 0,58 |
| 50 | -35 | 269 | 369 | 2,75 | 0,85 | 0,73 |
| 50 | -30 | 388 | 445 | 2,99 | 1,02 | 0,87 |
| 50 | -25 | 529 | 523 | 3,26 | 1,18 | 1,01 |
| 50 | -23,3 | 581 | 550 | 3,36 | 1,23 | 1,06 |
| 50 | -20 | 690 | 603 | 3,56 | 1,33 | 1,14 |
| 50 | -15 | 872 | 686 | 3,90 | 1,48 | 1,27 |
| 50 | -10 | 1.075 | 770 | 4,26 | 1,62 | 1,40 |

| | | | | | | |
|----|-------|-------|-----|------|------|------|
| 55 | -40 | 140 | 280 | 2,50 | 0,58 | 0,50 |
| 55 | -35 | 235 | 361 | 2,73 | 0,76 | 0,65 |
| 55 | -30 | 352 | 445 | 2,99 | 0,92 | 0,79 |
| 55 | -25 | 489 | 530 | 3,29 | 1,07 | 0,92 |
| 55 | -23,3 | 540 | 560 | 3,40 | 1,12 | 0,96 |
| 55 | -20 | 647 | 618 | 3,62 | 1,22 | 1,05 |
| 55 | -15 | 825 | 708 | 3,99 | 1,36 | 1,17 |
| 55 | -10 | 1.025 | 800 | 4,40 | 1,49 | 1,28 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 60 | -40 | 110 | 265 | 2,46 | 0,48 | 0,42 |
| 60 | -35 | 202 | 354 | 2,71 | 0,66 | 0,57 |
| 60 | -30 | 315 | 445 | 2,99 | 0,82 | 0,71 |
| 60 | -25 | 449 | 538 | 3,32 | 0,97 | 0,83 |
| 60 | -23,3 | 499 | 570 | 3,44 | 1,02 | 0,88 |
| 60 | -20 | 603 | 633 | 3,68 | 1,11 | 0,95 |
| 60 | -15 | 779 | 731 | 4,09 | 1,24 | 1,07 |
| 60 | -10 | 975 | 830 | 4,54 | 1,37 | 1,17 |

CECOMAF

| Tc °C | Te °C | Cooling Capacity W | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|--------------------------|------------------|--------------|------------|----------------|
| 40 | -40 | 240 | 325 | 2,63 | 0,74 | 0,64 |
| 40 | -35 | 364 | 384 | 2,80 | 0,95 | 0,82 |
| 40 | -30 | 505 | 445 | 2,99 | 1,14 | 0,98 |
| 40 | -25 | 663 | 508 | 3,21 | 1,31 | 1,13 |
| 40 | -23,3 | 721 | 530 | 3,29 | 1,36 | 1,18 |
| 40 | -20 | 839 | 573 | 3,45 | 1,46 | 1,27 |
| 40 | -15 | 1.033 | 641 | 3,71 | 1,61 | 1,39 |
| 40 | -10 | 1.243 | 710 | 4,00 | 1,75 | 1,51 |

| | | | | | | |
|----|-------|-------|-----|------|------|------|
| 45 | -40 | 200 | 310 | 2,58 | 0,65 | 0,56 |
| 45 | -35 | 310 | 376 | 2,78 | 0,82 | 0,71 |
| 45 | -30 | 438 | 445 | 2,99 | 0,98 | 0,85 |
| 45 | -25 | 583 | 515 | 3,24 | 1,13 | 0,98 |
| 45 | -23,3 | 636 | 540 | 3,33 | 1,18 | 1,02 |
| 45 | -20 | 745 | 588 | 3,51 | 1,27 | 1,09 |
| 45 | -15 | 924 | 663 | 3,80 | 1,39 | 1,20 |
| 45 | -10 | 1.121 | 740 | 4,13 | 1,52 | 1,31 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 50 | -40 | 161 | 295 | 2,54 | 0,54 | 0,47 |
| 50 | -35 | 257 | 369 | 2,75 | 0,70 | 0,60 |
| 50 | -30 | 371 | 445 | 2,99 | 0,83 | 0,72 |
| 50 | -25 | 502 | 523 | 3,26 | 0,96 | 0,83 |
| 50 | -23,3 | 550 | 550 | 3,36 | 1,00 | 0,86 |
| 50 | -20 | 650 | 603 | 3,56 | 1,08 | 0,93 |
| 50 | -15 | 816 | 686 | 3,90 | 1,19 | 1,03 |
| 50 | -10 | 999 | 770 | 4,26 | 1,30 | 1,12 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 55 | -40 | 121 | 280 | 2,50 | 0,43 | 0,37 |
| 55 | -35 | 204 | 361 | 2,73 | 0,56 | 0,49 |
| 55 | -30 | 304 | 445 | 2,99 | 0,68 | 0,59 |
| 55 | -25 | 421 | 530 | 3,29 | 0,79 | 0,69 |
| 55 | -23,3 | 465 | 560 | 3,40 | 0,83 | 0,72 |
| 55 | -20 | 556 | 618 | 3,62 | 0,90 | 0,78 |
| 55 | -15 | 708 | 708 | 3,99 | 1,00 | 0,86 |
| 55 | -10 | 877 | 800 | 4,40 | 1,10 | 0,95 |

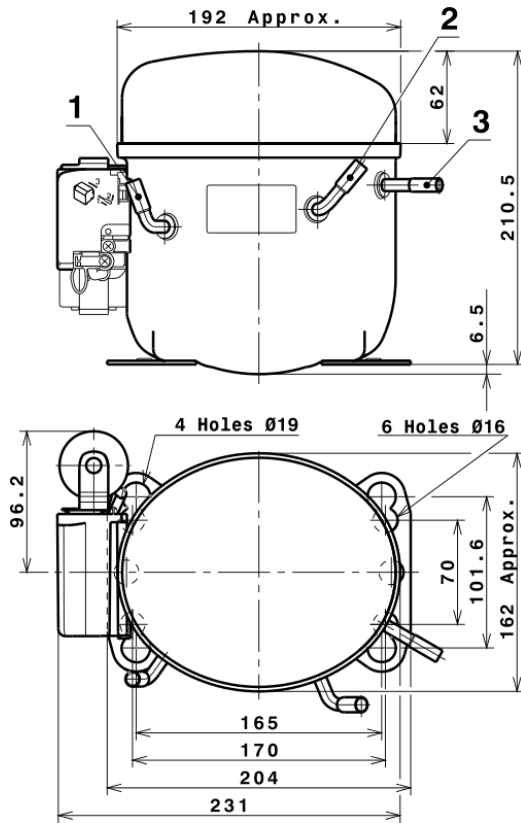
| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 60 | -40 | 81 | 265 | 2,46 | 0,31 | 0,27 |
| 60 | -35 | 150 | 354 | 2,71 | 0,42 | 0,37 |
| 60 | -30 | 237 | 445 | 2,99 | 0,53 | 0,46 |
| 60 | -25 | 340 | 538 | 3,32 | 0,63 | 0,55 |
| 60 | -23,3 | 379 | 570 | 3,44 | 0,67 | 0,57 |
| 60 | -20 | 461 | 633 | 3,68 | 0,73 | 0,63 |
| 60 | -15 | 599 | 731 | 4,09 | 0,82 | 0,71 |
| 60 | -10 | 755 | 830 | 4,54 | 0,91 | 0,79 |

EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A) | Mass Flow (kg/h) |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 2.879,5895814597 | 511,1320956407 | 3,2450801755 | 61,851295648731 |
| 2 | 71,5708739841 | 3,3330185121 | 0,0371178724 | 1,7473406557418 |
| 3 | -30,4797443021 | 9,2368984503 | 0,0404001993 | -0,33674771583261 |
| 4 | 0,3289292515 | 0,0481508777 | 0,0007658534 | 0,013206786679089 |
| 5 | -0,5674090975 | 0,3075830387 | 0,0012231471 | -0,0042333870333976 |

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

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

CSIR CONNECTION (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

