

# Technical Data Sheet

Compressor model **GPM16RA**  
 Voltage **220-240V 50Hz ~1**  
 Refrigerant **R134a**

| APPLICATION          |                     | COMPRESSOR   |                       | MOTOR                    |               |
|----------------------|---------------------|--------------|-----------------------|--------------------------|---------------|
| Application          | High Back Pressure  | Displacement | 16,15 cm <sup>3</sup> | Nominal Power            | 1/2 hp        |
| Refrigerant          | R134a               | Diameter     | 31,19 mm              | Voltage/Frequency        | 220-240V 50Hz |
| Evaporating Temp.    | -15,0 °C to 10,0 °C | Stroke       | 21,13 mm              | Voltage range            | 198-255 V     |
| Expansion            | Capillar/Valve      | Net Weight   | 12,29 Kg              | Type                     | CSIR          |
| Comp. Cooling        | Fan cooled          | Oil type     | ISO VG 32 ESTER       | Phase number             | 1 PH          |
| Max. ambient temp.   | 43,0 °C             | Oil charge   | 450 cm <sup>3</sup>   | Locked Rotor Amps (LRA)  | 21,00 A       |
| Compatible refriger. | R1234yf             |              |                       | Max. Cont. Current (MCC) | 5,50 A        |
|                      |                     |              |                       | Main W. resist. at 25°C  | 4,52 Ω        |
|                      |                     |              |                       | Start W. resist. at 25°C | 9,57 Ω        |

## NOMINAL PERFORMANCE

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 1.351 kCal/h | 1.317 W      |
| COP              | 2,09 W/W     | 1,79 W/W     |
| EER              | 1,80 kCal/Wh | 1,55 kCal/Wh |
| Input Power      | 752 W        | 734 W        |
| Current          | 4,28 A       | 4,18 A       |

## APPROVALS



## TEST CYCLE CONDITIONS

|                                       | ASHRAE<br>HBP (D) | CECOMAF<br>HBP (C) |
|---------------------------------------|-------------------|--------------------|
| Evaporating temp. (T <sub>e</sub> )   | 7,2 °C            | 5,0 °C             |
| Condensing temp. (T <sub>c</sub> )    | 55,0 °C           | 55,0 °C            |
| Liquid temp. (T <sub>liq.</sub> )     | 46,0 °C           | 55,0 °C            |
| Ambient temp. (T <sub>amb.</sub> )    | 35,0 °C           | 32,0 °C            |
| Suction temp. (T <sub>suction</sub> ) | 35,0 °C           | 32,0 °C            |
| Voltage/Frequency                     | 220 V 50 Hz       | 220 V 50 Hz        |

## ELECTRICAL COMPONENTS

|                         |                   |  |  |  |
|-------------------------|-------------------|--|--|--|
| Starting capacitor      | 64- 77 μF 330 V   |  |  |  |
| Relay                   | Option 1          |  |  |  |
| Reference               | 2014 166.         |  |  |  |
| Pick-Up                 | 11,00 A           |  |  |  |
| Drop-Out                | 9,35 A            |  |  |  |
| Protector               | Option 1          |  |  |  |
| Reference               | T0425             |  |  |  |
| Current                 | 11,50 A           |  |  |  |
| Time check              | 7,5-14 seg        |  |  |  |
| Disc temp. (Open/Close) | 105,00 / 61,00 °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       | -15      | 661                           | 472              | 3,29         | 1,63       | 1,40           |
| 40       | -10      | 842                           | 516              | 3,38         | 1,90       | 1,63           |
| 40       | -5       | 1.048                         | 557              | 3,48         | 2,19       | 1,88           |
| 40       | 0        | 1.277                         | 594              | 3,59         | 2,50       | 2,15           |
| 40       | 5        | 1.531                         | 627              | 3,70         | 2,84       | 2,44           |
| 40       | 7,2      | 1.650                         | 640              | 3,75         | 3,00       | 2,58           |
| 40       | 10       | 1.809                         | 656              | 3,82         | 3,21       | 2,76           |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 45 | -15 | 612   | 478 | 3,30 | 1,49 | 1,28 |
| 45 | -10 | 781   | 529 | 3,40 | 1,72 | 1,48 |
| 45 | -5  | 976   | 577 | 3,53 | 1,97 | 1,69 |
| 45 | 0   | 1.194 | 621 | 3,68 | 2,24 | 1,92 |
| 45 | 5   | 1.436 | 661 | 3,84 | 2,53 | 2,17 |
| 45 | 7,2 | 1.550 | 677 | 3,91 | 2,66 | 2,29 |
| 45 | 10  | 1.703 | 697 | 4,00 | 2,84 | 2,44 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 50 | -15 | 562   | 483 | 3,31 | 1,35 | 1,16 |
| 50 | -10 | 721   | 542 | 3,44 | 1,55 | 1,33 |
| 50 | -5  | 903   | 597 | 3,60 | 1,76 | 1,51 |
| 50 | 0   | 1.110 | 648 | 3,79 | 1,99 | 1,71 |
| 50 | 5   | 1.341 | 695 | 3,99 | 2,24 | 1,93 |
| 50 | 7,2 | 1.451 | 715 | 4,09 | 2,36 | 2,03 |
| 50 | 10  | 1.597 | 738 | 4,21 | 2,51 | 2,16 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 55 | -15 | 513   | 489 | 3,32 | 1,22 | 1,05 |
| 55 | -10 | 660   | 555 | 3,47 | 1,38 | 1,19 |
| 55 | -5  | 831   | 617 | 3,67 | 1,57 | 1,35 |
| 55 | 0   | 1.027 | 675 | 3,90 | 1,77 | 1,52 |
| 55 | 5   | 1.247 | 729 | 4,16 | 1,99 | 1,71 |
| 55 | 7,2 | 1.351 | 752 | 4,28 | 2,09 | 1,80 |
| 55 | 10  | 1.491 | 780 | 4,44 | 2,22 | 1,91 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 60 | -15 | 464   | 495 | 3,33 | 1,09 | 0,94 |
| 60 | -10 | 599   | 568 | 3,51 | 1,23 | 1,06 |
| 60 | -5  | 759   | 637 | 3,74 | 1,39 | 1,19 |
| 60 | 0   | 944   | 702 | 4,02 | 1,56 | 1,34 |
| 60 | 5   | 1.152 | 764 | 4,34 | 1,75 | 1,51 |
| 60 | 7,2 | 1.251 | 789 | 4,49 | 1,84 | 1,59 |
| 60 | 10  | 1.385 | 821 | 4,69 | 1,96 | 1,69 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 65 | -15 | 414   | 500 | 3,34 | 0,96 | 0,83 |
| 65 | -10 | 539   | 580 | 3,55 | 1,08 | 0,93 |
| 65 | -5  | 687   | 657 | 3,82 | 1,22 | 1,05 |
| 65 | 0   | 860   | 729 | 4,16 | 1,37 | 1,18 |
| 65 | 5   | 1.057 | 798 | 4,54 | 1,54 | 1,33 |
| 65 | 7,2 | 1.152 | 827 | 4,73 | 1,62 | 1,39 |
| 65 | 10  | 1.279 | 862 | 4,97 | 1,72 | 1,48 |

## 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       | -15      | 712                      | 475              | 3,30         | 1,50       | 1,30           |
| 40       | -10      | 908                      | 519              | 3,38         | 1,75       | 1,51           |
| 40       | -5       | 1.129                    | 560              | 3,49         | 2,02       | 1,74           |
| 40       | 0        | 1.376                    | 597              | 3,60         | 2,30       | 1,99           |
| 40       | 5        | 1.648                    | 631              | 3,72         | 2,61       | 2,26           |
| 40       | 7,2      | 1.776                    | 644              | 3,77         | 2,76       | 2,38           |
| 40       | 10       | 1.945                    | 660              | 3,84         | 2,95       | 2,55           |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 45 | -15 | 655   | 480 | 3,30 | 1,36 | 1,18 |
| 45 | -10 | 838   | 532 | 3,41 | 1,57 | 1,36 |
| 45 | -5  | 1.046 | 580 | 3,54 | 1,80 | 1,56 |
| 45 | 0   | 1.279 | 625 | 3,70 | 2,05 | 1,77 |
| 45 | 5   | 1.538 | 665 | 3,86 | 2,31 | 2,00 |
| 45 | 7,2 | 1.659 | 682 | 3,93 | 2,43 | 2,10 |
| 45 | 10  | 1.822 | 702 | 4,02 | 2,60 | 2,24 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 50 | -15 | 599   | 486 | 3,31 | 1,23 | 1,07 |
| 50 | -10 | 768   | 545 | 3,44 | 1,41 | 1,22 |
| 50 | -5  | 963   | 600 | 3,61 | 1,60 | 1,39 |
| 50 | 0   | 1.182 | 652 | 3,80 | 1,81 | 1,57 |
| 50 | 5   | 1.427 | 700 | 4,01 | 2,04 | 1,76 |
| 50 | 7,2 | 1.543 | 719 | 4,11 | 2,15 | 1,85 |
| 50 | 10  | 1.698 | 743 | 4,23 | 2,28 | 1,97 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 55 | -15 | 543   | 492 | 3,32 | 1,10 | 0,95 |
| 55 | -10 | 698   | 558 | 3,48 | 1,25 | 1,08 |
| 55 | -5  | 879   | 620 | 3,68 | 1,42 | 1,22 |
| 55 | 0   | 1.085 | 679 | 3,92 | 1,60 | 1,38 |
| 55 | 5   | 1.317 | 734 | 4,18 | 1,79 | 1,55 |
| 55 | 7,2 | 1.427 | 757 | 4,31 | 1,89 | 1,63 |
| 55 | 10  | 1.574 | 785 | 4,47 | 2,01 | 1,73 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 60 | -15 | 486   | 497 | 3,34 | 0,98 | 0,84 |
| 60 | -10 | 628   | 571 | 3,52 | 1,10 | 0,95 |
| 60 | -5  | 796   | 640 | 3,76 | 1,24 | 1,07 |
| 60 | 0   | 989   | 706 | 4,04 | 1,40 | 1,21 |
| 60 | 5   | 1.207 | 768 | 4,37 | 1,57 | 1,36 |
| 60 | 7,2 | 1.311 | 794 | 4,52 | 1,65 | 1,43 |
| 60 | 10  | 1.450 | 827 | 4,73 | 1,75 | 1,52 |

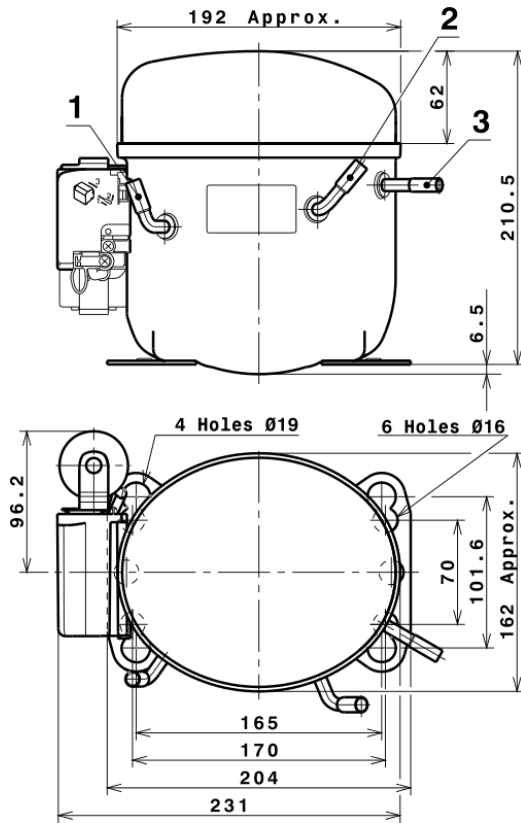
|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 65 | -15 | 430   | 503 | 3,35 | 0,85 | 0,74 |
| 65 | -10 | 558   | 584 | 3,56 | 0,96 | 0,83 |
| 65 | -5  | 712   | 661 | 3,84 | 1,08 | 0,93 |
| 65 | 0   | 892   | 734 | 4,18 | 1,22 | 1,05 |
| 65 | 5   | 1.096 | 803 | 4,58 | 1,37 | 1,18 |
| 65 | 7,2 | 1.194 | 832 | 4,76 | 1,44 | 1,24 |
| 65 | 10  | 1.326 | 868 | 5,01 | 1,53 | 1,32 |

## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)   | Mass Flow (kg/h)    |
|---|----------------------|-----------------|---------------|---------------------|
| 1 | 2.154,1591216909     | 388,8174150996  | 2,5160255072  | 36,931303490046     |
| 2 | 73,9279740310        | -4,4307831633   | -0,0364111391 | 1,3300391413074     |
| 3 | -19,9190963109       | 5,5981944920    | 0,0269611091  | -0,16541948741795   |
| 4 | 0,5014682337         | -0,0722693349   | 0,0007233838  | 0,015546556135209   |
| 5 | -0,5648991955        | 0,2954700957    | 0,0016490619  | -0,0027286823432187 |

|          |   |
|----------|---|
| 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)



## 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 R134a HBP

