

# Technical Data Sheet

Compressor model **HPY14AJb**  
Voltage **100V 50/60Hz ~1**  
Refrigerant **R600a**

## APPLICATION

Application Low Back Pressure  
Refrigerant R600a  
Evaporating Temp. -35,0 °C to -10,0 °C  
Expansion Capillar  
Comp. Cooling Static  
Max. ambient temp. 43,0 °C

## COMPRESSOR

Displacement 14,32 cm<sup>3</sup>  
Diameter 29,37 mm  
Stroke 21,13 mm  
Net Weight 10,86 Kg  
Oil type ISO VG 10 MINER  
Oil charge 400 cm<sup>3</sup>

## MOTOR

Nominal Power 1/5 hp  
Voltage/Frequency 100V 50Hz  
Voltage range 90-110 V  
Type RSCR  
Phase number 1 PH  
Locked Rotor Amps (LRA) 20,00 A  
Max. Cont. Current (MCC) 3,50 A  
Main W. resist. at 25°C 2,15 Ω  
Start W. resist. at 25°C 4,63 Ω

## NOMINAL PERFORMANCE

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 180 kCal/h   | 157 W        |
| COP              | 1,35 W/W     | 1,07 W/W     |
| EER              | 1,16 kCal/Wh | 0,92 kCal/Wh |
| Input Power      | 155 W        | 147 W        |
| Current          | 2,23 A       | 2,17 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                     | 100 V 50 Hz       | 100 V 50 Hz        |

## ELECTRICAL COMPONENTS

|                         |                   |                   |  |  |
|-------------------------|-------------------|-------------------|--|--|
| Run capacitor           | 20 µF 250 V       |                   |  |  |
| Relay                   | Option 1          |                   |  |  |
| Reference               | PTC K115          |                   |  |  |
| Voltage                 | 100 - 115 V       |                   |  |  |
| Resistance              | 4,70 Ω            |                   |  |  |
| Protector               | Option 1          | Option 2          |  |  |
| Reference               | T0791             | 4TM774RFBZZ       |  |  |
| Current                 | 18,20 A           | 19,50 A           |  |  |
| Time check              | 7,5-14 seg        | 5-15 seg          |  |  |
| Disc temp. (Open/Close) | 130,00 / 62,00 °C | 130,00 / 61,00 °C |  |  |

This product is approved for R290 and R600a regarding explosion safety according to standard EN 60335-1 and EN 60335-2-34

## 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       | -35      | 110                           | 109              | 1,89         | 1,17       | 1,01           |
| 40       | -30      | 146                           | 125              | 2,01         | 1,35       | 1,16           |
| 40       | -25      | 191                           | 144              | 2,15         | 1,55       | 1,33           |
| 40       | -23,3    | 209                           | 151              | 2,20         | 1,62       | 1,39           |
| 40       | -20      | 248                           | 164              | 2,30         | 1,75       | 1,51           |
| 40       | -15      | 314                           | 187              | 2,46         | 1,95       | 1,68           |
| 40       | -10      | 391                           | 212              | 2,64         | 2,15       | 1,84           |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 45 | -35   | 103 | 107 | 1,88 | 1,12 | 0,96 |
| 45 | -30   | 138 | 125 | 2,01 | 1,28 | 1,10 |
| 45 | -25   | 182 | 145 | 2,16 | 1,46 | 1,26 |
| 45 | -23,3 | 200 | 152 | 2,21 | 1,53 | 1,31 |
| 45 | -20   | 237 | 167 | 2,32 | 1,65 | 1,42 |
| 45 | -15   | 302 | 191 | 2,49 | 1,84 | 1,58 |
| 45 | -10   | 378 | 217 | 2,68 | 2,02 | 1,74 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 50 | -35   | 97  | 106 | 1,86 | 1,06 | 0,91 |
| 50 | -30   | 130 | 125 | 2,01 | 1,21 | 1,04 |
| 50 | -25   | 173 | 146 | 2,16 | 1,38 | 1,18 |
| 50 | -23,3 | 190 | 154 | 2,22 | 1,44 | 1,24 |
| 50 | -20   | 226 | 169 | 2,33 | 1,56 | 1,34 |
| 50 | -15   | 290 | 195 | 2,52 | 1,73 | 1,49 |
| 50 | -10   | 364 | 222 | 2,71 | 1,91 | 1,64 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 55 | -35   | 90  | 104 | 1,85 | 1,01 | 0,87 |
| 55 | -30   | 122 | 124 | 2,00 | 1,14 | 0,98 |
| 55 | -25   | 163 | 147 | 2,17 | 1,29 | 1,11 |
| 55 | -23,3 | 180 | 155 | 2,23 | 1,35 | 1,16 |
| 55 | -20   | 216 | 171 | 2,35 | 1,46 | 1,26 |
| 55 | -15   | 278 | 198 | 2,54 | 1,63 | 1,40 |
| 55 | -10   | 351 | 227 | 2,75 | 1,80 | 1,55 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 60 | -35   | 83  | 102 | 1,84 | 0,95 | 0,81 |
| 60 | -30   | 114 | 124 | 2,00 | 1,06 | 0,92 |
| 60 | -25   | 154 | 148 | 2,18 | 1,21 | 1,04 |
| 60 | -23,3 | 170 | 156 | 2,24 | 1,27 | 1,09 |
| 60 | -20   | 205 | 174 | 2,37 | 1,37 | 1,18 |
| 60 | -15   | 266 | 202 | 2,57 | 1,53 | 1,32 |
| 60 | -10   | 338 | 232 | 2,79 | 1,69 | 1,46 |

## 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       | -35      | 120                      | 109              | 1,89         | 1,10       | 0,95           |
| 40       | -30      | 162                      | 125              | 2,01         | 1,29       | 1,12           |
| 40       | -25      | 214                      | 144              | 2,15         | 1,48       | 1,28           |
| 40       | -23,3    | 233                      | 151              | 2,20         | 1,55       | 1,34           |
| 40       | -20      | 275                      | 164              | 2,30         | 1,67       | 1,44           |
| 40       | -15      | 346                      | 187              | 2,46         | 1,85       | 1,60           |
| 40       | -10      | 427                      | 212              | 2,64         | 2,02       | 1,74           |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 45 | -35   | 109 | 107 | 1,88 | 1,02 | 0,88 |
| 45 | -30   | 147 | 125 | 2,01 | 1,17 | 1,01 |
| 45 | -25   | 195 | 145 | 2,16 | 1,34 | 1,16 |
| 45 | -23,3 | 213 | 152 | 2,21 | 1,40 | 1,21 |
| 45 | -20   | 252 | 167 | 2,32 | 1,51 | 1,31 |
| 45 | -15   | 320 | 191 | 2,49 | 1,67 | 1,45 |
| 45 | -10   | 397 | 217 | 2,68 | 1,83 | 1,58 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 50 | -35   | 98  | 106 | 1,86 | 0,92 | 0,80 |
| 50 | -30   | 132 | 125 | 2,01 | 1,06 | 0,91 |
| 50 | -25   | 176 | 146 | 2,16 | 1,20 | 1,04 |
| 50 | -23,3 | 193 | 154 | 2,22 | 1,26 | 1,08 |
| 50 | -20   | 229 | 169 | 2,33 | 1,36 | 1,17 |
| 50 | -15   | 293 | 195 | 2,52 | 1,51 | 1,30 |
| 50 | -10   | 366 | 222 | 2,71 | 1,65 | 1,43 |

|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 55 | -35   | 86  | 104 | 1,85 | 0,83 | 0,72 |
| 55 | -30   | 116 | 124 | 2,00 | 0,94 | 0,81 |
| 55 | -25   | 157 | 147 | 2,17 | 1,07 | 0,92 |
| 55 | -23,3 | 172 | 155 | 2,23 | 1,11 | 0,96 |
| 55 | -20   | 207 | 171 | 2,35 | 1,20 | 1,04 |
| 55 | -15   | 266 | 198 | 2,54 | 1,34 | 1,16 |
| 55 | -10   | 336 | 227 | 2,75 | 1,48 | 1,28 |

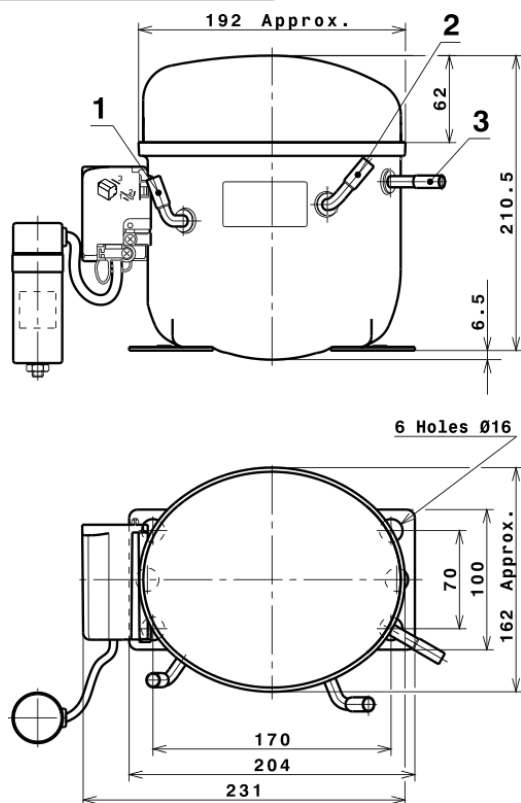
|    |       |     |     |      |      |      |
|----|-------|-----|-----|------|------|------|
| 60 | -35   | 75  | 102 | 1,84 | 0,73 | 0,63 |
| 60 | -30   | 101 | 124 | 2,00 | 0,82 | 0,71 |
| 60 | -25   | 138 | 148 | 2,18 | 0,93 | 0,80 |
| 60 | -23,3 | 152 | 156 | 2,24 | 0,97 | 0,84 |
| 60 | -20   | 184 | 174 | 2,37 | 1,06 | 0,91 |
| 60 | -15   | 240 | 202 | 2,57 | 1,19 | 1,03 |
| 60 | -10   | 305 | 232 | 2,79 | 1,32 | 1,14 |

## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)  | Mass Flow (kg/h)     |
|---|----------------------|-----------------|--------------|----------------------|
| 1 | 913,7068592059       | 211,4845309670  | 2,6339536574 | 9,2591241810365      |
| 2 | 26,8481214438        | 3,9970541732    | 0,0274180357 | 0,30078579036719     |
| 3 | -7,7318217694        | 1,5676256546    | 0,0111853658 | -0,042044388791769   |
| 4 | 0,1910181505         | 0,0435329859    | 0,0002719699 | 0,0027669794652921   |
| 5 | -0,1561607883        | 0,0545141423    | 0,0003927921 | -0,00070653440555662 |

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

## COMPRESSOR DIMENSIONS

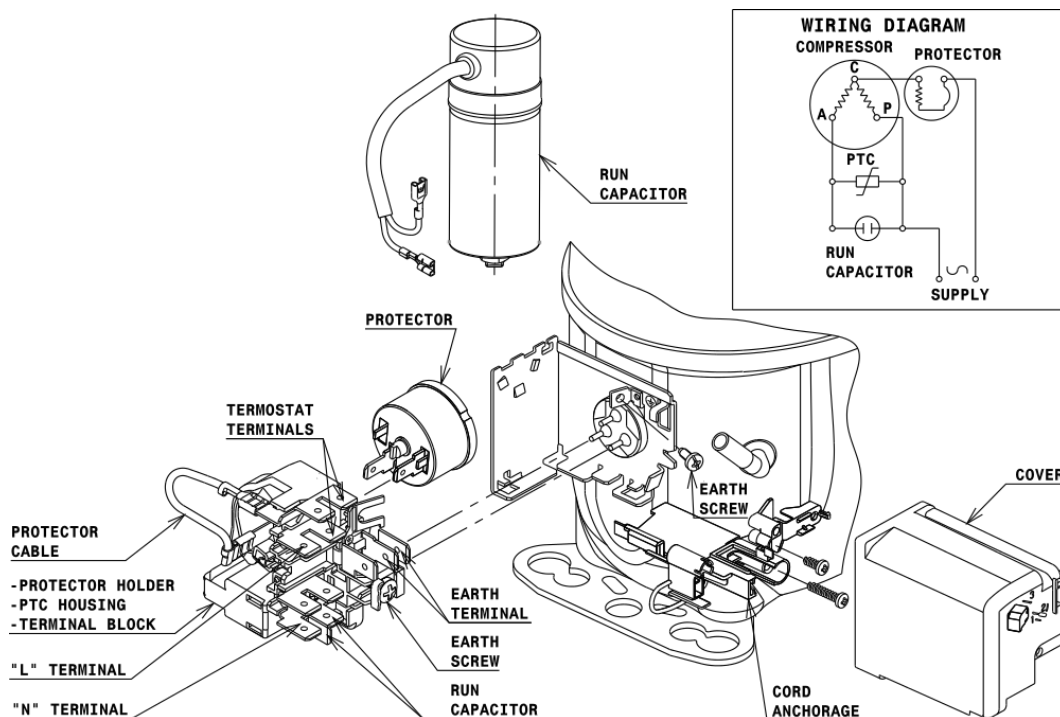


## DESIGNATION INTERNAL DIAM.

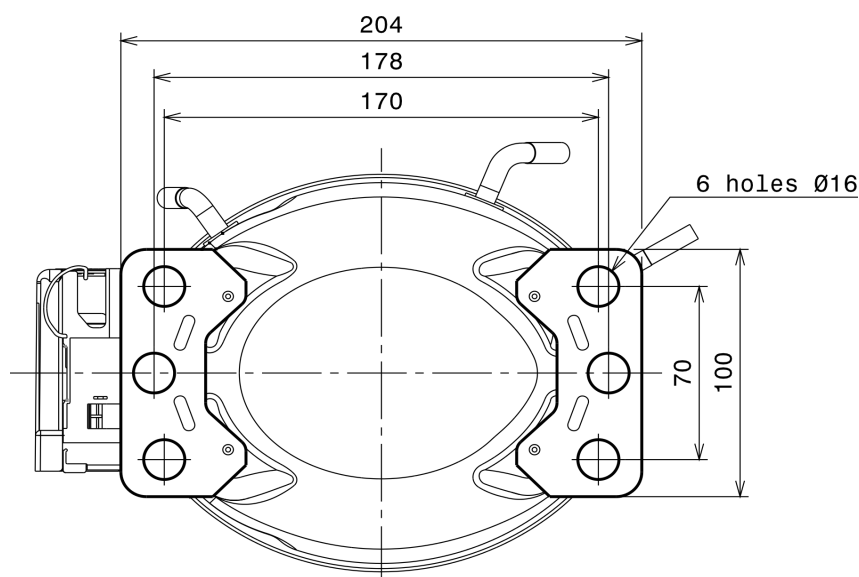
|   |           |        |
|---|-----------|--------|
| 1 | Suction   | 8,1 mm |
| 2 | Service   | 8,1 mm |
| 3 | Discharge | 6,5 mm |

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### RSCR CONNECTION (L, P ranges)



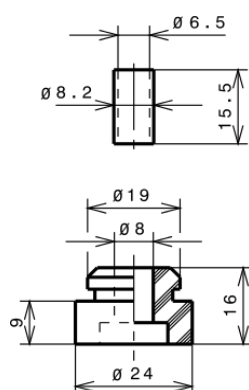
## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

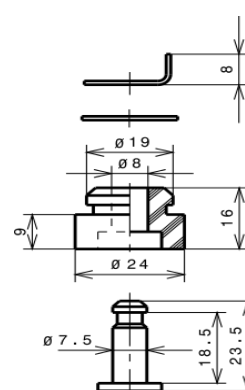
### STANDARD

Ø16 holes (170x70 net)



### SNAP-ON

Ø16 holes (170x70 net)



## SOA

SOA R600a LBP

