

Technical Data Sheet

Compressor model **HPY14RAa**
 Voltage **220-240V 50Hz ~1**
 Refrigerant **R600a**

APPLICATION

Application High Back Pressure
 Refrigerant R600a
 Evaporating Temp. -15,0 °C to 10,0 °C
 Expansion Capillar/Valve
 Comp. Cooling Fan cooled
 Max. ambient temp. 43,0 °C

COMPRESSOR

Displacement 14,32 cm³
 Diameter 29,37 mm
 Stroke 21,13 mm
 Net Weight 10,80 Kg
 Oil type ISO VG 46 ESTER
 Oil charge 350 cm³

MOTOR

Nominal Power 1/5 hp
 Voltage/Frequency 220-240V 50Hz
 Voltage range 187-264 V
 Type CSIR
 Phase number 1 PH
 Locked Rotor Amps (LRA) 11,50 A
 Max. Cont. Current (MCC) 2,60 A
 Main W. resist. at 25°C 8,59 Ω
 Start W. resist. at 25°C 17,75 Ω

NOMINAL PERFORMANCE

| | ASHRAE | CECOMAF |
|------------------|--------------|--------------|
| Cooling Capacity | 680 kCal/h | 668 W |
| COP | 2,40 W/W | 2,08 W/W |
| EER | 2,07 kCal/Wh | 1,80 kCal/Wh |
| Input Power | 329 W | 320 W |
| Current | 2,00 A | 1,97 A |

APPROVALS



TEST CYCLE CONDITIONS

| | ASHRAE HBP (D) | CECOMAF HBP (C) |
|---------------------------------------|-------------------|--------------------|
| Evaporating temp. (T _e) | 7,2 °C | 5,0 °C |
| Condensing temp. (T _c) | 55,0 °C | 55,0 °C |
| Liquid temp. (T _{liq.}) | 46,0 °C | 55,0 °C |
| Ambient temp. (T _{amb.}) | 35,0 °C | 32,0 °C |
| Suction temp. (T _{suction}) | 35,0 °C | 32,0 °C |
| Voltage/Frequency | 220 V 50 Hz | 220 V 50 Hz |

ELECTRICAL COMPONENTS

| | | | |
|-------------------------|-------------------|-------------------|-------------------|
| Starting capacitor | 47- 56 µF 330 V | | |
| Relay | Option 1 | | |
| Reference | 2014 127. | | |
| Pick-Up | 4,80 A | | |
| Drop-Out | 4,10 A | | |
| Protector | Option 1 | Option 2 | Option 3 |
| Reference | MRP61AMK | T0138 | AE86FHY |
| Current | 7,80 A | 7,70 A | 7,70 A |
| Time check | 7,5-14 seg | 7,5-14 seg | 7,5-14 seg |
| Disc temp. (Open/Close) | 105,00 / 61,00 °C | 105,00 / 62,00 °C | 105,00 / 62,00 °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 | Te | Cooling Capacity | Consumption | Current | COP | EER |
|----|-----|------------------|-------------|---------|------|---------|
| °C | °C | kCal/h | W | A | W/W | kCal/Wh |
| 40 | -15 | 328 | 207 | 1,60 | 1,84 | 1,58 |
| 40 | -10 | 414 | 226 | 1,65 | 2,13 | 1,83 |
| 40 | -5 | 511 | 245 | 1,70 | 2,43 | 2,09 |
| 40 | 0 | 621 | 263 | 1,76 | 2,74 | 2,36 |
| 40 | 5 | 743 | 283 | 1,83 | 3,06 | 2,63 |
| 40 | 7,2 | 800 | 291 | 1,86 | 3,20 | 2,75 |
| 40 | 10 | 876 | 302 | 1,89 | 3,38 | 2,90 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 45 | -15 | 307 | 213 | 1,62 | 1,67 | 1,44 |
| 45 | -10 | 388 | 233 | 1,67 | 1,94 | 1,66 |
| 45 | -5 | 481 | 254 | 1,73 | 2,21 | 1,90 |
| 45 | 0 | 587 | 274 | 1,80 | 2,49 | 2,14 |
| 45 | 5 | 704 | 295 | 1,87 | 2,78 | 2,39 |
| 45 | 7,2 | 760 | 304 | 1,90 | 2,91 | 2,50 |
| 45 | 10 | 834 | 315 | 1,95 | 3,08 | 2,65 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 50 | -15 | 285 | 219 | 1,63 | 1,52 | 1,30 |
| 50 | -10 | 362 | 241 | 1,69 | 1,75 | 1,51 |
| 50 | -5 | 452 | 263 | 1,76 | 2,00 | 1,72 |
| 50 | 0 | 553 | 284 | 1,83 | 2,26 | 1,94 |
| 50 | 5 | 666 | 307 | 1,91 | 2,53 | 2,17 |
| 50 | 7,2 | 720 | 316 | 1,95 | 2,65 | 2,28 |
| 50 | 10 | 792 | 329 | 2,00 | 2,80 | 2,41 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 55 | -15 | 264 | 225 | 1,65 | 1,36 | 1,17 |
| 55 | -10 | 337 | 248 | 1,72 | 1,58 | 1,36 |
| 55 | -5 | 422 | 272 | 1,79 | 1,81 | 1,55 |
| 55 | 0 | 519 | 295 | 1,87 | 2,05 | 1,76 |
| 55 | 5 | 628 | 319 | 1,96 | 2,29 | 1,97 |
| 55 | 7,2 | 680 | 329 | 2,00 | 2,40 | 2,07 |
| 55 | 10 | 749 | 342 | 2,05 | 2,55 | 2,19 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 60 | -15 | 243 | 231 | 1,67 | 1,22 | 1,05 |
| 60 | -10 | 311 | 256 | 1,74 | 1,42 | 1,22 |
| 60 | -5 | 392 | 281 | 1,82 | 1,63 | 1,40 |
| 60 | 0 | 485 | 306 | 1,91 | 1,85 | 1,59 |
| 60 | 5 | 590 | 331 | 2,01 | 2,08 | 1,78 |
| 60 | 7,2 | 640 | 342 | 2,05 | 2,18 | 1,87 |
| 60 | 10 | 707 | 356 | 2,11 | 2,31 | 1,99 |

CECOMAF

| Tc | Te | Cooling Capacity | Consumption | Current | COP | EER |
|----|-----|------------------|-------------|---------|------|---------|
| °C | °C | W | W | A | W/W | kCal/Wh |
| 40 | -15 | 354 | 208 | 1,61 | 1,70 | 1,47 |
| 40 | -10 | 447 | 227 | 1,66 | 1,97 | 1,70 |
| 40 | -5 | 552 | 246 | 1,71 | 2,25 | 1,94 |
| 40 | 0 | 671 | 265 | 1,77 | 2,53 | 2,19 |
| 40 | 5 | 802 | 284 | 1,83 | 2,82 | 2,44 |
| 40 | 7,2 | 864 | 293 | 1,86 | 2,95 | 2,55 |
| 40 | 10 | 946 | 304 | 1,90 | 3,12 | 2,69 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 45 | -15 | 330 | 214 | 1,62 | 1,54 | 1,33 |
| 45 | -10 | 417 | 234 | 1,68 | 1,78 | 1,54 |
| 45 | -5 | 518 | 255 | 1,74 | 2,03 | 1,76 |
| 45 | 0 | 631 | 276 | 1,80 | 2,29 | 1,98 |
| 45 | 5 | 757 | 296 | 1,87 | 2,56 | 2,21 |
| 45 | 7,2 | 817 | 305 | 1,91 | 2,67 | 2,31 |
| 45 | 10 | 896 | 317 | 1,95 | 2,83 | 2,44 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 50 | -15 | 305 | 220 | 1,64 | 1,39 | 1,20 |
| 50 | -10 | 388 | 242 | 1,70 | 1,60 | 1,39 |
| 50 | -5 | 483 | 264 | 1,76 | 1,83 | 1,58 |
| 50 | 0 | 592 | 286 | 1,84 | 2,07 | 1,79 |
| 50 | 5 | 713 | 308 | 1,92 | 2,31 | 2,00 |
| 50 | 7,2 | 770 | 318 | 1,96 | 2,42 | 2,09 |
| 50 | 10 | 846 | 331 | 2,01 | 2,56 | 2,21 |

| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 55 | -15 | 281 | 226 | 1,65 | 1,24 | 1,07 |
| 55 | -10 | 358 | 250 | 1,72 | 1,44 | 1,24 |
| 55 | -5 | 449 | 273 | 1,79 | 1,64 | 1,42 |
| 55 | 0 | 552 | 297 | 1,88 | 1,86 | 1,61 |
| 55 | 5 | 668 | 320 | 1,97 | 2,08 | 1,80 |
| 55 | 7,2 | 723 | 331 | 2,01 | 2,18 | 1,89 |
| 55 | 10 | 797 | 344 | 2,06 | 2,31 | 2,00 |

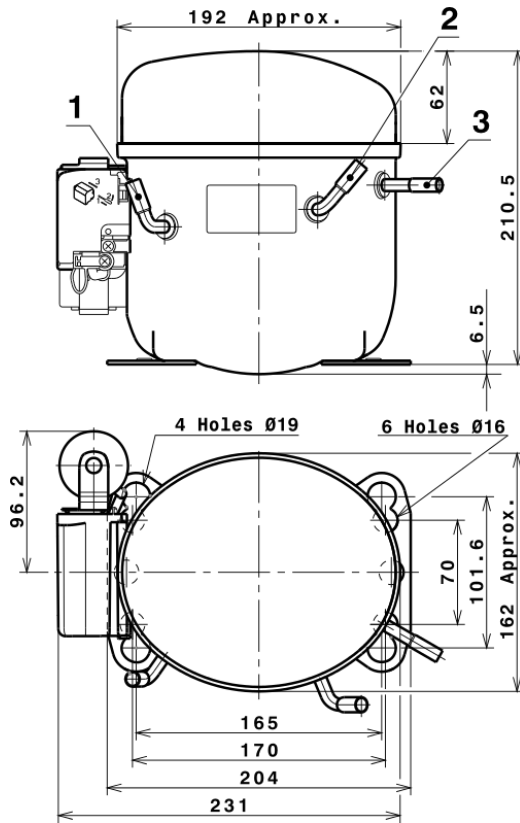
| | | | | | | |
|----|-----|-----|-----|------|------|------|
| 60 | -15 | 256 | 232 | 1,67 | 1,10 | 0,95 |
| 60 | -10 | 329 | 257 | 1,74 | 1,28 | 1,11 |
| 60 | -5 | 414 | 282 | 1,82 | 1,47 | 1,27 |
| 60 | 0 | 512 | 307 | 1,91 | 1,67 | 1,44 |
| 60 | 5 | 623 | 332 | 2,01 | 1,87 | 1,62 |
| 60 | 7,2 | 676 | 344 | 2,06 | 1,97 | 1,70 |
| 60 | 10 | 747 | 358 | 2,12 | 2,09 | 1,80 |

EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A) | Mass Flow (kg/h) |
|---|----------------------|-----------------|--------------|----------------------|
| 1 | 981,7947690395 | 184,6364012880 | 1,4629843829 | 9,2128416401543 |
| 2 | 32,9373364845 | 1,4769435781 | 0,0009053704 | 0,3188218602066 |
| 3 | -8,1356114064 | 2,1640943124 | 0,0079763097 | -0,028812446913004 |
| 4 | 0,2501464096 | 0,0040222802 | 0,0001694877 | 0,0039015764120843 |
| 5 | -0,2122331470 | 0,0620655274 | 0,0003143219 | -0,00013788549404463 |

| | |
|----------|---|
| 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

Ø16 holes (170x70 net)



AMERICAN FEET

Ø19 holes (165x101.6 net)



SNAP-ON

Ø16 holes (170x70 net)



SOA

SOA R600a HBP

