# Technical Data Sheet

Compressor model **HLY99RAb**

Voltage **220-240V 50Hz ~1**

Refrigerant **R600a**

## APPLICATION

| | |
|---|---|
| Application | High-Medium Back Pressure |
| Refrigerant | R600a |
| Evaporating Temp. | -25,0 ºC to 10,0 ºC |
| Expansion | Capillar/Valve |
| Comp. Cooling | Fan cooled |
| Max. ambient temp. | 43,0 ºC |

## COMPRESSOR

| | |
|---|---|
| Displacement | 9,95 cm³ |
| Diameter | 25,40 mm |
| Stroke | 19,62 mm |
| Net Weight | 9,41 Kg |
| Oil type | ISO VG 46 MINER |
| Oil charge | 300 cm³ |

## MOTOR

| | |
|---|---|
| Nominal Power | 1/6 hp |
| Voltage/Frequency | 220-240V 50Hz |
| Voltage range | 187-264 V |
| Type | CSR |
| Phase number | 1 PH |
| Locked Rotor Amps (LRA) | 8,00 A |
| Max. Cont. Current (MCC) | 1,70 A |
| Main W. resist. at 25ºC | 15,73 Ω |
| Start W. resist. at 25ºC | 20,00 Ω |

## NOMINAL PERFORMANCE

| | ASHRAE | CECOMAF |
|---|---|---|
| Cooling Capacity | 470 kCal/h | 458 W |
| COP | 2,57 W/W | 2,21 W/W |
| EER | 2,21 kCal/Wh | 1,91 kCal/Wh |
| Input Power | 213 W | 207 W |
| Current | 1,03 A | 1,00 A |

## APPROVALS

## TEST CYCLE CONDITIONS

| | **ASHRAE** | **CECOMAF** |
|---|---|---|
| | **HMBP (D)** | **HMBP (C)** |
| Evaporating temp. ($T_e$) | 7,2 ºC | 5,0 ºC |
| Condensing temp. ($T_c$) | 55,0 ºC | 55,0 ºC |
| Liquid temp. ($T_{liq.}$) | 46,0 ºC | 55,0 ºC |
| Ambient temp. ($T_{amb.}$) | 35,0 ºC | 32,0 ºC |
| Suction temp. ($T_{suction}$) | 35,0 ºC | 32,0 ºC |
| Voltage/Frequency | 220 V 50 Hz | 220 V 50 Hz |

## ELECTRICAL COMPONENTS

| | | | | |
|---|---|---|---|---|
| Starting capacitor | 47- 56 µF 330 V | | | |
| Run capacitor | 5 µF 400 V | | | |
| Relay | Option 1 | | | |
| Reference | 2014 108. + NTC15Ω | | | |
| Pick-Up | 2,70 A | | | |
| Drop-Out | 2,30 A | | | |
| Protector | Option 1 | Option 2 | Option 3 | |
| Reference | MRP61AMJ | T0073 | AE22FHY | |
| Current | 6,90 A | 6,20 A | 6,20 A | |
| Time check | 7,5-14 seg | 7,5-14 seg | 7,5-14 seg | |
| Disc temp. (Open/Close) | 90,00 / 57,00 ºC | 110,00 / 62,00 ºC | 105,00 / 62,00 ºC | |

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

# Technical Data Sheet

cubigel compressors

## ASHRAE

| Tc °C | Te °C | Cooling Capacity kCal/h | Consumption W | Current A | COP W/W | EER kCal/Wh |
|---|---|---|---|---|---|---|
| 40 | -25 | 125 | 105 | 0,56 | 1,38 | 1,19 |
| 40 | -20 | 163 | 118 | 0,61 | 1,61 | 1,39 |
| 40 | -15 | 212 | 131 | 0,65 | 1,89 | 1,62 |
| 40 | -10 | 271 | 144 | 0,71 | 2,19 | 1,89 |
| 40 | -5 | 340 | 157 | 0,76 | 2,52 | 2,17 |
| 40 | 0 | 419 | 170 | 0,82 | 2,87 | 2,47 |
| 40 | 5 | 508 | 183 | 0,88 | 3,23 | 2,78 |
| 40 | 7,2 | 551 | 189 | 0,91 | 3,39 | 2,92 |
| 40 | 10 | 608 | 197 | 0,95 | 3,60 | 3,09 |
| 45 | -25 | 116 | 108 | 0,57 | 1,25 | 1,07 |
| 45 | -20 | 151 | 121 | 0,62 | 1,45 | 1,25 |
| 45 | -15 | 197 | 135 | 0,67 | 1,70 | 1,46 |
| 45 | -10 | 253 | 149 | 0,73 | 1,98 | 1,70 |
| 45 | -5 | 319 | 163 | 0,79 | 2,28 | 1,96 |
| 45 | 0 | 396 | 177 | 0,85 | 2,61 | 2,24 |
| 45 | 5 | 483 | 191 | 0,92 | 2,94 | 2,53 |
| 45 | 7,2 | 524 | 197 | 0,95 | 3,09 | 2,66 |
| 45 | 10 | 580 | 205 | 0,99 | 3,29 | 2,83 |
| 50 | -25 | 106 | 110 | 0,58 | 1,12 | 0,96 |
| 50 | -20 | 139 | 125 | 0,63 | 1,30 | 1,12 |
| 50 | -15 | 182 | 139 | 0,69 | 1,52 | 1,31 |
| 50 | -10 | 236 | 154 | 0,75 | 1,78 | 1,53 |
| 50 | -5 | 299 | 169 | 0,81 | 2,06 | 1,77 |
| 50 | 0 | 373 | 183 | 0,88 | 2,36 | 2,03 |
| 50 | 5 | 457 | 198 | 0,95 | 2,68 | 2,30 |
| 50 | 7,2 | 497 | 205 | 0,99 | 2,82 | 2,42 |
| 50 | 10 | 551 | 213 | 1,03 | 3,00 | 2,58 |
| 55 | -25 | 97 | 113 | 0,59 | 1,00 | 0,86 |
| 55 | -20 | 127 | 128 | 0,65 | 1,15 | 0,99 |
| 55 | -15 | 167 | 144 | 0,71 | 1,36 | 1,17 |
| 55 | -10 | 218 | 159 | 0,77 | 1,59 | 1,37 |
| 55 | -5 | 279 | 175 | 0,84 | 1,86 | 1,60 |
| 55 | 0 | 350 | 190 | 0,91 | 2,14 | 1,84 |
| 55 | 5 | 431 | 206 | 0,99 | 2,43 | 2,09 |
| 55 | 7,2 | 470 | 213 | 1,03 | 2,57 | 2,21 |
| 55 | 10 | 522 | 222 | 1,08 | 2,74 | 2,35 |
| 60 | -25 | 88 | 116 | 0,60 | 0,88 | 0,76 |
| 60 | -20 | 115 | 132 | 0,66 | 1,02 | 0,87 |
| 60 | -15 | 153 | 148 | 0,72 | 1,20 | 1,03 |
| 60 | -10 | 200 | 164 | 0,79 | 1,42 | 1,22 |
| 60 | -5 | 258 | 181 | 0,87 | 1,67 | 1,43 |
| 60 | 0 | 327 | 197 | 0,95 | 1,93 | 1,66 |
| 60 | 5 | 405 | 214 | 1,03 | 2,21 | 1,90 |
| 60 | 7,2 | 443 | 221 | 1,07 | 2,33 | 2,00 |
| 60 | 10 | 494 | 230 | 1,12 | 2,49 | 2,14 |

## CECOMAF

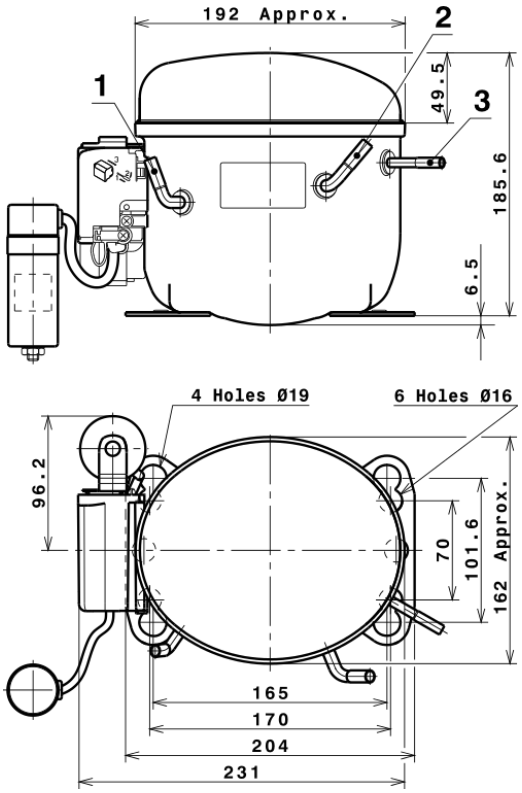
| Tc °C | Te °C | Cooling Capacity W | Consumption W | Current A | COP W/W | EER kCal/Wh |
|---|---|---|---|---|---|---|
| 40 | -25 | 135 | 106 | 0,56 | 1,28 | 1,11 |
| 40 | -20 | 177 | 118 | 0,61 | 1,49 | 1,29 |
| 40 | -15 | 230 | 131 | 0,66 | 1,75 | 1,51 |
| 40 | -10 | 293 | 144 | 0,71 | 2,03 | 1,76 |
| 40 | -5 | 368 | 157 | 0,76 | 2,33 | 2,02 |
| 40 | 0 | 453 | 171 | 0,82 | 2,65 | 2,29 |
| 40 | 5 | 549 | 184 | 0,88 | 2,98 | 2,58 |
| 40 | 7,2 | 595 | 190 | 0,91 | 3,13 | 2,70 |
| 40 | 10 | 656 | 198 | 0,95 | 3,32 | 2,87 |
| 45 | -25 | 124 | 108 | 0,57 | 1,15 | 0,99 |
| 45 | -20 | 163 | 122 | 0,62 | 1,34 | 1,16 |
| 45 | -15 | 212 | 136 | 0,67 | 1,57 | 1,35 |
| 45 | -10 | 273 | 149 | 0,73 | 1,82 | 1,58 |
| 45 | -5 | 344 | 163 | 0,79 | 2,10 | 1,82 |
| 45 | 0 | 426 | 178 | 0,85 | 2,40 | 2,07 |
| 45 | 5 | 519 | 192 | 0,92 | 2,70 | 2,34 |
| 45 | 7,2 | 563 | 198 | 0,95 | 2,84 | 2,46 |
| 45 | 10 | 623 | 206 | 0,99 | 3,02 | 2,61 |
| 50 | -25 | 114 | 111 | 0,58 | 1,03 | 0,89 |
| 50 | -20 | 149 | 125 | 0,63 | 1,19 | 1,03 |
| 50 | -15 | 195 | 140 | 0,69 | 1,40 | 1,21 |
| 50 | -10 | 252 | 155 | 0,75 | 1,63 | 1,41 |
| 50 | -5 | 320 | 170 | 0,82 | 1,89 | 1,63 |
| 50 | 0 | 399 | 184 | 0,89 | 2,16 | 1,87 |
| 50 | 5 | 489 | 200 | 0,96 | 2,45 | 2,12 |
| 50 | 7,2 | 531 | 206 | 0,99 | 2,58 | 2,23 |
| 50 | 10 | 589 | 215 | 1,04 | 2,74 | 2,37 |
| 55 | -25 | 103 | 114 | 0,59 | 0,91 | 0,79 |
| 55 | -20 | 135 | 129 | 0,65 | 1,05 | 0,91 |
| 55 | -15 | 178 | 144 | 0,71 | 1,23 | 1,07 |
| 55 | -10 | 232 | 160 | 0,77 | 1,45 | 1,25 |
| 55 | -5 | 297 | 176 | 0,84 | 1,69 | 1,46 |
| 55 | 0 | 372 | 191 | 0,92 | 1,94 | 1,68 |
| 55 | 5 | 458 | 207 | 1,00 | 2,21 | 1,91 |
| 55 | 7,2 | 500 | 214 | 1,04 | 2,33 | 2,02 |
| 55 | 10 | 555 | 223 | 1,09 | 2,49 | 2,15 |
| 60 | -25 | 93 | 116 | 0,60 | 0,80 | 0,69 |
| 60 | -20 | 121 | 132 | 0,66 | 0,92 | 0,79 |
| 60 | -15 | 161 | 149 | 0,73 | 1,08 | 0,94 |
| 60 | -10 | 211 | 165 | 0,80 | 1,28 | 1,11 |
| 60 | -5 | 273 | 182 | 0,87 | 1,50 | 1,30 |
| 60 | 0 | 345 | 198 | 0,95 | 1,74 | 1,50 |
| 60 | 5 | 428 | 215 | 1,04 | 1,99 | 1,72 |
| 60 | 7,2 | 468 | 222 | 1,08 | 2,11 | 1,82 |
| 60 | 10 | 522 | 232 | 1,13 | 2,25 | 1,95 |

### EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A) | Mass Flow (kg/h) |
|---|---|---|---|---|
| 1 | 665,7744856432 | 118,6886727242 | 0,5526504140 | 6,1257084554993 |
| 2 | 23,2260668038 | 1,3867664683 | 0,0049329488 | 0,23768205065145 |
| 3 | -5,5564468727 | 1,4027622858 | 0,0070790381 | -0,01772886493919 |
| 4 | 0,2111228098 | 0,0030318929 | 0,0001065394 | 0,0031539475966421 |
| 5 | -0,1369608789 | 0,0342040196 | 0,0002069511 | -0,00016254116383699 |

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

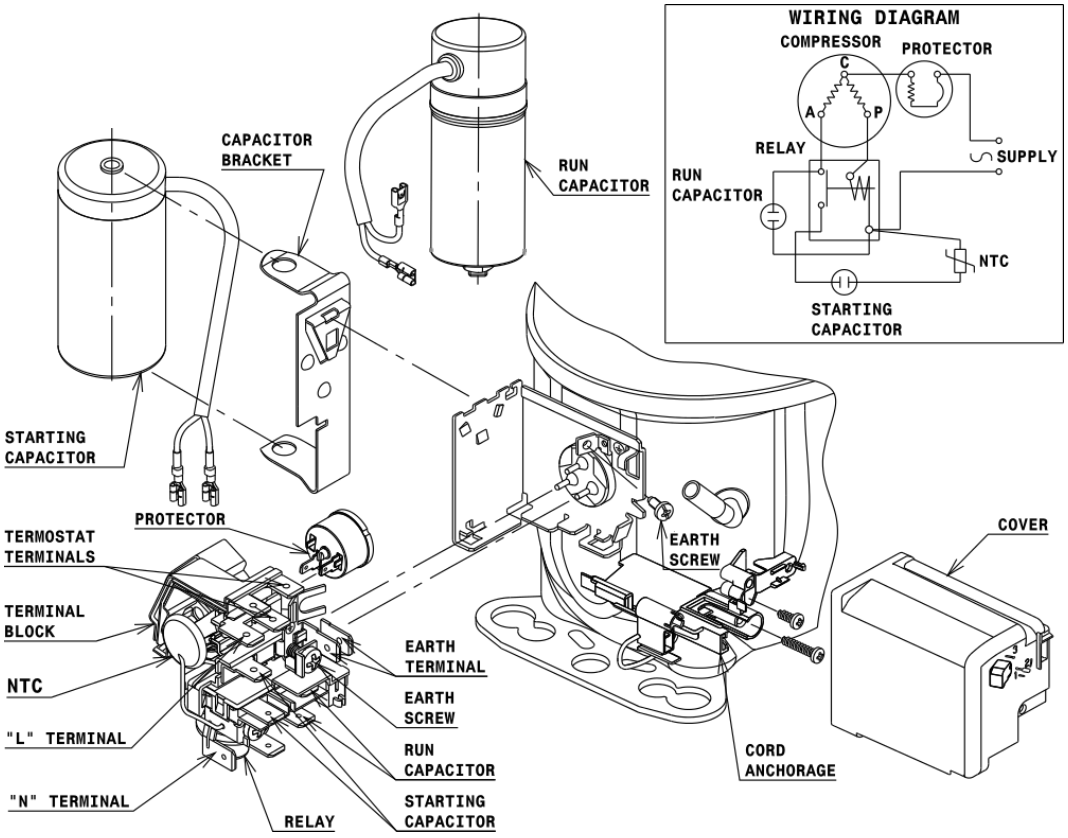
## COMPRESSOR DIMENSIONS



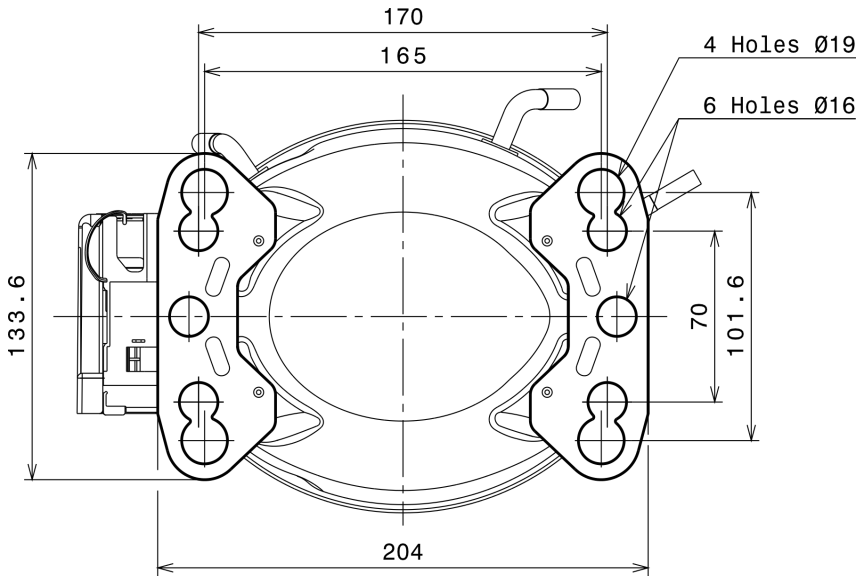

| | DESIGNATION | INTERNAL DIAM. |
|---|---|---|
| 1 | Suction | 6,5 mm |
| 2 | Service | 6,5 mm |
| 3 | Discharge | 4,9 mm |

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSR CONNECTION (CURRENT RELAY + NTC) (L, P ranges)



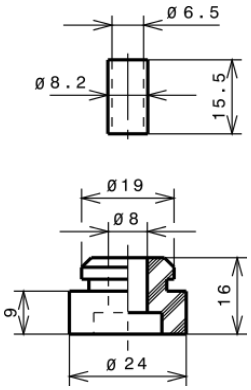
## FIXINGS




## SILENT BLOCKS (MOUNTING ACCESSORIES)

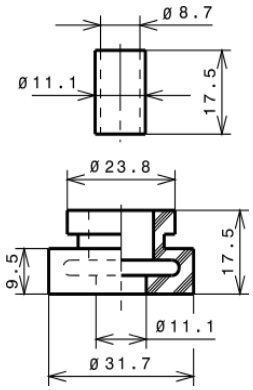
### STANDARD

**Ø16 holes (170x70 net)**



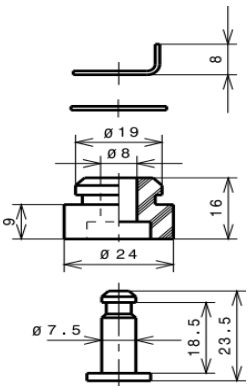

### AMERICAN FEET

**Ø19 holes (165x101.6 net)**




### SNAP-ON

**Ø16 holes (170x70 net)**




## SOA

**SOA R600a HMBP**