

Technical Data Sheet

Compressor model **NPY14LAa**
 Voltage **220-240V 50Hz ~1**
 Refrigerant **R290**

APPLICATION

| | |
|--------------------|----------------------|
| Application | Low Back Pressure |
| Refrigerant | R290 |
| Evaporating Temp. | -40,0 °C to -10,0 °C |
| Expansion | Capillar/Valve |
| Comp. Cooling | Fan cooled |
| Max. ambient temp. | 43,0 °C |

COMPRESSOR

| | |
|--------------|-----------------------|
| Displacement | 14,32 cm ³ |
| Diameter | 29,37 mm |
| Stroke | 21,13 mm |
| Net Weight | 12,17 Kg |
| Oil type | ISO VG 32 ESTER |
| Oil charge | 400 cm ³ |

MOTOR

| | |
|--------------------------|---------------|
| Nominal Power | 1/2 hp |
| Voltage/Frequency | 220-240V 50Hz |
| Voltage range | 198-255 V |
| Type | CSIR |
| Phase number | 1 PH |
| Locked Rotor Amps (LRA) | 18,00 A |
| Max. Cont. Current (MCC) | 3,90 A |
| Main W. resist. at 25°C | 5,56 Ω |
| Start W. resist. at 25°C | 10,00 Ω |

NOMINAL PERFORMANCE

| | ASHRAE | CECOMAF |
|------------------|--------------|--------------|
| Cooling Capacity | 560 kCal/h | 485 W |
| COP | 1,35 W/W | 1,05 W/W |
| EER | 1,16 kCal/Wh | 0,91 kCal/Wh |
| Input Power | 482 W | 463 W |
| Current | 2,85 A | 2,78 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 | 64- 77 µF 330 V | | | |
| Relay | Option 1 | | | |
| Reference | 2014 158. | | | |
| Pick-Up | 9,05 A | | | |
| Drop-Out | 7,70 A | | | |
| Protector | Option 1 | | | |
| Reference | T0266 | | | |
| Current | 11,00 A | | | |
| Time check | 7,5-14 seg | | | |
| Disc temp. (Open/Close) | 105,00 / 52,00 °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 °C | Te °C | Cooling Capacity kCal/h | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|-------------------------------|------------------|--------------|------------|----------------|
| 40 | -40 | 275 | 316 | 2,29 | 1,01 | 0,87 |
| 40 | -35 | 357 | 352 | 2,40 | 1,18 | 1,01 |
| 40 | -30 | 460 | 389 | 2,52 | 1,37 | 1,18 |
| 40 | -25 | 583 | 429 | 2,66 | 1,58 | 1,36 |
| 40 | -23,3 | 630 | 443 | 2,71 | 1,65 | 1,42 |
| 40 | -20 | 728 | 471 | 2,81 | 1,80 | 1,55 |
| 40 | -15 | 893 | 515 | 2,98 | 2,02 | 1,74 |
| 40 | -10 | 1.080 | 561 | 3,16 | 2,24 | 1,93 |

| | | | | | | |
|----|-------|-------|-----|------|------|------|
| 45 | -40 | 260 | 312 | 2,27 | 0,97 | 0,83 |
| 45 | -35 | 339 | 353 | 2,40 | 1,12 | 0,96 |
| 45 | -30 | 440 | 396 | 2,54 | 1,29 | 1,11 |
| 45 | -25 | 561 | 440 | 2,70 | 1,48 | 1,27 |
| 45 | -23,3 | 607 | 456 | 2,75 | 1,55 | 1,33 |
| 45 | -20 | 703 | 487 | 2,87 | 1,68 | 1,44 |
| 45 | -15 | 866 | 536 | 3,06 | 1,88 | 1,62 |
| 45 | -10 | 1.050 | 587 | 3,27 | 2,08 | 1,79 |

| | | | | | | |
|----|-------|-------|-----|------|------|------|
| 50 | -40 | 245 | 308 | 2,26 | 0,93 | 0,80 |
| 50 | -35 | 322 | 354 | 2,40 | 1,06 | 0,91 |
| 50 | -30 | 420 | 402 | 2,56 | 1,21 | 1,04 |
| 50 | -25 | 538 | 452 | 2,74 | 1,39 | 1,19 |
| 50 | -23,3 | 583 | 469 | 2,80 | 1,45 | 1,24 |
| 50 | -20 | 678 | 504 | 2,93 | 1,57 | 1,35 |
| 50 | -15 | 838 | 557 | 3,15 | 1,75 | 1,50 |
| 50 | -10 | 1.020 | 614 | 3,38 | 1,93 | 1,66 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 55 | -40 | 230 | 304 | 2,25 | 0,88 | 0,76 |
| 55 | -35 | 304 | 355 | 2,41 | 1,00 | 0,86 |
| 55 | -30 | 400 | 408 | 2,58 | 1,14 | 0,98 |
| 55 | -25 | 516 | 463 | 2,78 | 1,30 | 1,11 |
| 55 | -23,3 | 560 | 482 | 2,85 | 1,35 | 1,16 |
| 55 | -20 | 653 | 520 | 3,00 | 1,46 | 1,26 |
| 55 | -15 | 811 | 579 | 3,24 | 1,63 | 1,40 |
| 55 | -10 | 990 | 640 | 3,50 | 1,80 | 1,55 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 60 | -40 | 215 | 300 | 2,24 | 0,83 | 0,72 |
| 60 | -35 | 287 | 356 | 2,41 | 0,94 | 0,81 |
| 60 | -30 | 380 | 414 | 2,60 | 1,07 | 0,92 |
| 60 | -25 | 493 | 474 | 2,82 | 1,21 | 1,04 |
| 60 | -23,3 | 537 | 495 | 2,90 | 1,26 | 1,08 |
| 60 | -20 | 628 | 536 | 3,06 | 1,36 | 1,17 |
| 60 | -15 | 783 | 600 | 3,33 | 1,52 | 1,31 |
| 60 | -10 | 960 | 667 | 3,62 | 1,68 | 1,44 |

CECOMAF

| Tc °C | Te °C | Cooling Capacity W | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|--------------------------|------------------|--------------|------------|----------------|
| 40 | -40 | 298 | 316 | 2,29 | 0,94 | 0,81 |
| 40 | -35 | 395 | 352 | 2,40 | 1,12 | 0,97 |
| 40 | -30 | 511 | 389 | 2,52 | 1,31 | 1,13 |
| 40 | -25 | 647 | 429 | 2,66 | 1,51 | 1,30 |
| 40 | -23,3 | 698 | 443 | 2,71 | 1,58 | 1,36 |
| 40 | -20 | 803 | 471 | 2,81 | 1,70 | 1,47 |
| 40 | -15 | 978 | 515 | 2,98 | 1,90 | 1,64 |
| 40 | -10 | 1.172 | 561 | 3,16 | 2,09 | 1,81 |

| | | | | | | |
|----|-------|-------|-----|------|------|------|
| 45 | -40 | 271 | 312 | 2,27 | 0,87 | 0,75 |
| 45 | -35 | 359 | 353 | 2,40 | 1,02 | 0,88 |
| 45 | -30 | 466 | 396 | 2,54 | 1,18 | 1,02 |
| 45 | -25 | 593 | 440 | 2,70 | 1,35 | 1,16 |
| 45 | -23,3 | 641 | 456 | 2,75 | 1,41 | 1,21 |
| 45 | -20 | 740 | 487 | 2,87 | 1,52 | 1,31 |
| 45 | -15 | 905 | 536 | 3,06 | 1,69 | 1,46 |
| 45 | -10 | 1.091 | 587 | 3,27 | 1,86 | 1,61 |

| | | | | | | |
|----|-------|-------|-----|------|------|------|
| 50 | -40 | 244 | 308 | 2,26 | 0,79 | 0,68 |
| 50 | -35 | 323 | 354 | 2,40 | 0,91 | 0,79 |
| 50 | -30 | 421 | 402 | 2,56 | 1,05 | 0,91 |
| 50 | -25 | 539 | 452 | 2,74 | 1,19 | 1,03 |
| 50 | -23,3 | 584 | 469 | 2,80 | 1,24 | 1,08 |
| 50 | -20 | 677 | 504 | 2,93 | 1,34 | 1,16 |
| 50 | -15 | 833 | 557 | 3,15 | 1,49 | 1,29 |
| 50 | -10 | 1.010 | 614 | 3,38 | 1,65 | 1,42 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 55 | -40 | 217 | 304 | 2,25 | 0,71 | 0,62 |
| 55 | -35 | 287 | 355 | 2,41 | 0,81 | 0,70 |
| 55 | -30 | 376 | 408 | 2,58 | 0,92 | 0,80 |
| 55 | -25 | 485 | 463 | 2,78 | 1,05 | 0,91 |
| 55 | -23,3 | 527 | 482 | 2,85 | 1,09 | 0,94 |
| 55 | -20 | 613 | 520 | 3,00 | 1,18 | 1,02 |
| 55 | -15 | 761 | 579 | 3,24 | 1,31 | 1,14 |
| 55 | -10 | 928 | 640 | 3,50 | 1,45 | 1,25 |

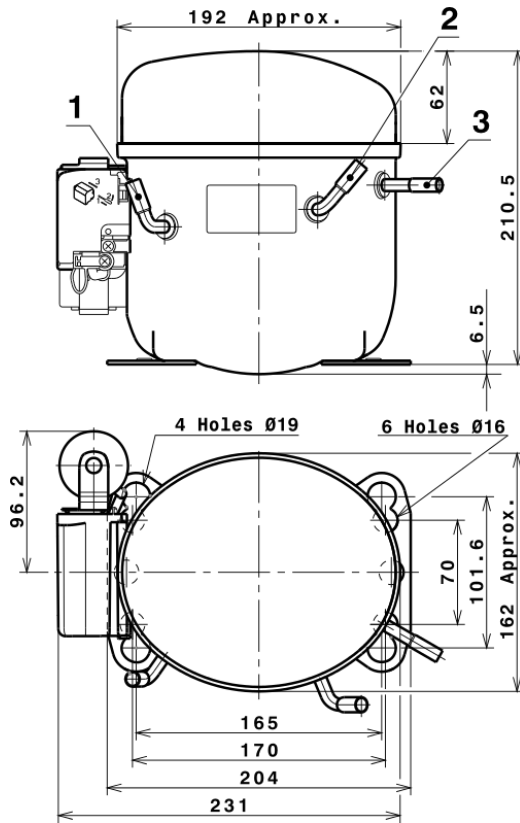
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|----|-------|-----|-----|------|------|------|
| 60 | -40 | 190 | 300 | 2,24 | 0,63 | 0,55 |
| 60 | -35 | 251 | 356 | 2,41 | 0,70 | 0,61 |
| 60 | -30 | 331 | 414 | 2,60 | 0,80 | 0,69 |
| 60 | -25 | 431 | 474 | 2,82 | 0,91 | 0,79 |
| 60 | -23,3 | 469 | 495 | 2,90 | 0,95 | 0,82 |
| 60 | -20 | 550 | 536 | 3,06 | 1,03 | 0,89 |
| 60 | -15 | 689 | 600 | 3,33 | 1,15 | 0,99 |
| 60 | -10 | 847 | 667 | 3,62 | 1,27 | 1,10 |

EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A) | Mass Flow (kg/h) |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 2.401,9288235412 | 375,1162471402 | 2,3861689803 | 22,651986211538 |
| 2 | 62,4930041471 | 2,2372052971 | 0,0179310242 | 0,66726642216217 |
| 3 | -20,3189448505 | 7,5137770150 | 0,0327816254 | -0,088187819787492 |
| 4 | 0,3791980160 | 0,0436958401 | 0,0004604590 | 0,0055407721978098 |
| 5 | -0,3721990290 | 0,2082778380 | 0,0008813378 | -0,0012875190705297 |

| | |
|----------|---|
| 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 R290 LBP

