

Technical Data Sheet

Compressor model **NPY12LAa**
 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 | 12,10 cm ³ |
| Diameter | 27,00 mm |
| Stroke | 21,13 mm |
| Net Weight | 12,13 Kg |
| Oil type | ISO VG 32 ESTER |
| Oil charge | 400 cm ³ |

MOTOR

| | |
|--------------------------|---------------|
| Nominal Power | 3/8 hp |
| Voltage/Frequency | 220-240V 50Hz |
| Voltage range | 198-255 V |
| Type | CSIR |
| Phase number | 1 PH |
| Locked Rotor Amps (LRA) | 14,20 A |
| Max. Cont. Current (MCC) | 3,80 A |
| Main W. resist. at 25°C | 6,40 Ω |
| Start W. resist. at 25°C | 10,40 Ω |

NOMINAL PERFORMANCE

| | ASHRAE | CECOMAF |
|------------------|--------------|--------------|
| Cooling Capacity | 465 kCal/h | 402 W |
| COP | 1,35 W/W | 1,05 W/W |
| EER | 1,16 kCal/Wh | 0,90 kCal/Wh |
| Input Power | 400 W | 384 W |
| Current | 2,50 A | 2,44 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 | 47- 56 µF 330 V | | | |
| Relay | Option 1 | | | |
| Reference | 2014 149. | | | |
| Pick-Up | 7,80 A | | | |
| Drop-Out | 6,65 A | | | |
| Protector | Option 1 | Option 2 | | |
| Reference | MRA38139 | T0269 | | |
| Current | 10,30 A | 9,60 A | | |
| Time check | 7,5-14 seg | 7,5-14 seg | | |
| Disc temp. (Open/Close) | 105,00 / 52,00 °C | 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 | 223 | 254 | 2,00 | 1,02 | 0,88 |
| 40 | -35 | 291 | 283 | 2,10 | 1,20 | 1,03 |
| 40 | -30 | 378 | 314 | 2,20 | 1,40 | 1,20 |
| 40 | -25 | 483 | 348 | 2,32 | 1,62 | 1,39 |
| 40 | -23,3 | 523 | 360 | 2,36 | 1,69 | 1,45 |
| 40 | -20 | 607 | 384 | 2,44 | 1,84 | 1,58 |
| 40 | -15 | 749 | 423 | 2,58 | 2,06 | 1,77 |
| 40 | -10 | 910 | 464 | 2,73 | 2,28 | 1,96 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 45 | -40 | 210 | 254 | 2,00 | 0,96 | 0,83 |
| 45 | -35 | 276 | 287 | 2,11 | 1,12 | 0,96 |
| 45 | -30 | 361 | 322 | 2,23 | 1,30 | 1,12 |
| 45 | -25 | 465 | 360 | 2,36 | 1,50 | 1,29 |
| 45 | -23,3 | 504 | 373 | 2,41 | 1,57 | 1,35 |
| 45 | -20 | 586 | 400 | 2,50 | 1,70 | 1,47 |
| 45 | -15 | 726 | 443 | 2,65 | 1,91 | 1,64 |
| 45 | -10 | 885 | 488 | 2,82 | 2,11 | 1,81 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 50 | -40 | 198 | 254 | 2,00 | 0,90 | 0,78 |
| 50 | -35 | 262 | 291 | 2,12 | 1,05 | 0,90 |
| 50 | -30 | 345 | 330 | 2,26 | 1,21 | 1,04 |
| 50 | -25 | 446 | 372 | 2,40 | 1,39 | 1,20 |
| 50 | -23,3 | 484 | 387 | 2,45 | 1,46 | 1,25 |
| 50 | -20 | 565 | 416 | 2,56 | 1,58 | 1,36 |
| 50 | -15 | 704 | 463 | 2,73 | 1,77 | 1,52 |
| 50 | -10 | 860 | 512 | 2,91 | 1,95 | 1,68 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 55 | -40 | 185 | 254 | 2,00 | 0,85 | 0,73 |
| 55 | -35 | 247 | 295 | 2,14 | 0,98 | 0,84 |
| 55 | -30 | 328 | 338 | 2,28 | 1,13 | 0,97 |
| 55 | -25 | 427 | 384 | 2,44 | 1,29 | 1,11 |
| 55 | -23,3 | 465 | 400 | 2,50 | 1,35 | 1,16 |
| 55 | -20 | 545 | 432 | 2,62 | 1,47 | 1,26 |
| 55 | -15 | 681 | 483 | 2,80 | 1,64 | 1,41 |
| 55 | -10 | 835 | 536 | 3,00 | 1,81 | 1,56 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 60 | -40 | 173 | 254 | 2,00 | 0,79 | 0,68 |
| 60 | -35 | 233 | 299 | 2,15 | 0,91 | 0,78 |
| 60 | -30 | 311 | 346 | 2,31 | 1,05 | 0,90 |
| 60 | -25 | 408 | 396 | 2,49 | 1,20 | 1,03 |
| 60 | -23,3 | 446 | 413 | 2,55 | 1,25 | 1,08 |
| 60 | -20 | 524 | 448 | 2,67 | 1,36 | 1,17 |
| 60 | -15 | 658 | 503 | 2,87 | 1,52 | 1,31 |
| 60 | -10 | 810 | 560 | 3,09 | 1,68 | 1,45 |

CECOMAF

| Tc °C | Te °C | Cooling Capacity W | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|--------------------------|------------------|--------------|------------|----------------|
| 40 | -40 | 241 | 254 | 2,00 | 0,95 | 0,82 |
| 40 | -35 | 323 | 283 | 2,10 | 1,14 | 0,99 |
| 40 | -30 | 421 | 314 | 2,20 | 1,34 | 1,16 |
| 40 | -25 | 537 | 348 | 2,32 | 1,54 | 1,33 |
| 40 | -23,3 | 580 | 360 | 2,36 | 1,61 | 1,39 |
| 40 | -20 | 670 | 384 | 2,44 | 1,74 | 1,51 |
| 40 | -15 | 820 | 423 | 2,58 | 1,94 | 1,68 |
| 40 | -10 | 988 | 464 | 2,73 | 2,13 | 1,84 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 45 | -40 | 219 | 254 | 2,00 | 0,86 | 0,74 |
| 45 | -35 | 293 | 287 | 2,11 | 1,02 | 0,88 |
| 45 | -30 | 384 | 322 | 2,23 | 1,19 | 1,03 |
| 45 | -25 | 492 | 360 | 2,36 | 1,37 | 1,18 |
| 45 | -23,3 | 533 | 373 | 2,41 | 1,43 | 1,23 |
| 45 | -20 | 617 | 400 | 2,50 | 1,54 | 1,33 |
| 45 | -15 | 760 | 443 | 2,65 | 1,72 | 1,48 |
| 45 | -10 | 919 | 488 | 2,82 | 1,88 | 1,63 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 50 | -40 | 196 | 254 | 2,00 | 0,77 | 0,67 |
| 50 | -35 | 263 | 291 | 2,12 | 0,90 | 0,78 |
| 50 | -30 | 346 | 330 | 2,26 | 1,05 | 0,91 |
| 50 | -25 | 447 | 372 | 2,40 | 1,20 | 1,04 |
| 50 | -23,3 | 485 | 387 | 2,45 | 1,25 | 1,08 |
| 50 | -20 | 565 | 416 | 2,56 | 1,36 | 1,17 |
| 50 | -15 | 699 | 463 | 2,73 | 1,51 | 1,31 |
| 50 | -10 | 851 | 512 | 2,91 | 1,66 | 1,44 |

| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 55 | -40 | 174 | 254 | 2,00 | 0,69 | 0,59 |
| 55 | -35 | 233 | 295 | 2,14 | 0,79 | 0,68 |
| 55 | -30 | 309 | 338 | 2,28 | 0,91 | 0,79 |
| 55 | -25 | 402 | 384 | 2,44 | 1,05 | 0,90 |
| 55 | -23,3 | 437 | 400 | 2,50 | 1,09 | 0,94 |
| 55 | -20 | 512 | 432 | 2,62 | 1,18 | 1,02 |
| 55 | -15 | 639 | 483 | 2,80 | 1,32 | 1,14 |
| 55 | -10 | 783 | 536 | 3,00 | 1,46 | 1,26 |

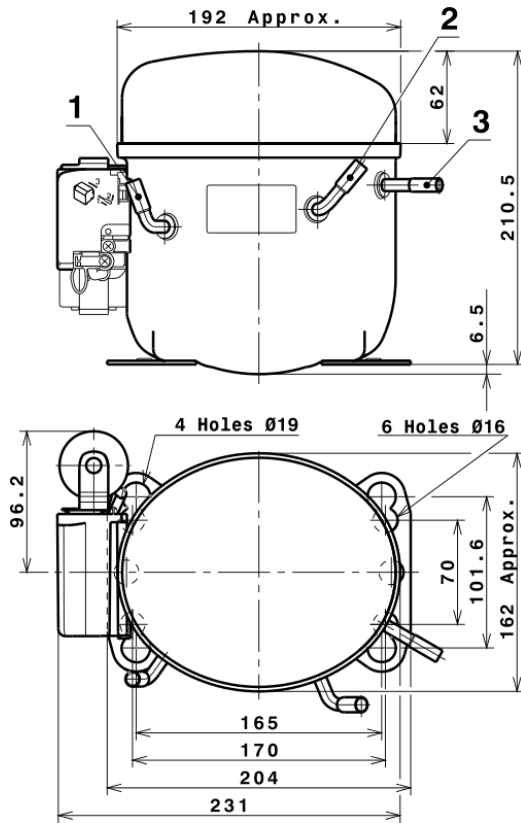
| | | | | | | |
|----|-------|-----|-----|------|------|------|
| 60 | -40 | 152 | 254 | 2,00 | 0,60 | 0,52 |
| 60 | -35 | 203 | 299 | 2,15 | 0,68 | 0,59 |
| 60 | -30 | 271 | 346 | 2,31 | 0,78 | 0,68 |
| 60 | -25 | 357 | 396 | 2,49 | 0,90 | 0,78 |
| 60 | -23,3 | 389 | 413 | 2,55 | 0,94 | 0,81 |
| 60 | -20 | 459 | 448 | 2,67 | 1,02 | 0,88 |
| 60 | -15 | 578 | 503 | 2,87 | 1,15 | 0,99 |
| 60 | -10 | 715 | 560 | 3,09 | 1,28 | 1,10 |

EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A) | Mass Flow (kg/h) |
|---|----------------------|-----------------|--------------|---------------------|
| 1 | 2.031,8344581952 | 306,0480571153 | 2,1402212132 | 19,168377072768 |
| 2 | 53,7812646534 | 3,2554834643 | 0,0138760242 | 0,57513807653976 |
| 3 | -17,0967670190 | 6,5581870311 | 0,0247745428 | -0,073493007129601 |
| 4 | 0,3335219955 | 0,0522972635 | 0,0002706123 | 0,0048611236519214 |
| 5 | -0,3159973779 | 0,1639546758 | 0,0006193636 | -0,0010730440805642 |

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

COMPRESSOR DIMENSIONS



DESIGNATION INTERNAL DIAM.

| DESIGNATION | INTERNAL DIAM. |
|-------------|----------------|
| 1 Suction | 8,1 mm |
| 2 Service | 8,1 mm |
| 3 Discharge | 6,5 mm |

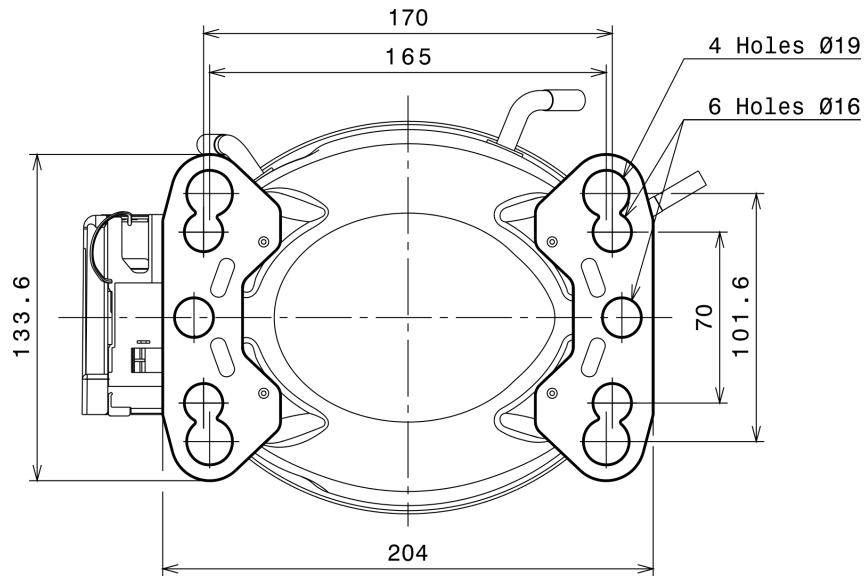
WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

CSIR CONNECTION (L, P ranges)



Technical Data Sheet

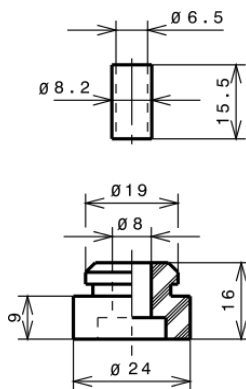
FIXINGS



SILENT BLOCKS (MOUNTING ACCESSORIES)

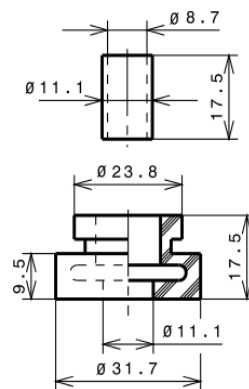
STANDARD

Ø16 holes (170x70 net)



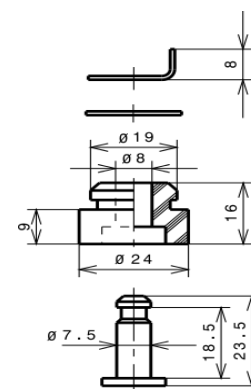
AMERICAN FEET

Ø19 holes (165x101.6 net)



SNAP-ON

Ø16 holes (170x70 net)



SOA

SOA R290 LBP

