

Technical Data Sheet

ENGINEERING
TOMORROW



Compressor model **NPT14RA**
Voltage **220-240V 50Hz ~1**
Refrigerant **R290**

APPLICATION

COMPRESSOR

MOTOR

| | | | | | |
|--------------------|---------------------|--------------|-----------------------|--------------------------|---------------|
| Application | High Back Pressure | Displacement | 14,32 cm ³ | Nominal Power | 1/2 hp |
| Refrigerant | R290 | Diameter | 29,37 mm | Voltage/Frequency | 220-240V 50Hz |
| Evaporating Temp. | -15,0 °C to 10,0 °C | Stroke | 21,13 mm | Voltage range | 187-255 V |
| Expansion | Capillar/Valve | Net Weight | 12,25 Kg | Type | CSR |
| Comp. Cooling | Fan cooled | Oil type | ISO VG 32 ESTER | Phase number | 1 PH |
| Max. ambient temp. | 43,0 °C | Oil charge | 400 cm ³ | Locked Rotor Amps (LRA) | 21,00 A |
| | | | | Max. Cont. Current (MCC) | 5,50 A |
| | | | | Main W. resist. at 25°C | 4,50 Ω |
| | | | | Start W. resist. at 25°C | 5,75 Ω |

NOMINAL PERFORMANCE

| | ASHRAE | CECOMAF |
|------------------|--------------|--------------|
| Cooling Capacity | 1.776 kCal/h | 1.709 W |
| COP | 2,69 W/W | 2,26 W/W |
| EER | 2,31 kCal/Wh | 1,95 kCal/Wh |
| Input Power | 769 W | 756 W |
| Current | 3,68 A | 3,62 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 | 64-77 / 50 μF 330 V | | |
| Run capacitor | 16 / 20 μF 420 / 450 V | | |
| Relay | Option 1 | Option 2 | |
| Reference | 2014 166. + NTC15Ω | QLZ-11.0A+NTC15 | |
| Pick-Up | 11,00 A | 11,00 A | |
| Drop-Out | 9,35 A | 9,35 A | |
| Protector | Option 1 | Option 2 | Option 3 |
| Reference | MRA38134 | T0348 | B154-105 |
| Current | 15,80 A | 15,40 A | 15,80 A |
| Time check | 7,5-14 seg | 7,5-14 seg | 7,5-16 seg |
| Disc temp. (Open/Close) | 105,00 / 52,00 °C | 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

Made by Huayi for Danfoss

Technical Data Sheet NPT14RA

Printed on 25/11/21

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Technical Data Sheet

ENGINEERING
TOMORROW



ASHRAE

| Tc °C | Te °C | Cooling Capacity kCal/h | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|-------------------------------|------------------|--------------|------------|----------------|
| 40 | -15 | 828 | 483 | 2,48 | 1,99 | 1,72 |
| 40 | -10 | 983 | 523 | 2,63 | 2,19 | 1,88 |
| 40 | -5 | 1.191 | 562 | 2,78 | 2,47 | 2,12 |
| 40 | 0 | 1.453 | 599 | 2,93 | 2,82 | 2,42 |
| 40 | 5 | 1.768 | 635 | 3,08 | 3,24 | 2,78 |
| 40 | 7,2 | 1.923 | 651 | 3,15 | 3,44 | 2,96 |
| 40 | 10 | 2.136 | 670 | 3,23 | 3,71 | 3,19 |

| | | | | | | |
|----|-----|-------|-----|------|------|------|
| 45 | -15 | 793 | 512 | 2,59 | 1,80 | 1,55 |
| 45 | -10 | 945 | 555 | 2,76 | 1,98 | 1,70 |
| 45 | -5 | 1.150 | 596 | 2,92 | 2,25 | 1,93 |
| 45 | 0 | 1.409 | 635 | 3,08 | 2,58 | 2,22 |
| 45 | 5 | 1.720 | 674 | 3,25 | 2,97 | 2,55 |
| 45 | 7,2 | 1.874 | 690 | 3,32 | 3,16 | 2,72 |
| 45 | 10 | 2.085 | 710 | 3,41 | 3,41 | 2,93 |

| | | | | | | |
|----|-----|-------|-----|------|------|------|
| 50 | -15 | 759 | 542 | 2,70 | 1,63 | 1,40 |
| 50 | -10 | 907 | 586 | 2,88 | 1,80 | 1,55 |
| 50 | -5 | 1.109 | 630 | 3,06 | 2,05 | 1,76 |
| 50 | 0 | 1.364 | 672 | 3,24 | 2,36 | 2,03 |
| 50 | 5 | 1.673 | 712 | 3,42 | 2,73 | 2,35 |
| 50 | 7,2 | 1.825 | 730 | 3,50 | 2,91 | 2,50 |
| 50 | 10 | 2.034 | 751 | 3,60 | 3,15 | 2,71 |

| | | | | | | |
|----|-----|-------|-----|------|------|------|
| 55 | -15 | 724 | 571 | 2,82 | 1,47 | 1,27 |
| 55 | -10 | 870 | 618 | 3,01 | 1,64 | 1,41 |
| 55 | -5 | 1.068 | 664 | 3,21 | 1,87 | 1,61 |
| 55 | 0 | 1.320 | 708 | 3,40 | 2,17 | 1,86 |
| 55 | 5 | 1.625 | 751 | 3,59 | 2,52 | 2,16 |
| 55 | 7,2 | 1.776 | 769 | 3,68 | 2,69 | 2,31 |
| 55 | 10 | 1.983 | 792 | 3,79 | 2,91 | 2,50 |

| | | | | | | |
|----|-----|-------|-----|------|------|------|
| 60 | -15 | 690 | 601 | 2,94 | 1,34 | 1,15 |
| 60 | -10 | 832 | 650 | 3,15 | 1,49 | 1,28 |
| 60 | -5 | 1.027 | 698 | 3,35 | 1,71 | 1,47 |
| 60 | 0 | 1.276 | 744 | 3,56 | 1,99 | 1,71 |
| 60 | 5 | 1.577 | 789 | 3,78 | 2,32 | 2,00 |
| 60 | 7,2 | 1.727 | 809 | 3,87 | 2,48 | 2,14 |
| 60 | 10 | 1.932 | 833 | 3,99 | 2,70 | 2,32 |

CECOMAF

| Tc °C | Te °C | Cooling Capacity W | Consumption W | Current A | COP W/W | EER kCal/Wh |
|----------|----------|--------------------------|------------------|--------------|------------|----------------|
| 40 | -15 | 890 | 485 | 2,49 | 1,84 | 1,59 |
| 40 | -10 | 1.060 | 526 | 2,64 | 2,02 | 1,74 |
| 40 | -5 | 1.285 | 565 | 2,80 | 2,27 | 1,96 |
| 40 | 0 | 1.566 | 603 | 2,95 | 2,60 | 2,24 |
| 40 | 5 | 1.902 | 639 | 3,10 | 2,98 | 2,57 |
| 40 | 7,2 | 2.068 | 655 | 3,17 | 3,16 | 2,73 |
| 40 | 10 | 2.294 | 674 | 3,25 | 3,40 | 2,94 |

| | | | | | | |
|----|-----|-------|-----|------|------|------|
| 45 | -15 | 848 | 515 | 2,60 | 1,65 | 1,42 |
| 45 | -10 | 1.012 | 558 | 2,77 | 1,81 | 1,57 |
| 45 | -5 | 1.232 | 599 | 2,93 | 2,05 | 1,78 |
| 45 | 0 | 1.507 | 639 | 3,10 | 2,36 | 2,04 |
| 45 | 5 | 1.838 | 678 | 3,27 | 2,71 | 2,34 |
| 45 | 7,2 | 2.001 | 695 | 3,34 | 2,88 | 2,49 |
| 45 | 10 | 2.224 | 715 | 3,43 | 3,11 | 2,69 |

| | | | | | | |
|----|-----|-------|-----|------|------|------|
| 50 | -15 | 805 | 545 | 2,72 | 1,48 | 1,28 |
| 50 | -10 | 964 | 590 | 2,90 | 1,63 | 1,41 |
| 50 | -5 | 1.178 | 634 | 3,08 | 1,86 | 1,61 |
| 50 | 0 | 1.448 | 676 | 3,26 | 2,14 | 1,85 |
| 50 | 5 | 1.773 | 717 | 3,44 | 2,47 | 2,14 |
| 50 | 7,2 | 1.934 | 734 | 3,52 | 2,63 | 2,28 |
| 50 | 10 | 2.154 | 756 | 3,62 | 2,85 | 2,46 |

| | | | | | | |
|----|-----|-------|-----|------|------|------|
| 55 | -15 | 763 | 574 | 2,83 | 1,33 | 1,15 |
| 55 | -10 | 916 | 622 | 3,03 | 1,47 | 1,27 |
| 55 | -5 | 1.125 | 668 | 3,22 | 1,68 | 1,46 |
| 55 | 0 | 1.389 | 712 | 3,42 | 1,95 | 1,68 |
| 55 | 5 | 1.709 | 756 | 3,62 | 2,26 | 1,95 |
| 55 | 7,2 | 1.867 | 774 | 3,70 | 2,41 | 2,08 |
| 55 | 10 | 2.085 | 797 | 3,81 | 2,61 | 2,26 |

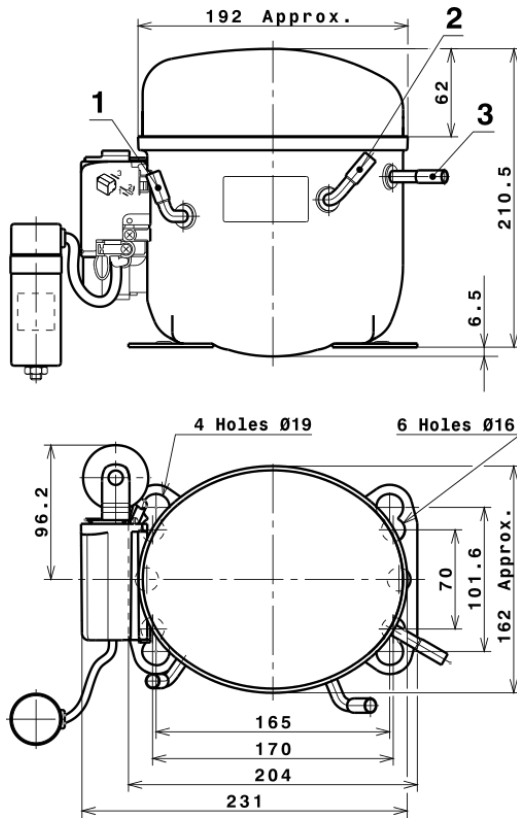
| | | | | | | |
|----|-----|-------|-----|------|------|------|
| 60 | -15 | 720 | 604 | 2,95 | 1,19 | 1,03 |
| 60 | -10 | 868 | 654 | 3,16 | 1,33 | 1,15 |
| 60 | -5 | 1.071 | 702 | 3,37 | 1,53 | 1,32 |
| 60 | 0 | 1.330 | 749 | 3,59 | 1,78 | 1,53 |
| 60 | 5 | 1.645 | 794 | 3,80 | 2,07 | 1,79 |
| 60 | 7,2 | 1.801 | 814 | 3,89 | 2,21 | 1,91 |
| 60 | 10 | 2.015 | 838 | 4,01 | 2,40 | 2,08 |

EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A) | Mass Flow (kg/h) |
|---|----------------------|-----------------|--------------|--------------------|
| 1 | 2.055,1051790211 | 319,0964738626 | 1,6649610278 | 15,58428083236 |
| 2 | 71,3988734565 | 3,9859531063 | 0,0069157901 | 0,60585583372562 |
| 3 | -12,8006499105 | 7,5006851649 | 0,0334896945 | 0,059809613636697 |
| 4 | 1,0905963750 | -0,0241844366 | 0,0000487430 | 0,017059409251323 |
| 5 | -0,2612523683 | 0,0949591310 | 0,0006370623 | 0,0042584136361674 |

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

COMPRESSOR DIMENSIONS

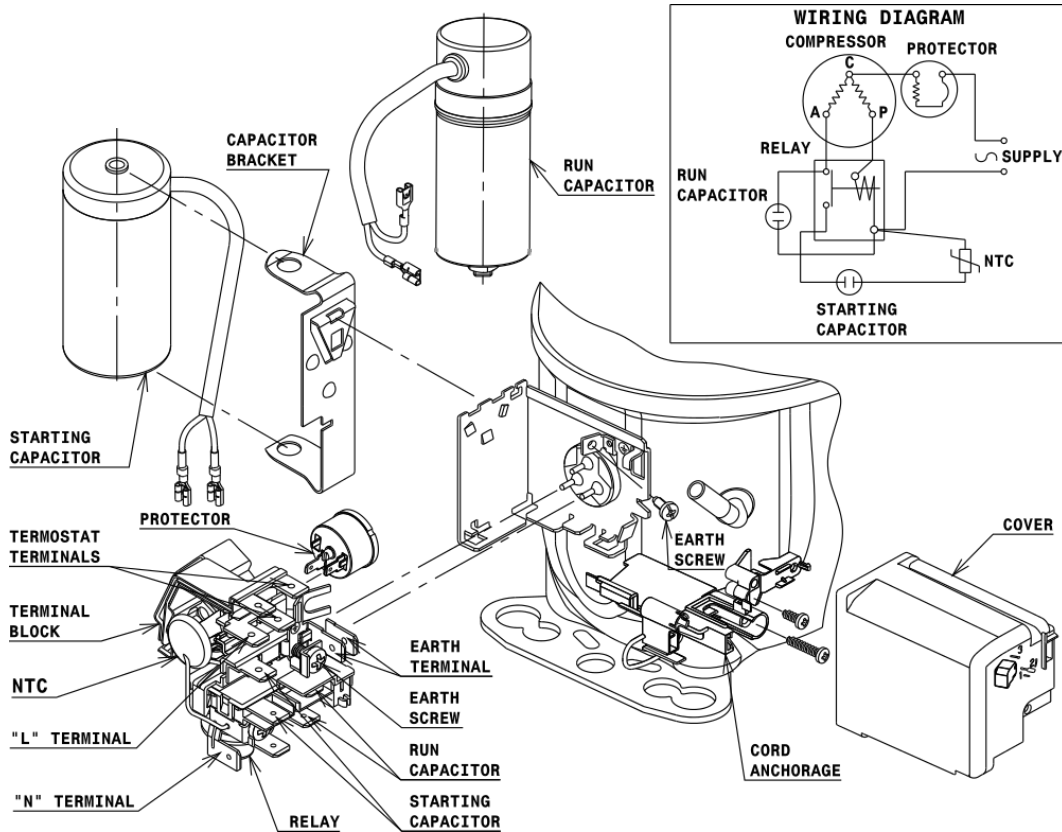


DESIGNATION INTERNAL DIAM.

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

WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

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



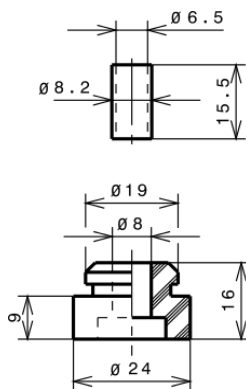
FIXINGS



SILENT BLOCKS (MOUNTING ACCESSORIES)

STANDARD

$\varnothing 16$ holes (170x70 net)



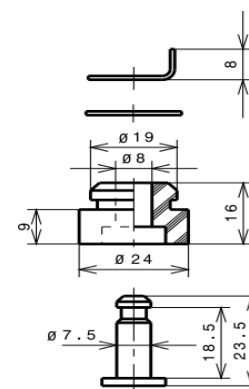
AMERICAN FEET

$\varnothing 19$ holes (165x101.6 net)



SNAP-ON

$\varnothing 16$ holes (170x70 net)



SOA

SOA R290 HBP

