

# Technical Data Sheet

Compressor model **NUY120NAb**  
 Voltage **220-240V 50Hz ~1**  
 Refrigerant **R290**

| APPLICATION        |                          | COMPRESSOR   |                       | MOTOR                    |               |
|--------------------|--------------------------|--------------|-----------------------|--------------------------|---------------|
| Application        | Low-Medium Back Pressure | Displacement | 12,50 cm <sup>3</sup> | Nominal Power            | 3/8 hp        |
| Refrigerant        | R290                     | Diameter     | 27,00 mm              | Voltage/Frequency        | 220-240V 50Hz |
| Evaporating Temp.  | -40,0 °C to 0,0 °C       | Stroke       | 21,13 mm              | Voltage range            | 187-255 V     |
| Expansion          | Capillar/Valve           | Net Weight   | 12,52 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   | 300 cm <sup>3</sup>   | Locked Rotor Amps (LRA)  | 17,70 A       |
|                    |                          |              |                       | Max. Cont. Current (MCC) | 3,70 A        |
|                    |                          |              |                       | Main W. resist. at 25°C  | 5,30 Ω        |
|                    |                          |              |                       | Start W. resist. at 25°C | 17,50 Ω       |

## NOMINAL PERFORMANCE

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 503 kCal/h   | 435 W        |
| COP              | 1,52 W/W     | 1,17 W/W     |
| EER              | 1,31 kCal/Wh | 1,01 kCal/Wh |
| Input Power      | 385 W        | 371 W        |
| Current          | 1,97 A       | 1,91 A       |

## APPROVALS



## TEST CYCLE CONDITIONS

|                                       | ASHRAE<br>LMBP (B) | CECOMAF<br>LMBP (A) |
|---------------------------------------|--------------------|---------------------|
| Evaporating temp. (T <sub>e</sub> )   | -23,3 °C           | -25,0 °C            |
| Condensing temp. (T <sub>c</sub> )    | 55,0 °C            | 55,0 °C             |
| Liquid temp. (T <sub>liq.</sub> )     | 32,0 °C            | 55,0 °C             |
| Ambient temp. (T <sub>amb.</sub> )    | 32,0 °C            | 32,0 °C             |
| Suction temp. (T <sub>suction</sub> ) | 32,0 °C            | 32,0 °C             |
| Voltage/Frequency                     | 220 V 50 Hz        | 220 V 50 Hz         |

## ELECTRICAL COMPONENTS

|                         |                   |  |  |  |
|-------------------------|-------------------|--|--|--|
| Starting capacitor      | 60-61 µF 330 V    |  |  |  |
| Run capacitor           | 10 µF 450 V       |  |  |  |
| Relay                   | Option 1          |  |  |  |
| Reference               | QLZ 7.8A + NTC15Ω |  |  |  |
| Pick-Up                 | 7,80 A            |  |  |  |
| Drop-Out                | 6,65 A            |  |  |  |
| Protector               | Option 1          |  |  |  |
| Reference               | B96-105P          |  |  |  |
| Current                 | 11,50 A           |  |  |  |
| Time check              | 7,5-16 seg        |  |  |  |
| Disc temp. (Open/Close) | 110,00 / 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<br>°C | Te<br>°C | Cooling<br>Capacity<br>kCal/h | Consumption<br>W | Current<br>A | COP<br>W/W | EER<br>kCal/Wh |
|----------|----------|-------------------------------|------------------|--------------|------------|----------------|
| 40       | -40      | 253                           | 254              | 1,45         | 1,16       | 0,99           |
| 40       | -35      | 326                           | 283              | 1,57         | 1,34       | 1,15           |
| 40       | -30      | 419                           | 313              | 1,68         | 1,56       | 1,34           |
| 40       | -25      | 530                           | 343              | 1,80         | 1,80       | 1,55           |
| 40       | -23,3    | 573                           | 353              | 1,84         | 1,89       | 1,62           |
| 40       | -20      | 661                           | 372              | 1,92         | 2,06       | 1,78           |
| 40       | -15      | 810                           | 402              | 2,04         | 2,35       | 2,02           |
| 40       | -10      | 979                           | 432              | 2,16         | 2,64       | 2,27           |
| 40       | -5       | 1.166                         | 461              | 2,29         | 2,94       | 2,53           |
| 40       | 0        | 1.373                         | 491              | 2,41         | 3,25       | 2,80           |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 45 | -40   | 236   | 251 | 1,44 | 1,09 | 0,94 |
| 45 | -35   | 308   | 285 | 1,57 | 1,26 | 1,08 |
| 45 | -30   | 398   | 318 | 1,70 | 1,46 | 1,25 |
| 45 | -25   | 508   | 352 | 1,84 | 1,68 | 1,44 |
| 45 | -23,3 | 549   | 363 | 1,88 | 1,76 | 1,51 |
| 45 | -20   | 636   | 386 | 1,97 | 1,92 | 1,65 |
| 45 | -15   | 784   | 419 | 2,11 | 2,17 | 1,87 |
| 45 | -10   | 950   | 453 | 2,25 | 2,44 | 2,10 |
| 45 | -5    | 1.136 | 487 | 2,40 | 2,71 | 2,33 |
| 45 | 0     | 1.340 | 521 | 2,54 | 2,99 | 2,57 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 50 | -40   | 220   | 248 | 1,43 | 1,03 | 0,89 |
| 50 | -35   | 289   | 286 | 1,58 | 1,18 | 1,01 |
| 50 | -30   | 378   | 324 | 1,72 | 1,36 | 1,17 |
| 50 | -25   | 485   | 361 | 1,87 | 1,56 | 1,34 |
| 50 | -23,3 | 526   | 374 | 1,93 | 1,64 | 1,41 |
| 50 | -20   | 612   | 399 | 2,03 | 1,78 | 1,53 |
| 50 | -15   | 757   | 437 | 2,19 | 2,02 | 1,73 |
| 50 | -10   | 922   | 475 | 2,35 | 2,26 | 1,94 |
| 50 | -5    | 1.105 | 513 | 2,51 | 2,51 | 2,15 |
| 50 | 0     | 1.308 | 551 | 2,68 | 2,76 | 2,37 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 55 | -40   | 203   | 245 | 1,42 | 0,96 | 0,83 |
| 55 | -35   | 271   | 287 | 1,58 | 1,10 | 0,94 |
| 55 | -30   | 357   | 329 | 1,74 | 1,26 | 1,09 |
| 55 | -25   | 463   | 371 | 1,91 | 1,45 | 1,25 |
| 55 | -23,3 | 503   | 385 | 1,97 | 1,52 | 1,31 |
| 55 | -20   | 587   | 413 | 2,08 | 1,66 | 1,42 |
| 55 | -15   | 731   | 455 | 2,26 | 1,87 | 1,61 |
| 55 | -10   | 893   | 497 | 2,44 | 2,09 | 1,80 |
| 55 | -5    | 1.075 | 539 | 2,62 | 2,32 | 1,99 |
| 55 | 0     | 1.275 | 581 | 2,81 | 2,55 | 2,19 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 60 | -40   | 187   | 242 | 1,41 | 0,90 | 0,77 |
| 60 | -35   | 252   | 288 | 1,58 | 1,02 | 0,88 |
| 60 | -30   | 337   | 334 | 1,76 | 1,17 | 1,01 |
| 60 | -25   | 440   | 380 | 1,95 | 1,35 | 1,16 |
| 60 | -23,3 | 480   | 396 | 2,01 | 1,41 | 1,21 |
| 60 | -20   | 563   | 426 | 2,14 | 1,54 | 1,32 |
| 60 | -15   | 704   | 472 | 2,33 | 1,73 | 1,49 |
| 60 | -10   | 865   | 519 | 2,53 | 1,94 | 1,67 |
| 60 | -5    | 1.044 | 565 | 2,74 | 2,15 | 1,85 |
| 60 | 0     | 1.243 | 611 | 2,95 | 2,37 | 2,03 |

## CECOMAF

| Tc<br>°C | Te<br>°C | Cooling<br>Capacity<br>W | Consumption<br>W | Current<br>A | COP<br>W/W | EER<br>kCal/Wh |
|----------|----------|--------------------------|------------------|--------------|------------|----------------|
| 40       | -40      | 273                      | 254              | 1,45         | 1,07       | 0,93           |
| 40       | -35      | 364                      | 283              | 1,57         | 1,28       | 1,11           |
| 40       | -30      | 472                      | 313              | 1,68         | 1,51       | 1,30           |
| 40       | -25      | 598                      | 343              | 1,80         | 1,74       | 1,51           |
| 40       | -23,3    | 644                      | 353              | 1,84         | 1,83       | 1,58           |
| 40       | -20      | 741                      | 372              | 1,92         | 1,99       | 1,72           |
| 40       | -15      | 902                      | 402              | 2,04         | 2,24       | 1,94           |
| 40       | -10      | 1.080                    | 432              | 2,16         | 2,50       | 2,16           |
| 40       | -5       | 1.276                    | 461              | 2,29         | 2,77       | 2,39           |
| 40       | 0        | 1.489                    | 491              | 2,41         | 3,03       | 2,62           |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 45 | -40   | 246   | 251 | 1,44 | 0,98 | 0,85 |
| 45 | -35   | 327   | 285 | 1,57 | 1,15 | 0,99 |
| 45 | -30   | 427   | 318 | 1,70 | 1,34 | 1,16 |
| 45 | -25   | 543   | 352 | 1,84 | 1,54 | 1,33 |
| 45 | -23,3 | 587   | 363 | 1,88 | 1,62 | 1,40 |
| 45 | -20   | 678   | 386 | 1,97 | 1,76 | 1,52 |
| 45 | -15   | 830   | 419 | 2,11 | 1,98 | 1,71 |
| 45 | -10   | 999   | 453 | 2,25 | 2,20 | 1,90 |
| 45 | -5    | 1.186 | 487 | 2,40 | 2,43 | 2,10 |
| 45 | 0     | 1.390 | 521 | 2,54 | 2,67 | 2,31 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 50 | -40   | 218   | 248 | 1,43 | 0,88 | 0,76 |
| 50 | -35   | 291   | 286 | 1,58 | 1,02 | 0,88 |
| 50 | -30   | 382   | 324 | 1,72 | 1,18 | 1,02 |
| 50 | -25   | 489   | 361 | 1,87 | 1,35 | 1,17 |
| 50 | -23,3 | 530   | 374 | 1,93 | 1,42 | 1,22 |
| 50 | -20   | 615   | 399 | 2,03 | 1,54 | 1,33 |
| 50 | -15   | 758   | 437 | 2,19 | 1,73 | 1,50 |
| 50 | -10   | 918   | 475 | 2,35 | 1,93 | 1,67 |
| 50 | -5    | 1.096 | 513 | 2,51 | 2,14 | 1,85 |
| 50 | 0     | 1.291 | 551 | 2,68 | 2,34 | 2,02 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 55 | -40   | 191   | 245 | 1,42 | 0,78 | 0,67 |
| 55 | -35   | 255   | 287 | 1,58 | 0,89 | 0,77 |
| 55 | -30   | 336   | 329 | 1,74 | 1,02 | 0,88 |
| 55 | -25   | 435   | 371 | 1,91 | 1,17 | 1,01 |
| 55 | -23,3 | 473   | 385 | 1,97 | 1,23 | 1,06 |
| 55 | -20   | 552   | 413 | 2,08 | 1,34 | 1,15 |
| 55 | -15   | 686   | 455 | 2,26 | 1,51 | 1,30 |
| 55 | -10   | 837   | 497 | 2,44 | 1,68 | 1,46 |
| 55 | -5    | 1.006 | 539 | 2,62 | 1,87 | 1,61 |
| 55 | 0     | 1.192 | 581 | 2,81 | 2,05 | 1,77 |

|    |       |       |     |      |      |      |
|----|-------|-------|-----|------|------|------|
| 60 | -40   | 164   | 242 | 1,41 | 0,68 | 0,59 |
| 60 | -35   | 219   | 288 | 1,58 | 0,76 | 0,66 |
| 60 | -30   | 291   | 334 | 1,76 | 0,87 | 0,75 |
| 60 | -25   | 381   | 380 | 1,95 | 1,00 | 0,87 |
| 60 | -23,3 | 416   | 396 | 2,01 | 1,05 | 0,91 |
| 60 | -20   | 489   | 426 | 2,14 | 1,15 | 0,99 |
| 60 | -15   | 614   | 472 | 2,33 | 1,30 | 1,12 |
| 60 | -10   | 756   | 519 | 2,53 | 1,46 | 1,26 |
| 60 | -5    | 916   | 565 | 2,74 | 1,62 | 1,40 |
| 60 | 0     | 1.094 | 611 | 2,95 | 1,79 | 1,55 |

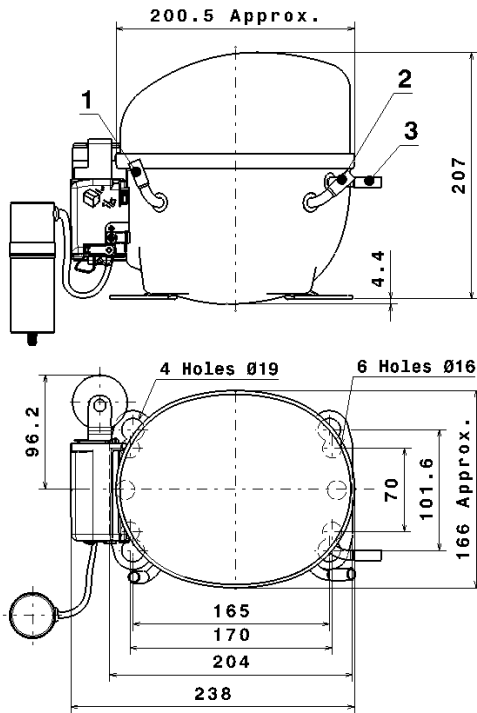
## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)   | Mass Flow (kg/h)    |
|---|----------------------|-----------------|---------------|---------------------|
| 1 | 2,278,1361373313     | 257,7245759750  | 1,3684187639  | 20,760364029077     |
| 2 | 58,5032437598        | -0,5509733199   | -0,0013704643 | 0,60711586988786    |
| 3 | -20,3332102932       | 6,1607468361    | 0,0274871191  | -0,082879372494956  |
| 4 | 0,3422939758         | 0,0026630791    | 0,0000905599  | 0,0051389692121009  |
| 5 | -0,3719059255        | 0,1693437304    | 0,0007453759  | -0,0010633346642171 |

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

# Technical Data Sheet

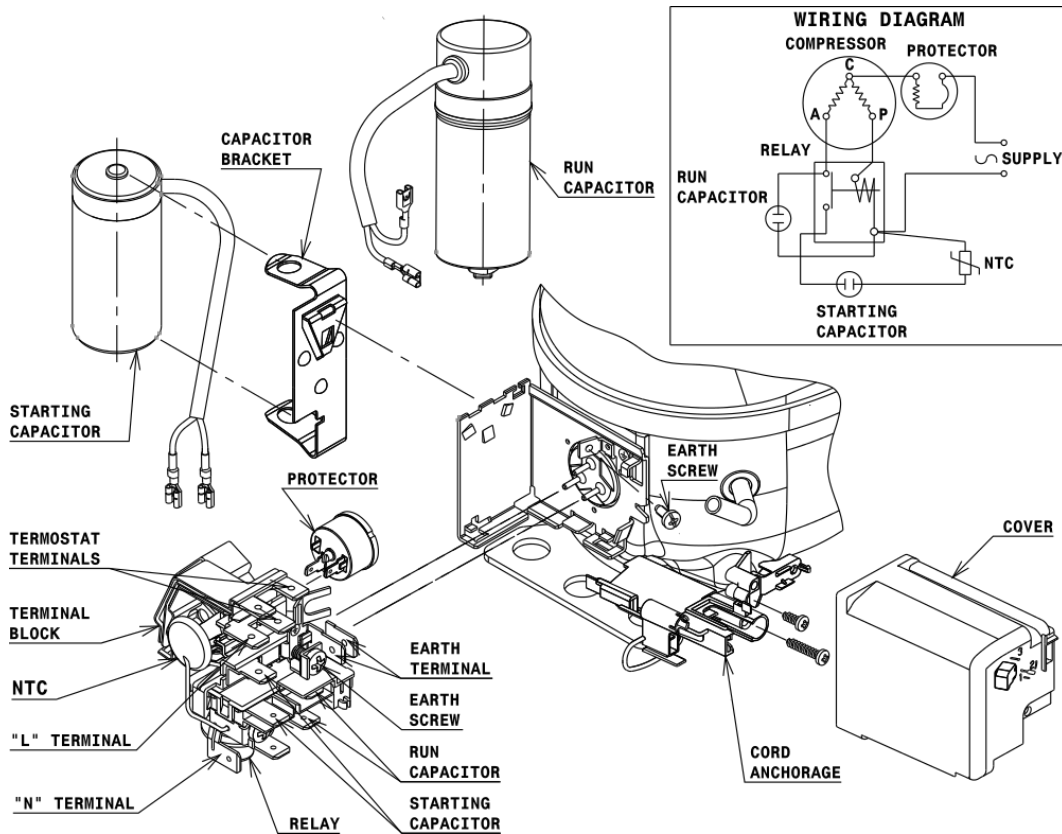
## COMPRESSOR DIMENSIONS



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

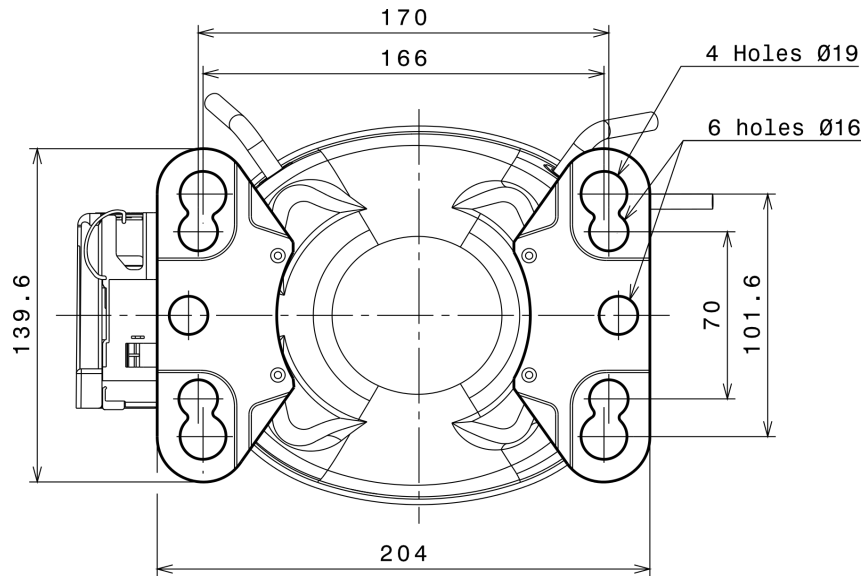
## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSR CONNECTION (CURRENT RELAY + NTC) (U range)



# Technical Data Sheet

## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

### STANDARD

Ø16 holes (170x70 net)



### AMERICAN FEET

Ø19 holes (166x101.6 net)



### SNAP-ON

Ø16.5 holes (170x70 net)



## SOA

SOA R290 LMBP

