

# Technical Data Sheet

Compressor model **S18TN\_V**  
 Voltage **200-220/230V 50/60Hz ~1**  
 Refrigerant **R22**

## APPLICATION

## COMPRESSOR

## MOTOR

|                    |                           |              |                       |                          |               |
|--------------------|---------------------------|--------------|-----------------------|--------------------------|---------------|
| Application        | High-Medium Back Pressure | Displacement | 18,10 cm <sup>3</sup> | Nominal Power            | 3/4 hp        |
| Refrigerant        | R22                       | Diameter     | 38,10 mm              | Voltage/Frequency        | 200-220V 50Hz |
| Evaporating Temp.  | -25,0 °C to 10,0 °C       | Stroke       | 15,87 mm              | Voltage range            | 180-242 V     |
| Expansion          | Capillar/Valve            | Net Weight   | 21,80 Kg              | Type                     | CSR           |
| Comp. Cooling      | Fan cooled                | Oil type     | ISO VG 46 MINER       | Phase number             | 1 PH          |
| Max. ambient temp. | 43,0 °C                   | Oil charge   | 887 cm <sup>3</sup>   | Locked Rotor Amps (LRA)  | 27,00 A       |
|                    |                           |              |                       | Max. Cont. Current (MCC) | 9,50 A        |
|                    |                           |              |                       | Main W. resist. at 25°C  | 1,99 Ω        |
|                    |                           |              |                       | Start W. resist. at 25°C | 5,10 Ω        |

## NOMINAL PERFORMANCE

## APPROVALS

|                  | ASHRAE       | CECOMAF      |
|------------------|--------------|--------------|
| Cooling Capacity | 2.050 kCal/h | 2.020 W      |
| COP              | 2,38 W/W     | 2,07 W/W     |
| EER              | 2,05 kCal/Wh | 1,79 kCal/Wh |
| Input Power      | 1.000 W      | 976 W        |
| Current          | 5,70 A       | 5,57 A       |

## TEST CYCLE CONDITIONS

|                                       | ASHRAE<br>HMBP (D) | CECOMAF<br>HMBP (C) |
|---------------------------------------|--------------------|---------------------|
| Evaporating temp. (T <sub>e</sub> )   | 7,2 °C             | 5,0 °C              |
| Condensing temp. (T <sub>c</sub> )    | 55,0 °C            | 55,0 °C             |
| Liquid temp. (T <sub>liq.</sub> )     | 46,0 °C            | 55,0 °C             |
| Ambient temp. (T <sub>amb.</sub> )    | 35,0 °C            | 32,0 °C             |
| Suction temp. (T <sub>suction</sub> ) | 35,0 °C            | 32,0 °C             |
| Voltage/Frequency                     | 200 V 50 Hz        | 200 V 50 Hz         |

## ELECTRICAL COMPONENTS

|                         |                   |                  |  |
|-------------------------|-------------------|------------------|--|
| Starting capacitor      | 47- 56 μF 330 V   |                  |  |
| Run capacitor           | 16 μF 420 V       |                  |  |
| Relay                   | Option 1          | Option 2         |  |
| Reference               | 3ARR3 10S3        | RVA 3AG..        |  |
| Pick-Up                 | 180-195 V         | 180-195 V        |  |
| Drop-Out                | 40-105 V          | 40-105 V         |  |
| Protector               | Option 1          | Option 2         |  |
| Reference               | MRA38088          | T0452            |  |
| Current                 | 22,00 A           | 21,00 A          |  |
| Time check              | 7,5-14 seg        | 7,5-14 seg       |  |
| Disc temp. (Open/Close) | 105,00 / 57,00 °C | 95,00 / 57,00 °C |  |

## 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       | -25      | 578                           | 500              | 3,41         | 1,34       | 1,16           |
| 40       | -20      | 776                           | 562              | 3,65         | 1,61       | 1,38           |
| 40       | -15      | 1.018                         | 620              | 3,88         | 1,91       | 1,64           |
| 40       | -10      | 1.304                         | 673              | 4,10         | 2,25       | 1,94           |
| 40       | -5       | 1.633                         | 722              | 4,32         | 2,63       | 2,26           |
| 40       | 0        | 2.005                         | 766              | 4,52         | 3,05       | 2,62           |
| 40       | 5        | 2.420                         | 805              | 4,70         | 3,50       | 3,01           |
| 40       | 7,2      | 2.617                         | 822              | 4,78         | 3,71       | 3,19           |
| 40       | 10       | 2.879                         | 841              | 4,88         | 3,98       | 3,42           |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 45 | -25 | 509   | 490 | 3,37 | 1,21 | 1,04 |
| 45 | -20 | 689   | 563 | 3,65 | 1,42 | 1,22 |
| 45 | -15 | 912   | 631 | 3,93 | 1,68 | 1,45 |
| 45 | -10 | 1.179 | 695 | 4,20 | 1,97 | 1,70 |
| 45 | -5  | 1.489 | 755 | 4,47 | 2,30 | 1,97 |
| 45 | 0   | 1.843 | 810 | 4,73 | 2,65 | 2,28 |
| 45 | 5   | 2.240 | 860 | 4,97 | 3,03 | 2,60 |
| 45 | 7,2 | 2.428 | 881 | 5,08 | 3,21 | 2,76 |
| 45 | 10  | 2.680 | 906 | 5,20 | 3,44 | 2,96 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 50 | -25 | 441   | 480 | 3,34 | 1,07 | 0,92 |
| 50 | -20 | 602   | 564 | 3,65 | 1,24 | 1,07 |
| 50 | -15 | 807   | 643 | 3,98 | 1,46 | 1,25 |
| 50 | -10 | 1.055 | 718 | 4,30 | 1,71 | 1,47 |
| 50 | -5  | 1.346 | 788 | 4,62 | 1,99 | 1,71 |
| 50 | 0   | 1.681 | 854 | 4,94 | 2,29 | 1,97 |
| 50 | 5   | 2.059 | 915 | 5,25 | 2,62 | 2,25 |
| 50 | 7,2 | 2.239 | 941 | 5,38 | 2,77 | 2,38 |
| 50 | 10  | 2.480 | 972 | 5,55 | 2,97 | 2,55 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 55 | -25 | 372   | 470   | 3,30 | 0,92 | 0,79 |
| 55 | -20 | 515   | 564   | 3,66 | 1,06 | 0,91 |
| 55 | -15 | 701   | 654   | 4,02 | 1,25 | 1,07 |
| 55 | -10 | 930   | 740   | 4,40 | 1,46 | 1,26 |
| 55 | -5  | 1.203 | 821   | 4,78 | 1,70 | 1,46 |
| 55 | 0   | 1.519 | 898   | 5,16 | 1,97 | 1,69 |
| 55 | 5   | 1.878 | 970   | 5,54 | 2,25 | 1,94 |
| 55 | 7,2 | 2.050 | 1.000 | 5,70 | 2,38 | 2,05 |
| 55 | 10  | 2.281 | 1.037 | 5,91 | 2,56 | 2,20 |

## 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       | -25      | 631                      | 503              | 3,42         | 1,25       | 1,08           |
| 40       | -20      | 850                      | 565              | 3,66         | 1,50       | 1,30           |
| 40       | -15      | 1.116                    | 623              | 3,89         | 1,79       | 1,55           |
| 40       | -10      | 1.428                    | 677              | 4,12         | 2,11       | 1,82           |
| 40       | -5       | 1.787                    | 726              | 4,34         | 2,46       | 2,13           |
| 40       | 0        | 2.192                    | 770              | 4,54         | 2,85       | 2,46           |
| 40       | 5        | 2.644                    | 811              | 4,73         | 3,26       | 2,82           |
| 40       | 7,2      | 2.858                    | 827              | 4,81         | 3,46       | 2,99           |
| 40       | 10       | 3.142                    | 847              | 4,90         | 3,71       | 3,21           |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 45 | -25 | 554   | 493 | 3,38 | 1,12 | 0,97 |
| 45 | -20 | 752   | 566 | 3,66 | 1,33 | 1,15 |
| 45 | -15 | 996   | 635 | 3,94 | 1,57 | 1,35 |
| 45 | -10 | 1.286 | 699 | 4,22 | 1,84 | 1,59 |
| 45 | -5  | 1.623 | 759 | 4,49 | 2,14 | 1,85 |
| 45 | 0   | 2.006 | 815 | 4,75 | 2,46 | 2,13 |
| 45 | 5   | 2.436 | 866 | 5,00 | 2,81 | 2,43 |
| 45 | 7,2 | 2.640 | 887 | 5,11 | 2,98 | 2,57 |
| 45 | 10  | 2.912 | 912 | 5,24 | 3,19 | 2,76 |

|    |     |       |     |      |      |      |
|----|-----|-------|-----|------|------|------|
| 50 | -25 | 477   | 483 | 3,35 | 0,99 | 0,85 |
| 50 | -20 | 653   | 567 | 3,66 | 1,15 | 1,00 |
| 50 | -15 | 875   | 646 | 3,99 | 1,35 | 1,17 |
| 50 | -10 | 1.144 | 722 | 4,32 | 1,58 | 1,37 |
| 50 | -5  | 1.459 | 793 | 4,64 | 1,84 | 1,59 |
| 50 | 0   | 1.820 | 859 | 4,97 | 2,12 | 1,83 |
| 50 | 5   | 2.228 | 921 | 5,28 | 2,42 | 2,09 |
| 50 | 7,2 | 2.422 | 947 | 5,41 | 2,56 | 2,21 |
| 50 | 10  | 2.682 | 978 | 5,58 | 2,74 | 2,37 |

|    |     |       |       |      |      |      |
|----|-----|-------|-------|------|------|------|
| 55 | -25 | 401   | 473   | 3,31 | 0,85 | 0,73 |
| 55 | -20 | 554   | 568   | 3,67 | 0,98 | 0,84 |
| 55 | -15 | 755   | 658   | 4,04 | 1,15 | 0,99 |
| 55 | -10 | 1.001 | 744   | 4,42 | 1,35 | 1,16 |
| 55 | -5  | 1.294 | 826   | 4,80 | 1,57 | 1,35 |
| 55 | 0   | 1.634 | 903   | 5,19 | 1,81 | 1,56 |
| 55 | 5   | 2.020 | 976   | 5,57 | 2,07 | 1,79 |
| 55 | 7,2 | 2.204 | 1.007 | 5,74 | 2,19 | 1,89 |
| 55 | 10  | 2.452 | 1.044 | 5,95 | 2,35 | 2,03 |

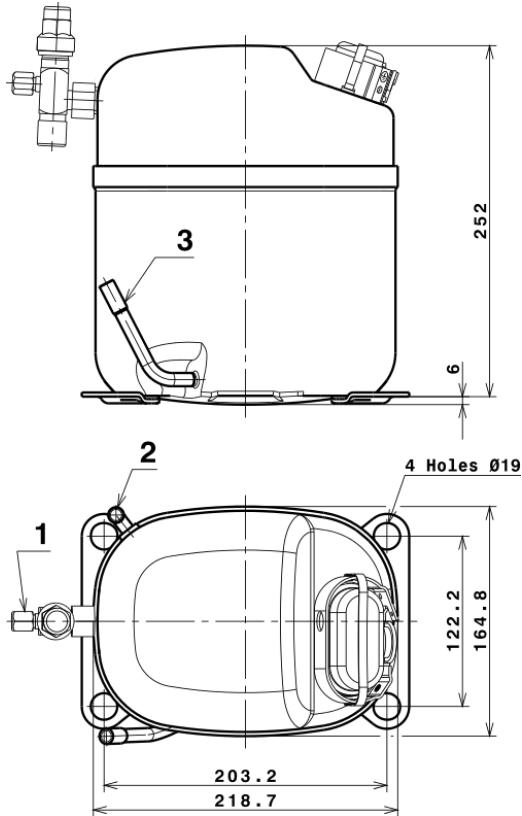
## EN12900

| X | Cooling Capacity (W) | Consumption (W) | Current (A)   | Mass Flow (kg/h)    |
|---|----------------------|-----------------|---------------|---------------------|
| 1 | 3.728,9713432379     | 426,6033372952  | 2,5746189840  | 65,331643595761     |
| 2 | 122,6182076084       | -8,9131816297   | -0,0444639615 | 2,3054491954293     |
| 3 | -38,2024818426       | 9,1143801804    | 0,0496763594  | -0,47152129545956   |
| 4 | 0,9349479829         | -0,0848086705   | 0,0001261702  | 0,024885335359372   |
| 5 | -0,9100114474        | 0,4468410636    | 0,0022901891  | -0,0087110453527861 |

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

# Technical Data Sheet

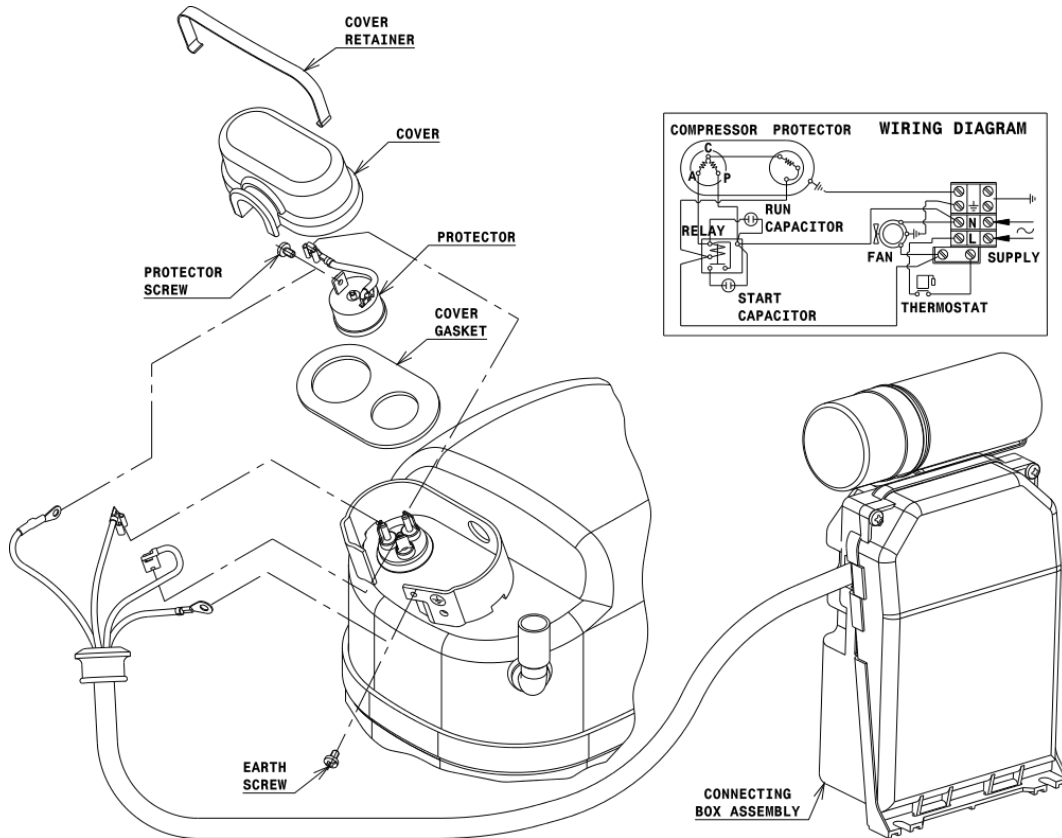
## COMPRESSOR DIMENSIONS



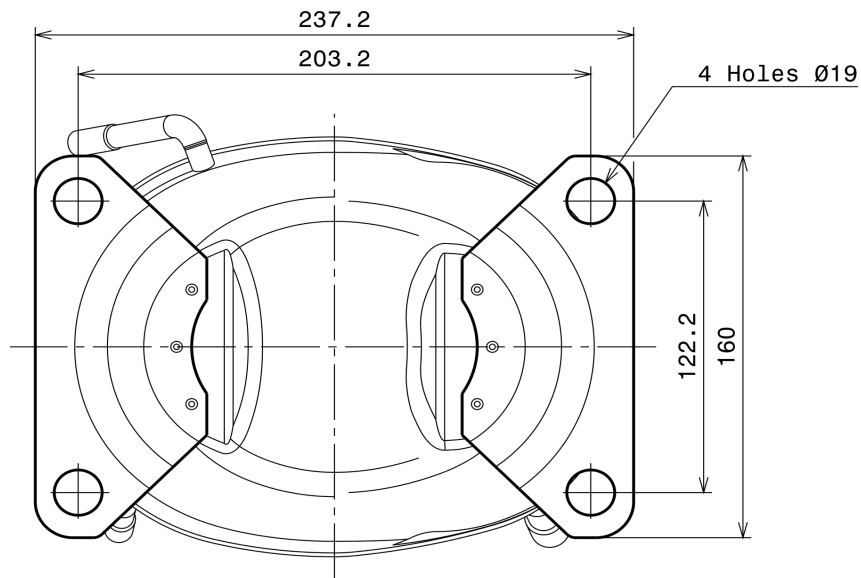
|   | DESIGNATION   | INTERNAL DIAM. |
|---|---------------|----------------|
| 1 | Service Valve | 1/2" SAE       |
| 2 | Service       | 9,7 mm         |
| 3 | Discharge     | 8,0 mm         |

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSR CONNECTION (EXTERNAL CONNECTING BOX) (S range)



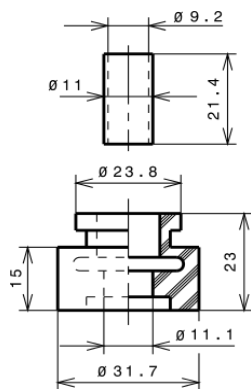
## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

### STANDARD

Ø19 holes (203.2x122.2 net)



## SOA

SOA R22 HMBP

