Login

| Summary of | Volan 9 | Reg. No. | 011-1W0531 |
|---|---|---|---|
| Certificate Holder | | | |
| Name | THERMAGEN sp. z o.o. | | |
| Address | Ul. Warszawska 50 | Zip | 82-100 |
| City | Nowy Dwór Gdański | Country | Poland |
| Certification Body | DIN CERTCO Gesellschaft für Konformitätsbewertung mbH | | |
| Subtype title | Volan 9 | | |
| Heat Pump Type | Outdoor Air/Water | | |
| Refrigerant | R290 | | |
| Mass of Refrigerant | 0.85 kg | | |
| Certification Date | 01.06.2022 | | |
| Testing basis | European KEYMARK Scheme for Heat Pumps Rev. 9 (as of 2021-03) | | |



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# Model: Volan 9

| Configure model | |
|---|---|
| Model name | Volan 9 |
| Application | Heating (medium temp) |
| Units | Indoor + Outdoor |
| Climate Zone | Colder Climate + Warmer Climate |
| Reversibility | Yes |
| Cooling mode application (optional) | n/a |

| General Data | |
|---|---|
| Power supply | 1x230V 50Hz |

## Heating

| EN 14511-2 | | |
|---|---|---|
| | **Low temperature** | **Medium temperature** |
| Heat output | 4.20 kW | 4.10 kW |
| El input | 0.84 kW | 1.30 kW |
| COP | 4.98 | 3.15 |

| EN 14511-4 | |
|---|---|
| | |
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure | passed |
| Defrost test | passed |
| Starting and operating test | passed |

## Warmer Climate



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## EN 12102-1

| | Low temperature | Medium temperature |
|---|---|---|
| Sound power level indoor | 0 dB(A) | 0 dB(A) |
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

## EN 14825

| | Low temperature | Medium temperature |
|---|---|---|
| $\eta_s$ | 218 % | 171 % |
| Prated | 6.50 kW | 6.00 kW |
| SCOP | 5.53 | 4.35 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 6.47 kW | 5.96 kW |
| COP Tj = +2°C | 3.39 | 2.49 |
| Cdh Tj = +2 °C | 1.000 | 1.000 |
| Pdh Tj = +7°C | 4.12 kW | 3.92 kW |
| COP Tj = +7°C | 5.38 | 3.88 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 4.92 kW | 4.59 kW |
| COP Tj = 12°C | 6.66 | 5.67 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |



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| | | |
|---|---|---|
| Pdh Tj = Tbiv | 6.47 kW | 5.96 kW |
| COP Tj = Tbiv | 3.39 | 2.49 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 6.47 kW | 5.96 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.39 | 2.49 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 70 °C | 70 °C |
| Poff | 0 W | 0 W |
| PTO | 9 W | 9 W |
| PSB | 8 W | 8 W |
| PCK | 9 W | 9 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 1570 kWh | 1844 kWh |

## Colder Climate

| **EN 12102-1** | | |
|---|---|---|
| | **Low temperature** | **Medium temperature** |
| Sound power level indoor | 0 dB(A) | 0 dB(A) |
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

| **EN 14825** |
|---|



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| | **Low temperature** | **Medium temperature** |
|---|---|---|
| $\eta_s$ | 148 % | 125 % |
| Prated | 4.50 kW | 4.50 kW |
| SCOP | 3.78 | 3.20 |
| Tbiv | -15 °C | -15 °C |
| TOL | -15 °C | -15 °C |
| Pdh Tj = -7°C | 2.75 kW | 2.48 kW |
| COP Tj = -7°C | 3.80 | 2.88 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = +2°C | 3.12 kW | 3.42 kW |
| COP Tj = +2°C | 4.80 | 4.07 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 4.18 kW | 4.06 kW |
| COP Tj = +7°C | 6.13 | 5.26 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 2.26 kW | 4.81 kW |
| COP Tj = 12°C | 5.29 | 6.38 |
| Cdh Tj = +12 °C | 0.980 | 0.990 |
| Pdh Tj = Tbiv | 3.64 kW | 3.71 kW |
| COP Tj = Tbiv | 2.92 | 2.24 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.64 kW | 3.71 kW |



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| | | |
|---|---|---|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.92 | 2.24 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.990 | 0.990 |
| WTOL | 70 °C | 70 °C |
| Poff | 0 W | 0 W |
| PTO | 9 W | 9 W |
| PSB | 8 W | 8 W |
| PCK | 9 W | 9 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.50 kW | 4.50 kW |
| Annual energy consumption Qhe | 2936 kWh | 3472 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 3.64 | 3.71 |
| COP Tj = -15°C (if TOL<-20°C) | 2.92 | 2.24 |
| Cdh Tj = -15 °C | 0.990 | 0.990 |

## Average Climate

| **EN 12102-1** | | |
|---|---|---|
| | **Low temperature** | **Medium temperature** |
| Sound power level indoor | 0 dB(A) | 0 dB(A) |
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

| **EN 14825** |
|---|



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| | **Low temperature** | **Medium temperature** |
|---|---|---|
| $\eta_s$ | 180 % | 142 % |
| Prated | 5.00 kW | 5.00 kW |
| SCOP | 4.57 | 3.63 |
| Tbiv | -10 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 4.32 kW | 4.40 kW |
| COP Tj = -7°C | 3.27 | 2.35 |
| Cdh Tj = -7 °C | 0.990 | 1.000 |
| Pdh Tj = +2°C | 3.18 kW | 3.41 kW |
| COP Tj = +2°C | 4.49 | 3.58 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 4.07 kW | 3.85 kW |
| COP Tj = +7°C | 5.87 | 4.81 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 5.11 kW | 4.79 kW |
| COP Tj = 12°C | 6.96 | 6.11 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 5.03 kW | 4.40 kW |
| COP Tj = Tbiv | 3.01 | 2.35 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.03 kW | 4.52 kW |



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| | | |
|---|---|---|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.01 | 2.19 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.990 | 1.000 |
| WTOL | 70 °C | 70 °C |
| Poff | 0 W | 0 W |
| PTO | 9 W | 9 W |
| PSB | 8 W | 8 W |
| PCK | 9 W | 9 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.48 kW |
| Annual energy consumption Qhe | 2258 kWh | 2844 kWh |



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