

This information was generated by the HP KEYMARK database on 23 Jun 2022

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| | | | |
|---------------------|--|----------|------------|
| Summary of | Volan 18 | Reg. No. | 011-1W0533 |
| 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 18 | | |
| Heat Pump Type | Outdoor Air/Water | | |
| Refrigerant | R290 | | |
| Mass of Refrigerant | 1.37 kg | | |
| Certification Date | 01.06.2022 | | |
| Testing basis | Europäisches Zertifizierungsprogramm Wärmepumpen KEYMARK Version8 (Stand: 2020-09) | | |

Model: Volan 18 400V

| Configure model | |
|-------------------------------------|---------------------------------|
| Model name | Volan 18 400V |
| 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 | 3x400V 50Hz |

Heating

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 7.53 kW | 8.48 kW |
| El input | 1.50 kW | 2.53 kW |
| COP | 5.02 | 3.35 |

| 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 |
|-----------------|-----------------|--------------------|
| η_s | 236 % | 188 % |
| Prated | 11.70 kW | 11.00 kW |
| SCOP | 5.98 | 4.77 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 11.69 kW | 10.96 kW |
| COP Tj = +2°C | 3.04 | 2.19 |
| Cdh Tj = +2 °C | 1.000 | 1.000 |
| Pdh Tj = +7°C | 8.22 kW | 7.47 kW |
| COP Tj = +7°C | 5.70 | 4.25 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.99 kW | 7.27 kW |
| COP Tj = 12°C | 7.27 | 6.27 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |

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| | | |
|---|-------------|-------------|
| Pdh Tj = Tbiv | 11.69 kW | 10.96 kW |
| COP Tj = Tbiv | 3.04 | 2.19 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 11.69 kW | 10.96 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.04 | 2.19 |
| 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 | 2613 kWh | 3079 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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|-----------------|

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| | Low temperature | Medium temperature |
|---|------------------------|---------------------------|
| η_s | 145 % | 124 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 3.70 | 3.16 |
| Tbiv | -15 °C | -15 °C |
| TOL | -15 °C | -15 °C |
| Pdh Tj = -7°C | 5.95 kW | 6.04 kW |
| COP Tj = -7°C | 3.73 | 3.16 |
| Cdh Tj = -7 °C | 0.990 | 1.000 |
| Pdh Tj = +2°C | 4.47 kW | 4.64 kW |
| COP Tj = +2°C | 4.26 | 3.47 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 7.64 kW | 6.48 kW |
| COP Tj = +7°C | 6.50 | 5.65 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 4.80 kW | 6.46 kW |
| COP Tj = 12°C | 7.22 | 6.96 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 8.16 kW | 8.15 kW |
| COP Tj = Tbiv | 3.11 | 2.40 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.16 kW | 8.15 kW |

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| | | |
|---|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.11 | 2.40 |
| 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 | 10.00 kW | 10.00 kW |
| Annual energy consumption Qhe | 6661 kWh | 7795 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | | |
| COP Tj = -15°C (if TOL<-20°C) | | |
| Cdh Tj = -15 °C | | |

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 |
|---|------------------------|---------------------------|
| η_s | 175 % | 138 % |
| Prated | 10.60 kW | 10.50 kW |
| SCOP | 4.46 | 3.53 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 9.44 kW | 9.26 kW |
| COP Tj = -7°C | 3.30 | 2.40 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 5.76 kW | 5.63 kW |
| COP Tj = +2°C | 3.97 | 3.13 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 6.56 kW | 6.18 kW |
| COP Tj = +7°C | 6.27 | 5.18 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 4.25 kW | 6.14 kW |
| COP Tj = 12°C | 7.00 | 6.65 |
| Cdh Tj = +12 °C | 0.980 | 0.990 |
| Pdh Tj = Tbiv | 10.55 kW | 10.47 kW |
| COP Tj = Tbiv | 3.14 | 2.22 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.55 kW | 10.47 kW |

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| 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 | 4914 kWh | 6144 kWh |

Model: Volan 18

| Configure model | |
|-------------------------------------|---------------------------------|
| Model name | Volan 18 |
| Application | Heating (medium temp) |
| Units | Indoor + Outdoor |
| Climate Zone | Colder Climate + Warmer Climate |
| Reversibility | Yes |
| Cooling mode application (optional) | n/a |

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

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