

This information was generated by the HP KEYMARK database on 25 Feb 2023

	Volan 7	Reg. No.	011-1W0530
Certificate Holder			
	THERMAGEN sp. z o.o.		
	Ul. Warszawska 50		82-100
	Nowy Dwór Gdański		Poland
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	Volan 7		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R290		
Mass of Refrigerant	0.75 kg		
Certification Date	01.06.2022		
Testing basis	European KEYMARK Scheme for Heat Pumps Rev. 9 (as of 2021-03)		

Model: Volan 7

Configure model	
Model name	Volan 7
Application	Heating (medium temp)
Units	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	3.30 kW	2.80 kW
El input	0.64 kW	0.85 kW
COP	5.20	3.30

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 outdoor	58 dB(A)	58 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	202 %	159 %
Prated	4.00 kW	3.60 kW
SCOP	5.11	4.04
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.02 kW	3.63 kW
COP Tj = +2°C	3.00	2.11
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.54 kW	2.41 kW
COP Tj = +7°C	6.15	3.79
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	1.23 kW	1.51 kW
COP Tj = 12°C	5.26	5.26
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.02 kW	3.63 kW

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COP $T_j = T_{biv}$	3.00	2.11
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	4.02 kW	3.63 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.00	2.11
WTOL	75 °C	75 °C
Poff	0 W	0 W
PTO	10 W	10 W
PSB	8 W	8 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q_{he}	1045 kWh	1191 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	146 %	120 %
Prated	4.50 kW	4.30 kW

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SCOP	3.72	3.07
Tbiv	-12 °C	-12 °C
TOL	-15 °C	-15 °C
Pdh Tj = -7°C	2.73 kW	2.64 kW
COP Tj = -7°C	3.69	2.79
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	1.64 kW	1.57 kW
COP Tj = +2°C	4.95	3.87
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	1.10 kW	1.27 kW
COP Tj = +7°C	4.73	4.64
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	1.25 kW	1.20 kW
COP Tj = 12°C	5.47	5.02
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.29 kW	3.07 kW
COP Tj = Tbiv	3.17	2.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.32 kW	3.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.40
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	75 °C	75 °C

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Poff	0 W	0 W
PTO	10 W	10 W
PSB	8 W	8 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.50 kW	4.30 kW
Annual energy consumption Q _{he}	2983 kWh	3458 kWh
P _{dh} T _j = -15°C (if TOL<-20°C)	3.32	3.09
COP T _j = -15°C (if TOL<-20°C)	3.09	2.40
C _{dh} T _j = -15 °C	1.000	0.990

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	175 %	135 %
Prated	4.10 kW	4.00 kW
SCOP	4.45	3.45

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Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.69 kW	3.47 kW
COP Tj = -7°C	2.96	2.21
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.26 kW	2.18 kW
COP Tj = +2°C	4.63	3.46
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	1.50 kW	1.37 kW
COP Tj = +7°C	5.61	4.46
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	1.34 kW	1.45 kW
COP Tj = 12°C	5.79	5.57
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	3.69 kW	3.47 kW
COP Tj = Tbiv	2.96	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.63 kW	3.34 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.83	2.07
WTOL	75 °C	75 °C
Poff	0 W	0 W
PTO	10 W	10 W

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PSB	8 W	8 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.47 kW	0.66 kW
Annual energy consumption Qhe	1902 kWh	2396 kWh