

Subtype aroTHERM plus S (3..5kW)

Certificate Holder	Vaillant GmbH
Address	Berghauser Str. 40
ZIP	42859
City	Remscheid
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	aroTHERM plus S (3..5kW)
Registration number	011-1W0759
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	0.6 kg
Certification Date	11.11.2022
Testing basis	HP KEYMARK certification scheme rules rev. 14

Model VWL 55/6 A 230V

Model name	VWL 55/6 A 230V
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	3.36 kW	4.83 kW
El input	0.69 kW	1.71 kW
COP	4.80	2.80

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	183 %	130 %
Prated	4.81 kW	4.88 kW
SCOP	4.66	3.33
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.26 kW	4.32 kW
COP Tj = -7°C	2.78	2.11
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.70 kW	2.46 kW
COP Tj = +2°C	4.62	3.19
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.29 kW	2.12 kW

COP Tj = +7°C	6.41	4.40
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.61 kW	2.52 kW
COP Tj = 12°C	7.61	6.03
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.26 kW	4.63 kW
COP Tj = Tbiv	2.78	1.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.13 kW	4.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.68 kW	0.00 kW
Annual energy consumption Qhe	2135 kWh	3029 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	158 %	116 %
Prated	5.01 kW	4.76 kW
SCOP	4.02	2.98
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	3.22 kW	2.89 kW
COP Tj = -7°C	3.36	2.45
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	1.92 kW	1.85 kW
COP Tj = +2°C	5.04	3.65
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.33 kW	2.21 kW
COP Tj = +7°C	6.82	5.01
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.62 kW	2.56 kW
COP Tj = 12°C	7.24	6.46
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.09 kW	3.88 kW

COP Tj = Tbiv	2.13	1.67
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.04 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.00	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.01 kW	4.76 kW
Annual energy consumption Qhe	3076 kWh	3930 kWh
Pdh Tj = -15°C (if TOL	4.09	3.88
COP Tj = -15°C (if TOL	2.13	1.67
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	233 %	157 %
Prated	4.96 kW	5.07 kW
SCOP	5.89	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.96 kW	5.07 kW
COP Tj = +2°C	3.35	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.42 kW	3.08 kW
COP Tj = +7°C	5.45	3.43
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.59 kW	2.42 kW
COP Tj = 12°C	7.25	5.17
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.96 kW	5.07 kW
COP Tj = Tbiv	3.35	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.96 kW	5.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.35	2.30
WTOL	70 °C	70 °C

Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1125 kWh	1697 kWh

Model VWL 55/6 A 230V S2

Model name	VWL 55/6 A 230V S2
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	3.36 kW	4.83 kW
El input	0.69 kW	1.71 kW
COP	4.80	2.80

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	181 %	129 %
Prated	4.81 kW	4.88 kW
SCOP	4.59	3.30
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.26 kW	4.32 kW
COP Tj = -7°C	2.78	2.11
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.70 kW	2.46 kW
COP Tj = +2°C	4.62	3.19
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.29 kW	2.12 kW
COP Tj = +7°C	6.41	4.40

Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.61 kW	2.52 kW
COP Tj = 12°C	7.61	6.03
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.26 kW	4.63 kW
COP Tj = Tbiv	2.78	1.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.13 kW	4.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.69 kW	0.00 kW
Annual energy consumption Qhe	2165 kWh	3059 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	157 %	116 %
Prated	5.01 kW	4.76 kW
SCOP	3.99	2.97
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	3.22 kW	2.89 kW
COP Tj = -7°C	3.36	2.45
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	1.92 kW	1.85 kW
COP Tj = +2°C	5.04	3.65
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.33 kW	2.21 kW
COP Tj = +7°C	6.82	5.01
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.62 kW	2.56 kW
COP Tj = 12°C	7.24	6.46
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.09 kW	3.88 kW
COP Tj = Tbiv	2.13	1.67

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.04 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.00	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.01 kW	4.76 kW
Annual energy consumption Qhe	3094 kWh	3948 kWh
Pdh Tj = -15°C (if TOL	4.09	3.88
COP Tj = -15°C (if TOL	2.13	1.67
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	225 %	153 %
Prated	4.96 kW	5.07 kW
SCOP	5.71	3.91
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.96 kW	5.07 kW
COP Tj = +2°C	3.35	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.42 kW	3.08 kW
COP Tj = +7°C	5.45	3.43
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.59 kW	2.42 kW
COP Tj = 12°C	7.25	5.17
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.96 kW	5.07 kW
COP Tj = Tbiv	3.35	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.96 kW	5.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.35	2.30
WTOL	70 °C	70 °C
Poff	8 W	8 W

PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	1161 kWh	1733 kWh

Model VWL 55/6 A 230V S3

Model name	VWL 55/6 A 230V S3
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	4.21 kW	4.83 kW
EI input	0.95 kW	1.71 kW
COP	4.39	2.80

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	177 %	130 %
Prated	4.45 kW	4.88 kW
SCOP	4.50	3.33
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.93 kW	4.32 kW
COP Tj = -7°C	2.79	2.11
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.17 kW	2.46 kW
COP Tj = +2°C	4.46	3.19
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.26 kW	2.12 kW

COP Tj = +7°C	5.99	4.40
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.54 kW	2.52 kW
COP Tj = 12°C	7.16	6.03
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.42 kW	4.63 kW
COP Tj = Tbiv	2.21	1.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.42 kW	4.63 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.21	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2045 kWh	3029 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	148 %	116 %
Prated	4.68 kW	4.76 kW
SCOP	3.77	2.98
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.69 kW	2.89 kW
COP Tj = -7°C	3.26	2.45
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	1.90 kW	1.85 kW
COP Tj = +2°C	4.66	3.65
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.22 kW	2.21 kW
COP Tj = +7°C	6.04	5.01
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.49 kW	2.56 kW
COP Tj = 12°C	6.79	6.46
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.82 kW	3.88 kW

COP Tj = Tbiv	2.01	1.67
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.70 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.88	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.68 kW	4.76 kW
Annual energy consumption Qhe	3064 kWh	3930 kWh
Pdh Tj = -15°C (if TOL	3.82	3.88
COP Tj = -15°C (if TOL	2.01	1.67
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	215 %	157 %
Prated	4.75 kW	5.07 kW
SCOP	5.44	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.75 kW	5.07 kW
COP Tj = +2°C	3.22	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.33 kW	3.08 kW
COP Tj = +7°C	5.07	3.43
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	2.48 kW	2.42 kW
COP Tj = 12°C	6.61	5.17
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.75 kW	5.07 kW
COP Tj = Tbiv	3.22	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.75 kW	5.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.22	2.30
WTOL	55 °C	55 °C

Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1166 kWh	1697 kWh

Model VWL 35/6 A 230V

Model name	VWL 35/6 A 230V
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	3.32 kW	4.79 kW
El input	0.69 kW	1.71 kW
COP	4.80	2.80

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	177 %	132 %
Prated	4.19 kW	3.40 kW
SCOP	4.50	3.38
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.71 kW	2.86 kW
COP Tj = -7°C	3.04	2.20
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	2.18 kW	1.77 kW
COP Tj = +2°C	4.40	3.34
Cdh Tj = +2 °C	0.970	1.000
Pdh Tj = +7°C	2.15 kW	2.11 kW

COP Tj = +7°C	5.96	4.29
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.41 kW	2.49 kW
COP Tj = 12°C	7.04	5.76
Cdh Tj = +12 °C	0.960	0.970
Pdh Tj = Tbiv	3.71 kW	3.40 kW
COP Tj = Tbiv	3.04	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.34 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51	1.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.85 kW	0.00 kW
Annual energy consumption Qhe	1923 kWh	2078 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	147 %	108 %
Prated	3.34 kW	3.15 kW
SCOP	3.75	2.78
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.11 kW	1.92 kW
COP Tj = -7°C	3.34	2.25
Cdh Tj = -7 °C	0.980	0.980
Pdh Tj = +2°C	1.78 kW	1.71 kW
COP Tj = +2°C	4.45	3.46
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.16 kW	2.09 kW
COP Tj = +7°C	6.23	4.71
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.49 kW	2.44 kW
COP Tj = 12°C	7.22	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	2.72 kW	2.57 kW

COP Tj = Tbiv	2.16	1.61
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.69 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.34 kW	3.15 kW
Annual energy consumption Qhe	2192 kWh	2787 kWh
Pdh Tj = -15°C (if TOL		
COP Tj = -15°C (if TOL		
Cdh Tj = -15 °C		

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	208 %	153 %
Prated	3.53 kW	3.55 kW
SCOP	5.29	3.89
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.53 kW	3.55 kW
COP Tj = +2°C	3.42	2.31
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.18 kW	2.44 kW
COP Tj = +7°C	4.97	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.40 kW	2.37 kW
COP Tj = 12°C	6.45	5.11
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.53 kW	3.55 kW
COP Tj = Tbiv	3.42	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.53 kW	3.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.31
WTOL	55 °C	55 °C

Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	892 kWh	1219 kWh

Model VWL 35/6 A 230V S2

Model name	VWL 35/6 A 230V S2
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	3.32 kW	4.79 kW
El input	0.69 kW	1.71 kW
COP	4.80	2.80

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	174 %	130 %
Prated	4.19 kW	3.40 kW
SCOP	4.43	3.33
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.71 kW	2.86 kW
COP Tj = -7°C	3.04	2.20
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	2.18 kW	1.77 kW
COP Tj = +2°C	4.40	3.34
Cdh Tj = +2 °C	0.970	1.000
Pdh Tj = +7°C	2.15 kW	2.11 kW
COP Tj = +7°C	5.96	4.29

Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.41 kW	2.49 kW
COP Tj = 12°C	7.04	5.76
Cdh Tj = +12 °C	0.960	0.970
Pdh Tj = Tbiv	3.71 kW	3.40 kW
COP Tj = Tbiv	3.04	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.34 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.51	1.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.85 kW	0.00 kW
Annual energy consumption Qhe	1953 kWh	2108 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	146 %	108 %
Prated	3.34 kW	3.15 kW
SCOP	3.72	2.77
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.11 kW	1.92 kW
COP Tj = -7°C	3.34	2.25
Cdh Tj = -7 °C	0.980	0.980
Pdh Tj = +2°C	1.78 kW	1.71 kW
COP Tj = +2°C	4.45	3.46
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.16 kW	2.09 kW
COP Tj = +7°C	6.23	4.71
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.49 kW	2.44 kW
COP Tj = 12°C	7.22	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	2.72 kW	2.57 kW
COP Tj = Tbiv	2.16	1.61

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.69 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.34 kW	3.15 kW
Annual energy consumption Qhe	2210 kWh	2805 kWh
Pdh Tj = -15°C (if TOL		
COP Tj = -15°C (if TOL		
Cdh Tj = -15 °C		

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	200 %	148 %
Prated	3.53 kW	3.55 kW
SCOP	5.08	3.78
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.53 kW	3.55 kW
COP Tj = +2°C	3.42	2.31
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.18 kW	2.44 kW
COP Tj = +7°C	4.97	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.40 kW	2.37 kW
COP Tj = 12°C	6.45	5.11
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.53 kW	3.55 kW
COP Tj = Tbiv	3.42	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.53 kW	3.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.31
WTOL	55 °C	55 °C
Poff	8 W	8 W

PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	928 kWh	1255 kWh

Model VWL 45/6 A 230V S3

Model name	VWL 45/6 A 230V S3
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	4.07 kW	3.64 kW
El input	0.89 kW	1.28 kW
COP	4.59	2.83

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	131 %
Prated	4.13 kW	4.22 kW
SCOP	4.56	3.34
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.65 kW	3.73 kW
COP Tj = -7°C	2.97	2.12
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.20 kW	2.28 kW
COP Tj = +2°C	4.48	3.24
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	2.23 kW	2.11 kW

COP Tj = +7°C	6.02	4.45
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.59 kW	2.54 kW
COP Tj = 12°C	7.39	5.97
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.65 kW	3.73 kW
COP Tj = Tbiv	2.97	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.65 kW	3.35 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.65	1.86
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	75 °C	75 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.48 kW	0.87 kW
Annual energy consumption Qhe	1870 kWh	2606 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	152 %	113 %
Prated	4.00 kW	3.48 kW
SCOP	3.87	2.90
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.42 kW	2.12 kW
COP Tj = -7°C	3.26	2.40
Cdh Tj = -7 °C	0.980	0.980
Pdh Tj = +2°C	1.92 kW	1.76 kW
COP Tj = +2°C	4.80	3.53
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.26 kW	2.14 kW
COP Tj = +7°C	6.27	4.81
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.59 kW	2.57 kW
COP Tj = 12°C	7.39	6.27
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	3.11 kW	2.84 kW

COP Tj = Tbiv	2.37	1.76
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.66 kW	2.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.02	1.47
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	75 °C	75 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.00 kW	3.48 kW
Annual energy consumption Qhe	2543 kWh	2959 kWh
Pdh Tj = -15°C (if TOL		
COP Tj = -15°C (if TOL		
Cdh Tj = -15 °C		

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	220 %	155 %
Prated	3.40 kW	3.43 kW
SCOP	5.57	3.94
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.44 kW	3.43 kW
COP Tj = +2°C	3.36	2.28
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.33 kW	2.16 kW
COP Tj = +7°C	5.21	3.39
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.57 kW	2.45 kW
COP Tj = 12°C	7.00	5.25
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.44 kW	3.43 kW
COP Tj = Tbiv	3.36	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.44 kW	3.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.36	2.28
WTOL	75 °C	75 °C

Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	815 kWh	1164 kWh

Model VWL 55/8.1 A 230V

Model name	VWL 55/8.1 A 230V
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	2.00 kW	2.76 kW
EI input	0.41 kW	0.95 kW
COP	4.92	2.92

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	44 dB(A)	44 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	190 %	143 %
Prated	5.60 kW	5.64 kW
SCOP	4.83	3.64
Tbiv	-10 °C	-9 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.95 kW	4.90 kW
COP Tj = -7°C	2.83	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	2.92 kW	3.01 kW
COP Tj = +2°C	4.75	3.47
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	1.91 kW	1.92 kW

COP Tj = +7°C	6.43	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	1.77 kW	1.69 kW
COP Tj = 12°C	7.96	6.30
Cdh Tj = +12 °C	0.972	0.974
Pdh Tj = Tbiv	5.60 kW	5.42 kW
COP Tj = Tbiv	2.61	2.08
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.60 kW	5.25 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	2.01
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	75 °C	75 °C
Poff	10 W	10 W
PTO	6 W	8 W
PSB	10 W	10 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.39 kW
Annual energy consumption Qhe	2395 kWh	3201 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	158 %	116 %
Prated	5.01 kW	4.76 kW
SCOP	4.02	2.98
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	3.22 kW	2.89 kW
COP Tj = -7°C	3.36	2.45
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	1.92 kW	1.85 kW
COP Tj = +2°C	5.04	3.65
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.33 kW	2.21 kW
COP Tj = +7°C	6.82	5.01
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	2.62 kW	2.56 kW
COP Tj = 12°C	7.24	6.46
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	4.09 kW	3.88 kW

COP Tj = Tbiv	2.13	1.67
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.04 kW	3.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.00	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.01 kW	4.76 kW
Annual energy consumption Qhe	3076 kWh	3930 kWh
Pdh Tj = -15°C (if TOL	4.09	3.88
COP Tj = -15°C (if TOL	2.13	1.67
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	233 %	157 %
Prated	4.96 kW	5.07 kW
SCOP	5.89	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.96 kW	5.07 kW
COP Tj = +2°C	3.35	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.42 kW	3.08 kW
COP Tj = +7°C	5.45	3.43
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.59 kW	2.42 kW
COP Tj = 12°C	7.25	5.17
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.96 kW	5.07 kW
COP Tj = Tbiv	3.35	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.96 kW	5.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.35	2.30
WTOL	70 °C	70 °C

Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1125 kWh	1697 kWh

Model VWL 35/8.1 A 230V

Model name	VWL 35/8.1 A 230V
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	2.00 kW	2.76 kW
El input	0.41 kW	0.95 kW
COP	4.92	2.92

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	44 dB(A)	44 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	196 %	143 %
Prated	4.63 kW	4.97 kW
SCOP	4.97	3.65
Tbiv	-10 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.15 kW	4.40 kW
COP Tj = -7°C	3.17	2.29
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	2.58 kW	2.65 kW
COP Tj = +2°C	4.87	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	1.58 kW	1.73 kW

COP Tj = +7°C	6.34	4.86
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	1.71 kW	1.65 kW
COP Tj = 12°C	7.62	6.13
Cdh Tj = +12 °C	0.972	0.974
Pdh Tj = Tbiv	4.63 kW	4.40 kW
COP Tj = Tbiv	2.78	2.29
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.63 kW	4.35 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.78	2.03
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	75 °C	75 °C
Poff	10 W	10 W
PTO	6 W	8 W
PSB	10 W	10 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.62 kW
Annual energy consumption Qhe	1924 kWh	2815 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	147 %	108 %
Prated	3.34 kW	3.15 kW
SCOP	3.75	2.78
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	2.11 kW	1.92 kW
COP Tj = -7°C	3.34	2.25
Cdh Tj = -7 °C	0.980	0.980
Pdh Tj = +2°C	1.78 kW	1.71 kW
COP Tj = +2°C	4.45	3.46
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	2.16 kW	2.09 kW
COP Tj = +7°C	6.23	4.71
Cdh Tj = +7 °C	0.960	0.970
Pdh Tj = 12°C	2.49 kW	2.44 kW
COP Tj = 12°C	7.22	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	2.72 kW	2.57 kW

COP Tj = Tbiv	2.16	1.61
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.69 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.34 kW	3.15 kW
Annual energy consumption Qhe	2192 kWh	2787 kWh
Pdh Tj = -15°C (if TOL		
COP Tj = -15°C (if TOL		
Cdh Tj = -15 °C		

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	208 %	153 %
Prated	3.53 kW	3.55 kW
SCOP	5.29	3.89
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.53 kW	3.55 kW
COP Tj = +2°C	3.42	2.31
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.18 kW	2.44 kW
COP Tj = +7°C	4.97	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.40 kW	2.37 kW
COP Tj = 12°C	6.45	5.11
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.53 kW	3.55 kW
COP Tj = Tbiv	3.42	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.53 kW	3.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.31
WTOL	55 °C	55 °C

P _{off}	8 W	8 W
P _{TO}	17 W	17 W
P _{SB}	17 W	17 W
P _{CK}	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	892 kWh	1219 kWh