Summary of	VWL 55/6 A 230V	Reg. No.	40050984
Certificate Holder			
Name	Vaillant Deutschland GmbH & Co KG		
Address	Berghauser Straße 40	Zip	42859
City	Remscheid	Country	Germany
Certification Body	VDE Prüf- und Zertifizierungsinstitut GmbH		
Name of testing laboratory	VDE Prüf- und Zertifizierungsinstitut GmbH		
Subtype title	VWL 55/6 A 230V		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R290		
Mass Of Refrigerant	0.6 kg		
Certification Date	11.05.2020		
Testing basis	DIN EN 14511-1:2019-07; EN 14511-1:2018 DIN EN 14511-2:2019-07; EN 14511-2:2018 DIN EN 14511-3:2019-07; EN 14511-3:2018 DIN EN 14511-4:2019-07; EN 14511-4:2018 DIN EN 14825:2016-10; EN 14825:2016 DIN EN 12102-1:2018-02; EN 12102-1:2017		

Model: VWL 55/6 A 230V

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	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
Indoor water flow rate	0.58 m³/h	0.53 m³/h

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

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	183 %	130 %
Prated	4.81 kW	4.88 kW
SCOP	4.66	3.33
Tbiv	-7 °C	-7 °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	0.99	0.99
Pdh Tj = +2°C	2.70 kW	2.46 kW
COP Tj = +2°C	4.62	3.19
Cdh	0.97	0.98
Pdh Tj = +7°C	2.29 kW	2.12 kW
COP Tj = +7°C	6.41	4.40
Cdh	0.96	0.97
Pdh Tj = 12°C	2.61 kW	2.52 kW

COP Tj = 12°C	7.61	6.03
Cdh	0.96	0.96
Pdh Tj = Tbiv	4.26 kW	4.32 kW
COP Tj = Tbiv	2.78	2.11
Pdh Tj = TOL	4.13 kW	4.63 kW
COP Tj = TOL	2.43	1.86
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	2135 kWh	3031 kWh

Warmer Climate

EN 14825		
	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	0.99	0.99
Pdh Tj = +7°C	3.42 kW	3.08 kW
COP Tj = +7°C	5.45	3.43
Cdh	0.97	0.98
Pdh Tj = 12°C	2.59 kW	2.42 kW
COP Tj = 12°C	7.25	5.17
Cdh	0.96	0.97
Pdh Tj = Tbiv	4.96 kW	5.07 kW
COP Tj = Tbiv	3.35	2.30
Pdh Tj = TOL	4.96 kW	5.07 kW
COP Tj = TOL	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

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

Colder Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	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	0.98	0.99
Pdh Tj = +2°C	1.92 kW	1.85 kW
COP Tj = +2°C	5.04	3.65
Cdh	0.96	0.97

Pdh Tj = +7°C	2.33 kW	2.21 kW
COP Tj = +7°C	6.82	5.01
Cdh	0.96	0.96
Pdh Tj = 12°C	2.62 kW	2.56 kW
COP Tj = 12°C	7.24	6.46
Cdh	0.96	0.96
Pdh Tj = Tbiv	4.09 kW	3.88 kW
COP Tj = Tbiv	2.13	1.67
Pdh Tj = TOL	4.04 kW	3.40 kW
COP Tj = TOL	2.00	1.50
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	3076 kWh	3930 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.09	3.88
COP Tj = -15°C (if TOL<-20°C)	2.13	1.67
Cdh	0.99	0.99

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

Model: VWL 55/6 A 230V S2

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	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
Indoor water flow rate	0.58 m³/h	0.53 m³/h

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

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	181 %	129 %
Prated	4.81 kW	4.88 kW
SCOP	4.59	3.29
Tbiv	-7 °C	-7 °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	0.99	0.99
Pdh Tj = +2°C	2.70 kW	2.46 kW
COP Tj = +2°C	4.62	3.19
Cdh	0.97	0.98
Pdh Tj = +7°C	2.29 kW	2.12 kW
COP Tj = +7°C	6.41	4.40
Cdh	0.96	0.97
Pdh Tj = 12°C	2.61 kW	2.52 kW

COP Tj = 12°C	7.61	6.03
Cdh	0.96	0.96
Pdh Tj = Tbiv	4.26 kW	4.32 kW
COP Tj = Tbiv	2.78	2.11
Pdh Tj = TOL	4.13 kW	4.63 kW
COP Tj = TOL	2.43	1.86
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	2165 kWh	3062 kWh

Warmer Climate

EN 14825		
	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	0.99	0.99
Pdh Tj = +7°C	3.42 kW	3.08 kW
COP Tj = +7°C	5.45	3.43
Cdh	0.97	0.98
Pdh Tj = 12°C	2.59 kW	2.42 kW
COP Tj = 12°C	7.25	5.17
Cdh	0.96	0.97
Pdh Tj = Tbiv	4.96 kW	5.07 kW
COP Tj = Tbiv	3.35	2.30
Pdh Tj = TOL	4.96 kW	5.07 kW
COP Tj = TOL	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	1161 kWh	1733 kWh

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

Colder Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	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	0.98	0.99
Pdh Tj = +2°C	1.92 kW	1.85 kW
COP Tj = +2°C	5.04	3.65
Cdh	0.96	0.97

Pdh Tj = +7°C	2.33 kW	2.21 kW
COP Tj = +7°C	6.82	5.01
Cdh	0.96	0.96
Pdh Tj = 12°C	2.62 kW	2.56 kW
COP Tj = 12°C	7.24	6.46
Cdh	0.96	0.96
Pdh Tj = Tbiv	4.09 kW	3.88 kW
COP Tj = Tbiv	2.13	1.67
Pdh Tj = TOL	4.04 kW	3.40 kW
COP Tj = TOL	2.00	1.50
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	3094 kWh	3948 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.09	3.88
COP Tj = -15°C (if TOL<-20°C)	2.13	1.67
Cdh	0.99	0.99

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

Model: VWL 55/6 A 230V S3

General Data	
Power supply	1x230V 50Hz

Heating

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

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	4.21 kW	4.83 kW
El input	0.95 kW	1.71 kW
COP	4.39	2.80
Indoor water flow rate	0.74 m³/h	0.53 m³/h

Average Climate

EN 14825		
	Low temperature	**Medium temperature**

η_s	177 %	130 %
Prated	4.45 kW	4.88 kW
SCOP	4.50	3.33
Tbiv	-7 °C	-7 °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	0.99	0.99
Pdh Tj = +2°C	2.17 kW	2.46 kW
COP Tj = +2°C	4.46	3.19
Cdh	0.97	0.98
Pdh Tj = +7°C	2.26 kW	2.12 kW
COP Tj = +7°C	5.99	4.40
Cdh	0.96	0.96
Pdh Tj = 12°C	2.54 kW	2.52 kW
COP Tj = 12°C	7.16	6.03
Cdh	0.96	0.96
Pdh Tj = Tbiv	3.93 kW	4.32 kW
COP Tj = Tbiv	2.79	2.11
Pdh Tj = TOL	4.42 kW	4.63 kW
COP Tj = TOL	2.21	1.86

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	2043 kWh	3031 kWh

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	52 dB(A)	54 dB(A)

Warmer Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	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	0.99	0.99
Pdh Tj = +7°C	3.33 kW	3.08 kW
COP Tj = +7°C	5.07	3.43
Cdh	0.98	0.98
Pdh Tj = 12°C	2.48 kW	2.42 kW
COP Tj = 12°C	6.61	5.17
Cdh	0.96	0.97
Pdh Tj = Tbiv	4.75 kW	5.07 kW
COP Tj = Tbiv	3.22	2.30
Pdh Tj = TOL	4.75 kW	5.07 kW
COP Tj = TOL	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

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	52 dB(A)	54 dB(A)

Colder Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	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	0.98	0.99
Pdh Tj = +2°C	1.90 kW	1.85 kW
COP Tj = +2°C	4.66	3.65
Cdh	0.96	0.97
Pdh Tj = +7°C	2.22 kW	2.21 kW
COP Tj = +7°C	6.04	5.01
Cdh	0.96	0.96

Pdh Tj = 12°C	2.49 kW	2.56 kW
COP Tj = 12°C	6.79	6.46
Cdh	0.96	0.96
Pdh Tj = Tbiv	3.82 kW	3.88 kW
COP Tj = Tbiv	2.01	1.67
Pdh Tj = TOL	3.70 kW	3.40 kW
COP Tj = TOL	1.88	1.50
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	3064 kWh	3930 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.82	3.88
COP Tj = -15°C (if TOL<-20°C)	2.01	1.67
Cdh	0.99	0.99

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	52 dB(A)	54 dB(A)

Model: VWL 35/6 A 230V

General Data	
Power supply	1x230V 50Hz

Heating

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

EN 14511-2		
	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
Indoor water flow rate	0.58 m³/h	0.53 m³/h

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	177 %	124 %
Prated	4.19 kW	4.18 kW
SCOP	4.50	3.18
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.71 kW	3.69 kW
COP Tj = -7°C	3.04	2.08
Cdh	0.99	0.99
Pdh Tj = +2°C	2.18 kW	2.32 kW
COP Tj = +2°C	4.40	3.01
Cdh	0.97	0.98
Pdh Tj = +7°C	2.15 kW	2.03 kW
COP Tj = +7°C	5.96	4.28
Cdh	0.96	0.97
Pdh Tj = 12°C	2.41 kW	2.42 kW

COP Tj = 12°C	7.04	5.84
Cdh	0.96	0.96
Pdh Tj = Tbiv	3.71 kW	3.69 kW
COP Tj = Tbiv	3.04	2.08
Pdh Tj = TOL	3.34 kW	3.31 kW
COP Tj = TOL	2.51	1.81
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	1923 kWh	2715 kWh

Warmer Climate

EN 14825		
	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	0.98	0.99
Pdh Tj = +7°C	2.18 kW	2.44 kW
COP Tj = +7°C	4.97	3.37
Cdh	0.97	0.98
Pdh Tj = 12°C	2.40 kW	2.37 kW
COP Tj = 12°C	6.45	5.11
Cdh	0.96	0.97
Pdh Tj = Tbiv	3.53 kW	3.55 kW
COP Tj = Tbiv	3.42	2.31
Pdh Tj = TOL	3.53 kW	3.55 kW
COP Tj = TOL	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

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

Colder Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	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	0.98	0.98
Pdh Tj = +2°C	1.78 kW	1.71 kW
COP Tj = +2°C	4.45	3.46
Cdh	0.96	0.97

Pdh Tj = +7°C	2.16 kW	2.09 kW
COP Tj = +7°C	6.23	4.71
Cdh	0.96	0.97
Pdh Tj = 12°C	2.49 kW	2.44 kW
COP Tj = 12°C	7.22	6.17
Cdh	0.96	0.96
Pdh Tj = Tbiv	2.72 kW	2.57 kW
COP Tj = Tbiv	2.16	1.61
Pdh Tj = TOL	2.69 kW	2.43 kW
COP Tj = TOL	2.06	1.46
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	2192 kWh	2787 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh		

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

Model: VWL 35/6 A 230V S2

General Data	
Power supply	1x230V 50Hz

Heating

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

EN 14511-2		
	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
Indoor water flow rate	0.58 m³/h	0.53 m³/h

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	174 %	123 %
Prated	4.19 kW	4.18 kW
SCOP	4.43	3.14
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.71 kW	3.69 kW
COP Tj = -7°C	3.04	2.08
Cdh	0.99	0.99
Pdh Tj = +2°C	2.18 kW	2.32 kW
COP Tj = +2°C	4.40	3.01
Cdh	0.97	0.98
Pdh Tj = +7°C	2.15 kW	2.03 kW
COP Tj = +7°C	5.96	4.28
Cdh	0.96	0.97
Pdh Tj = 12°C	2.41 kW	2.42 kW

COP Tj = 12°C	7.04	5.84
Cdh	0.96	0.96
Pdh Tj = Tbiv	3.71 kW	3.69 kW
COP Tj = Tbiv	3.04	2.08
Pdh Tj = TOL	3.34 kW	3.31 kW
COP Tj = TOL	2.51	1.81
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	1953 kWh	2745 kWh

Warmer Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	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	0.98	0.99
Pdh Tj = +7°C	2.18 kW	2.44 kW
COP Tj = +7°C	4.97	3.37
Cdh	0.97	0.98
Pdh Tj = 12°C	2.40 kW	2.37 kW
COP Tj = 12°C	6.45	5.11
Cdh	0.96	0.97
Pdh Tj = Tbiv	3.53 kW	3.55 kW
COP Tj = Tbiv	3.42	2.31
Pdh Tj = TOL	3.53 kW	3.55 kW
COP Tj = TOL	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	928 kWh	1255 kWh

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

Colder Climate

EN 14825		
	Low temperature	**Medium temperature**
η_s	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	0.98	0.98
Pdh Tj = +2°C	1.78 kW	1.71 kW
COP Tj = +2°C	4.45	3.46
Cdh	0.96	0.97

Pdh Tj = +7°C	2.16 kW	2.09 kW
COP Tj = +7°C	6.23	4.71
Cdh	0.96	0.97
Pdh Tj = 12°C	2.49 kW	2.44 kW
COP Tj = 12°C	7.22	6.17
Cdh	0.96	0.96
Pdh Tj = Tbiv	2.72 kW	2.57 kW
COP Tj = Tbiv	2.16	1.61
Pdh Tj = TOL	2.69 kW	2.43 kW
COP Tj = TOL	2.06	1.46
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	2210 kWh	2805 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh		

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	51 dB(A)	54 dB(A)

Model: VWL 45/6 A 230V S3

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	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
Indoor water flow rate	0.70 m³/h	0.40 m³/h

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

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	50 dB(A)	52 dB(A)

EN 14825		
	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	0.99	0.99
Pdh Tj = +2°C	2.20 kW	2.28 kW
COP Tj = +2°C	4.48	3.24
Cdh	0.97	0.98
Pdh Tj = +7°C	2.23 kW	2.11 kW
COP Tj = +7°C	6.02	4.45
Cdh	0.96	0.97
Pdh Tj = 12°C	2.59 kW	2.54 kW

COP Tj = 12°C	7.39	5.97
Cdh	0.96	0.96
Pdh Tj = Tbiv	3.65 kW	3.73 kW
COP Tj = Tbiv	2.97	2.12
Pdh Tj = TOL	3.65 kW	3.35 kW
COP Tj = TOL	2.65	1.86
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	1870 kWh	2606 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	50 dB(A)	52 dB(A)

EN 14825		
	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	0.98	0.99
Pdh Tj = +7°C	2.33 kW	2.16 kW
COP Tj = +7°C	5.21	3.39
Cdh	0.97	0.98
Pdh Tj = 12°C	2.57 kW	2.45 kW
COP Tj = 12°C	7.00	5.25
Cdh	0.96	0.97
Pdh Tj = Tbiv	3.44 kW	3.43 kW
COP Tj = Tbiv	3.36	2.28
Pdh Tj = TOL	3.44 kW	3.43 kW
COP Tj = TOL	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	electricty
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	815 kWh	1164 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	50 dB(A)	52 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	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	0.98	0.98

Pdh Tj = +2°C	1.92 kW	1.76 kW
COP Tj = +2°C	4.80	3.53
Cdh	0.96	0.97
Pdh Tj = +7°C	2.26 kW	2.14 kW
COP Tj = +7°C	6.27	4.81
Cdh	0.96	0.97
Pdh Tj = 12°C	2.59 kW	2.57 kW
COP Tj = 12°C	7.39	6.27
Cdh	0.96	0.96
Pdh Tj = Tbiv	3.11 kW	2.84 kW
COP Tj = Tbiv	2.37	1.76
Pdh Tj = TOL	2.66 kW	2.41 kW
COP Tj = TOL	2.02	1.47
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	2543 kWh	2959 kWh

Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh		