

Subtype VWL 35/8.2 AS 230V, VWL 55/8.2 AS 230V with Tower

Certificate Holder	Vaillant GmbH
Address	Berghauser Str. 40
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City	Remscheid
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	VWL 35/8.2 AS 230V, VWL 55/8.2 AS 230V with Tower
Registration number	011-1W0947
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.3 kg
Certification Date	11.12.2024
Testing basis	HP KEYMARK certification scheme rules rev. 14

Model VWL 35/8.2 AS 230V + VWL 58/8.2 IS

Model name	VWL 35/8.2 AS 230V + VWL 58/8.2 IS
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	188 %	129 %
Prated	3.44 kW	3.65 kW
SCOP	4.79	3.31
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.25	2.15
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.71	3.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	6.10	4.32
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	8.20	6.20
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.25	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	1.81

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1487 kWh	2277 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	109 %
Prated	3.41 kW	2.98 kW
SCOP	4.04	2.80
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2080 kWh	2629 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43
COP T _j = -15°C (if TOL	2.64	1.75
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	245 %	165 %
Prated	3.22 kW	4.02 kW
SCOP	6.20	4.20
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	3.22 kW	4.02 kW
COP T _j = +2°C	4.15	2.50
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	2.35 kW	2.66 kW
COP T _j = +7°C	5.66	3.58
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.82 kW	2.58 kW
COP T _j = 12°C	7.90	5.50
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.22 kW	4.02 kW
COP T _j = T _{biv}	4.15	2.50
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	3.22 kW	4.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	4.15	2.50
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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}	694 kWh	1278 kWh
EN 14825 Cooling		
	+7°C/+12°C	+18°C/+23°C
P _{designc}	3.88 kW	5.19 kW
SEER	4.69	6.94
P _{dc} T _j = 35°C	3.88 kW	5.19 kW
EER T _j = 35°C	3.25	4.13
C _{dc} T _j = 35 °C	1.000	1.000
P _{dc} T _j = 30°C	2.64 kW	3.81 kW
EER T _j = 30°C	4.01	5.98
C _{dc} T _j = 30 °C	1.000	1.000
P _{dc} T _j = 25°C	2.28 kW	3.11 kW
EER T _j = 25°C	5.41	8.34
C _{dc} T _j = 25 °C	0.969	0.965
P _{dc} T _j = 20°C	2.50 kW	3.27 kW
EER T _j = 20°C	6.97	10.65
C _{dc} T _j = 20 °C	0.963	0.957
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Q _{ce}	496 kWh	449 kWh

Model VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2

Model name	VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.75 kW	1.78 kW
COP	4.71	2.81
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.77 kW	1.30 kW
Cooling capacity	5.22	5.31
EER	2.95	4.08
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	171 %	121 %
Prated	3.44 kW	3.65 kW
SCOP	4.36	3.10
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.10	2.09
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.27	3.00
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	5.48	3.96
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	7.24	5.62
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.10	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.75

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1632 kWh	2431 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	146 %	102 %
Prated	3.41 kW	2.98 kW
SCOP	3.72	2.63
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.31	2.30
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.35	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	5.63	4.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	7.10	5.79
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.53	1.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2256 kWh	2796 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43
COP T _j = -15°C (if TOL	2.53	1.69
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	220 %	153 %
Prated	3.22 kW	4.02 kW
SCOP	5.58	3.91
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	3.22 kW	4.02 kW
COP T _j = +2°C	3.93	2.43
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	2.35 kW	2.66 kW
COP T _j = +7°C	5.11	3.37
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.82 kW	2.58 kW
COP T _j = 12°C	7.02	5.02
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.22 kW	4.02 kW
COP T _j = T _{biv}	3.93	2.43
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	3.22 kW	4.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.93	2.43
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	771 kWh	1372 kWh
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EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.88 kW	5.19 kW
SEER	4.33	6.33
Pdc Tj = 35°C	3.88 kW	5.19 kW
EER Tj = 35°C	3.13	3.99
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.64 kW	3.81 kW
EER Tj = 30°C	3.76	5.59
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.28 kW	3.11 kW
EER Tj = 25°C	4.89	7.44
Cdc Tj = 25 °C	0.975	0.965
Pdc Tj = 20°C	2.50 kW	3.27 kW
EER Tj = 20°C	6.19	9.29
Cdc Tj = 20 °C	0.971	0.957
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Qce	537 kWh	492 kWh

Model VWL 35/8.2 AS 230V + VWL 58/8.2 IS S5

Model name	VWL 35/8.2 AS 230V + VWL 58/8.2 IS S5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	188 %	129 %
Prated	3.44 kW	3.65 kW
SCOP	4.79	3.31
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.25	2.15
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.71	3.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	6.10	4.32
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	8.20	6.20
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.25	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	1.81

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1487 kWh	2277 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	109 %
Prated	3.41 kW	2.98 kW
SCOP	4.04	2.80
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2080 kWh	2629 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43
COP T _j = -15°C (if TOL	2.64	1.75
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	245 %	165 %
Prated	3.22 kW	4.02 kW
SCOP	6.20	4.20
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	3.22 kW	4.02 kW
COP T _j = +2°C	4.15	2.50
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	2.35 kW	2.66 kW
COP T _j = +7°C	5.66	3.58
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.82 kW	2.58 kW
COP T _j = 12°C	7.90	5.50
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.22 kW	4.02 kW
COP T _j = T _{biv}	4.15	2.50
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	3.22 kW	4.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	4.15	2.50
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	694 kWh	1278 kWh
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EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.88 kW	5.19 kW
SEER	4.69	6.94
Pdc Tj = 35°C	3.88 kW	5.19 kW
EER Tj = 35°C	3.25	4.13
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.64 kW	3.81 kW
EER Tj = 30°C	4.01	5.98
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.28 kW	3.11 kW
EER Tj = 25°C	5.41	8.34
Cdc Tj = 25 °C	0.969	0.965
Pdc Tj = 20°C	2.50 kW	3.27 kW
EER Tj = 20°C	6.97	10.65
Cdc Tj = 20 °C	0.963	0.957
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Qce	496 kWh	449 kWh

Model VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS

Model name	VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	182 %	127 %
Prated	3.44 kW	3.65 kW
SCOP	4.63	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.25	2.15
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.71	3.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	6.10	4.32
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	8.20	6.20
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.25	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Q _{he}	1538 kWh	2328 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	156 %	108 %
Prated	3.41 kW	2.98 kW
SCOP	3.98	2.76
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-15 °C
P _{dh} T _j = -7°C	2.26 kW	1.95 kW
COP T _j = -7°C	3.54	2.43
C _{dh} T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2°C	2.04 kW	1.86 kW
COP T _j = +2°C	4.82	3.53
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.34 kW	2.22 kW
COP T _j = +7°C	6.31	4.77
C _{dh} T _j = +7 °C	0.96	0.97
P _{dh} T _j = 12°C	2.78 kW	2.65 kW
COP T _j = 12°C	8.02	6.43
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	2.78 kW	2.43 kW
COP T _j = T _{biv}	2.64	1.75
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.33 kW	2.43 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.27	1.75
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2111 kWh	2660 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43

COP Tj = -15°C (if TOL	2.64	1.75
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	225 %	157 %
Prated	3.22 kW	4.02 kW
SCOP	5.69	4.00
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	4.15	2.50
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.66	3.58
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.90	5.50
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	4.15	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.15	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	756 kWh	1340 kWh

Model VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2

Model name	VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.75 kW	1.78 kW
COP	4.71	2.81

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	166 %	118 %
Prated	3.44 kW	3.65 kW
SCOP	4.23	3.04
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.10	2.09
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.27	3.00
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	5.48	3.96
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	7.24	5.62
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.10	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	62 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Q _{he}	1683 kWh	2483 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	144 %	101 %
Prated	3.41 kW	2.98 kW
SCOP	3.67	2.60
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-15 °C
P _{dh} T _j = -7°C	2.26 kW	1.95 kW
COP T _j = -7°C	3.31	2.30
C _{dh} T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2°C	2.04 kW	1.86 kW
COP T _j = +2°C	4.35	3.25
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.34 kW	2.22 kW
COP T _j = +7°C	5.63	4.35
C _{dh} T _j = +7 °C	0.96	0.97
P _{dh} T _j = 12°C	2.78 kW	2.65 kW
COP T _j = 12°C	7.10	5.79
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	2.78 kW	2.43 kW
COP T _j = T _{biv}	2.53	1.69
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.33 kW	2.43 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.17	1.69
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	62 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2287 kWh	2827 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43

COP Tj = -15°C (if TOL	2.53	1.69
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	204 %	147 %
Prated	3.22 kW	4.02 kW
SCOP	5.16	3.74
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	3.93	2.43
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.11	3.37
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.02	5.02
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	3.93	2.43
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.93	2.43
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	62 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	833 kWh	1434 kWh

Model VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS

Model name	VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	188 %	129 %
Prated	3.44 kW	3.65 kW
SCOP	4.79	3.31
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.25	2.15
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.71	3.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	6.10	4.32
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	8.20	6.20
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.25	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	1.81

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1487 kWh	2277 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	109 %
Prated	3.41 kW	2.98 kW
SCOP	4.04	2.80
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2080 kWh	2629 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43
COP T _j = -15°C (if TOL	2.64	1.75
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	245 %	165 %
Prated	3.22 kW	4.02 kW
SCOP	6.20	4.20
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	3.22 kW	4.02 kW
COP T _j = +2°C	4.15	2.50
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	2.35 kW	2.66 kW
COP T _j = +7°C	5.66	3.58
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.82 kW	2.58 kW
COP T _j = 12°C	7.90	5.50
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.22 kW	4.02 kW
COP T _j = T _{biv}	4.15	2.50
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	3.22 kW	4.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	4.15	2.50
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	694 kWh	1278 kWh
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EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.88 kW	5.19 kW
SEER	4.69	6.94
Pdc Tj = 35°C	3.88 kW	5.19 kW
EER Tj = 35°C	3.25	4.13
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.64 kW	3.81 kW
EER Tj = 30°C	4.01	5.98
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.28 kW	3.11 kW
EER Tj = 25°C	5.41	8.34
Cdc Tj = 25 °C	0.969	0.965
Pdc Tj = 20°C	2.50 kW	3.27 kW
EER Tj = 20°C	6.97	10.65
Cdc Tj = 20 °C	0.963	0.957
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Qce	496 kWh	449 kWh

Model VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS C2

Model name	VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.75 kW	1.78 kW
COP	4.71	2.81
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.77 kW	1.30 kW
Cooling capacity	5.22	5.31
EER	2.95	4.08
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	171 %	121 %
Prated	3.44 kW	3.65 kW
SCOP	4.36	3.10
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.10	2.09
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.27	3.00
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	5.48	3.96
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	7.24	5.62
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.10	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.75

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1632 kWh	2431 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	146 %	102 %
Prated	3.41 kW	2.98 kW
SCOP	3.72	2.63
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.31	2.30
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.35	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	5.63	4.35
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	7.10	5.79
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.53	1.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2256 kWh	2796 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43
COP T _j = -15°C (if TOL	2.53	1.69
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	220 %	153 %
Prated	3.22 kW	4.02 kW
SCOP	5.58	3.91
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	3.22 kW	4.02 kW
COP T _j = +2°C	3.93	2.43
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	2.35 kW	2.66 kW
COP T _j = +7°C	5.11	3.37
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.82 kW	2.58 kW
COP T _j = 12°C	7.02	5.02
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.22 kW	4.02 kW
COP T _j = T _{biv}	3.93	2.43
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	3.22 kW	4.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.93	2.43
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	771 kWh	1372 kWh
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EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.88 kW	5.19 kW
SEER	4.33	6.33
Pdc Tj = 35°C	3.88 kW	5.19 kW
EER Tj = 35°C	3.13	3.99
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.64 kW	3.81 kW
EER Tj = 30°C	3.76	5.59
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.28 kW	3.11 kW
EER Tj = 25°C	4.89	7.44
Cdc Tj = 25 °C	0.975	0.965
Pdc Tj = 20°C	2.50 kW	3.27 kW
EER Tj = 20°C	6.19	9.29
Cdc Tj = 20 °C	0.971	0.957
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Qce	537 kWh	492 kWh

Model VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS S5

Model name	VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS S5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	129 %
Prated	3.44 kW	3.65 kW
SCOP	4.79	3.31
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.25	2.15
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.71	3.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	6.10	4.32
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	8.20	6.20
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.25	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	1.81

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Qhe	1487 kWh	2277 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	109 %
Prated	3.41 kW	2.98 kW
SCOP	4.04	2.80
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.26 kW	1.95 kW
COP Tj = -7°C	3.54	2.43
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.04 kW	1.86 kW
COP Tj = +2°C	4.82	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.34 kW	2.22 kW
COP Tj = +7°C	6.31	4.77
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.78 kW	2.65 kW
COP Tj = 12°C	8.02	6.43
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	2.78 kW	2.43 kW
COP Tj = Tbiv	2.64	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.33 kW	2.43 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2080 kWh	2629 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43
COP T _j = -15°C (if TOL	2.64	1.75
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	245 %	165 %
Prated	3.22 kW	4.02 kW
SCOP	6.20	4.20
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	3.22 kW	4.02 kW
COP T _j = +2°C	4.15	2.50
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	2.35 kW	2.66 kW
COP T _j = +7°C	5.66	3.58
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.82 kW	2.58 kW
COP T _j = 12°C	7.90	5.50
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	3.22 kW	4.02 kW
COP T _j = T _{biv}	4.15	2.50
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	3.22 kW	4.02 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	4.15	2.50
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	694 kWh	1278 kWh
EN 14825 Cooling		
	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.88 kW	5.19 kW
SEER	4.69	6.94
Pdc Tj = 35°C	3.88 kW	5.19 kW
EER Tj = 35°C	3.25	4.13
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.64 kW	3.81 kW
EER Tj = 30°C	4.01	5.98
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.28 kW	3.11 kW
EER Tj = 25°C	5.41	8.34
Cdc Tj = 25 °C	0.969	0.965
Pdc Tj = 20°C	2.50 kW	3.27 kW
EER Tj = 20°C	6.97	10.65
Cdc Tj = 20 °C	0.963	0.957
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Qce	496 kWh	449 kWh

Model VWL 55/8.2 AS 230V + VWL 58/8.2 IS

Model name	VWL 55/8.2 AS 230V + VWL 58/8.2 IS
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	192 %	129 %
Prated	4.72 kW	4.35 kW
SCOP	4.87	3.30
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.13	2.10
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.84	3.18
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	6.24	4.39
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	8.04	6.03
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.13	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.66

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2003 kWh	2727 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	162 %	111 %
Prated	5.44 kW	3.97 kW
SCOP	4.13	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3244 kWh	3423 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23
COP T _j = -15°C (if TOL	2.57	1.84
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	252 %	170 %
Prated	5.01 kW	4.68 kW
SCOP	6.37	4.32
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	5.01 kW	4.68 kW
COP T _j = +2°C	3.54	2.26
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	3.00 kW	2.95 kW
COP T _j = +7°C	5.84	3.59
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.81 kW	2.67 kW
COP T _j = 12°C	7.91	5.92
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	5.01 kW	4.68 kW
COP T _j = T _{biv}	3.54	2.26
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	4.68 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.54	2.26
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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}	1050 kWh	1447 kWh
EN 14825 Cooling		
	+7°C/+12°C	+18°C/+23°C
P _{designc}	3.88 kW	5.19 kW
SEER	4.69	6.94
P _{dc} T _j = 35°C	3.88 kW	5.19 kW
EER T _j = 35°C	3.25	4.13
C _{dc} T _j = 35 °C	1.000	1.000
P _{dc} T _j = 30°C	2.64 kW	3.81 kW
EER T _j = 30°C	4.01	5.98
C _{dc} T _j = 30 °C	1.000	1.000
P _{dc} T _j = 25°C	2.28 kW	3.11 kW
EER T _j = 25°C	5.41	8.34
C _{dc} T _j = 25 °C	0.969	0.965
P _{dc} T _j = 20°C	2.50 kW	3.27 kW
EER T _j = 20°C	6.97	10.65
C _{dc} T _j = 20 °C	0.963	0.957
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Q _{ce}	496 kWh	449 kWh

Model VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2

Model name	VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.97 kW	1.94 kW
COP	4.66	2.76
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.77 kW	1.30 kW
Cooling capacity	5.22	5.31
EER	2.95	4.08
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	177 %	121 %
Prated	4.72 kW	4.35 kW
SCOP	4.50	3.09
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.03	2.05
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.48	2.98
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	5.60	4.03
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	7.13	5.48
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.03	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.62

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2169 kWh	2905 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	151 %	105 %
Prated	5.44 kW	3.97 kW
SCOP	3.84	2.69
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.38	2.39
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	4.51	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	5.94	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.06	5.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.51	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3488 kWh	3629 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23
COP T _j = -15°C (if TOL	2.51	1.79
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	228 %	158 %
Prated	5.01 kW	4.68 kW
SCOP	5.78	4.03
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	5.01 kW	4.68 kW
COP T _j = +2°C	3.43	2.21
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	3.00 kW	2.95 kW
COP T _j = +7°C	5.37	3.40
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.81 kW	2.67 kW
COP T _j = 12°C	7.02	5.39
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	5.01 kW	4.68 kW
COP T _j = T _{biv}	3.43	2.21
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	4.68 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.43	2.21
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1156 kWh	1551 kWh
EN 14825 Cooling		
	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.88 kW	5.19 kW
SEER	4.33	6.33
Pdc Tj = 35°C	3.88 kW	5.19 kW
EER Tj = 35°C	3.13	3.99
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.64 kW	3.81 kW
EER Tj = 30°C	3.76	5.59
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.28 kW	3.11 kW
EER Tj = 25°C	4.89	7.44
Cdc Tj = 25 °C	0.975	0.965
Pdc Tj = 20°C	2.50 kW	3.27 kW
EER Tj = 20°C	6.19	9.29
Cdc Tj = 20 °C	0.971	0.957
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Qce	537 kWh	492 kWh

Model VWL 55/8.2 AS 230V + VWL 58/8.2 IS S5

Model name	VWL 55/8.2 AS 230V + VWL 58/8.2 IS S5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	192 %	129 %
Prated	4.72 kW	4.35 kW
SCOP	4.87	3.30
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.13	2.10
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.84	3.18
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	6.24	4.39
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	8.04	6.03
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.13	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.66

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2003 kWh	2727 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	162 %	111 %
Prated	5.44 kW	3.97 kW
SCOP	4.13	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3244 kWh	3423 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23
COP T _j = -15°C (if TOL	2.57	1.84
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	252 %	170 %
Prated	5.01 kW	4.68 kW
SCOP	6.37	4.32
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	5.01 kW	4.68 kW
COP T _j = +2°C	3.54	2.26
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	3.00 kW	2.95 kW
COP T _j = +7°C	5.84	3.59
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.81 kW	2.67 kW
COP T _j = 12°C	7.91	5.92
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	5.01 kW	4.68 kW
COP T _j = T _{biv}	3.54	2.26
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	4.68 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.54	2.26
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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}	1050 kWh	1447 kWh
EN 14825 Cooling		
	+7°C/+12°C	+18°C/+23°C
P _{designc}	3.88 kW	5.19 kW
SEER	4.69	6.94
P _{dc} T _j = 35°C	3.88 kW	5.19 kW
EER T _j = 35°C	3.25	4.13
C _{dc} T _j = 35 °C	1.000	1.000
P _{dc} T _j = 30°C	2.64 kW	3.81 kW
EER T _j = 30°C	4.01	5.98
C _{dc} T _j = 30 °C	1.000	1.000
P _{dc} T _j = 25°C	2.28 kW	3.11 kW
EER T _j = 25°C	5.41	8.34
C _{dc} T _j = 25 °C	0.969	0.965
P _{dc} T _j = 20°C	2.50 kW	3.27 kW
EER T _j = 20°C	6.97	10.65
C _{dc} T _j = 20 °C	0.963	0.957
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Q _{ce}	496 kWh	449 kWh

Model VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2

Model name	VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.97 kW	1.94 kW
COP	4.66	2.76

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	173 %	119 %
Prated	4.72 kW	4.35 kW
SCOP	4.39	3.04
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.03	2.05
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.48	2.98
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	5.60	4.03
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	7.13	5.48
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.03	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.62
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00

WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2220 kWh	2956 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	149 %	104 %
Prated	5.44 kW	3.97 kW
SCOP	3.81	2.67
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.38	2.39
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	4.51	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	5.94	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.06	5.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.51	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3519 kWh	3660 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23
COP T _j = -15°C (if TOL	2.51	1.79
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	217 %	152 %
Prated	5.01 kW	4.68 kW
SCOP	5.49	3.88
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	5.01 kW	4.68 kW
COP T _j = +2°C	3.43	2.21
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	3.00 kW	2.95 kW
COP T _j = +7°C	5.37	3.40
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.81 kW	2.67 kW
COP T _j = 12°C	7.02	5.39
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	5.01 kW	4.68 kW
COP T _j = T _{biv}	3.43	2.21
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	4.68 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.43	2.21
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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}	1218 kWh	1613 kWh

Model VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS

Model name	VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
η_s	192 %	129 %
Prated	4.72 kW	4.35 kW
SCOP	4.87	3.30
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.13	2.10
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.84	3.18
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	6.24	4.39
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	8.04	6.03
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.13	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.66

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2003 kWh	2727 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	162 %	111 %
Prated	5.44 kW	3.97 kW
SCOP	4.13	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3244 kWh	3423 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23
COP T _j = -15°C (if TOL	2.57	1.84
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	252 %	170 %
Prated	5.01 kW	4.68 kW
SCOP	6.37	4.32
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	5.01 kW	4.68 kW
COP T _j = +2°C	3.54	2.26
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	3.00 kW	2.95 kW
COP T _j = +7°C	5.84	3.59
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.81 kW	2.67 kW
COP T _j = 12°C	7.91	5.92
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	5.01 kW	4.68 kW
COP T _j = T _{biv}	3.54	2.26
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	4.68 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.54	2.26
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1050 kWh	1447 kWh
EN 14825 Cooling		
	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.88 kW	5.19 kW
SEER	4.69	6.94
Pdc Tj = 35°C	3.88 kW	5.19 kW
EER Tj = 35°C	3.25	4.13
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.64 kW	3.81 kW
EER Tj = 30°C	4.01	5.98
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.28 kW	3.11 kW
EER Tj = 25°C	5.41	8.34
Cdc Tj = 25 °C	0.969	0.965
Pdc Tj = 20°C	2.50 kW	3.27 kW
EER Tj = 20°C	6.97	10.65
Cdc Tj = 20 °C	0.963	0.957
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Qce	496 kWh	449 kWh

Model VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS C2

Model name	VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS C2
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.97 kW	1.94 kW
COP	4.66	2.76
EN 14511-2 Cooling		
	+7°C/+12°C	+18°C/+23°C
El input	1.77 kW	1.30 kW
Cooling capacity	5.22	5.31
EER	2.95	4.08
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	177 %	121 %
Prated	4.72 kW	4.35 kW
SCOP	4.50	3.09
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.03	2.05
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.48	2.98
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	5.60	4.03
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	7.13	5.48
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.03	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.62

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2169 kWh	2905 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	151 %	105 %
Prated	5.44 kW	3.97 kW
SCOP	3.84	2.69
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.38	2.39
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	4.51	3.25
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	5.94	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.06	5.74
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.51	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3488 kWh	3629 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23
COP T _j = -15°C (if TOL	2.51	1.79
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	228 %	158 %
Prated	5.01 kW	4.68 kW
SCOP	5.78	4.03
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	5.01 kW	4.68 kW
COP T _j = +2°C	3.43	2.21
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	3.00 kW	2.95 kW
COP T _j = +7°C	5.37	3.40
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.81 kW	2.67 kW
COP T _j = 12°C	7.02	5.39
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	5.01 kW	4.68 kW
COP T _j = T _{biv}	3.43	2.21
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	4.68 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.43	2.21
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1156 kWh	1551 kWh
EN 14825 Cooling		
	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.88 kW	5.19 kW
SEER	4.33	6.33
Pdc Tj = 35°C	3.88 kW	5.19 kW
EER Tj = 35°C	3.13	3.99
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.64 kW	3.81 kW
EER Tj = 30°C	3.76	5.59
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	2.28 kW	3.11 kW
EER Tj = 25°C	4.89	7.44
Cdc Tj = 25 °C	0.975	0.965
Pdc Tj = 20°C	2.50 kW	3.27 kW
EER Tj = 20°C	6.19	9.29
Cdc Tj = 20 °C	0.971	0.957
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Qce	537 kWh	492 kWh

Model VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS S5

Model name	VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS S5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	1.73 kW	1.26 kW
Cooling capacity	5.22	5.31
EER	3.03	4.22

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	192 %	129 %
Prated	4.72 kW	4.35 kW
SCOP	4.87	3.30
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.13	2.10
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.84	3.18
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	6.24	4.39
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	8.04	6.03
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.13	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.66

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Qhe	2003 kWh	2727 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	162 %	111 %
Prated	5.44 kW	3.97 kW
SCOP	4.13	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.46 kW	2.27 kW
COP Tj = -7°C	3.54	2.51
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	1.86 kW
COP Tj = +2°C	5.02	3.53
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.42 kW	2.28 kW
COP Tj = +7°C	6.67	4.84
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	2.83 kW	2.73 kW
COP Tj = 12°C	7.95	6.34
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.43 kW	3.23 kW
COP Tj = Tbiv	2.57	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.99 kW	3.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W

PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3244 kWh	3423 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23
COP T _j = -15°C (if TOL	2.57	1.84
C _{dh} T _j = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	252 %	170 %
Prated	5.01 kW	4.68 kW
SCOP	6.37	4.32
T _{biv}	2 °C	2 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2°C	5.01 kW	4.68 kW
COP T _j = +2°C	3.54	2.26
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7°C	3.00 kW	2.95 kW
COP T _j = +7°C	5.84	3.59
C _{dh} T _j = +7 °C	0.97	0.98
P _{dh} T _j = 12°C	2.81 kW	2.67 kW
COP T _j = 12°C	7.91	5.92
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	5.01 kW	4.68 kW
COP T _j = T _{biv}	3.54	2.26
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	5.01 kW	4.68 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.54	2.26
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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}	1050 kWh	1447 kWh
EN 14825 Cooling		
	+7°C/+12°C	+18°C/+23°C
P _{designc}	3.88 kW	5.19 kW
SEER	4.69	6.94
P _{dc} T _j = 35°C	3.88 kW	5.19 kW
EER T _j = 35°C	3.25	4.13
C _{dc} T _j = 35 °C	1.000	1.000
P _{dc} T _j = 30°C	2.64 kW	3.81 kW
EER T _j = 30°C	4.01	5.98
C _{dc} T _j = 30 °C	1.000	1.000
P _{dc} T _j = 25°C	2.28 kW	3.11 kW
EER T _j = 25°C	5.41	8.34
C _{dc} T _j = 25 °C	0.969	0.965
P _{dc} T _j = 20°C	2.50 kW	3.27 kW
EER T _j = 20°C	6.97	10.65
C _{dc} T _j = 20 °C	0.963	0.957
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Annual energy consumption Q _{ce}	496 kWh	449 kWh

Model VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS S5

Model name	VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS S5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

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

Outdoor Air/Water**EN 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	3.54 kW	5.00 kW
El input	0.71 kW	1.73 kW
COP	5.01	2.89

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	182 %	127 %
Prated	3.44 kW	3.65 kW
SCOP	4.63	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.05 kW	3.23 kW
COP Tj = -7°C	3.25	2.15
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.02 kW	2.09 kW
COP Tj = +2°C	4.71	3.21
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.41 kW	2.14 kW
COP Tj = +7°C	6.10	4.32
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.76 kW	2.71 kW
COP Tj = 12°C	8.20	6.20
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.05 kW	3.23 kW
COP Tj = Tbiv	3.25	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.03 kW	2.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.42 kW	0.90 kW
Annual energy consumption Q _{he}	1538 kWh	2328 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	156 %	108 %
Prated	3.41 kW	2.98 kW
SCOP	3.98	2.76
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-15 °C
P _{dh} T _j = -7°C	2.26 kW	1.95 kW
COP T _j = -7°C	3.54	2.43
C _{dh} T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2°C	2.04 kW	1.86 kW
COP T _j = +2°C	4.82	3.53
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.34 kW	2.22 kW
COP T _j = +7°C	6.31	4.77
C _{dh} T _j = +7 °C	0.96	0.97
P _{dh} T _j = 12°C	2.78 kW	2.65 kW
COP T _j = 12°C	8.02	6.43
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	2.78 kW	2.43 kW
COP T _j = T _{biv}	2.64	1.75
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.33 kW	2.43 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.27	1.75
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.41 kW	2.98 kW
Annual energy consumption Q _{he}	2111 kWh	2660 kWh
P _{dh} T _j = -15°C (if TOL	2.78	2.43

COP Tj = -15°C (if TOL	2.64	1.75
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	225 %	157 %
Prated	3.22 kW	4.02 kW
SCOP	5.69	4.00
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.22 kW	4.02 kW
COP Tj = +2°C	4.15	2.50
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.35 kW	2.66 kW
COP Tj = +7°C	5.66	3.58
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.82 kW	2.58 kW
COP Tj = 12°C	7.90	5.50
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	3.22 kW	4.02 kW
COP Tj = Tbiv	4.15	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.22 kW	4.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.15	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	756 kWh	1340 kWh

Model VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS S5

Model name	VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS S5
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	
Sound power level outdoor	48 dB(A)	

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	187 %	126 %
Prated	4.72 kW	4.35 kW
SCOP	4.75	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.13	2.10
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.84	3.18
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	6.24	4.39
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	8.04	6.03
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.13	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.66
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Q _{he}	2055 kWh	2778 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	110 %
Prated	5.44 kW	3.97 kW
SCOP	4.09	2.83
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-15 °C
P _{dh} T _j = -7°C	3.46 kW	2.27 kW
COP T _j = -7°C	3.54	2.51
C _{dh} T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2°C	2.02 kW	1.86 kW
COP T _j = +2°C	5.02	3.53
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.42 kW	2.28 kW
COP T _j = +7°C	6.67	4.84
C _{dh} T _j = +7 °C	0.96	0.97
P _{dh} T _j = 12°C	2.83 kW	2.73 kW
COP T _j = 12°C	7.95	6.34
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	4.43 kW	3.23 kW
COP T _j = T _{biv}	2.57	1.84
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.99 kW	3.23 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.19	1.84
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3275 kWh	3454 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23

COP Tj = -15°C (if TOL	2.57	1.84
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	238 %	163 %
Prated	5.01 kW	4.68 kW
SCOP	6.01	4.15
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.54	2.26
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.84	3.59
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.91	5.92
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.54	2.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.54	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1112 kWh	1509 kWh

Model VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS

Model name	VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer
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 16147 | Average Climate**

Declared load profile	L
Efficiency η_{DHW}	141 %
COP	3.53
Heating up time	01:19 h:min
Standby power input	46.1 W
Reference hot water temperature	52.4 °C
Mixed water at 40°C	249 l

EN 16147 | Colder Climate

Declared load profile	L
Efficiency η_{DHW}	121.4 %
COP	3.03
Heating up time	01:23 h:min
Standby power input	55.2 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	243 l

EN 16147 | Warmer Climate

Declared load profile	L
Efficiency η_{DHW}	165.4 %
COP	4.14
Heating up time	02:21 h:min
Standby power input	38.3 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	247 l

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	4.51 kW	5.36 kW
El input	0.92 kW	1.89 kW
COP	4.89	2.83

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	
Sound power level outdoor	48 dB(A)	

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	187 %	126 %
Prated	4.72 kW	4.35 kW
SCOP	4.75	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.18 kW	3.85 kW
COP Tj = -7°C	3.13	2.10
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.67 kW	2.13 kW
COP Tj = +2°C	4.84	3.18
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.43 kW	2.21 kW
COP Tj = +7°C	6.24	4.39
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.84 kW	2.72 kW
COP Tj = 12°C	8.04	6.03
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	4.18 kW	3.85 kW
COP Tj = Tbiv	3.13	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	3.33 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	1.66
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.66 kW	1.02 kW
Annual energy consumption Q _{he}	2055 kWh	2778 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	161 %	110 %
Prated	5.44 kW	3.97 kW
SCOP	4.09	2.83
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-15 °C
P _{dh} T _j = -7°C	3.46 kW	2.27 kW
COP T _j = -7°C	3.54	2.51
C _{dh} T _j = -7 °C	1.00	1.00
P _{dh} T _j = +2°C	2.02 kW	1.86 kW
COP T _j = +2°C	5.02	3.53
C _{dh} T _j = +2 °C	0.97	0.98
P _{dh} T _j = +7°C	2.42 kW	2.28 kW
COP T _j = +7°C	6.67	4.84
C _{dh} T _j = +7 °C	0.96	0.97
P _{dh} T _j = 12°C	2.83 kW	2.73 kW
COP T _j = 12°C	7.95	6.34
C _{dh} T _j = +12 °C	0.96	0.97
P _{dh} T _j = T _{biv}	4.43 kW	3.23 kW
COP T _j = T _{biv}	2.57	1.84
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	2.99 kW	3.23 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.19	1.84
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	1.00	1.00
WTOL	60 °C	60 °C
P _{off}	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.44 kW	3.97 kW
Annual energy consumption Q _{he}	3275 kWh	3454 kWh
P _{dh} T _j = -15°C (if TOL	4.43	3.23

COP Tj = -15°C (if TOL	2.57	1.84
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	48 dB(A)	48 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	238 %	163 %
Prated	5.01 kW	4.68 kW
SCOP	6.01	4.15
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.01 kW	4.68 kW
COP Tj = +2°C	3.54	2.26
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	3.00 kW	2.95 kW
COP Tj = +7°C	5.84	3.59
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.81 kW	2.67 kW
COP Tj = 12°C	7.91	5.92
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	5.01 kW	4.68 kW
COP Tj = Tbiv	3.54	2.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.01 kW	4.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.54	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	13 W	13 W
PSB	14 W	14 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	1112 kWh	1509 kWh