Login

Summary of	VWL 75/5 AS 230V	Reg. No.	40049303
Certificate Holder			
Name	Vaillant Deutschland GmbH & Co KG		
Address	Berghauser Straße 40	Zip	42859
City	Remscheid	Country	Germany
Certification Body	VDE Prüf- und Zertifizierungsinstitut GmbH		
Subtype title	VWL 75/5 AS 230V		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410A		
Mass of Refrigerant	2.39 kg		
Certification Date	10.03.2021		

Model: VWL 75/5 AS 230V + VWL 77/5 IS

Configure model	
Model name	VWL 75/5 AS 230V + VWL 77/5 IS
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.78 kW	4.95 kW
El input	1.26 kW	1.84 kW
COP	4.58	2.69

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	173 %	133 %
Prated	7.08 kW	6.36 kW
SCOP	4.40	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.30 kW	5.62 kW
COP Tj = -7°C	2.58	2.00
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	3.90 kW	3.31 kW
COP Tj = +2°C	4.37	3.29
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	2.72 kW	2.69 kW
COP Tj = +7°C	5.86	4.62
Cdh Tj = +7 °C	0.980	0.980

Pdh Tj = 12°C	3.28 kW	3.21 kW
COP Tj = 12°C	7.54	6.27
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	6.26 kW	5.62 kW
COP Tj = Tbiv	2.57	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.66 kW	4.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.38	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.42 kW	1.44 kW
Annual energy consumption Qhe	3324 kWh	3869 kWh

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	239 %	159 %
Prated	4.51 kW	3.94 kW
SCOP	6.04	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.51 kW	3.94 kW
COP Tj = +2°C	3.68	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.81 kW	2.45 kW
COP Tj = +7°C	5.55	3.38
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.20 kW	3.15 kW
COP Tj = 12°C	7.35	5.43
Cdh Tj = +12 °C	0.98	0.98

Pdh Tj = Tbiv	4.51 kW	3.94 kW
COP Tj = Tbiv	3.68	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.51 kW	3.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.68	2.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 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	997 kWh	1300 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825

	Low temperature	**Medium temperature**
η_s	156 %	117 %
Prated	6.60 kW	5.36 kW
SCOP	3.96	3.00
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.89 kW	3.55 kW
COP Tj = -7°C	3.51	2.53
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.31 kW	2.33 kW
COP Tj = +2°C	4.66	3.78
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	2.77 kW	2.77 kW
COP Tj = +7°C	6.19	6.19
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	3.20 kW	3.25 kW
COP Tj = 12°C	7.55	6.81
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	5.39 kW	4.37 kW
COP Tj = Tbiv	2.48	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.75 kW	4.37 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.60 kW	5.36 kW
Annual energy consumption Qhe	4106 kWh	4401 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.36	4.37
COP Tj = -15°C (if TOL<-20°C)	1.94	1.72
Cdh Tj = -15 °C	0.990	1.000

Model: VWL 75/5 AS 230V + VWL 78/5 IS

Configure model	
Model name	VWL 75/5 AS 230V + VWL 78/5 IS
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.78 kW	4.95 kW
El input	1.26 kW	1.84 kW
COP	4.58	2.69

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	44 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	173 %	133 %
Prated	7.08 kW	6.36 kW
SCOP	4.40	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.30 kW	5.62 kW
COP Tj = -7°C	2.58	2.00
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	3.90 kW	3.31 kW
COP Tj = +2°C	4.37	3.29
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	2.72 kW	2.69 kW
COP Tj = +7°C	5.86	4.62
Cdh Tj = +7 °C	0.980	0.980

Pdh Tj = 12°C	3.28 kW	3.21 kW
COP Tj = 12°C	7.54	6.27
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	6.26 kW	5.62 kW
COP Tj = Tbiv	2.57	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.66 kW	4.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.38	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.42 kW	1.44 kW
Annual energy consumption Qhe	3324 kWh	3869 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	44 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	239 %	159 %
Prated	4.51 kW	3.94 kW
SCOP	6.04	4.05
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.51 kW	3.94 kW
COP Tj = +2°C	3.68	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.81 kW	2.45 kW
COP Tj = +7°C	5.55	3.38
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.20 kW	3.15 kW
COP Tj = 12°C	7.35	5.43
Cdh Tj = +12 °C	0.98	0.98

Pdh Tj = Tbiv	4.51 kW	3.94 kW
COP Tj = Tbiv	3.68	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.51 kW	3.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.68	2.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 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	997 kWh	1300 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	44 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825

	Low temperature	**Medium temperature**
η_s	156 %	117 %
Prated	6.60 kW	5.36 kW
SCOP	3.96	3.00
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.89 kW	3.55 kW
COP Tj = -7°C	3.51	2.53
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.31 kW	2.33 kW
COP Tj = +2°C	4.66	3.78
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	2.77 kW	2.77 kW
COP Tj = +7°C	6.19	6.19
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	3.20 kW	3.25 kW
COP Tj = 12°C	7.55	6.81
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	5.39 kW	4.37 kW
COP Tj = Tbiv	2.48	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.75 kW	4.37 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.60 kW	5.36 kW
Annual energy consumption Qhe	4106 kWh	4401 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.36	4.37
COP Tj = -15°C (if TOL<-20°C)	1.94	1.72
Cdh Tj = -15 °C	0.990	1.000

Domestic Hot Water (DHW)

Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	112 %
COP	2.73
Heating up time	01:45 h:min
Standby power input	80.0 W
Reference hot water temperature	50.7 °C
Mixed water at 40°C	246 l

Warmer Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	134 %
COP	3.26
Heating up time	01:28 h:min
Standby power input	70.0 W
Reference hot water temperature	51.2 °C
Mixed water at 40°C	242 l

Colder Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	102 %
COP	2.48
Heating up time	02:03 h:min
Standby power input	90.0 W
Reference hot water temperature	46.9 °C
Mixed water at 40°C	246 l

Model: VWL 75/5 AS 230V S2 + VWL 77/5 IS

Configure model	
Model name	VWL 75/5 AS 230V S2 + VWL 77/5 IS
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.78 kW	4.95 kW
El input	1.26 kW	1.84 kW
COP	4.58	2.69

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	171 %	131 %
Prated	7.08 kW	6.36 kW
SCOP	4.35	3.36
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.30 kW	5.62 kW
COP Tj = -7°C	2.58	2.00
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	3.90 kW	3.31 kW
COP Tj = +2°C	4.37	3.29
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	2.72 kW	2.69 kW
COP Tj = +7°C	5.86	4.62
Cdh Tj = +7 °C	0.980	0.980

Pdh Tj = 12°C	3.28 kW	3.21 kW
COP Tj = 12°C	7.54	6.27
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	6.26 kW	5.62 kW
COP Tj = Tbiv	2.57	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.66 kW	4.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.38	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.42 kW	1.44 kW
Annual energy consumption Qhe	3364 kWh	3909 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	228 %	153 %
Prated	4.51 kW	3.94 kW
SCOP	5.76	3.90
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.51 kW	3.94 kW
COP Tj = +2°C	3.68	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.81 kW	2.45 kW
COP Tj = +7°C	5.55	3.38
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.20 kW	3.15 kW
COP Tj = 12°C	7.35	5.43
Cdh Tj = +12 °C	0.98	0.98

Pdh Tj = Tbiv	4.51 kW	3.94 kW
COP Tj = Tbiv	3.68	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.51 kW	3.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.68	2.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 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	1045 kWh	1349 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825

	Low temperature	**Medium temperature**
η_s	155 %	116 %
Prated	6.60 kW	5.36 kW
SCOP	3.94	2.98
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.89 kW	3.55 kW
COP Tj = -7°C	3.51	2.53
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.31 kW	2.33 kW
COP Tj = +2°C	4.66	3.78
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	2.77 kW	2.77 kW
COP Tj = +7°C	6.19	6.19
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	3.20 kW	3.25 kW
COP Tj = 12°C	7.55	6.81
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	5.39 kW	4.37 kW
COP Tj = Tbiv	2.48	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.75 kW	4.37 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.60 kW	5.36 kW
Annual energy consumption Qhe	4130 kWh	4425 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.39	4.37
COP Tj = -15°C (if TOL<-20°C)	2.48	1.72
Cdh Tj = -15 °C	1.000	1.000

Model: VWL 75/5 AS 230V S2 + VWL 78/5 IS

Configure model	
Model name	VWL 75/5 AS 230V S2 + VWL 78/5 IS
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.78 kW	4.95 kW
El input	1.26 kW	1.84 kW
COP	4.58	2.69

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	44 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	171 %	131 %
Prated	7.08 kW	6.36 kW
SCOP	4.35	3.36
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.30 kW	5.62 kW
COP Tj = -7°C	2.58	2.00
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	3.90 kW	3.31 kW
COP Tj = +2°C	4.37	3.29
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	2.72 kW	2.69 kW
COP Tj = +7°C	5.86	4.62
Cdh Tj = +7 °C	0.980	0.980

Pdh Tj = 12°C	3.28 kW	3.21 kW
COP Tj = 12°C	7.54	6.27
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	6.26 kW	5.62 kW
COP Tj = Tbiv	2.57	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.66 kW	4.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.38	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.42 kW	1.44 kW
Annual energy consumption Qhe	3364 kWh	3909 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	44 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	228 %	153 %
Prated	4.51 kW	3.94 kW
SCOP	5.76	3.90
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.51 kW	3.94 kW
COP Tj = +2°C	3.68	2.30
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.81 kW	2.45 kW
COP Tj = +7°C	5.55	3.38
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	3.20 kW	3.15 kW
COP Tj = 12°C	7.35	5.43
Cdh Tj = +12 °C	0.98	0.98

Pdh Tj = Tbiv	4.51 kW	3.94 kW
COP Tj = Tbiv	3.68	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.51 kW	3.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.68	2.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 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	1045 kWh	1349 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	44 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825

	Low temperature	**Medium temperature**
η_s	155 %	116 %
Prated	6.60 kW	5.36 kW
SCOP	3.94	2.98
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	3.89 kW	3.55 kW
COP Tj = -7°C	3.51	2.53
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.31 kW	2.33 kW
COP Tj = +2°C	4.66	3.78
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	2.77 kW	2.77 kW
COP Tj = +7°C	6.19	6.19
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	3.20 kW	3.25 kW
COP Tj = 12°C	7.55	6.81
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	5.39 kW	4.37 kW
COP Tj = Tbiv	2.48	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.75 kW	4.37 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.60 kW	5.36 kW
Annual energy consumption Qhe	4130 kWh	4425 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.39	4.37
COP Tj = -15°C (if TOL<-20°C)	2.48	1.72
Cdh Tj = -15 °C	1.000	1.000

Domestic Hot Water (DHW)

Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	112 %
COP	2.73
Heating up time	01:45 h:min
Standby power input	80.0 W
Reference hot water temperature	50.7 °C
Mixed water at 40°C	246 l

Warmer Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	134 %
COP	3.26
Heating up time	01:28 h:min
Standby power input	70.0 W
Reference hot water temperature	51.2 °C
Mixed water at 40°C	242 l

Colder Climate

EN 16147

Declared load profile	XL
Efficiency ηDHW	102 %
COP	2.48
Heating up time	02:03 h:min
Standby power input	90.0 W
Reference hot water temperature	46.9 °C
Mixed water at 40°C	246 l