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#### <u>Login</u>

Summary of	VWL 105/5 AS 230V / VWL 125/5 AS 230V / VWL 105/5 AS / VWL 125/5 AS	Reg. No.	40049245
Certificate H	older		
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 105/5 AS 230V / VWL 125/5 AS 230V / VWL 105/5 AS / VWL 125/5 AS		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410A		
Mass of Refrigerant	3.6 kg		
Certification Date	10.03.2021		
Testing basis	DIN EN 14511-1:2019-07; EN 14511-1:2018 DIN EN 14511-2:2019-07; EN 14511-2:2018 DIN EN 14511-3:2019-07; EN 14511-3:2018 DIN EN 14511-4:2019-07; EN 14511-4:2018 DIN EN 14825:2019-07; EN 14825:2018 DIN EN 16147:2017-08; EN 16147:2017+AC:2017 DIN EN 12		



# Model: VWL 105/5 AS 230V + VWL 127/5 IS

Configure model			
Model name	VWL 105/5 AS 230V + VWL 127/5 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 14511-4		
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	

EN 14511-2			
Low temperature Medium temperature			
Heat output	9.70 kW	10.35 kW	
El input	2.12 kW	3.74 kW	
СОР	4.57	2.77	

## Warmer Climate



EN 12102-1				
	Low temperature	Medium temperature		
Sound power level indoor	42 dB(A)	45 dB(A)		
Sound power level outdoor	58 dB(A)	60 dB(A)		

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	212 %	158 %
Prated	8.23 kW	9.30 kW
SCOP	5.37	4.03
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
COP Tj = +7°C	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.99	0.99

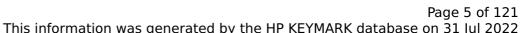




		,
Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 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	2046 kWh	3076 kWh

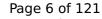
## Colder Climate

EN 12102-1				
Low temperature Medium temperature				
Sound power level indoor	42 dB(A)	45 dB(A)		
Sound power level outdoor	58 dB(A)	60 dB(A)		





	Low temperature	Medium temperature
$\eta_{s}$	152 %	111 %
Prated	9.49 kW	9.42 kW
SCOP	3.88	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	6.32 kW	6.14 kW
$COP Tj = -7^{\circ}C$	3.41	2.56
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	4.94 kW	4.48 kW
COP Tj = +2°C	4.53	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.53 kW	5.31 kW
$COP Tj = +7^{\circ}C$	5.86	4.59
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.44 kW	6.21 kW
COP Tj = 12°C	7.27	5.99
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	7.74 kW	7.68 kW
COP Tj = Tbiv	2.34	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	7.68 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	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	9.49 kW	9.42 kW
Annual energy consumption Qhe	6025 kWh	8124 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.74	7.68
COP Tj = -15°C (if TOL $<$ -20°C)	2.34	1.89
Cdh Tj = -15 °C	1.000	1.000

# **Average Climate**

EN 12102-1				
Low temperature Medium temperature				
Sound power level indoor	42 dB(A)	45 dB(A)		
Sound power level outdoor	58 dB(A)	60 dB(A)		





	Low temperature	Medium temperature
$\eta_{s}$	180 %	128 %
Prated	11.50 kW	9.56 kW
SCOP	4.58	3.28
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.18 kW	8.46 kW
COP Tj = -7°C	2.83	2.12
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	6.53 kW	5.05 kW
COP Tj = +2°C	4.57	3.14
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.66 kW	5.18 kW
COP Tj = +7°C	5.78	4.27
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.52 kW	6.11 kW
COP Tj = 12°C	7.35	5.79
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	10.18 kW	8.46 kW
COP Tj = Tbiv	2.83	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.05 kW	7.98 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.71
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	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	1.45 kW	1.59 kW
Annual energy consumption Qhe	5189 kWh	6029 kWh



# Model: VWL 105/5 AS + VWL 127/5 IS

Configure model		
Model name	VWL 105/5 AS + VWL 127/5 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 3x400V 50Hz		

# Heating

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

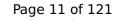
EN 14511-2		
	Low temperature	Medium temperature
Heat output	9.70 kW	10.35 kW
El input	2.12 kW	3.74 kW
СОР	4.57	2.77

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	211 %	158 %
Prated	8.23 kW	9.29 kW
SCOP	5.34	4.02
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
$COP Tj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.98	0.99





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2059 kWh	3090 kWh

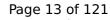
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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	Low temperature	Medium temperature
$\eta_s$	152 %	111 %
Prated	9.49 kW	9.42 kW
SCOP	3.87	2.85
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	6.32 kW	6.14 kW
COP Tj = -7°C	3.41	2.56
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	4.94 kW	4.48 kW
$COP Tj = +2^{\circ}C$	4.53	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.53 kW	5.31 kW
$COP Tj = +7^{\circ}C$	5.86	4.59
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.44 kW	6.21 kW
COP Tj = 12°C	7.27	5.99
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	7.74 kW	7.68 kW
COP Tj = Tbiv	2.34	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	7.68 kW





2.22	1.89
1.000	1.000
55 °C	55 °C
17 W	17 W
17 W	17 W
17 W	17 W
0 W	0 W
Electricity	Electricity
9.49 kW	9.42 kW
6040 kWh	8138 kWh
7.74	7.68
2.34	1.89
1.000	1.000
	1.000 55 °C 17 W 17 W 17 W 0 W Electricity 9.49 kW 6040 kWh 7.74 2.34

# Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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	Low temperature	Medium temperature
$\eta_{s}$	180 %	128 %
Prated	11.50 kW	9.56 kW
SCOP	4.57	3.27
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.18 kW	8.46 kW
COP Tj = -7°C	2.83	2.12
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.53 kW	5.05 kW
$COPTj = +2^{\circ}C$	4.57	3.14
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.66 kW	5.18 kW
$COPTj = +7^{\circ}C$	5.78	4.27
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.52 kW	6.11 kW
COP Tj = 12°C	7.35	5.79
Cdh Tj = +12 °C	0.980	0.990
Pdh Tj = Tbiv	10.18 kW	8.46 kW
COP Tj = Tbiv	2.83	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.05 kW	7.98 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.71
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.45 kW	1.59 kW
Annual energy consumption Qhe	5199 kWh	6040 kWh



# Model: VWL 105/5 AS 230V S2 + VWL 127/5 IS

Configure model		
Model name VWL 105/5 AS 230V S2 + VWL 127/5 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 14511-4		
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	

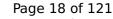
EN 14511-2		
	Low temperature	Medium temperature
Heat output	9.70 kW	10.35 kW
El input	2.12 kW	3.74 kW
СОР	4.57	2.77

## Warmer Climate

CEN heat pump KEYMARK

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	207 %	156 %
Prated	8.23 kW	9.29 kW
SCOP	5.25	3.97
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
COP Tj = +7°C	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.99	0.99





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2094 kWh	3125 kWh

## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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	Low temperature	Medium temperature
$\eta_{s}$	152 %	111 %
Prated	9.49 kW	9.42 kW
SCOP	3.87	2.85
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	6.32 kW	6.14 kW
COP $Tj = -7$ °C	3.41	2.56
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = $+2$ °C	4.94 kW	4.48 kW
COP Tj = +2°C	4.53	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.53 kW	5.31 kW
$COPTj = +7^{\circ}C$	5.86	4.59
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.44 kW	6.21 kW
COP Tj = 12°C	7.27	5.99
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	7.74 kW	7.68 kW
COP Tj = Tbiv	2.34	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	7.68 kW





2.22	1.89
1.000	1.000
55 °C	55 °C
11 W	11 W
11 W	11 W
11 W	11 W
o w	0 W
Electricity	Electricity
9.49 kW	9.42 kW
6049 kWh	8148 kWh
7.74	7.68
2.34	1.89
1.000	1.000
	1.000 55 °C 11 W 11 W 11 W 0 W Electricity 9.49 kW 6049 kWh 7.74 2.34

# Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	45 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	



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	Low temperature	Medium temperature
$\eta_{S}$	179 %	127 %
Prated	11.50 kW	9.56 kW
SCOP	4.54	3.26
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = $-7^{\circ}$ C	10.18 kW	8.46 kW
$COP Tj = -7^{\circ}C$	2.83	2.12
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	6.53 kW	5.05 kW
COP Tj = +2°C	4.57	3.14
Cdh Tj = $+2$ °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.66 kW	5.18 kW
$COP Tj = +7^{\circ}C$	5.78	4.27
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.52 kW	6.11 kW
COP Tj = 12°C	7.35	5.79
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	10.18 kW	8.46 kW
COP Tj = Tbiv	2.83	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.05 kW	7.98 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.71
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	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	1.45 kW	1.59 kW
Annual energy consumption Qhe	5229 kWh	6069 kWh

# Model: VWL 105/5 AS S2 + VWL 127/5 IS

Configure model		
Model name	VWL 105/5 AS S2 + VWL 127/5 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 3x400V 50Hz		

# Heating

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	

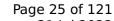
EN 14511-2			
Low temperature Medium temperature			
Heat output	9.70 kW	10.35 kW	
El input	2.12 kW	3.74 kW	
СОР	4.57	2.77	

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	203 %	154 %
Prated	8.23 kW	9.29 kW
SCOP	5.15	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
COP Tj = +7°C	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.98	0.99
	·	





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2133 kWh	3164 kWh

## Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	45 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	





	Low temperature	Medium temperature
$\eta_{s}$	151 %	111 %
Prated	9.49 kW	9.42 kW
SCOP	3.85	2.84
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	6.32 kW	6.14 kW
COP Tj = $-7^{\circ}$ C	3.41	2.56
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	4.94 kW	4.48 kW
$COP Tj = +2^{\circ}C$	4.53	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.53 kW	5.31 kW
$COPTj = +7^{\circ}C$	5.86	4.59
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.44 kW	6.21 kW
COP Tj = 12°C	7.27	5.99
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	7.74 kW	7.68 kW
COP Tj = Tbiv	2.34	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	7.68 kW

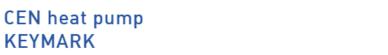




COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	9.49 kW	9.42 kW
Annual energy consumption Qhe	6077 kWh	8175 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.74	7.68
COP Tj = -15°C (if TOL $<$ -20°C)	2.34	1.89
Cdh Tj = -15 °C	1.000	1.000

# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	45 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	



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This information was generated by the HP KEYMARK database on 31 Jul 2022

	Low temperature	Medium temperature
$\eta_{s}$	178 %	127 %
Prated	11.50 kW	9.56 kW
SCOP	4.52	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.18 kW	8.46 kW
COP Tj = -7°C	2.83	2.12
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.53 kW	5.05 kW
COP Tj = +2°C	4.57	3.14
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.66 kW	5.18 kW
$COP Tj = +7^{\circ}C$	5.78	4.27
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.52 kW	6.11 kW
COP Tj = 12°C	7.35	5.79
Cdh Tj = +12 °C	0.980	0.990
Pdh Tj = Tbiv	10.18 kW	8.46 kW
COP Tj = Tbiv	2.83	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.05 kW	7.98 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.71
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.45 kW	1.59 kW
Annual energy consumption Qhe	5260 kWh	6102 kWh



# Model: VWL 105/5 AS 230V + VWL 128/5 IS

Configure model		
Model name	VWL 105/5 AS 230V + VWL 128/5 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 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
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	

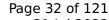
EN 14511-2			
	Low temperature	Medium temperature	
Heat output	9.70 kW	10.35 kW	
El input	2.12 kW	3.74 kW	
СОР	4.57	2.77	

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	212 %	158 %
Prated	8.23 kW	9.30 kW
SCOP	5.37	4.03
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.40 kW	5.73 kW
$COP Tj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.99	0.99
		<u> </u>





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2046 kWh	3076 kWh

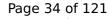
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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	Low temperature	Medium temperature
$\eta_{s}$	152 %	111 %
Prated	9.49 kW	9.42 kW
SCOP	3.88	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	6.32 kW	6.14 kW
$COP Tj = -7^{\circ}C$	3.41	2.56
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = $+2$ °C	4.94 kW	4.48 kW
COP Tj = +2°C	4.53	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.53 kW	5.31 kW
$COPTj = +7^{\circ}C$	5.86	4.59
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.44 kW	6.21 kW
COP Tj = 12°C	7.27	5.99
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	7.74 kW	7.68 kW
COP Tj = Tbiv	2.34	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	7.68 kW





2.22	1.89
1.000	1.000
55 °C	55 °C
11 W	11 W
11 W	11 W
11 W	11 W
o w	0 W
Electricity	Electricity
9.49 kW	9.42 kW
6025 kWh	8124 kWh
7.74	7.68
2.34	1.89
1.000	1.000
	1.000 55 °C 11 W 11 W 11 W 0 W Electricity 9.49 kW 6025 kWh 7.74 2.34

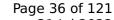
# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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Low temperature	Medium temperature
180 %	128 %
11.50 kW	9.56 kW
4.58	3.28
-7 °C	-7 °C
-10 °C	-10 °C
10.18 kW	8.46 kW
2.83	2.12
1.000	1.000
6.53 kW	5.05 kW
4.57	3.14
0.990	0.990
5.66 kW	5.18 kW
5.78	4.27
0.990	0.990
6.52 kW	6.11 kW
7.35	5.79
0.990	0.990
10.18 kW	8.46 kW
2.83	2.12
10.05 kW	7.98 kW
	180 %  11.50 kW  4.58  -7 °C  -10 °C  10.18 kW  2.83  1.000  6.53 kW  4.57  0.990  5.66 kW  5.78  0.990  6.52 kW  7.35  0.990  10.18 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.71
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	1.45 kW	1.59 kW
Annual energy consumption Qhe	5189 kWh	6029 kWh

# Domestic Hot Water (DHW)

## Warmer Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	108 %	
СОР	2.62	
Heating up time	01:01 h:min	
Standby power input	41.3 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	243 I	



## Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	89 %	
СОР	2.14	
Heating up time	01:13 h:min	
Standby power input	51.6 W	
Reference hot water temperature	53.4 °C	
Mixed water at 40°C	246 I	

# Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	97 %	
СОР	2.36	
Heating up time	01:04 h:min	
Standby power input	44.6 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	244	



# Model: VWL 105/5 AS + VWL 128/5 IS

Configure model		
Model name	VWL 105/5 AS + VWL 128/5 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 3x400V 50Hz		

# Heating

EN 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
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	

EN 14511-2		
	Low temperature	Medium temperature
Heat output	9.70 kW	10.35 kW
El input	2.12 kW	3.74 kW
СОР	4.57	2.77

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	211 %	158 %
Prated	8.23 kW	9.29 kW
SCOP	5.34	4.02
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
$COP Tj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.98	0.99





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2059 kWh	3090 kWh

## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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	Low temperature	Medium temperature
$\eta_{s}$	152 %	111 %
Prated	9.49 kW	9.42 kW
SCOP	3.87	2.85
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	6.32 kW	6.14 kW
$COP Tj = -7^{\circ}C$	3.41	2.56
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	4.94 kW	4.48 kW
COP Tj = +2°C	4.53	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.53 kW	5.31 kW
$COPTj = +7^{\circ}C$	5.86	4.59
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.44 kW	6.21 kW
COP Tj = 12°C	7.27	5.99
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	7.74 kW	7.68 kW
COP Tj = Tbiv	2.34	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	7.68 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.22	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	9.49 kW	9.42 kW
Annual energy consumption Qhe	6040 kWh	8138 kWh
Pdh Tj = -15°C (if TOL<-20°C)	7.74	7.68
COP Tj = -15°C (if TOL $<$ -20°C)	2.34	1.89
Cdh Tj = -15 °C	1.000	1.000

# **Average Climate**

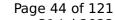
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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#### This information was generated by the HP KEYMARK database on 31 Jul 2022

	Low temperature	Medium temperature
$\eta_{S}$	180 %	128 %
Prated	11.50 kW	9.56 kW
SCOP	4.57	3.27
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = $-7$ °C	10.18 kW	8.46 kW
COP Tj = $-7$ °C	2.83	2.12
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	6.53 kW	5.05 kW
$COPTj = +2^{\circ}C$	4.57	3.14
Cdh Tj = $+2$ °C	0.990	0.990
Pdh Tj = $+7$ °C	5.66 kW	5.18 kW
$COPTj = +7^{\circ}C$	5.78	4.27
Cdh Tj = $+7$ °C	0.980	0.990
Pdh Tj = 12°C	6.52 kW	6.11 kW
COP Tj = 12°C	7.35	5.79
Cdh Tj = +12 °C	0.980	0.990
Pdh Tj = Tbiv	10.18 kW	8.46 kW
COP Tj = Tbiv	2.83	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.05 kW	7.98 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.71
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.45 kW	1.59 kW
Annual energy consumption Qhe	5199 kWh	6040 kWh

# Domestic Hot Water (DHW)

## Warmer Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	108 %	
СОР	2.62	
Heating up time	01:01 h:min	
Standby power input	41.3 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	243 I	



## Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	89 %	
СОР	2.14	
Heating up time	01:13 h:min	
Standby power input	51.6 W	
Reference hot water temperature	53.4 °C	
Mixed water at 40°C	246 I	

# Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	97 %	
СОР	2.36	
Heating up time	01:04 h:min	
Standby power input	44.6 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	244	



# Model: VWL 105/5 AS 230V S2 + VWL 128/5 IS

Configure model		
Model name	VWL 105/5 AS 230V S2 + VWL 128/5 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 14511-4		
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	

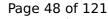
EN 14511-2		
	Low temperature	Medium temperature
Heat output	9.70 kW	10.35 kW
El input	2.12 kW	3.74 kW
СОР	4.57	2.77

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	207 %	156 %
Prated	8.23 kW	9.29 kW
SCOP	5.25	3.97
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.40 kW	5.73 kW
$COP Tj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.99	0.99





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2094 kWh	3125 kWh

## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)





	Low temperature	Medium temperature
$\eta_{s}$	152 %	111 %
Prated	9.49 kW	9.42 kW
SCOP	3.87	2.85
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	6.32 kW	6.14 kW
COP Tj = -7°C	3.41	2.56
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	4.94 kW	4.48 kW
COP Tj = +2°C	4.53	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.53 kW	5.31 kW
COP Tj = +7°C	5.86	4.59
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.44 kW	6.21 kW
COP Tj = 12°C	7.27	5.99
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	7.74 kW	7.68 kW
COP Tj = Tbiv	2.34	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	7.68 kW





2.22	1.89
1.000	1.000
55 °C	55 °C
11 W	11 W
11 W	11 W
11 W	11 W
o w	0 W
Electricity	Electricity
9.49 kW	9.42 kW
6049 kWh	8148 kWh
7.74	7.68
2.34	1.89
1.000	1.000
	1.000 55 °C 11 W 11 W 11 W 0 W Electricity 9.49 kW 6049 kWh 7.74 2.34

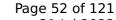
# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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	Low temperature	Medium temperature
$\eta_{S}$	179 %	127 %
Prated	11.50 kW	9.56 kW
SCOP	4.54	3.26
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = $-7$ °C	10.18 kW	8.46 kW
COP Tj = $-7^{\circ}$ C	2.83	2.12
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	6.53 kW	5.05 kW
$COPTj = +2^{\circ}C$	4.57	3.14
Cdh Tj = $+2$ °C	0.990	0.990
Pdh Tj = $+7$ °C	5.66 kW	5.18 kW
$COPTj = +7^{\circ}C$	5.78	4.27
Cdh Tj = $+7$ °C	0.990	0.990
Pdh Tj = 12°C	6.52 kW	6.11 kW
COP Tj = 12°C	7.35	5.79
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	10.18 kW	8.46 kW
COP Tj = Tbiv	2.83	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.05 kW	7.98 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.71
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.45 kW	1.59 kW
Annual energy consumption Qhe	5229 kWh	6069 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	108 %	
СОР	2.62	
Heating up time	01:01 h:min	
Standby power input	41.3 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	243	



## Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	89 %	
СОР	2.14	
Heating up time	01:13 h:min	
Standby power input	51.6 W	
Reference hot water temperature	53.4 °C	
Mixed water at 40°C	246 I	

# Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	97 %	
СОР	2.36	
Heating up time	01:04 h:min	
Standby power input	44.6 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	244	



# Model: VWL 105/5 AS S2 + VWL 128/5 IS

Configure model		
Model name	VWL 105/5 AS S2 + VWL 128/5 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	3x400V 50Hz	

# Heating

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

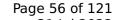
EN 14511-2			
Low temperature Medium temperature			
Heat output	9.70 kW	10.35 kW	
El input	2.12 kW	3.74 kW	
СОР	4.57	2.77	

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	42 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	203 %	154 %
Prated	8.23 kW	9.29 kW
SCOP	5.15	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
COP Tj = +7°C	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.98	0.99
		·





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2133 kWh	3164 kWh

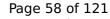
## Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	45 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	



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	Low temperature	Medium temperature
$\eta_{s}$	151 %	111 %
Prated	9.49 kW	9.42 kW
SCOP	3.85	2.84
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	6.32 kW	6.14 kW
COP Tj = -7°C	3.41	2.56
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	4.94 kW	4.48 kW
COP Tj = +2°C	4.53	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.53 kW	5.31 kW
$COPTj = +7^{\circ}C$	5.86	4.59
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.44 kW	6.21 kW
COP Tj = 12°C	7.27	5.99
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	7.74 kW	7.68 kW
COP Tj = Tbiv	2.34	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	7.68 kW

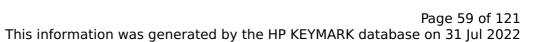




2.22	1.89
1.000	1.000
55 °C	55 °C
17 W	17 W
17 W	17 W
17 W	17 W
o w	o w
Electricity	Electricity
9.49 kW	9.42 kW
6077 kWh	8175 kWh
7.74	7.68
2.34	1.89
1.000	1.000
	1.000 55 °C 17 W 17 W 17 W 0 W Electricity 9.49 kW 6077 kWh 7.74 2.34

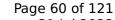
# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	42 dB(A)	45 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	





	Low temperature	Medium temperature
$\eta_{s}$	178 %	127 %
Prated	11.50 kW	9.56 kW
SCOP	4.52	3.24
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = $-7^{\circ}$ C	10.18 kW	8.46 kW
$COP Tj = -7^{\circ}C$	2.83	2.12
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	6.53 kW	5.05 kW
COP Tj = +2°C	4.57	3.14
Cdh Tj = $+2$ °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.66 kW	5.18 kW
$COP Tj = +7^{\circ}C$	5.78	4.27
Cdh Tj = $+7$ °C	0.980	0.990
Pdh Tj = 12°C	6.52 kW	6.11 kW
COP Tj = 12°C	7.35	5.79
Cdh Tj = +12 °C	0.980	0.990
Pdh Tj = Tbiv	10.18 kW	8.46 kW
COP Tj = Tbiv	2.83	2.12
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.05 kW	7.98 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.72	1.71
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.45 kW	1.59 kW
Annual energy consumption Qhe	5260 kWh	6102 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	108 %
СОР	2.62
Heating up time	01:01 h:min
Standby power input	41.3 W
Reference hot water temperature	53.7 °C
Mixed water at 40°C	243



## Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	89 %	
СОР	2.14	
Heating up time	01:13 h:min	
Standby power input	51.6 W	
Reference hot water temperature	53.4 °C	
Mixed water at 40°C	246 I	

# Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	97 %	
СОР	2.36	
Heating up time	01:04 h:min	
Standby power input	44.6 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	244	

# Model: VWL 125/5 AS 230V + VWL 127/5 IS

Configure model		
Model name	VWL 125/5 AS 230V + VWL 127/5 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 14511-4		
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	

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.25 kW	10.90 kW
El input	2.26 kW	3.94 kW
СОР	4.54	2.77

## Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	212 %	158 %
Prated	8.23 kW	9.29 kW
SCOP	5.37	4.03
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
COP Tj = +7°C	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.99	0.99





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2046 kWh	3076 kWh

## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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This information was generated by the HP KEYMARK database on 31 Jul 2022

This information was generated by the HP KEYMARK database on 31 Jul 202			
Low temperature	Medium temperature		
153 %	111 %		
12.31 kW	10.28 kW		
3.91	2.86		
-15 °C	-15 °C		
-20 °C	-15 °C		
8.06 kW	6.50 kW		
3.40	2.57		
1.000	1.000		
4.95 kW	4.47 kW		
4.68	3.45		
0.990	0.990		
5.74 kW	5.33 kW		
5.94	4.61		
0.990	0.990		
6.48 kW	6.10 kW		
7.01	6.08		
0.990	0.990		
10.04 kW	8.38 kW		
2.27	1.84		
8.63 kW	8.38 kW		
	Low temperature  153 %  12.31 kW  3.91  -15 °C  -20 °C  8.06 kW  3.40  1.000  4.95 kW  4.68  0.990  5.74 kW  5.94  0.990  6.48 kW  7.01  0.990  10.04 kW  2.27		

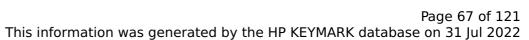




COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.31 kW	10.28 kW
Annual energy consumption Qhe	7757 kWh	8863 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.04	8.38
COP Tj = -15°C (if TOL $<$ -20°C)	2.27	1.84
Cdh Tj = -15 °C	1.000	1.000

# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	45 dB(A)	45 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	





	Low temperature	Medium temperature
$\eta_{S}$	175 %	133 %
Prated	13.57 kW	10.97 kW
SCOP	4.45	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.01 kW	9.71 kW
COP Tj = -7°C	2.51	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.21 kW	5.81 kW
$COP Tj = +2^{\circ}C$	4.47	3.25
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.68 kW	5.22 kW
$COP Tj = +7^{\circ}C$	5.83	4.47
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.44 kW	6.06 kW
COP Tj = 12°C	7.38	5.85
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	12.01 kW	9.71 kW
COP Tj = Tbiv	2.51	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.44 kW	8.97 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.13 kW	2.01 kW
Annual energy consumption Qhe	6303 kWh	6691 kWh

# Model: VWL 125/5 AS + VWL 127/5 IS

Configure model		
Model name	VWL 125/5 AS + VWL 127/5 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 3x400V 50Hz		

# Heating

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	

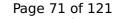
EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.25 kW	10.90 kW
El input	2.26 kW	3.94 kW
СОР	4.54	2.77

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	211 %	158 %
Prated	8.23 kW	9.29 kW
SCOP	5.34	4.02
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = $+7^{\circ}$ C	5.40 kW	5.73 kW
$COP Tj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.98	0.99





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2059 kWh	3090 kWh

## Colder Climate

EN 12102-1				
	Low temperature	Medium temperature		
Sound power level indoor	45 dB(A)	45 dB(A)		
Sound power level outdoor	58 dB(A)	60 dB(A)		



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	Low temperature	Medium temperature
$\eta_{s}$	153 %	111 %
Prated	12.31 kW	10.28 kW
SCOP	3.91	2.85
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = $-7^{\circ}$ C	8.06 kW	6.50 kW
COP Tj = $-7^{\circ}$ C	3.40	2.57
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	4.95 kW	4.47 kW
$COP Tj = +2^{\circ}C$	4.68	3.45
Cdh Tj = $+2$ °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.74 kW	5.33 kW
$COP Tj = +7^{\circ}C$	5.94	4.61
Cdh Tj = $+7$ °C	0.980	0.990
Pdh Tj = 12°C	6.48 kW	6.10 kW
COP Tj = 12°C	7.01	6.08
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	10.04 kW	8.38 kW
COP Tj = Tbiv	2.27	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.63 kW	8.38 kW

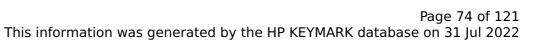




COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
PTO	17 W	17 W
PSB	17 W	17 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.31 kW	10.28 kW
Annual energy consumption Qhe	7766 kWh	8875 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.04	8.38
COP Tj = -15°C (if TOL $<$ -20°C)	2.27	1.84
Cdh Tj = -15 °C	1.000	1.000

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)





	Low temperature	Medium temperature
$\eta_{S}$	175 %	132 %
Prated	13.57 kW	10.97 kW
SCOP	4.44	3.38
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.01 kW	9.71 kW
COP Tj = -7°C	2.51	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.21 kW	5.81 kW
$COP Tj = +2^{\circ}C$	4.47	3.25
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.68 kW	5.22 kW
$COP Tj = +7^{\circ}C$	5.83	4.47
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.44 kW	6.06 kW
COP Tj = 12°C	7.38	5.85
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	12.01 kW	9.71 kW
COP Tj = Tbiv	2.51	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.44 kW	8.97 kW



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### This information was generated by the HP KEYMARK database on 31 Jul 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.13 kW	2.01 kW
Annual energy consumption Qhe	6311 kWh	6700 kWh



# Model: VWL 125/5 AS 230V S2 + VWL 127/5 IS

Configure model		
Model name	VWL 125/5 AS 230V S2 + VWL 127/5 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 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
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

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.25 kW	10.90 kW
El input	2.26 kW	3.94 kW
СОР	4.54	2.77

### Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	207 %	156 %
Prated	8.23 kW	9.29 kW
SCOP	5.25	3.97
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.40 kW	5.73 kW
$COPTj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.99	0.99

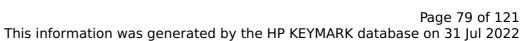




Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2094 kWh	3125 kWh

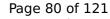
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)





	Low temperature	Medium temperature
$\eta_{S}$	153 %	111 %
Prated	12.31 kW	10.28 kW
SCOP	3.90	2.85
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	8.06 kW	6.50 kW
COP Tj = -7°C	3.40	2.57
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	4.95 kW	4.47 kW
$COP Tj = +2^{\circ}C$	4.68	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.74 kW	5.33 kW
$COP Tj = +7^{\circ}C$	5.94	4.61
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.48 kW	6.10 kW
COP Tj = 12°C	7.01	6.08
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	10.04 kW	8.38 kW
COP Tj = Tbiv	2.27	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.63 kW	8.38 kW





2.17	1.84
1.000	1.000
55 °C	55 °C
11 W	11 W
11 W	11 W
11 W	11 W
0 W	0 W
Electricity	Electricity
12.31 kW	10.28 kW
7781 kWh	8887 kWh
10.04	8.38
2.27	1.84
1.000	1.000
	1.000 55 °C 11 W 11 W 11 W 0 W Electricity 12.31 kW 7781 kWh 10.04 2.27

# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	45 dB(A)	45 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	



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	Low temperature	Medium temperature
$\eta_s$	174 %	132 %
Prated	13.57 kW	10.97 kW
SCOP	4.42	3.37
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = $-7^{\circ}$ C	12.01 kW	9.71 kW
$COPTj = -7^{\circ}C$	2.51	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	7.21 kW	5.81 kW
$COPTj = +2^{\circ}C$	4.47	3.25
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7$ °C	5.68 kW	5.22 kW
$COPTj = +7^{\circ}C$	5.83	4.47
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.44 kW	6.06 kW
COP Tj = 12°C	7.38	5.85
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	12.01 kW	9.71 kW
COP Tj = Tbiv	2.51	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.44 kW	8.97 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.13 kW	2.01 kW
Annual energy consumption Qhe	6344 kWh	6731 kWh



# Model: VWL 125/5 AS S2 + VWL 127/5 IS

Configure model		
Model name	VWL 125/5 AS S2 + VWL 127/5 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 3x400V 50Hz		

# Heating

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	

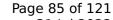
EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.25 kW	10.90 kW
El input	2.26 kW	3.94 kW
СОР	4.54	2.77

### Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	203 %	154 %
Prated	8.23 kW	9.29 kW
SCOP	5.15	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
COP Tj = +7°C	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.98	0.99





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2133 kWh	3164 kWh

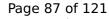
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)





	Low temperature	Medium temperature
$\eta_{s}$	152 %	111 %
Prated	12.31 kW	10.28 kW
SCOP	3.89	2.84
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	8.06 kW	6.50 kW
COP Tj = -7°C	3.40	2.57
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	4.95 kW	4.47 kW
COP Tj = +2°C	4.68	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.74 kW	5.33 kW
$COP Tj = +7^{\circ}C$	5.94	4.61
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.48 kW	6.10 kW
COP Tj = 12°C	7.01	6.08
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	10.04 kW	8.38 kW
COP Tj = Tbiv	2.27	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.63 kW	8.38 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.31 kW	10.28 kW
Annual energy consumption Qhe	7803 kWh	8912 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.04	8.38
COP Tj = -15°C (if TOL $<$ -20°C)	2.27	1.84
Cdh Tj = -15 °C	1.000	1.000

# **Average Climate**

EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	45 dB(A)	45 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	





	Low temperature	Medium temperature
$\eta_{s}$	173 %	131 %
Prated	13.57 kW	10.97 kW
SCOP	4.40	3.35
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.01 kW	9.71 kW
COP Tj = -7°C	2.51	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.21 kW	5.81 kW
COP Tj = +2°C	4.47	3.25
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.68 kW	5.22 kW
$COP Tj = +7^{\circ}C$	5.83	4.47
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.44 kW	6.06 kW
COP Tj = 12°C	7.38	5.85
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	12.01 kW	9.71 kW
COP Tj = Tbiv	2.51	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.44 kW	8.97 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.13 kW	2.01 kW
Annual energy consumption Qhe	6373 kWh	6762 kWh

# Model: VWL 125/5 AS 230V + VWL 128/5 IS

Configure model		
Model name	VWL 125/5 AS 230V + VWL 128/5 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 14511-4		
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	

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	10.25 kW	10.90 kW	
El input	2.26 kW	3.94 kW	
СОР	4.54	2.77	

### Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	212 %	158 %
Prated	8.23 kW	9.29 kW
SCOP	5.37	4.03
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
$COP Tj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.99	0.99





8.23 kW	9.29 kW
3.64	2.42
8.23 kW	9.30 kW
3.64	2.42
1.00	1.00
55 °C	55 °C
11 W	11 W
11 W	11 W
11 W	11 W
o w	o w
Electricity	Electricity
0.00 kW	0.00 kW
2046 kWh	3076 kWh
	3.64 8.23 kW 3.64 1.00 55 °C 11 W 11 W 11 W 0 W Electricity 0.00 kW

## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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This information was generated by the HP KEYMARK database on 31 Jul 2022

	Low temperature	Medium temperature
$\eta_{s}$	153 %	111 %
Prated	12.31 kW	10.28 kW
SCOP	3.91	2.86
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	8.06 kW	6.50 kW
COP Tj = -7°C	3.40	2.57
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	4.95 kW	4.47 kW
COP Tj = +2°C	4.68	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.74 kW	5.33 kW
$COP Tj = +7^{\circ}C$	5.94	4.61
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.48 kW	6.10 kW
COP Tj = 12°C	7.01	6.08
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	10.04 kW	8.38 kW
COP Tj = Tbiv	2.27	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.63 kW	8.38 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	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
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.31 kW	10.28 kW
Annual energy consumption Qhe	7757 kWh	8863 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.04	8.38
COP Tj = -15°C (if TOL $<$ -20°C)	2.27	1.84
Cdh Tj = -15 °C	1.000	1.000

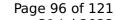
# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)





	Low temperature	Medium temperature
$\eta_{s}$	175 %	133 %
Prated	13.57 kW	10.97 kW
SCOP	4.45	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.01 kW	9.71 kW
COP Tj = -7°C	2.51	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.21 kW	5.81 kW
COP Tj = +2°C	4.47	3.25
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.68 kW	5.22 kW
$COP Tj = +7^{\circ}C$	5.83	4.47
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.44 kW	6.06 kW
COP Tj = 12°C	7.38	5.85
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	12.01 kW	9.71 kW
COP Tj = Tbiv	2.51	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.44 kW	8.97 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.13 kW	2.01 kW
Annual energy consumption Qhe	6303 kWh	6691 kWh

# Domestic Hot Water (DHW)

### Warmer Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	108 %	
СОР	2.62	
Heating up time	01:01 h:min	
Standby power input	41.3 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	243	



## Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	89 %	
СОР	2.14	
Heating up time	01:13 h:min	
Standby power input	51.6 W	
Reference hot water temperature	53.4 °C	
Mixed water at 40°C	246 I	

# Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	97 %	
СОР	2.36	
Heating up time	01:04 h:min	
Standby power input	44.6 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	244	

# Model: VWL 125/5 AS + VWL 128/5 IS

Configure model		
Model name	VWL 125/5 AS + VWL 128/5 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	3x400V 50Hz	

# Heating

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	

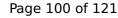
EN 14511-2			
Low temperature Medium temperature			
Heat output	10.25 kW	10.90 kW	
El input	2.26 kW	3.94 kW	
СОР	4.54	2.77	

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	211 %	158 %
Prated	8.23 kW	9.29 kW
SCOP	5.34	4.02
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
$COP Tj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.98	0.99





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2059 kWh	3090 kWh

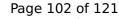
## Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	43 dB(A)	44 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	



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	Low temperature	Medium temperature
$\eta_{s}$	153 %	111 %
Prated	12.31 kW	10.28 kW
SCOP	3.91	2.85
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	8.06 kW	6.50 kW
COP Tj = -7°C	3.40	2.57
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	4.95 kW	4.47 kW
$COPTj = +2^{\circ}C$	4.68	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.74 kW	5.33 kW
$COPTj = +7^{\circ}C$	5.94	4.61
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.48 kW	6.10 kW
COP Tj = 12°C	7.01	6.08
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	10.04 kW	8.38 kW
COP Tj = Tbiv	2.27	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.63 kW	8.38 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.84
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.31 kW	10.28 kW
Annual energy consumption Qhe	7766 kWh	8875 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.04	8.38
COP Tj = -15°C (if TOL $<$ -20°C)	2.27	1.84
Cdh Tj = -15 °C	1.000	1.000

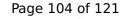
# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	43 dB(A)	44 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	



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	Low temperature	Medium temperature
$\eta_s$	175 %	132 %
Prated	13.57 kW	10.97 kW
SCOP	4.44	3.38
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.01 kW	9.71 kW
COP Tj = -7°C	2.51	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.21 kW	5.81 kW
$COP Tj = +2^{\circ}C$	4.47	3.25
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.68 kW	5.22 kW
$COP Tj = +7^{\circ}C$	5.83	4.47
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.44 kW	6.06 kW
COP Tj = 12°C	7.38	5.85
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	12.01 kW	9.71 kW
COP Tj = Tbiv	2.51	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.44 kW	8.97 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.13 kW	2.01 kW
Annual energy consumption Qhe	6311 kWh	6700 kWh

# Domestic Hot Water (DHW)

### Warmer Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	108 %
СОР	2.62
Heating up time	01:01 h:min
Standby power input	41.3 W
Reference hot water temperature	53.7 °C
Mixed water at 40°C	243 I



## Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	89 %	
СОР	2.14	
Heating up time	01:13 h:min	
Standby power input	51.6 W	
Reference hot water temperature	53.4 °C	
Mixed water at 40°C	246 I	

# Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	97 %	
СОР	2.36	
Heating up time	01:04 h:min	
Standby power input	44.6 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	244	

# Model: VWL 125/5 AS 230V S2 + VWL 128/5 IS

Configure model		
Model name	VWL 125/5 AS 230V S2 + VWL 128/5 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 14511-4		
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	

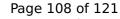
EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.25 kW	10.90 kW
El input	2.26 kW	3.94 kW
СОР	4.54	2.77

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperatur	re Medium temperature
$\eta_{s}$	207 %	156 %
Prated	8.23 kW	9.29 kW
SCOP	5.25	3.97
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
$COP Tj = +7^{\circ}C$	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.99	0.99
		·





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2094 kWh	3125 kWh

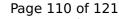
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)



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This information was generated by the HP KEYMARK database on 31 Jul 2022

	Low temperature	Medium temperature
$\eta_{s}$	153 %	111 %
Prated	12.31 kW	10.28 kW
SCOP	3.90	2.85
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	8.06 kW	6.50 kW
COP Tj = -7°C	3.40	2.57
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	4.95 kW	4.47 kW
COP Tj = +2°C	4.68	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.74 kW	5.33 kW
COP Tj = +7°C	5.94	4.61
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.48 kW	6.10 kW
COP Tj = 12°C	7.01	6.08
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	10.04 kW	8.38 kW
COP Tj = Tbiv	2.27	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.63 kW	8.38 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	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
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.31 kW	10.28 kW
Annual energy consumption Qhe	7781 kWh	8887 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.04	8.38
COP Tj = -15°C (if TOL $<$ -20°C)	2.27	1.84
Cdh Tj = -15 °C	1.000	1.000

## **Average Climate**

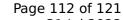
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

#### EN 14825



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	Low temperature	Medium temperature
$\eta_s$	174 %	132 %
Prated	13.57 kW	10.97 kW
SCOP	4.42	3.37
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = $-7^{\circ}$ C	12.01 kW	9.71 kW
$COPTj = -7^{\circ}C$	2.51	2.16
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	7.21 kW	5.81 kW
$COPTj = +2^{\circ}C$	4.47	3.25
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7$ °C	5.68 kW	5.22 kW
$COPTj = +7^{\circ}C$	5.83	4.47
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	6.44 kW	6.06 kW
COP Tj = 12°C	7.38	5.85
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	12.01 kW	9.71 kW
COP Tj = Tbiv	2.51	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.44 kW	8.97 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.47	1.85
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	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	1.13 kW	2.01 kW
Annual energy consumption Qhe	6344 kWh	6731 kWh

## Domestic Hot Water (DHW)

### Warmer Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	108 %	
СОР	2.62	
Heating up time	01:01 h:min	
Standby power input	41.3 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	243 I	



### Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	89 %	
СОР	2.14	
Heating up time	01:13 h:min	
Standby power input	51.6 W	
Reference hot water temperature	53.4 °C	
Mixed water at 40°C	246 I	

## Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	97 %	
СОР	2.36	
Heating up time	01:04 h:min	
Standby power input	44.6 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	244	



# Model: VWL 125/5 AS S2 + VWL 128/5 IS

Configure model		
Model name	VWL 125/5 AS S2 + VWL 128/5 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 3x400V 50Hz		

## Heating

EN 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
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	

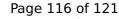
EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.25 kW	10.90 kW
El input	2.26 kW	3.94 kW
СОР	4.54	2.77

### Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	44 dB(A)
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	203 %	154 %
Prated	8.23 kW	9.29 kW
SCOP	5.15	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	8.23 kW	9.30 kW
COP Tj = +2°C	3.64	2.42
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	5.40 kW	5.73 kW
COP Tj = +7°C	4.92	3.37
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	5.99 kW	6.15 kW
COP Tj = 12°C	6.28	5.20
Cdh Tj = +12 °C	0.98	0.99
		·





Pdh Tj = Tbiv	8.23 kW	9.29 kW
COP Tj = Tbiv	3.64	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.23 kW	9.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.64	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	55 °C	55 °C
Poff	17 W	17 W
РТО	17 W	17 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2133 kWh	3164 kWh

### Colder Climate

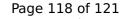
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	43 dB(A)	44 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	

#### EN 14825



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	Low temperature	Medium temperature
$\eta_{s}$	152 %	111 %
Prated	12.31 kW	10.28 kW
SCOP	3.89	2.84
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	8.06 kW	6.50 kW
$COPTj = -7^{\circ}C$	3.40	2.57
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	4.95 kW	4.47 kW
COP Tj = +2°C	4.68	3.45
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = $+7^{\circ}$ C	5.74 kW	5.33 kW
$COPTj = +7^{\circ}C$	5.94	4.61
Cdh Tj = +7 °C	0.980	0.990
Pdh Tj = 12°C	6.48 kW	6.10 kW
COP Tj = 12°C	7.01	6.08
Cdh Tj = +12 °C	0.980	0.980
Pdh Tj = Tbiv	10.04 kW	8.38 kW
COP Tj = Tbiv	2.27	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.63 kW	8.38 kW
	·	•





2.17	1.84
1.000	1.000
55 °C	55 °C
17 W	17 W
17 W	17 W
17 W	17 W
o w	0 W
Electricity	Electricity
12.31 kW	10.28 kW
7803 kWh	8912 kWh
10.04	8.38
2.27	1.84
1.000	1.000
	1.000 55 °C 17 W 17 W 17 W 0 W Electricity 12.31 kW 7803 kWh 10.04 2.27

## **Average Climate**

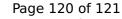
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	43 dB(A)	44 dB(A)	
Sound power level outdoor	58 dB(A)	60 dB(A)	

#### EN 14825



### Page 119 of 121

This information was generated by the HP KEYMARK database on 31 Jul 2022 Low temperature **Medium temperature** 173 % 131 %  $\eta_s$ Prated 13.57 kW 10.97 kW **SCOP** 4.40 3.35 Tbiv -7 °C -7 °C TOL -10 °C -10 °C Pdh Tj =  $-7^{\circ}$ C 12.01 kW 9.71 kW  $COP Tj = -7^{\circ}C$ 2.51 2.16 Cdh Tj = -7  $^{\circ}$ C 1.000 1.000 Pdh Tj =  $+2^{\circ}$ C 7.21 kW 5.81 kW  $COPTj = +2^{\circ}C$ 4.47 3.25 Cdh Tj = +2 °C0.990 0.990 Pdh Tj =  $+7^{\circ}$ C 5.68 kW 5.22 kW  $COP Tj = +7^{\circ}C$ 5.83 4.47 0.990 Cdh Tj = +7 °C 0.980 Pdh Tj =  $12^{\circ}$ C 6.44 kW 6.06 kW 7.38  $COP Tj = 12^{\circ}C$ 5.85 Cdh Tj = +12 °C 0.980 0.980 Pdh Tj = Tbiv12.01 kW 9.71 kW COP Tj = Tbiv2.51 2.16 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 12.44 kW 8.97 kW





2.47	1.85
1.000	1.000
55 °C	55 °C
17 W	17 W
17 W	17 W
17 W	17 W
o w	0 W
Electricity	Electricity
1.13 kW	2.01 kW
6373 kWh	6762 kWh
	1.000 55 °C 17 W 17 W 17 W 0 W Electricity 1.13 kW

## Domestic Hot Water (DHW)

### Warmer Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	108 %	
СОР	2.62	
Heating up time	01:01 h:min	
Standby power input	41.3 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	243 I	



### Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	89 %	
СОР	2.14	
Heating up time	01:13 h:min	
Standby power input	51.6 W	
Reference hot water temperature	53.4 °C	
Mixed water at 40°C	246 I	

## Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	97 %	
СОР	2.36	
Heating up time	01:04 h:min	
Standby power input	44.6 W	
Reference hot water temperature	53.7 °C	
Mixed water at 40°C	244 I	