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### This information was generated by the HP KEYMARK database on 28 Sep 2022

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Summary of	VWL 85/7.2 AS 230V S3 / VWL 105/7.2 AS 230V S3	Reg. No.	011-1W0554		
Certificate Holder	Certificate Holder				
Name	Vaillant Deutschland GmbH & Co KG				
Address	Berghauser Straße 40	Zip	42859		
City	Remscheid	Country	Germany		
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH				
Subtype title	VWL 85/7.2 AS 230V S3 / VWL 105/7.2 AS 230V S3				
Heat Pump Type	Outdoor Air/Water				
Refrigerant	R32				
Mass of Refrigerant	1.6 kg				
Certification Date	26.09.2022				
Testing basis	European KEYMARK Scheme for Heat Pumps Rev. 10 (as of 2022-06)				



# Model: VWL 105/7.2 AS 230V S3 + VWL 108/7.2 IS

Configure model			
Model name	VWL 105/7.2 AS 230V S3 + VWL 108/7.2 IS		
Application	Heating + DHW + low temp		
Units	Indoor + Outdoor		
Climate Zone	Colder Climate + Warmer Climate		
Reversibility	Yes		
Cooling mode application (optional)	+7°C/12°C and +18°C/+23°C		

General Data		
Power supply	1x230V 50Hz	

# Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	9.85 kW	7.40 kW	
El input	2.11 kW	2.32 kW	
СОР	4.68	3.19	

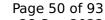
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2			
	+7°C/+12°C	+18°C/+23°C	
El input	3.00 kW	1.90 kW	
Cooling capacity	7.32	7.16	
EER	2.44	3.76	





	+7°C/+12°C	+18°C/+23°C
Pdesignc	7.69 kW	8.44 kW
SEER	3.97	5.94
Pdc Tj = 35°C	7.69 kW	8.44 kW
EER Tj = 35°C	2.39	3.61
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	5.34 kW	5.98 kW
EER Tj = 30°C	3.43	5.01
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	3.32 kW	4.48 kW
EER Tj = 25°C	4.44	6.84
Cdc Tj = 25 °C	0.975	0.972
Pdc Tj = 20°C	3.65 kW	4.82 kW
EER Tj = 20°C	5.50	8.57
Cdc Tj = 20 °C	0.972	0.967
Poff	15 W	15 W
РТО	20 W	20 W
PSB	15 W	15 W
PCK	0 W	0 W
Annual energy consumption Qce	1161 kWh	853 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	225 %	162 %
Prated	8.03 kW	7.39 kW
SCOP	5.71	4.12
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	8.03 kW	7.39 kW
COP Tj = +2°C	3.35	2.08
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	5.51 kW	5.16 kW
$COPTj = +7^{\circ}C$	5.21	3.50
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	5.41 kW	5.40 kW
COP Tj = 12°C	7.05	5.55
Cdh Tj = +12 °C	0.97	0.98

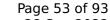




8.03 kW	7.39 kW
3.35	2.08
8.03 kW	7.39 kW
3.35	2.08
1.00	1.00
60 °C	60 °C
15 W	15 W
20 W	20 W
15 W	15 W
o w	o w
Electricity	Electricity
0.00 kW	0.00 kW
1878 kWh	2396 kWh
	3.35 8.03 kW 3.35 1.00 60 °C 15 W 20 W 15 W 0 W Electricity 0.00 kW

### Colder Climate

EN 12102-1				
	Low temperature	Medium temperature		
Sound power level indoor	41 dB(A)	41 dB(A)		
Sound power level outdoor	63 dB(A)	63 dB(A)		





	Low temperature	Medium temperature
$\eta_{s}$	144 %	106 %
Prated	6.86 kW	8.14 kW
SCOP	3.69	2.72
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.31 kW	4.73 kW
COP Tj = -7°C	3.00	2.20
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	3.62 kW	3.34 kW
COP Tj = +2°C	4.54	3.48
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	4.44 kW	4.42 kW
$COPTj = +7^{\circ}C$	6.02	5.02
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	5.08 kW	5.18 kW
COP Tj = 12°C	7.37	5.62
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	5.60 kW	6.64 kW
COP Tj = Tbiv	2.20	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.80 kW	6.64 kW

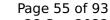




COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.09	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	20 W	20 W
PSB	15 W	15 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.86 kW	8.14 kW
Annual energy consumption Qhe	4587 kWh	7362 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.60	6.64
COP Tj = -15°C (if TOL $<$ -20°C)	2.20	1.72
Cdh Tj = -15 °C	1.00	1.00
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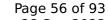
# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)





	Low temperature	Medium temperature
$\eta_{s}$	178 %	130 %
Prated	7.75 kW	8.35 kW
SCOP	4.51	3.34
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.86 kW	7.38 kW
COP Tj = -7°C	2.80	2.24
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	4.10 kW	4.39 kW
$COPTj = +2^{\circ}C$	4.43	3.10
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.47 kW	4.45 kW
$COPTj = +7^{\circ}C$	6.09	4.51
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	5.12 kW	5.34 kW
COP Tj = 12°C	7.95	6.07
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	6.86 kW	7.38 kW
COP Tj = Tbiv	2.80	2.24
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.08 kW	7.07 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.98
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	20 W	20 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.67 kW	1.28 kW
Annual energy consumption Qhe	3548 kWh	5170 kWh

# Domestic Hot Water (DHW)

### Warmer Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	113.9 %	
СОР	2.72	
Heating up time	00:51 h:min	
Standby power input	34.9 W	
Reference hot water temperature	51.68 °C	
Mixed water at 40°C	236.73	



### Colder Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	83 %	
СОР	2.00	
Heating up time	00:57 h:min	
Standby power input	40.9 W	
Reference hot water temperature	51.45 °C	
Mixed water at 40°C	235.28	

# Average Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	98.5 %	
СОР	2.36	
Heating up time	00:54 h:min	
Standby power input	39.0 W	
Reference hot water temperature	51.53 °C	
Mixed water at 40°C	236.2	



# Model: VWL 105/7.2 AS 230V S3 + VWL 108/7.2 IS C2

Configure model		
Model name	VWL 105/7.2 AS 230V S3 + VWL 108/7.2 IS C2	
Application	Heating + DHW + low temp	
Units	Indoor + Outdoor	
Climate Zone Colder Climate + Warmer Climate		
Reversibility Yes		
Cooling mode application (optional) +7°C/12°C and +18°C/+23°C		

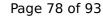
General Data			
Power supply	Power supply 1x230V 50Hz		

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	9.85 kW	7.40 kW
El input	2.16 kW	2.37 kW
СОР	4.57	3.12

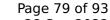
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

## Cooling





EN 14511-2			
+7°C/+12°C +18°C/+23°C			
El input	3.05 kW	1.95 kW	
Cooling capacity	7.32	7.16	
EER	2.40	3.67	





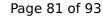
ring ilmerination was gener	+7°C/+12°C	+18°C/+23°C
Pdesignc	7.69 kW	8.44 kW
SEER	3.78	5.60
Pdc Tj = 35°C	7.69 kW	8.44 kW
EER Tj = 35°C	2.35	3.54
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	5.34 kW	5.98 kW
EER Tj = 30°C	3.33	4.81
Cdc Tj = 30 °C	1.000	1.000
Pdc Tj = 25°C	3.32 kW	4.48 kW
EER Tj = 25°C	4.16	6.35
Cdc Tj = 25 °C	1.000	0.974
Pdc Tj = 20°C	3.65 kW	4.82 kW
EER Tj = 20°C	5.11	7.87
Cdc Tj = 20 °C	0.974	0.970
Poff	15 W	15 W
РТО	20 W	20 W
PSB	15 W	15 W
PCK	o w	0 W
Annual energy consumption Qce	1220 kWh	904 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	214 %	156 %
Prated	8.03 kW	7.39 kW
SCOP	5.43	3.97
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.03 kW	7.39 kW
COP Tj = +2°C	3.28	2.05
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.51 kW	5.16 kW
$COP Tj = +7^{\circ}C$	4.97	3.39
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	5.41 kW	5.40 kW
COP Tj = 12°C	6.62	5.28
Cdh Tj = +12 °C	0.98	0.98

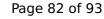




Pdh Tj = Tbiv	8.03 kW	7.39 kW
COP Tj = Tbiv	3.28	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.03 kW	7.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.28	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	20 W	20 W
PSB	15 W	15 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	1976 kWh	2490 kWh

### Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	41 dB(A)	41 dB(A)	
Sound power level outdoor	63 dB(A)	63 dB(A)	





	Low temperature	Medium temperature
$\eta_{s}$	138 %	102 %
Prated	6.86 kW	8.14 kW
SCOP	3.52	2.64
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	4.31 kW	4.73 kW
COP Tj = -7°C	2.90	2.15
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	3.62 kW	3.34 kW
$COP Tj = +2^{\circ}C$	4.27	3.31
Cdh Tj = +2 °C	0.98	0.98
Pdh Tj = +7°C	4.44 kW	4.42 kW
$COP Tj = +7^{\circ}C$	5.64	4.75
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	5.08 kW	5.18 kW
COP Tj = 12°C	6.87	5.33
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	5.60 kW	6.64 kW
COP Tj = Tbiv	2.16	1.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.80 kW	6.64 kW

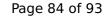




2.05	1.70
1.00	1.00
60 °C	60 °C
15 W	15 W
20 W	20 W
15 W	15 W
o w	o w
Electricity	Electricity
6.86 kW	8.14 kW
4798 kWh	7612 kWh
5.60	6.64
2.16	1.70
1.00	1.00
	1.00 60 °C 15 W 20 W 15 W 0 W Electricity 6.86 kW 4798 kWh 5.60 2.16

# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	41 dB(A)	41 dB(A)	
Sound power level outdoor	63 dB(A)	63 dB(A)	





	Low temperature	Medium temperature
$\eta_{s}$	169 %	126 %
Prated	7.75 kW	8.35 kW
SCOP	4.30	3.22
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.86 kW	7.38 kW
COP Tj = -7°C	2.74	2.21
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	4.10 kW	4.39 kW
COP Tj = +2°C	4.20	3.00
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	4.47 kW	4.45 kW
$COP Tj = +7^{\circ}C$	5.70	4.29
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	5.12 kW	5.34 kW
COP Tj = 12°C	7.37	5.74
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	6.86 kW	7.38 kW
COP Tj = Tbiv	2.74	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.08 kW	7.07 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.35	1.96
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	20 W	20 W
PSB	15 W	15 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.67 kW	1.28 kW
Annual energy consumption Qhe	3729 kWh	5354 kWh

# Domestic Hot Water (DHW)

### Warmer Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	113.9 %	
СОР	2.72	
Heating up time	00:51 h:min	
Standby power input	34.9 W	
Reference hot water temperature	51.68 °C	
Mixed water at 40°C	236.73	



### Colder Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	83 %	
СОР	2.00	
Heating up time	00:57 h:min	
Standby power input	40.9 W	
Reference hot water temperature	51.45 °C	
Mixed water at 40°C	235.28	

# Average Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	98.5 %	
COP	2.36	
Heating up time	00:54 h:min	
Standby power input	39.0 W	
Reference hot water temperature	51.53 °C	
Mixed water at 40°C	236.2	