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La alta	5 ,		•
<u>Login</u> Summary of	VWL 45/7.2 AS 230V S3 / VWL 65/7.2 AS230V S3	Reg. No.	011-1W0553
Certificate Holder		1	1
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 45/7.2 AS 230V S3 / VWL 65/7.2 AS230V S3		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass of Refrigerant	1 kg		
Certification Date	26.09.2022		
Testing basis	European KEYMARK Scheme for Heat Pumps Rev. 10 (as of 2022-06)		

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Model: VWL 45/7.2 AS 230V S3 + VWL 108/7.2 IS

Configure model		
Model name	VWL 45/7.2 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	4.21 kW	4.32 kW
El input	0.79 kW	1.48 kW
СОР	5.31	2.91

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

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EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	1.21 kW	0.81 kW
Cooling capacity	3.61	4.00
EER	2.97	4.96

EN 14825

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	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.61 kW	3.84 kW
SEER	4.85	7.34
Pdc Tj = 35°C	3.61 kW	3.84 kW
EER Tj = 35°C	2.97	5.07
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.45 kW	3.18 kW
EER Tj = 30°C	4.08	6.80
Cdc Tj = 30 °C	1.000	0.970
Pdc Tj = 25°C	2.48 kW	3.45 kW
EER Tj = 25°C	5.66	8.94
Cdc Tj = 25 °C	0.967	0.963
Pdc Tj = 20°C	2.85 kW	3.63 kW
EER Tj = 20°C	8.15	11.65
Cdc Tj = 20 °C	0.959	0.954
Poff	12 W	12 W
РТО	6 W	6 W
PSB	12 W	12 W
РСК	0 W	0 W
Annual energy consumption Qce	446 kWh	314 kWh

Warmer Climate

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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
η _s	225 %	156 %
Prated	4.42 kW	4.27 kW
SCOP	5.71	3.97
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.42 kW	4.27 kW
COP Tj = +2°C	3.49	2.17
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.57 kW	2.75 kW
COP Tj = +7°C	5.53	3.54
Cdh Tj = +7 °C	1.00	0.99
Pdh Tj = 12°C	2.76 kW	2.61 kW
COP Tj = 12°C	6.45	4.89
Cdh Tj = +12 °C	0.99	0.99

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4.42 kW	4.27 kW		
3.49	2.17		
4.42 kW	4.27 kW		
3.49	2.17		
1.00	1.00		
60 °C	60 °C		
12 W	12 W		
6 W	6 W		
12 W	12 W		
0 W	0 W		
Electricity	Electricity		
0.00 kW	0.00 kW		
1033 kWh	1438 kWh		
	4.42 kW 3.49 4.42 kW 3.49 1.00 60 °C 12 W 6 W 12 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)

EN 14825

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	Low temperature	Medium temperature
η _s	145 %	102 %
Prated	4.12 kW	3.68 kW
SCOP	3.71	2.63
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.58 kW	2.26 kW
COP Tj = -7°C	2.88	1.97
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	2.20 kW	2.09 kW
COP Tj = +2°C	4.80	3.58
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.74 kW	2.72 kW
COP Tj = +7°C	6.40	4.79
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.80 kW	2.69 kW
COP Tj = 12°C	6.64	5.61
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	3.36 kW	3.00 kW
COP Tj = Tbiv	2.20	1.58
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.72 kW	3.00 kW

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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 1.74 1.58 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.00 1.00 60 °C WTOL 60 °C Poff 12 W 12 W PTO 6 W 6 W PSB 12 W 12 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 4.12 kW 3.68 kW Annual energy consumption Qhe 2742 kWh 3440 kWh Pdh Tj = -15° C (if TOL< -20° C) 3.36 3.00 COP Tj = -15° C (if TOL< -20° C) 2.20 1.58 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)

EN 14825

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	Low temperature	Medium temperature
η_s	182 %	133 %
Prated	4.75 kW	5.09 kW
SCOP	4.62	3.41
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.20 kW	4.50 kW
COP Tj = -7°C	3.08	2.19
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.66 kW	2.76 kW
COP Tj = +2°C	4.51	3.35
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.72 kW	2.46 kW
COP Tj = +7°C	6.19	4.45
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.01 kW	2.65 kW
COP Tj = 12°C	6.46	5.38
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.20 kW	4.50 kW
COP Tj = Tbiv	3.08	2.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.67 kW	3.37 kW

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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.54 1.60 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.00 1.00 60 °C WTOL 60 °C Poff 12 W 12 W PTO 6 W 6 W PSB 12 W 12 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 1.08 kW 1.71 kW 2126 kWh Annual energy consumption Qhe 3084 kWh

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Domestic Hot Water (DHW)

Warmer Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	131.3 %
СОР	3.14
Heating up time	01:00 h:min
Standby power input	29.1 W
Reference hot water temperature	51.6 °C
Mixed water at 40°C	237.7

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Colder Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	89.3 %	
СОР	2.16	
Heating up time	01:10 h:min	
Standby power input	33.7 W	
Reference hot water temperature	51.06 °C	
Mixed water at 40°C	233.99	

Average Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	110.1 %	
СОР	2.65	
Heating up time	01:05 h:min	
Standby power input	31.0 W	
Reference hot water temperature	51.3 °C	
Mixed water at 40°C	235.37 I	

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Model: VWL 45/7.2 AS 230V S3 + VWL 108/7.2 IS C2

Configure model		
Model name	VWL 45/7.2 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 1x230V 50Hz		

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	4.21 kW	4.32 kW
El input	0.84 kW	1.53 kW
СОР	5.00	2.82

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

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EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	1.26 kW	0.86 kW
Cooling capacity	3.61	4.00
EER	2.85	4.67

EN 14825

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	+7°C/+12°C	+18°C/+23°C
Pdesignc	3.61 kW	3.84 kW
SEER	4.44	6.63
Pdc Tj = 35°C	3.61 kW	3.84 kW
EER Tj = 35°C	2.85	4.75
Cdc Tj = 35 °C	1.000	1.000
Pdc Tj = 30°C	2.45 kW	3.18 kW
EER Tj = 30°C	3.77	6.14
Cdc Tj = 30 °C	1.000	0.972
Pdc Tj = 25°C	2.48 kW	3.45 kW
EER Tj = 25°C	5.08	7.91
Cdc Tj = 25 °C	0.971	0.967
Pdc Tj = 20°C	2.85 kW	3.63 kW
EER Tj = 20°C	7.13	10.04
Cdc Tj = 20 °C	0.964	0.961
Poff	12 W	12 W
РТО	6 W	6 W
PSB	12 W	12 W
РСК	0 W	0 W
Annual energy consumption Qce	488 kWh	347 kWh

Warmer Climate

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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
η _s	204 %	145 %
Prated	4.44 kW	4.39 kW
SCOP	5.16	3.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.42 kW	4.39 kW
COP Tj = +2°C	3.36	2.16
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.57 kW	2.75 kW
COP Tj = +7°C	4.99	3.33
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	2.76 kW	2.61 kW
COP Tj = 12°C	5.77	4.47
Cdh Tj = +12 °C	0.99	0.99

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Pdh Tj = Tbiv	4.44 kW	4.39 kW
COP Tj = Tbiv	3.34	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.44 kW	4.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.34	2.16
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	12 W	12 W
РТО	6 W	6 W
PSB	12 W	12 W
РСК	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	1148 kWh	1586 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)

EN 14825

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	Low temperature	Medium temperature
η _s	135 %	97 %
Prated	4.12 kW	3.68 kW
SCOP	3.44	2.49
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.58 kW	2.26 kW
COP Tj = -7°C	2.72	1.89
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	2.20 kW	2.09 kW
COP Tj = +2°C	4.33	3.29
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.74 kW	2.72 kW
COP Tj = +7°C	5.73	4.40
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.80 kW	2.69 kW
COP Tj = 12°C	5.93	5.08
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	3.36 kW	3.00 kW
COP Tj = Tbiv	2.13	1.54
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.72 kW	3.00 kW

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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 1.68 1.54 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.00 1.00 60 °C WTOL 60 °C Poff 12 W 12 W PTO 6 W 6 W PSB 12 W 12 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 4.12 kW 3.68 kW 3639 kWh Annual energy consumption Qhe 2954 kWh 3.00 Pdh Tj = -15° C (if TOL< -20° C) 3.36 COP Tj = -15° C (if TOL< -20° C) 2.13 1.54 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)

EN 14825

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	Low temperature	Medium temperature
η_s	168 %	125 %
Prated	4.75 kW	5.09 kW
SCOP	4.27	3.21
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.20 kW	4.50 kW
COP Tj = -7°C	2.97	2.14
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	2.66 kW	2.76 kW
COP Tj = +2°C	4.15	3.16
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	2.72 kW	2.46 kW
$COP Tj = +7^{\circ}C$	5.55	4.08
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	3.01 kW	2.65 kW
COP Tj = 12°C	5.84	4.89
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.20 kW	4.50 kW
COP Tj = Tbiv	2.97	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.67 kW	3.37 kW

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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.45 1.57 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.00 1.00 60 °C WTOL 60 °C Poff 12 W 12 W PTO 6 W 6 W PSB 12 W 12 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 1.08 kW 1.71 kW 2301 kWh 3276 kWh Annual energy consumption Qhe

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Domestic Hot Water (DHW)

Warmer Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	131.3 %	
СОР	3.14	
Heating up time	01:00 h:min	
Standby power input	29.1 W	
Reference hot water temperature	51.6 °C	
Mixed water at 40°C	237.7	

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Colder Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	89.3 %	
СОР	2.16	
Heating up time	01:10 h:min	
Standby power input	33.7 W	
Reference hot water temperature	51.06 °C	
Mixed water at 40°C	233.99	

Average Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	110.1 %	
СОР	2.65	
Heating up time	01:05 h:min	
Standby power input	31.0 W	
Reference hot water temperature	51.3 °C	
Mixed water at 40°C	235.37 I	

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