


21	Pressure sensor in the high-pressure area	25	Actuation for INVERTER assembly
22	Electronic expansion valve	26	Slot for coding resistor for cooling mode
23	Temperature sensor at the evaporator	27	Range for the safety extra-low voltage (SELV)
24	Temperature sensor downstream of the condenser		

## D Inspection and maintenance work

#	Maintenance work	Interval	
1	Checking the protective zone	Annually	36
2	Cleaning the product	Annually	36
3	Closing the purging valve	During the first service	37
4	Checking the evaporator, fan and condensate discharge	Annually	37
5	Checking the refrigerant circuit	Annually	37
6	Checking the refrigerant circuit for tightness	Annually	37
7	Checking the electrical connections and electrical wires	Annually	37
8	Checking the small damping feet for wear	Annually after the first 3 years	37

## E Technical data



### Note

The following performance data is only applicable to new products with clean heat exchangers.

The performance data also covers noise reduction mode.

The data in accordance with EN 14825 is determined using a special test method. You can find information about this from the manufacturer of the product by stating "EN 14825 test method".

### Technical data – General

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Width	1,100 mm	1,100 mm	1,100 mm
Height	765 mm	765 mm	965 mm
Depth	450 mm	450 mm	450 mm
Weight, with packaging	132 kg	132 kg	150 kg
Weight, ready for operation	114 kg	114 kg	128 kg
Weight, ready for operation, left-/right-hand side	38 kg/76 kg	38 kg/76 kg	43 kg/85 kg
Connection, heating circuit	G 1 1/4"	G 1 1/4"	G 1 1/4"
Rated voltage	230 V (+10%/-15%), 50 Hz, 1~/N/PE	230 V (+10%/-15%), 50 Hz, 1~/N/PE	230 V (+10%/-15%), 50 Hz, 1~/N/PE
Rated power, maximum	3.40 kW	3.40 kW	3.50 kW
Rated power factor	1.0	1.0	1.0
Rated current, maximum	14.3 A	14.3 A	15.0 A
In-rush current	14.3 A	14.3 A	15.0 A
IP rating	IP 15 B	IP 15 B	IP 15 B
Fuse type	Characteristic C, slow-blow, single-pole switching	Characteristic C, slow-blow, single-pole switching	Characteristic C, slow-blow, single-pole switching
Overvoltage category	II	II	II
Fan, power consumption	40 W	40 W	40 W
Fan, quantity	1	1	1
Fan, rotational speed, maximum	620 rpm	620 rpm	620 rpm
Fan, air flow, maximum	2,300 m³/h	2,300 m³/h	2,300 m³/h
Heating pump, power consumption	2 to 50 W	2 to 50 W	2 to 50 W

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### Technical data – Heating circuit

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Heating water temperature, minimum/maximum	20 to 75 °C	20 to 75 °C	20 to 75 °C
Basic length of the heating water pipe, maximum, between the outdoor unit and indoor unit	20 m	20 m	20 m
Operating pressure, minimum	0.05 MPa (0.50 bar)	0.05 MPa (0.50 bar)	0.05 MPa (0.50 bar)
Operating pressure, maximum	0.30 MPa (3.00 bar)	0.30 MPa (3.00 bar)	0.30 MPa (3.00 bar)
Volume flow, minimum	400 l/h	400 l/h	540 l/h
Volume flow, maximum	860 l/h	860 l/h	1,205 l/h
Water volume, in the outdoor unit	1.5 l	1.5 l	2.0 l
Water volume, in the heating circuit, minimum, thawing mode, activated/deactivated back-up heater	15 l / 40 l	15 l / 40 l	20 l / 55 l
Remaining feed pressure, hydraulic	56.0 kPa (560.0 mbar)	56.0 kPa (560.0 mbar)	44.0 kPa (440.0 mbar)

### Technical data – Refrigerant circuit

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Refrigerant, type	R290	R290	R290
Refrigerant, fill quantity	0.60 kg	0.60 kg	0.90 kg
Refrigerant, Global Warming Potential (GWP)	3	3	3
Refrigerant, CO <sub>2</sub> equivalent	0.0018 t	0.0018 t	0.0027 t
Permissible operating pressure, maximum	3.15 MPa (31.50 bar)	3.15 MPa (31.50 bar)	3.15 MPa (31.50 bar)
Compressor, type	Rotary compressor	Rotary compressor	Rotary compressor
Compressor, oil type	Specific polyalkylene glycol (PAG)	Specific polyalkylene glycol (PAG)	Specific polyalkylene glycol (PAG)
Compressor, control	Electronic	Electronic	Electronic

### Technical data – Power, heating mode

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Heating output, A2/W35	2.00 kW	2.00 kW	3.10 kW
Coefficient of performance, COP, EN 14511, A2/W35	3.90	3.90	4.10
Power consumption, effective, A2/W35	0.51 kW	0.51 kW	0.76 kW
Power consumption, A2/W35	2.60 A	2.60 A	3.70 A
Heat output, minimum/maximum, A7/W35	2.10 to 5.50 kW	2.10 to 6.90 kW	3.00 to 7.40 kW
Heat output, nominal, A7/W35	3.30 kW	3.40 kW	4.60 kW
Coefficient of performance, COP, EN 14511, A7/W35	4.80	4.80	4.80
Power consumption, effective, A7/W35	0.69 kW	0.71 kW	0.96 kW
Power consumption, A7/W35	3.30 A	3.30 A	4.50 A
Heating output, A7/W45	3.10 kW	3.10 kW	4.20 kW
Coefficient of performance, COP, EN 14511, A7/W45	3.60	3.60	3.60
Power consumption, effective, A7/W45	0.86 kW	0.86 kW	1.17 kW
Power consumption, A7/W45	4.00 A	4.00 A	5.40 A
Heating output, A7/W55	4.80 kW	4.80 kW	5.00 kW
Coefficient of performance, COP, EN 14511, A7/W55	2.80	2.80	2.90
Power consumption, effective, A7/W55	1.71 kW	1.71 kW	1.72 kW

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Power consumption, A7/W55	7.70 A	7.70 A	7.70 A
Heat output, A7/W65	4.50 kW	4.50 kW	6.30 kW
Coefficient of performance, COP, EN 14511, A7/W65	2.30	2.30	2.30
Power consumption, effective, A7/W65	1.96 kW	1.96 kW	2.74 kW
Power consumption, A7/W65	9.00 A	9.00 A	12.20 A
Heat output, A-7/W35	3.60 kW	5.40 kW	7.00 kW
Coefficient of performance, COP, EN 14511, A-7/W35	2.70	2.60	2.80
Power consumption, effective, A-7/W35	1.33 kW	2.08 kW	2.50 kW
Power consumption, A-7/W35	6.10 A	10.00 A	11.50 A

### Technical data – Power, cooling mode

Validity: Product with cooling mode

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Cooling output, A35/W18	4.50 kW	4.50 kW	6.40 kW
Energy efficiency ratio, EER, EN 14511, A35/W18	4.30	4.30	4.20
Power consumption, effective, A35/W18	1.05 kW	1.05 kW	1.52 kW
Power consumption, A35/W18	4.90 A	4.90 A	7.00 A
Cooling output, minimum/maximum, A35/W7	1.80 to 5.20 kW	1.80 to 5.20 kW	2.40 to 7.20 kW
Cooling output, A35/W7	3.40 kW	3.40 kW	4.90 kW
Energy efficiency ratio, EER, EN 14511, A35/W7	3.40	3.40	3.50
Power consumption, effective, A35/W7	1.00 kW	1.00 kW	1.40 kW
Power consumption, A35/W7	4.70 A	4.70 A	6.60 A

### Technical data – Power in noise reduction mode, heating mode

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Heat output, EN 14511, A-7/W35, 40% noise reduction mode	3.40 kW	3.40 kW	3.80 kW
Coefficient of performance, COP, EN 14511, A-7/W35, noise reduction mode 40%	3.00	3.00	3.00
Power consumption, effective, EN 14511, A-7/W35, 40% noise reduction mode	1.13 kW	1.13 kW	1.27 kW
Heat output, EN 14511, A-7/W35, 50% noise reduction mode	2.70 kW	2.70 kW	2.70 kW
Coefficient of performance, COP, EN 14511, A-7/W35, noise reduction mode 50%	2.90	2.90	2.60
Power consumption, effective, EN 14511, A-7/W35, 50% noise reduction mode	0.93 kW	0.93 kW	1.04 kW
Heat output, EN 14511, A-7/W35, 60% noise reduction mode	2.20 kW	2.20 kW	2.50 kW
Coefficient of performance, COP, EN 14511, A-7/W35, noise reduction mode 60%	2.90	2.90	2.60
Power consumption, effective, EN 14511, A-7/W35, 60% noise reduction mode	0.76 kW	0.76 kW	0.96 kW

### Technical data – Noise emissions, heating mode

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Sound power, EN 12102, EN 14511 LWA, A7/W35	51 dB(A)	51 dB(A)	53 dB(A)
Sound power, EN 12102, EN 14511 LWA, A7/W45	53 dB(A)	53 dB(A)	53 dB(A)



	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Sound power, EN 12102, EN 14511 LWA, A7/W55	54 dB(A)	54 dB(A)	55 dB(A)
Sound power, EN 12102, EN 14511 LWA, A7/W65	54 dB(A)	54 dB(A)	55 dB(A)
Sound power, EN 12102, EN 14511 LWA, A-7/W35, 40% noise reduction mode	48 dB(A)	48 dB(A)	50 dB(A)
Sound power, EN 12102, EN 14511 LWA, A-7/W35, 50% noise reduction mode	47 dB(A)	47 dB(A)	48 dB(A)
Sound power, EN 12102, EN 14511 LWA, A-7/W35, 60% noise reduction mode	46 dB(A)	46 dB(A)	46 dB(A)

#### Technical data – Noise emissions, cooling mode

Validity: Product with cooling mode

	VWL 35/6 A 230V S2	VWL 55/6 A 230V S2	VWL 75/6 A 230V S2
Sound power, EN 12102, EN 14511 LWA, A35/W18	53 dB(A)	53 dB(A)	55 dB(A)
Sound power, EN 12102, EN 14511 LWA, A35/W7	53 dB(A)	53 dB(A)	55 dB(A)

**Product data sheet** (in accordance with EU regulation no. 811/2013)

1	Brand name			Vaillant					
2	Models		I	VWL 75/6 A 230V S2 (55°C)					
			II	VWL 125/6 A 230V S2 (55°C)					
			III	VWL 105/6 A 230V S2 (55°C)					
			IV	-					
			V	-					
			VI	-					
3	Room heating: Seasonal energy-efficiency class			I	II	III	IV	V	VI
4	Room heating: Nominal heat output(*8) (*11)	$P_{rated}$	<i>kW</i>	6	12	9	-	-	-
5	Room heating: Seasonal energy efficiency(*8)	$\eta_{SE}$	%	133	146	142	-	-	-
6	Qhe average(*8)	$Q_{HE}$	<i>kWh</i>	3718	6531	5165	-	-	-
7	Sound power level, indoor	$L_{WA, indoor}$	<i>dB(A)</i>	-	-	-	-	-	-
8	 All specific precautions for assembly, installation and maintenance are described in the operating and installation instructions. Read and follow the operating and installation instructions.								
9	Nominal heat output(*9)	$P_{rated}$	<i>kW</i>	5	11	7	-	-	-
10	Nominal heat output(*10)	$P_{rated}$	<i>kW</i>	7	11	10	-	-	-
11	Room heating: Seasonal energy efficiency(*9)	$\eta_{SE}$	%	118	128	125	-	-	-
12	Room heating: Seasonal energy efficiency(*10)	$\eta_{SE}$	%	160	172	173	-	-	-
13	Annual energy consumption(*9)	$Q_{HE}$	<i>kWh</i>	4398	8339	5691	-	-	-
14	Annual energy consumption(*10)	$Q_{HE}$	<i>kWh</i>	2164	3378	3141	-	-	-
15	Sound power level, outdoor	$L_{WA, outdoor}$	<i>dB(A)</i>	55	60	60	-	-	-
16	 All of the data that is included in the product information was determined by applying the specifications of the relevant European directives. Differences to product information listed elsewhere may result in different test conditions. Only the data that is contained in this product information is applicable and valid.								

(\*8) For average climatic conditions

(\*9) For colder climatic conditions

(\*10) For warmer climatic conditions

(\*11) For boilers and combination boilers with a heat pump, the nominal heat output "Prated" is the same as the design load in heating mode "Pdesignh", and the nominal heat output for an auxiliary boiler "Psup" is the same as the additional heating output "sup(T)"



**Product information (in accordance with EU regulation no. 813/2013)**

1	Brand name	Vaillant	
2	Models	I	VWL 75/6 A 230V S2 (55°C)
		II	VWL 125/6 A 230V S2 (55°C)
		III	VWL 105/6 A 230V S2 (55°C)
		IV	-
		V	-
		VI	-




				I	II	III	IV	V	VI
17	Air/water heat pump			✓	✓	✓	-	-	-
18	Water/water heat pump			-	-	-	-	-	-
19	Brine/water heat pump			-	-	-	-	-	-
20	Low temperature heat pump			-	-	-	-	-	-
21	Equipped with a supplementary heater			-	-	-	-	-	-
22	Combination heater			-	-	-	-	-	-
23	Room heating: Nominal heat output(*11)	$P_{rated}$	kW	6	12	9	-	-	-
24	Room heating: Seasonal energy efficiency	$\eta_s$	%	133	146	142	-	-	-
25	Tj = -7 °C(*6)	$P_{dh -7^\circ}$	kW	5,4	10,5	8,0	-	-	-
26	Tj = +2 °C(*6)	$P_{dh +2^\circ}$	kW	3,5	6,4	4,8	-	-	-
27	Tj = +7 °C(*6)	$P_{dh +7^\circ}$	kW	3,0	5,7	5,4	-	-	-
28	Tj = +12 °C(*6)	$P_{dh +12^\circ}$	kW	3,6	6,6	6,3	-	-	-
29	Tj = Bivalence temperature(*6)	$P_{dh}$	kW	5,4	10,5	9,0	-	-	-
30	Tj = Operating limit value temperature(*6)	$P_{dh}$	kW	4,9	9,8	9,0	-	-	-
31	Tj = -15 °C(*6)	$P_{dh -15^\circ}$	kW	-	-	-	-	-	-
32	Bivalence temperature	$T_{bv}$	°C	-7	-7	-10	-	-	-
33	Output for cyclical interval heating mode	$P_{cym}$	kW	-	-	-	-	-	-
34	Degradation coefficient	$C_{dh}$		0,95	0,96	0,96	-	-	-
35	Tj = -7 °C(*7)	$COP_d$		2,13	2,10	2,20	-	-	-
36	Tj = +2 °C(*7)	$COP_d$		3,36	3,73	3,63	-	-	-
37	Tj = +7 °C(*7)	$COP_d$		4,60	5,26	4,92	-	-	-
38	Tj = +12 °C(*7)	$COP_d$		6,18	6,64	6,34	-	-	-
39	Tj = Bivalence temperature(*7)	$COP_d$		2,13	2,10	1,87	-	-	-
40	Tj = Operating limit value temperature(*7)	$COP_d$		1,88	1,87	1,87	-	-	-
41	Tj = -15 °C(*7)	$COP_d$		-	-	-	-	-	-
42	Operating limit temperature	$TOL$	°C	-10	-10	-10	-	-	-
43	Cycling interval efficiency(*7)	$COP_{oc}$	%	-	-	-	-	-	-
44	Limit value for the heating water's operating temperature	$WTOL$	°C	70	70	70	-	-	-
45	Power consumption: Off-mode	$P_{off}$	kW	0,008	0,008	0,008	-	-	-
46	Power consumption: "Temperature controller off"	$P_{to}$	kW	0,029	0,045	0,045	-	-	-
47	Power consumption: Standby-mode	$P_{sb}$	kW	0,029	0,045	0,045	-	-	-
48	Power consumption: Operating status with crankcase heating	$P_{ck}$	kW	0,000	0,000	0,000	-	-	-
49	Nominal heat output for auxiliary heating	$P_{sup}$	kW	1,3	2,0	0,1	-	-	-
50	Type of energy input for the auxiliary boiler			electric	electric	electric	-	-	-
51	Controlling output under average climate conditions			variable	variable	variable	-	-	-
52	Sound power level, indoor	$L_{wa indoor}$	dB(A)	-	-	-	-	-	-
53	Sound power level, outdoor	$L_{wa outdoor}$	dB(A)	55	60	60	-	-	-
54	Nitrogen oxide emissions	$NO_x$	mg/kWh	-	-	-	-	-	-
55	For air-to-water heat pumps: Rated air flow rate, outdoors		$m^3/h$	2.120	4.460	4.200	-	-	-
56	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		$m^3/h$	-	-	-	-	-	-
57	Manufacturer's address	Vaillant GmbH Berghauser Str. 40 42859 Remscheid Germany							
58	Manufacturer	Vaillant							

(\*6) Specified output in heating mode for partial load at room-air temperature and outside-air temperature Tj

(\*7) Specified coefficient of performance or primary energy ratio for partial load at room-air temperature and outside-air temperature Tj

(\*11) For boilers and combination boilers with a heat pump, the nominal heat output "Prated" is the same as the design load in heating mode "Pdesignh", and the nominal heat output for an auxiliary boiler "Psup" is the same as the additional heating output "sup(Tj)"



59		All specific precautions for assembly, installation and maintenance are described in the operating and installation instructions. Read and follow the operating and installation instructions.
60		Read and follow the operating and installation instructions regarding assembly, installation, maintenance, removal, recycling and/or disposal.
61		All of the data that is included in the product information was determined by applying the specifications of the relevant European directives. Differences to product information listed elsewhere may result in different test conditions. Only the data that is contained in this product information is applicable and valid.

(\*6) Specified output in heating mode for partial load at room-air temperature and outside-air temperature Tj

(\*7) Specified coefficient of performance or primary energy ratio for partial load at room-air temperature and outside-air temperature Tj

(\*11) For boilers and combination boilers with a heat pump, the nominal heat output "Prated" is the same as the design load in heating mode "Pdesignh", and the nominal heat output for an auxiliary boiler "Psup" is the same as the additional heating output "sup(Tj)"



## Air Source Heat Pump Noise Level Calculation Form

Step	Instructions	MCS Contractors Results
1.	From manufacturers data, obtain the A-weighted sound power level of the heat pump. See "Note 1: Sound Power Level" below. The highest sound power level specified should be used (the power in "low noise mode" should not be used).	54
2.	Use "Note 2: Sound Pressure level" and "Note 3: Determination of directivity" below to establish the directivity "Q" of the heat pump noise.	Q4 - "Two Reflective Surfaces"
3.	Measure the distance from the heat pump to the assessment position in metres.	20
4.	Use table in "Note 4: dB distance reduction" below to obtain a dB reduction.	-31
5.	Establish whether there is a solid barrier between the heat pump and the assessment position using "Note 5: Barriers between the heat pump and the assessment position" and note any dB reduction.	Visible
6.	Calculate the sound pressure level (see Note 2: Sound pressure level") from the heat pump at the assessment position using the following calculation: (STEP 1) + (STEP 4) + (STEP 5)	23
7.	Background noise level. For the purposes of the MCS Planning Standard for air source heat pumps the background noise level is assumed to be 40 dB (A)Lp. For information see "Note 6: MCS Planning Standard for air source heat pumps background noise level"	40



**Air Source Heat Pump Noise Level Calculation Form**

<b>Step</b>	<b>Instructions</b>	<b>MCS Contractors Results</b>
8.	Determine the difference between STEP 7 background noise level and the heat pump noise level using the following calculation: (STEP 7) – (STEP 6)	17
9.	Using the table in “Note 7: Decibel correction” obtain an adjustment figure and then add this to whichever is higher dB figure from STEP 6 and STEP 7. Round this number up to the nearest whole number.	40
10.	<p>Is the FINAL RESULT in STEP 9 lower than the permitted development noise limit of 42 dB (A)?            If YES – the air source heat pump will comply with the permitted development noise limit for this assessment position and may be permitted development (subject to compliance with other permitted development limitations/conditions and parts of the MCS 020 standard.)</p> <p>NOTE – other assessment positions may also need to be tested.</p> <p>If NO – the air source heat pump will not be permitted development. This installation may still go ahead if planning permission is granted by the local planning authority.</p>	YES