

# Test Report Heatpump



**Vaillant GmbH  
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Remscheid  
D-42859  
Germany**

**Report Number: P00033965**

KIWA Nederland B.V.

**Partner  
for  
Progress**

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The test results in this report are exclusively related to the samples offered and tested.

Tests marked in this report with the IRN number are part of the accreditation scope (RvA L248) unless stated differently.

Measurement uncertainty of testing in the context of ISO/IEC 17025.

Test reports can, in some cases, contain besides the numeric measured values also the qualification "pass" or "fail". In this assessment, compliance with the specification limit from the applicable product standard is used. The measurement complies with the requirement if the probability of its being within the limit is at least 50%.

This does not take into account the measurement uncertainty associated with the test method.

It is explicitly stated that in the case of a "pass" or "fail", the measured result is corrected for the measurement uncertainty and/or the relevant test conditions for the measured result.

Unless otherwise noted the measurement uncertainty and conditions are as specified in the test specifications.



This report is only valid when signed by the test person and reviewer.

Conclusions for compliance with e.g. product standard requirements are not part of the lab scope (RvA L248).

In case when information is supplied by the customer it is possible that it can affect the validity of results.

In case of dispute regarding this test report please contact Kiwa Nederland B.V.

Version: 003,2

<b>Report number</b> .....	P000339965	
<b>Project number</b> .....	P000339965	
Date of issue .....	27 November 2024	
Total number of pages .....	128	
<b>Testing laboratory</b> .....	Vaillant GmbH	
Testing location/address .....	Berghauserstrasse 40, D-42859 Remscheid, Germany	
Applicant's name .....	Vaillant GmbH	
Address .....	Berghauserstrasse 40, D-42859 Remscheid, Germany	
<b>Scope</b> .....	Testing of 3 Air-to-Water heat pumps with outdoor air as heat source regarding the requirements as derived from the below mentioned Test specifications.	
<b>Test specifications</b>		
Standards .....	EN 14825:2022 EN 14511:2022	
Non-standard test method ..	N.A.	
<b>Test item description</b> .....	Split Air-to-Water	
Manufacturer .....	Vaillant GmbH	
Model/Type reference .....	VWL 35/8.2 AS 230V + VWL 58/8.2 IS VWL 55/8.2 AS 230V + VWL 58/8.2 IS VWL 75/8.2 AS 230V + VWL 78/8.2 IS (a full overview can be found in chapter 3: Description of the product(s))	
<b>Remarks</b> .....	N.A.	
<b>Summary</b> .....	Complies with the requirements as far as identified in the attached test- and result sheets.	
Report written by: (name + signature) .....	R.Stappenbeld	
Report Approved by (name + signature) .....	Anne-Wim Juffer	

## 1 Report history

Report number.....	: P000339965
Project number .....	: P000339965
Author. ....	: R.Stappenbeld
Description.....	: Initial report Testing the Split system Air-to-Water heat pump VWL 35/8.2 AS 230V + VWL 58/8.2 IS and VWL 55/8.2 AS 230V + VWL 58/8.2 IS and VWL 75/8.2 AS 230V + VWL 78/8.2 IS according to the European standard EN 14511 / EN 14825 on domestic heating .

## 2 Summary of testing

On request of Vaillant GmbH the items as mentioned under Test item description are tested according to the Test specifications (see page 3 of this report).

The following tests are carried out :

- Heating tests acc to EN 14511 and EN 14825;
- Safety and Operational test acc to EN 14511 and EN 14825;

For this project, all testing for has been performed in the heat pump test laboratory of Vaillant in Remscheid, Germany.

Tests performed in the heat pump test laboratory of Vaillant in Remscheid are partially witnessed by Kiwa. During the witness both the laboratory itself with belonging testing equipment and the test engineers from Vaillant performing the tests have been checked.

General Remark:

Kiwa Nederland B.V. is an accredited testing laboratory by the RvA according EN ISO/IEC 17025:2017 .

The accreditation is valid only for the scope listed in the annex L248 - Raad voor Accreditatie (rva.nl).

Testing procedure:

Using F01 Checklist Testing on manufacturers premises

**Appliance description: Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS**

For the heating tests testing the following design choices according to the EN 14825 have been applied:

**Heating**

Application	<input checked="" type="checkbox"/> low temperature (35 °C) <input type="checkbox"/> intermediate temperature (45 °C) <input checked="" type="checkbox"/> medium temperature (55 °C) <input type="checkbox"/> high temperature (65 °C)					
Climate	<input checked="" type="checkbox"/> average <input checked="" type="checkbox"/> warmer <input checked="" type="checkbox"/> colder					
Test modus	<input type="checkbox"/> fixed flow <input checked="" type="checkbox"/> fixed delta T					
Water outlet temperature <sup>1</sup>	<input type="checkbox"/> fixed <input checked="" type="checkbox"/> variable					
	Average LT	Average MT	Colder LT	Colder MT	Warmer LT	Warmer MT
Pdesignh	3.44 [kW]	3.65 [kW]	3.41 [kW]	2.98 [kW]	3.22[kW]	4.02 [kW]
Tdesignh	-10 [°C]	-10 [°C]	-22 [°C]	-22 [°C]	2 [°C]	2 [°C]
Tbiv	-7 [°C]	-7 [°C]	-15 [°C]	-15 [°C]	2 [°C]	2 [°C]
TOL	-10 [°C]	-10 [°C]	-20 [°C]	-15 [°C]	2 [°C]	2 [°C]

For the Cooling tests testing the following design choices according to the EN 14825 have been applied:

**Cooling**

Application	<input checked="" type="checkbox"/> Fan coil cooling (water temperature 7 °C) <input checked="" type="checkbox"/> Floor cooling (water temperature 18 °C)					
Test modus	<input type="checkbox"/> fixed flow <input checked="" type="checkbox"/> fixed delta T					
Water outlet temperature <sup>2</sup>	<input type="checkbox"/> fixed <input checked="" type="checkbox"/> variable					
Tdesignc	35 [°C]					
Pdesignc FI.C	5.19 [kW]					
Pdesignc Fan C	3.88 [kW]					

Variable water outlet temperature is applicable only for fan coil cooling application

Based on the product(s) information the test plan is not subject to any special interpretations or modifications.

\*some of the tests for the Vaillant VWL 35/8.2 AS have been performed with the Vaillant VWL 55/8.2 AS. These appliances are identical in hardware and only vary in software.

**Appliance description: Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS**

For the heating tests testing the following design choices according to the EN 14825 have been applied:

**Heating**

Application	<input checked="" type="checkbox"/> low temperature (35 °C) <input type="checkbox"/> intermediate temperature (45 °C) <input checked="" type="checkbox"/> medium temperature (55 °C) <input type="checkbox"/> high temperature (65 °C)					
Climate	<input checked="" type="checkbox"/> average <input checked="" type="checkbox"/> warmer <input checked="" type="checkbox"/> colder					
Test modus	<input type="checkbox"/> fixed flow <input checked="" type="checkbox"/> fixed delta T					
Water outlet temperature <sup>1</sup>	<input type="checkbox"/> fixed <input checked="" type="checkbox"/> variable					
	Average LT	Average MT	Colder LT	Colder MT	Warmer LT	Warmer MT
Pdesignh	4.72 [kW]	4.35 [kW]	5.44 [kW]	3.97 [kW]	5.01 [kW]	4.68 [kW]
Tdesignh	-10 [°C]	-10 [°C]	-22 [°C]	-22 [°C]	2 [°C]	2 [°C]
Tbiv	-7 [°C]	-7 [°C]	-15 [°C]	-15 [°C]	2 [°C]	2 [°C]
TOL	-10 [°C]	-10 [°C]	-20 [°C]	-15 [°C]	2 [°C]	2 [°C]

For the Cooling tests testing the following design choices according to the EN 14825 have been applied:

**Cooling**

Application	<input checked="" type="checkbox"/> Fan coil cooling (water temperature 7 °C) <input checked="" type="checkbox"/> Floor cooling (water temperature 18 °C)					
Test modus	<input type="checkbox"/> fixed flow <input checked="" type="checkbox"/> fixed delta T					
Water outlet temperature <sup>2</sup>	<input type="checkbox"/> fixed <input checked="" type="checkbox"/> variable					
Tdesignc	35 [°C]					
Pdesignc Fl.C	5.19 [kW]					
Pdesignc Fan C	3.88 [kW]					

Variable water outlet temperature is applicable only for fan coil cooling application

Based on the product(s) information the test plan is not subject to any special interpretations or modifications.

**Appliance description: Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS**

For the heating tests testing the following design choices according to the EN 14825 have been applied:

**Heating**

Application	<input checked="" type="checkbox"/> low temperature (35 °C) <input type="checkbox"/> intermediate temperature (45 °C) <input checked="" type="checkbox"/> medium temperature (55 °C) <input type="checkbox"/> high temperature (65 °C)					
Climate	<input checked="" type="checkbox"/> average <input checked="" type="checkbox"/> warmer <input checked="" type="checkbox"/> colder					
Test modus	<input type="checkbox"/> fixed flow <input checked="" type="checkbox"/> fixed delta T					
Water outlet temperature <sup>1</sup>	<input type="checkbox"/> fixed <input checked="" type="checkbox"/> variable					
	Average LT	Average MT	Colder LT	Colder MT	Warmer LT	Warmer MT
Pdesignh	6.61 [kW]	5.67 [kW]	6.88 [kW]	5.69 [kW]	6.8[kW]	6.79 [kW]
Tdesignh	-10 [°C]	-10 [°C]	-22 [°C]	-22 [°C]	2 [°C]	2 [°C]
Tbiv	-7 [°C]	-7 [°C]	-15 [°C]	-15 [°C]	2 [°C]	2 [°C]
TOL	-10 [°C]	-10 [°C]	-20 [°C]	-15 [°C]	2 [°C]	2 [°C]

For the Cooling tests testing the following design choices according to the EN 14825 have been applied:

**Cooling**

Application	<input checked="" type="checkbox"/> Fan coil cooling (water temperature 7 °C) <input checked="" type="checkbox"/> Floor cooling (water temperature 18 °C)					
Test modus	<input type="checkbox"/> fixed flow <input checked="" type="checkbox"/> fixed delta T					
Water outlet temperature <sup>2</sup>	<input type="checkbox"/> fixed <input checked="" type="checkbox"/> variable					
Tdesignc	35 [°C]					
Pdesignc Fl.C	6.63 [kW]					
Pdesignc Fan C	6.09 [kW]					

Variable water outlet temperature is applicable only for fan coil cooling application

Based on the product(s) information the test plan is not subject to any special interpretations or modifications.

## 2.1 Overview of indoor-outdoor unit types and combinations

ODU size	Saunier Duval	Vaillant
3 kW	HA 3-8.2 OS 230V + HA 5-8.2 WSB	VWL 35/8.2 AS 230V + VWL 57/8.2 IS
	HA 3-8.2 OS 230V + HA 5-8.2 WS	VWL 35/8.2 AS 230V + VWL 57/8.2 IS S1
	HA 3-8.2 OS 230V + HA 5-8.2 STB	VWL 35/8.2 AS 230V + VWL 58/8.2 IS
	HA 3-8.2 OS 230V + HA 5-8.2 STB C2	VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2
	HA 3-8.2 OS 230V + HA 5-8.2 STB B5	VWL 35/8.2 AS 230V + VWL 58/8.2 IS S5
	HA 3-8.2 OS 230V B2 + HA 5-8.2 WSB	VWL 35/8.2 AS 230V S2 + VWL 57/8.2 IS
	HA 3-8.2 OS 230V B2 + HA 5-8.2 WS	VWL 35/8.2 AS 230V S2 + VWL 57/8.2 IS S1
	HA 3-8.2 OS 230V B2 + HA 5-8.2 STB	VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS
	HA 3-8.2 OS 230V B2 + HA 5-8.2 STB C2	VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2
	HA 3-8.2 OS 230V B2 + HA 5-8.2 STB B5	VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS S5
4 kW	HA 4-8.2 OS 230V B3 + HA 6-8.2 WSB	VWL 45/8.2 AS 230V S3 + VWL 67/8.2 IS
	HA 4-8.2 OS 230V B3 + HA 6-8.2 WS	VWL 45/8.2 AS 230V S3 + VWL 67/8.2 IS S1
	HA 4-8.2 OS 230V B3 + HA 6-8.2 STB	VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS
	HA 4-8.2 OS 230V B3 + HA 6-8.2 STB C2	VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS C2
	HA 4-8.2 OS 230V B3 + HA 6-8.2 STB B5	VWL 45/8.2 AS 230V S3 + VWL 68/8.2 IS S5
5 kW	HA 5-8.2 OS 230V + HA 5-8.2 WSB	VWL 55/8.2 AS 230V + VWL 57/8.2 IS
	HA 5-8.2 OS 230V + HA 5-8.2 WS	VWL 55/8.2 AS 230V + VWL 57/8.2 IS S1
	HA 5-8.2 OS 230V + HA 5-8.2 STB	VWL 55/8.2 AS 230V + VWL 58/8.2 IS
	HA 5-8.2 OS 230V + HA 5-8.2 STB C2	VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2
	HA 5-8.2 OS 230V + HA 5-8.2 STB B5	VWL 55/8.2 AS 230V + VWL 58/8.2 IS S5
	HA 5-8.2 OS 230V B2 + HA 5-8.2 WSB	VWL 55/8.2 AS 230V S2 + VWL 57/8.2 IS
	HA 5-8.2 OS 230V B2 + HA 5-8.2 WS	VWL 55/8.2 AS 230V S2 + VWL 57/8.2 IS S1
	HA 5-8.2 OS 230V B2 + HA 5-8.2 STB	VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS
	HA 5-8.2 OS 230V B2 + HA 5-8.2 STB C2	VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2
6 kW	HA 6-8.2 OS 230V B3 + HA 6-8.2 WSB	VWL 65/8.2 AS 230V S3 + VWL 67/8.2 IS
	HA 6-8.2 OS 230V B3 + HA 6-8.2 WS	VWL 65/8.2 AS 230V S3 + VWL 67/8.2 IS S1
	HA 6-8.2 OS 230V B3 + HA 6-8.2 STB	VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS
	HA 6-8.2 OS 230V B3 + HA 6-8.2 STB C2	VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS C2
	HA 6-8.2 OS 230V B3 + HA 6-8.2 STB B5	VWL 65/8.2 AS 230V S3 + VWL 68/8.2 IS S5
7 kW	HA 7-8.2 OS 230V + HA 7-8.2 WSB	VWL 75/8.2 AS 230V + VWL 77/8.2 IS
	HA 7-8.2 OS 230V + HA 7-8.2 WS	VWL 75/8.2 AS 230V + VWL 77/8.2 IS S1
	HA 7-8.2 OS 230V + HA 7-8.2 STB	VWL 75/8.2 AS 230V + VWL 78/8.2 IS
	HA 7-8.2 OS 230V + HA 7-8.2 STB C2	VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2
	HA 7-8.2 OS 230V + HA 7-8.2 STB B5	VWL 75/8.2 AS 230V + VWL 78/8.2 IS S5
	HA 7-8.2 OS 230V B2 + HA 7-8.2 WSB	VWL 75/8.2 AS 230V S2 + VWL 77/8.2 IS
	HA 7-8.2 OS 230V B2 + HA 7-8.2 WS	VWL 75/8.2 AS 230V S2 + VWL 77/8.2 IS S1
	HA 7-8.2 OS 230V B2 + HA 7-8.2 STB	VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS
	HA 7-8.2 OS 230V B2 + HA 7-8.2 STB C2	VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS C2
	HA 7-8.2 OS 230V B2 + HA 7-8.2 STB B5	VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS S5

8 kW	HA 8-8.2 OS 230V B3 + HA 8-8.2 WSB	VWL 85/8.2 AS 230V S3 + VWL 87/8.2 IS
	HA 8-8.2 OS 230V B3 + HA 8-8.2 WS	VWL 85/8.2 AS 230V S3 + VWL 87/8.2 IS S1
	HA 8-8.2 OS 230V B3 + HA 8-8.2 STB	VWL 85/8.2 AS 230V S3 + VWL 88/8.2 IS
	HA 8-8.2 OS 230V B3 + HA 8-8.2 STB C2	VWL 85/8.2 AS 230V S3 + VWL 88/8.2 IS C2
	HA 8-8.2 OS 230V B3 + HA 8-8.2 STB B5	VWL 85/8.2 AS 230V S3 + VWL 88/8.2 IS S5

### 3 Description of the product(s)

**Appliance description: Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2**

The appliance is a Split system Air-to-Water heat pump with a nominal heat output of 4.13 kW at A7/W35 standard rating conditions.(55Hz)

The heat pump is an outdoor device with inverter technology with outdoor air as heat source. The heat pump is equipped with an integrated circulation pump.

<b>Device serial numbers :</b>	Outdoor unit: Vaillant VWL 35/8.2 AS 230V - sn: S23-09265 Indoor unit: VWL 58/8.2 IS - sn: S23-08858 Storage cylinder: Integrated in indoor unit
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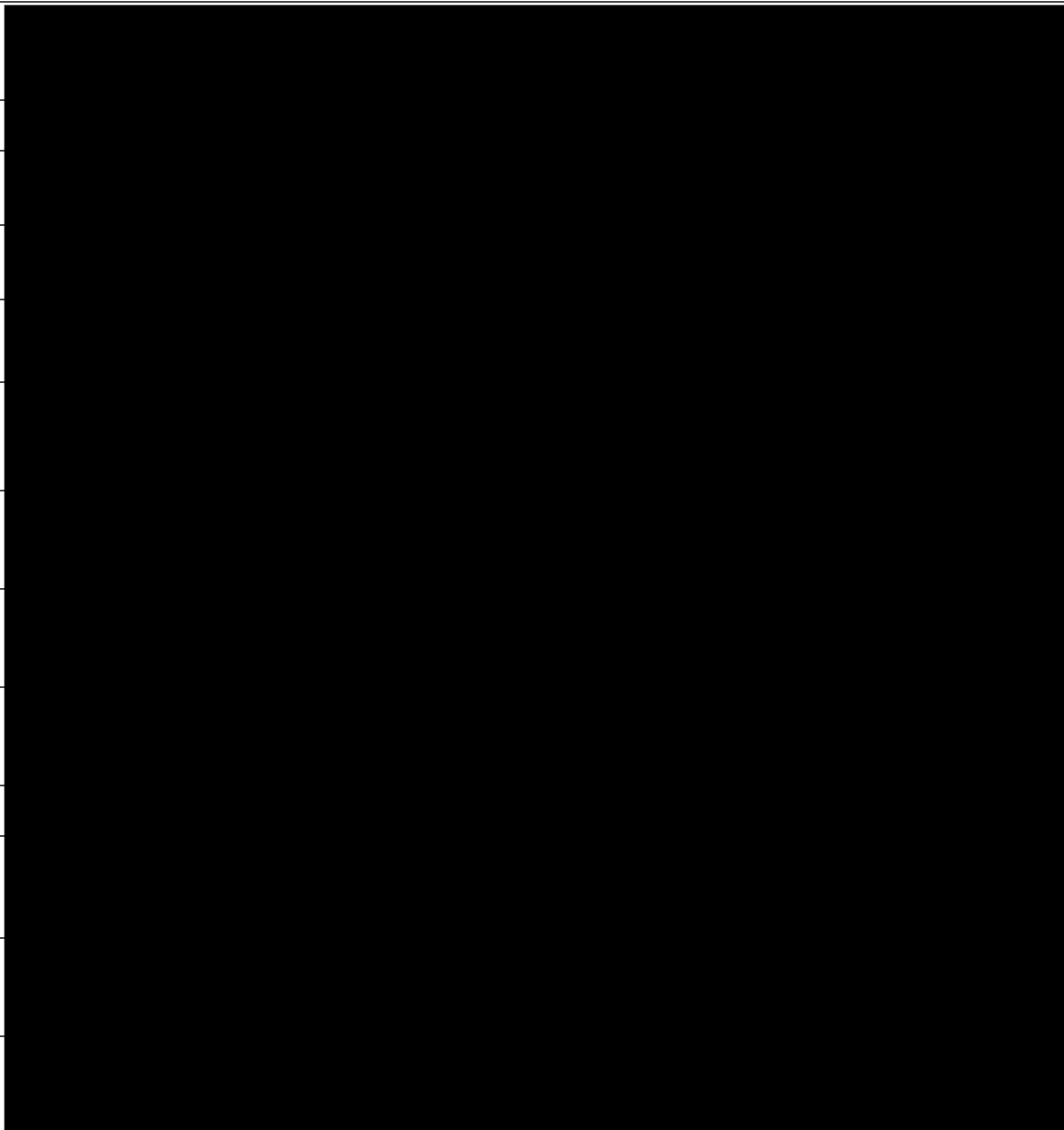
**Key Components / Specifications**



Figure 1: Type plate of the indoor unit



Figure 2: Type plate of the outdoor unit





Figure 3: Type plate of the indoor unit



Figure 4: Type plate of the outdoor unit

**Appliance description: Vaillant Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS**

The appliance is a Split system Air-to-Water heat pump with a nominal heat output of 7.61 kW at A7/W35 standard rating conditions.(76Hz)

The heat pump is an outdoor device with inverter technology with outdoor air as heat source. The heat pump is equipped with an integrated circulation pump.

<b>Device serial numbers :</b>	Outdoor unit: Vaillant VWL 75/8.2 AS 230V - sn: S23-09036
	Indoor unit: VWL 78/8.2 IS - sn: S23-08859
	Storage cylinder: Integrated in indoor unit

**Key Components / Specifications**

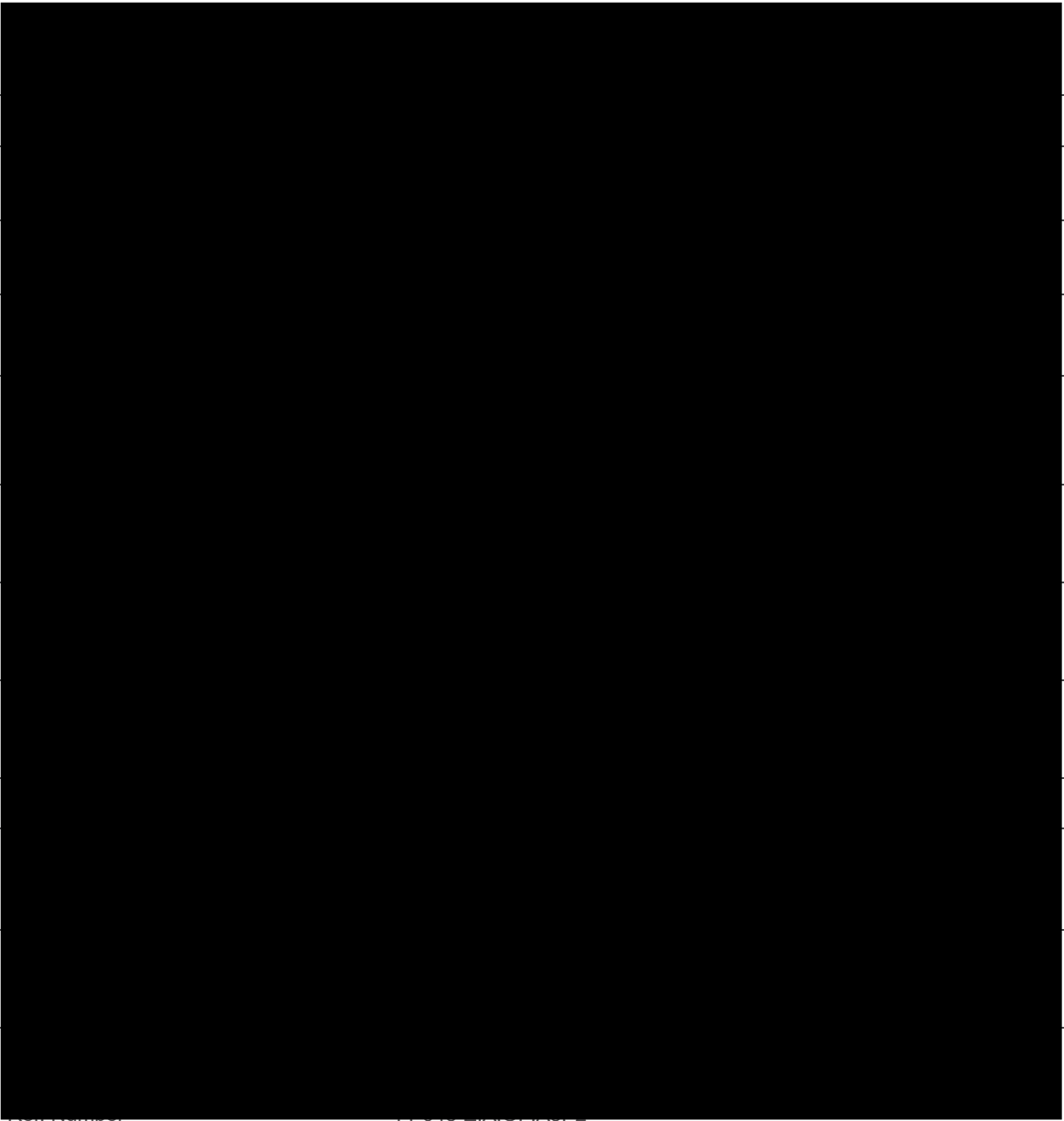




Figure 5: Type plate of the indoor unit



Figure 6 Type plate of the outdoor unit

## 4 Heating - Test results

### 4.1 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS – Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 1: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	3.540	4.997	2.222	1.902
Effective power input	kW	0.706	1.731	0.551	0.483
Coefficient of performance	-	5.01	2.89	4.03	3.94

Table 2: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	4.239	2.041	1.698	4.035
Effective power input	kW	1.112	0.709	0.613	01.350
Coefficient of performance	-	3.81	2.88	2.77	2.99

Table 3: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	2.372	2.034	4.236	4.128
Effective power input	kW	1.080	0.962	1.686	0.832
Coefficient of performance	-	2.20	2.11	2.51	4.96

Table 4: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	2.266	5.424	3.270	2.014
Effective power input	kW	0.458	1.148	0.893	0.600
Coefficient of performance	-	4.95	4.72	3.66	3.36

Table 5: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A12W35	A12W35
Part load	%	-	-	-	-
Heating capacity	kW	5.160	2.371	3.119	2.670
Effective power input	kW	1.425	0.934	0.531	0.422
Coefficient of performance	-	3.62	2.54	6.08	6.03

Table 6: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	A12W35	Appl Rating	Appl Rating	Appl Rating
		-	A12W45	A12W45	A12W45
Part load	%	73	-	-	-
Heating capacity	kW	1.112	2.876	2.415	5.724
Effective power input	kW	5.41	0.695	0.589	1.411
Coefficient of performance	-	A12W35	4.14	4.10	4.06

Table 7: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W55	A12W55	A12W55	A20W35
Part load	%	-	-	-	-
Heating capacity	kW	2.745	2.741	5.585	6.510
Effective power input	kW	0.911	0.915	1.736	1.095
Coefficient of performance	-	3.01	3.00	3.22	5.94

Table 8: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A20W45	A20W55	A-7W35	A-7W35
Part load	%	-	-	Silent mode 40%	Silent mode 50%
Heating capacity	kW	6.205	6.087	2.372	2.364
Effective power input	kW	1.412	1.715	0.749	0.742
Coefficient of performance	-	4.39	3.47	3.17	3.19

Table 9: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W45
Part load	%	Silent mode 60%	-	-	-
Heating capacity	kW	2.338	2.116	3.545	1.935
Effective power input	kW	0.740	0.683	1.127	0.819
Coefficient of performance	-	3.16	3.10	3.15	2.36

Table 10: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W45	A-7W55	A-7W55	A-10W55
Part load	%	-	-	-	-
Heating capacity	kW	3.327	1.514	3.149	2.755
Effective power input	kW	1.335	0.976	1.611	1.525
Coefficient of performance	-	2.49	1.55	1.95	1.81

Table11: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating
		A-15W35	A-15W45	A-20W35
Part load	%	-	-	-
Heating capacity	kW	2.759	2.557	2.321
Effective power input	kW	1.085	1.254	1.036
Coefficient of performance	-	2.54	2.04	2.24

## 4.2 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS – Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 12: Summary of heating test data for Low Temperature Application and Average Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.047	2.019	2.413	2.759	3.029	3.047
Effective power input	kW	0.938	0.428	0.396	0.336	1.035	0.938
Coefficient of performance	-	3.25	4.71	6.10	8.20	2.93	3.25

Table 13: Summary of heating test data for Medium Temperature Application and Average Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.229	2.092	2.143	2.714	2.755	3.229
Effective power input	kW	1.501	0.653	0.496	0.438	1.525	1.501
Coefficient of performance	-	2.15	3.21	4.32	6.20	1.81	2.15

### 4.3 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS – Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 14: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	23.7	94.7	81.6
Heating capacity	kW	2.261	2.040	2.342	2.776	2.330	2.778
Effective power input	kW	0.639	0.424	0.371	0.346	1.028	1.052
Coefficient of performance	-	3.54	4.82	6.31	8.02	2.27	2.64

Table 15: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	1.949	1.859	2.216	2.648	2.434	2.434
Effective power input	kW	0.801	0.526	0.465	0.412	1.393	1.393
Coefficient of performance	-	2.43	3.53	4.77	6.43	1.75	1.75

#### 4.4 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS – Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 16: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		3.219	2.351	2.822		
Effective power input	kW		0.775	0.415	0.357		
Coefficient of performance	-		4.15	5.66	7.90		

Table 17: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		4.015	2.658	2.581		
Effective power input	kW		1.605	0.743	0.469		
Coefficient of performance	-		2.50	3.58	5.50		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 18: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.01315
Standby mode	kW	0.014
Crankcase heater mode	kW	0
Off mode	kW	0.014

#### 4.5 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS – Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 29: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	3.540	4.997	2.222	1.902
Effective power input	kW	0.706	1.731	0.551	0.483
Coefficient of performance	-	5.01	2.89	4.03	3.94

Table 20: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	4.239	2.041	1.698	4.035
Effective power input	kW	1.112	0.709	0.613	01.350
Coefficient of performance	-	3.81	2.88	2.77	2.99

Table 21: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	2.372	2.034	4.236	4.128
Effective power input	kW	1.080	0.962	1.686	0.832
Coefficient of performance	-	2.20	2.11	2.51	4.96

Table 22: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	2.266	5.424	3.270	2.014
Effective power input	kW	0.458	1.148	0.893	0.600
Coefficient of performance	-	4.95	4.72	3.66	3.36

Table 23: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A12W35	A12W35
Part load	%	-	-	-	-
Heating capacity	kW	5.160	2.371	3.119	2.670
Effective power input	kW	1.425	0.934	0.531	0.422
Coefficient of performance	-	3.62	2.54	6.08	6.03

Table 24: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	A12W35	Appl Rating	Appl Rating	Appl Rating
		-	A12W45	A12W45	A12W45
Part load	%	73	-	-	-
Heating capacity	kW	1.112	2.876	2.415	5.724
Effective power input	kW	5.41	0.695	0.589	1.411
Coefficient of performance	-	A12W35	4.14	4.10	4.06

Table 25: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W55	A12W55	A12W55	A20W35
Part load	%	-	-	-	-
Heating capacity	kW	2.745	2.741	5.585	6.510
Effective power input	kW	0.911	0.915	1.736	1.095
Coefficient of performance	-	3.01	3.00	3.22	5.94

Table 26: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A20W45	A20W55	A-7W35	A-7W35
Part load	%	-	-	Silent mode 40%	Silent mode 50%
Heating capacity	kW	6.205	6.087	2.372	2.364
Effective power input	kW	1.412	1.715	0.749	0.742
Coefficient of performance	-	4.39	3.47	3.17	3.19

Table 27: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W45
Part load	%	Silent mode 60%	-	-	-
Heating capacity	kW	2.338	2.116	3.545	1.935
Effective power input	kW	0.740	0.683	1.127	0.819
Coefficient of performance	-	3.16	3.10	3.15	2.36

Table 28: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W45	A-7W55	A-7W55	A-10W55
Part load	%	-	-	-	-
Heating capacity	kW	3.327	1.514	3.149	2.755
Effective power input	kW	1.335	0.976	1.611	1.525
Coefficient of performance	-	2.49	1.55	1.95	1.81

Table 29: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating
		A-15W35	A-15W45	A-20W35
Part load	%	-	-	-
Heating capacity	kW	2.759	2.557	2.321
Effective power input	kW	1.085	1.254	1.036
Coefficient of performance	-	2.54	2.04	2.24

#### 4.6 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS – Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

*Table 30: Summary of heating test data for Low Temperature Application and Average Climate condition*

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.047	2.019	2.413	2.759	3.029	3.047
Effective power input	kW	0.938	0.428	0.396	0.336	1.035	0.938
Coefficient of performance	-	3.25	4.71	6.10	8.20	2.93	3.25

*Table 31: Summary of heating test data for Medium Temperature Application and Average Climate condition*

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.229	2.092	2.143	2.714	2.755	3.229
Effective power input	kW	1.501	0.653	0.496	0.438	1.525	1.501
Coefficient of performance	-	2.15	3.21	4.32	6.20	1.81	2.15

#### 4.7 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS – Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 32: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	23.7	94.7	81.6
Heating capacity	kW	2.261	2.040	2.342	2.776	2.330	2.778
Effective power input	kW	0.639	0.424	0.371	0.346	1.028	1.052
Coefficient of performance	-	3.54	4.82	6.31	8.02	2.27	2.64

Table 33: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	1.949	1.859	2.216	2.648	2.434	2.434
Effective power input	kW	0.801	0.526	0.465	0.412	1.393	1.393
Coefficient of performance	-	2.43	3.53	4.77	6.43	1.75	1.75

#### 4.8 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS – Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 34: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		3.219	2.351	2.822		
Effective power input	kW		0.775	0.415	0.357		
Coefficient of performance	-		4.15	5.66	7.90		

Table 35: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		4.015	2.658	2.581		
Effective power input	kW		1.605	0.743	0.469		
Coefficient of performance	-		2.50	3.58	5.50		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 36: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.01315
Standby mode	kW	0.014
Crankcase heater mode	kW	0
Off mode	kW	0.014

#### 4.9 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS – Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 37: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	4.509	5.359	2.222	1.902
Effective power input	kW	0.923	1.894	0.551	0.483
Coefficient of performance	-	4.89	2.83	4.03	3.94

Table 38: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	5.727	2.041	1.698	5.651
Effective power input	kW	1.787	0.709	0.613	2.097
Coefficient of performance	-	3.20	2.88	2.77	2.70

Table 39: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	2.372	2.034	5.489	5.842
Effective power input	kW	1.080	0.962	2.375	1.263
Coefficient of performance	-	2.20	2.11	2.31	4.63

Table 40: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	2.266	7.141	4.129	2.014
Effective power input	kW	0.458	2.053	1.139	0.600
Coefficient of performance	-	4.95	3.48	3.62	3.36

Table 41: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A7W55	A12W35
Part load	%	-	-	-	-
Heating capacity	kW	7.075	2.371	6.868	3.119
Effective power input	kW	2.275	0.934	2.506	0.513
Coefficient of performance	-	3.11	2.54	2.74	6.08

Table 42: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W35	A12W45	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	2.670	8.583	2.876	2.415
Effective power input	kW	0.442	1.918	0.695	0.589
Coefficient of performance	-	6.03	4.48	4.14	4.10

Table 43: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W45	A12W55	A12W55	A12W55
Part load	%	-	-	-	-
Heating capacity	kW	7.141	2.745	2.741	7.246
Effective power input	kW	2.121	0.911	0.915	2.383
Coefficient of performance	-	3.37	3.01	3.00	3.04

Table 44: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A20W35	A20W45	A20W55	A-7W35
Part load	%	-	-	-	Silent mode 40%
Heating capacity	kW	7.883	6.873	7.350	3.331
Effective power input	kW	1.486	1.838	2.234	1.093
Coefficient of performance	-	5.30	3.74	3.29	3.05

Table 45: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W35
Part load	%	Silent mode 50%	Silent mode 60%	-	-
Heating capacity	kW	2.812	2.338	4.886	2.116
Effective power input	kW	0.893	0.740	1.643	0.683
Coefficient of performance	-	3.15	3.16	2.97	3.10


Table 46: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W45	A-7W45	A-7W55
Part load	%	-	-	-	-
Heating capacity	kW	5.121	1.935	5.295	1.514
Effective power input	kW	1.886	0.819	2.243	0.976
Coefficient of performance	-	2.72	2.36	2.36	1.55

Table 47: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W55	A-10W55	A-15W35	A-15W45
Part load	%	-	-	-	-
Heating capacity	kW	4.561	3.513	3.771	3.569
Effective power input	kW	2.374	1.988	1.657	1.746
Coefficient of performance	-	1.92	1.77	2.28	2.04

*Table 48: Summary of heating test data for application rating conditions as per EN 14511*

Condition	Unit	Appl Rating
A-20W35		
Part load	%	-
		
Heating capacity	kW	2.870
Effective power input	kW	1.313
Coefficient of performance	-	2.19

#### 4.10 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS – Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 49: Summary of heating test data for Low Temperature Application and Average Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	4.178	2.670	2.427	2.842	4.062	4.178
Effective power input	kW	1.336	0.551	0.389	0.354	1.448	1.336
Coefficient of performance	-	3.13	4.84	6.24	8.04	2.81	3.13

Table 50: Summary of heating test data for Medium Temperature Application and Average Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.849	2.128	2.214	2.719	3.331	3.849
Effective power input	kW	1.836	0.669	0.504	0.451	2.012	1.836
Coefficient of performance	-	2.10	3.18	4.39	6.03	1.66	2.10

#### 4.11 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS – Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 51: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	94.7	81.6
Heating capacity	kW	3.464	2.021	2.422	2.828	2.988	4.434
Effective power input	kW	0.979	0.403	0.363	0.356	1.362	1.724
Coefficient of performance	-	3.54	5.02	6.67	7.95	2.19	2.57

Table 52: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	2.271	1.859	2.276	2.732	3.235	3.235
Effective power input	kW	0.906	0.526	0.471	0.431	1.761	1.761
Coefficient of performance	-	2.51	3.53	4.84	6.34	1.84	1.84

#### 4.12 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS – Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 53: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		5.005	3.000	2.807		
Effective power input	kW		1.414	0.514	0.355		
Coefficient of performance	-		3.54	5.84	7.91		

Table 54: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		4.684	2.948	2.667		
Effective power input	kW		2.070	0.822	0.450		
Coefficient of performance	-		2.26	3.59	5.92		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 55: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.01315
Standby mode	kW	0.014
Crankcase heater mode	kW	0
Off mode	kW	0.014

#### 4.13 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS – Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 56: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	4.509	5.359	2.222	1.902
Effective power input	kW	0.923	1.894	0.551	0.483
Coefficient of performance	-	4.89	2.83	4.03	3.94

Table 57: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	5.727	2.041	1.698	5.651
Effective power input	kW	1.787	0.709	0.613	2.097
Coefficient of performance	-	3.20	2.88	2.77	2.70

Table 58: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	2.372	2.034	5.489	5.842
Effective power input	kW	1.080	0.962	2.375	1.263
Coefficient of performance	-	2.20	2.11	2.31	4.63

Table 59: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	2.266	7.141	4.129	2.014
Effective power input	kW	0.458	2.053	1.139	0.600
Coefficient of performance	-	4.95	3.48	3.62	3.36

Table 60: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A7W55	A12W35
Part load	%	-	-	-	-
Heating capacity	kW	7.075	2.371	6.868	3.119
Effective power input	kW	2.275	0.934	2.506	0.513
Coefficient of performance	-	3.11	2.54	2.74	6.08

Table 61: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W35	A12W45	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	2.670	8.583	2.876	2.415
Effective power input	kW	0.442	1.918	0.695	0.589
Coefficient of performance	-	6.03	4.48	4.14	4.10

Table 62: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W45	A12W55	A12W55	A12W55
Part load	%	-	-	-	-
Heating capacity	kW	7.141	2.745	2.741	7.246
Effective power input	kW	2.121	0.911	0.915	2.383
Coefficient of performance	-	3.37	3.01	3.00	3.04

Table 63: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A20W35	A20W45	A20W55	A-7W35
Part load	%	-	-	-	Silent mode 40%
Heating capacity	kW	7.883	6.873	7.350	3.331
Effective power input	kW	1.486	1.838	2.234	1.093
Coefficient of performance	-	5.30	3.74	3.29	3.05

Table 64: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W35
Part load	%	Silent mode 50%	Silent mode 60%	-	-
Heating capacity	kW	2.812	2.338	4.886	2.116
Effective power input	kW	0.893	0.740	1.643	0.683
Coefficient of performance	-	3.15	3.16	2.97	3.10


Table 65: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W45	A-7W45	A-7W55
Part load	%	-	-	-	-
Heating capacity	kW	5.121	1.935	5.295	1.514
Effective power input	kW	1.886	0.819	2.243	0.976
Coefficient of performance	-	2.72	2.36	2.36	1.55

Table 66: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W55	A-10W55	A-15W35	A-15W45
Part load	%	-	-	-	-
Heating capacity	kW	4.561	3.513	3.771	3.569
Effective power input	kW	2.374	1.988	1.657	1.746
Coefficient of performance	-	1.92	1.77	2.28	2.04

*Table 67: Summary of heating test data for application rating conditions as per EN 14511*

Condition	Unit	Appl Rating
A-20W35		
Part load	%	-
		
Heating capacity	kW	2.870
Effective power input	kW	1.313
Coefficient of performance	-	2.19

#### 4.14 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS – Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 68: Summary of heating test data for Low Temperature Application and Average Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	4.178	2.670	2.427	2.842	4.062	4.178
Effective power input	kW	1.336	0.551	0.389	0.354	1.448	1.336
Coefficient of performance	-	3.13	4.84	6.24	8.04	2.81	3.13

Table 69: Summary of heating test data for Medium Temperature Application and Average Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.849	2.128	2.214	2.719	3.331	3.849
Effective power input	kW	1.836	0.669	0.504	0.451	2.012	1.836
Coefficient of performance	-	2.10	3.18	4.39	6.03	1.66	2.10

#### 4.15 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS – Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 70: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	94.7	81.6
Heating capacity	kW	3.464	2.021	2.422	2.828	2.988	4.434
Effective power input	kW	0.979	0.403	0.363	0.356	1.362	1.724
Coefficient of performance	-	3.54	5.02	6.67	7.95	2.19	2.57

Table 71: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	2.271	1.859	2.276	2.732	3.235	3.235
Effective power input	kW	0.906	0.526	0.471	0.431	1.761	1.761
Coefficient of performance	-	2.51	3.53	4.84	6.34	1.84	1.84

#### 4.16 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS – Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 72: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		5.005	3.000	2.807		
Effective power input	kW		1.414	0.514	0.355		
Coefficient of performance	-		3.54	5.84	7.91		

Table 73: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		4.684	2.948	2.667		
Effective power input	kW		2.070	0.822	0.450		
Coefficient of performance	-		2.26	3.59	5.92		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 74: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.01315
Standby mode	kW	0.014
Crankcase heater mode	kW	0
Off mode	kW	0.014

#### 4.17 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS – Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 75: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	5.067	6.448	3.129	2.541
Effective power input	kW	0.969	2.117	0.706	0.610
Coefficient of performance	-	5.23	3.05	4.43	4.17

Table 76: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	7.529	2.841	2.230	7.278
Effective power input	kW	2.430	0.881	0.767	2.741
Coefficient of performance	-	3.10	3.23	2.91	2.66

Table 77: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	3.856	3.000	6.820	7.610
Effective power input	kW	1.494	1.230	2.879	1.583
Coefficient of performance	-	2.58	2.44	2.37	4.81

Table 78: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	3.030	10.903	4.779	2.808
Effective power input	kW	0.584	2.823	1.236	0.755
Coefficient of performance	-	5.19	3.86	3.87	3.72

Table 79: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A7W55	A7W55
Part load	%	-	-	-	-
Heating capacity	kW	9.319	8.510	3.418	9.126
Effective power input	kW	2.752	2.962	1.199	3.239
Coefficient of performance	-	3.39	2.87	2.85	2.82

Table 80: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W35	A12W35	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	5.761	3.533	7.243	5.492
Effective power input	kW	0.945	0.572	2.297	1.232
Coefficient of performance	-	6.10	6.18	3.15	4.46

Table 81: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W45	A12W45	A12W55	A12W55
Part load	%	-	-	-	-
Heating capacity	kW	3.295	10.087	5.259	3.919
Effective power input	kW	0.765	2.775	1.522	1.185
Coefficient of performance	-	4.31	3.64	3.45	3.31

Table 82: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W55	A20W35	A20W45	A20W55
Part load	%	-	-	-	-
Heating capacity	kW	9.538	7.163	9.959	9.726
Effective power input	kW	3.118	2.013	2.448	2.926
Coefficient of performance	-	3.06	3.56	4.07	3.32

Table 83: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W35
Part load	%	Silent mode 40%	Silent mode 50%	Silent mode 60%	-
Heating capacity	kW	4.499	3.793	3.159	6.395
Effective power input	kW	1.400	1.150	0.946	2.075
Coefficient of performance	-	3.21	3.30	3.34	3.08

Table 84: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W45	A-745
Part load	%	-	-	-	-
Heating capacity	kW	2.864	7.059	2.466	7.206
Effective power input	kW	0.864	2.386	1.048	2.963
Coefficient of performance	-	3.32	2.96	2.35	2.43

Table 85: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W55	A-7W55	A-10W55	A-15W35
Part load	%	-	-	-	-
Heating capacity	kW	2.365	5.854	5.122	5.590
Effective power input	kW	1.250	2.756	2.716	2.217
Coefficient of performance	-	1.89	2.12	1.89	2.52

*Table 86: Summary of heating test data for application rating conditions as per EN 14511*

Condition	Unit	Appl Rating	Appl Rating
		A-15W45	A-20W35
Part load	%	-	-
Heating capacity	kW	4.885	4.032
Effective power input	kW	2.252	1.701
Coefficient of performance	-	2.17	2.37

#### 4.18 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS – Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

*Table 87: Summary of heating test data for Low Temperature Application and Average Climate condition*

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	5.847	3.342	3.141	3.712	5.779	5.847
Effective power input	kW	1.827	0.640	0.498	0.444	2.021	1.827
Coefficient of performance	-	3.20	5.22	6.31	8.36	2.86	3.20

*Table 88: Summary of heating test data for Medium Temperature Application and Average Climate condition*

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	5.014	2.913	2.969	3.566	4.724	5.014
Effective power input	kW	2.204	0.826	0.634	0.556	2.489	2.204
Coefficient of performance	-	2.27	3.52	4.68	6.42	1.90	2.27

#### 4.19 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS – Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 89: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	94.7	81.6
Heating capacity	kW	4.512	2.817	3.243	3.687	4.118	5.609
Effective power input	kW	1.201	0.506	0.478	0.457	1.717	2.145
Coefficient of performance	-	3.76	5.57	6.78	8.06	2.40	2.61

Table 90: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	3.690	2.580	3.062	3.600	4.639	4.639
Effective power input	kW	1.386	0.649	0.576	0.535	2.298	2.298
Coefficient of performance	-	2.66	3.97	5.32	6.73	2.02	2.02

#### 4.20 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS – Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 91: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		6.803	4.681	3.663		
Effective power input	kW		1.988	0.789	0.466		
Coefficient of performance	-		3.42	5.94	7.87		

Table 92: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		6.789	4.816	3.485		
Effective power input	kW		2.869	1.255	0.610		
Coefficient of performance	-		2.37	3.84	5.72		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 93: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.00472
Standby mode	kW	0.0133
Crankcase heater mode	kW	0
Off mode	kW	0.0133

#### 4.21 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS – Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 94: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	5.067	6.448	3.129	2.541
Effective power input	kW	0.969	2.117	0.706	0.610
Coefficient of performance	-	5.23	3.05	4.43	4.17

Table 95: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	7.529	2.841	2.230	7.278
Effective power input	kW	2.430	0.881	0.767	2.741
Coefficient of performance	-	3.10	3.23	2.91	2.66

Table 96: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	3.856	3.000	6.820	7.610
Effective power input	kW	1.494	1.230	2.879	1.583
Coefficient of performance	-	2.58	2.44	2.37	4.81

Table 97: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	3.030	10.903	4.779	2.808
Effective power input	kW	0.584	2.823	1.236	0.755
Coefficient of performance	-	5.19	3.86	3.87	3.72

Table 98: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A7W55	A7W55
Part load	%	-	-	-	-
Heating capacity	kW	9.319	8.510	3.418	9.126
Effective power input	kW	2.752	2.962	1.199	3.239
Coefficient of performance	-	3.39	2.87	2.85	2.82

Table 99: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W35	A12W35	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	5.761	3.533	7.243	5.492
Effective power input	kW	0.945	0.572	2.297	1.232
Coefficient of performance	-	6.10	6.18	3.15	4.46

Table 100: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W45	A12W45	A12W55	A12W55
Part load	%	-	-	-	-
Heating capacity	kW	3.295	10.087	5.259	3.919
Effective power input	kW	0.765	2.775	1.522	1.185
Coefficient of performance	-	4.31	3.64	3.45	3.31

Table 101: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W55	A20W35	A20W45	A20W55
Part load	%	-	-	-	-
Heating capacity	kW	9.538	7.163	9.959	9.726
Effective power input	kW	3.118	2.013	2.448	2.926
Coefficient of performance	-	3.06	3.56	4.07	3.32

Table 102: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W35
Part load	%	Silent mode	Silent mode	Silent mode	-
Fan Speed	Rpm	486	453	420	620
Heating capacity	kW	4.499	3.793	3.159	6.395
Effective power input	kW	1.400	1.150	0.946	2.075
Coefficient of performance	-	3.21	3.30	3.34	3.08

Table 103: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W45	A-745
Part load	%	-	-	-	-
Heating capacity	kW	2.864	7.059	2.466	7.206
Effective power input	kW	0.864	2.386	1.048	2.963
Coefficient of performance	-	3.32	2.96	2.35	2.43

Table 104: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W55	A-7W55	A-10W55	A-15W35
Part load	%	-	-	-	-
Heating capacity	kW	2.365	5.854	5.122	5.590
Effective power input	kW	1.250	2.756	2.716	2.217
Coefficient of performance	-	1.89	2.12	1.89	2.52

*Table 105: Summary of heating test data for application rating conditions as per EN 14511*

Condition	Unit	Appl Rating	Appl Rating
		A-15W45	A-20W35
Part load	%	-	-
Heating capacity	kW	4.885	4.032
Effective power input	kW	2.252	1.701
Coefficient of performance	-	2.17	2.37

## 4.22 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS – Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

*Table 106: Summary of heating test data for Low Temperature Application and Average Climate condition*

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	5.847	3.342	3.141	3.712	5.779	5.847
Effective power input	kW	1.827	0.640	0.498	0.444	2.021	1.827
Coefficient of performance	-	3.20	5.22	6.31	8.36	2.86	3.20

*Table 107: Summary of heating test data for Medium Temperature Application and Average Climate condition*

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	5.014	2.913	2.969	3.566	4.724	5.014
Effective power input	kW	2.204	0.826	0.634	0.556	2.489	2.204
Coefficient of performance	-	2.27	3.52	4.68	6.42	1.90	2.27

#### 4.23 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS – Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

*Table 108: Summary of heating test data for Low Temperature Application and Colder Climate condition*

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	94.7	81.6
Heating capacity	kW	4.512	2.817	3.243	3.687	4.118	5.609
Effective power input	kW	1.201	0.506	0.478	0.457	1.717	2.145
Coefficient of performance	-	3.76	5.57	6.78	8.06	2.40	2.61

*Table 109: Summary of heating test data for Medium Temperature Application and Colder Climate condition*

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	3.690	2.580	3.062	3.600	4.639	4.639
Effective power input	kW	1.386	0.649	0.576	0.535	2.298	2.298
Coefficient of performance	-	2.66	3.97	5.32	6.73	2.02	2.02

#### 4.24 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS – Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 110: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		6.803	4.681	3.663		
Effective power input	kW		1.988	0.789	0.466		
Coefficient of performance	-		3.42	5.94	7.87		

Table 111: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		6.789	4.816	3.485		
Effective power input	kW		2.869	1.255	0.610		
Coefficient of performance	-		2.37	3.84	5.72		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 112: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.00472
Standby mode	kW	0.0133
Crankcase heater mode	kW	0
Off mode	kW	0.0133

#### 4.25 C2 Variant heating results.

#### 4.26 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2– Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

*Table 313: Summary of heating test data for standard- and application rating conditions as per EN 14511*

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	3.540	4.997	2.222	1.902
Effective power input	kW	0.751	1.776	0.596	0.582
Coefficient of performance	-	4.71	2.81	3.73	3.61

*Table 114: Summary of heating test data for application rating conditions as per EN 14511*

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	4.239	2.041	1.698	4.035
Effective power input	kW	1.157	0.754	0.658	1.395
Coefficient of performance	-	3.67	2.71	2.58	2.89

Table 115: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	2.372	2.034	4.236	4.128
Effective power input	kW	1.125	1.007	1.731	0.877
Coefficient of performance	-	2.11	2.02	2.45	4.71

Table116: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	2.266	5.424	3.270	2.014
Effective power input	kW	0.503	1.193	0.938	0.645
Coefficient of performance	-	4.50	4.55	3.49	3.12

Table 117: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A12W35	A12W35
Part load	%	-	-	-	-
Heating capacity	kW	5.160	2.371	3.119	2.670
Effective power input	kW	1.470	0.979	0.558	0.487
Coefficient of performance	-	3.51	2.42	5.59	5.48

Table 118: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W45	A12W45	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	6.201	2.876	2.415	5.724
Effective power input	kW	1.157	0.740	0.634	1.456
Coefficient of performance	-	5.20	3.89	3.81	3.93

Table 119: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W55	A12W55	A12W55	A20W35
Part load	%	-	-	-	-
Heating capacity	kW	2.745	2.741	5.585	6.510
Effective power input	kW	0.956	0.960	1.781	1.140
Coefficient of performance	-	2.87	2.86	3.14	5.71

Table 120: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A20W45	A20W55	A-7W35	A-7W35
Part load	%	-	-	Silent mode 40%	Silent mode 50%
Heating capacity	kW	6.205	6.087	2.372	2.364
Effective power input	kW	1.457	1.796	0.794	0.787
Coefficient of performance	-	4.26	3.39	2.99	3.00

Table 121: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W45
Part load	%	Silent mode 60%	-	-	-
Heating capacity	kW	2.338	2.116	3.545	1.935
Effective power input	kW	0.785	0.728	1.172	0.864
Coefficient of performance	-	2.98	2.91	3.03	2.24

Table 122: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W45	A-7W55	A-7W55	A-10W55
Part load	%	-	-	-	-
Heating capacity	kW	3.327	1.514	3.149	2.755
Effective power input	kW	1.380	1.021	1.656	1.570
Coefficient of performance	-	2.41	1.48	1.90	1.75

Table 123: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating
		A-15W35	A-15W45	A-20W35
Part load	%	-	-	-
Heating capacity	kW	2.759	2.557	2.321
Effective power input	kW	1.130	1.299	1.081
Coefficient of performance	-	2.44	1.97	2.15

#### 4.27 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2 – Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 124: Summary of heating test data for Low Temperature Application and Average Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.047	2.019	2.413	2.759	3.029	3.047
Effective power input	kW	0.983	0.473	0.441	0.381	1.079	0.983
Coefficient of performance	-	3.10	4.27	5.48	7.24	2.81	3.10

Table 125: Summary of heating test data for Medium Temperature Application and Average Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.229	2.092	2.143	2.714	2.755	3.229
Effective power input	kW	1.546	0.698	0.541	0.483	1.570	1.546
Coefficient of performance	-	2.09	3.00	3.96	5.62	1.75	2.09

#### 4.28 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2– Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 126: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	23.7	94.7	81.6
Heating capacity	kW	2.261	2.040	2.342	2.776	2.330	2.778
Effective power input	kW	0.684	0.469	0.416	0.391	1.073	1.098
Coefficient of performance	-	3.31	4.35	5.63	7.10	2.17	2.53

Table 127: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	1.949	1.859	2.216	2.648	2.434	2.434
Effective power input	kW	0.846	0.571	0.510	0.457	1.438	1.438
Coefficient of performance	-	2.30	3.25	4.35	5.79	1.69	1.69

#### 4.29 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2– Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 128: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		3.219	2.351	2.822		
Effective power input	kW		0.820	0.460	0.402		
Coefficient of performance	-		3.93	5.11	7.02		

Table129: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		4.015	2.658	2.581		
Effective power input	kW		1.650	0.788	0.514		
Coefficient of performance	-		2.43	3.37	5.02		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 130: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.01315
Standby mode	kW	0.014
Crankcase heater mode	kW	0
Off mode	kW	0.014

#### 4.30 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2– Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 431: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating A7W35	Std Rating A7W55	Appl Rating A2W35	Appl Rating A2W35
Part load	%	-	-	-	-
Heating capacity	kW	3.540	4.997	2.222	1.902
Effective power input	kW	0.751	1.776	0.596	0.582
Coefficient of performance	-	4.71	2.81	3.73	3.61

Table 132: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating A2W35	Appl Rating A2W45	Appl Rating A2W45	Appl Rating A2W45
Part load	%	-	-	-	-
Heating capacity	kW	4.239	2.041	1.698	4.035
Effective power input	kW	1.157	0.754	0.658	1.395
Coefficient of performance	-	3.67	2.71	2.58	2.89

Table 133: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	2.372	2.034	4.236	4.128
Effective power input	kW	1.125	1.007	1.731	0.877
Coefficient of performance	-	2.11	2.02	2.45	4.71

Table134: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	2.266	5.424	3.270	2.014
Effective power input	kW	0.503	1.193	0.938	0.645
Coefficient of performance	-	4.50	4.55	3.49	3.12

Table 135: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A12W35	A12W35
Part load	%	-	-	-	-
Heating capacity	kW	5.160	2.371	3.119	2.670
Effective power input	kW	1.470	0.979	0.558	0.487
Coefficient of performance	-	3.51	2.42	5.59	5.48

Table 136: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W45	A12W45	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	6.201	2.876	2.415	5.724
Effective power input	kW	1.157	0.740	0.634	1.456
Coefficient of performance	-	5.20	3.89	3.81	3.93

Table 137: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W55	A12W55	A12W55	A20W35
Part load	%	-	-	-	-
Heating capacity	kW	2.745	2.741	5.585	6.510
Effective power input	kW	0.956	0.960	1.781	1.140
Coefficient of performance	-	2.87	2.86	3.14	5.71

Table 138: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A20W45	A20W55	A-7W35	A-7W35
Part load	%	-	-	Silent mode 40%	Silent mode 50%
Heating capacity	kW	6.205	6.087	2.372	2.364
Effective power input	kW	1.457	1.796	0.794	0.787
Coefficient of performance	-	4.26	3.39	2.99	3.00

Table 139: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W45
Part load	%	Silent mode 60%	-	-	-
Heating capacity	kW	2.338	2.116	3.545	1.935
Effective power input	kW	0.785	0.728	1.172	0.864
Coefficient of performance	-	2.98	2.91	3.03	2.24

Table 140: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W45	A-7W55	A-7W55	A-10W55
Part load	%	-	-	-	-
Heating capacity	kW	3.327	1.514	3.149	2.755
Effective power input	kW	1.380	1.021	1.656	1.570
Coefficient of performance	-	2.41	1.48	1.90	1.75

Table 141: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating
		A-15W35	A-15W45	A-20W35
Part load	%	-	-	-
Heating capacity	kW	2.759	2.557	2.321
Effective power input	kW	1.130	1.299	1.081
Coefficient of performance	-	2.44	1.97	2.15

#### 4.31 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2 – Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

*Table 142: Summary of heating test data for Low Temperature Application and Average Climate condition*

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
<b>Part load</b>	%	88.5	53.8	34.6	15.4	100	88.5
<b>Heating capacity</b>	kW	3.047	2.019	2.413	2.759	3.029	3.047
<b>Effective power input</b>	kW	0.983	0.473	0.441	0.381	1.079	0.983
<b>Coefficient of performance</b>	-	3.10	4.27	5.48	7.24	2.81	3.10

*Table 143: Summary of heating test data for Medium Temperature Application and Average Climate condition*

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
<b>Part load</b>	%	88.5	53.8	34.6	15.4	100	88.5
<b>Heating capacity</b>	kW	3.229	2.092	2.143	2.714	2.755	3.229
<b>Effective power input</b>	kW	1.546	0.698	0.541	0.483	1.570	1.546
<b>Coefficient of performance</b>	-	2.09	3.00	3.96	5.62	1.75	2.09

#### 4.32 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2– Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 144: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	23.7	94.7	81.6
Heating capacity	kW	2.261	2.040	2.342	2.776	2.330	2.778
Effective power input	kW	0.684	0.469	0.416	0.391	1.073	1.098
Coefficient of performance	-	3.31	4.35	5.63	7.10	2.17	2.53

Table 145: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	1.949	1.859	2.216	2.648	2.434	2.434
Effective power input	kW	0.846	0.571	0.510	0.457	1.438	1.438
Coefficient of performance	-	2.30	3.25	4.35	5.79	1.69	1.69

#### 4.33 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2– Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 146: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		3.219	2.351	2.822		
Effective power input	kW		0.820	0.460	0.402		
Coefficient of performance	-		3.93	5.11	7.02		

Table147: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		4.015	2.658	2.581		
Effective power input	kW		1.650	0.788	0.514		
Coefficient of performance	-		2.43	3.37	5.02		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 148: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.01315
Standby mode	kW	0.014
Crankcase heater mode	kW	0
Off mode	kW	0.014

#### 4.34 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2– Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 149: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating A7W35	Std Rating A7W55	Appl Rating A2W35	Appl Rating A2W35
Part load	%	-	-	-	-
Heating capacity	kW	4.509	5.359	2.222	1.902
Effective power input	kW	0.968	1.939	0.596	0.528
Coefficient of performance	-	4.66	2.76	3.73	3.61

Table 150: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating A2W35	Appl Rating A2W45	Appl Rating A2W45	Appl Rating A2W45
Part load	%	-	-	-	-
Heating capacity	kW	5.727	2.041	1.698	5.651
Effective power input	kW	1.832	0.754	0.658	2.142
Coefficient of performance	-	3.13	2.71	2.58	2.64

Table 151: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	2.372	2.034	5.489	5.842
Effective power input	kW	1.125	1.007	2.420	1.308
Coefficient of performance	-	2.11	2.02	2.27	4.47

Table 152: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	2.266	7.141	4.129	2.014
Effective power input	kW	0.503	2.098	1.184	0.645
Coefficient of performance	-	4.50	3.40	3.49	3.12

Table 153: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A7W55	A12W35
Part load	%	-	-	-	-
Heating capacity	kW	7.075	2.371	6.868	3.119
Effective power input	kW	2.320	0.979	2.551	0.558
Coefficient of performance	-	3.05	2.42	2.69	5.59

Table 154: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W35	A12W45	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	2.670	8.583	2.876	2.415
Effective power input	kW	0.487	1.963	0.740	0.634
Coefficient of performance	-	5.48	4.37	3.89	3.81

Table 155: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W45	A12W55	A12W55	A12W55
Part load	%	-	-	-	-
Heating capacity	kW	7.141	2.745	2.741	7.246
Effective power input	kW	2.166	0.956	0.960	2.428
Coefficient of performance	-	3.30	2.87	2.86	2.98

Table 156: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A20W35	A20W45	A20W55	A-7W35
Part load	%	-	-	-	Silent mode 40%
Heating capacity	kW	7.883	6.873	7.350	3.331
Effective power input	kW	1.531	1.883	2.279	1.138
Coefficient of performance	-	5.15	3.65	3.23	2.93

Table 157: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W35
Part load	%	Silent mode	Silent mode	-	-
Fan Speed	Rpm	453	420	620	620
Heating capacity	kW	2.812	2.338	4.886	2.116
Effective power input	kW	0.938	0.785	1.688	0.728
Coefficient of performance	-	3.00	2.98	2.89	2.91


Table 158: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W45	A-7W45	A-7W55
Part load	%	-	-	-	-
Heating capacity	kW	5.121	1.935	5.295	1.514
Effective power input	kW	1.931	0.864	2.288	1.021
Coefficient of performance	-	2.65	2.24	2.31	1.48

Table 159: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W55	A-10W55	A-15W35	A-15W45
Part load	%	-	-	-	-
Fan Speed	Rpm	453	420	620	620
Heating capacity	kW	4.561	3.513	3.771	3.569
Effective power input	kW	2.419	2.033	1.702	1.791
Coefficient of performance	-	1.89	1.73	2.22	1.99

Table 160: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating
A-20W35		
Part load	%	-
		
Heating capacity	kW	2.870
Effective power input	kW	1.358
Coefficient of performance	-	2.11

#### 4.35 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2– Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

*Table 161: Summary of heating test data for Low Temperature Application and Average Climate condition*

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	4.178	2.670	2.427	2.842	4.062	4.178
Effective power input	kW	1.381	0.596	0.434	0.399	1.493	1.381
Coefficient of performance	-	3.03	4.48	5.60	7.13	2.72	3.03

*Table 162: Summary of heating test data for Medium Temperature Application and Average Climate condition*

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.849	2.128	2.214	2.719	3.331	3.849
Effective power input	kW	1.881	0.714	0.549	0.496	2.057	1.881
Coefficient of performance	-	2.05	2.98	4.03	5.48	1.62	2.05

#### 4.36 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2– Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

*Table 163: Summary of heating test data for Low Temperature Application and Colder Climate condition*

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	94.7	81.6
Heating capacity	kW	3.464	2.021	2.422	2.828	2.988	4.434
Effective power input	kW	1.024	0.448	0.408	0.401	1.407	1.769
Coefficient of performance	-	3.38	4.51	5.94	7.06	2.12	2.51

*Table 164: Summary of heating test data for Medium Temperature Application and Colder Climate condition*

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	2.271	1.859	2.276	2.732	3.235	3.235
Effective power input	kW	0.951	0.571	0.516	0.476	1.806	1.806
Coefficient of performance	-	2.39	3.25	4.42	5.74	1.79	1.79

#### 4.37 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2– Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 165: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		5.005	3.000	2.807		
Effective power input	kW		1.459	0.559	0.400		
Coefficient of performance	-		3.43	5.37	7.02		

Table 166: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		4.684	2.948	2.667		
Effective power input	kW		2.115	0.867	0.495		
Coefficient of performance	-		2.21	3.40	5.39		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 167: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.01315
Standby mode	kW	0.014
Crankcase heater mode	kW	0
Off mode	kW	0.014

#### 4.38 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2– Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 168: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	4.509	5.359	2.222	1.902
Effective power input	kW	0.968	1.939	0.596	0.528
Coefficient of performance	-	4.66	2.76	373	3.61

Table 169: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	5.727	2.041	1.698	5.651
Effective power input	kW	1.832	0.754	0.658	2.142
Coefficient of performance	-	3.13	2.71	2.58	2.64

Table 170: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	2.372	2.034	5.489	5.842
Effective power input	kW	1.125	1.007	2.420	1.308
Coefficient of performance	-	2.11	2.02	2.27	4.47

Table 171: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	2.266	7.141	4.129	2.014
Effective power input	kW	0.503	2.098	1.184	0.645
Coefficient of performance	-	4.50	3.40	3.49	3.12

Table 172: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A7W55	A12W35
Part load	%	-	-	-	-
Heating capacity	kW	7.075	2.371	6.868	3.119
Effective power input	kW	2.320	0.979	2.551	0.558
Coefficient of performance	-	3.05	2.42	2.69	5.59

Table 173: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W35	A12W45	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	2.670	8.583	2.876	2.415
Effective power input	kW	0.487	1.963	0.740	0.634
Coefficient of performance	-	5.48	4.37	3.89	3.81

Table 174: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W45	A12W55	A12W55	A12W55
Part load	%	-	-	-	-
Heating capacity	kW	7.141	2.745	2.741	7.246
Effective power input	kW	2.166	0.956	0.960	2.428
Coefficient of performance	-	3.30	2.87	2.86	2.98

Table 175: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A20W35	A20W45	A20W55	A-7W35
Part load	%	-	-	-	Silent mode 40%
Heating capacity	kW	7.883	6.873	7.350	3.331
Effective power input	kW	1.531	1.883	2.279	1.138
Coefficient of performance	-	5.15	3.65	3.23	2.93

Table 176: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W35
Part load	%	Silent mode 50%	Silent mode 60%	-	-
Heating capacity	kW	2.812	2.338	4.886	2.116
Effective power input	kW	0.938	0.785	1.688	0.728
Coefficient of performance	-	3.00	2.98	2.89	2.91


Table 177: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W45	A-7W45	A-7W55
Part load	%	-	-	-	-
Heating capacity	kW	5.121	1.935	5.295	1.514
Effective power input	kW	1.931	0.864	2.288	1.021
Coefficient of performance	-	2.65	2.24	2.31	1.48

Table 178: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W55	A-10W55	A-15W35	A-15W45
Part load	%	-	-	-	-
Heating capacity	kW	4.561	3.513	3.771	3.569
Effective power input	kW	2.419	2.033	1.702	1.791
Coefficient of performance	-	1.89	1.73	2.22	1.99

*Table 179: Summary of heating test data for application rating conditions as per EN 14511*

Condition	Unit	Appl Rating
A-20W35		
Part load	%	-
		
Heating capacity	kW	2.870
Effective power input	kW	1.358
Coefficient of performance	-	2.11

#### 4.39 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2– Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 180: Summary of heating test data for Low Temperature Application and Average Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	4.178	2.670	2.427	2.842	4.062	4.178
Effective power input	kW	1.381	0.596	0.434	0.399	1.493	1.381
Coefficient of performance	-	3.03	4.48	5.60	7.13	2.72	3.03

Table 181: Summary of heating test data for Medium Temperature Application and Average Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	3.849	2.128	2.214	2.719	3.331	3.849
Effective power input	kW	1.881	0.714	0.549	0.496	2.057	1.881
Coefficient of performance	-	2.05	2.98	4.03	5.48	1.62	2.05

#### 4.40 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2– Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

*Table 182: Summary of heating test data for Low Temperature Application and Colder Climate condition*

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	94.7	81.6
Heating capacity	kW	3.464	2.021	2.422	2.828	2.988	4.434
Effective power input	kW	1.024	0.448	0.408	0.401	1.407	1.769
Coefficient of performance	-	3.38	4.51	5.94	7.06	2.12	2.51

*Table 183: Summary of heating test data for Medium Temperature Application and Colder Climate condition*

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	2.271	1.859	2.276	2.732	3.235	3.235
Effective power input	kW	0.951	0.571	0.516	0.476	1.806	1.806
Coefficient of performance	-	2.39	3.25	4.42	5.74	1.79	1.79

#### 4.41 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2– Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 184: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		5.005	3.000	2.807		
Effective power input	kW		1.459	0.559	0.400		
Coefficient of performance	-		3.43	5.37	7.02		

Table 185: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		4.684	2.948	2.667		
Effective power input	kW		2.115	0.867	0.495		
Coefficient of performance	-		2.21	3.40	5.39		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 186: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.01315
Standby mode	kW	0.014
Crankcase heater mode	kW	0
Off mode	kW	0.014

#### 4.42 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2 – Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

*Table 187: Summary of heating test data for standard- and application rating conditions as per EN 14511*

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	5.067	6.448	3.129	2.541
Effective power input	kW	1.014	2.162	0.751	0.655
Coefficient of performance	-	5.00	2.98	4.16	3.88

*Table 188: Summary of heating test data for application rating conditions as per EN 14511*

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	7.529	2.841	2.230	7.278
Effective power input	kW	2.475	0.926	0.812	2.786
Coefficient of performance	-	3.04	3.07	2.74	2.61

Table 189: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	3.856	3.000	6.820	7.610
Effective power input	kW	1.539	1.275	2.924	1.628
Coefficient of performance	-	2.50	2.35	2.33	4.68

Table 190: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	3.030	10.903	4.779	2.808
Effective power input	kW	0.629	2.868	1.281	0.800
Coefficient of performance	-	4.82	3.80	3.73	3.51

Table 191: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A7W55	A7W55
Part load	%	-	-	-	-
Heating capacity	kW	9.319	8.510	3.418	9.126
Effective power input	kW	2.797	3.007	1.244	3.284
Coefficient of performance	-	3.39	2.83	2.75	2.78

Table 192: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W35	A12W35	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	5.761	3.533	7.243	5.492
Effective power input	kW	0.990	0.617	2.342	1.277
Coefficient of performance	-	5.82	573	3.09	4.30

Table 193: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W45	A12W45	A12W55	A12W55
Part load	%	-	-	-	-
Heating capacity	kW	3.295	10.087	5.259	3.919
Effective power input	kW	0.810	2.820	1.567	1.230
Coefficient of performance	-	4.07	3.58	3.36	3.19

Table 194: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W55	A20W35	A20W45	A20W55
Part load	%	-	-	-	-
Heating capacity	kW	9.538	7.163	9.959	9.726
Effective power input	kW	3.163	2.058	2.493	2.971
Coefficient of performance	-	3.02	3.48	3.99	3.27

Table 195: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W35
Part load	%	Silent mode 40%	Silent mode 50%	Silent mode 60%	-
Heating capacity	kW	4.499	3.793	3.159	6.395
Effective power input	kW	1.445	1.195	0.991	2.120
Coefficient of performance	-	3.11	3.17	3.19	3.02

Table 196: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W45	A-745
Part load	%	-	-	-	-
Heating capacity	kW	2.864	7.059	2.466	7.206
Effective power input	kW	0.909	2.431	1.093	3.008
Coefficient of performance	-	3.15	2.90	2.26	2.40

Table 197: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W55	A-7W55	A-10W55	A-15W35
Part load	%	-	-	-	-
Heating capacity	kW	2.365	5.854	5.122	5.590
Effective power input	kW	1.295	2.801	2.761	2.262
Coefficient of performance	-	1.83	2.09	1.86	2.47

*Table 198: Summary of heating test data for application rating conditions as per EN 14511*

Condition	Unit	Appl Rating	Appl Rating
		A-15W45	A-20W35
Part load	%	-	-
Heating capacity	kW	4.885	4.032
Effective power input	kW	2.297	1.746
Coefficient of performance	-	2.13	2.31

#### 4.43 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2– Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 199: Summary of heating test data for Low Temperature Application and Average Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	5.847	3.342	3.141	3.712	5.779	5.847
Effective power input	kW	1.872	0.685	0.543	0.489	2.066	1.872
Coefficient of performance	-	3.12	4.88	5.79	7.59	2.80	3.12

Table 200: Summary of heating test data for Medium Temperature Application and Average Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	5.014	2.913	2.969	3.566	4.724	5.014
Effective power input	kW	2.249	0.871	0.679	0.601	2.534	2.249
Coefficient of performance	-	2.23	3.34	4.37	5.94	1.86	2.23

#### 4.44 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2 – Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 201: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	94.7	81.6
Heating capacity	kW	4.512	2.817	3.243	3.687	4.118	5.609
Effective power input	kW	1.246	0.551	0.523	0.502	1.762	2.190
Coefficient of performance	-	3.62	5.11	6.20	7.34	2.34	2.56

Table 202: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	3.690	2.580	3.062	3.600	4.639	4.639
Effective power input	kW	1.431	0.694	0.621	0.580	2.343	2.343
Coefficient of performance	-	2.58	3.72	4.93	6.21	1.98	1.98

#### 4.45 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2– Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 203: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		6.803	4.681	3.663		
Effective power input	kW		2.033	0.834	0.511		
Coefficient of performance	-		3.35	5.62	7.17		

Table 204: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		6.789	4.816	3.485		
Effective power input	kW		2.914	1.300	0.655		
Coefficient of performance	-		2.33	3.70	5.32		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 205: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.00472
Standby mode	kW	0.0133
Crankcase heater mode	kW	0
Off mode	kW	0.0133

#### 4.46 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS C2 – Standard rating condition

In the table below a summary of the most important test results is given, including all corrections as applicable as per EN 14511.

Table 206: Summary of heating test data for standard- and application rating conditions as per EN 14511

Condition	Unit	Std Rating	Std Rating	Appl Rating	Appl Rating
		A7W35	A7W55	A2W35	A2W35
Part load	%	-	-	-	-
Heating capacity	kW	5.067	6.448	3.129	2.541
Effective power input	kW	1.014	2.162	0.751	0.655
Coefficient of performance	-	5.00	2.98	4.16	3.88

Table 207: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W35	A2W45	A2W45	A2W45
Part load	%	-	-	-	-
Heating capacity	kW	7.529	2.841	2.230	7.278
Effective power input	kW	2.475	0.926	0.812	2.786
Coefficient of performance	-	3.04	3.07	2.74	2.61

Table 208: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A2W55	A2W55	A2W55	A7W35
Part load	%	-	-	-	-
Heating capacity	kW	3.856	3.000	6.820	7.610
Effective power input	kW	1.539	1.275	2.924	1.628
Coefficient of performance	-	2.50	2.35	2.33	4.68

Table 209: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W35	A7W35	A7W45	A7W45
Part load	%	-	-	-	-
Heating capacity	kW	3.030	10.903	4.779	2.808
Effective power input	kW	0.629	2.868	1.281	0.800
Coefficient of performance	-	4.82	3.80	3.73	3.51

Table 210: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A7W45	A7W55	A7W55	A7W55
Part load	%	-	-	-	-
Heating capacity	kW	9.319	8.510	3.418	9.126
Effective power input	kW	2.797	3.007	1.244	3.284
Coefficient of performance	-	3.39	2.83	2.75	2.78

Table 211: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W35	A12W35	A12W35	A12W45
Part load	%	-	-	-	-
Heating capacity	kW	5.761	3.533	7.243	5.492
Effective power input	kW	0.990	0.617	2.342	1.277
Coefficient of performance	-	5.82	573	3.09	4.30

Table 212: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W45	A12W45	A12W55	A12W55
Part load	%	-	-	-	-
Heating capacity	kW	3.295	10.087	5.259	3.919
Effective power input	kW	0.810	2.820	1.567	1.230
Coefficient of performance	-	4.07	3.58	3.36	3.19

Table 213: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A12W55	A20W35	A20W45	A20W55
Part load	%	-	-	-	-
Heating capacity	kW	9.538	7.163	9.959	9.726
Effective power input	kW	3.163	2.058	2.493	2.971
Coefficient of performance	-	3.02	3.48	3.99	3.27

Table 214: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W35	A-7W35
Part load	%	Silent mode 40%	Silent mode 50%	Silent mode 60%	-
Heating capacity	kW	4.499	3.793	3.159	6.395
Effective power input	kW	1.445	1.195	0.991	2.120
Coefficient of performance	-	3.11	3.17	3.19	3.02

Table 215: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W35	A-7W35	A-7W45	A-745
Part load	%	-	-	-	-
Heating capacity	kW	2.864	7.059	2.466	7.206
Effective power input	kW	0.909	2.431	1.093	3.008
Coefficient of performance	-	3.15	2.90	2.26	2.40

Table 216: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating	Appl Rating	Appl Rating
		A-7W55	A-7W55	A-10W55	A-15W35
Part load	%	-	-	-	-
Heating capacity	kW	2.365	5.854	5.122	5.590
Effective power input	kW	1.295	2.801	2.761	2.262
Coefficient of performance	-	1.83	2.09	1.86	2.47

Table 217: Summary of heating test data for application rating conditions as per EN 14511

Condition	Unit	Appl Rating	Appl Rating
		A-15W45	A-20W35
Part load	%	-	-
Heating capacity	kW	4.885	4.032
Effective power input	kW	2.297	1.746
Coefficient of performance	-	2.13	2.31

#### 4.47 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS C2– Average climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 218: Summary of heating test data for Low Temperature Application and Average Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	5.847	3.342	3.141	3.712	5.779	5.847
Effective power input	kW	1.872	0.685	0.543	0.489	2.066	1.872
Coefficient of performance	-	3.12	4.88	5.79	7.59	2.80	3.12

Table 219: Summary of heating test data for Medium Temperature Application and Average Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	88.5	53.8	34.6	15.4	100	88.5
Heating capacity	kW	5.014	2.913	2.969	3.566	4.724	5.014
Effective power input	kW	2.249	0.871	0.679	0.601	2.534	2.249
Coefficient of performance	-	2.23	3.34	4.37	5.94	1.86	2.23

#### 4.48 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS C2 – Colder climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 220: Summary of heating test data for Low Temperature Application and Colder Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	94.7	81.6
Heating capacity	kW	4.512	2.817	3.243	3.687	4.118	5.609
Effective power input	kW	1.246	0.551	0.523	0.502	1.762	2.190
Coefficient of performance	-	3.62	5.11	6.20	7.34	2.34	2.56

Table 221: Summary of heating test data for Medium Temperature Application and Colder Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%	60.5	36.8	23.7	10.5	81.6	81.6
Heating capacity	kW	3.690	2.580	3.062	3.600	4.639	4.639
Effective power input	kW	1.431	0.694	0.621	0.580	2.343	2.343
Coefficient of performance	-	2.58	3.72	4.93	6.21	1.98	1.98

#### 4.49 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS C2– Warmer climate

In the tables on next page a summary of the most important test results is given, including all corrections as applicable as per EN 14511 and EN 14825.

Table 222: Summary of heating test data for Low Temperature Application and Warmer Climate condition

Heating Performance Low Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		6.803	4.681	3.663		
Effective power input	kW		2.033	0.834	0.511		
Coefficient of performance	-		3.35	5.62	7.17		

Table 223: Summary of heating test data for Medium Temperature Application and Warmer Climate condition

Heating Performance Medium Temperature Application							
Condition	Unit	A	B	C	D	E (TOL)	F (BIV)
Part load	%		100	64.3	28.6		
Heating capacity	kW		6.789	4.816	3.485		
Effective power input	kW		2.914	1.300	0.655		
Coefficient of performance	-		2.33	3.70	5.32		

In the table below a summary of the energy consumption for the various components of the heat pump(s) which are part of the corrections for the Auxiliary energy consumption is given.

Table 224: Result of electric power consumption for thermostat off, standby, off and crankcase heater mode

Auxiliary Energy		
	Unit	Result
Thermostat-off mode	kW	0.00472
Standby mode	kW	0.0133
Crankcase heater mode	kW	0
Off mode	kW	0.0133

## 5 Cooling - Test results

### 5.1 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS Floor cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 225: Summary of cooling test data for floor cooling Application Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS

Cooling Performance Floor Cooling Application					
Condition	Unit	A35W18	A30W18	A25W18	A20W18
Part load	%	100	74	47	21
Cooling capacity	kW	5.194	3.810	3.114	3.269
Effective power input	kW	1.257	0.637	0.373	0.307
Energy Efficiency ratio	-	4.13	5.98	8.34	10.65

### 5.2 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS Fan cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 226: Summary of cooling test data for Fancoil cooling Application Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS

Cooling Performance Fancoil Cooling Application					
Condition	Unit	A	B	C	D
		A35W7	A30W7	A25W7	A20W7
Part load	%	100	74	47	21
Cooling capacity	kW	3.880	2.637	2.277	2.495
Effective power input	kW	1.194	0.657	0.421	0.358
Energy Efficiency ratio	-	3.25	4.01	5.41	6.97

### 5.3 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS Floor cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 227: Summary of cooling test data for floor cooling Application Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS

Cooling Performance Floor Cooling Application					
Condition	Unit	A35W18	A30W18	A25W18	A20W18
<b>Part load</b>	%	100	74	47	21
<b>Cooling capacity</b>	kW	5.194	3.810	3.114	3.269
<b>Effective power input</b>	kW	1.257	0.637	0.373	0.307
<b>Energy Efficiency ratio</b>	-	4.13	5.98	8.34	10.65

### 5.4 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS Fan cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 228: Summary of cooling test data for Fancoil cooling Application Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS

Cooling Performance Fancoil Cooling Application					
Condition	Unit	A	B	C	D
		A35W7	A30W7	A25W7	A20W7
<b>Part load</b>	%	100	74	47	21
<b>Cooling capacity</b>	kW	3.880	2.637	2.277	2.495
<b>Effective power input</b>	kW	1.194	0.657	0.421	0.358
<b>Energy Efficiency ratio</b>	-	3.25	4.01	5.41	6.97

## 5.5 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS Floor cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 229: Summary of cooling test data for floor cooling Application Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS

Cooling Performance Floor Cooling Application					
Condition	Unit	A	B	C	D
		A35W18	A30W18	A25W18	A20W18
Part load	%	100	74	47	21
Cooling capacity	kW	6.632	4.927	3.949	4.028
Effective power input	kW	1.639	0.821	0.481	0.418
Energy Efficiency ratio	-	4.05	6.00	8.20	9.64

## 5.6 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS Fan cooling application

In the table(s) below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 230: Summary of cooling test data for Fancoil cooling Application Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS

Cooling Performance Fancoil Cooling Application					
Condition	Unit	A	B	C	D
		A35W7	A30W7	A25W7	A20W7
Part load	%	100	74	47	21
Cooling capacity	kW	6.091	4.516	2.979	3.272
Effective power input	kW	2.055	1.084	0.521	0.451
Energy Efficiency ratio	-	2.96	4.17	5.72	7.26

## 5.7 C2 Variant Cooling Test results

### 5.8 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2 Floor cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 231: Summary of cooling test data for floor cooling Application Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2

Cooling Performance Floor Cooling Application					
Condition	Unit	A35W18	A30W18	A25W18	A20W18
Part load	%	100	74	47	21
Cooling capacity	kW	5.194	3.810	3.114	3.269
Effective power input	kW	1.302	0.682	0.418	0.352
Energy Efficiency ratio	-	3.99	5.59	7.45	9.29

### 5.9 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2 Fan cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 232: Summary of cooling test data for Fancoil cooling Application Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2

Cooling Performance Fancoil Cooling Application					
Condition	Unit	A	B	C	D
		A35W7	A30W7	A25W7	A20W7
Part load	%	100	74	47	21
Cooling capacity	kW	3.880	2.637	2.277	2.495
Effective power input	kW	1.239	0.702	0.466	0.403
Energy Efficiency ratio	-	3.13	3.76	4.89	6.19

## 5.10 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2 Floor cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 233: Summary of cooling test data for floor cooling Application Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2

Cooling Performance Floor Cooling Application					
Condition	Unit	A35W18	A30W18	A25W18	A20W18
<b>Part load</b>	%	100	74	47	21
<b>Cooling capacity</b>	kW	5.194	3.810	3.114	3.269
<b>Effective power input</b>	kW	1.302	0.682	0.418	0.352
<b>Energy Efficiency ratio</b>	-	3.99	5.59	7.45	9.29

## 5.11 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2 Fan cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 234: Summary of cooling test data for Fancoil cooling Application Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2

Cooling Performance Fancoil Cooling Application					
Condition	Unit	A	B	C	D
		A35W7	A30W7	A25W7	A20W7
<b>Part load</b>	%	100	74	47	21
<b>Cooling capacity</b>	kW	3.880	2.637	2.277	2.495
<b>Effective power input</b>	kW	1.239	0.702	0.466	0.403
<b>Energy Efficiency ratio</b>	-	3.13	3.76	4.89	6.19

## 5.12 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2 Floor cooling application

In the table below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 235: Summary of cooling test data for floor cooling Application Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2

Cooling Performance Floor Cooling Application					
Condition	Unit	A	B	C	D
		A35W18	A30W18	A25W18	A20W18
Part load	%	100	74	47	21
Cooling capacity	kW	6.632	4.927	3.949	4.028
Effective power input	kW	1.684	0.866	0.526	0.463
Energy Efficiency ratio	-	3.94	5.69	7.51	8.70

## 5.13 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2 Fan cooling application

In the table(s) below a summary of the most important test results is given, including all corrections as applicable per the EN 14511 and EN 14825.

Table 236: Summary of cooling test data for Fancoil cooling Application Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2

Cooling Performance Fancoil Cooling Application					
Condition	Unit	A	B	C	D
		A35W7	A30W7	A25W7	A20W7
Part load	%	100	74	47	21
Cooling capacity	kW	6.091	4.516	2.979	3.272
Effective power input	kW	2.1	1.129	0.566	0.496
Energy Efficiency ratio	-	2.90	4.00	5.26	6.60

## 6 Heating and Cooling - Calculation results

### 6.1 Calculation results Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 237: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.79	4.76	188.4	1487	3.44	A+++

Table 238: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.32	3.31	129.5	2277	3.65	A++

Table 239: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.04	4.04	158.4	2080	3.41	A++

Table 240: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.80	2.80	108.9	2629	2.98	A+

Table 241: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
6.29	6.20	244.9	694	3.22	A+++

Table 242: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.23	4.20	164.9	1278	4.02	A+++

Table 243: Calculation result for Floor Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
7.40	6.94	449	5.19

Table 244: Calculation result for Fancoil Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
4.97	4.69	496	3.88

## 6.2 Calculation results Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 245: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.79	4.63	182.0	1538	3.44	A+++

Table 246: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.32	3.24	126.6	2328	3.65	A++

Table 247: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.04	3.98	156.1	2111	3.41	A++

Table 248: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.80	2.76	107.6	2660	2.98	A+

Table 249: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
6.29	5.69	224.6	756	3.22	A+++

Table 250: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.23	4.00	157.1	1340	4.02	A+++

### 6.3 Calculation results Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 251: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.37	4.36	171.5	1632	3.44	A <sup>++</sup>

Table 252: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.10	3.10	121.1	2431	3.65	A <sup>++</sup>

Table 253: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.72	3.72	145.8	2256	3.41	A <sup>+</sup>

Table 254: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.63	2.63	102.2	2796	2.98	A <sup>+</sup>

Table 255: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
5.65	5.58	220.1	771	3.22	A <sup>+++</sup>

Table 256: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.94	3.91	153.4	1372	4.02	A <sup>+++</sup>

Table 257: Calculation result for Floor Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
6.71	6.33	492	5.16

Table 258: Calculation result for Fancoil Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
4.57	4.33	537	3.88

## 6.4 Calculation results Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 259: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.37	4.23	166.2	1683	3.44	A <sup>++</sup>

Table 260: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.10	3.04	118.5	2483	3.65	A <sup>+</sup>

Table 261: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.72	3.67	143.8	2287	3.41	A <sup>+</sup>

Table 262: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.63	2.60	101.0	2827	2.98	A <sup>+</sup>

Table 263: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
5.65	5.16	203.6	833	3.22	A <sup>+++</sup>

Table 264: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.94	3.74	146.6	1434	4.02	A <sup>++</sup>

## 6.5 Calculation results Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 265: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.88	4.87	191.8	2003	4.72	A+++

Table 266: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.30	3.30	128.9	2727	4.35	A++

Table 267: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.13	4.13	162.2	3244	5.44	A++

Table 268: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.86	2.86	111.2	3423	3.97	A+

Table 269: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
6.43	6.43	251.7	1050	5.01	A+++

Table 270: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.35	4.32	169.9	1447	4.68	A+++

Table 271: Calculation result for Floor Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
7.40	6.94	449	5.19

Table 271: Calculation result for Fancoil Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
4.97	4.69	496	3.88

## 6.6 Calculation results Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 272: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.88	4.75	187.0	2055	4.72	A+++

Table 273: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.30	3.24	126.4	2778	4.35	A++

Table 274: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.13	4.09	160.7	3275	5.44	A++

Table 275: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.86	2.83	110.2	3454	3.97	A+

Table 276: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
6.43	6.01	237.5	1112	5.01	A+++

Table 277: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.35	4.15	162.8	1509	4.68	A+++

## 6.7 Calculation results Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 278: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.50	4.50	117.0	2169	4.72	A

Table 279: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.10	3.09	120.8	2905	4.35	A <sup>+</sup>

Table 280: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.84	3.84	150.6	3488	5.44	A <sup>++</sup>

Table 281: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.69	2.69	104.7	3629	3.97	A <sup>+</sup>

Table 282: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
5.83	5.78	228.4	1156	5.01	A <sup>+++</sup>

Table 283: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.06	4.03	158.4	1551	4.68	A <sup>+++</sup>

Table 284: Calculation result for Floor Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
6.71	6.33	492	5.19

Table 285: Calculation result for Fancoil Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
4.57	4.33	537	3.88

## 6.8 Calculation results Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 286: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.50	4.39	172.8	2220	4.72	A <sup>++</sup>

Table 287: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.10	3.04	118.6	2956	4.35	A <sup>+</sup>

Table 288: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.84	3.81	149.3	3519	5.44	A <sup>+</sup>

Table 289: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.69	2.67	103.8	3660	3.97	A <sup>+</sup>

Table 290: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
5.83	5.49	216.6	1218	5.01	A <sup>+++</sup>

Table 291: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOP <sub>on</sub>	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.06	3.88	152.2	1613	4.68	A <sup>+++</sup>

## 6.9 Calculation results Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 292: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
5.16	5.15	203.2	2649	6.61	A+++

Table 293: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.63	3.63	142.0	3230	5.67	A+++

Table 294: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.44	4.44	174.6	3816	6.88	A++

Table 295: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.12	3.12	121.6	4499	5.69	A+

Table 296: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
6.52	6.51	257.2	1397	6.80	A+++

Table 297: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.48	4.47	175.9	2028	6.79	A+++

Table 298: Calculation result for Floor Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
7.30	7.02	567	6.63

Table 299: Calculation result for Fancoil Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
5.21	5.05	723	6.09

## 6.10 Calculation results Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 300: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
5.16	5.06	199.5	2698	6.61	A+++

Table 301: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.63	3.57	139.9	3279	5.67	A++

Table 302: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.44	4.41	173.3	3845	6.88	A++

Table 303: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.12	3.10	120.8	4529	5.69	A++

Table 304: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
6.52	6.24	246.7	1456	6.80	A+++

Table 305: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.48	4.35	170.9	2086	6.79	A+++

## 6.11 Calculation results Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 306: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.83	4.83	190.1	2829	6.61	A+++

Table 307: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.44	3.44	134.8	3400	5.67	A++

Table 308: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.19	4.19	164.6	4044	6.88	A++

Table 309: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.98	2.98	116.2	4704	5.69	A+

Table 310: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
6.08	6.06	239.6	1499	6.80	A+++

Table 311: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.26	4.25	167.2	2132	6.79	A+++

Table 312: Calculation result for Floor Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
6.77	6.53	609	6.63

Table 313: Calculation result for Fancoil Cooling Application

Energy Efficiency			
SEERon	SEER	QCE (kWh)	Prated
4.87	4.74	772	6.09

## 6.12 Calculation results Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS C2

The test results as shown in Chapter 4 and 4.46 are used for a calculation of the energy efficiency as described in EN 14825. For the calculations the spreadsheet is used that is available on the HPKeymark website (V7.1).

In the tables below a summary of the most important results of the calculations is given.

Table 314: Calculation result for Low Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.83	4.75	186.8	2878	6.61	A+++

Table 315: Calculation result for Medium Temperature Application and Average Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
3.44	3.40	132.8	3449	5.67	A++

Table 316: Calculation result for Low Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.19	4.16	163.4	4074	6.88	A++

Table 317: Calculation result for Medium Temperature Application and Colder Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
2.98	2.96	115.5	4734	5.69	A+

Table 318: Calculation result for Low Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
6.08	5.84	230.4	1557	6.80	A+++

Table 319: Calculation result for Medium Temperature Application and Warmer Climate condition

Energy Efficiency					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Label
4.26	4.14	162.6	2191	6.79	A+++

## 7 Safety, Starting and Operating tests

The starting test and operating test according to EN 14511 §4,2 have been performed successfully for all appliances in both heating and cooling mode. The tested conditions are summarized in table 320 and table 321.

Table 320: Starting and operation tests in heating mode

		Heating Mode	
		Condition	Flow [m³/h]
3 kW	Starting test	A-25W15	
	Operating test	A-25W35	
5 kW	Starting test	A-10W57	
	Operating test	A-25W35	
7 kW	Starting test	A-25W35	
	Operating test	A-10W57	

Table 321: starting tests in cooling mode

		Cooling mode	
		Condition	Flow [m³/h]
3 kW	Starting test	A47W48	
	Starting test	A14W11.5	
5 kW	Starting test	A47W48	
	Starting test	A14W11.5	
7 kW	Starting test	A47W48	
	Starting test	A14W11.5	

The safety tests according to EN 14511 §4,5 (blocking of heat transfer medium, indoor and outdoor) and §4,6 (complete power failure) have been performed successfully in both heating and cooling mode.

END OF TEST REPORT

Report P000356333  
02 July 2024

# Test report

Vaillant GmbH  
Berghauser Straße  
42859 Remscheid  
Germany



Trust  
Quality  
Progress

KIWA Nederland B.V.

[www.kiwaenergy.com](http://www.kiwaenergy.com)

V003 – 2021-09



## Contents

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5	Appendices .....	8
END OF TEST REPORT .....		8

© 2024, Kiwa Nederland B.V.

This report may only be duplicated as a complete set without any modifications and with permission of the legitimate owner.

The test results in this report are exclusively related to the samples offered and tested.

Tests marked in this report with the IRN number are part of the accreditation scope (RvA L248) unless stated differently.

Measurement uncertainty of testing in the context of ISO/IEC 17025.

Test reports can, in some cases, contain besides the numeric measured values also the qualification "pass" or "fail". In this assessment, compliance with the specification limit from the applicable product standard is used. The measurement complies with the requirement if the probability of its being within the limit is at least 50%.

This does not take into account the measurement uncertainty associated with the test method.

It is explicitly stated that in the case of a "pass" or "fail", the measured result is corrected for the measurement uncertainty and/or the relevant test conditions for the measured result.

Unless otherwise noted the measurement uncertainty and conditions are as specified in the test specifications.



This report is only valid when signed by the test person and reviewer.

Conclusions for compliance with e.g. product standard requirements are not part of the lab scope (RvA L248).

In case when information is supplied by the customer it is possible that it can affect the validity of results.

In case of dispute regarding this test report please contact Kiwa Nederland B.V.

Version: 003.2

<b>Report number.....</b>	P000356333
<b>Project number.....</b>	P000356333; P000398719
Date of issue.....	02 July 2024
Total number of pages.....	8 (excluding appendices)
<b>Testing laboratory .....</b>	KIWA Nederland B.V.
Testing location/address.....	Wilmersdorf 50, 7327 AC Apeldoorn, The Netherlands
Applicant's name .....	Vaillant
Address .....	Berghauser Straße 40 , 42859 Remscheid , Germany
<b>Scope .....</b>	Testing of a split Air-to-Water heat pump with outdoor air as heat source regarding the requirements as derived from the below mentioned Test specifications.
<b>Test specifications</b>	
Standards .....	EN 12102-1:2022
Non-standard test method..	N.A.
<b>Test item description .....</b>	Split Air-to-Water
Manufacturer .....	Vaillant
Trade Mark .....	Vaillant
Model/Type reference.....	VWL 57/8.2 IS (IDU) + VWL 55/8.2 AS (ODU), VWL 58/8.2 IS C2 (IDU) + VWL 55/8.2 AS (ODU), VWL 77/8.2 IS (IDU) + VWL 75/8.2 AS (ODU), VWL 78/8.2 IS C2 (IDU)+ VWL 75/8.2 AS (ODU). (a full overview can be found in chapter 3: Description of the product(s))
Test item number(s) .....	IDU: VWL 57/8.2 IS: S23-08836: NewGenR32: Ccert HS 807 VWL 58/8.2 IS C2: S23-08835: NewGenR32: Ccert HTC2 806 VWL 77/8.2 IS: S23-08839: NewGenR32: Ccert HS 810 VWL 78/8.2 IS C2: S23-08838: NewGenR32: Ccert HTC2 809  ODU: VWL 55/8.2 AS: S23-09161: aroTHERM split NewGen R32 Ccert 185 VWL 75/8.2 AS: S23-09050: P11281 Split R32 ODU M 176
Date receipt of test item(s) .	N.A.
Date(s) of testing .....	2024/05/14; 2024/04/24; 2024/02/20; 2024/02/20
<b>Remarks .....</b>	N.A.
<b>Summary .....</b>	
Complies with the requirements as far as identified in the attached result sheets.	
Witnessed by (name + signature) .....	Jan Meuleman 
Approved by (name + signature) .....	Anne-Wim Juffer 



## 1 Report history

Report number..... :	P000356333
Project number .....	P000536333; P000398719
Author. .... :	Jan Meuleman
Description..... :	Initial report Testing of a split Air-to-Water heat pump with outdoor air as heat source according to the European standard EN 12102-1 on sound power level. Following models have been tested: VWL 57/8.2 IS (IDU) + VWL 55/8.2 AS (ODU), VWL 58/8.2 IS C2 (IDU) + VWL 55/8.2 AS (ODU), VWL 77/8.2 IS (IDU) + VWL 75/8.2 AS (ODU), VWL 78/8.2 IS C2 (IDU)+ VWL 75/8.2 AS (ODU).

>



## 2 Summary of testing

On request of Vaillant GmbH the items as mentioned under Test item description are tested according to the Test specifications (see page 3 of this report).

The following tests are carried out :

- Sound power level tests acc to EN 12102-1;

Values for sound pressure levels (SPL) are not part of the report.

For this project, all testing has been performed in the heat pump test laboratory of Vaillant in Remscheid, Germany.

Tests performed in the heat pump test laboratory of Vaillant in Remscheid are partially witnessed by Kiwa. During the witness both the laboratory itself with belonging used testing equipment and the test engineers from Vaillant performing the tests have been checked.

General Remark:

Kiwa Nederland B.V. is an accredited testing laboratory by the RvA according EN ISO/IEC 17025:2017.

The accreditation is valid only for the scope listed in the annex L248 - Raad voor Accreditatie (rva.nl).

Testing procedure: Using F01 Checklist Testing on manufacturers premises.





### 3 Description of the product(s)

<b>Appliance description: VWL XX/8.2 IS XX + VWL XX/8.2 AS XX.</b>	
The appliance is a Split system Air-to-Water heat pump. The heat pump is an outdoor device with inverter technology with outdoor air as heat source. The heat pump is equipped with an integrated circulation pump.	
<b>Device serial numbers :</b>	Indoor unit: VWL 57/8.2 IS: S23-08836: NewGenR32: Ccert HS 807 VWL 58/8.2 IS C2: S23-08835: NewGenR32: Ccert HTC2 806 VWL 77/8.2 IS: S23-08839: NewGenR32: Ccert HS 810 VWL 78/8.2 IS C2: S23-08838: NewGenR32: Ccert HTC2 809  Outdoor unit: VWL 55/8.2 AS: S23-09161: aroTHERM split NewGen R32 Ccert 185 VWL 75/8.2 AS: S23-09050: P11281 Split R32 ODU M 176 VWL 75/8.2 AS: S23-09042: aroTHERM split NewGen R32 Ccert 172





## 4 Heating – Sound power level

In the tables below the results are summarized of the sound power level measurements for the indoor units are shown as measured at 'C' partload and medium temperature application for average climate condition as determined according to EN12102-1.

*Table 1: Results of the sound power measurement according to EN12102-1 for average climate and medium temperature application*

	L <sub>WA</sub> [dB(A)] (indoor unit)	L <sub>WA</sub> [dB(A)] (outdoor unit)
VWL 57/8.2 IS (IDU) + VWL 55/8.2 AS (ODU),	42.3	47.5
VWL 58/8.2 IS C2 (IDU) + VWL 55/8.2 AS (ODU),	40.5	47.5
VWL 77/8.2 IS (IDU) + VWL 75/8.2 AS (ODU),	41.9	48.3
VWL 78/8.2 IS C2 (IDU)+ VWL 75/8.2 AS (ODU).	41.6	48.3

Detailed test results can be found in the Appendices of this report





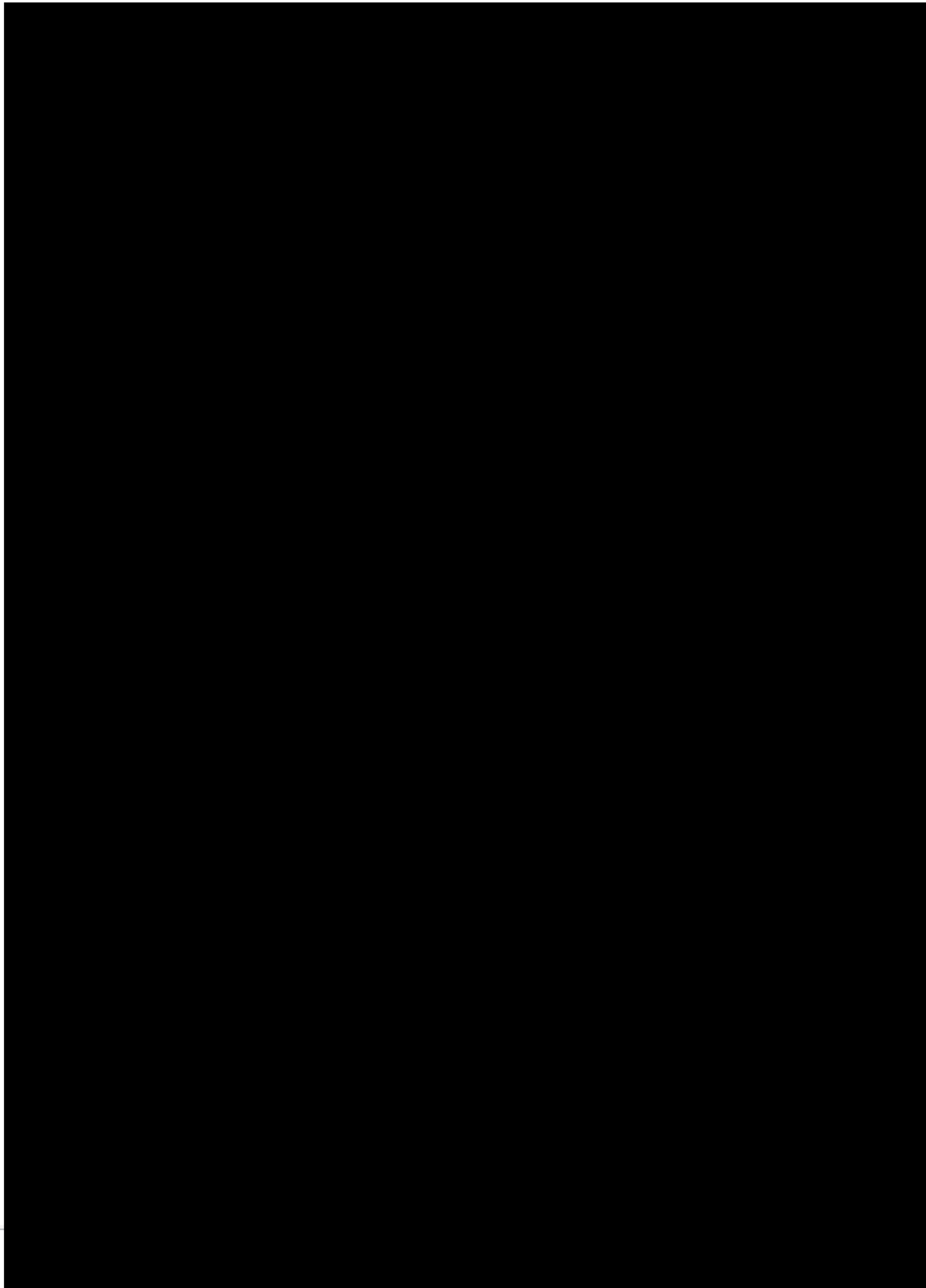
## 5 Appendices

Appendix 1:	Test Results, report 23-6492-D01 IDU – 11 pages
Appendix 2:	Test Results, report 23-6491-D01 IDU – 11 pages
Appendix 3:	Test Results, report 23-6495-D01 IDU – 11 pages
Appendix 4:	Test Results, report 23-6494-D01 IDU – 11 pages
Appendix 5:	Test Results, report 23-6667-D01 ODU – 12 pages
Appendix 6:	Test Results, report 23-6668-D01 ODU – 12 pages
Appendix 7:	Component information – 2 pages

END OF TEST REPORT

>

## Appendix 1: Test Results, report 23-6492-D01 IDU



Mea. Report reviewed  
23-6492-D01

VAILLANT GROUP

#### Order Description

Acoustic certification measurements of sound power level for indoor unit hydraulic tower VWL 78/8.2 IS C2 operated together with outdoor air-/water split heat-pump VWL 75/8.2 AS 230V C-sample manufactured by Vaillant.  
Measurement of Sound Power Level acc. to DIN EN ISO 3744 for nominal operating conditions.

The test conditions were set according to the appropriate appliance type, DIN EN 12102-1:2023-11 (Class A) for heat-pumps.

The sound power level has been measured acc. to DIN EN ISO 3744:2011-02.

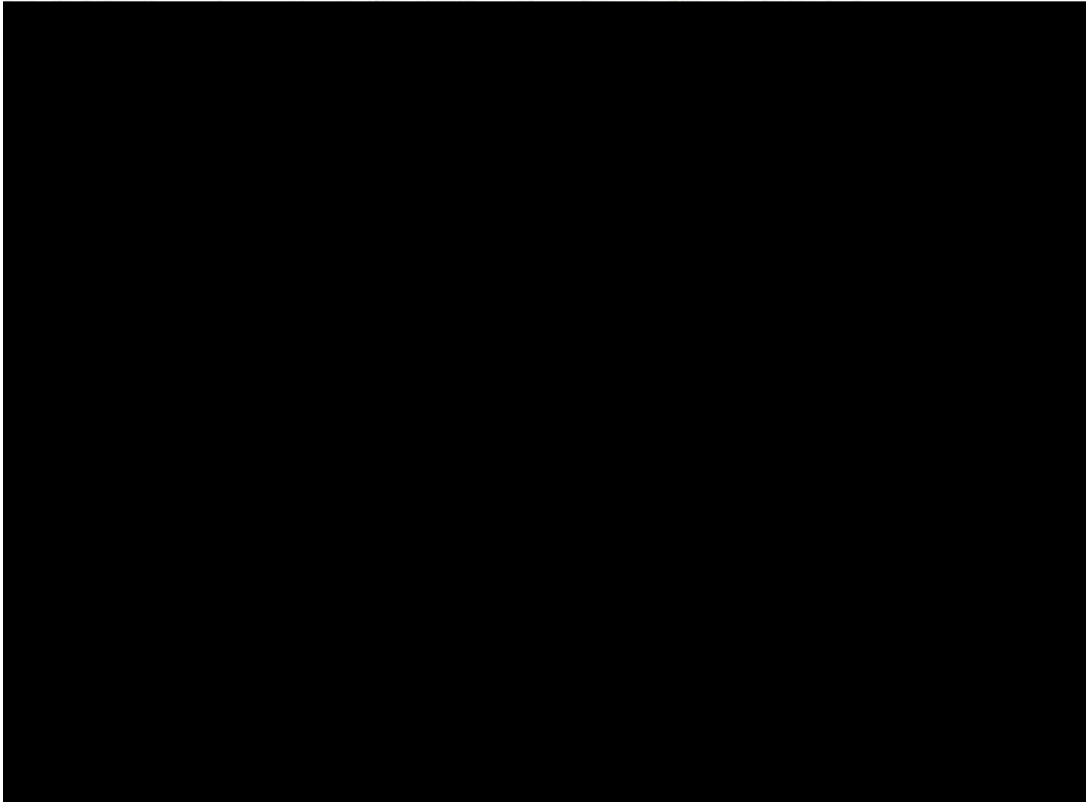
The tests have been done acc. to the test description no. VGTD-0285-02.

## Summary

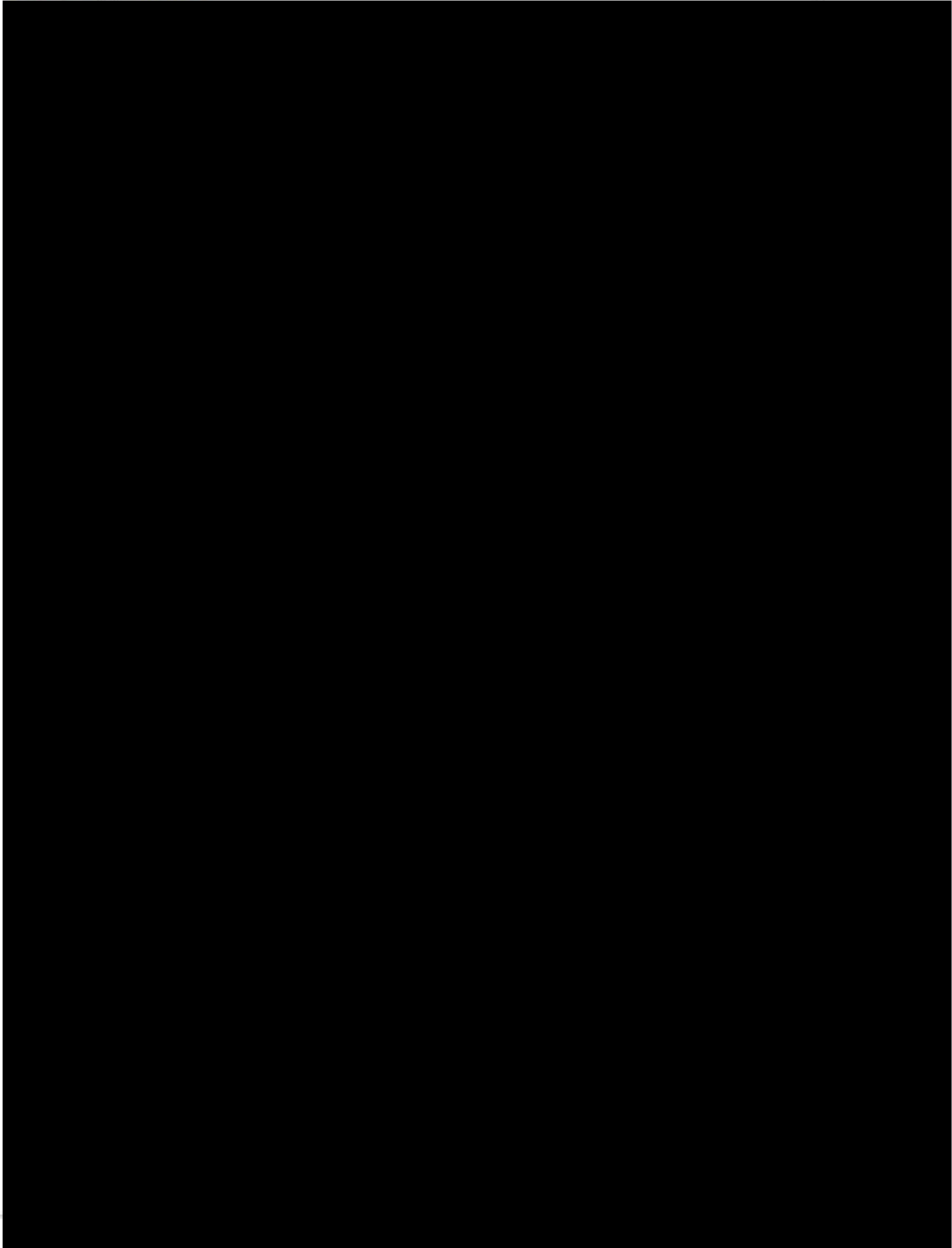
Acoustic certification measurements of sound power level for indoor unit hydraulic tower VWL 78/8.2 IS C2 operated together with outdoor air-/water split heat-pump VWL 75/8.2 AS 230V C-sample manufactured by Vaillant.

*VWL 78/8.2 IS C2*

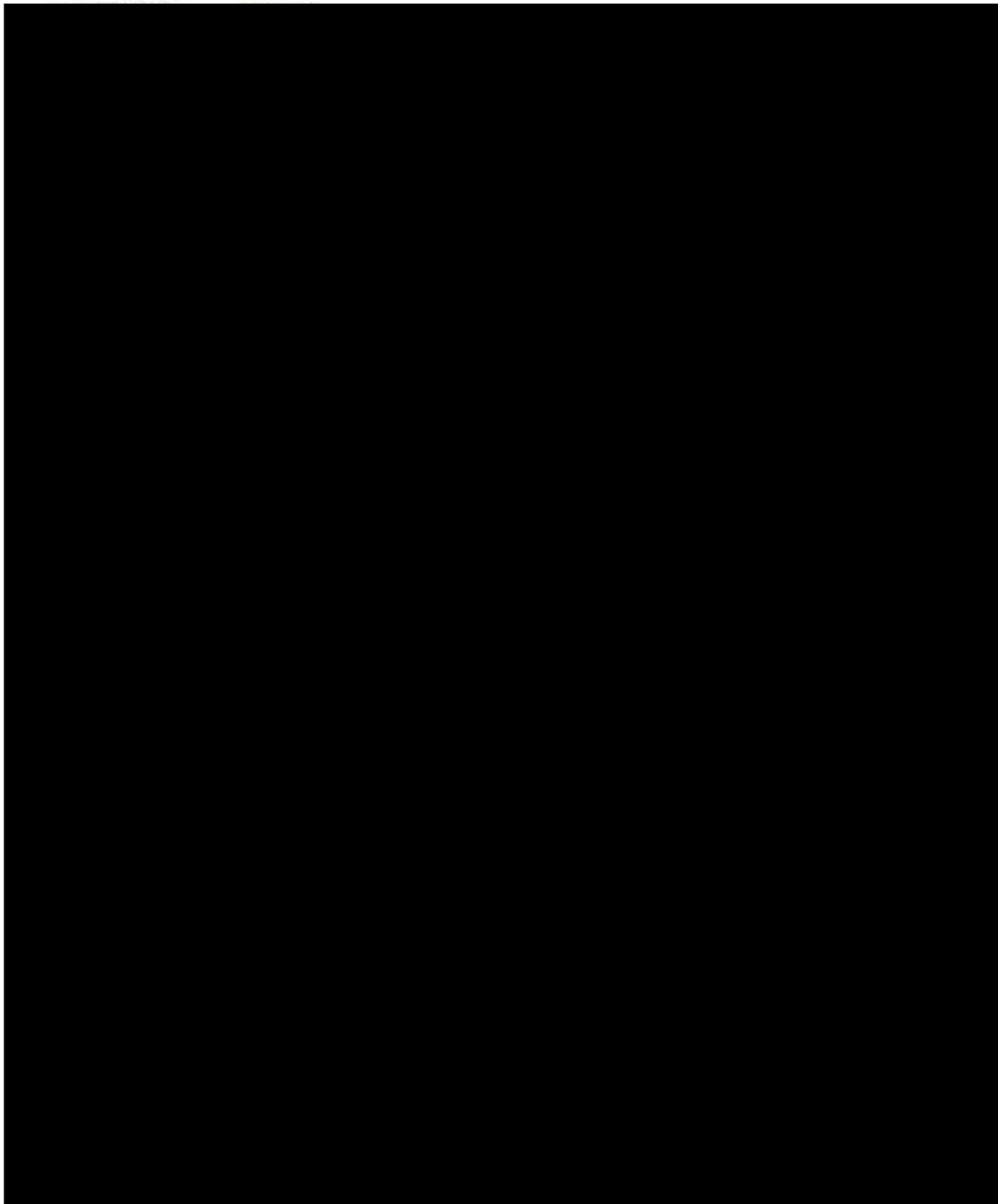
Appliance Type	Serial No.	Mode	Sound Power Level [dB(A)]
VWL 78/8.2 IS C2	n.a.	A7/W55 (ErP)	41.6



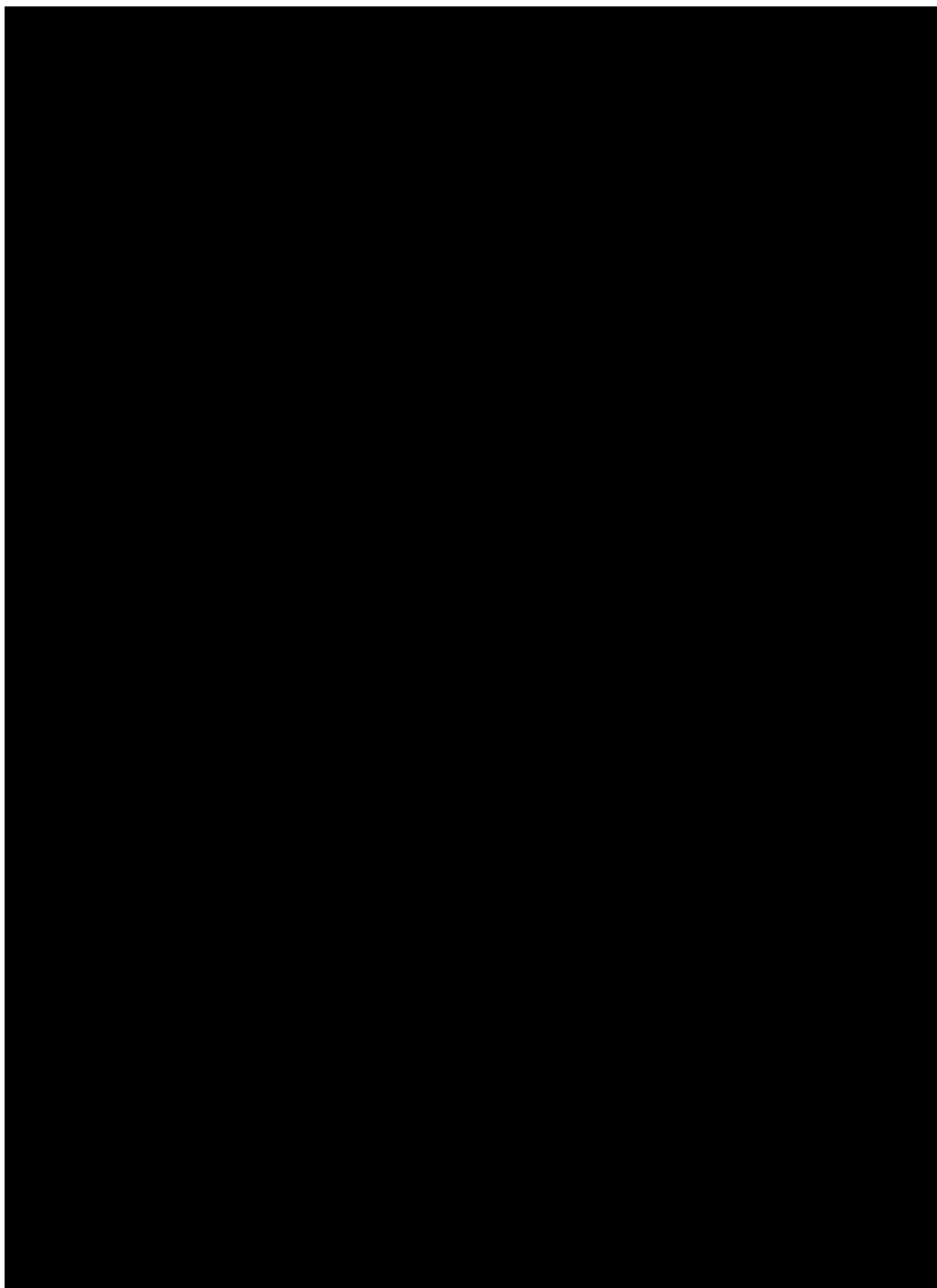
## Table of Contents



#### Test Sample Details



23-6492-T12 – AT - Noise Recording / Heat Pump General / Air Water / Indoor  
Unit - DIN EN ISO 3744 - A7W55 (ErP)



## Results

Parameter	Remark	Min.	Nom.	Max.	Result
Test sample number	Indoor Unit	1			
Gas Type	refrigerant				
Recording date	2024/02/20 09:57				

Operating Mode: [05] Heating (ErP)\_A7/W55\_35 rps\_620 rpm

Parameter	Remark	Min.	Nom.	Max.	S23-08838
Weighted Sound Power Level [dB(A)]	Indoor Unit			45	41,6 dB(A)
Ambient Temperature [°C]					21,00 °C
Ambient relative humidity [%]					34,40 %
Ambient pressure [mbar]					991,60 mbar

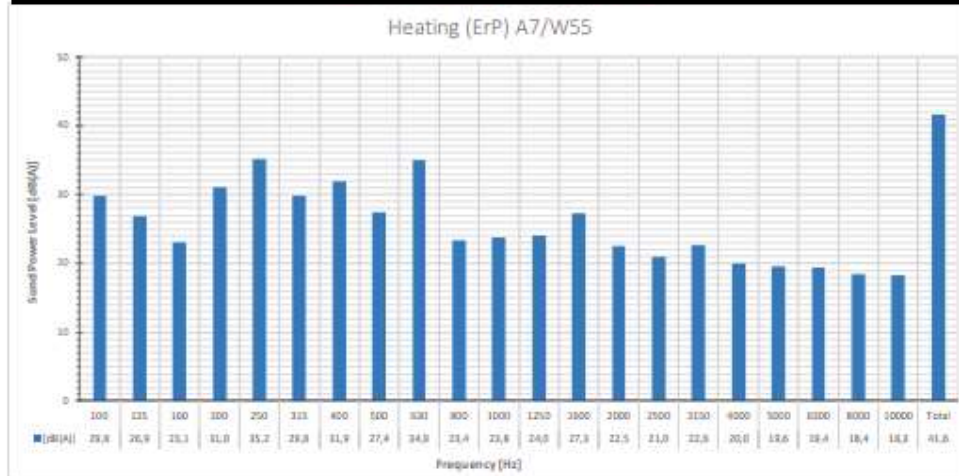
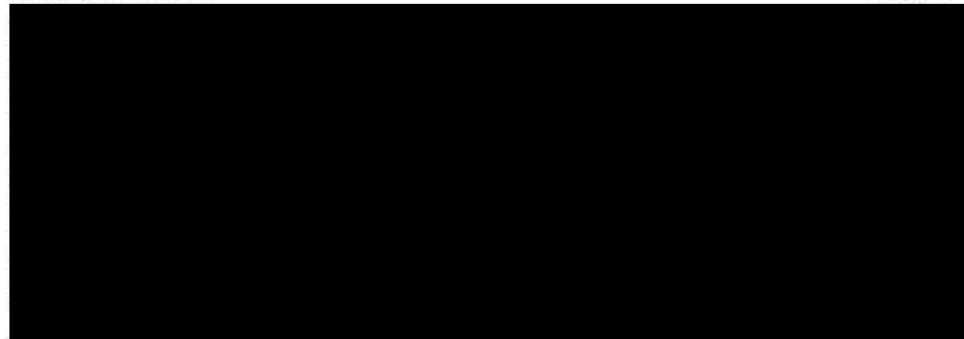
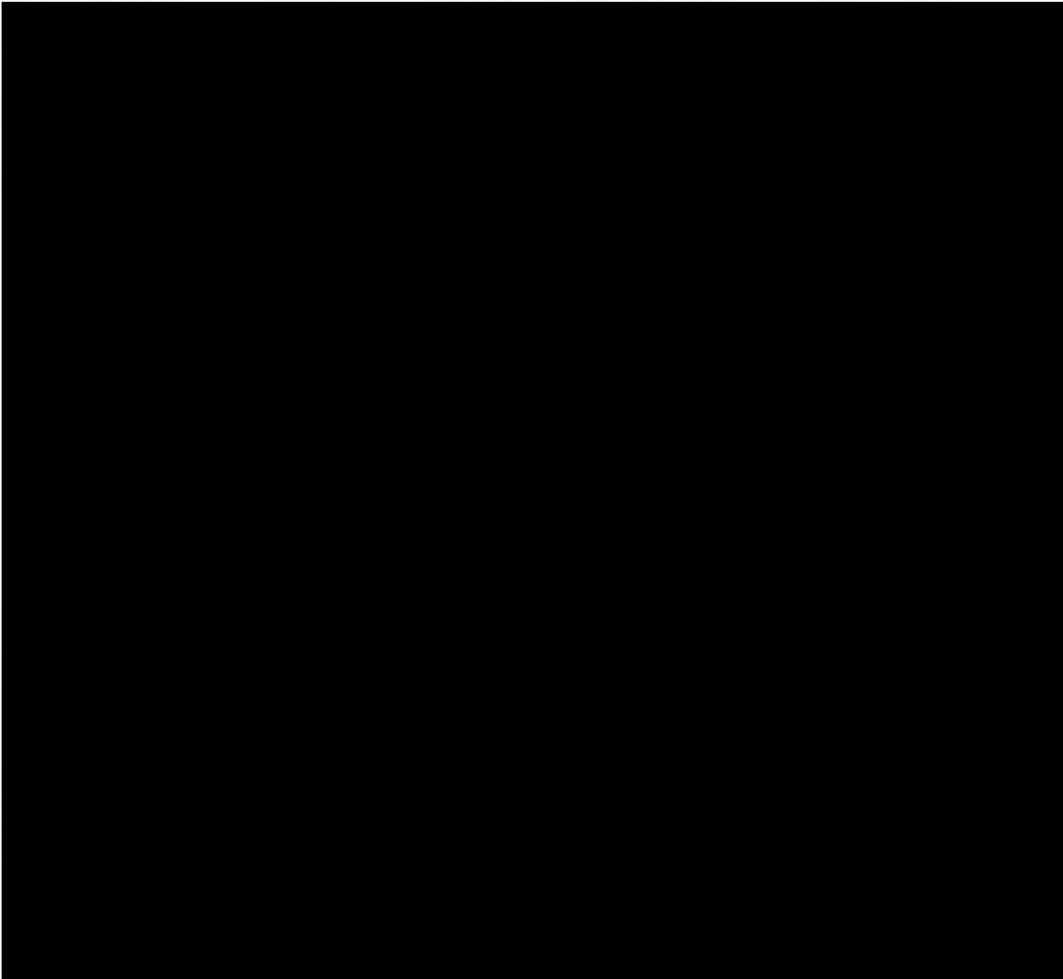
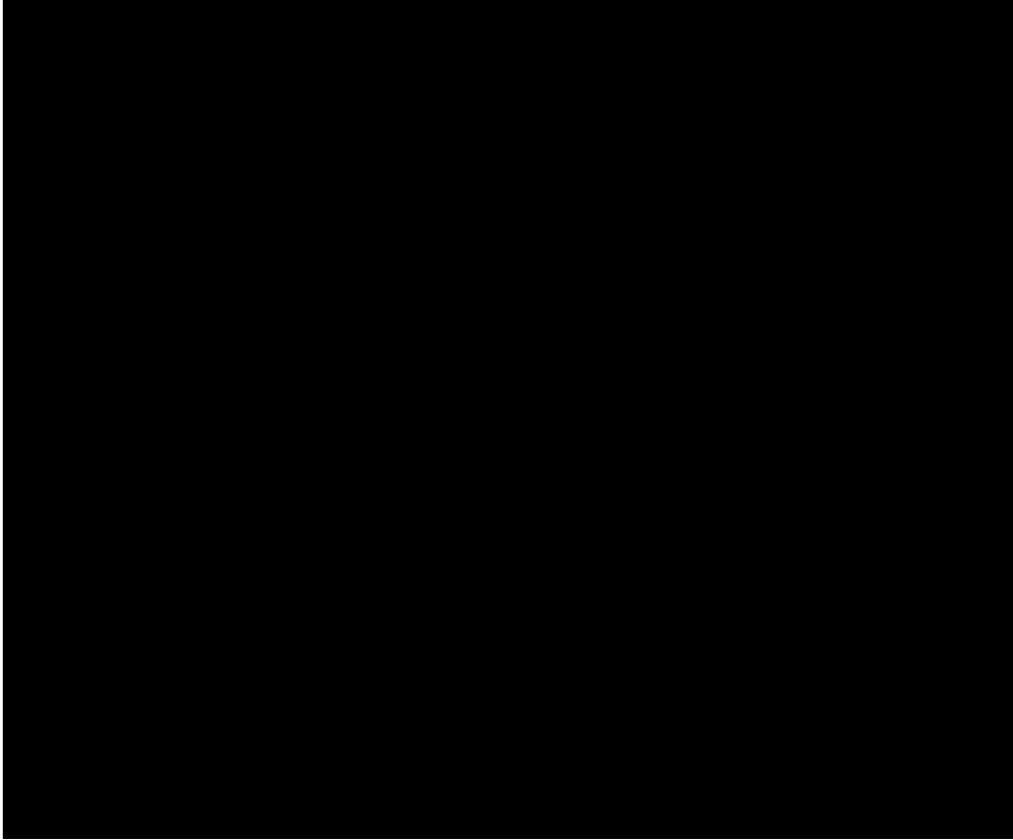


fig. 3 Sound Power Level - Operating Mode: [05] Heating (ErP)\_A7/W55\_35 rps\_620 rpm

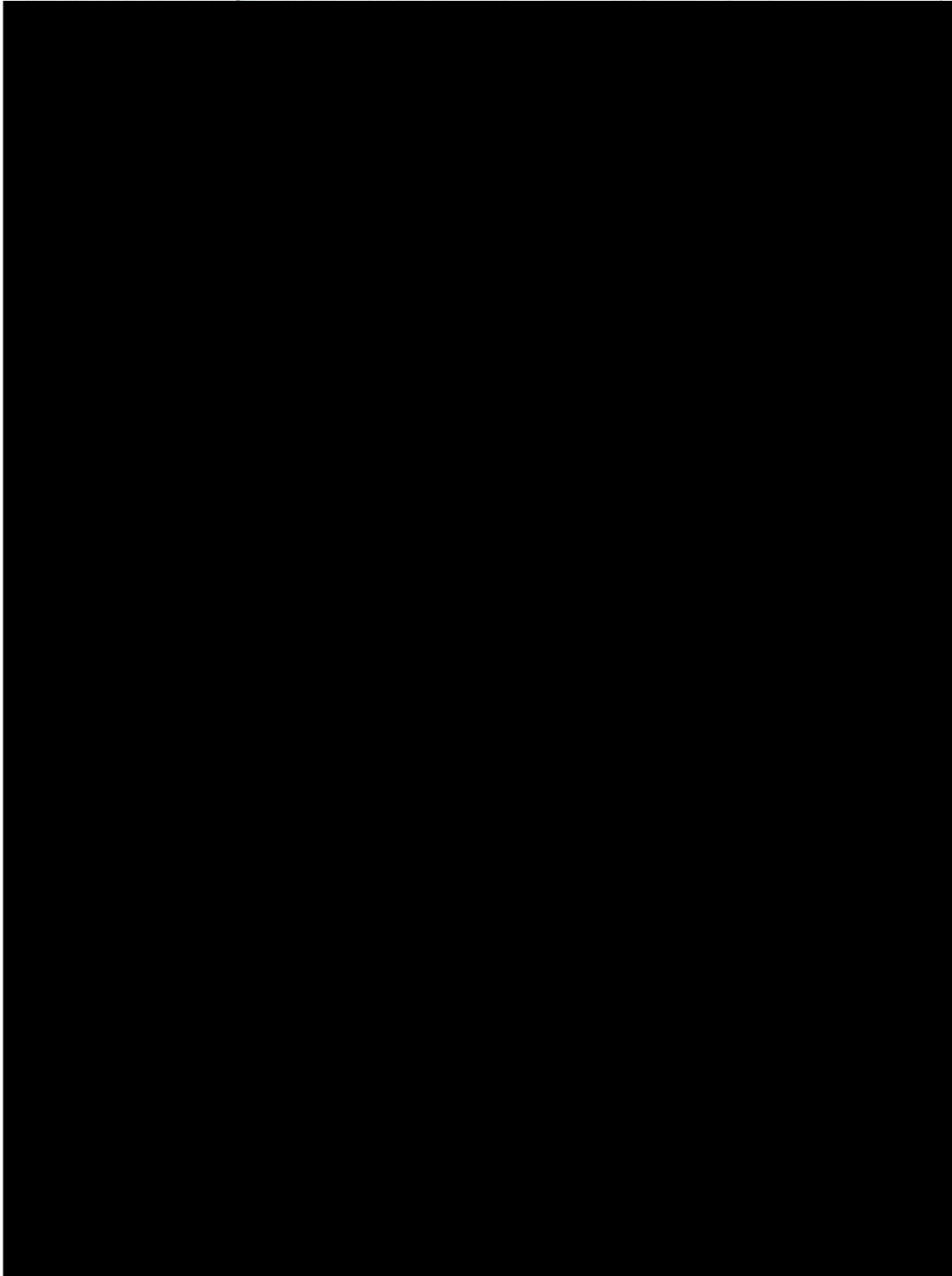
Conditions

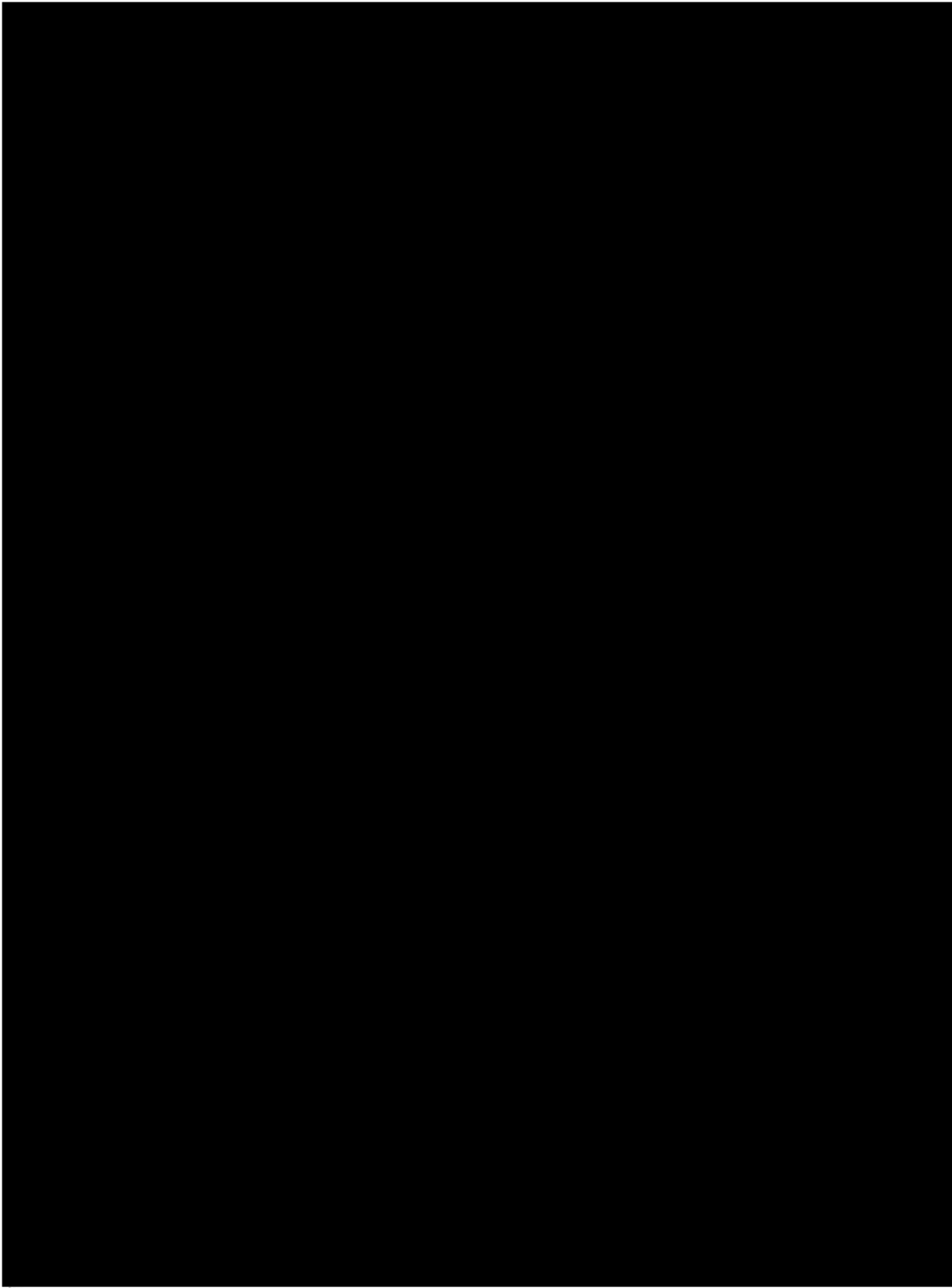


Procedure

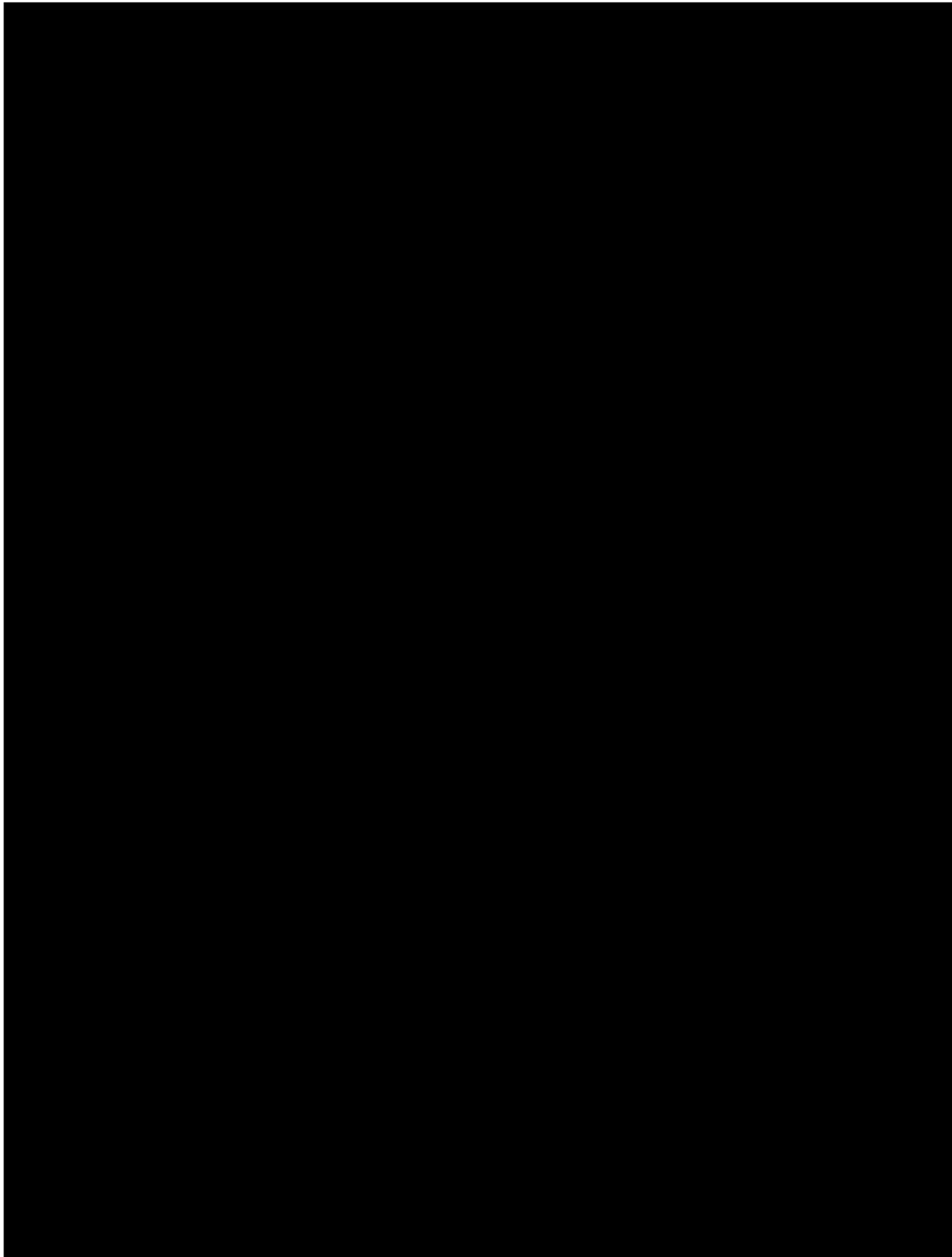


## Measurement Setup





## Appendix 2: Test Results, report 23-6491-D01 IDU



Mea. Report reviewed  
23-6491-D01

VAILLANT GROUP

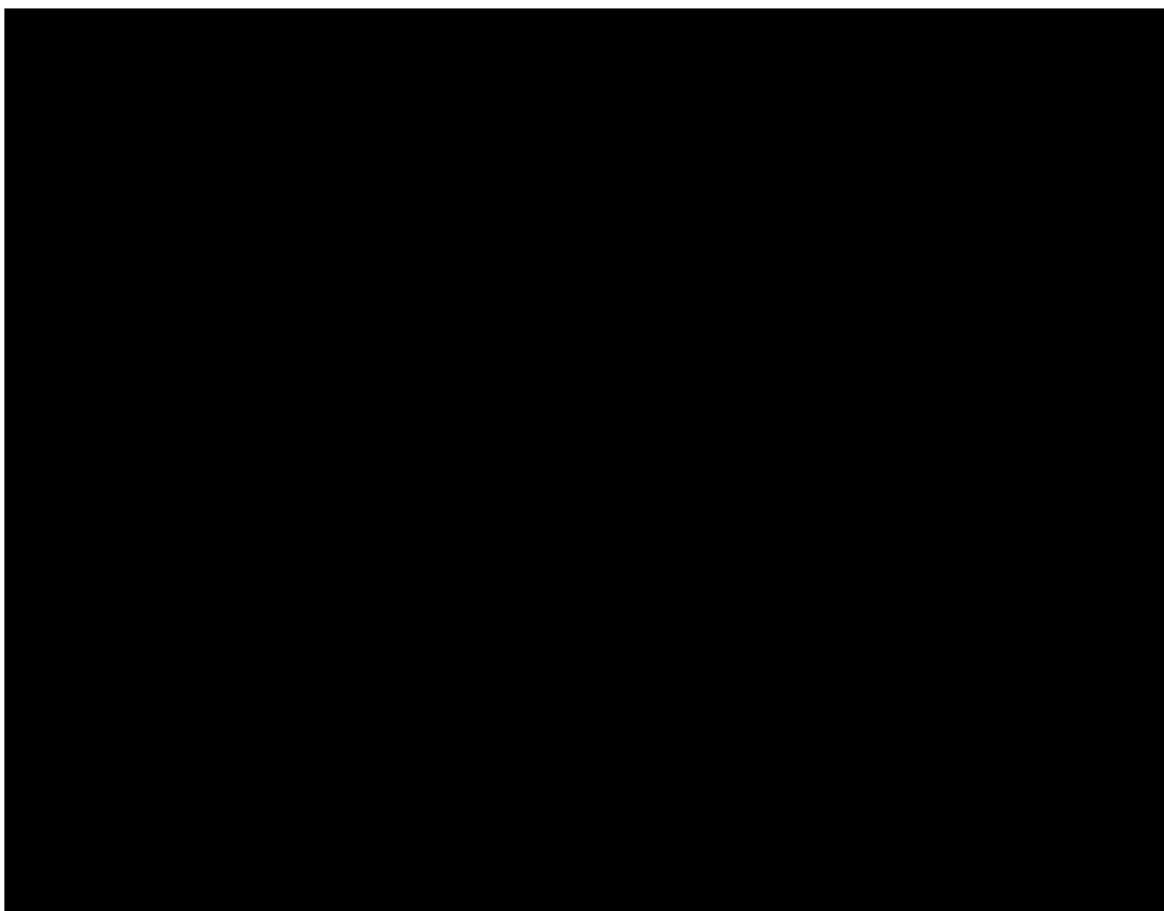
### Order Description

Acoustic certification measurements of sound power level for indoor unit hydraulic station VWL 77/8.2 IS operated together with outdoor air-/water split heat-pump VWL 75/8.2 AS 230V C-sample manufactured by Vaillant. Measurement of Sound Power Level acc. to DIN EN ISO 3744 for nominal operating conditions.

The test conditions were set according to the appropriate appliance type, DIN EN 12102-1:2023-11 (Class A) for heat-pumps.

The sound power level has been measured acc. to DIN EN ISO 3744:2011-02.

The tests have been done acc. to the test description no. VGTD-0285-02.

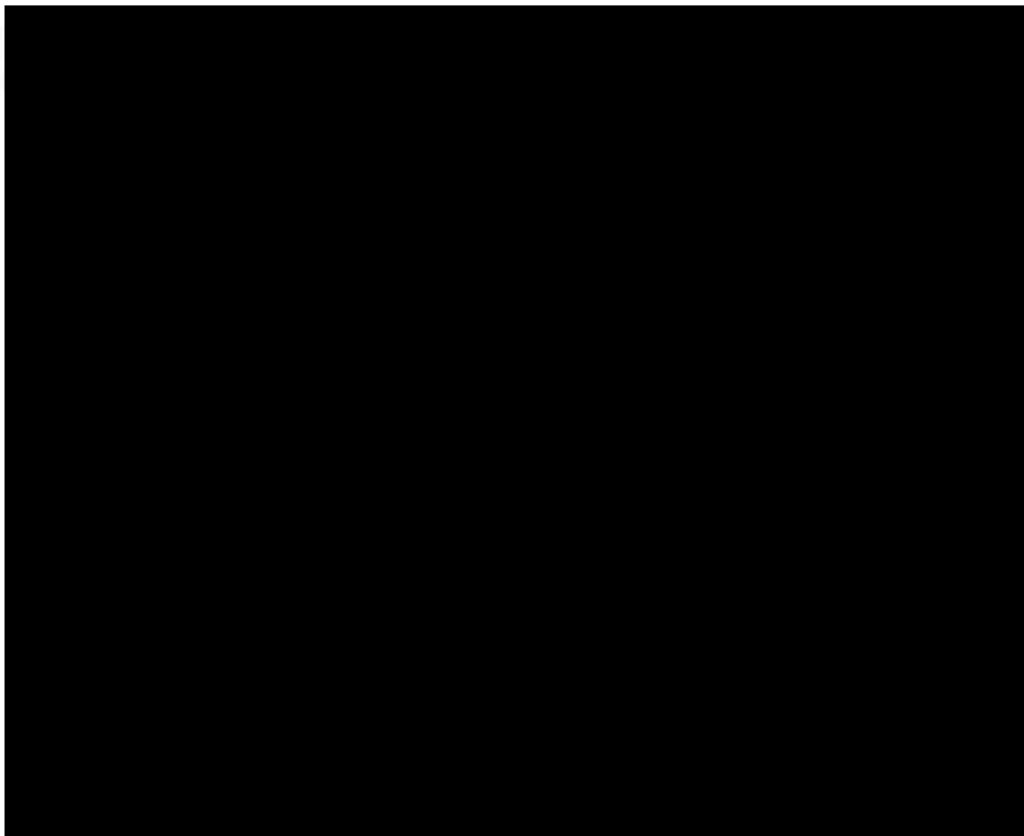


## Summary

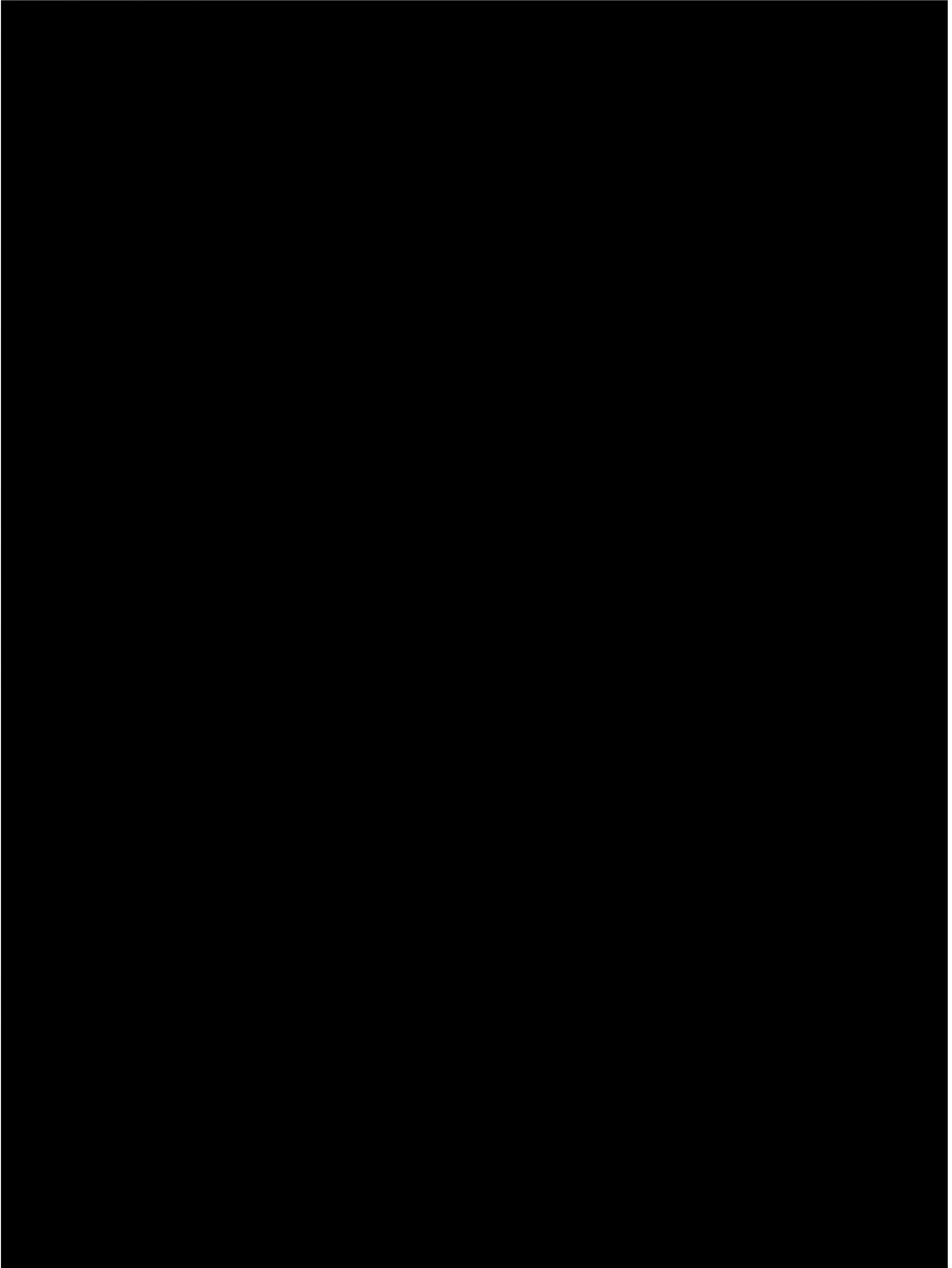
Acoustic certification measurements of sound power level for indoor unit hydraulic station VWL 77/8.2 IS operated together with outdoor air-/water split heat-pump VWL 75/8.2 AS 230V C-sample manufactured by Vaillant.

VWL 77/8.2 IS

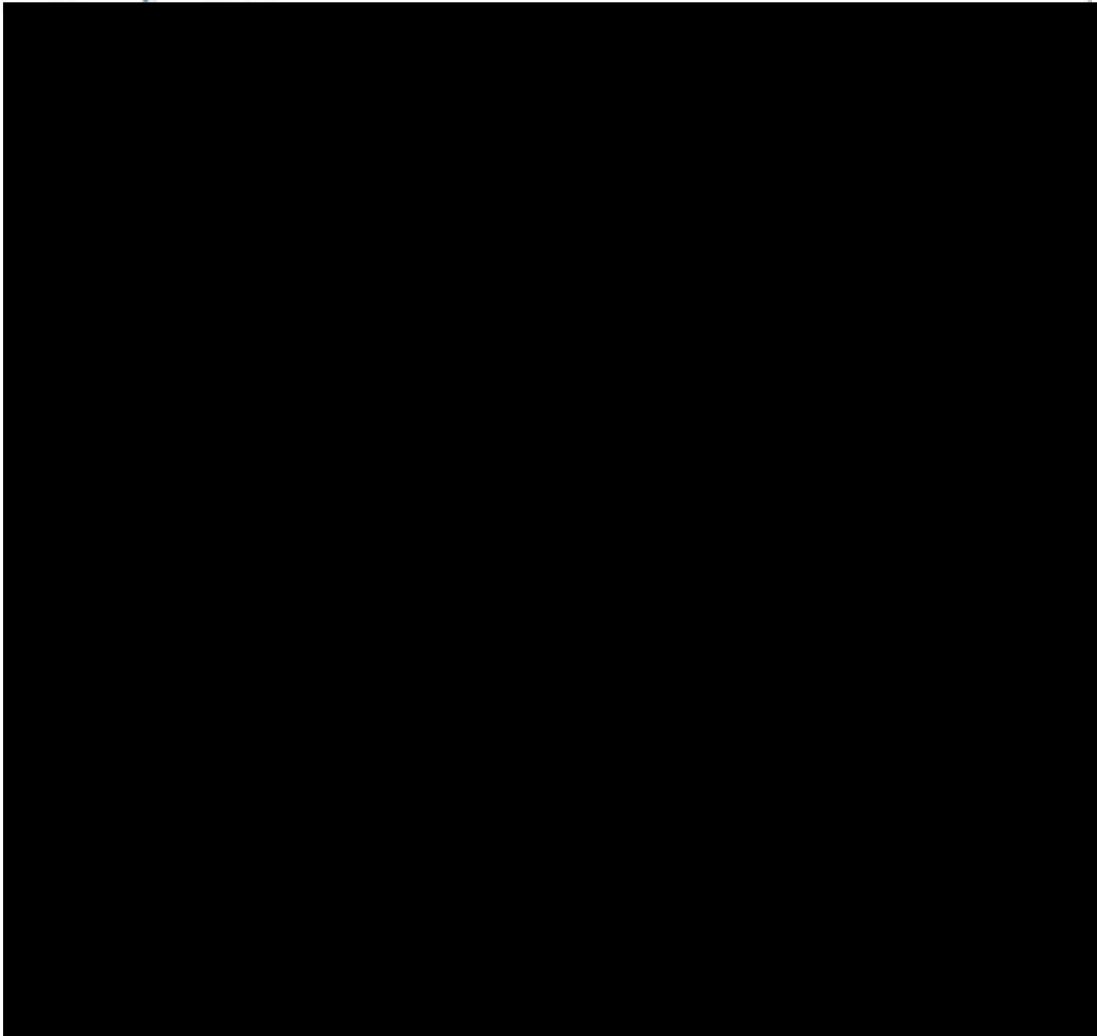
Appliance Type	Serial No.	Mode	Sound Power Level [dB(A)]
VWL 77/8.2 IS	n.a.	A7/W55 (ErP)	41.9



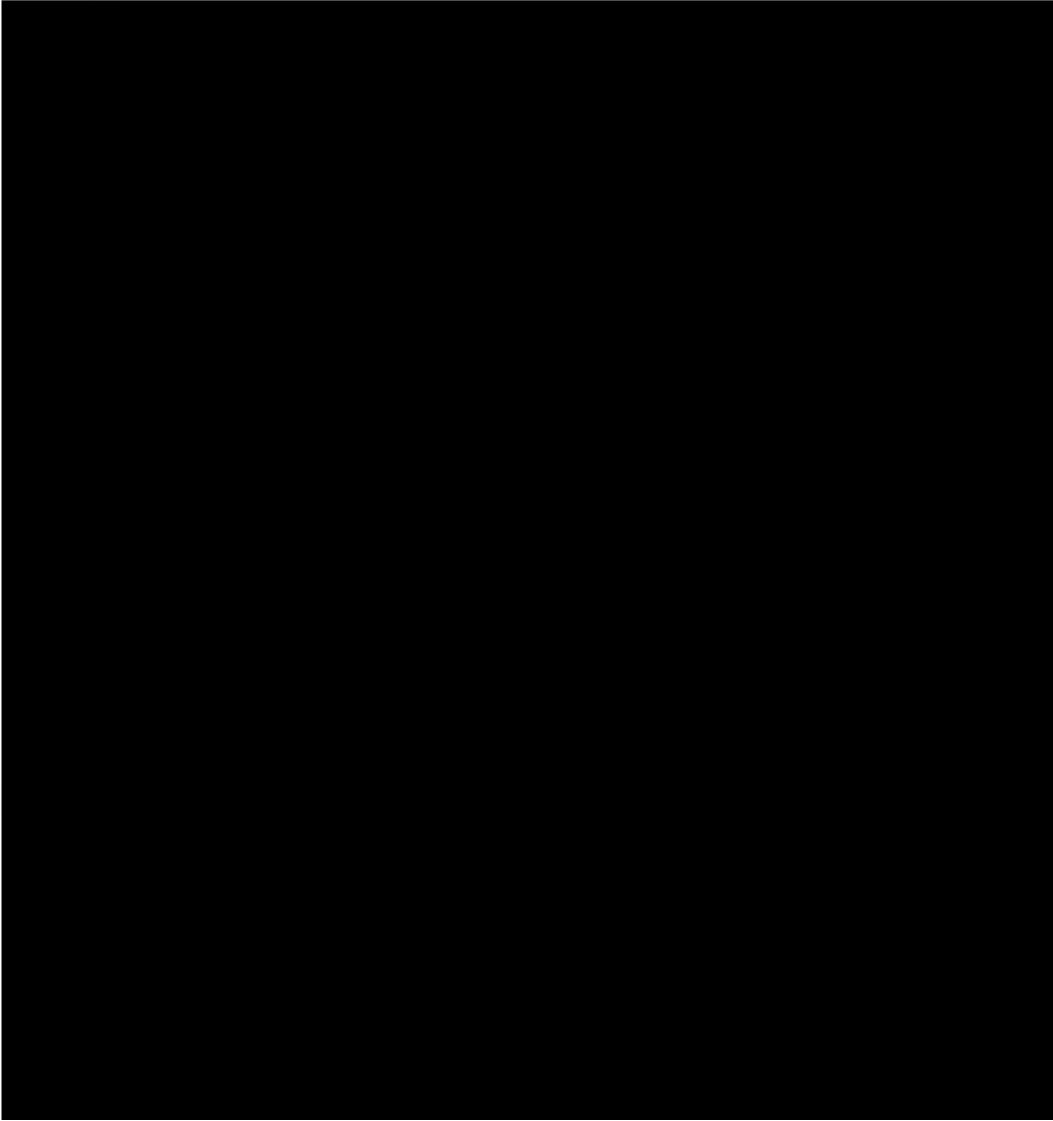
## Table of Contents



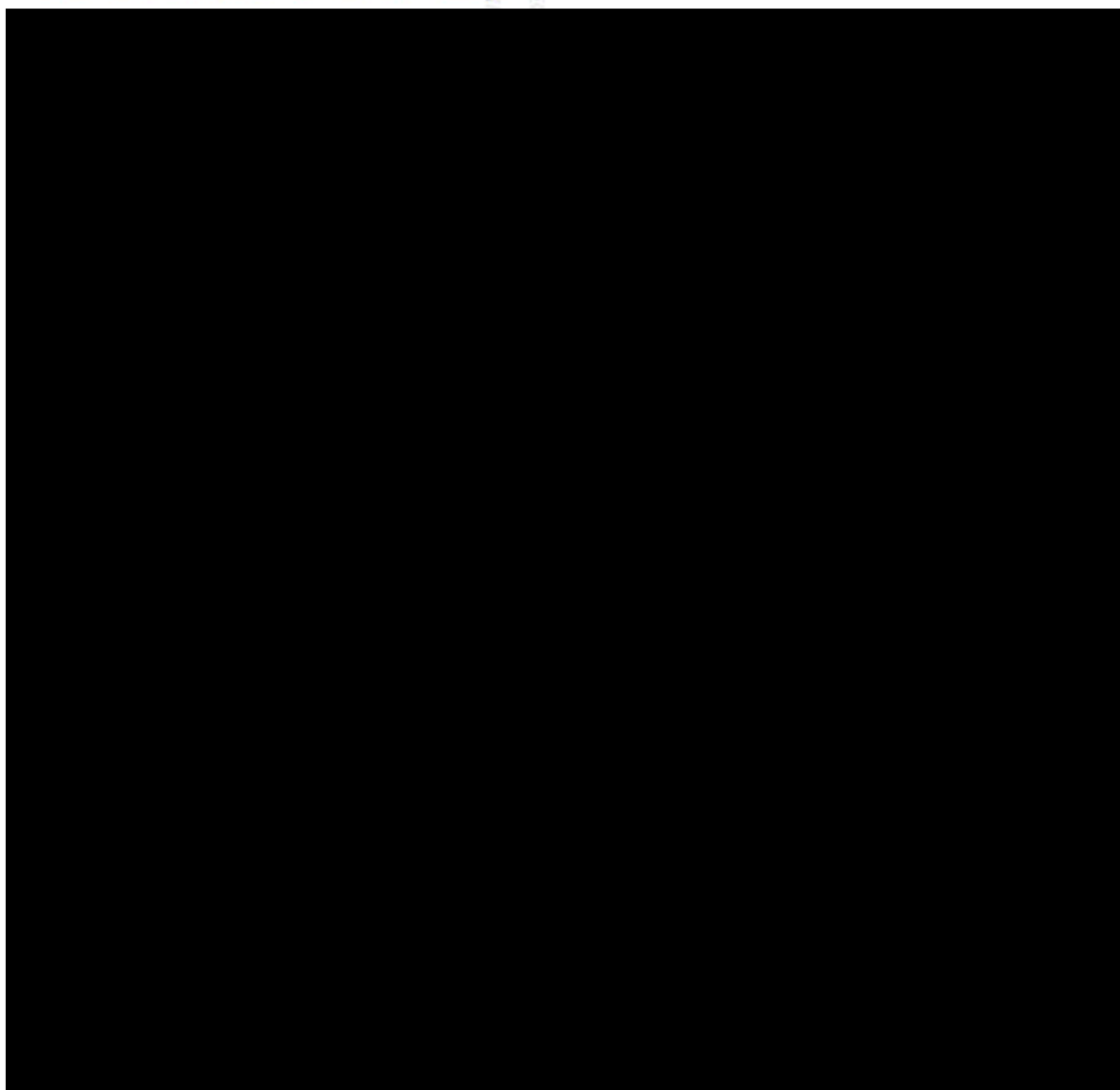
Test Sample Details



Pictures



23-6491-T09 – AT - Noise Recording / Heat Pump General / Air Water / Indoor  
Unit - DIN EN ISO 3744 - OP A7/W55 (ErP)



## Results

Parameter	Remark	Min.	Nom.	Max.	Result
Test sample number	Indoor Unit	1			
Gas Type	refrigerant				
Recording date	2024/02/20 12:28				

Operating Mode: [06] Heating (ErP)\_A7/W55\_36 rps\_420 rpm

Parameter	Remark	Min.	Nom.	Max.	S23-08839
Weighted Sound Power Level [dB(A)]	Indoor Unit				41,9 dB(A)
Ambient Temperature [°C]					21,00 °C
Ambient relative humidity [%]					45,80 %
Ambient pressure [mbar]					950,30 mbar

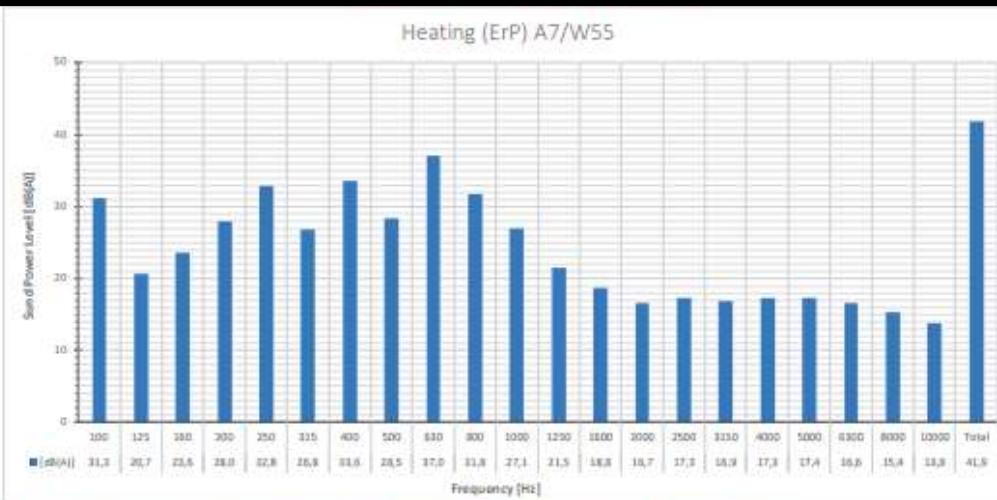
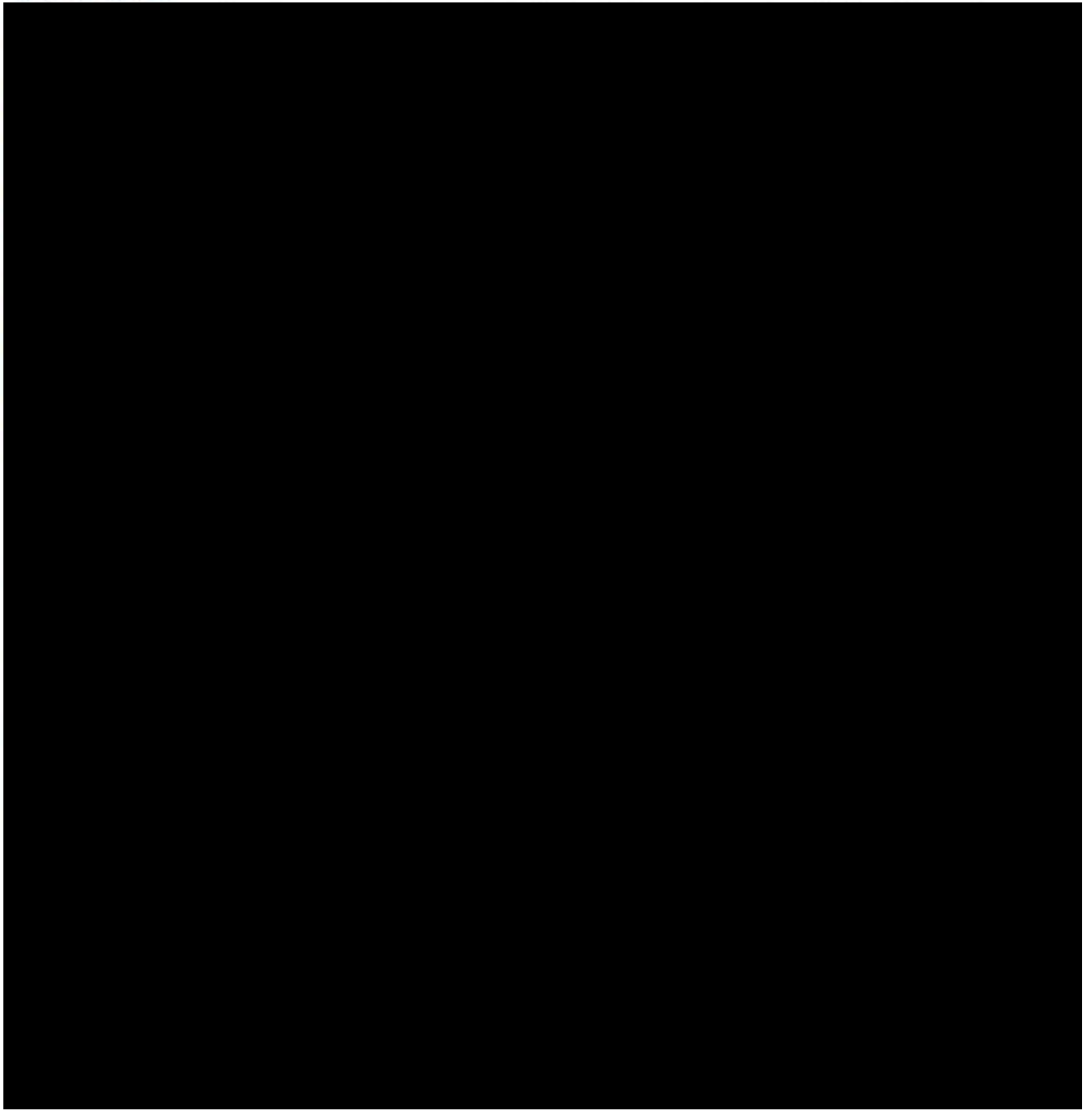
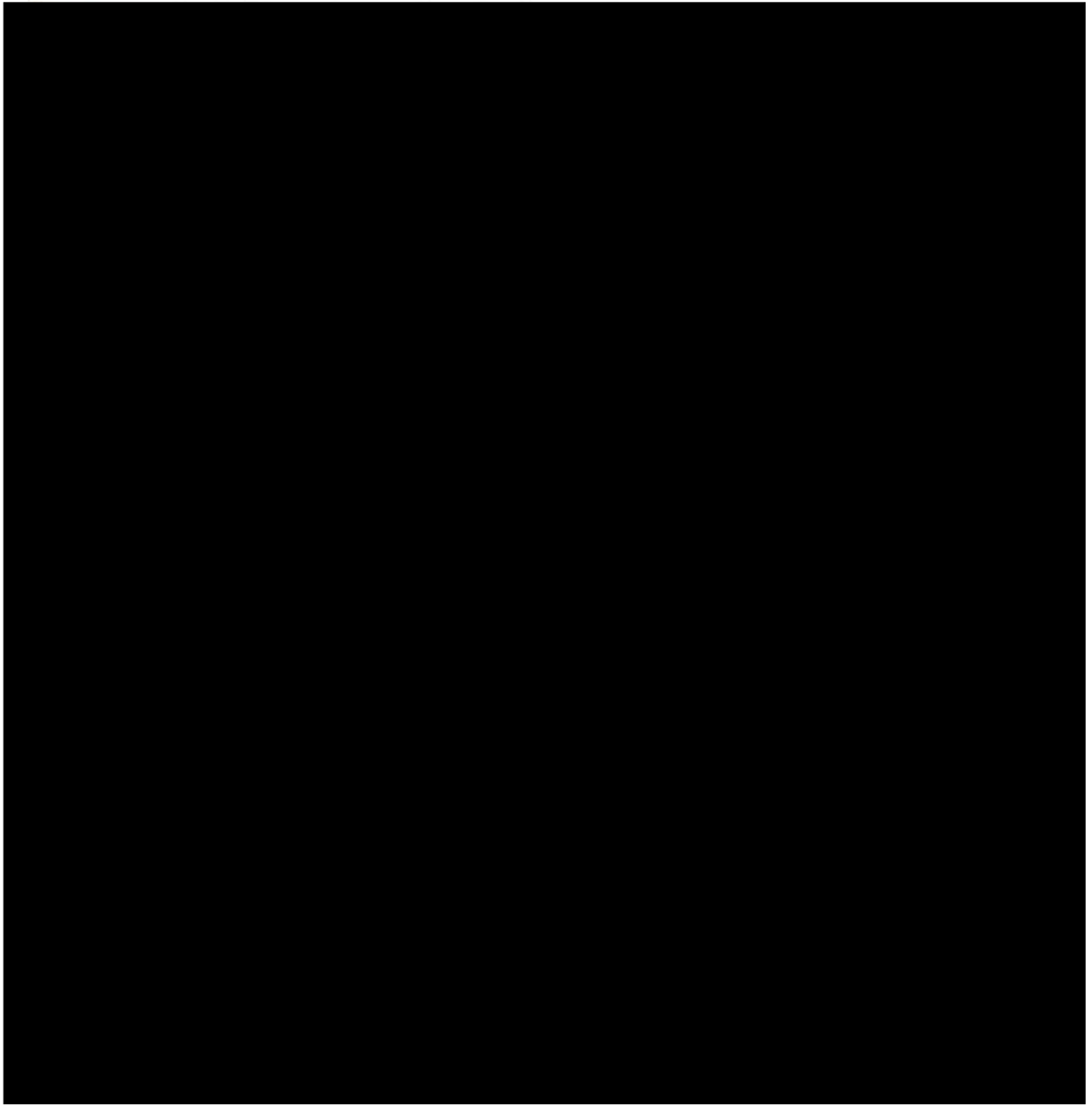


fig. 3 Sound Power Level Operating Mode: [06] Heating (ErP)\_A7/W55\_36 rps\_420 rpm

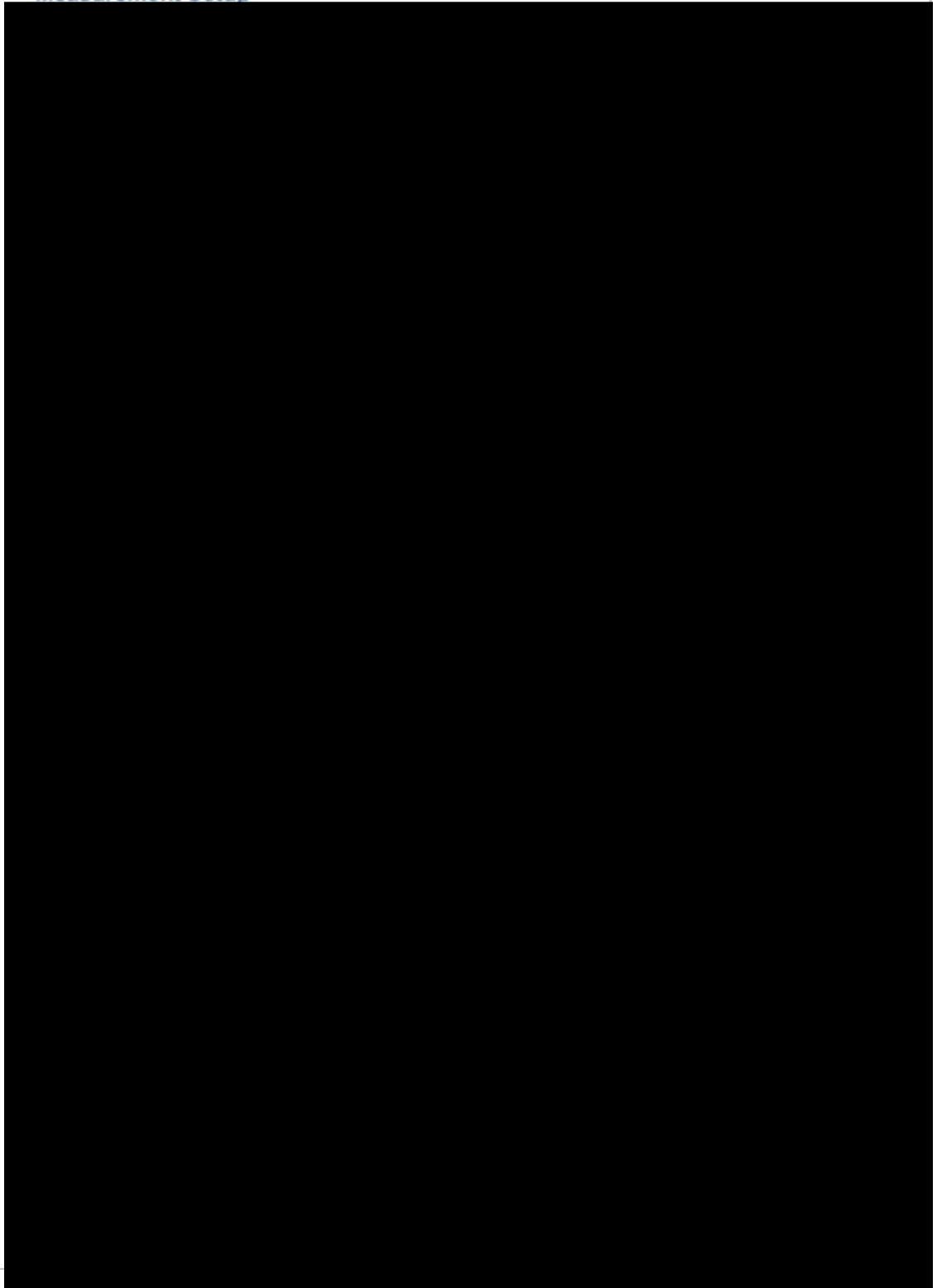
## Conditions

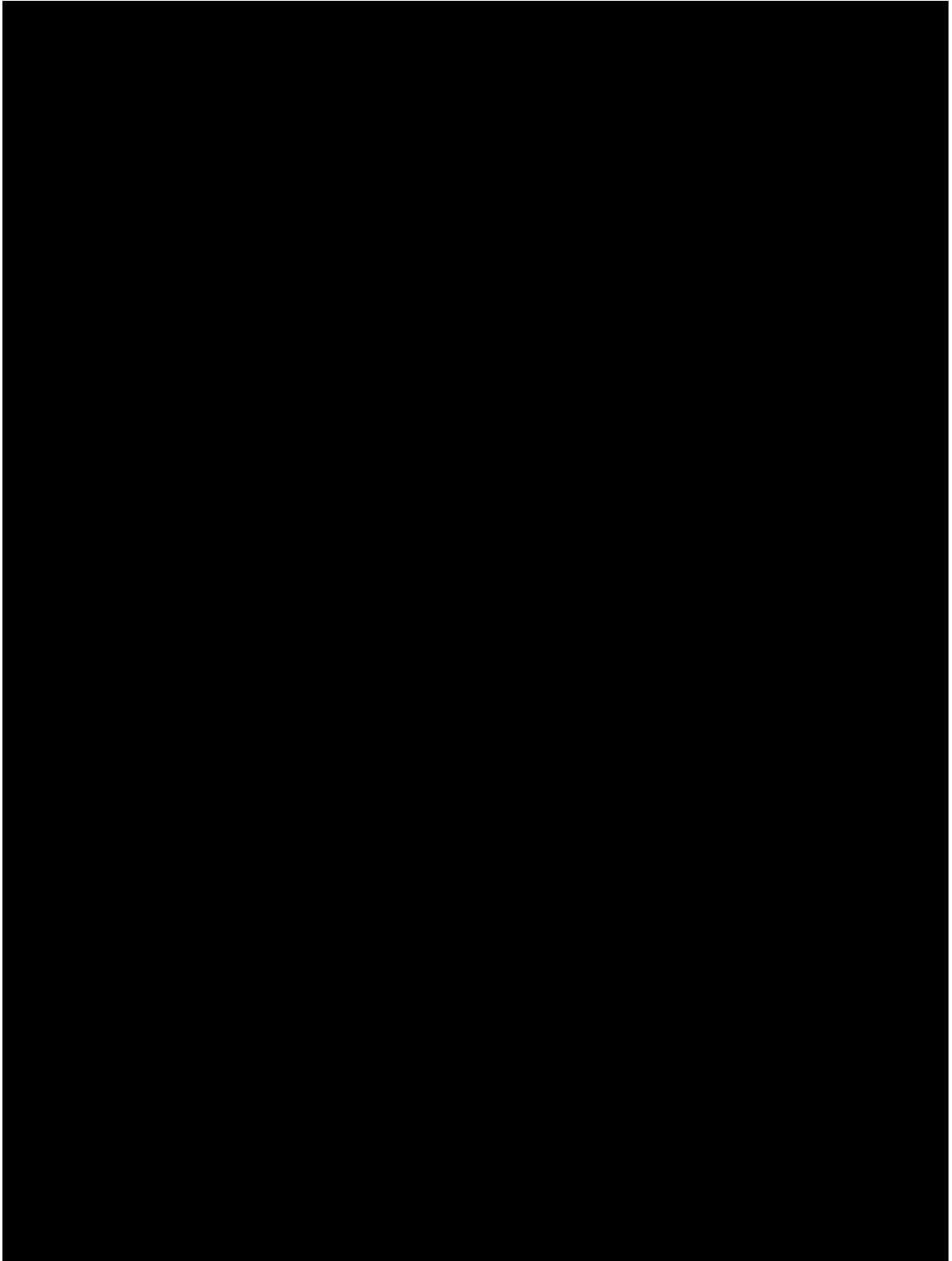


## Procedure

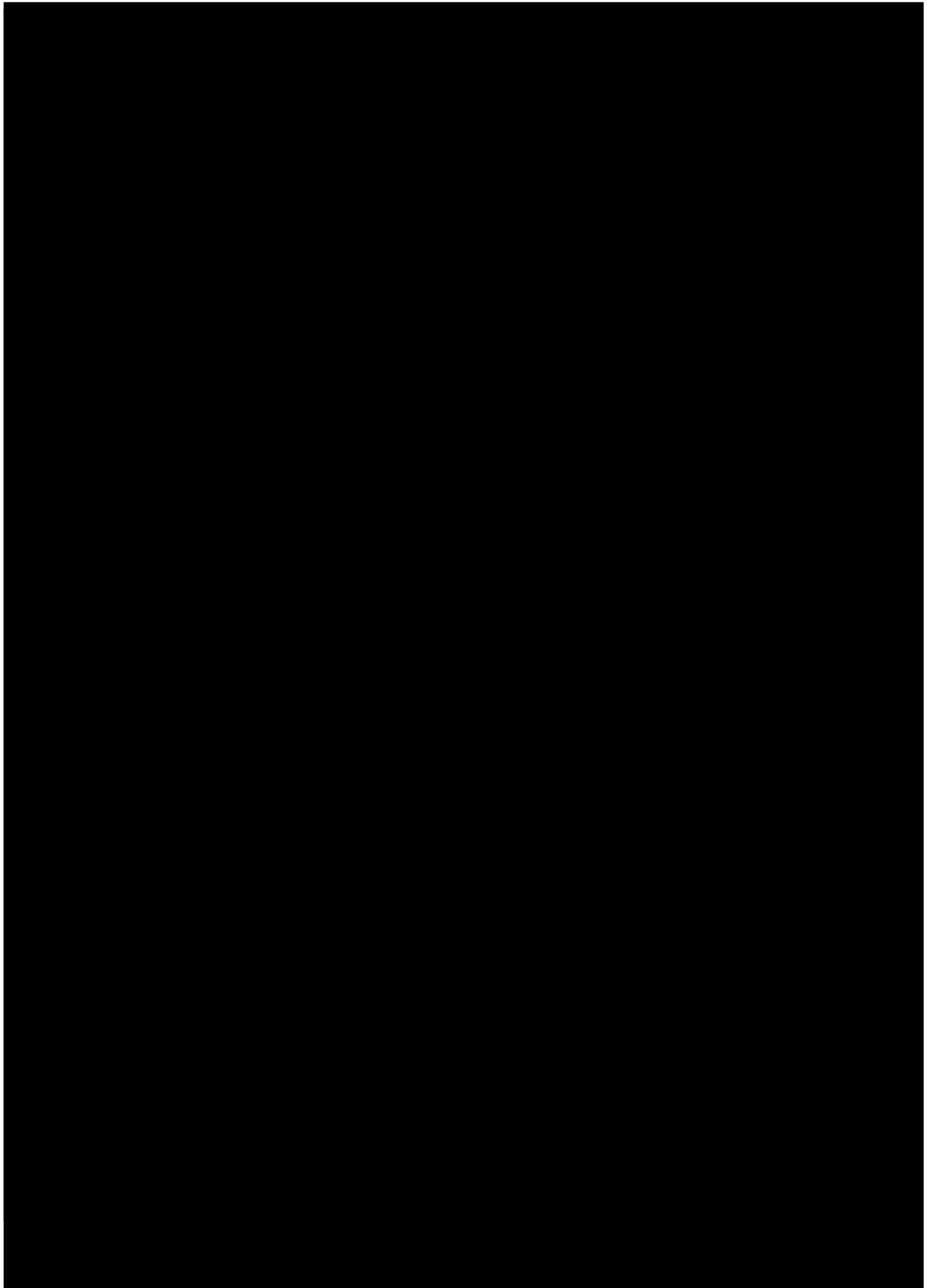


## Measurement Setup





### Appendix 3: Test Results, report 23-6495-D01 IDU



Mea. Report reviewed  
23-6495-D01

VAILLANT GROUP

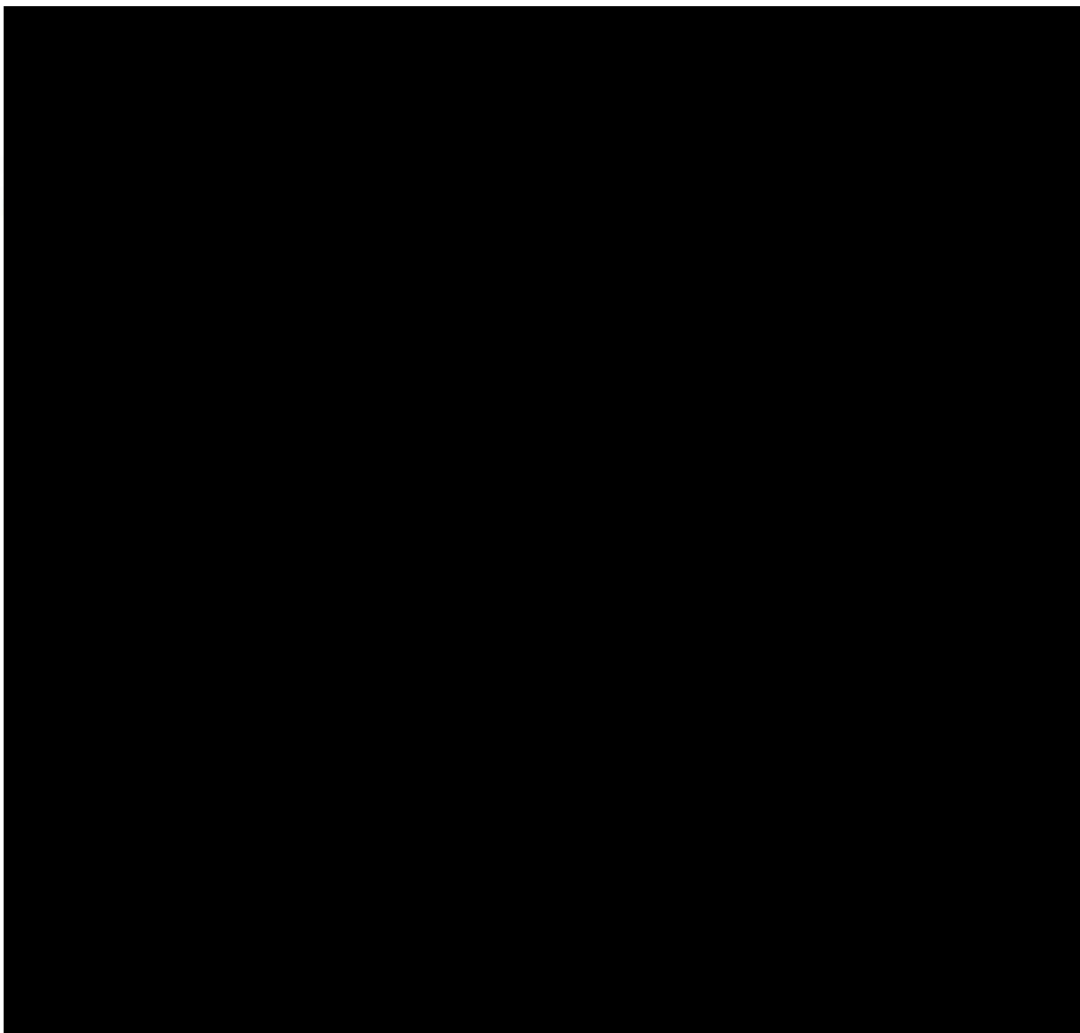
#### Order Description

Acoustic certification measurements of sound power level for indoor unit hydraulic tower VWL 58/8.2 IS C2 operated together with outdoor air-/water split heat-pump VWL 55/8.2 AS 230V C-sample manufactured by Vaillant.  
Measurement of Sound Power Level acc. to DIN EN ISO 3744 for nominal operating conditions.

The test conditions were set according to the appropriate appliance type, DIN EN 12102-1:2023-11 (Class A) for heat-pumps.

The sound power level has been measured acc. to DIN EN ISO 3744:2011-02.

The tests have been done acc. to the test description no. VGTD-0285-02.

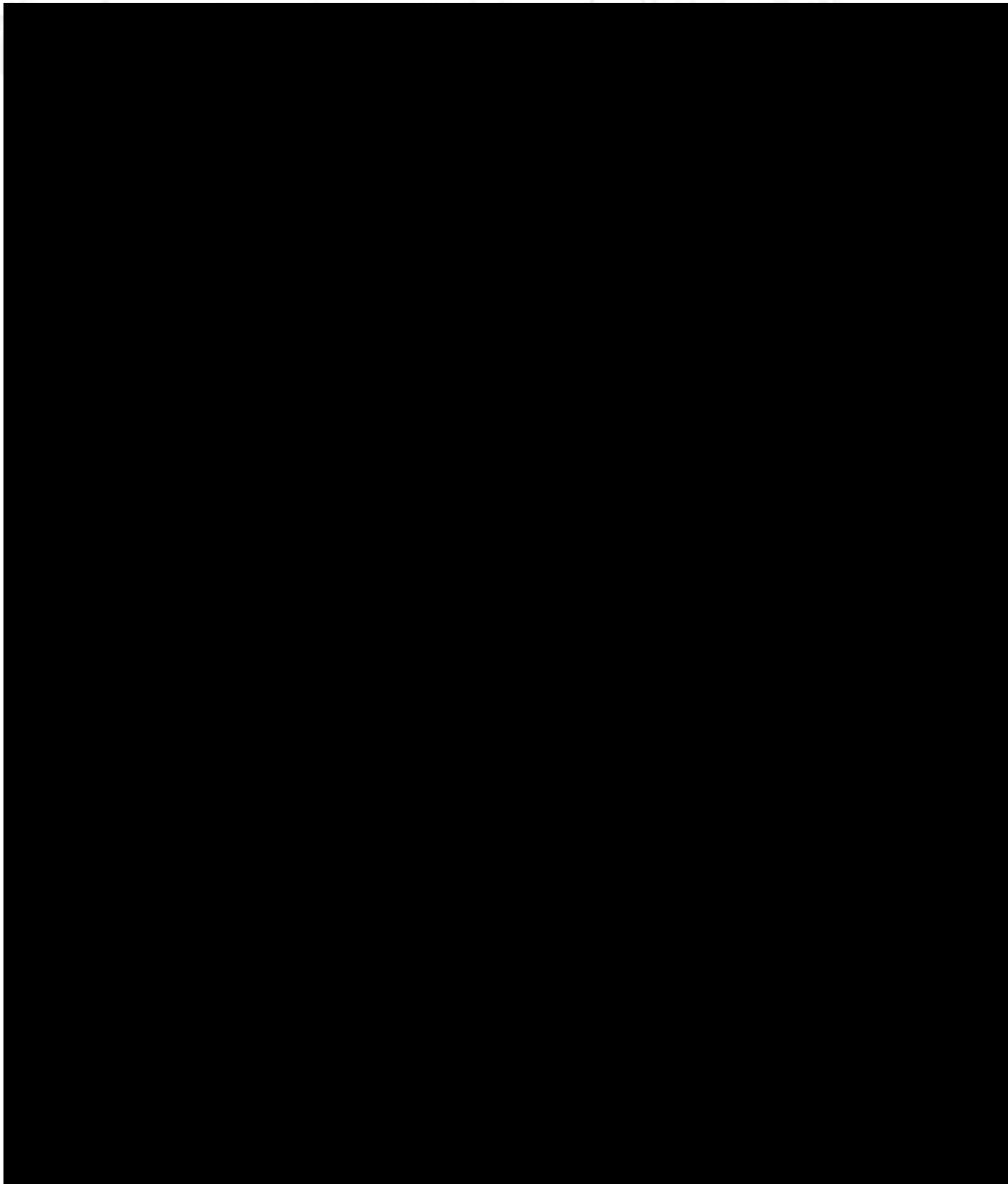


## Summary

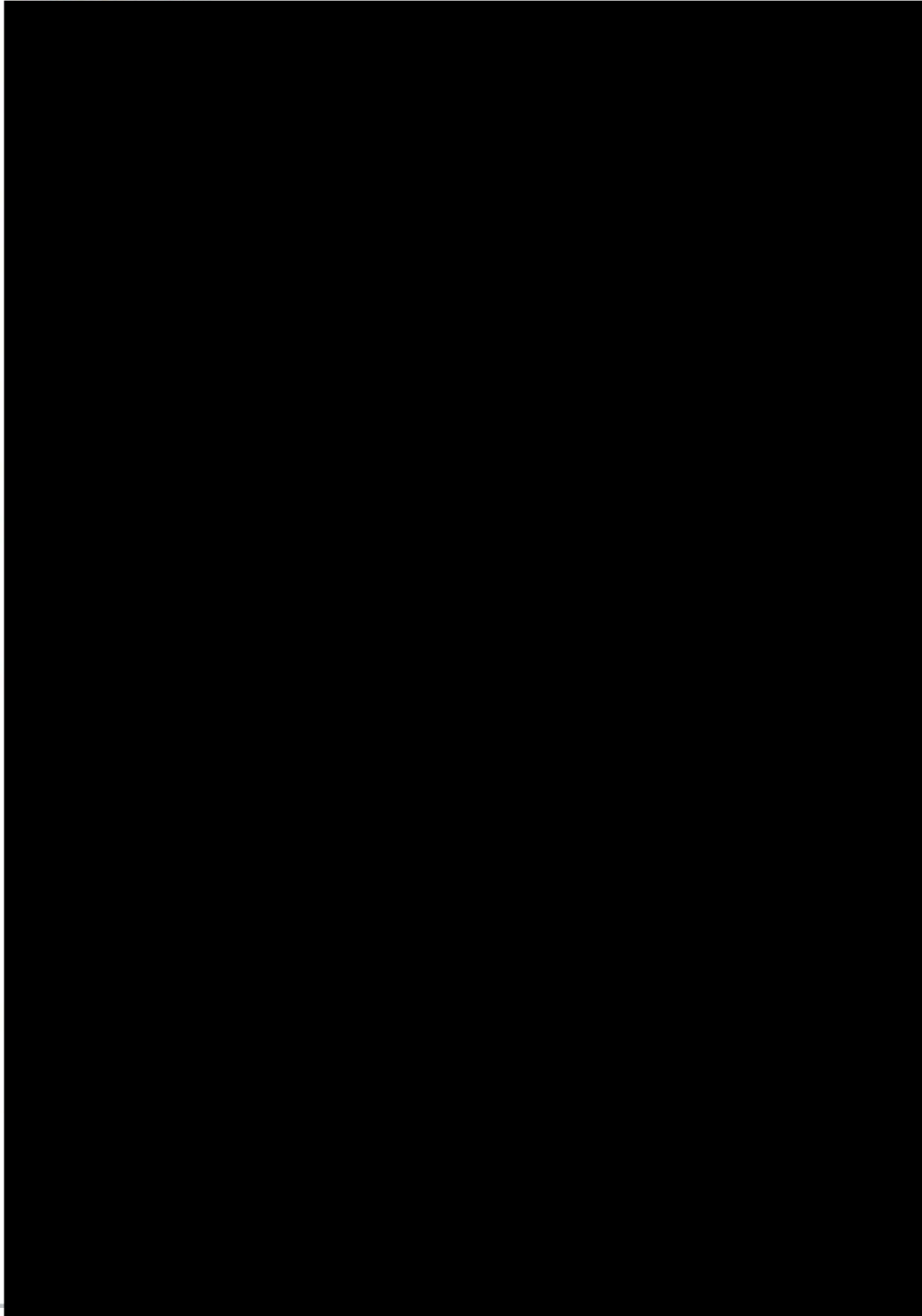
Acoustic certification measurements of sound power level for indoor unit hydraulic tower VWL 58/8.2 IS C2 operated together with outdoor air-/water split heat-pump VWL 55/8.2 AS 230V C-sample manufactured by Vaillant.

VWL 58/8.2 IS C2

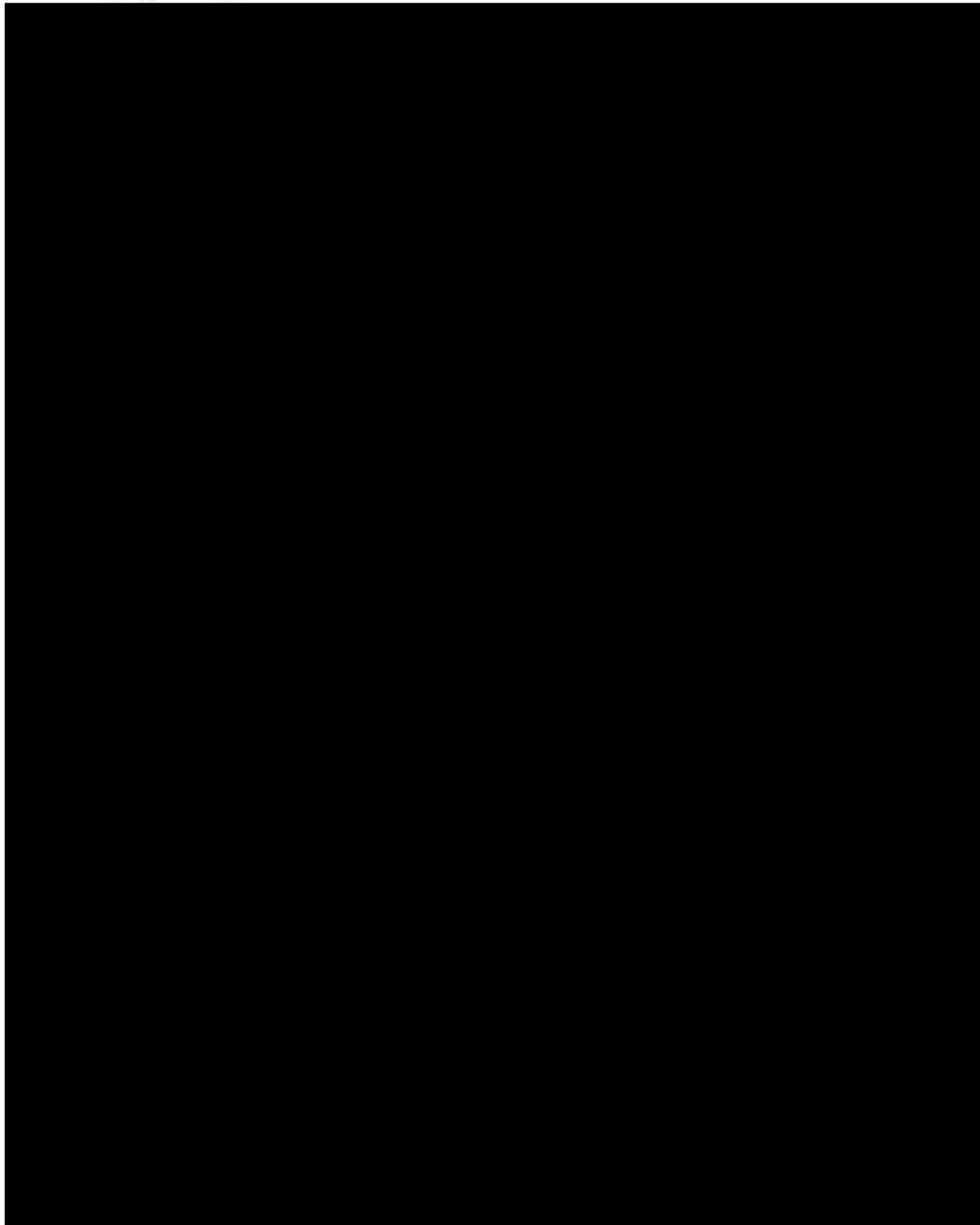
Appliance Type	Serial No.	Mode	Sound Power Level [dB(A)]
VWL 58/8.2 IS C2	n.a.	A7/W55 (ErP)	40.5



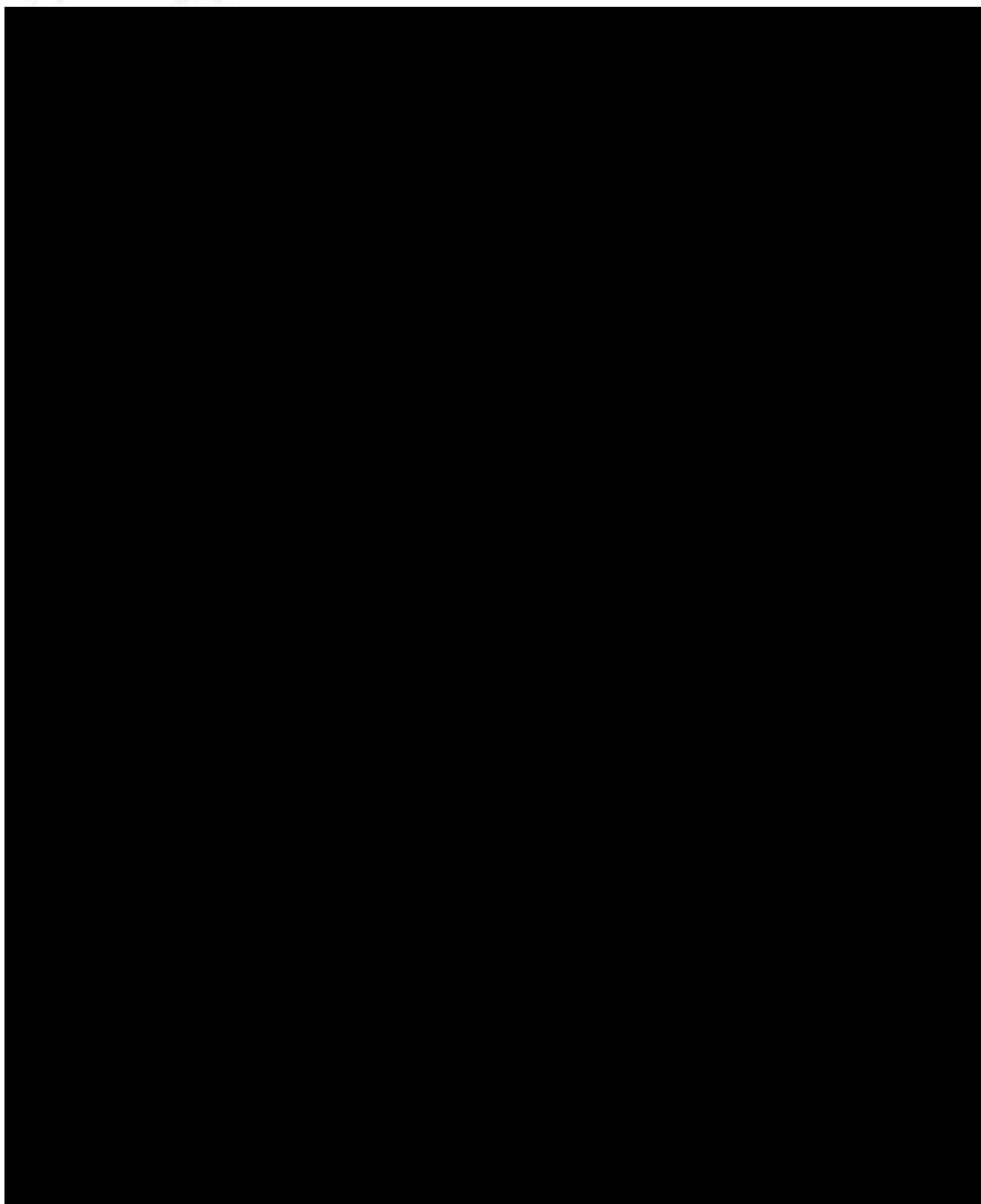
## Table of Contents



Test Sample Details



23-6495-T13 – AT - Noise Recording / Heat Pump General / Air Water / Indoor  
Unit - DIN EN ISO 3744 - ErP



## Results

Parameter	Remark	Min.	Nom.	Max.	Result
Test sample number	Indoor Unit	1			1
Gas Type	refrigerant				R32
Measurement date	2024/04/24 12:57				

Operating Mode: [06] Heating\_A7/W55 (ErP actual)

Parameter	Remark	Min.	Nom.	Max.	S23-08835
Weighted Sound Power Level [dB(A)]	Indoor Unit				40,5 dB(A)
Comment	Sample Type (3,5/5,0 kW)				3,5 & 5,0 kW
Comment	Casing Front Type IDU (VG/SDBG)				VG
Comment	Additional information				Pch target 2,20 kW, dT not possible, min. Vch load
Ambient Temperature [°C]					20,90 °C
Ambient relative humidity [%]					27,70 %
Ambient pressure [mbar]					971,10 mbar

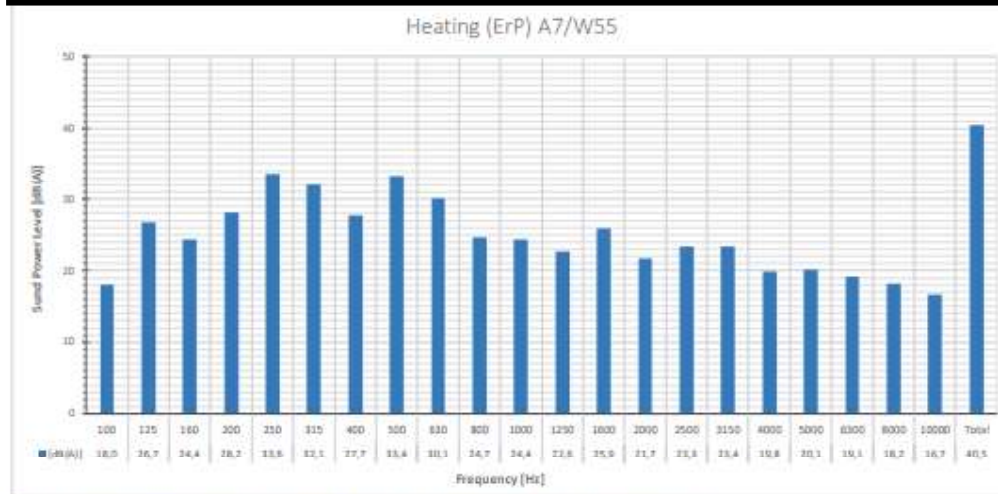
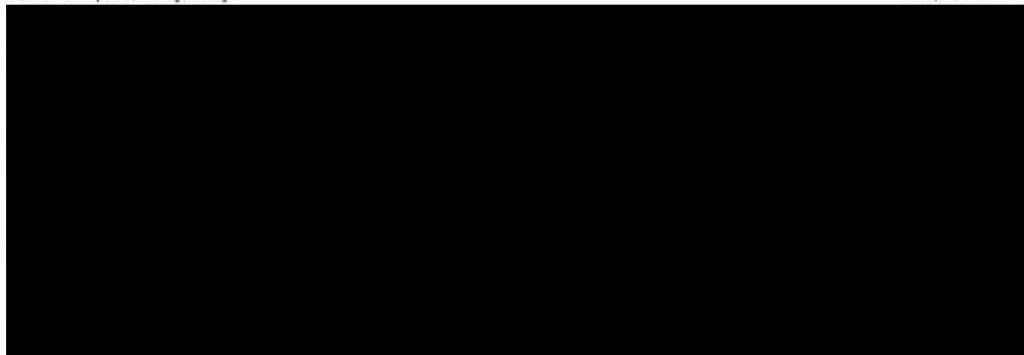
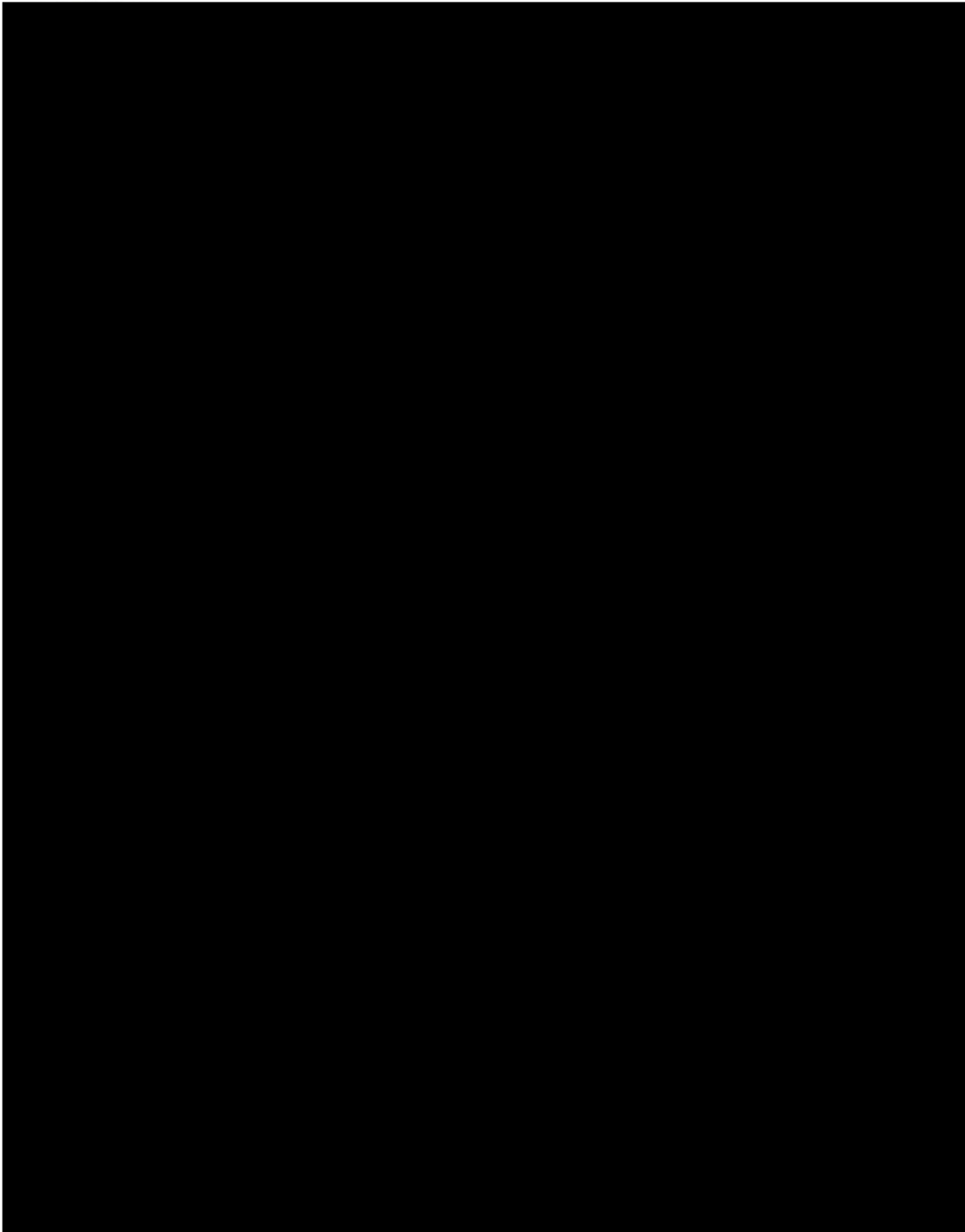
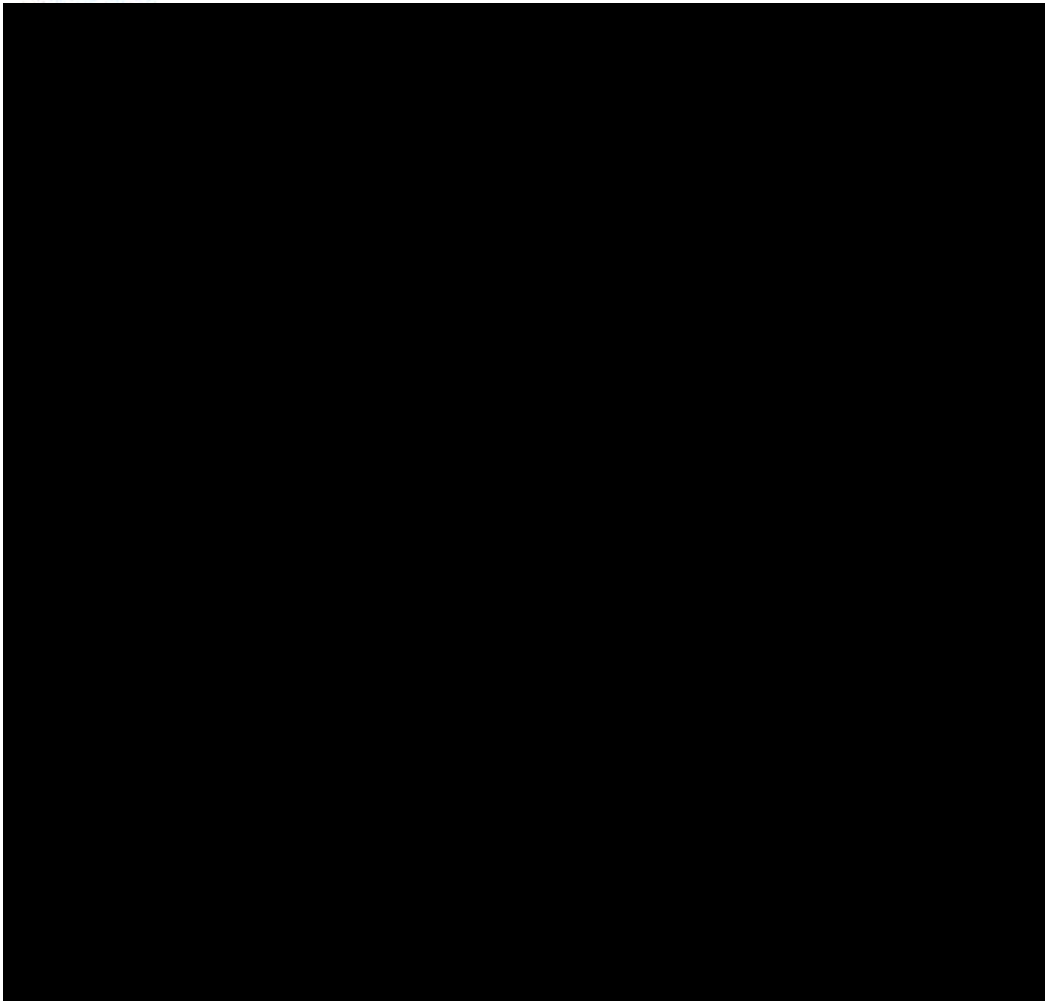


fig. 3 Sound Power Level - Operating Mode: [06] Heating\_A7/W55 (ErP actual)

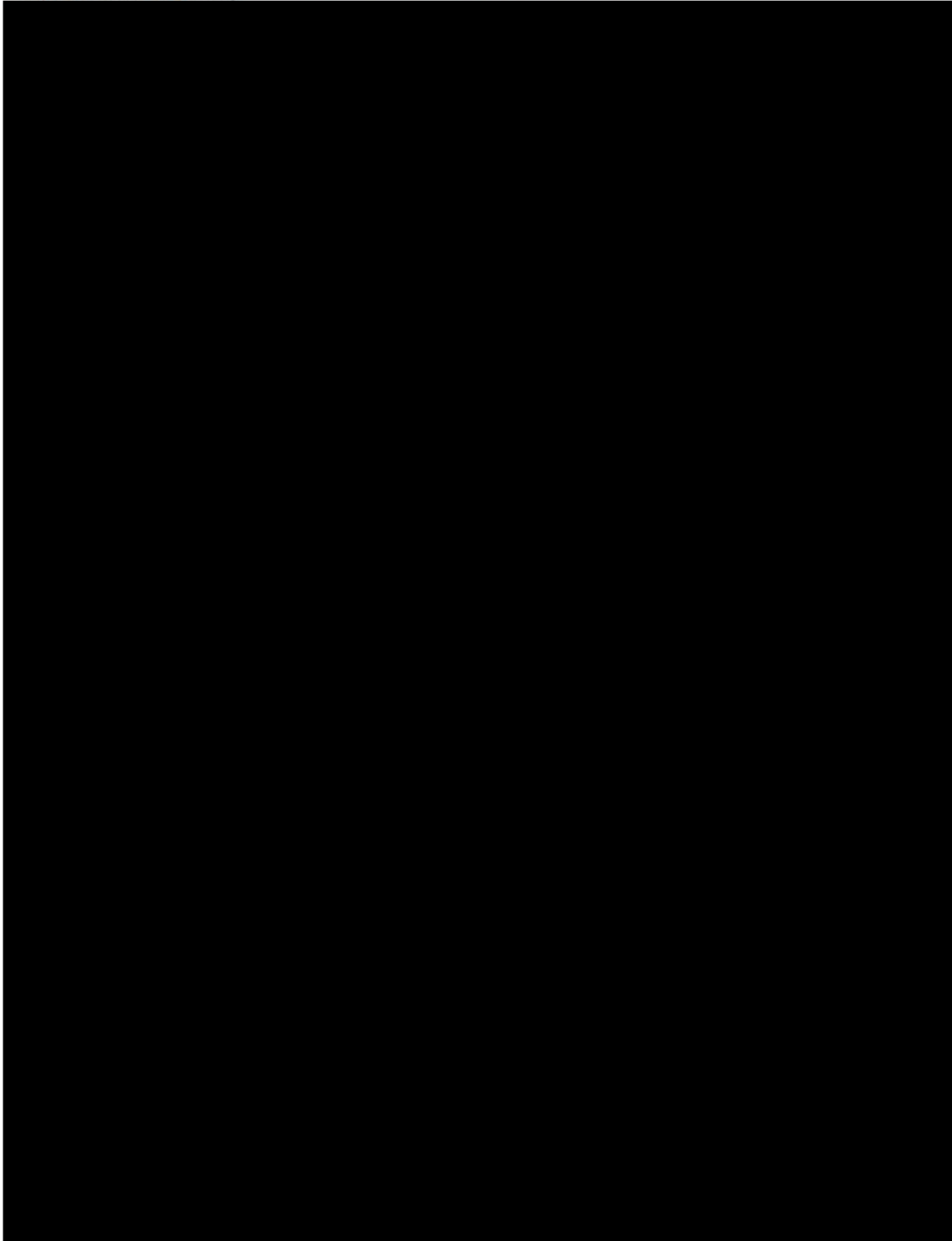
Conditions

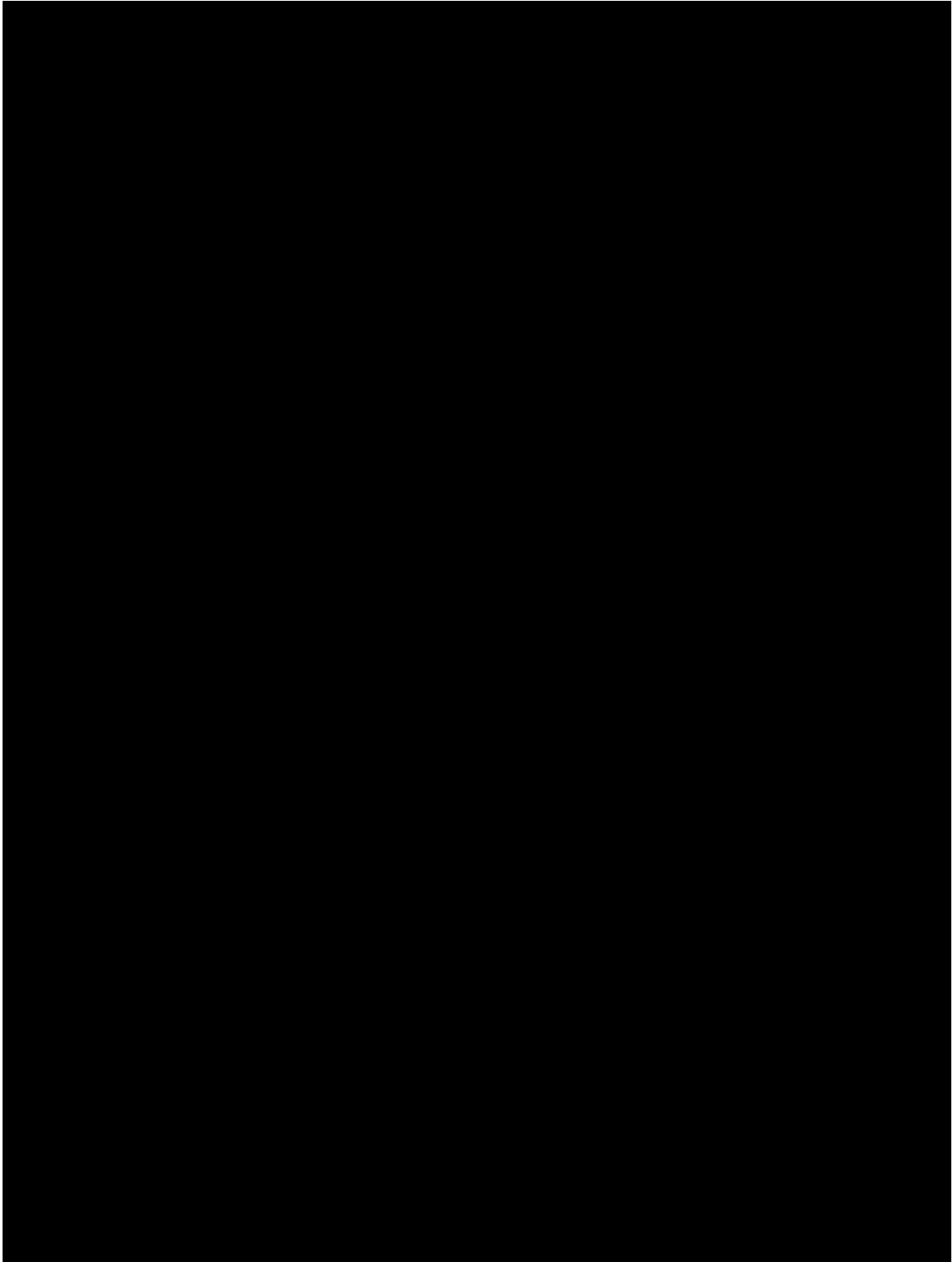


## Procedure

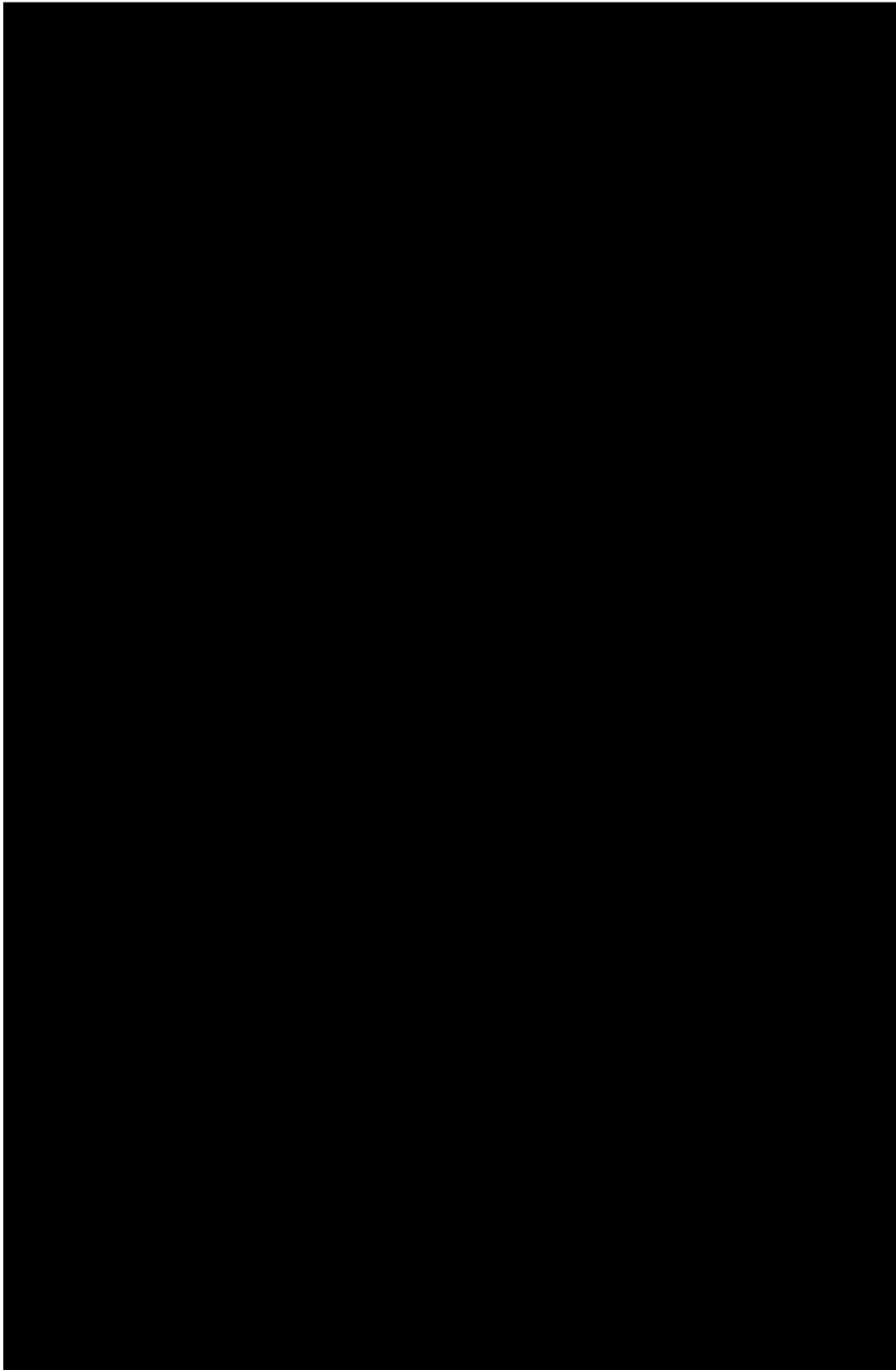


## Measurement Setup





## Appendix 4: Test Results, report 23-6494-D01 IDU



Mea. Report reviewed  
23-6494-D01

VAILLANT GROUP

### Order Description

Acoustic certification measurements of sound power level for indoor unit hydraulic station VWL 37/8.2 IS and VWL 57/8.2 IS operated together with outdoor air-/water split heat-pump VWL 35/8.2 AS 230V and VWL 55/8.2 AS 230V C-sample manufactured by Vaillant.

Measurement of Sound Power Level acc. to DIN EN ISO 3744 for nominal operating conditions.

The test conditions were set according to the appropriate appliance type, DIN EN 12102-1:2023-11 (Class A) for heat-pumps.

The sound power level has been measured acc. to DIN EN ISO 3744:2011-02.

The tests have been done acc. to the test description no. VGTD-0285-02.

## Summary

Acoustic certification measurements of sound power level for indoor unit hydraulic station VWL 57/8.2 IS operated together with outdoor air-/water split heat-pump VWL 55/8.2 AS 230V C-sample manufactured by Vaillant.

VWL 57/8.2 IS

Appliance Type	Serial No.	Mode	Sound Power Level [dB(A)]
VWL 57/8.2 IS	n.a.	A7/W55 (ErP)	42.3

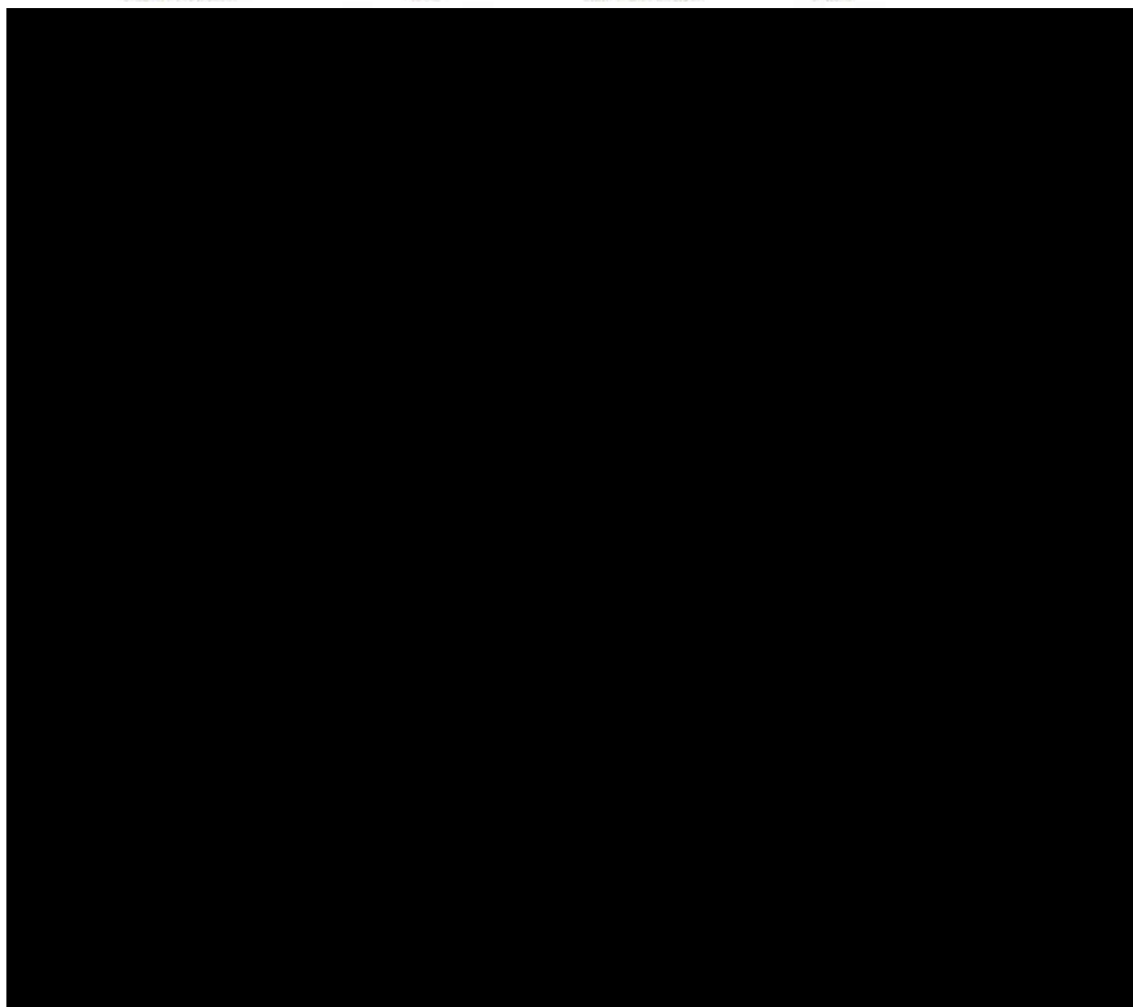
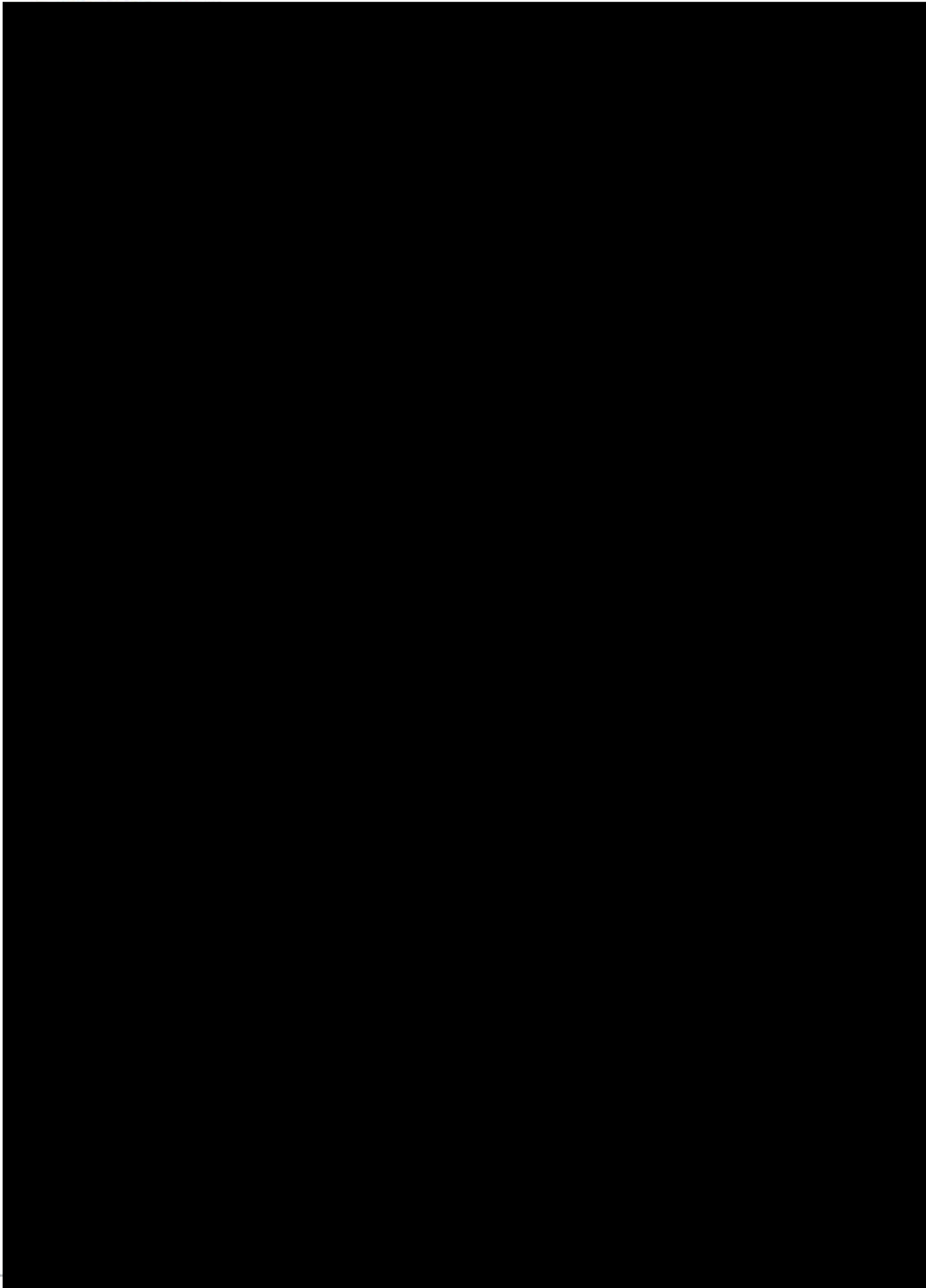
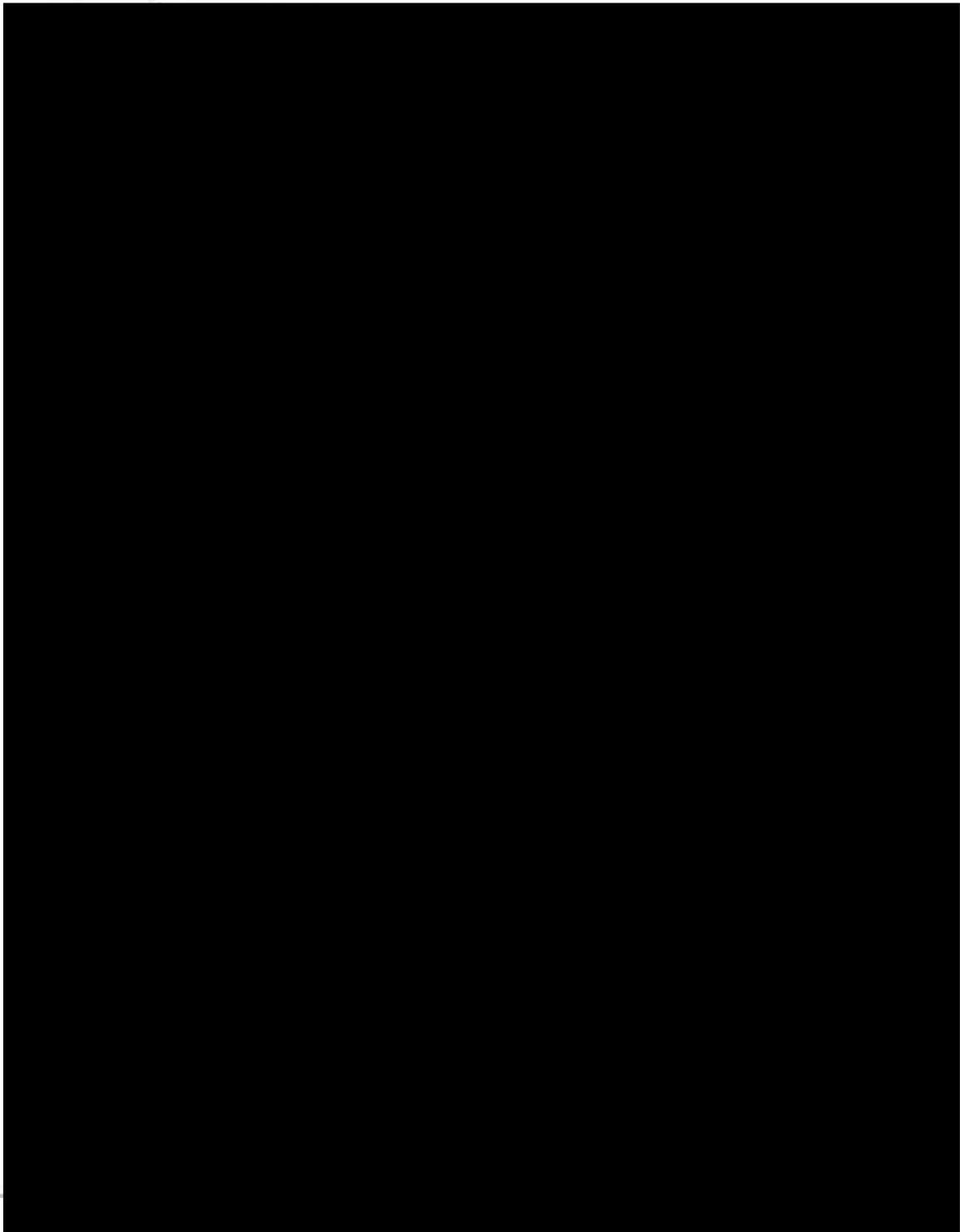


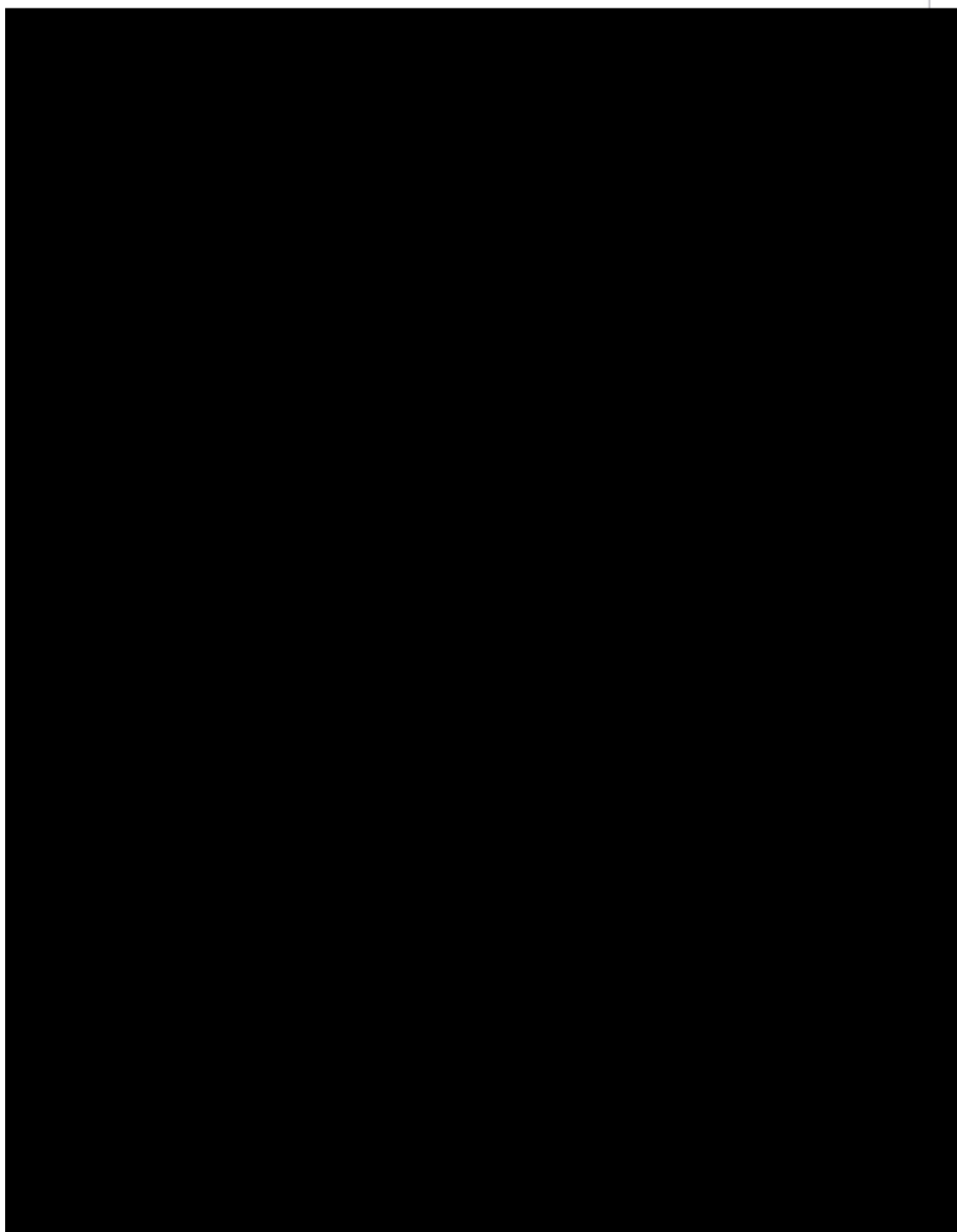
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Test Sample Details



23-6494-T13 – AT - Noise Recording / Heat Pump General / Air Water / Indoor  
Unit - DIN EN ISO 3744 - ErP



## Results

Parameter	Remark	Min.	Nom.	Max.	Result
Test sample number	Indoor Unit	1			1
Gas Type	refrigerant				R32
Measurement date	2024/05/14 13:32				

Operating Mode: [06] Heating\_A7/W55 (ErP actual)

Parameter	Remark	Min.	Nom.	Max.	S23-08836
Weighted Sound Power Level [dB(A)]	Indoor Unit				42,3 dB(A)
Comment	Sample Type (3,5/5,0 kW)				3,5 & 5,0
Comment	Sample Front Type IDU (VG/SDBG)				VG
Comment	Sample Front Type ODU (VG/SDBG)				VG
Ambient Temperature [°C]					22,81 °C
Ambient relative humidity [%]					41,73 %
Ambient pressure [mbar]					970,29 mbar

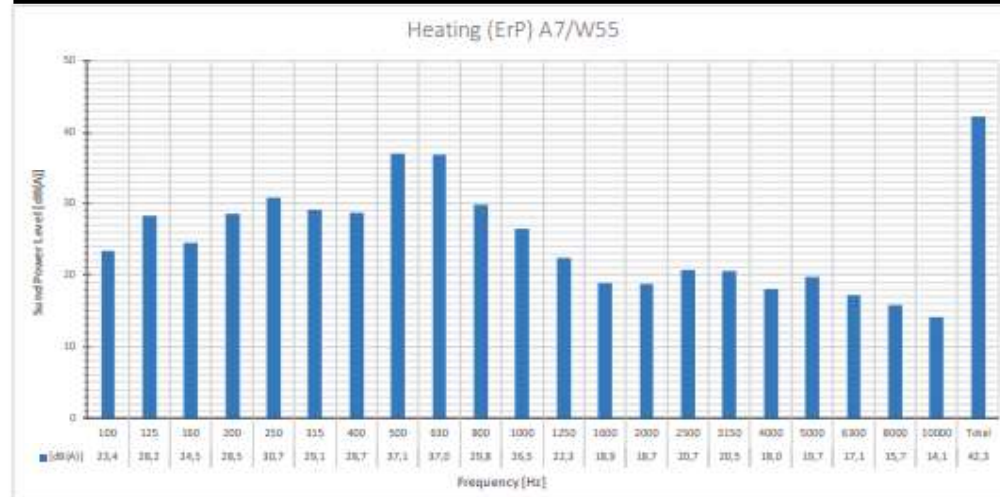
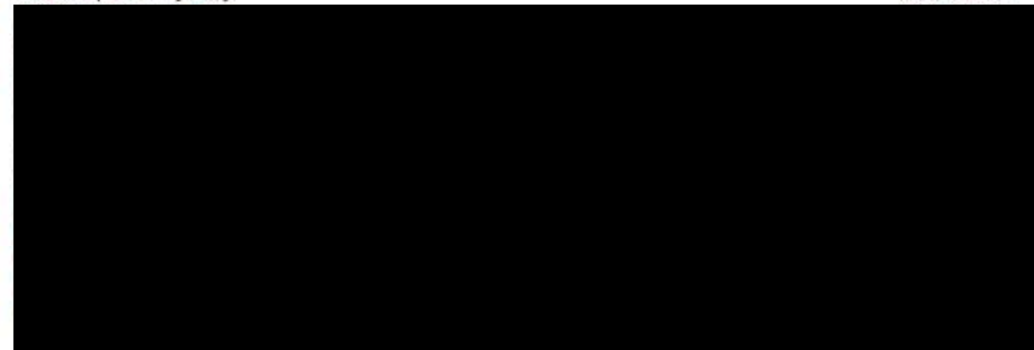
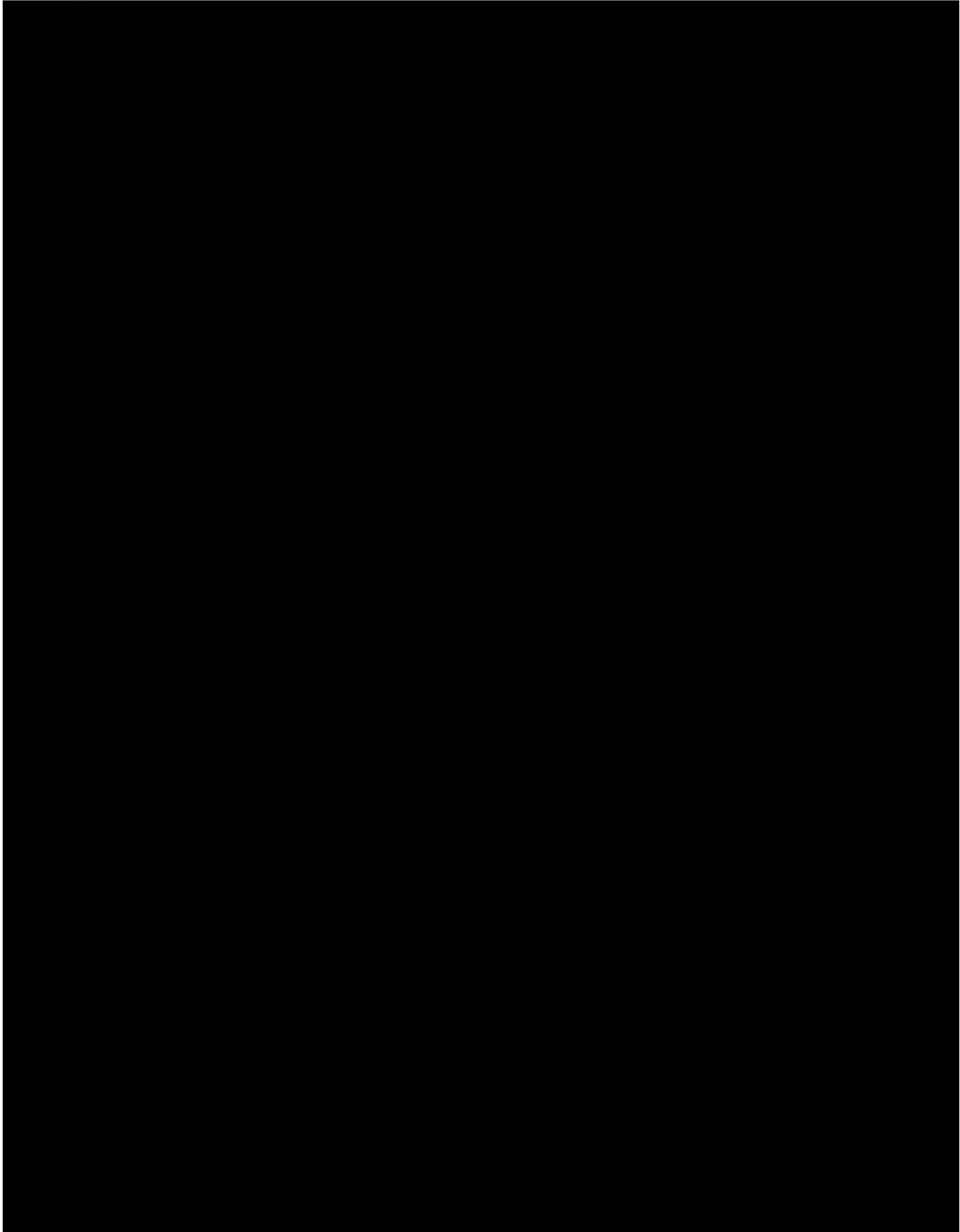
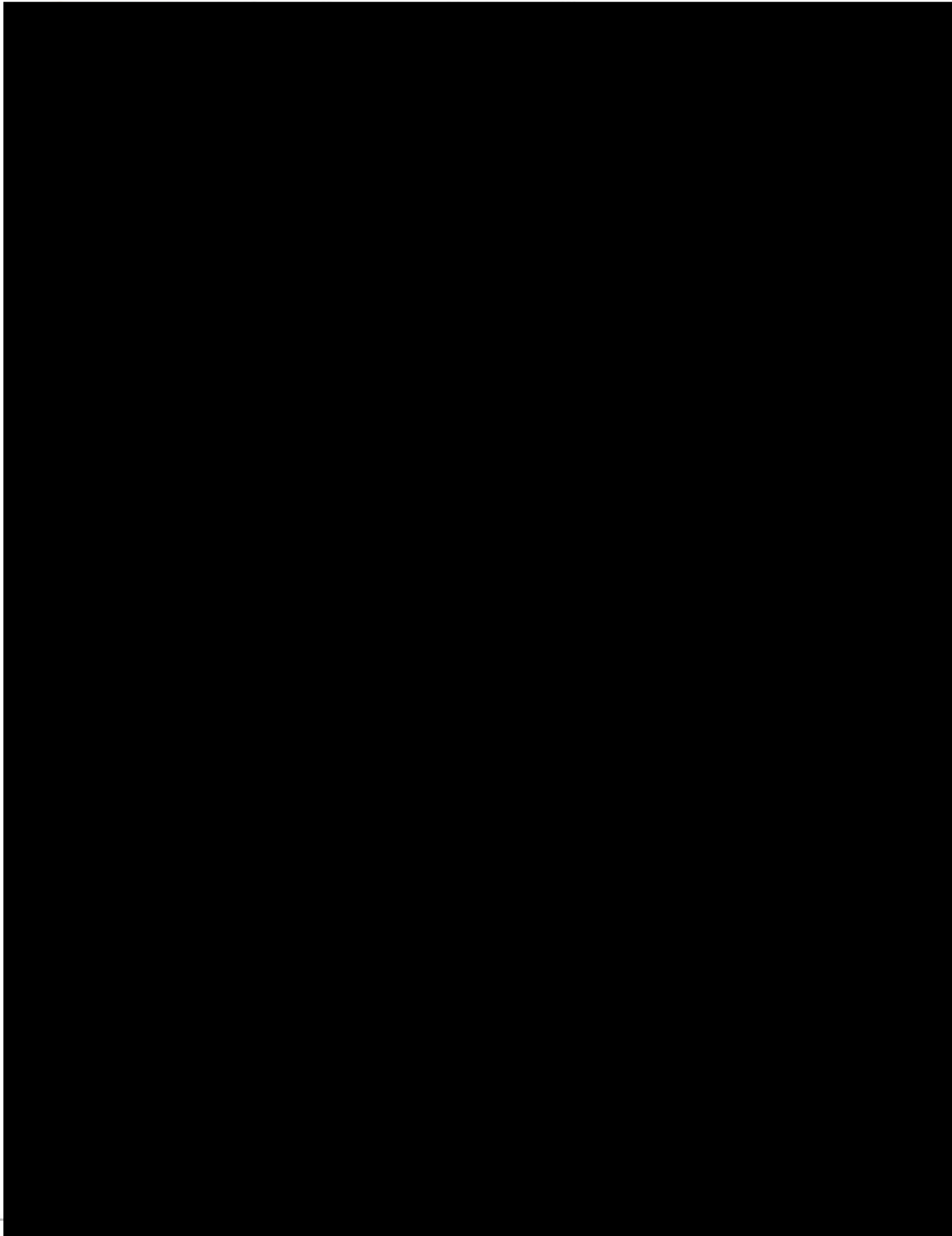


fig. 3 Sound Power Level - Operating Mode: [06] Heating\_A7/W55 (ErP actual)

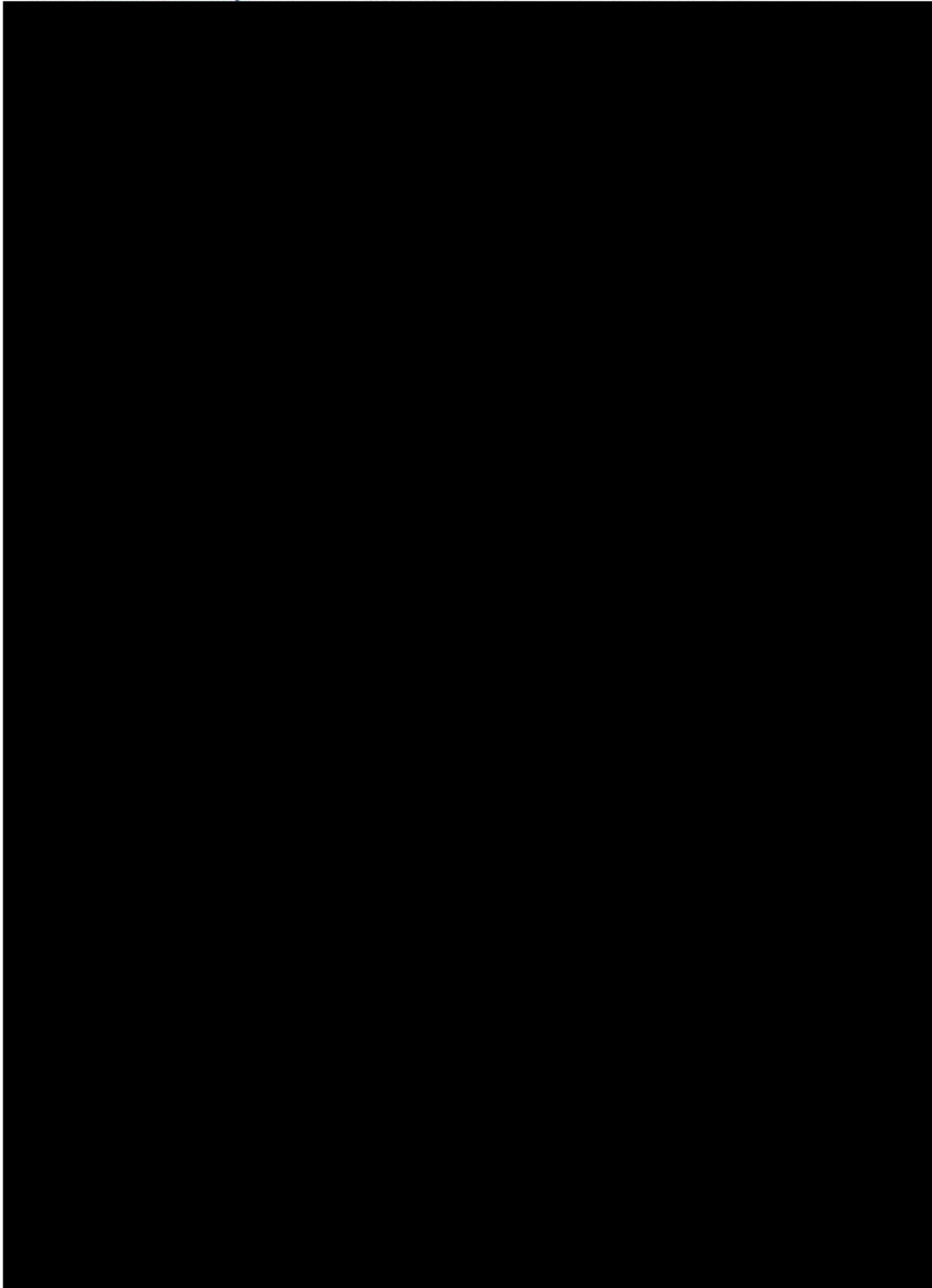
Conditions

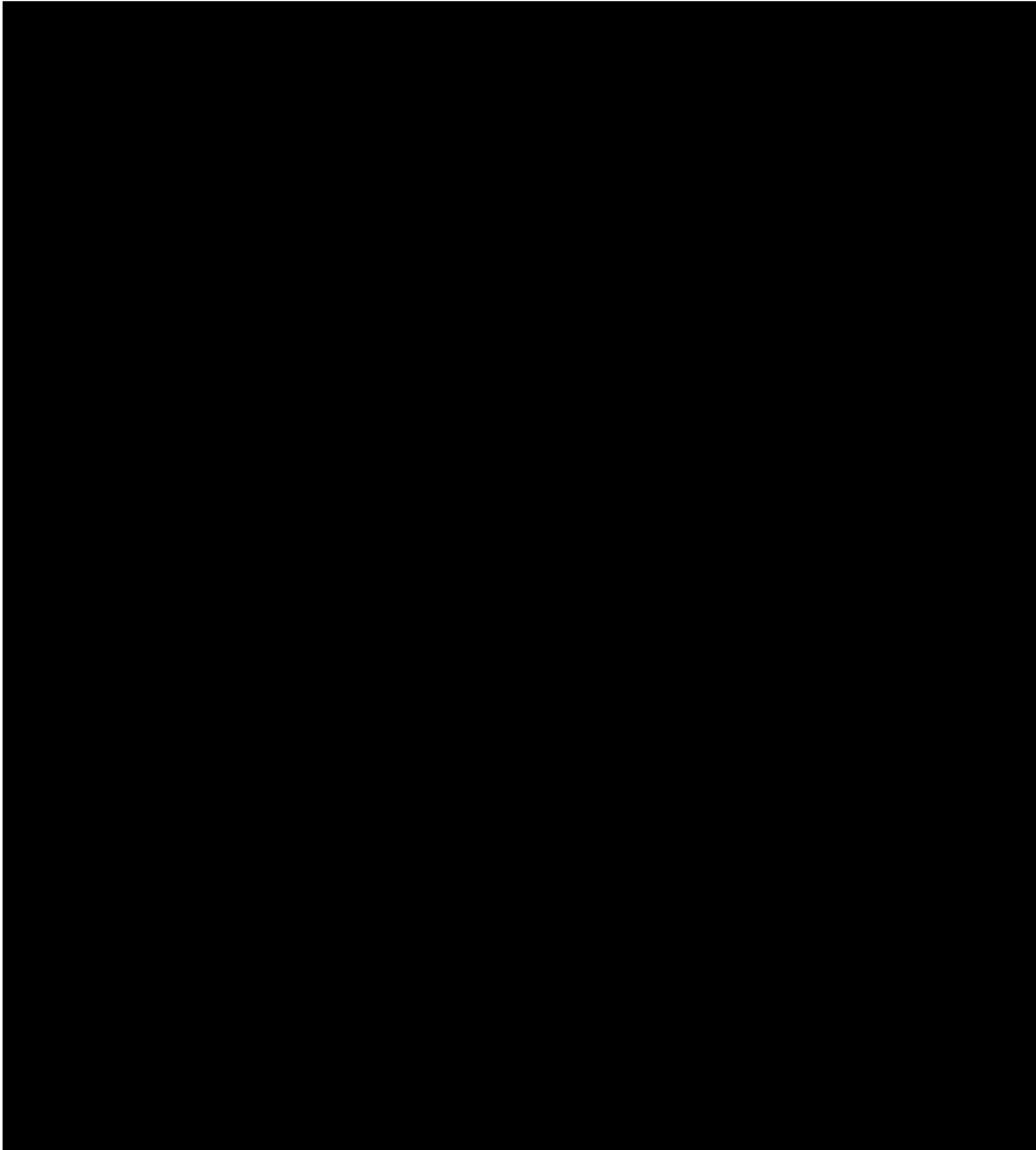


## Procedure

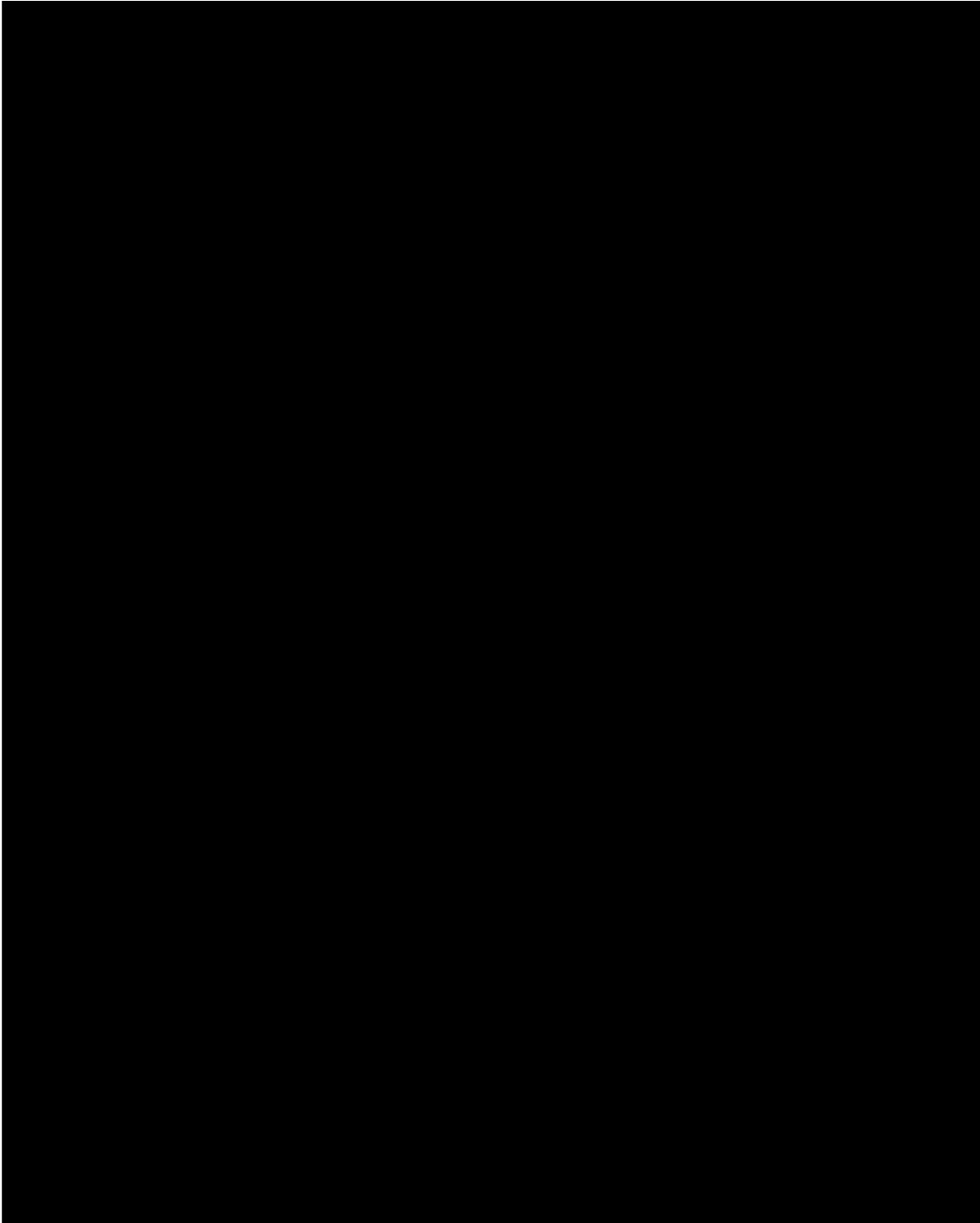


## Measurement Setup





## Appendix 5: Test Results, report 23-6667-D01 ODU



Mea. Report reviewed  
23-6667-D01

VAILLANT GROUP

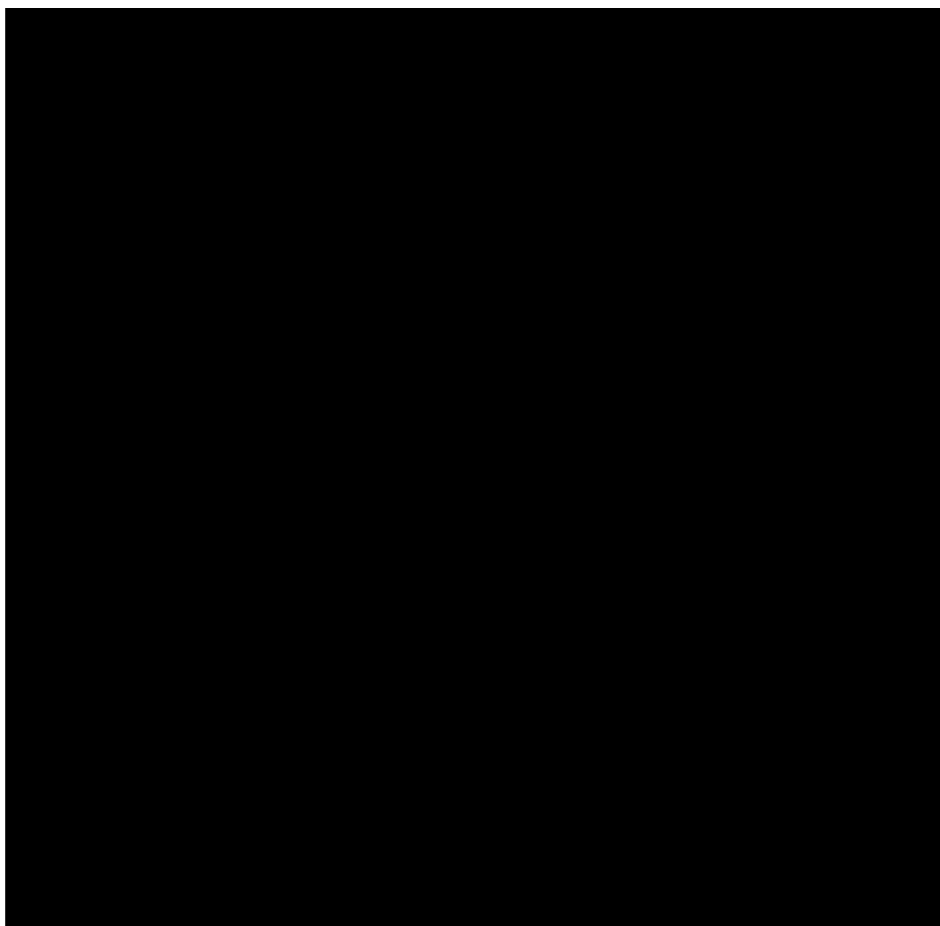
#### Order Description

Acoustic certification measurements of sound power level for outdoor air-/water split heat-pump VWL 75/8.2 AS 230V C-sample in combination with indoor unit hydraulic station VWL 77/8.2 IS manufactured by Vaillant.  
Measurement of Sound Power Level acc. to DIN EN ISO 3745 for nominal operating conditions.

The test conditions were set according to the appropriate appliance type, DIN EN 12102-1:2023-11 (Class A) for heat-pumps.

The sound power level has been measured acc. to DIN EN ISO 3745:2017-10.

The tests have been done acc. to the test description no. VGTD-0286-02.

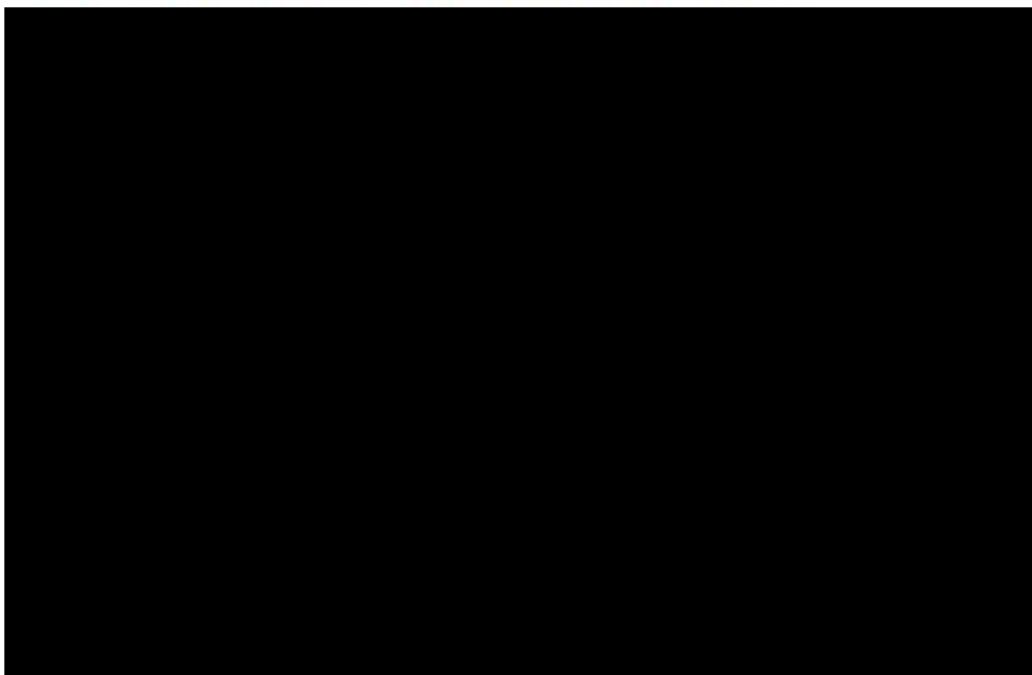


## Summary

Acoustic certification measurements of sound power level for outdoor air-/water split heat-pump VWL 75/8.2 AS 230V C-sample in combination with indoor unit hydraulic station VWL 77/8.2 IS manufactured by Vaillant.

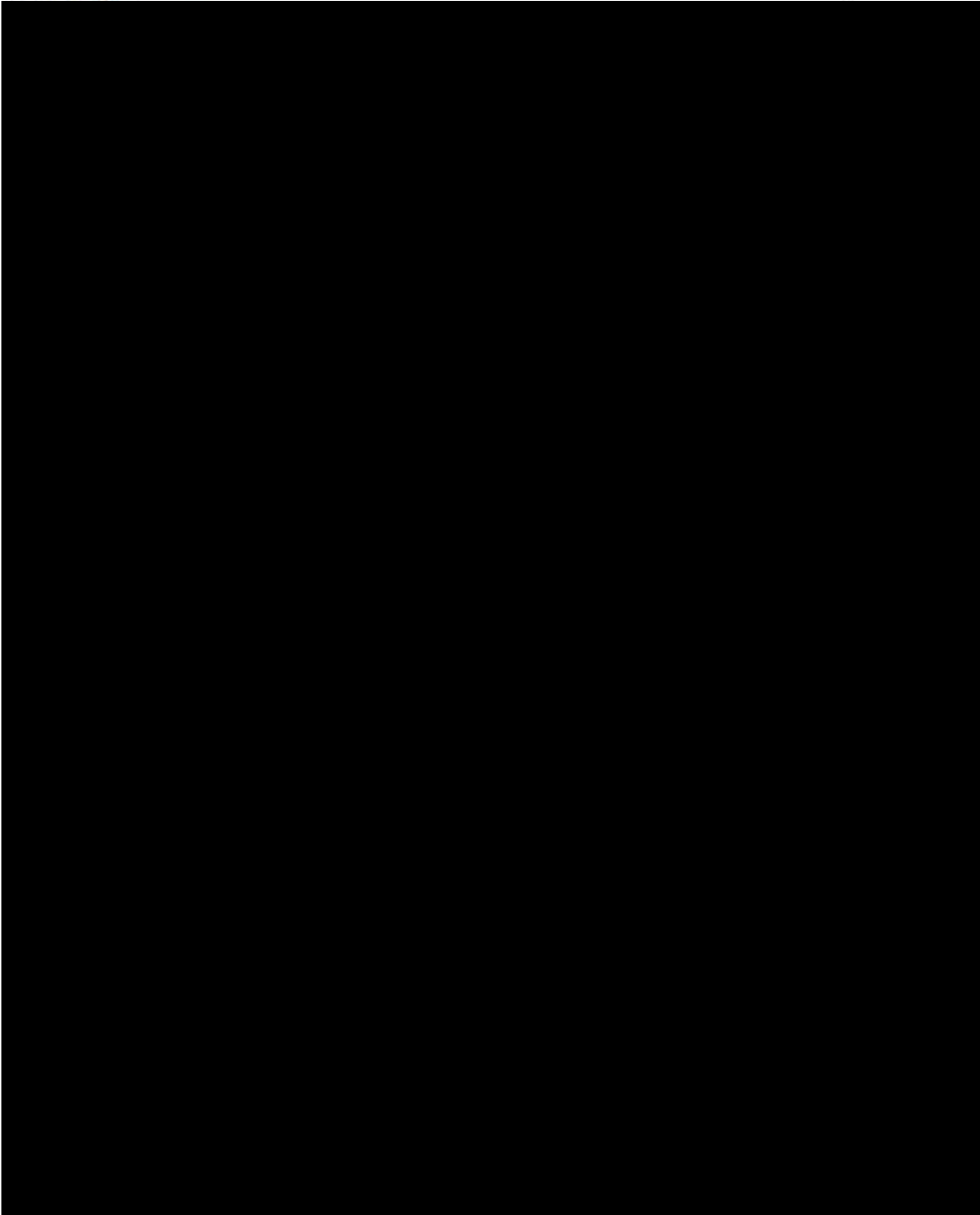
*VWL 75/8.2 AS 230V*

Appliance Type	Serial No.	Mode	Sound Power Level [dB(A)]
VWL 75/8.2 AS 230V	n.a.	A7/W55 (ErP)	48.3

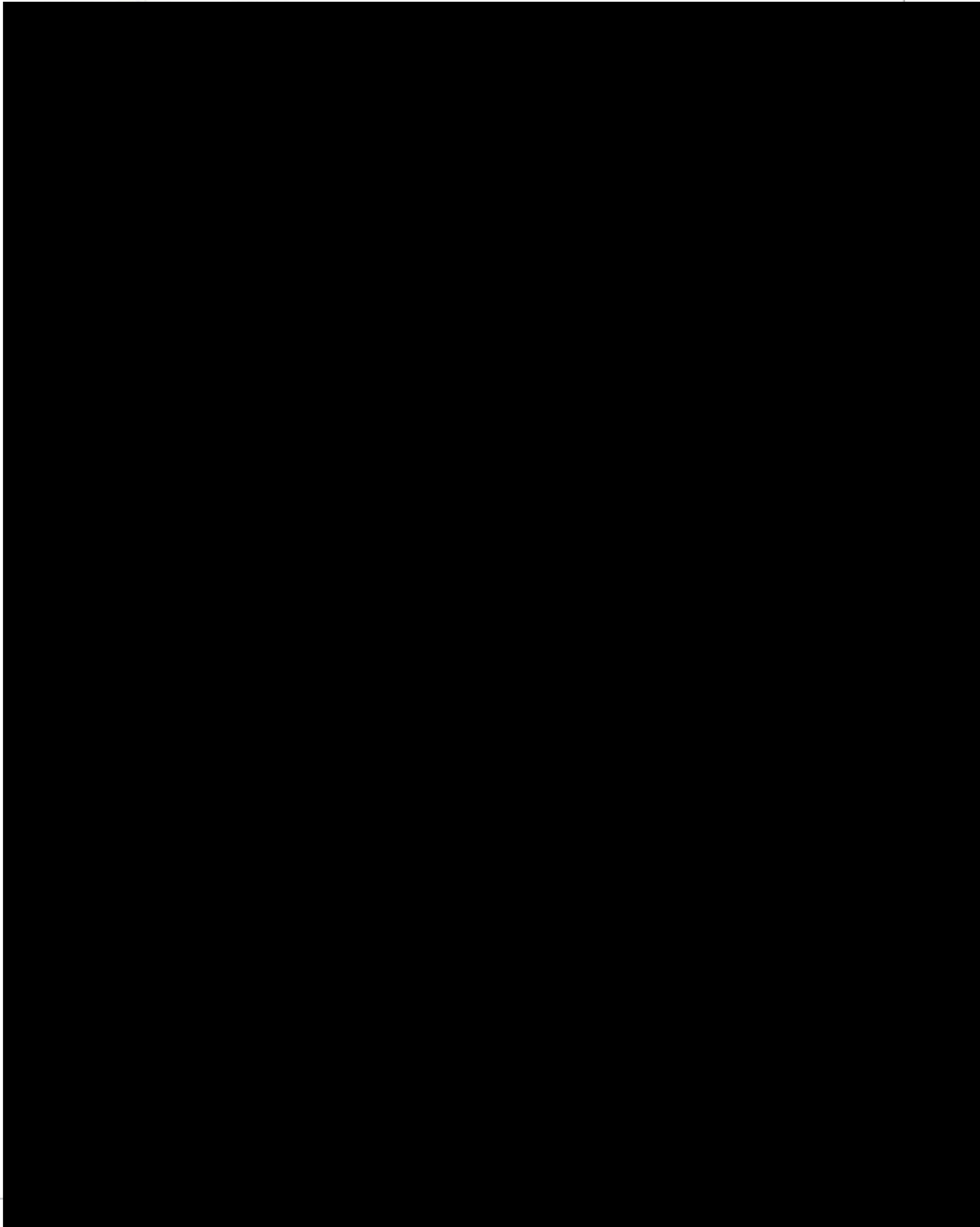


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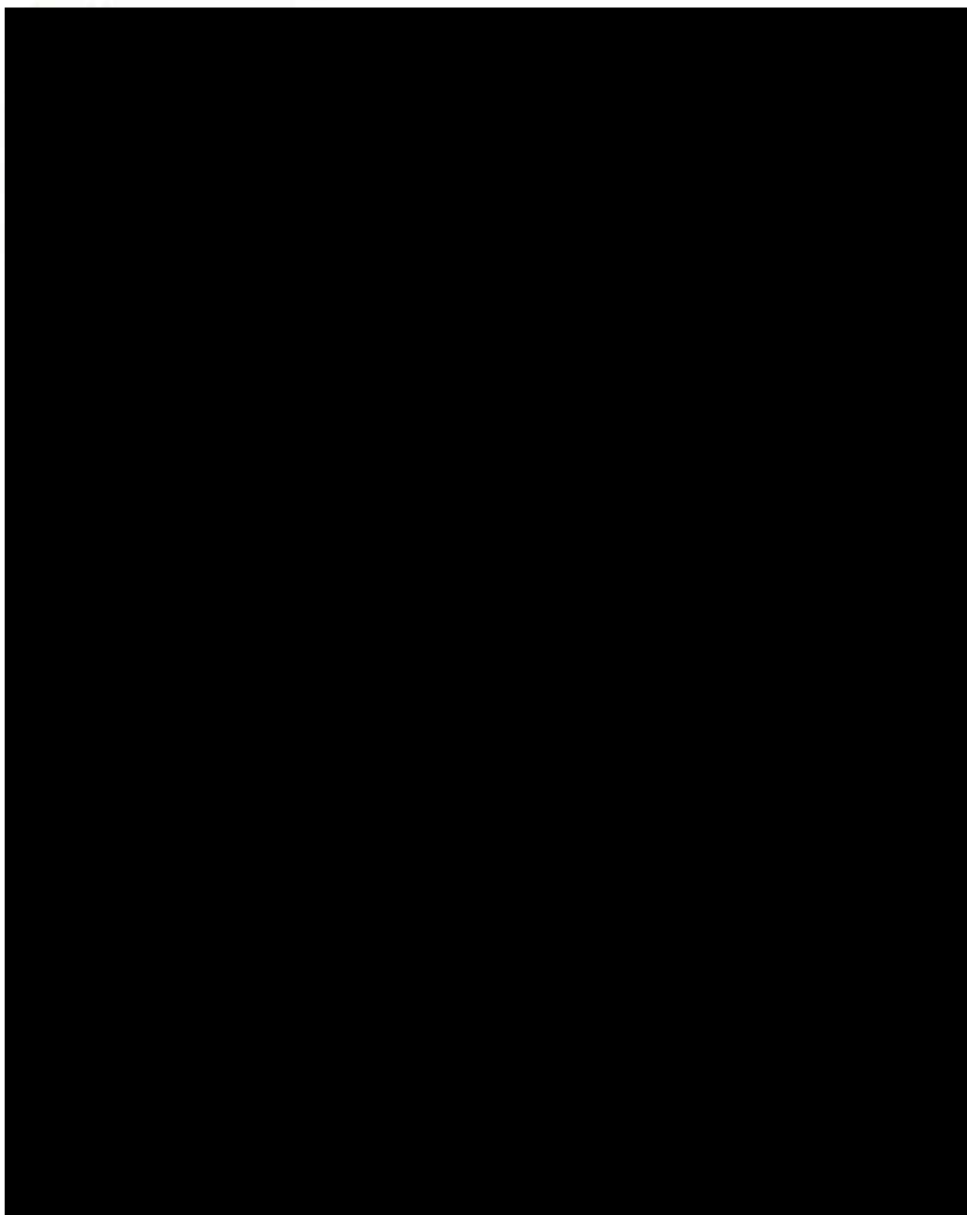
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Test Sample Details



23-6667-T13 – AT - Noise Recording / Heat Pump General / Air Water / Outdoor  
Unit - DIN EN ISO 3745 - ErP



## Results

Parameter	Remark	Min.	Nom.	Max.	Result
Test sample number	Outdoor Unit	1			1
Gas Type	refrigerant				R32
Measurement date	2024/05/27 14:04				

Operating Mode: [02] Heating\_A7/W55 (ErP actual)

Parameter	Remark	Min.	Nom.	Max.	S23-09042
Weighted Sound Power Level [dB(A)]	Outdoor Unit				48,3 dB(A)
Comment	Fixed speed				-
Comment	Casing Front Type IDU (VG/SDBG)				SDBG
Comment	Casing Front Type ODU (VG/SDBG)				SDBG
Ambient Temperature [°C]					7,00 °C
Ambient relative humidity [%]					81,60 %
Ambient pressure [mbar]					970,39 mbar

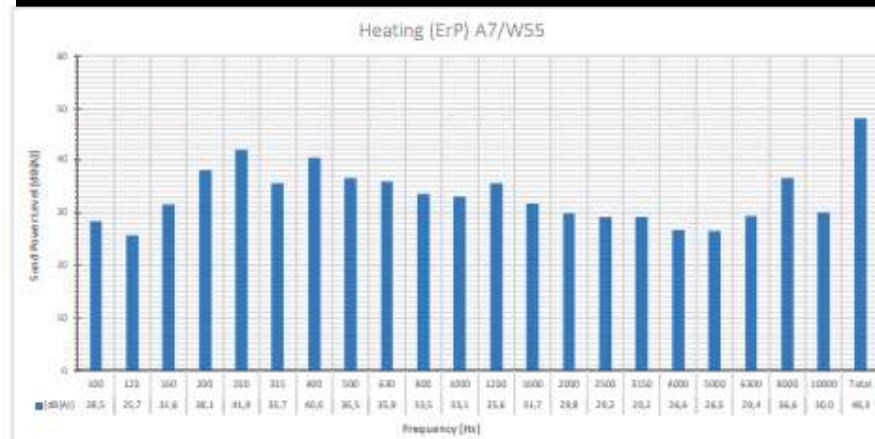
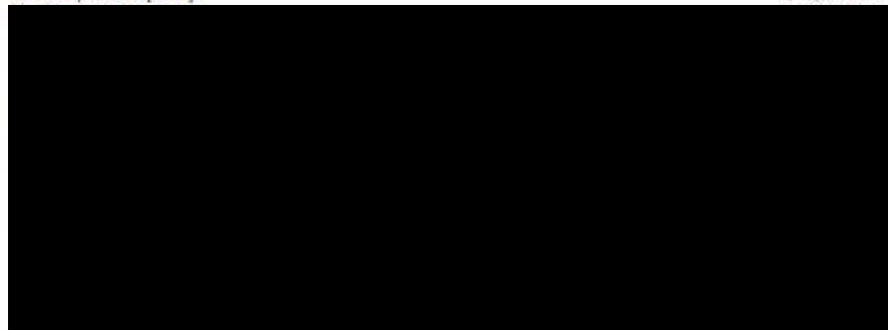
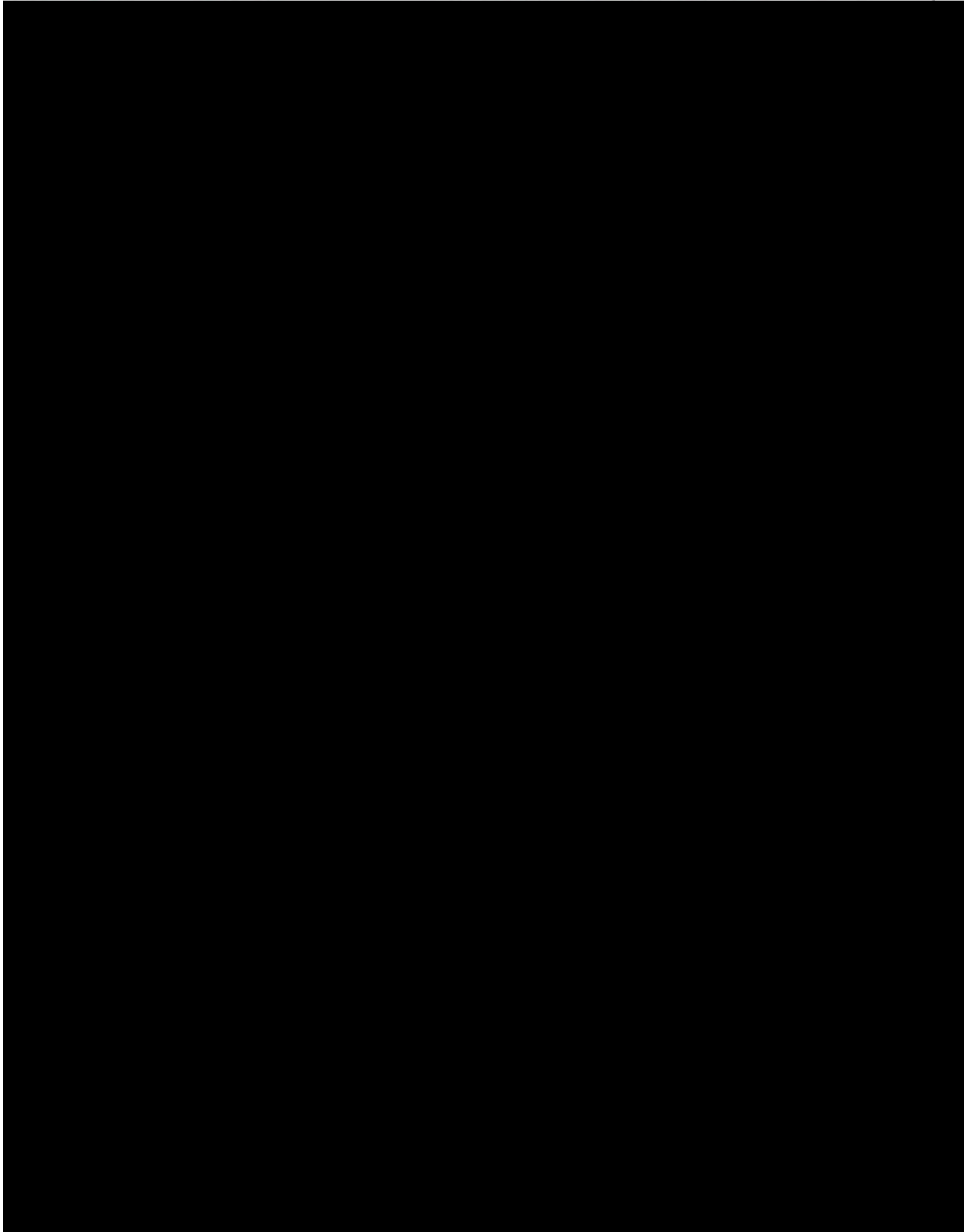
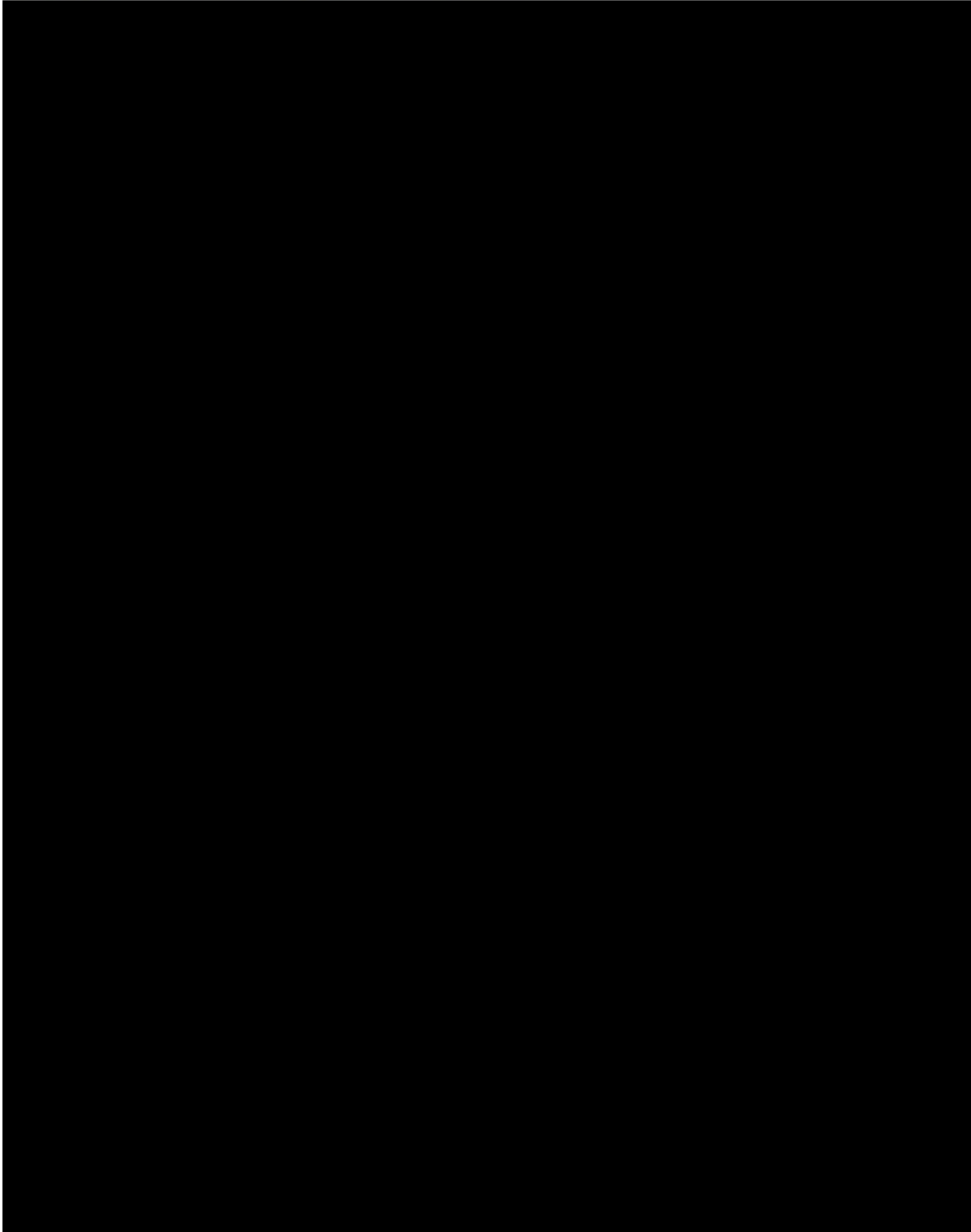


fig. 3 Sound Power Level - Operating Mode: [02] Heating\_A7/W55 (ErP actual)

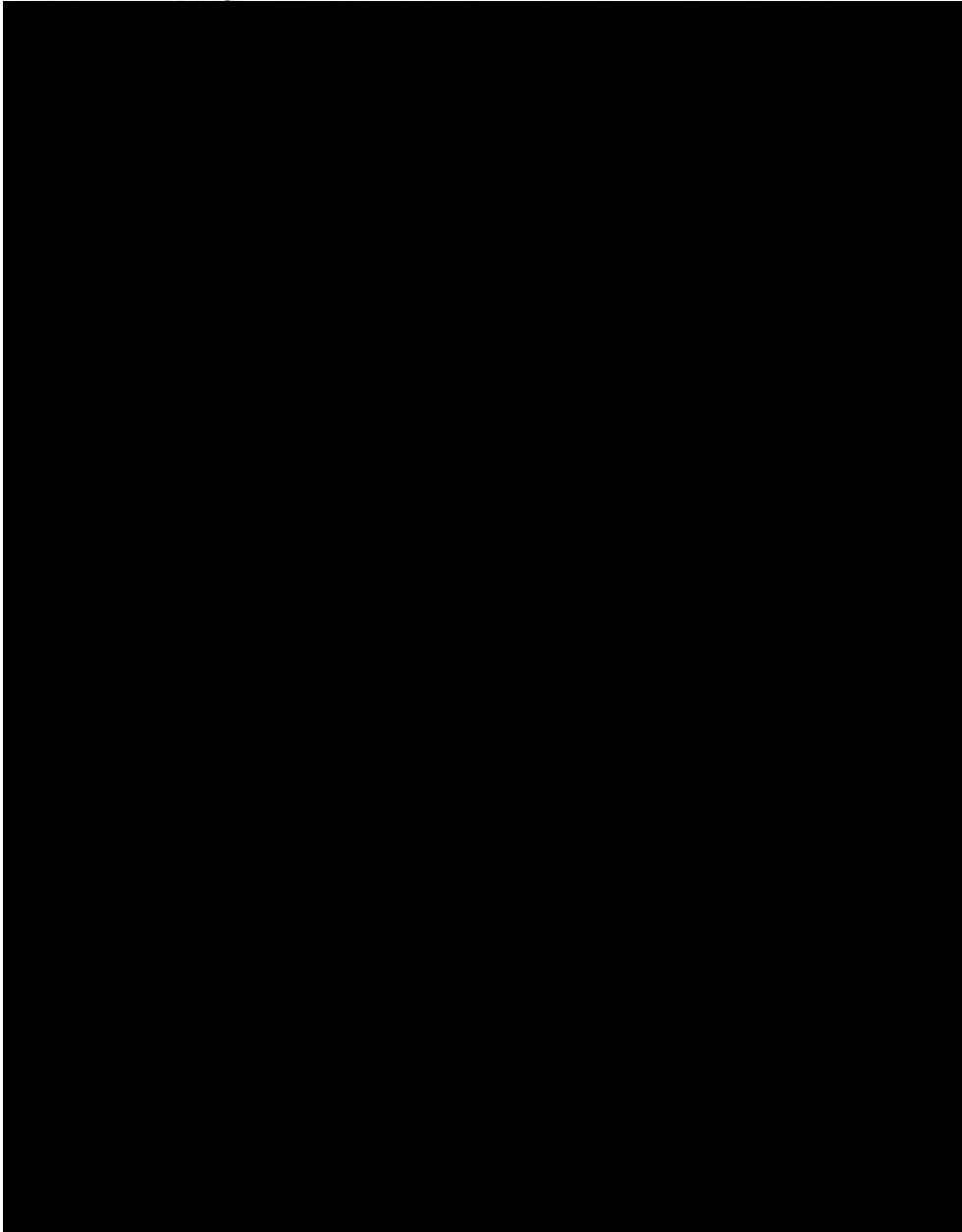
Conditions

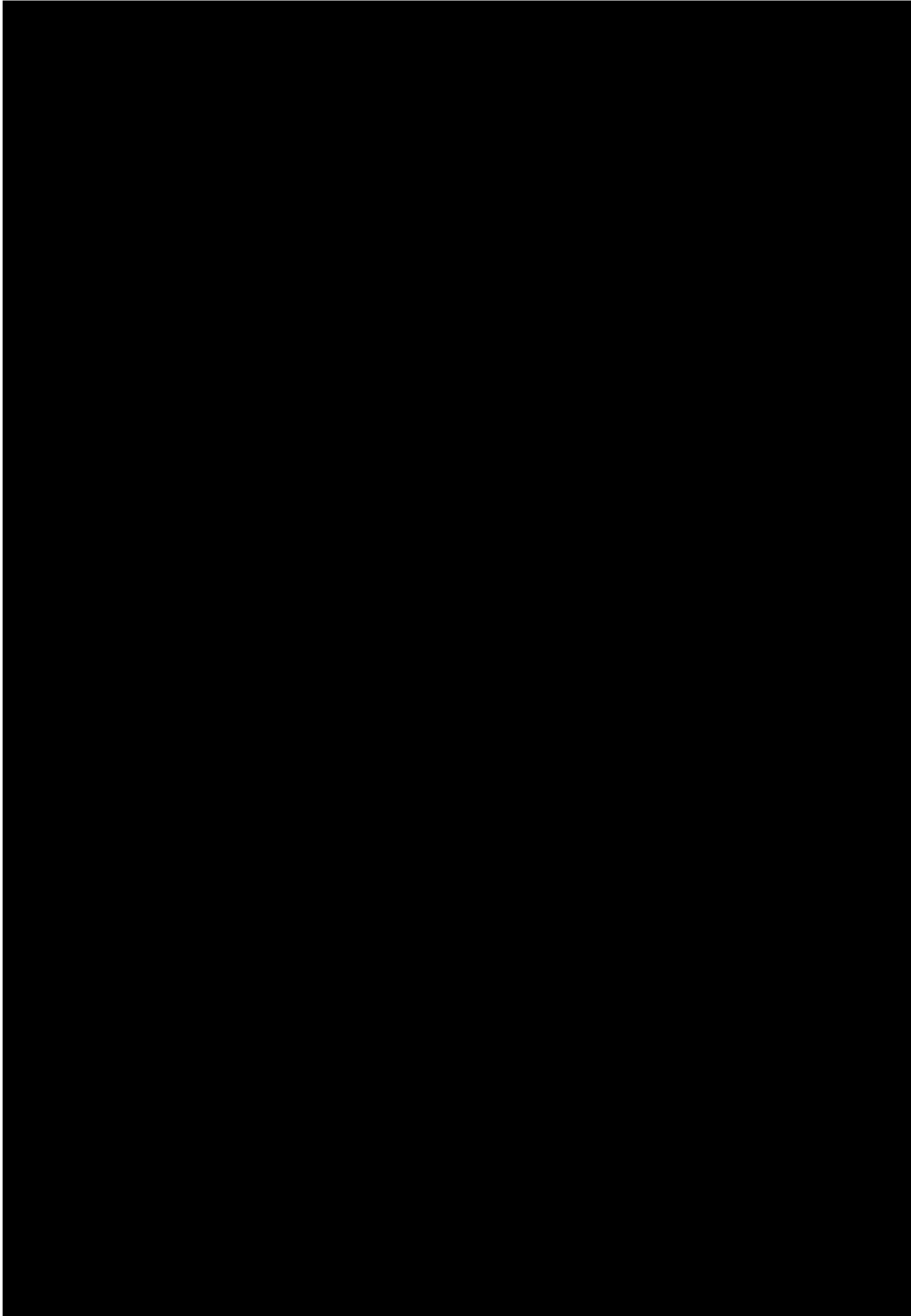


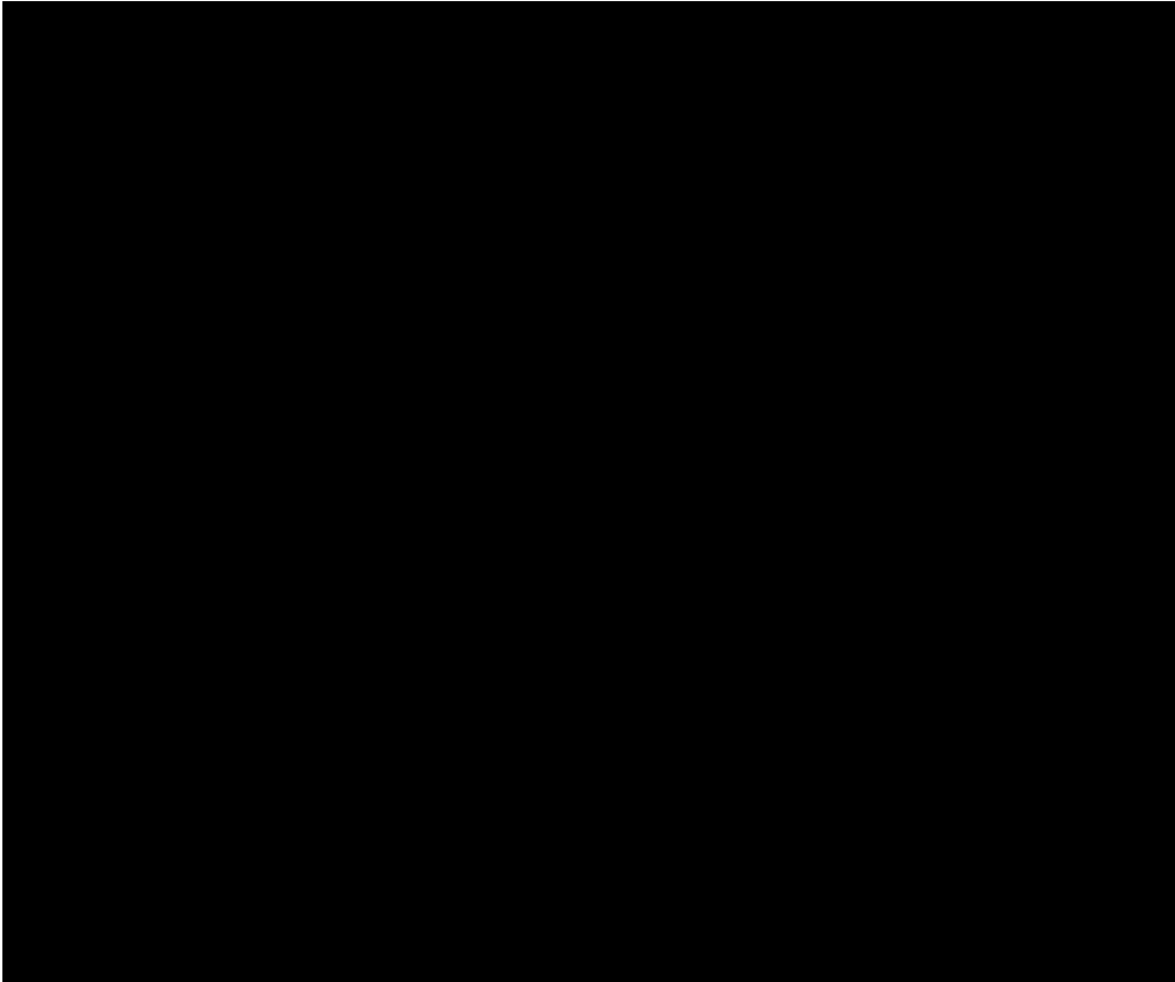
## Procedure



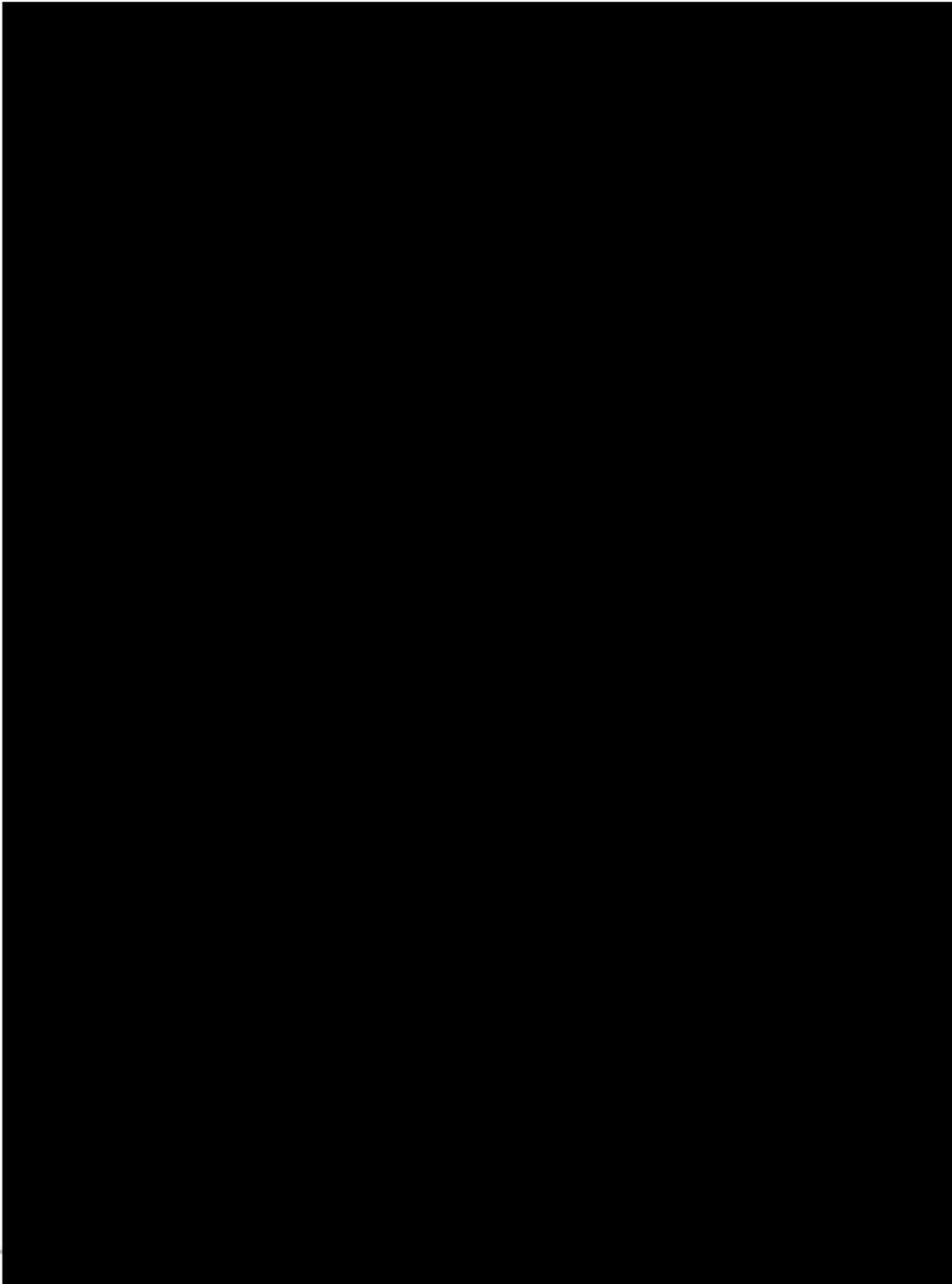
## Measurement Setup







## Appendix 6: Test Results, report 23-6668-D01 ODU



Mea. Report reviewed  
23-6668-D01

VAILLANT GROUP

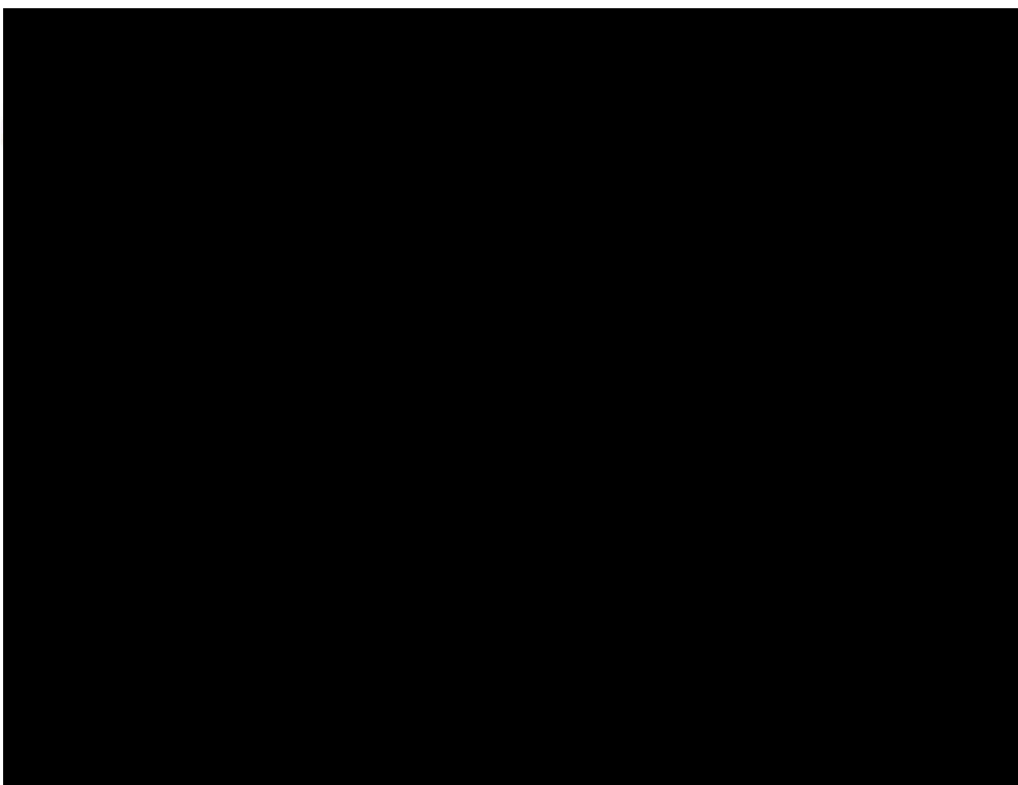
#### Order Description

Acoustic certification measurements of sound power level for outdoor air-/water split heat-pump VWL 55/8.2 AS 230V C-sample in combination with indoor unit hydraulic station VWL 57/8.2 IS manufactured by Vaillant.  
Measurement of Sound Power Level acc. to DIN EN ISO 3745 for nominal operating conditions.

The test conditions were set according to the appropriate appliance type, DIN EN 12102-1:2023-11 (Class A) for heat-pumps.

The sound power level has been measured acc. to DIN EN ISO 3745:2017-10.

The tests have been done acc. to the test description no. VGTD-0286-02.

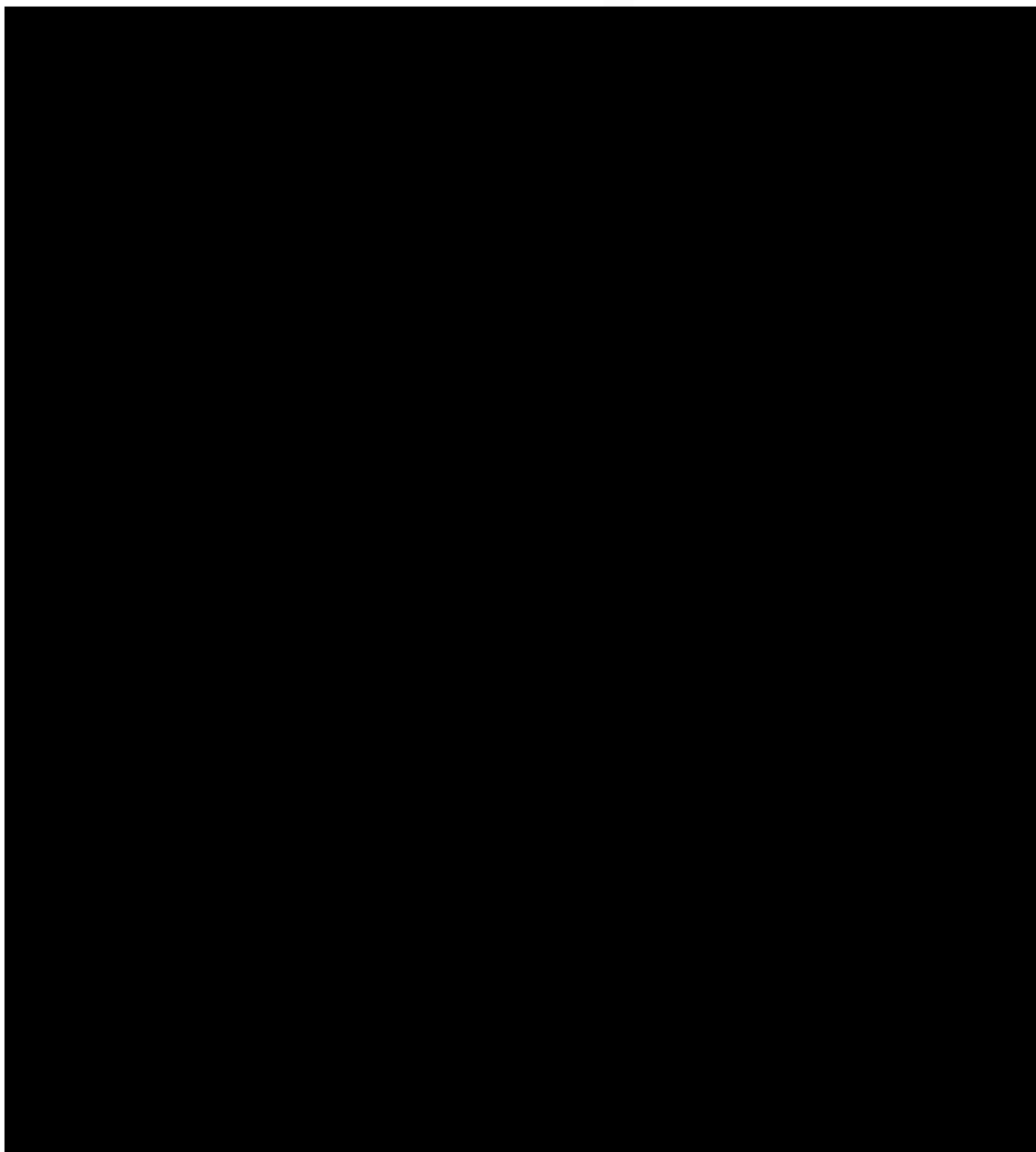


## Summary

Acoustic certification measurements of sound power level for outdoor air-/water split heat-pump VWL 55/8.2 AS 230V C-sample in combination with indoor unit hydraulic station VWL 57/8.2 IS manufactured by Vaillant.

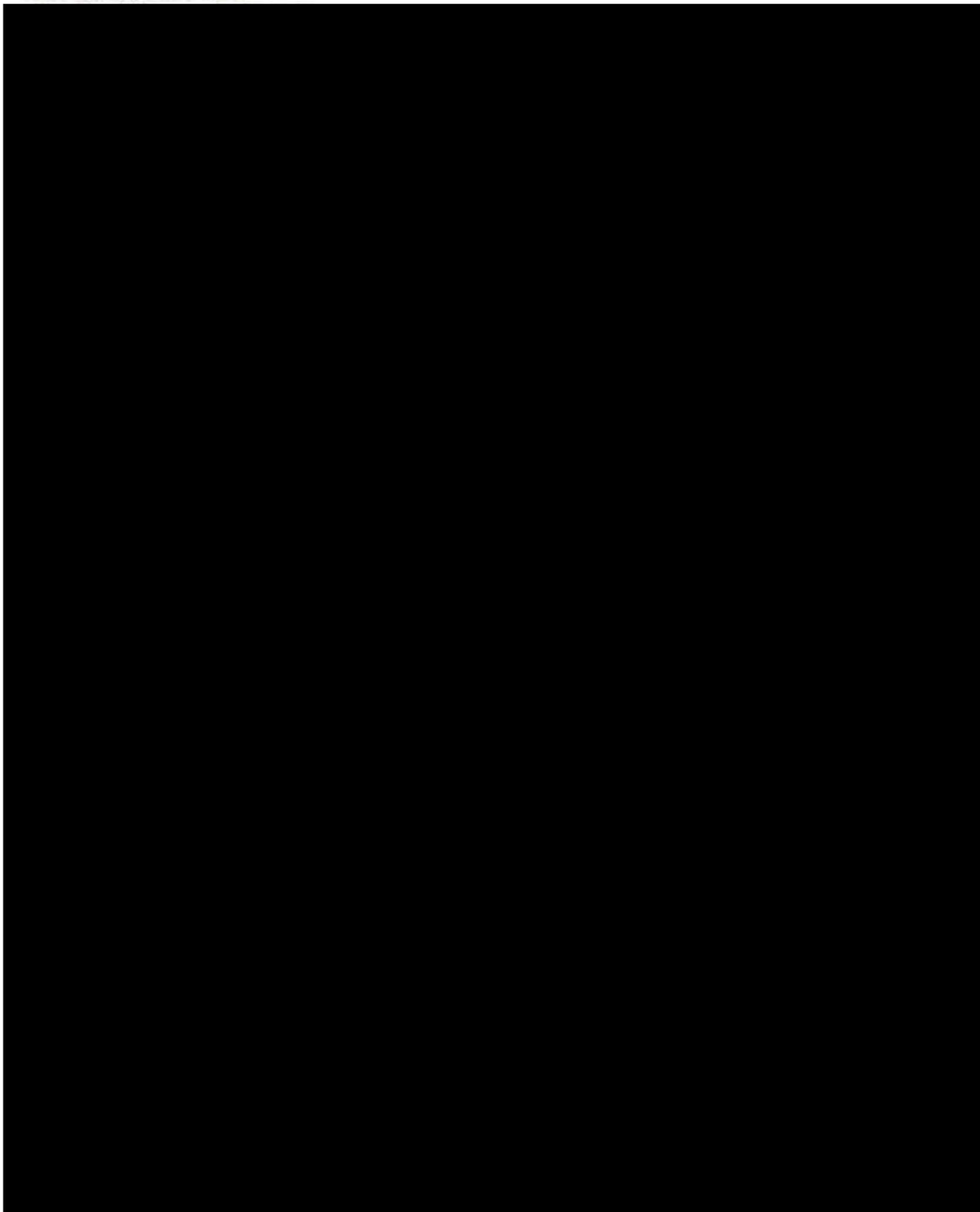
VWL 55/8.2 AS 230V

Appliance Type	Serial No.	Mode	Sound Power Level [dB(A)]
VWL 55/8.2 AS 230V	n.a.	A7/W55 (ErP)	47.5

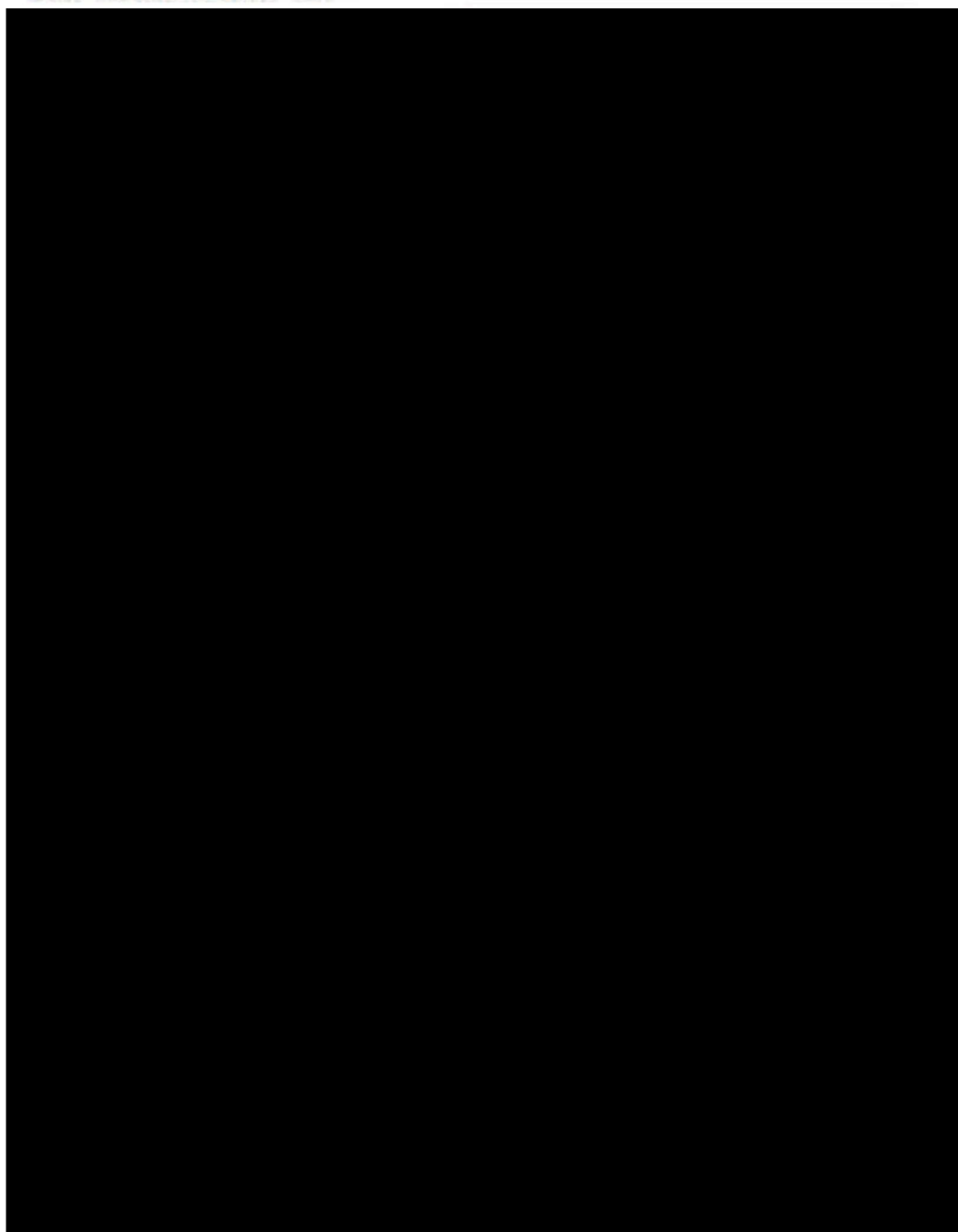


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Test Sample Details



23-6668-T12 – AT - Noise Recording / Heat Pump General / Air Water / Outdoor  
Unit - DIN EN ISO 3745 - ErP



## Results

Parameter	Remark	Min.	Nom.	Max.	Result
Test sample number	Outdoor Unit	1			1
Gas Type	refrigerant				R32
Measurement date	2024/05/24 13:32				

Operating Mode: [06] Heating\_A7/W55 (ErP actual)

Parameter	Remark	Min.	Nom.	Max.	S23-09161
Weighted Sound Power Level [dB(A)]	Outdoor Unit				47,5 dB(A)
Comment	Sample Type (3,5/5,0 kW)				3,5 & 5,0
Comment	Casing Front Type IDU (VG/SDBG)				VG
Comment	Casing Front Type ODU (VG/SDBG)				VG
Ambient Temperature [°C]					7,70 °C
Ambient relative humidity [%]					79,27 %
Ambient pressure [mbar]					970,29 mbar

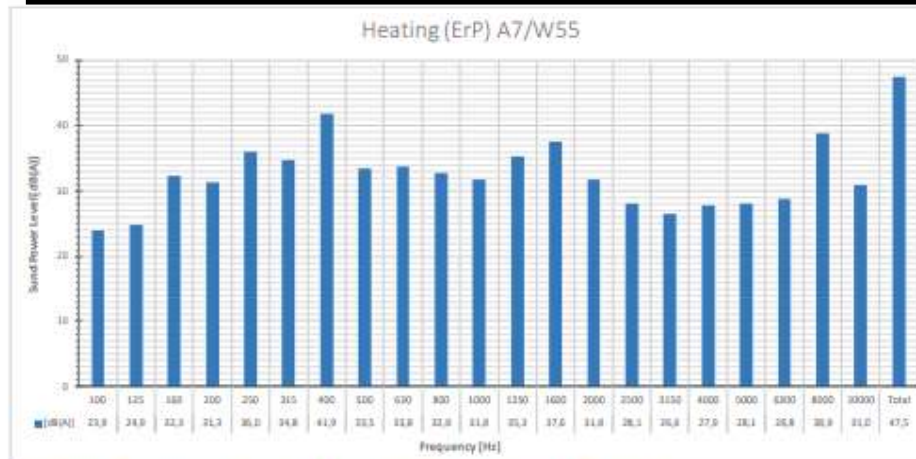
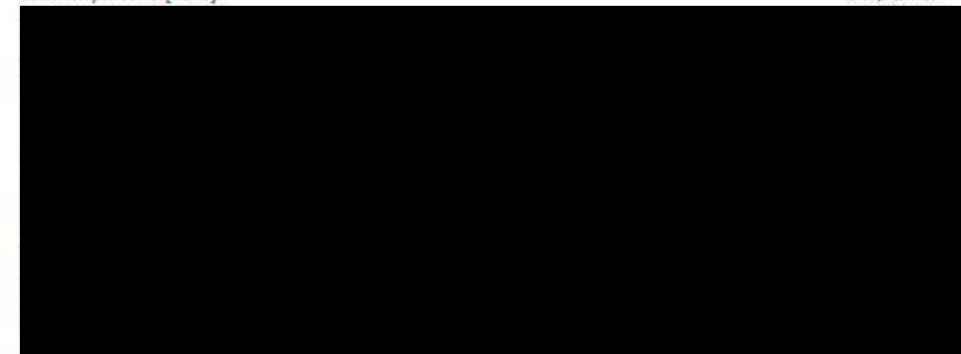
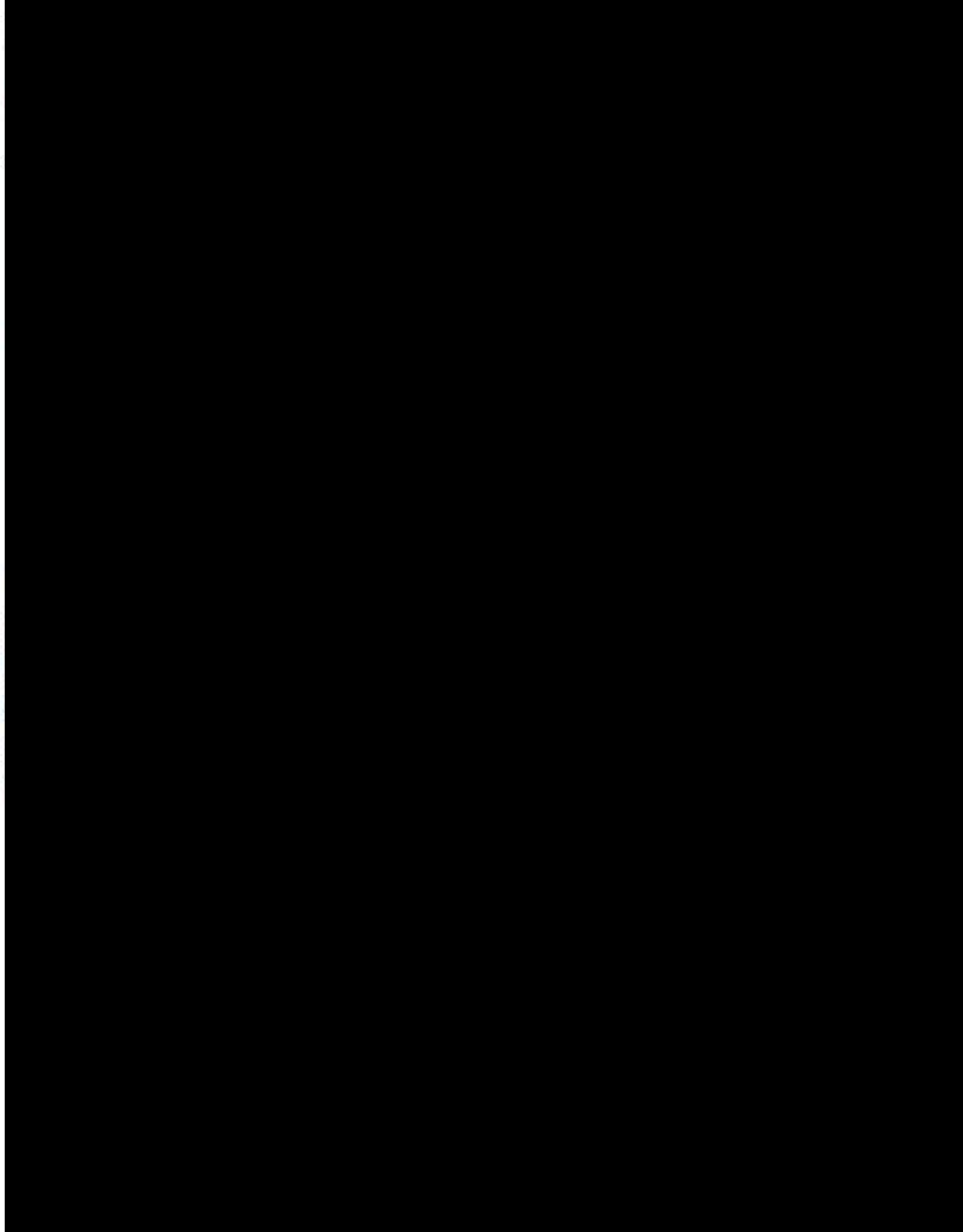
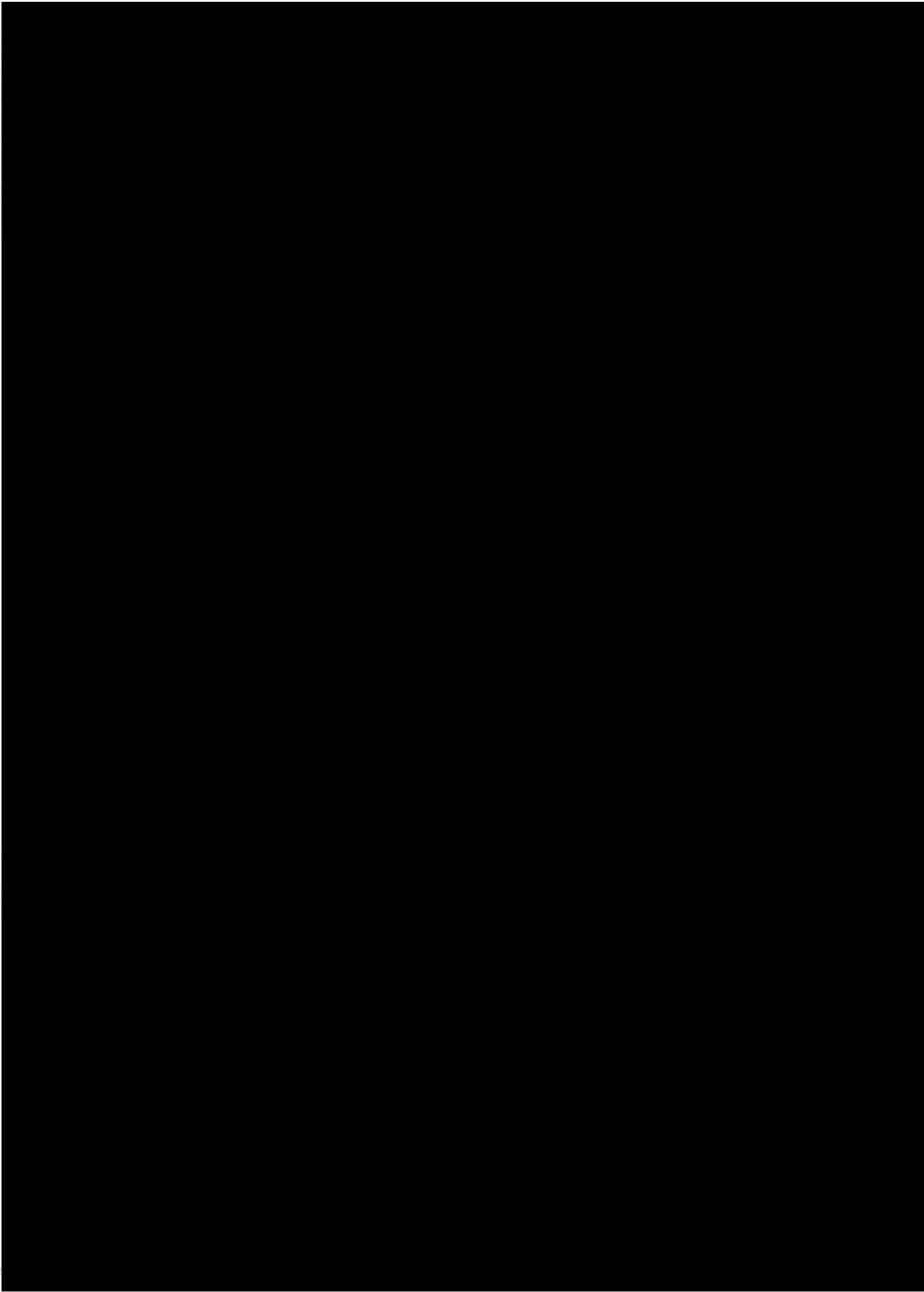


fig. 3 Sound Power Level - Operating Mode: [06] Heating\_A7/W55 (ErP actual)

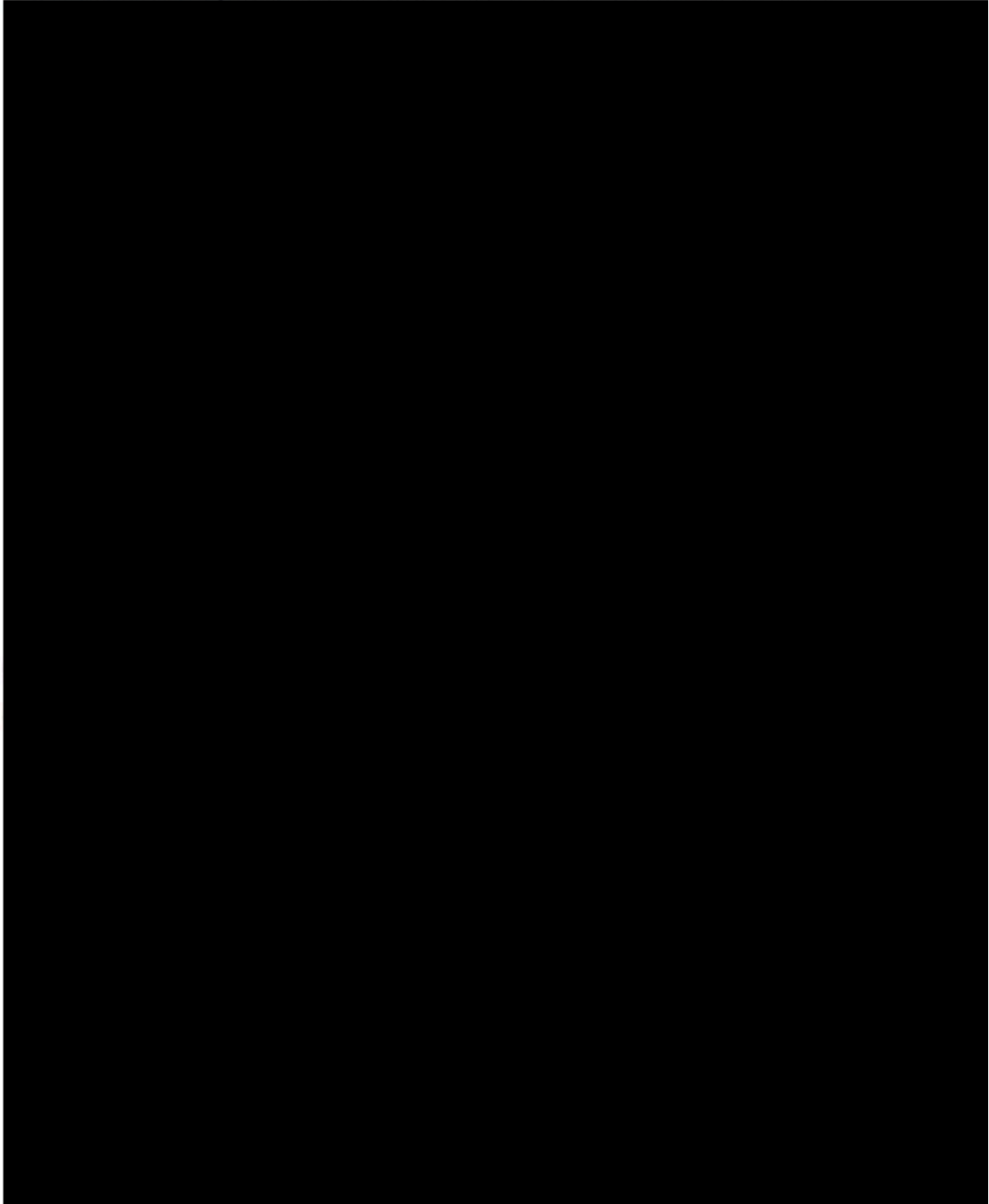
## Conditions



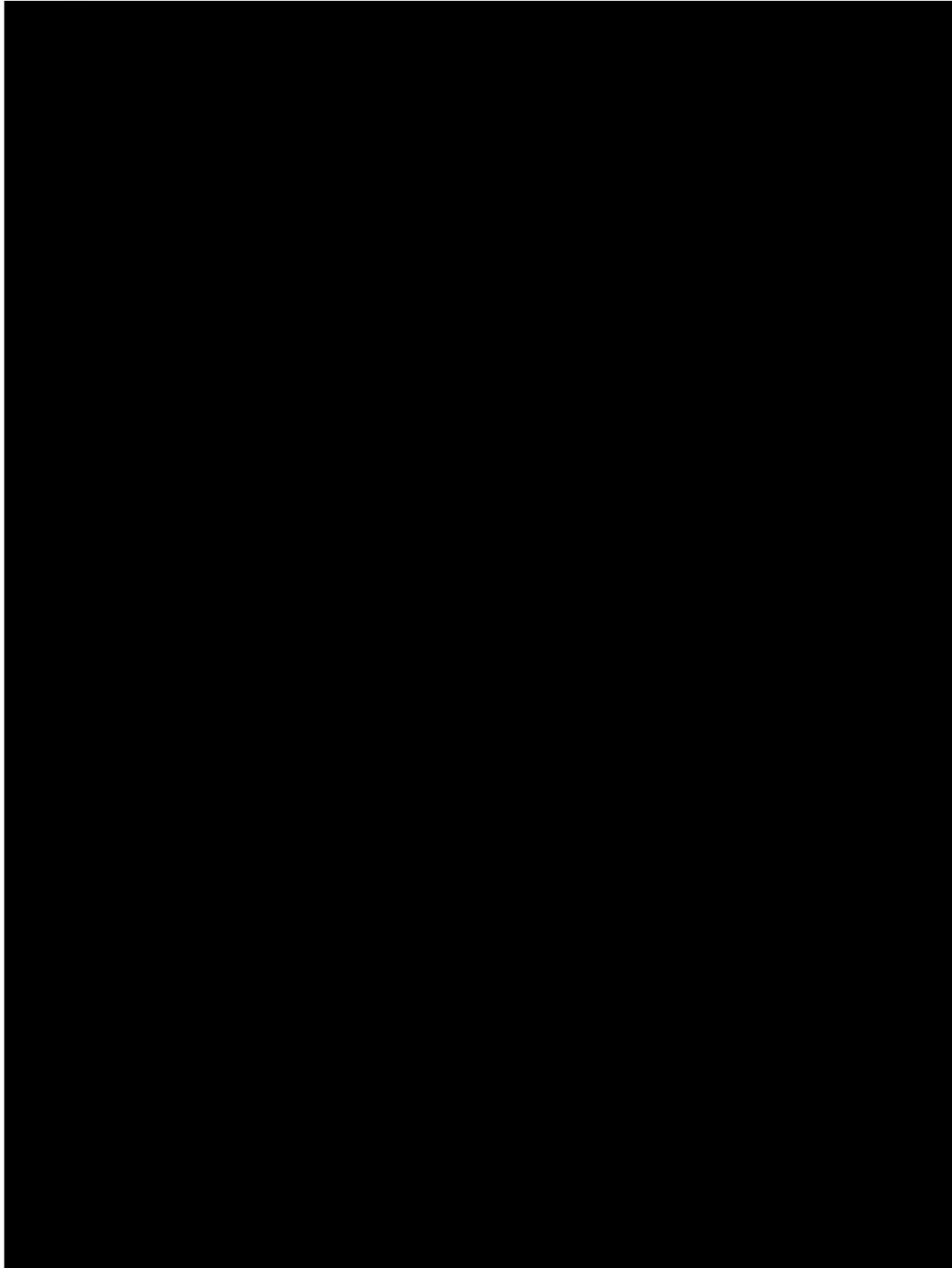
## Procedure

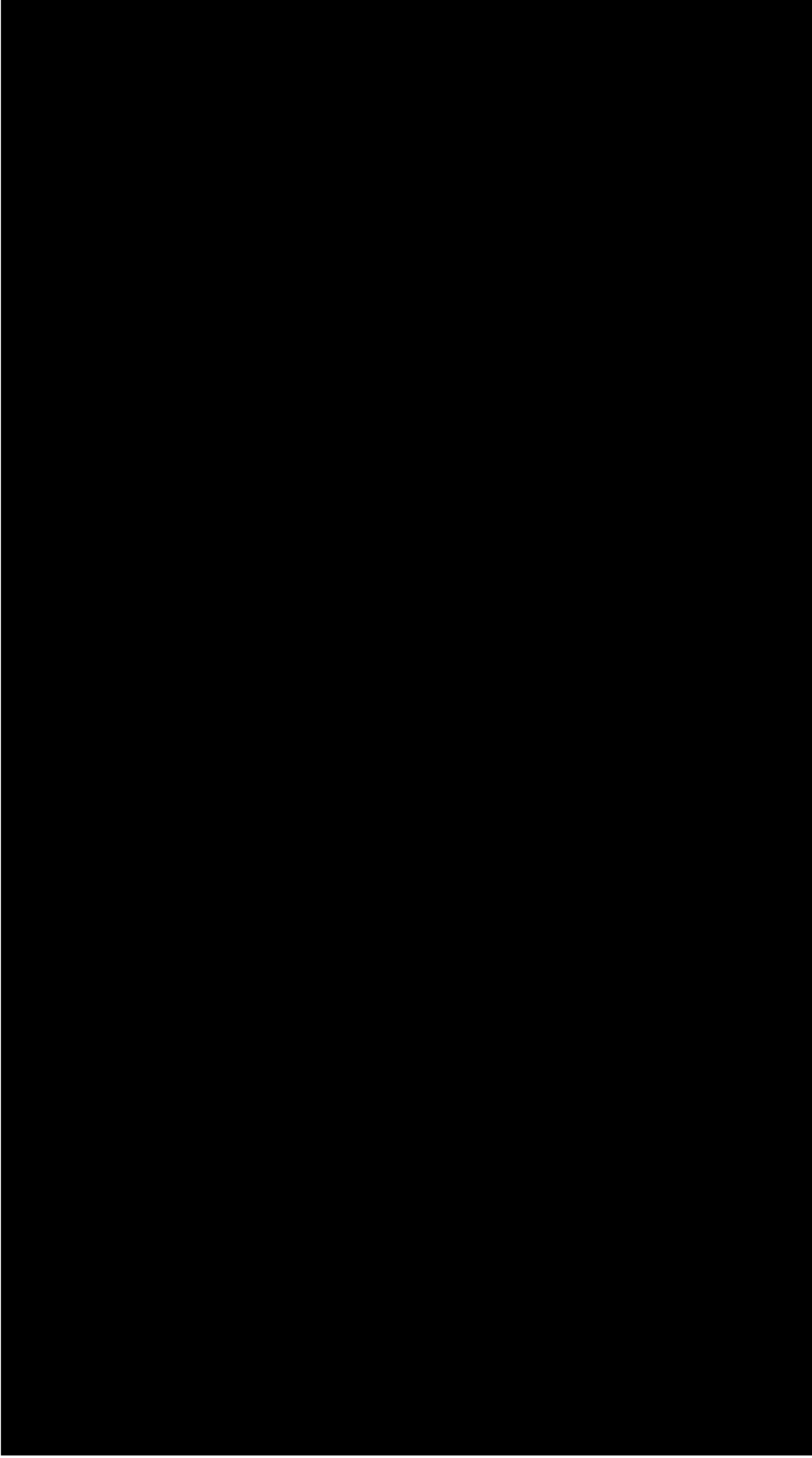


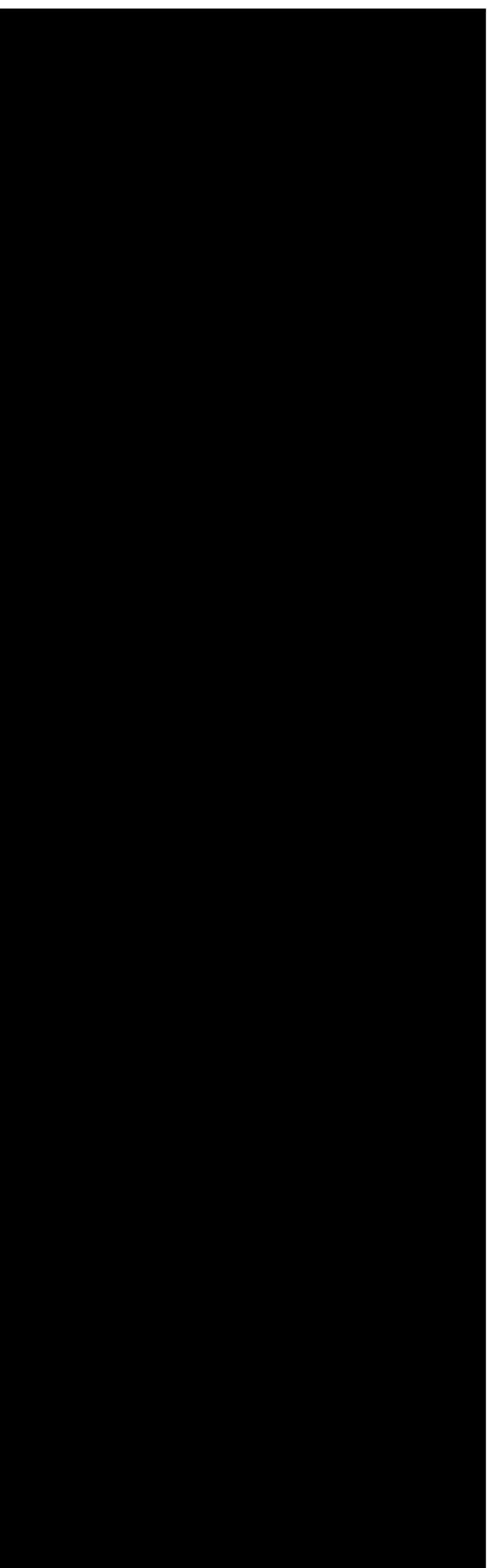
## Measurement Setup











**TŁUMACZENIE POŚWIADCZONE Z JĘZYKA ANGIELSKIEGO**

*[Do tłumaczenia przedstawiono wybrane przez zlecającego 33 strony z raportu o objętości 128 stron, w formie elektronicznej. Uwagi tłumacza i opis dokumentu w nawiasach kwadratowych].*

*[Na każdej stronie nagłówek w formie tabeli z numerem raportu P000339965, logotypem Kiwa w środkowym polu i paginacją w lewym polu. Na początku każdej strony tłumaczenia podano jej numer według oryginalnej paginacji.]*

## Raport z badania Pompa ciepła

*[fotografia z logotypem Kiwa i mottem „Partner for Progress”]*

Vaillant GmbH  
Berghauser str. 40  
Remscheid  
D-42859  
Niemcy  
Numer raportu: P00033965  
KIWA Nederland B.V.

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2024, Kiwa Nederland B.V.

Powielanie raportu jest dozwolone wyłącznie w całości, bez zmian i za zgodą uprawnionego właściciela. Wyniki badań zawarte w niniejszym raporcie dotyczą wyłącznie przedstawionych i zbadanych próbek.

Badania oznaczone w tym raporcie numerem IRN są objęte zakresem akredytacji (RvA L248), chyba że wskazano inaczej. Niepewność pomiarów testowych w zakresie normy ISO/IEC 17025.

Raporty z badań mogą w pewnych przypadkach zawierać, obok liczbowych wartości zmierzonych, kwalifikację „pozytywny” lub „negatywny”. Jest to ocena zachowania granicy specyfikacji wynikającej z obowiązującej normy dotyczącej produktu. Pomiar jest zgodny z wymaganiem, gdy nie przekracza granicy z prawdopodobieństwem co najmniej 50%.

Nie uwzględnia się tu niepewności pomiaru związanej z metodą badania.

Należy jednak wyraźnie zaznaczyć, że określenia „pozytywny” lub „negatywny” odnoszą się do wyniku pomiaru skorygowanego o niepewność pomiaru i/lub warunki badania, w których uzyskano wartość zmierzoną.

Jeżeli nie wskazano inaczej, niepewność pomiaru i warunki są zgodne ze specyfikacją badania. Niniejszy raport jest ważny wyłącznie po podpisaniu go przez autora i weryfikatora badania.

Wnioski dotyczące zgodności np. z wymaganiami normy wyrobu nie są objęte zakresem badań laboratoryjnych (RvA L248).

Tego typu informacje podane przez zamawiającego mogą wpływać na ważność wyników.

Zastrzeżenia dotyczące niniejszego raport z badania proszę kierować do Kiwa Nederland B.V.

Wersja: 003,2

# TŁUMACZENIE POŚWIADCZONE Z JĘZYKA ANGIELSKIEGO

Strona 4 ze 128

<b>Numer raportu:</b>	P000339965	
<b>Numer projektu:</b>	P000339965	
Data wydania:	27 listopada 2024 r.	
Łączna liczba stron:	128	
<b>Laboratorium badawcze:</b>	Vaillant GmbH	
Miejsce badania/adres:	Berghauserstrasse 40, D-42859 Remscheid, Niemcy	
<b>Nazwa wnioskodawcy:</b>	Vaillant GmbH	
Adres:	Berghauserstrasse 40, D-42859 Remscheid, Niemcy	
<b>Zakres:</b>	Badanie 3 pomp ciepła powietrze-woda pobierających ciepło z powietrza na zewnątrz w zakresie zgodności z wymaganiami wynikającymi z podanej niżej specyfikacji badań.	
<b>Specyfikacja badania</b>		
Normy:	EN 14825:2022 EN 14511:2022	
Nieznormalizowana metoda badań:	nie dot.	
<b>Opis przedmiotu badania:</b>	Powietrze-woda typu split	
Producent:	Vaillant GmbH	
Oznaczenie modelu / typu:	VWL 35/8,2 AS 230V + VWL 58/8,2 IS VWL 55/8,2 AS 230V + VWL 58/8,2 IS VWL 75/8,2 AS 230V + VWL 78/8,2 IS (pełny przegląd zawiera rozdział 3: Opis produktów)	
<b>Uwagi:</b>	nie dot.	
<b>Podsumowanie:</b>	Produkt zgodny z wymaganiami w zakresie wskazanym w załączonych kartach testów i wyników.	
Raport sporządzony przez: (nazwisko + podpis) :	R.Stappenbeld	<i>[podpis]</i>
Raport zatwierdzony przez (nazwisko + podpis) :	Anne-Wim Juffer	<i>[podpis]</i>

Strona 5 ze 128

## 1 Historia raportu

Numer raportu:	P000339965
Numer projektu:	P000339965
Autor:	R.Stappenbeld
Opis:	Pierwszy raport Badanie pompy ciepła powietrze-woda typu split VWL 35/8.2 AS 230V + VWL 58/8.2 IS oraz VWL 55/8.2 AS 230V + VWL 58/8.2 IS oraz VWL 75/8.2 AS 230V + VWL 78/8.2 IS według normy europejskiej EN 14511 / EN 14825 w zakresie ogrzewania pomieszczeń.

Strona 6 ze 128

## 2 Podsumowanie badań

Na zamówienie Vaillant GmbH przeprowadzono badanie urządzeń wskazanych w Opisie przedmiotu badania zgodnie ze specyfikacją badania (por. stronę 3 niniejszego raportu).

Przeprowadzono następujące badania:

- Testy ogrzewania wg EN 14511 i EN 14825;
- Test bezpieczeństwa i eksploatacji wg EN 14511 i EN 14825;

W ramach tego projektu wszystkie testy przeprowadzono w laboratorium badawczym Vaillant w Remscheid w Niemczech.

Testy w przeprowadzone w laboratorium badawczym pomp ciepła Vaillant w Remscheid podlegały częściowemu nadzorowi ze strony Kiwa. Nadzór obejmował weryfikację samego laboratorium z jego wyposażeniem badawczym oraz inżynierów ds. testów z Vaillant, którzy prowadzili badania.

Uwaga ogólna:

Kiwa Nederland B.V. jest laboratorium badawczym akredytowanym przez RvA według EN ISO/IEC 17025:2017.

Akredytacja jest ważna wyłącznie w zakresie wskazanym w załączniku L248 - Raad voor Accreditatie (rva.nl).

Procedura badawcza:

Badanie z zastosowaniem listy kontrolnej F01 w obiekcie producenta.

## TŁUMACZENIE POŚWIADCZONE Z JĘZYKA ANGIELSKIEGO

Strona 7 ze 128

<b>Opis urządzenia: Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS</b>						
W badaniu obejmującym testy ogrzewania zastosowano następujące parametry projektowe zgodnie z EN 14825:						
<b>Ogrzewanie</b>						
Zastosowanie	<input type="checkbox"/> temperatura niska (35 °C) <input checked="" type="checkbox"/> temperatura pośrednia (45 °C) <input type="checkbox"/> temperatura średnia (55 °C) <input checked="" type="checkbox"/> temperatura wysoka (65 °C)					
Klimat	<input type="checkbox"/> umiarkowany <input checked="" type="checkbox"/> ciepły <input type="checkbox"/> zimny					
Tryb badania	<input checked="" type="checkbox"/> stały przepływ <input type="checkbox"/> stała delta T					
Temperatura wody na wylocie <sup>1</sup>	<input checked="" type="checkbox"/> stała <input type="checkbox"/> zmienna					
	Umiarkowany NT	Umiarkowany ŚT	Zimny NT	Zimny ŚT	Ciepły NT	Ciepły ŚT
P <sub>designh</sub>	3,44 [kW]	3,65 [kW]	3,41 [kW]	2,98 [kW]	3,22 [kW]	4,02 [kW]
T <sub>designh</sub>	-10 [°C]	-10 [°C]	-22 [°C]	-22 [°C]	2 [°C]	2 [°C]
T <sub>biv</sub>	-7 [°C]	-7 [°C]	-15 [°C]	-15 [°C]	2 [°C]	2 [°C]
TOL	-10 [°C]	-10 [°C]	-20 [°C]	-15 [°C]	2 [°C]	2 [°C]
W badaniu obejmującym testy chłodzenia zastosowano następujące parametry projektowe zgodnie z EN 14825:						
<b>Chłodzenie</b>						
Zastosowanie	<input checked="" type="checkbox"/> Chłodzenie klimakonwektorami (temperatura wody 7 °C) <input type="checkbox"/> Chłodzenie podłogowe (temperatura wody 18 °C)					
Tryb badania	<input checked="" type="checkbox"/> stały przepływ <input type="checkbox"/> stała delta T					
Temperatura wody na wylocie <sup>2</sup>	<input checked="" type="checkbox"/> stała <input type="checkbox"/> zmienna					
T <sub>designc</sub>	35 [°C]					
P <sub>designc</sub> chł.podł.	5,19 [kW]					
P <sub>designc</sub> chł.kl.	3,88 [kW]					
<p>Zmienna temperatura wody na wylocie dotyczy wyłącznie zastosowania do chłodzenia klimakonwektorami</p> <p>Na podstawie informacji o produktach plan badania nie podlega szczególnym interpretacjom ani modyfikacjom.</p> <p>*niektóre testy dla Vaillant VWL 35/8.2 AS przeprowadzono z użyciem Vaillant VWL 55/8.2 AS. Są to urządzenia o identycznej konstrukcji i różnią się wyłącznie oprogramowaniem.</p>						

## TŁUMACZENIE POŚWIADCZONE Z JĘZYKA ANGIELSKIEGO

Strona 8 ze 128

### Opis urządzenia: Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS

W badaniu obejmującym testy ogrzewania zastosowano następujące parametry projektowe zgodnie z EN 14825:

#### Ogrzewanie

Zastosowanie	<input type="checkbox"/> temperatura niska (35 °C) <input checked="" type="checkbox"/> temperatura pośrednia (45 °C) <input type="checkbox"/> temperatura średnia (55 °C) <input checked="" type="checkbox"/> temperatura wysoka (65 °C)					
Klimat	<input type="checkbox"/> umiarkowany <input type="checkbox"/> ciepły <input type="checkbox"/> zimny					
Tryb badania	<input checked="" type="checkbox"/> stały przepływ <input type="checkbox"/> stała delta T					
Temperatura wody na wylocie <sup>1</sup>	<input checked="" type="checkbox"/> stała <input type="checkbox"/> zmienna					
	Umiarkowany NT	Umiarkowany ŚT	Zimny NT	Zimny ŚT	Ciepły NT	Ciepły ŚT
P <sub>designh</sub>	4,72 [kW]	4,35 [kW]	5,44 [kW]	3,97 [kW]	5,01 [kW]	4,68 [kW]
T <sub>designh</sub>	-10 [°C]	-10 [°C]	-22 [°C]	-22 [°C]	2 [°C]	2 [°C]
T <sub>biv</sub>	-7 [°C]	-7 [°C]	-15 [°C]	-15 [°C]	2 [°C]	2 [°C]
TOL	-10 [°C]	-10 [°C]	-20 [°C]	-15 [°C]	2 [°C]	2 [°C]

W badaniu obejmującym testy chłodzenia zastosowano następujące parametry projektowe zgodnie z EN 14825:

#### Chłodzenie

Zastosowanie	<input type="checkbox"/> Chłodzenie klimakonwektorami (temperatura wody 7 °C) <input type="checkbox"/> Chłodzenie podłogowe (temperatura wody 18 °C)					
Tryb badania	<input checked="" type="checkbox"/> stały przepływ <input type="checkbox"/> stała delta T					
Temperatura wody na wylocie <sup>2</sup>	<input checked="" type="checkbox"/> stała <input type="checkbox"/> zmienna					
T <sub>designc</sub>	35 [°C]					
P <sub>designc</sub> chł.podł.	5,19 [kW]					
P <sub>designc</sub> chł.kl.	3,88 [kW]					

Zmienna temperatura wody na wylocie dotyczy wyłącznie zastosowania do chłodzenia klimakonwektorami

Na podstawie informacji o produktach plan badania nie podlega szczególnym interpretacjom ani modyfikacjom.

# TŁUMACZENIE POŚWIADCZONE Z JĘZYKA ANGIELSKIEGO

Strona 9 ze 128

<b>Opis urządzenia: Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS</b>						
W badaniu obejmującym testy ogrzewania zastosowano następujące parametry projektowe zgodnie z EN 14825:						
<b>Ogrzewanie</b>						
Zastosowanie	<input type="checkbox"/> temperatura niska (35 °C) <input checked="" type="checkbox"/> temperatura pośrednia (45 °C) <input type="checkbox"/> temperatura średnia (55 °C) <input checked="" type="checkbox"/> temperatura wysoka (65 °C)					
Klimat	<input type="checkbox"/> umiarkowany <input type="checkbox"/> ciepły <input type="checkbox"/> zimny					
Tryb badania	<input checked="" type="checkbox"/> stały przepływ <input type="checkbox"/> stała delta T					
Temperatura wody na wylocie <sup>1</sup>	<input checked="" type="checkbox"/> stała <input type="checkbox"/> zmienna					
	Umiarkowany NT	Umiarkowany ŚT	Zimny NT	Zimny ŚT	Ciepły NT	Ciepły ŚT
Pdesignh	6,61 [kW]	5,67 [kW]	6,88 [kW]	5,69 [kW]	6,8 [kW]	6,79 [kW]
Tdesignh	-10 [°C]	-10 [°C]	-22 [°C]	-22 [°C]	2 [°C]	2 [°C]
Tbiv	-7 [°C]	-7 [°C]	-15 [°C]	-15 [°C]	2 [°C]	2 [°C]
TOL	-10 [°C]	-10 [°C]	-20 [°C]	-15 [°C]	2 [°C]	2 [°C]
W badaniu obejmującym testy chłodzenia zastosowano następujące parametry projektowe zgodnie z EN 14825:						
<b>Chłodzenie</b>						
Zastosowanie	<input type="checkbox"/> Chłodzenie klimakonwektorami (temperatura wody 7 °C) <input type="checkbox"/> Chłodzenie podłogowe (temperatura wody 18 °C)					
Tryb badania	<input checked="" type="checkbox"/> stały przepływ <input type="checkbox"/> stała delta T					
Temperatura wody na wylocie <sup>2</sup>	<input checked="" type="checkbox"/> stała <input type="checkbox"/> zmienna					
Tdesignc	35 [°C]					
Pdesignc chł.podł.	6,63 [kW]					
Pdesignc chł.kl.	6,09 [kW]					
Zmienna temperatura wody na wylocie dotyczy wyłącznie zastosowania do chłodzenia klimakonwektorami						
Na podstawie informacji o produktach plan badania nie podlega szczególnym interpretacjom ani modyfikacjom.						

## 4.2 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 12: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,047	2,019	2,413	2,759	3,029	3,047
Efektywny pobór mocy	kW	0,938	0,428	0,396	0,336	1,035	0,938
Współczynnik wydajności	-	3,25	4,71	6,10	8,20	2,93	3,25

*Tabela 13: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,229	2,092	2,143	2,714	2,755	3,229
Efektywny pobór mocy	kW	1,501	0,653	0,496	0,438	1,525	1,501
Współczynnik wydajności	-	2,15	3,21	4,32	6,20	1,81	2,15

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#### 4.6 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 30: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,047	2,019	2,413	2,759	3,029	3,047
Efektywny pobór mocy	kW	0,938	0,428	0,396	0,336	1,035	0,938
Współczynnik wydajności	-	3,25	4,71	6,10	8,20	2,93	3,25

*Tabela 31: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,229	2,092	2,143	2,714	2,755	3,229
Efektywny pobór mocy	kW	1,501	0,653	0,496	0,438	1,525	1,501
Współczynnik wydajności	-	2,15	3,21	4,32	6,20	1,81	2,15

#### 4.10 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 49: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	4,178	2,670	2,427	2,842	4,062	4,178
Efektywny pobór mocy	kW	1,336	0,551	0,389	0,354	1,448	1,336
Współczynnik wydajności	-	3,13	4,84	6,24	8,04	2,81	3,13

*Tabela 50: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,849	2,128	2,214	2,719	3,331	3,849
Efektywny pobór mocy	kW	1,836	0,669	0,504	0,451	2,012	1,836
Współczynnik wydajności	-	2,10	3,18	4,39	6,03	1,66	2,10

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#### 4.14 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 68: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	4,178	2,670	2,427	2,842	4,062	4,178
Efektywny pobór mocy	kW	1,336	0,551	0,389	0,354	1,448	1,336
Współczynnik wydajności	-	3,13	4,84	6,24	8,04	2,81	3,13

*Tabela 69: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,849	2,128	2,214	2,719	3,331	3,849
Efektywny pobór mocy	kW	1,836	0,669	0,504	0,451	2,012	1,836
Współczynnik wydajności	-	2,10	3,18	4,39	6,03	1,66	2,10

#### 4.18 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 87: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	5,847	3,342	3,141	3,712	5,779	5,847
Efektywny pobór mocy	kW	1,827	0,640	0,498	0,444	2,021	1,827
Współczynnik wydajności	-	3,20	5,22	6,31	8,36	2,86	3,20

*Tabela 88: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	5,014	2,913	2,969	3,566	4,724	5,014
Efektywny pobór mocy	kW	2,204	0,826	0,634	0,556	2,489	2,204
Współczynnik wydajności	-	2,27	3,52	4,68	6,42	1,90	2,27

## 4.22 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 106: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	5,847	3,342	3,141	3,712	5,779	5,847
Efektywny pobór mocy	kW	1,827	0,640	0,498	0,444	2,021	1,827
Współczynnik wydajności	-	3,20	5,22	6,31	8,36	2,86	3,20

*Tabela 107: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	5,014	2,913	2,969	3,566	4,724	5,014
Efektywny pobór mocy	kW	2,204	0,826	0,634	0,556	2,489	2,204
Współczynnik wydajności	-	2,27	3,52	4,68	6,42	1,90	2,27

#### 4.27 Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2 – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 124: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,047	2,019	2,413	2,759	3,029	3,047
Efektywny pobór mocy	kW	0,983	0,473	0,441	0,381	1,079	0,983
Współczynnik wydajności	-	3,10	4,27	5,48	7,24	2,81	3,10

*Tabela 125: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,229	2,092	2,143	2,714	2,755	3,229
Efektywny pobór mocy	kW	1,546	0,698	0,541	0,483	1,570	1,546
Współczynnik wydajności	-	2,09	3,00	3,96	5,62	1,75	2,09

#### 4.31 Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2 – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 142: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,047	2,019	2,413	2,759	3,029	3,047
Efektywny pobór mocy	kW	0,983	0,473	0,441	0,381	1,079	0,983
Współczynnik wydajności	-	3,10	4,27	5,48	7,24	2,81	3,10

*Tabela 143: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,229	2,092	2,143	2,714	2,755	3,229
Efektywny pobór mocy	kW	1,546	0,698	0,541	0,483	1,570	1,546
Współczynnik wydajności	-	2,09	3,00	3,96	5,62	1,75	2,09

#### 4.35 Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2 – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 161: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	4,178	2,670	2,427	2,842	4,062	4,178
Efektywny pobór mocy	kW	1,381	0,596	0,434	0,399	1,493	1,381
Współczynnik wydajności	-	3,03	4,48	5,60	7,13	2,72	3,03

*Tabela 162: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,849	2,128	2,214	2,719	3,331	3,849
Efektywny pobór mocy	kW	1,881	0,714	0,549	0,496	2,057	1,881
Współczynnik wydajności	-	2,05	2,98	4,03	5,48	1,62	2,05

#### 4.39 Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2 – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 180: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	4,178	2,670	2,427	2,842	4,062	4,178
Efektywny pobór mocy	kW	1,381	0,596	0,434	0,399	1,493	1,381
Współczynnik wydajności	-	3,03	4,48	5,60	7,13	2,72	3,03

*Tabela 181: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	3,849	2,128	2,214	2,719	3,331	3,849
Efektywny pobór mocy	kW	1,881	0,714	0,549	0,496	2,057	1,881
Współczynnik wydajności	-	2,05	2,98	4,03	5,48	1,62	2,05

#### 4.43 Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2 – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 199: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	5,847	3,342	3,141	3,712	5,779	5,847
Efektywny pobór mocy	kW	1,872	0,685	0,543	0,489	2,066	1,872
Współczynnik wydajności	-	3,12	4,88	5,79	7,59	2,80	3,12

*Tabela 200: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	5,014	2,913	2,969	3,566	4,724	5,014
Efektywny pobór mocy	kW	2,249	0,871	0,679	0,601	2,534	2,249
Współczynnik wydajności	-	2,23	3,34	4,37	5,94	1,86	2,23

#### 4.47 Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS C2 – klimat umiarkowany

Tabele na poniższej stronie zawierają podsumowanie najważniejszych wyników badań z uwzględnieniem wszystkich korekt przewidzianych normami EN 14511 i EN 14825.

*Tabela 218: Podsumowanie wyników testu ogrzewania dla zastosowania niskotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu niskotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	5,847	3,342	3,141	3,712	5,779	5,847
Efektywny pobór mocy	kW	1,872	0,685	0,543	0,489	2,066	1,872
Współczynnik wydajności	-	3,12	4,88	5,79	7,59	2,80	3,12

*Tabela 219: Podsumowanie wyników testu ogrzewania dla zastosowania średnotemperaturowego w klimacie umiarkowanym*

Wydajność ogrzewania w zastosowaniu średnotemperaturowym							
Warunek	Jednostka	A	B	C	D	E (TOL)	F (BIV)
Obciążenie częściowe	%	88,5	53,8	34,6	15,4	100	88,5
Moc grzewcza	kW	5,014	2,913	2,969	3,566	4,724	5,014
Efektywny pobór mocy	kW	2,249	0,871	0,679	0,601	2,534	2,249
Współczynnik wydajności	-	2,23	3,34	4,37	5,94	1,86	2,23

## 6 Ogrzewanie i chłodzenie – wyniki obliczeń

### 6.1 Wyniki obliczeń: Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 237: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,79	4,76	188,4	1487	3,44	A+++

Tabela 238: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
3,32	3,31	129,5	2277	3,65	A++

Tabela 239: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,04	4,04	158,4	2080	3,41	A++

Tabela 240: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
2,80	2,80	108,9	2629	2,98	A+

Tabela 241: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
6,29	6,20	244,9	694	3,22	A+++

Tabela 242: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,23	4,20	164,9	1278	4,02	A+++

Tabela 243: Wynik obliczeń dla chłodzenia podłogowego

Efektywność energetyczna			
SEERon	SEER	QCE (kWh)	Prated
7,40	6,94	449	5,19

Tabela 244: Wynik obliczeń dla chłodzenia klimakonwektorami

Efektywność energetyczna			
SEERon	SEER	QCE (kWh)	Prated
4,97	4,69	496	3,88

## 6.2 Wyniki obliczeń: Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 245: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,79	4,63	182,0	1538	3,44	A+++

Tabela 246: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
3,32	3,24	126,6	2328	3,65	A++

Tabela 247: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,04	3,98	156,1	2111	3,41	A++

Tabela 248: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
2,80	2,76	107,6	2660	2,98	A+

Tabela 249: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
6,29	5,69	224,6	756	3,22	A+++

Tabela 250: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,23	4,00	157,1	1340	4,02	A+++

### 6.3 Wyniki obliczeń: Vaillant VWL 35/8.2 AS 230V + VWL 58/8.2 IS C2

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 251: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,37	4,36	171,5	1632	3,44	A++

Tabela 252: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,10	3,10	121,1	2431	3,65	A++

Tabela 253: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,72	3,72	145,8	2256	3,41	A+

Tabela 254: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
2,63	2,63	102,2	2796	2,98	A+

Tabela 255: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
5,65	5,58	220,1	771	3,22	A+++

Tabela 256: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,94	3,91	153,4	1372	4,02	A+++

Tabela 257: Wynik obliczeń dla chłodzenia podłogowego

<b>Efektywność energetyczna</b>			
<b>SEERon</b>	<b>SEER</b>	<b>QCE (kWh)</b>	<b>Prated</b>
6,71	6,33	492	5,16

Tabela 258: Wynik obliczeń dla chłodzenia klimakonwektorami

<b>Efektywność energetyczna</b>			
<b>SEERon</b>	<b>SEER</b>	<b>QCE (kWh)</b>	<b>Prated</b>
4,57	4,33	537	3,88

#### 6.4 Wyniki obliczeń: Vaillant VWL 35/8.2 AS 230V S2 + VWL 58/8.2 IS C2

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 259: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOP<sub>on</sub></b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,37	4,23	166,2	1683	3,44	A++

Tabela 260: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOP<sub>on</sub></b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,10	3,04	118,5	2483	3,65	A+

Tabela 261: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOP<sub>on</sub></b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,72	3,67	143,8	2287	3,41	A+

Tabela 262: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOP<sub>on</sub></b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
2,63	2,60	101,0	2827	2,98	A+

Tabela 263: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOP<sub>on</sub></b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
5,65	5,16	203,6	833	3,22	A+++

Tabela 264: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOP<sub>on</sub></b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,94	3,74	146,6	1434	4,02	A++

## 6.5 Wyniki obliczeń: Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 265: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,88	4,87	191,8	2003	4,72	A+++

Tabela 266: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,30	3,30	128,9	2727	4,35	A++

Tabela 267: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,13	4,13	162,2	3244	5,44	A++

Tabela 268: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
2,86	2,86	111,2	3423	3,97	A+

Tabela 269: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
6,43	6,43	251,7	1050	5,01	A+++

Tabela 270: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,35	4,32	169,9	1447	4,68	A+++

Tabela 271: Wynik obliczeń dla chłodzenia podłogowego

<b>Efektywność energetyczna</b>			
<b>SEERon</b>	<b>SEER</b>	<b>QCE (kWh)</b>	<b>Prated</b>
7,40	6,94	449	5,19

Tabela 271: Wynik obliczeń dla chłodzenia klimakonwektorami

<b>Efektywność energetyczna</b>			
<b>SEERon</b>	<b>SEER</b>	<b>QCE (kWh)</b>	<b>Prated</b>
4,97	4,69	496	3,88

## 6.6 Wyniki obliczeń: Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 272: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,88	4,75	187,0	2055	4,72	A+++

Tabela 273: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,30	3,24	126,4	2778	4,35	A++

Tabela 274: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,13	4,09	160,7	3275	5,44	A++

Tabela 275: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
2,86	2,83	110,2	3454	3,97	A+

Tabela 276: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
6,43	6,01	237,5	1112	5,01	A+++

Tabela 277: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,35	4,15	162,8	1509	4,68	A+++

## 6.7 Wyniki obliczeń: Vaillant VWL 55/8.2 AS 230V + VWL 58/8.2 IS C2

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 278: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,50	4,50	117,0	2169	4,72	A

Tabela 279: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
3,10	3,09	120,8	2905	4,35	A+

Tabela 280: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
3,84	3,84	150,6	3488	5,44	A++

Tabela 281: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
2,69	2,69	104,7	3629	3,97	A+

Tabela 282: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
5,83	5,78	228,4	1156	5,01	A+++

Tabela 283: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,06	4,03	158,4	1551	4,68	A+++

Tabela 284: Wynik obliczeń dla chłodzenia podłogowego

Efektywność energetyczna			
SEERon	SEER	QCE (kWh)	Prated
6,71	6,33	492	5,19

Tabela 285: Wynik obliczeń dla chłodzenia klimakonwektorami

Efektywność energetyczna			
SEERon	SEER	QCE (kWh)	Prated
4,57	4,33	537	3,88

## 6.8 Wyniki obliczeń: Vaillant VWL 55/8.2 AS 230V S2 + VWL 58/8.2 IS C2

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 286: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,50	4,39	172,8	2220	4,72	A++

Tabela 287: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,10	3,04	118,6	2956	4,35	A+

Tabela 288: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,84	3,81	149,3	3519	5,44	A+

Tabela 289: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
2,69	2,67	103,8	3660	3,97	A+

Tabela 290: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
5,83	5,49	216,6	1218	5,01	A+++

Tabela 291: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,06	3,88	152,2	1613	4,68	A+++

## 6.9 Wyniki obliczeń: Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 292: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
5,16	5,15	203,2	2649	6,61	A+++

Tabela 293: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
3,63	3,63	142,0	3230	5,67	A+++

Tabela 294: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,44	4,44	174,6	3816	6,88	A++

Tabela 295: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
3,12	3,12	121,6	4499	5,69	A+

Tabela 296: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
6,52	6,51	257,2	1397	6,80	A+++

Tabela 297: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

Efektywność energetyczna					
SCOPon	SCOP	$\eta_s$	QHE (kWh)	Prated	Etykieta
4,48	4,47	175,9	2028	6,79	A+++

Tabela 298: Wynik obliczeń dla chłodzenia podłogowego

Efektywność energetyczna			
SEERon	SEER	QCE (kWh)	Prated
7,30	7,02	567	6,63

Tabela 299: Wynik obliczeń dla chłodzenia klimakonwektorami

Efektywność energetyczna			
SEERon	SEER	QCE (kWh)	Prated
5,21	5,05	723	6,09

## 6.10 Wyniki obliczeń: Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 300: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
5,16	5,06	199,5	2698	6,61	A+++

Tabela 301: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,63	3,57	139,9	3279	5,67	A++

Tabela 302: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,44	4,41	173,3	3845	6,88	A++

Tabela 303: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,12	3,10	120,8	4529	5,69	A++

Tabela 304: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
6,52	6,24	246,7	1456	6,80	A+++

Tabela 305: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,48	4,35	170,9	2086	6,79	A+++

## 6.11 Wyniki obliczeń: Vaillant VWL 75/8.2 AS 230V + VWL 78/8.2 IS C2

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 306: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,83	4,83	190,1	2829	6,61	A+++

Tabela 307: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,44	3,44	134,8	3400	5,67	A++

Tabela 308: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,19	4,19	164,6	4044	6,88	A++

Tabela 309: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
2,98	2,98	116,2	4704	5,69	A+

Tabela 310: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
6,08	6,06	239,6	1499	6,80	A+++

Tabela 311: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,26	4,25	167,2	2132	6,79	A+++

Tabela 312: Wynik obliczeń dla chłodzenia podłogowego

<b>Efektywność energetyczna</b>			
<b>SEERon</b>	<b>SEER</b>	<b>QCE (kWh)</b>	<b>Prated</b>
6,77	6,53	609	6,63

Tabela 313: Wynik obliczeń dla chłodzenia klimakonwektorami

<b>Efektywność energetyczna</b>			
<b>SEERon</b>	<b>SEER</b>	<b>QCE (kWh)</b>	<b>Prated</b>
4,87	4,74	772	6,09

## 6.12 Wyniki obliczeń: Vaillant VWL 75/8.2 AS 230V S2 + VWL 78/8.2 IS C2

Wyniki badań przedstawione w punktach 4 i 4.46 posłużyły do obliczenia efektywności energetycznej według normy EN 14825. Do obliczeń użyto arkusza kalkulacyjnego dostępnego na stronie internetowej HPKeymark (V7.1).

Poniższe tabele przedstawiają podsumowanie najważniejszych wyników obliczeń.

Tabela 314: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,83	4,75	186,8	2878	6,61	A+++

Tabela 315: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie umiarkowanym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
3,44	3,40	132,8	3449	5,67	A++

Tabela 316: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,19	4,16	163,4	4074	6,88	A++

Tabela 317: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie zimnym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
2,98	2,96	115,5	4734	5,69	A+

Tabela 318: Wynik obliczeń dla zastosowania niskotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
6,08	5,84	230,4	1557	6,80	A+++

Tabela 319: Wynik obliczeń dla zastosowania średnotemperaturowego w klimacie ciepłym

<b>Efektywność energetyczna</b>					
<b>SCOPon</b>	<b>SCOP</b>	<b><math>\eta_s</math></b>	<b>QHE (kWh)</b>	<b>Prated</b>	<b>Etykieta</b>
4,26	4,14	162,6	2191	6,79	A+++

\*\*\*\*\* [KONIEC DOKUMENTU] \*\*\*\*\*

*Ja, niżej podpisany tłumacz przysięgły jęz. angielskiego, wpisany na Listę Tłumaczy Przysięgłych Ministra Sprawiedliwości pod numerem TP 6368/05, niniejszym poświadczam zgodność powyższego tłumaczenia z przedstawionym mi dokumentem w jęz. angielskim.*

Repertorium Nr.: 279/2024  
Kraków, 18. grudnia 2024 r.

Sylvia Gołofit-Lenda  
tłumacz przysięgły j. angielskiego

**TŁUMACZENIE POŚWIADCZONE Z JĘZYKA ANGIELSKIEGO**

*[Do tłumaczenia przedstawiono dokument elektroniczny w języku angielskim, złożony z 7 stron. Uwagi tłumacza i opis dokumentu w nawiasach kwadratowych.]*

*[Strona 1]*

Raport P000356333

2 lipca 2024 r.

**Raport z badania**

Vaillant GmbH

Berghauser Straße

42859 Remscheid

Niemcy

*[fotografia z logotypem Kiwa i mottem „Trust – Quality - Progress”]*

KIWA Nederland B.V.

www.kiwaenergy.com

V003 – 2021-09

*[Strona 2]*

**Spis treści**

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2024, Kiwa Nederland B.V.

Powielanie raportu jest dozwolone wyłącznie w całości, bez zmian i za zgodą uprawnionego właściciela. Wyniki badań zawarte w niniejszym raporcie dotyczą wyłącznie przedstawionych i zbadanych próbek.

Badania oznaczone w tym raporcie numerem IRN są objęte zakresem akredytacji (RvA L248), chyba że wskazano inaczej. Niepewność pomiarów testowych w zakresie normy ISO/IEC 17025.

Raporty z badań mogą w pewnych przypadkach zawierać, obok liczbowych wartości zmierzonych, kwalifikację „pozytywny” lub „negatywny”. Jest to ocena zachowania granicy specyfikacji wynikającej z obowiązującej normy dotyczącej produktu. Pomiar jest zgodny z wymaganiem, gdy nie przekracza granicy z prawdopodobieństwem co najmniej 50%.

Nie uwzględnia się tu niepewności pomiaru związanej z metodą badania.

Należy jednak wyraźnie zaznaczyć, że określenia „pozytywny” lub „negatywny” odnoszą się do wyniku pomiaru skorygowanego o niepewność pomiaru i/lub warunki badania, w których uzyskano wartość zmierzoną.

Jeżeli nie wskazano inaczej, niepewność pomiaru i warunki są zgodne ze specyfikacją badania. Niniejszy raport jest ważny wyłącznie po podpisaniu go przez autora i weryfikatora badania.

Wnioski dotyczące zgodności np. z wymaganiami normy wyrobu nie są objęte zakresem badań laboratoryjnych (RvA L248).

Tego typu informacje podane przez zamawiającego mogą wpływać na ważność wyników.

Zastrzeżenia dotyczące niniejszego raport z badania proszę kierować do Kiwa Nederland B.V.

Wersja: 003,2

# TŁUMACZENIE POŚWIADCZONE Z JĘZYKA ANGIELSKIEGO

[Strona 3]

<b>Numer raportu:</b>	P000356333
<b>Numer projektu:</b>	P000356333; P000398719
Data wydania:	2 lipca 2024 r.
Łączna liczba stron:	8 (bez załączników)
<b>Laboratorium badawcze:</b>	KIWA Nederland B.V.
Miejsce badania/adres:	Wilmersdorf 50, 7327 AC Apeldoorn, Holandia
Nazwa wnioskodawcy:	Vaillant
Adres:	Berghauser Straße 40, 42859 Remscheid, Niemcy
<b>Zakres:</b>	Badanie pompy ciepła powietrze-woda pobierającej ciepło z powietrza na zewnątrz w zakresie zgodności z wymaganiami wynikającymi z podanej niżej specyfikacji badań.
<b>Specyfikacja badania</b>	
Normy:	EN 12102-1:2022
Nieznormalizowana metoda badań:	nie dot.
<b>Opis przedmiotu badania:</b>	Powietrze-woda typu split
Producent:	Vaillant
Znak towarowy:	Vaillant
Oznaczenie modelu / typu:	VWL 57/8.2 IS (JWEW) + VWL 55/8.2 AS (JZEW), VWL 58/8.2 IS C2 (JWEW) + VWL 55/8.2 AS (JZEW), VWL 77/8.2 IS (JWEW) + VWL 75/8.2 AS (JZEW), VWL 78/8.2 IS C2 (JWEW)+ VWL 75/8.2 AS (JZEW). (pełny przegląd zawiera rozdział 3: Opis produktów)
Numery przedmiotów badania:	JWEW: VWL 57/8.2 IS: S23-08836: NewGenR32: Ccert HS 807 VWL 58/8.2 IS C2: S23-08835: NewGenR32: Ccert HTC2 806 VWL 77/8.2 IS: S23-08839: NewGenR32: Ccert HS 810 VWL 78/8.2 IS C2: S23-08838: NewGenR32: Ccert HTC2 809  JZEW: VWL 55/8.2 AS: S23-09161: aroTHERM split NewGen R32 Ccert 185 VWL 75/8.2 AS: S23-09050: P11281 Split R32 ODU M 176
Data otrzymania przedmiotów badania:	nie dot.
Daty badań:	2024/05/14; 2024/04/24; 2024/02/20; 2024/02/20
<b>Uwagi:</b>	nie dot.
<b>Podsumowanie:</b>	Produkt zgodny z wymaganiami w zakresie wskazanym w załączonych kartach wyników.
Obserwacja (nazwisko + podpis):	Jan Meuleman [podpis]
Zatwierdzenie (nazwisko + podpis):	Anne-Wim Juffer [podpis]

*[Strona 4]*

## 1 Historia raportu

Numer raportu: P000356333  
Numer projektu: P000536333; P000398719  
Autor: Jan Meuleman  
Opis: Pierwszy raport  
Badanie pompy ciepła powietrze-woda typu split, pobierającej ciepło z powietrza na zewnątrz, zgodnie z normą europejską EN 12102-1 w zakresie poziomu hałasu.  
Badanie obejmowało następujące modele:  
VWL 57/8.2 IS (JWEW) + VWL 55/8.2 AS (JZEW),  
VWL 58/8.2 IS C2 (JWEW) + VWL 55/8.2 AS (JZEW),  
VWL 77/8.2 IS (JWEW) + VWL 75/8.2 AS (JZEW),  
VWL 78/8.2 IS C2 (JWEW)+ VWL 75/8.2 AS (JZEW).

*[Strona 5]*

## 2 Podsumowanie badań

Na zamówienie Vaillant GmbH przeprowadzono badanie urządzeń wskazanych w Opisie przedmiotu badania zgodnie ze specyfikacją badania (por. stronę 3 niniejszego raportu).

Przeprowadzono następujące badania:

- badania poziomu mocy akustycznej wg EN 12102-1;

Wartości poziomów mocy akustycznej (SPL) nie stanowią części raportu.

W ramach tego projektu wszystkie testy przeprowadzono w laboratorium badawczym Vaillant w Remscheid w Niemczech.

Testy w przeprowadzone w laboratorium badawczym pomp ciepła Vaillant w Remscheid podlegały częściowemu nadzorowi ze strony Kiwa. Nadzór obejmował weryfikację samego laboratorium z jego wykorzystanym wyposażeniem badawczym oraz inżynierów ds. testów z Vaillant, którzy prowadzili badania.

Uwaga ogólna:

Kiwa Nederland B.V. jest laboratorium badawczym akredytowanym przez RvA według EN ISO/IEC 17025:2017.

Akredytacja jest ważna wyłącznie w zakresie wskazanym w załączniku L248 - Raad voor Accreditatie (rva.nl). Procedura badawcza: Badanie z zastosowaniem listy kontrolnej F01 w obiekcie producenta.

[Strona 6]

### 3 Opis produktów

Opis urządzenia: VWL XX/8.2 IS XX + VWL XX/8.2 AS XX.	
Urządzenie to pompa ciepła powietrze-woda typu split. Pompa ciepła jest urządzeniem zewnętrznym w technologii inwerterowej wykorzystującym powietrze na zewnątrz jako źródło ciepła. Pompa ciepła jest wyposażona we wbudowaną pompę obiegową.	
<b>Numer fabryczne urządzeń:</b>	<p>Jednostka wewnętrzna:</p> <p>VWL 57/8.2 IS: S23-08836: NewGenR32: Ccert HS 807</p> <p>VWL 58/8.2 IS C2: S23-08835: NewGenR32: Ccert HTC2 806</p> <p>VWL 77/8.2 IS: S23-08839: NewGenR32: Ccert HS 810</p> <p>VWL 78/8.2 IS C2: S23-08838: NewGenR32: Ccert HTC2 809</p> <p>Jednostka zewnętrzna:</p> <p>VWL 55/8.2 AS: S23-09161: aroTHERM split NewGen R32 Ccert 185</p> <p>VWL 75/8.2 AS: S23-09050: P11281 Split R32 ODU M 176</p> <p>VWL 75/8.2 AS: S23-09042: aroTHERM split NewGen R32 Ccert 172</p>

[Strona 7]

### 4 Ogrzewanie – poziom mocy akustycznej

Poniższe tabele przedstawiają podsumowanie wyników pomiarów poziomu mocy akustycznej jednostek zewnętrznych; wyniki te uzyskano przy obciążeniu częściowym „C” dla zastosowania średnotemperaturowego w warunkach klimatu umiarkowanego wyznaczonych według EN12102-1.

*Tabela 1: Wyniki pomiaru mocy akustycznej według EN12102-1 dla klimatu umiarkowanego i zastosowania średnotemperaturowego*

	L <sub>WA</sub> [dB(A)] (jednostka wewnętrzna)	L <sub>WA</sub> [dB(A)] (jednostka zewnętrzna)
VWL 57/8.2 IS (JWEW) + VWL 55/8.2 AS (JZEW),	42,3	47,5
VWL 58/8.2 IS C2 (JWEW) + VWL 55/8.2 AS (JZEW),	40,5	47,5
VWL 77/8.2 IS (JWEW) + VWL 75/8.2 AS (JZEW),	41,9	48,3
VWL 78/8.2 IS C2 (JWEW)+ VWL 75/8.2 AS (JZEW).	41,6	48,3

Szczegółowe wyniki badania zawierają załączniki do niniejszego raportu.

\*\*\*\*\* [KONIEC DOKUMENTU] \*\*\*\*\*

*Ja, niżej podpisany tłumacz przysięgły jęz. angielskiego, wpisany na Listę Tłumaczy Przysięgłych Ministra Sprawiedliwości pod numerem TP 6368/05, niniejszym poświadczam zgodność powyższego tłumaczenia z przedstawionym mi dokumentem w jęz. angielskim.*

Repertorium Nr.: 278/2024  
Kraków, 18. grudnia 2024 r.

Sylvia Gołofit-Lenda  
tłumacz przysięgły j. angielskiego

# OŚWIADCZENIE

Producent Vaillant Saunier Duval Sp. z o.o. oświadcza, iż pompy ciepła

- 1) VWL 35/8.2 AS 230V  
Oznaczenie/typ/identyfikator modelu
- 2) VWL 55/8.2 AS 230V  
Oznaczenie/typ/identyfikator modelu
- 3) VWL 75/8.2 AS 230V  
Oznaczenie/typ/identyfikator modelu
- 4) \_\_\_\_\_  
Oznaczenie/typ/identyfikator modelu
- 5) \_\_\_\_\_  
Oznaczenie/typ/identyfikator modelu

Należą do jednego podtypu w danym typoszeregu i spełniają łącznie następujące warunki:

- identyczna konstrukcja obiegu chłodniczego, ten sam czynnik chłodniczy/roboczy;
- ten sam producent, typ i liczba sprężarek;
- ten sam typ elementu rozprężnego;
- ten sam typ skraplacza;
- ten sam typ parownika;
- ten sam typ procesu odszraniania;
- ten sam sterownik i zasada sterowania wydajnością;
- ten sam producent, typ i liczba wentylatorów parownika (w przypadku powietrznych pomp ciepła) i zasada sterowania wydajnością (stała, zmienna lub stopniowana regulacja prędkości obrotowej);
- urządzenia z i bez zaworu czterodrogowego nie mogą być zaliczone do tego samego typoszeregu.

Warszawa, 12.12.2024

Miejscowość, data

Podpis osoby upoważnionej