

TEST REPORT MINISTRY OF DEVELOPMENT, INDUSTRY AND FOREIGN TRADE NATIONAL INSTITUTE OF METROLOGY, QUALITY AND TECHNOLOGY - INMETRO ORDINANCE No. 6, FROM 5 FROM JANUARY 2022 Test guidelines for determination of acoustic noise on household appliances	
Report Reference No:	GZEE240400125931
Tested by (name + signature):	Project engineer/ Candy Chen <i>Candy Chen</i>
Approved by (+ signature):	Reviewer/Sky Lin <i>Sky Lin</i>
Date of issue:	2024-06-12
Testing Laboratory:	SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch
Address:	Building 1, European Industrial Park, No.1, Shunhe South Road, Wusha, Daliang, Shunde District, Foshan, Guangdong, China
Applicant's name:	Karimex Componentes Eletronicos Ltda
Address:	Rua Laguna, 276-Jardim Caravelas-Sao Paulo 04728-000
Test specification:	
Standard:	<input checked="" type="checkbox"/> NBR 13910-1:1997 <input type="checkbox"/> NBR 13910-2-2: 1998 <input checked="" type="checkbox"/> NBR 13910-2-3: 1998 <input type="checkbox"/> IEC 60704-2-1:2014
Test procedure:	STR: INMETRO ORDINANCE No. 6/2022
Non-standard test method:	None
Test Report Form No:	INMETRO ORDINANCE No. 6/2022
Test Report Form(s) Originator:	SGS-CSTC
Master TRF:	2022-02-17
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Test item description	Blender
Trade Mark	<i>Ariete</i>
Manufacturer.....	De'Longhi Appliances S.r.l.-Ariete Commercial Division Via S.Quirico,300-50013 Campi Bisenzio (FI) ITALY
Model/Type reference	585
Ratings	127 V~, 60Hz, 1000 W 220 V~, 60Hz; 1000 W
Factory.....	Heshan Hengkai Electrical Manufacture Co.,Ltd No.5-1 Hebei Road, Taoyuan Town, Heshan, Guangdong, China

Summary of testing:

Tests performed (name of test and test clause):

NBR 13910-1:1997


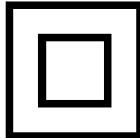
NBR 13910-2-3: 1998


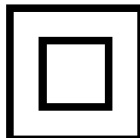
See attachment A for details.

Testing location:

Building 1, European Industrial Park, No.1,
Shunhe South Road, Wusha, Daliang, Shunde
District, Foshan, Guangdong, China

Copy of marking plates:

<i>Ariete</i> Mod.585	Made in China
127V~ 60Hz 1000W	
De'Longhi Appliances Srl	
Via S.Quirico, 300	
50013 Campi Bisenzio (FI) ITALY	
P.N.00C058509AR0	S.N.wk/yrabcdefg

<i>Ariete</i> Mod.585	Made in China
220V~ 60Hz 1000W	
De'Longhi Appliances Srl	
Via S.Quirico, 300	
50013 Campi Bisenzio (FI) ITALY	
P.N.00C058500AR0	S.N.wk/yrabcdefg

Remark: The marking plate is only a draft artwork to show the product ratings and model No.



Test item particulars:	
Classification of installation and use	Free standing
Supply Connection	Non-detachable power cord fitted with plug
.....	
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	2024-04-03
Date (s) of performance of tests	2024-04-03 to 2024-06-11

General remarks:

The test results presented in this report relate only to the object tested.

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"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a comma is used as the decimal separator.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

General product information:

Blender for household and indoor use only.

The product includes two types of voltages (127 V and 220-240 V), with 3 samples tested for each voltage.

ANNEX I - COMPLIANCE ASSESSMENT REQUIREMENTS FOR POWER SONORA FROM DEVICES HOUSEHOLD APPLIANCES			
	Requirement-Test	Result-Remark	Verdict
1	OBJECTIVE		—
	Establish the Criteria and procedures from evaluation Of compliance towards power Sonora from appliances, with a focus on performance, through the certification mechanism, aiming at to the emission of the Stamp Noise belonging To Program National from Education and Control Of Noise pollution – Silence.		—
1.1	Grouping per Brand/Model or Family		P
1.1.1	For vacuum cleaners , the family consists of those from the same manufacturer, model, voltage nominal and power.		—
1.1.2	Towards Blenders the family is Constituted by those from Same manufacturer model tension nominal and power.		P
1.1.3	Towards Dryers from hair the family is Constituted by those from Same manufacturer model tension nominal and power.		—
4.5	Method direct Method in which the sound power level is calculated from the measurement of sound pressure levels Produced By source to be Rehearsed in two conditions:		—
	- in free field conditions on a reflector plane, where the sound power level is calculated at from the spatial time average of the measured sound pressure levels and the surface area of measurement;		P
	- in reverberant field conditions, where the sound power level is calculated from the mean the measured sound pressure levels, the volume and reverberation time, or the absorption total of the room from Tests.		—
6	STEPS FROM ASSESSMENT OF COMPLIANCE		—
6.2.3.1.1	The OCP shall carry out the tests provided for in accordance with Table 1. Table 1 lists the tests towards every family from every apparatus Referenced This RAC Added of Criteria from attainment of the level from power Sonora.		P

ANNEX I - COMPLIANCE ASSESSMENT REQUIREMENTS FOR POWER SONORA FROM DEVICES HOUSEHOLD APPLIANCES

	Requirement-Test	Result-Remark	Verdict												
	<p>Table 1: Types from Tests towards every appliance of this RAC.</p> <table><tr><th>Kind from Essay according to item from norm</th><th>Sampling</th><th>Criteria from attainment of the level from power Sonora</th></tr><tr><td>Direct method or Comparison method, in diffuse field conditions in camera Echoing according to Standards Techniques ISO 3741 or ISO 3743-1 and ISO 3743-2, or in free field on reflector plane, as norm technique ISO 3744, or Abn. N.R. 13910-1, Abn. N.R. 13910-2-2, Abn. N.R. 13910-2-3 and IEC 60704-2</td><td>3 (three)</td><td>a) Average arithmetic Of 3 (three) results; b) Rounding: - up to 4 tenths, it rounds to the number entire more next down. - above 4 tenths, it rounds to the nearest integer above. (c) This value shall be increased by 3 dB(A) which should be that of the result of essay.</td></tr></table>		Kind from Essay according to item from norm	Sampling	Criteria from attainment of the level from power Sonora	Direct method or Comparison method, in diffuse field conditions in camera Echoing according to Standards Techniques ISO 3741 or ISO 3743-1 and ISO 3743-2, or in free field on reflector plane, as norm technique ISO 3744, or Abn. N.R. 13910-1, Abn. N.R. 13910-2-2, Abn. N.R. 13910-2-3 and IEC 60704-2	3 (three)	a) Average arithmetic Of 3 (three) results; b) Rounding: - up to 4 tenths, it rounds to the number entire more next down. - above 4 tenths, it rounds to the nearest integer above. (c) This value shall be increased by 3 dB(A) which should be that of the result of essay.	P						
Kind from Essay according to item from norm	Sampling	Criteria from attainment of the level from power Sonora													
Direct method or Comparison method, in diffuse field conditions in camera Echoing according to Standards Techniques ISO 3741 or ISO 3743-1 and ISO 3743-2, or in free field on reflector plane, as norm technique ISO 3744, or Abn. N.R. 13910-1, Abn. N.R. 13910-2-2, Abn. N.R. 13910-2-3 and IEC 60704-2	3 (three)	a) Average arithmetic Of 3 (three) results; b) Rounding: - up to 4 tenths, it rounds to the number entire more next down. - above 4 tenths, it rounds to the nearest integer above. (c) This value shall be increased by 3 dB(A) which should be that of the result of essay.													
6.2.3.1.2	The value obtained for the equivalent sound power level in weighted decibels shall be classified according to the Tables below towards every apparatus Appliance.		P												
	<p>Table 2: Classification of the level from sound power towards vacuum cleaner from dust.</p> <table><tr><th>Classification</th><th>Tracks from values of levels from power Sonora in Db (A)</th></tr><tr><td>1</td><td>NR ≤ 80</td></tr><tr><td>2</td><td>80 NR ≤ 84</td></tr><tr><td>3</td><td>84 NR ≤ 88</td></tr><tr><td>4</td><td>88 NR ≤ 92</td></tr><tr><td>5</td><td>NR > 92</td></tr></table>		Classification	Tracks from values of levels from power Sonora in Db (A)	1	NR ≤ 80	2	80 NR ≤ 84	3	84 NR ≤ 88	4	88 NR ≤ 92	5	NR > 92	—
Classification	Tracks from values of levels from power Sonora in Db (A)														
1	NR ≤ 80														
2	80 NR ≤ 84														
3	84 NR ≤ 88														
4	88 NR ≤ 92														
5	NR > 92														
	<p>Table 3: Classification of the level from power Sonora towards blender.</p> <table><tr><th>Classification</th><th>Tracks from values from Levels from power Sonora in Db (A)</th></tr><tr><td>1</td><td>NR ≤ 85</td></tr><tr><td>2</td><td>85 NR ≤ 88</td></tr><tr><td>3</td><td>88 NR ≤ 92</td></tr><tr><td>4</td><td>92 NR ≤ 95</td></tr><tr><td>5</td><td>NR > 95</td></tr></table>		Classification	Tracks from values from Levels from power Sonora in Db (A)	1	NR ≤ 85	2	85 NR ≤ 88	3	88 NR ≤ 92	4	92 NR ≤ 95	5	NR > 95	P
Classification	Tracks from values from Levels from power Sonora in Db (A)														
1	NR ≤ 85														
2	85 NR ≤ 88														
3	88 NR ≤ 92														
4	92 NR ≤ 95														
5	NR > 95														

ANNEX I - COMPLIANCE ASSESSMENT REQUIREMENTS FOR POWER SONORA FROM DEVICES HOUSEHOLD APPLIANCES

	Requirement-Test	Result-Remark	Verdict
	Table 4: Classification of the level from power Sonora towards hairdryer from hair.		—
	Classification	Tracks from values from Levels from power Sonora in Db (A)	
	1	NR ≤ 78	
	2	78 NR ≤ 81	
	3	81 NR ≤ 85	
	4	85 NR ≤ 88	
	5	NR > 88	

Attachment A

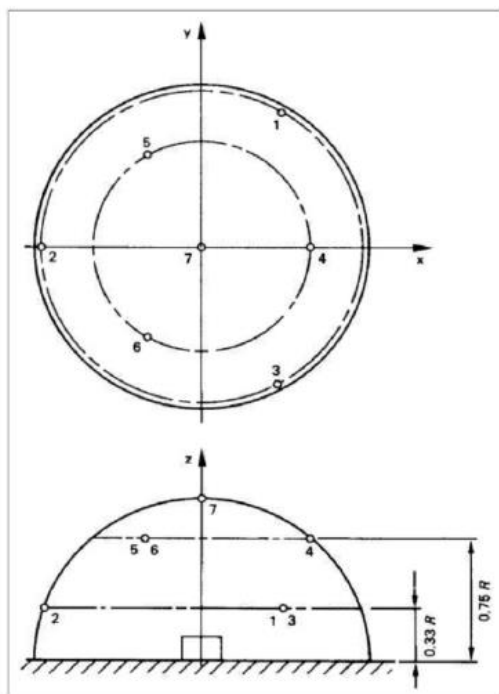
Noise test	
Standard: NBR 13910-1:1997, NBR 13910-2-3: 1998	
Temperature:	22,8 °C
Humidity:	50,2 % RH
Background sound pressure level:	19,6 dB (A)

The sound pressure level was tested with directive method in semi-anechoic room.

The measurement surface is a hemisphere with 7 microphone positions, as specified in Figure 6. (NBR 13910-1:1997). Details see the following figure.

1. The appliance is placed directly in the normal position, without any elastic media except those incorporated in the appliance. The front of the device facing in the direction of the x axis.
2. Blender loading consists of water at room temperature of $20 \pm 5K$, filling 2/3 of the total capacity of the glass. Care should be taken to avoid that the glass water temperature does not exceed $50\text{ }^{\circ}\text{C}$.
3. Prior to measuring the noise, the appliance equipped for the intended use must have been put in operation for a total period of 10 min, for smoothing, at the highest possible selectable speed. If required with intercalated rest periods, as specified in the manufacturer's instructions.
4. The measurements shall be made on the regime of highest noise generation, take a stable and representative period value.
5. The sound pressure level of each position (total 7 positions) was measured and recorded.
6. Test voltage: 127/220 VAC, 60 Hz

Note 1: The hemisphere radius is $R = 1.0\text{ m}$.



Microphone coordinate positions:

Nr	x/R	y/R	z/R
1	0.47	0.82	0.33
2	-0.84	0	0.33
3	0.47	-0.82	0.33
4	0.66	0	0.75
5	-0.33	0.57	0.75
6	-0.33	-0.57	0.75
7	0	0	1.00

Measuring surface:

$$S = 2\pi R^2$$

Figure 6 – Measuring surface - hemisphere – with seven (7) positions of microphone for manual devices, table support and floor support

Note:

1. $R=1,0\text{ m}$.
2. $S = 2\pi R^2 = 6,28\text{ m}^2$
3. 7 key microphones were taken measurement.

Table A-1
Test result for sample 127 V according sample M1, sample M9 and sample M10

Microphone position	Coordinate of each position (m)			Data/dB(A)		
	X	Y	Z	Sample M1	Sample M9	Sample M10
1	0,470	0,820	0,330	81,2	75,9	80,0
2	-0,940	0	0,330	81,2	76,8	79,9
3	0,470	-0,820	0,330	79,2	74,6	76,4
4	0,660	0	0,750	81,3	75,6	80,0
5	-0,330	0,570	0,750	81,6	76,9	80,0
6	-0,330	-0,570	0,750	80,5	77,0	79,3
7	0	0	1,000	80,2	76,0	78,6
Lpm(the averaged sound pressure level)				80,81	76,19	79,32
LwA(sound power level)				88,79	84,17	87,30
Lpm(arithmetic mean of 3 results)				78,8		
LwA(arithmetic mean of 3 results)				86,8		

Table A-2
Test result for sample 220 V according sample M4, sample M5 and sample M6

Microphone position	Coordinate of each position (m)			Data/dB(A)		
	X	Y	Z	Sample M4	Sample M5	Sample M6
1	0,470	0,820	0,330	77,1	76,8	76,4
2	-0,940	0	0,330	79,9	80,7	78,6
3	0,470	-0,820	0,330	77,6	78,2	76,4
4	0,660	0	0,750	78,1	78,2	77,0
5	-0,330	0,570	0,750	79,8	80,2	78,5
6	-0,330	-0,570	0,750	77,3	78,2	78,5
7	0	0	1,000	79,7	80,5	79,6
Lpm(the averaged sound pressure level)				78,66	79,19	78,01
LwA(sound power level)				86,64	87,17	85,99
Lpm(arithmetic mean of 3 results)				78,6		
LwA(arithmetic mean of 3 results)				86,6		

Remark:

Compare with the background noise, the sound pressure level of the source is exceed15 dB, so no correction is made.

These average results are only the measured value without rounding or increase by 3 dB.

The final results for noise level shall be rounded and increased by 3 dB.

Appendix I photos

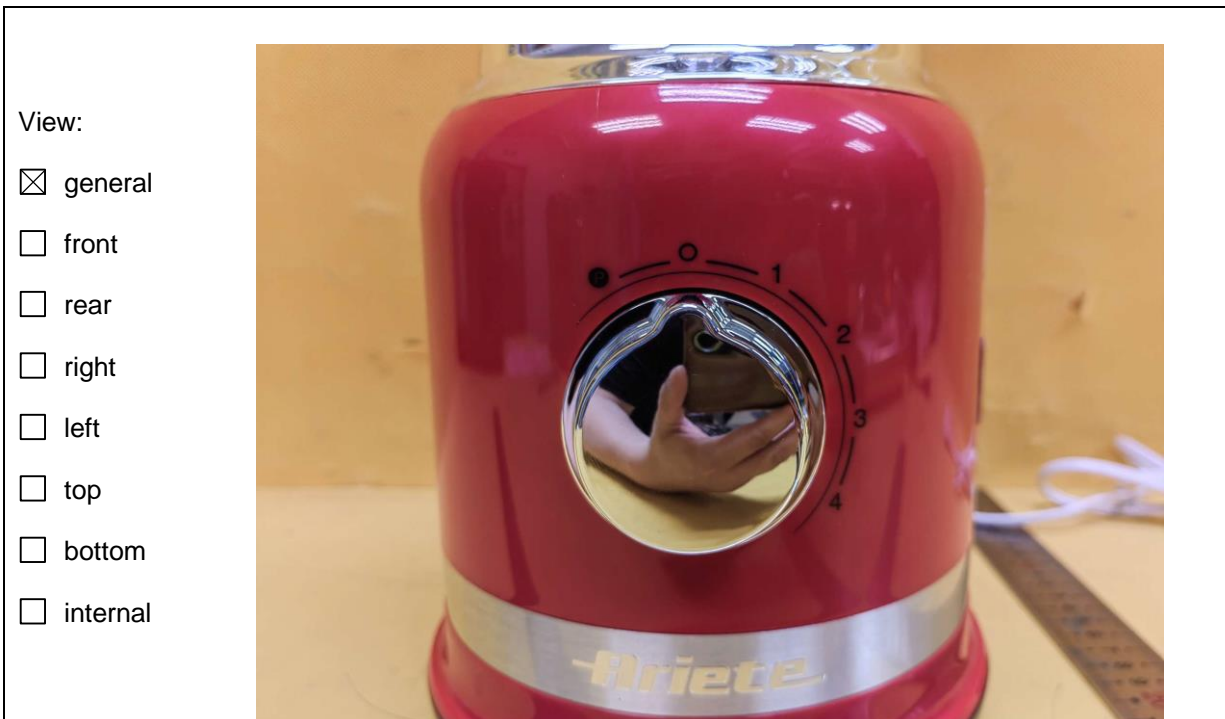
Details of: Appearance view



Details of: Appearance view



Details of: Appearance view

Details of: Appearance view


- - - End of Report - - -