



Ref. Certif. No.

HU-001801

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST  
CERTIFICATES FOR ELECTRICAL EQUIPMENT  
(IECEE) CB SCHEMESYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES  
(IECEE) METHODE OC

## CB TEST CERTIFICATE

## CERTIFICAT D'ESSAI OC

Product  
Produit

Axial duct fans

Name and address of the applicant  
Nom et adresse du demandeurVentilation Systems PrJSC  
1, Mikhaila Kotzubinskogo St.,  
Kiev UA-01030, UkraineName and address of the manufacturer  
Nom et adresse du fabricantVentilation Systems PrJSC  
1, Mikhaila Kotzubinskogo St.,  
Kiev UA-01030, UkraineName and address of the factory  
Nom et adresse de l'usineVentilation Systems PrJSC  
36, 40-Richchya Zhovtnya Str.,  
Boyarka 08150, Kiev Region, UkraineNote: When more than one factory, please report on page 2  
Note: Lorsque il y plus d'une usine, veuillez utiliser la 2<sup>ème</sup> pageRatings and principal characteristics  
Valeurs nominales et caractéristiques principales220-240V ac, 50/60Hz; IPX4; Class II;  
Tamb: 1-45°C; T-tropical climate;  
(see Test Report for further details)Trademark (if any)  
Marque de fabrique (si elle existe)

VENTS

Type of Manufacturer's Testing Laboratories used  
Type de programme du laboratoire d'essais  
constructeur

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Model / Type Ref.  
Ref. De typeQuietline-x 100..., Quietline-x 125...,  
Quietline-x 150... and Quietline-x Extra 150... series  
(for details see page 2 of this Certificate and the  
Test Report)Additional information (if necessary may also be  
reported on page 2)Les informations complémentaires (si nécessaire,  
peuvent être indiqués sur la 2<sup>ème</sup> page

---

A sample of the product was tested and found  
to be in conformity with  
Un échantillon de ce produit a été essayé et a été  
considéré conforme à laCISPR 14-1:2005 (ed.5) + A1 + A2  
CISPR 14-2:2015 (ed.2)  
IEC 61000-3-2:2014 (ed.4)  
IEC 61000-3-3:2013 (ed.3)As shown in the Test Report Ref. No. which forms part  
of this Certificate  
Comme indiqué dans le Rapport d'essais numéro de  
référence qui constitue partie de ce Certificat

28232103 001

This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme National de CertificationTÜV Rheinland InterCert Kft., Division MEEI  
H-1132 Budapest, Váci út 48/A-B  
www.tuv.hu

Date: 2016-06-06

Signature:

Gabor Kassa





Ref. Certif. No.

HU-001801

**Type references:**

Quietline-x 100 y z q, Quietline-x 125 y z q,  
Quietline-x 150 y z q, Quietline-x Extra 150 y z L

where:

- "x": blank or k
  - k: equipped with a fixing bracket;
- "100", "125", "150": diameter of the duct, mm;
- "y": blank or T
  - T: equipped with a timer;
- "z": blank or K, R, KR
  - K: equipped with a back valve,
  - R: equipped with a power cord with non-rewirable plug;
- "q": blank or Q, L, L Q, Duo, L Duo
  - Duo: equipped with a double-speed motor (only for fans with a diameter of 150 mm),
  - L: equipped motor with a ball-bearings,
  - Q: equipped quiet operation motor;
- "Extra": equipped with a double-speed high-powered motor.

**Additional information (if necessary)**  
**Information complémentaire (si nécessaire)**



**TÜVRheinland®**

Date: 2016-06-06

TÜV Rheinland InterCert Kft., Division MEF  
H-1132 Budapest, Váci út 48/A-B  
www.tuv.hu

Signature:

*Gabor Kassai*  
Gabor Kassai





Test Report issued under the responsibility of:



<b>TEST REPORT</b> <b>EMC</b> <b>Household appliances, electrical tools &amp; similar apparatus</b>	
Report Reference No. ....:	28232103 001
Date of issue: .....	2016-04-25
Total number pages: .....	48
Applicant's name .....	Ventilation Systems PrJSC
Address .....	1, Mikhaila Kotzubinskogo St., Kiev, UA-01030, Ukraine
Test specification:	
Standard.....:	CISPR 14-1 (Fifth Edition) + A1 + A2 in conjunction with CISPR 14-2 (Second Edition), IEC 61000-3-2 (Fourth Edition) , IEC 61000-3-3 (Third Edition)
Test procedure .....	CB Scheme
Non-standard test method .....	N/A
Supplementary information .....	--
Test Report Form No. ....:	IECCISPR14_1&2_IEC61000_3_2&3F
Test Report Form(s) Originator....:	VDE Testing and Certification Institute
Master TRF .....	2015-05
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<b>General disclaimer:</b> The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB testing laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	
Test item description.....:	Axial duct fan
Trademark.....:	VENTS
Manufacturer.....:	Ventilation Systems PrJSC 1, Mikhaila Kotzubinskogo St., Kiev, UA-01030, Ukraine
Model / Type reference .....	Quietline-x 100..., Quietline-x 125..., Quietline-x 150... and Quietline-x Extra 150... series
Rating(s).....:	220-240 V, 50/60 Hz, IPX4, Class II, T <sub>amb</sub> =1-45 °C T-tropical climate, for details see 'Model list' on pages 45-48

Testing procedure and testing location:	
<input checked="" type="checkbox"/> <b>CB Testing Laboratory ..:</b>	TÜV Rheinland InterCert Kft., MEEI Division
Testing location / address .....	H-1135 Budapest, Béke utca 41-43., Hungary
Testing location/ address .....	
<input type="checkbox"/> <b>Associated CB Test Laboratory .....</b>	
Testing location/ address .....	
Tested by (name + signature) .....	Balázs György Testing engineer <i>György Balázs</i>
Approved by (name + signature) .....	Tamás Novotny Reviewer <i>Novotny T</i>
<input type="checkbox"/> <b>Testing procedure TMP/CTF stage 1 .....</b>	
Tested by (name + signature) .....	
Approved by (name + signature) .....	
Testing location/ address .....	
<input type="checkbox"/> <b>Testing procedure WMT/CTF stage 2 .....</b>	
Tested by (name + signature) .....	
Witnessed by (name + signature) .....	
Approved by (name + signature) .....	
Testing location/ address .....	
<input type="checkbox"/> <b>Testing procedure SMT/CTF Stage 3 or 4 .....</b>	
Tested by (name + signature) .....	
Approved by (name + signature) .....	
Supervised by (name + signature) .....	
Testing location/ address .....	

<b>List of Attachments (including a total number of pages in each attachment):</b>	
--	
<b>Summary of testing .....</b>	See "Verdict summary section" 2 below.
<b>Summary of compliance with National Differences .....</b>	N/A
List of countries addressed .....	---
<input checked="" type="checkbox"/> The product fulfils the requirements of .....	CISPR 14-1 (Fifth Edition) + A1 + A2 in conjunction with CISPR 14-2 (Second Edition), IEC 61000-3-2 (Fourth Edition) , IEC 61000-3-3 (Third Edition)

<b>Copy of marking plate .....</b>	See section 1.1 on page 8.
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<b>Testing .....</b>	
Date of receipt of test item .....	2016-03-07
Date(s) of performance of tests..	See dates for each test case.
<b>Manufacturer's Declaration regarding factories .....</b>	
The application for obtaining a Certificate includes more than one factory location and a declaration from the manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....	<input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Yes (When differences exist, they shall be identified in the General Product Information section.)
Name and address of factory(ies) .....	36, 40-Richchya Zhovtnya Str. Boyarka 08150, Kiev Region, Ukraine. (according to the declaration of manufacturer)

<b>General remarks:</b>	
"(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. A cross <input checked="" type="checkbox"/> in a rectangular shape means that this option is applied.	
<b>Possible test case verdicts:</b>	
- test case does not apply to test object..	N/A
- test object does meet requirement .....	P (Pass)
- test object does not meet requirement..	F (Fail)

**Definition of symbols used in this test report:**

- ☒ Indicates that the listed condition, standard or equipment is applicable for this report.
- ☐ Indicates that the listed condition, standard or equipment is not applicable for this report.

Decimal separator used in this report.....:	<input checked="" type="checkbox"/> Comma (,)
	<input type="checkbox"/> Point (.)

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## 1 General description of test item(s)

Description .....	The fans are designed for ventilation of domestic and similar purposes and for continuous operation. The samples are identical in respect of construction and materials.								
Model Number .....	Quietline 100, Quietline Extra 150 T L								
Serial Number .....	pre-production sample without serial number								
Brand name .....	Ventilation Systems PrJSC (VENTS)								
Ports .....	Port name and description	Cable							
		Specified length [m]	Attached during test	Shielded					
	Mains	not specified	<input type="checkbox"/>	<input type="checkbox"/>					
	---	---	<input type="checkbox"/>	<input type="checkbox"/>					
	---	---	<input type="checkbox"/>	<input type="checkbox"/>					
	---	---	<input type="checkbox"/>	<input type="checkbox"/>					
	---	---	<input type="checkbox"/>	<input type="checkbox"/>					
	---	---	<input type="checkbox"/>	<input type="checkbox"/>					
	---	---	<input type="checkbox"/>	<input type="checkbox"/>					
	---	---	<input type="checkbox"/>	<input type="checkbox"/>					
	---	---	<input type="checkbox"/>	<input type="checkbox"/>					
Supplemental information to the ports .....	---								
Rated power supply .....	Voltage and Frequency		Reference poles						
			N	L1	L2	L3			
	<input checked="" type="checkbox"/>	AC: 220-240V, 50/60Hz	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	AC:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/>	DC:							
Rated Power .....	Quietline 100: 7,5W. Quietline Extra 150 T L: 22/25W.								
Protection Class .....	Quietline 100: Class II. Quietline Extra 150 T L: Class II.								
Clock frequencies .....	---								
Other parameters .....	---								
Software version .....	---								
Hardware version .....	---								
Dimensions in cm (W x H x D) ...	30x15								
Mounting position .....	<input checked="" type="checkbox"/>	Table top equipment							
	<input type="checkbox"/>	Wall/Ceiling mounted equipment							
	<input type="checkbox"/>	Floor standing equipment							
	<input type="checkbox"/>	Hand-held equipment							
	<input type="checkbox"/>	Other:							



Modules/parts ..... :	Module/parts of test item		Type	Manufacturer
	---		---	---
	---		---	---
	---		---	---
	---		---	---
	---		---	---
Operating modes ..... :	No.	Operating mode of test item	Applied for testing	
			Emission	Immunity
	1	Normal operation mode	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	2	---	<input type="checkbox"/>	<input type="checkbox"/>
	3	---	<input type="checkbox"/>	<input type="checkbox"/>
	4	---	<input type="checkbox"/>	<input type="checkbox"/>
	5	---	<input type="checkbox"/>	<input type="checkbox"/>
	6	---	<input type="checkbox"/>	<input type="checkbox"/>
	7	---	<input type="checkbox"/>	<input type="checkbox"/>
8	---	<input type="checkbox"/>	<input type="checkbox"/>	
Supplemental information to the operating modes..... :	---			
Accessories (not part of the test item)..... :	Accessory	Type	Manufacturer	
	---	---	---	
	---	---	---	
	---	---	---	
	---	---	---	
	---	---	---	
Documents as provided by the applicant ..... :	Description	File name	Issue date	
	---	---	---	
	---	---	---	
	---	---	---	
	---	---	---	
Modifications to the test item during testing ..... :	---			

## 1.1 Photos of the test item

Copy of marking plate ..... :

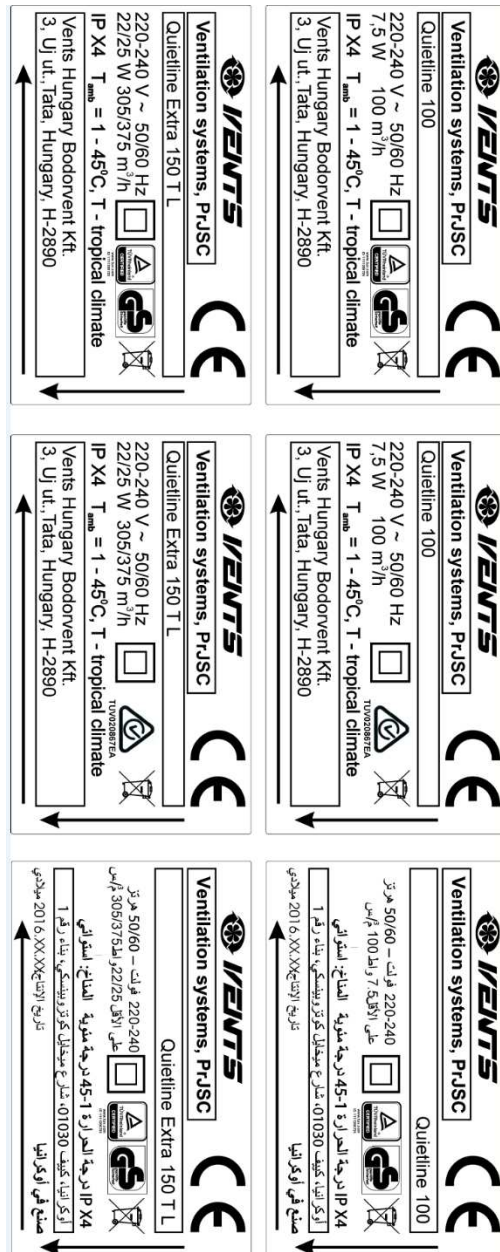
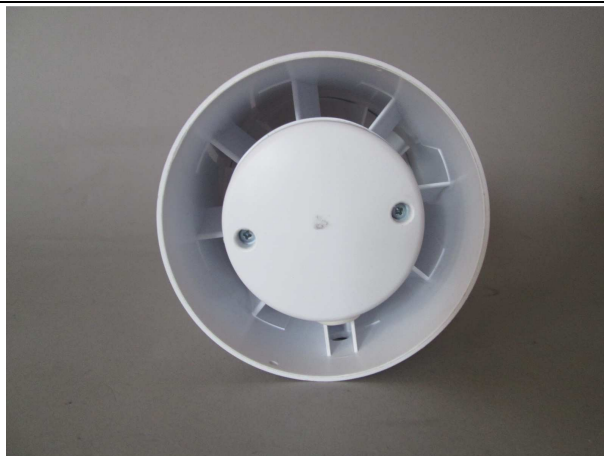


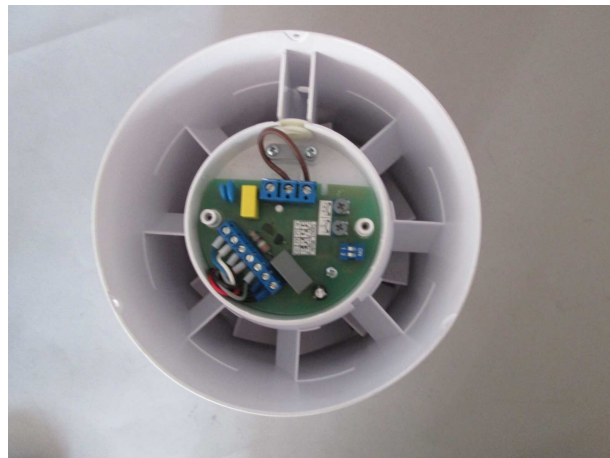
Photo of test item ..... :





Quietline 100





Quietline Extra 150 T L



## 2 Verdict summary section

<b>CISPR-14-1</b>			
<b>Clause</b>	<b>Requirement – Test case</b>	<b>Basic standard</b>	<b>Verdict</b>
5	Terminal disturbance voltages (148,5 kHz to 30 MHz)	CISPR 16-1-1 (ed. 1) CISPR 16-1-2 (ed. 1) CISPR 16-2-1 (ed. 1)	<b>P</b>
B.1	Terminal disturbance voltages (9 kHz to 30 MHz)	CISPR 16-1-1 (ed. 1) CISPR 16-1-2 (ed. 1) CISPR 16-2-1 (ed. 1)	<b>N/A</b>
6	Disturbance power (30 MHz to 300 MHz)	CISPR 16-1-1 (ed. 1) CISPR 16-1-3 (ed. 2) CISPR 16-2-2 (ed. 1)	<b>P</b>
9	Radiated emission (30 MHz to 1000 MHz)	CISPR 16-1-1 (ed. 1) CISPR 16-1-4 (ed. 2) + am1 CISPR 16-2-3 (ed. 2)	<b>N/A</b>
B.2 and B.3	Magnetic field induced current for induction cooking appliances	CISPR 16-1-4 (ed. 2) + am1 CISPR 16-2-3 (ed. 2)	<b>N/A</b>
4.2	Discontinuous disturbance (clicks)	CISPR 16-1-1 (ed. 1) CISPR 14-1 (ed. 5) + am1 + am2	<b>N/A</b>
<b>IEC 61000-3-2</b>			
<b>Clause</b>	<b>Requirement – Test case</b>	<b>Basic standard</b>	<b>Verdict</b>
6.1	Control principle shall be allowed for the application according to the clause 6.1	IEC 61000-3-2 (ed. 3)	<b>N/A</b>
6.2	Harmonic current emissions	IEC 61000-4-7 (ed. 2) + am1	<b>P</b>
<b>IEC 61000-3-3</b>			
<b>Clause</b>	<b>Requirement – Test case</b>	<b>Basic standard</b>	<b>Verdict</b>
4	Voltage changes, voltage fluctuations and flicker	IEC 61000-4-15 (ed. 2)	<b>P</b>
<b>CISPR-14-2</b>			
<b>Clause</b>	<b>Requirement – Test case</b>	<b>Basic standard</b>	<b>Verdict</b>
5.1	Electrostatic discharge	IEC 61000-4-2 (ed. 1)	<b>P</b>
5.2	Fast transients	IEC 61000-4-4 (ed. 1)	<b>P</b>
5.3	Injected currents, 0,15 MHz to 230 MHz	IEC 61000-4-6 (ed. 1)	<b>P</b>
5.4	Injected currents, 0,15 MHz to 80 MHz	IEC 61000-4-6 (ed. 1)	<b>N/A</b>
5.5	Radio frequency electromagnetic fields, 80 MHz to 1000 MHz	IEC 61000-4-3 (ed. 1)	<b>N/A</b>
5.6	Surges	IEC 61000-4-5 (ed. 1)	<b>P</b>
5.7	Voltage dips and interruptions	IEC 61000-4-11 (ed. 1)	<b>P</b>
Supplementary information:			
--			

### 3 Test conditions

#### 3.1 General

Environmental reference conditions ..... :	The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment.  The climatic conditions during the tests were within the following limits:		
	Temperature	Humidity	Atmospheric pressure
	15 °C – 35 °C	30 % - 60 %	800 hPa – 1060 hPa
	If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report.		
Measurement uncertainties ..... :	For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in CISPR 16-4-2 , IEC 61000-4 series or a product standard, the measurement instrumentation uncertainty has been calculated an applied in accordance with these standards.  In all cases if the test laboratory uncertainty is larger than the value for UCISPR given in CISPR 16-4-2 the uncertainty are included in the test report annex.  In case the standards in the IEC 61000-4 series or the product standard requires the indication of the uncertainty in the report these uncertainty values are included in the annex.		

## 4 Emission

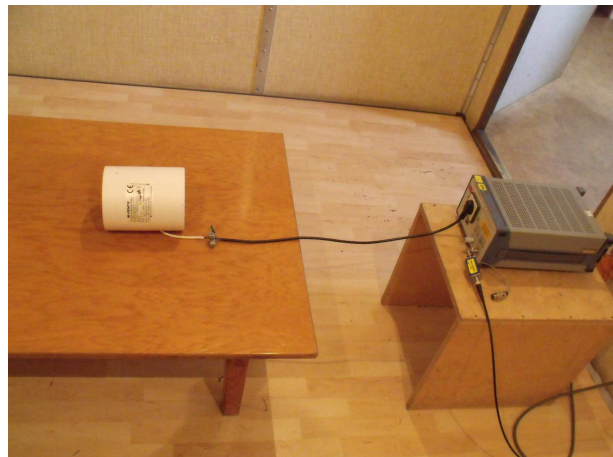
### 4.1 Terminal disturbance voltages (148,5 kHz to 30 MHz)

Tested by .....	Balázs György	
Test date.....	2016-03-31 (Quietline 100), 2016-03-31 (Quietline Extra 150 T L)	
Test Location (stand).....	Shielded cabinet	
Applied limit class or environment.....	<input checked="" type="checkbox"/>	Table 1 (Columns 2 and 3); Mains terminals
	<input type="checkbox"/>	Table 1 (Columns 4 and 5); Load terminals and additional terminals
	<input type="checkbox"/>	Table 1 (Columns 6 and 7); Mains terminals of tools 700 W
	<input type="checkbox"/>	Table 1 (Columns 8 and 9); Mains terminals of tools 700 W < P ≤ 1000 W
	<input type="checkbox"/>	Table 1 (Columns 10 and 11); Mains terminals of tools > 1000 W
	<input type="checkbox"/>	Other:
Test set-up description .....	<input type="checkbox"/>	Set-up Type A (40 cm distance to vertical ground plane, 80 cm o ground plane)
	<input checked="" type="checkbox"/>	Set-up Type B (40 cm distance to horizontal ground plane)
	<input type="checkbox"/>	Floor standing equipment set-up (10 cm over ground plane)
	<input type="checkbox"/>	Other:
	<input type="checkbox"/>	Artificial hand applied
Supplementary Test set-up description .....	Standard Setup	
Test method applied .....	<input checked="" type="checkbox"/>	Artificial mains network
	<input type="checkbox"/>	Artificial mains network used as voltage probe
	<input type="checkbox"/>	Voltage probe
	<input type="checkbox"/>	CDN according to IEC 61000-4-6
	<input type="checkbox"/>	Current probe and capacitive voltage probe (CVP)
	<input type="checkbox"/>	ISN
	<input type="checkbox"/>	In situ CDN (150 Ohm and current probe)
	<input type="checkbox"/>	Other:
Used mains voltage/frequency for the test. Evaluated at 160 kHz (0,9 – 1,1 of $U_N$ ).....	Quietline 100: 255V, 50Hz Quietline Extra 150 T L: 264V, 50Hz	
Supplementary information .....	---	

Test set-up photo .....

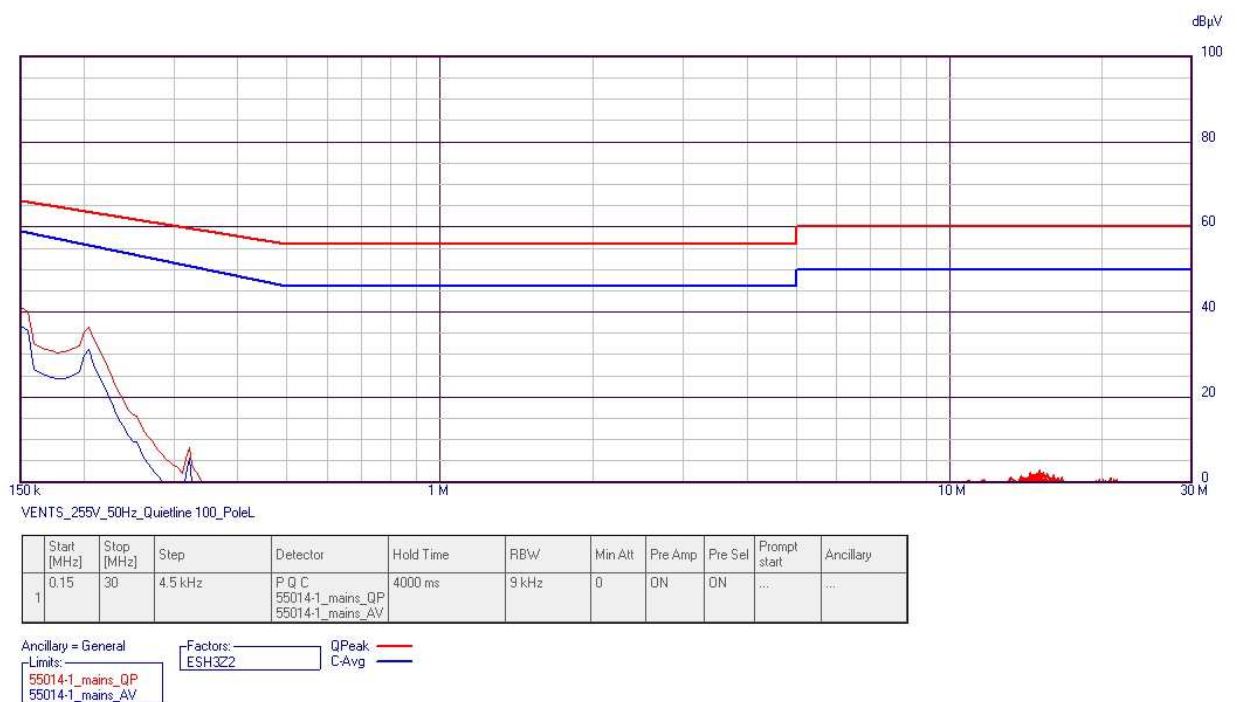


Quietline 100



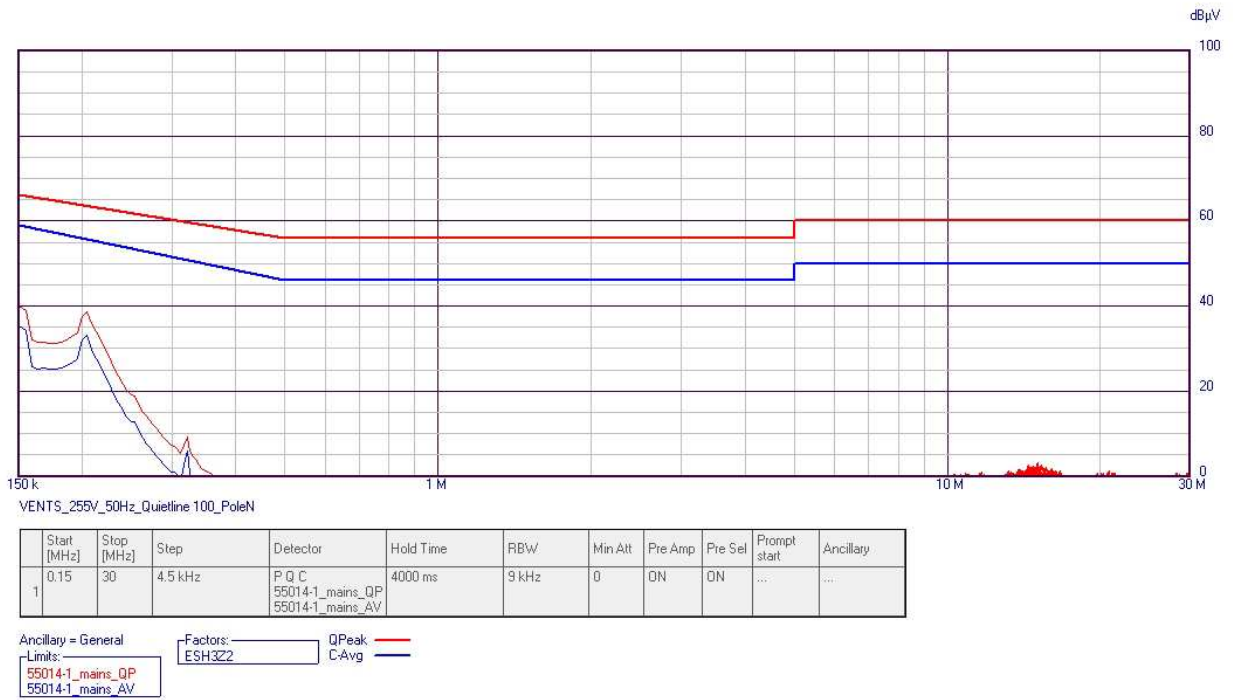
Quietline Extra 150 T L

**Graphical presentation of the result:**

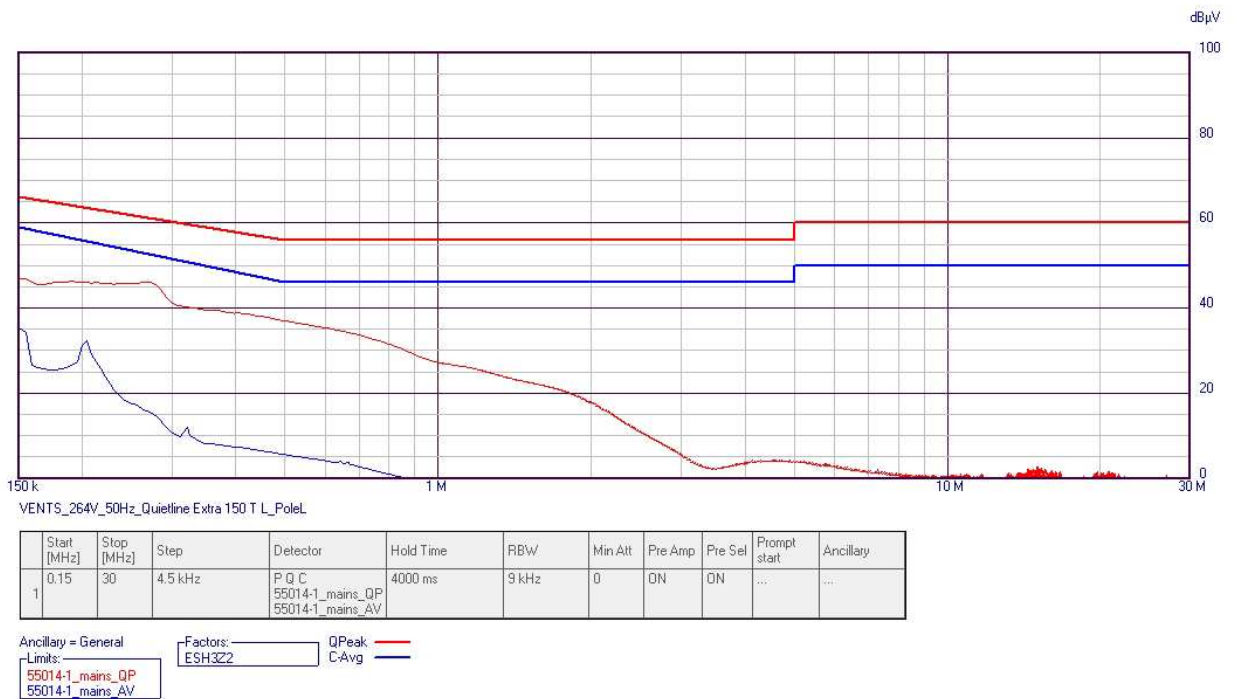


Quietline 100 (Pole L)

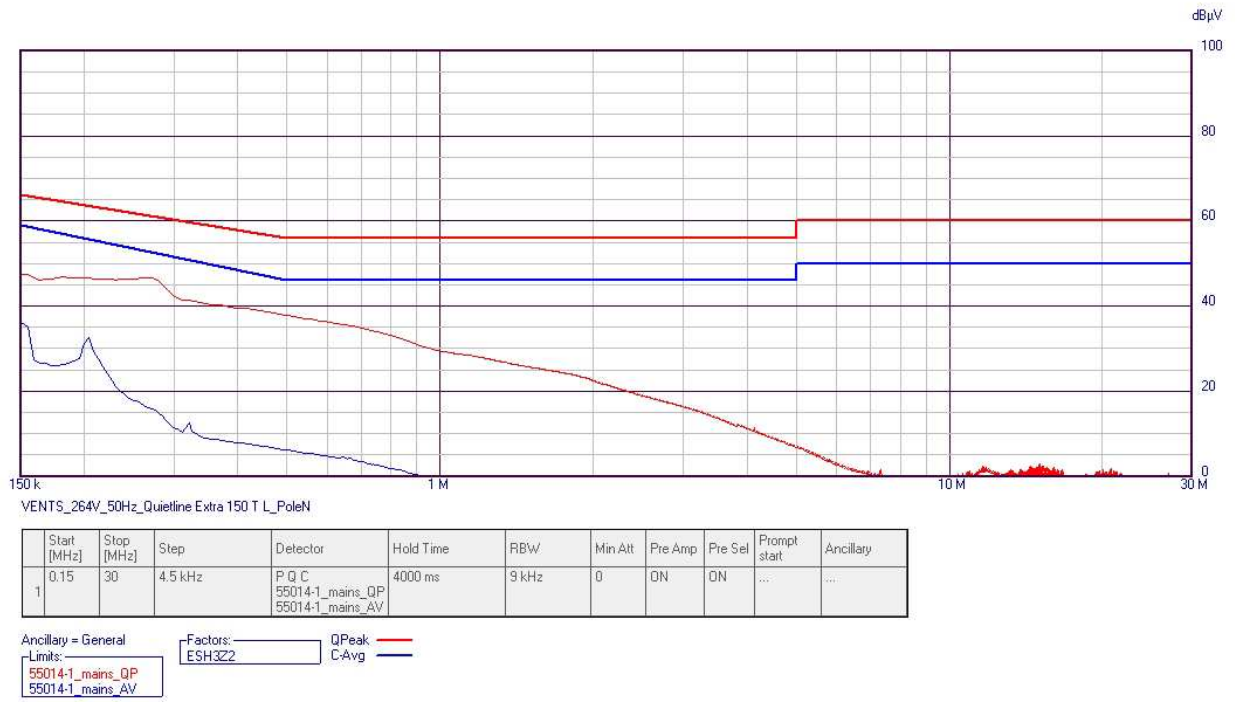




Quietline 100 (Pole N)



Quietline Extra 150 T L (Pole L)




Quietline Extra 150 T L (Pole N)

#### 4.2 Terminal disturbance voltages (9 kHz to 30 MHz)

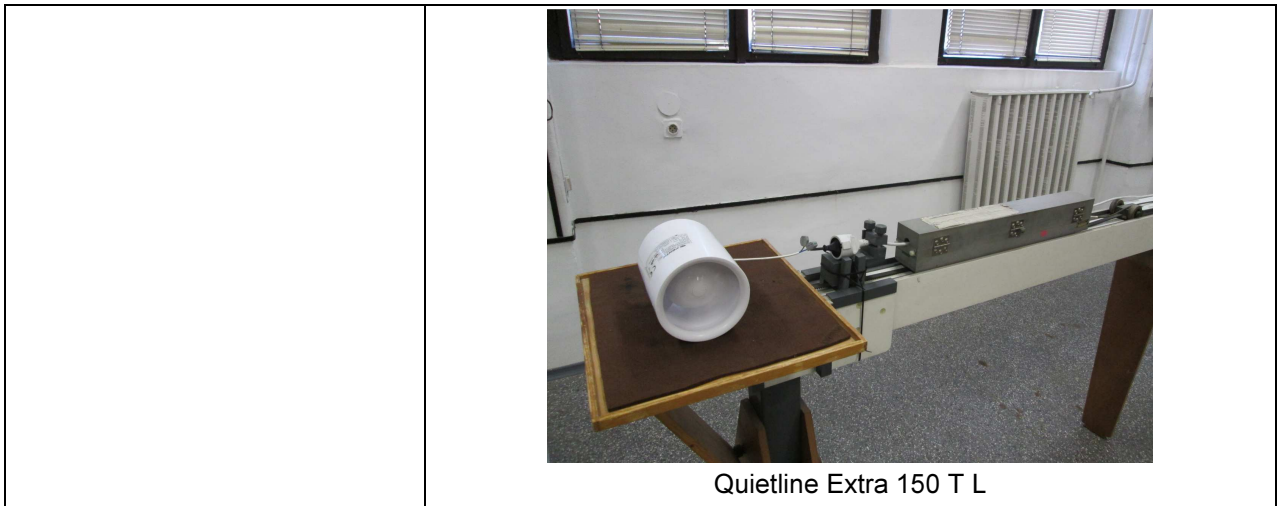
Tested by .....	N/A	
Test date .....	N/A	
Test Location (stand) .....	N/A	
Applied limit class or environment .....	<input type="checkbox"/>	Table B.1; Induction cooking appliances
	<input type="checkbox"/>	Table B.1; Induction cooking appliances rated voltage 100 V and without earth connection
Test set-up description .....	<input type="checkbox"/>	Set-up Type A (40 cm distance to vertical ground plane, 80 cm o ground plane)
	<input type="checkbox"/>	Set-up Type B (40 cm distance to horizontal ground plane)
	<input type="checkbox"/>	Floor standing equipment set-up (10 cm over ground plane)
	<input type="checkbox"/>	Other:
	<input type="checkbox"/>	Artificial hand applied
Supplementary Test set-up description .....	---	
Test method applied .....	<input type="checkbox"/>	Artificial mains network
	<input type="checkbox"/>	Artificial mains network used as voltage probe
	<input type="checkbox"/>	Voltage probe
	<input type="checkbox"/>	Other:
Used mains voltage/frequency for the test. Evaluated at 160 kHz (0,9 – 1,1 of $U_N$ ) .....	---	
Supplementary information .....	not an induction cooking appliance	
Test set-up photo .....	---	

### 4.3 Disturbance power (30 MHz to 300 MHz)

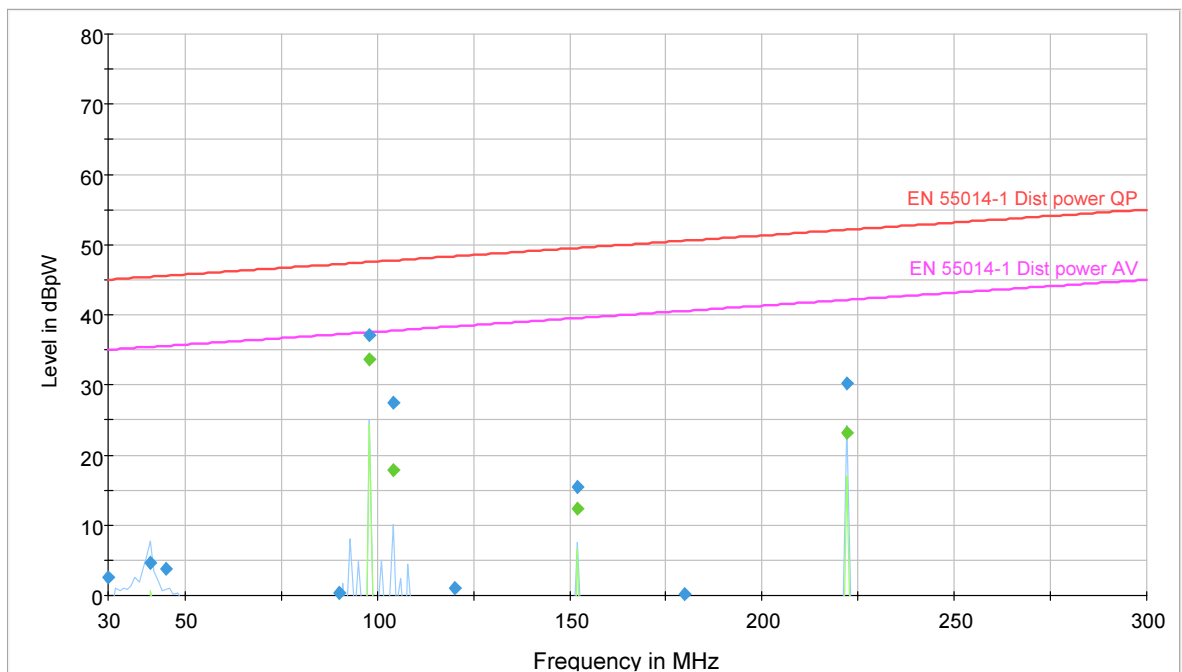
Tested by .....	Balázs György	
Test date.....	2016-04-06 (Quietline 100), 2016-04-07 (Quietline Extra 150 T L)	
Test Location (stand).....	Disturbance power measurement table	
Applied limit class or environment.....	<input checked="" type="checkbox"/>	Table 2a (Columns 2 and 3); Mains terminals
	<input type="checkbox"/>	Table 2a (Columns 4 and 5); Mains terminals of tools 700 W
	<input type="checkbox"/>	Table 2a (Columns 6 and 7); Mains terminals of tools 700 W < P ≤ 1000 W
	<input type="checkbox"/>	Table 2a (Columns 8 and 9); Mains terminals of tools > 1000 W
Test set-up description .....	<input checked="" type="checkbox"/>	Equipment on table of 80 cm height
	<input type="checkbox"/>	Equipment on support of 10 cm height
	<input type="checkbox"/>	Other:
Supplementary test set-up description .....	Standard Setup	
Used mains voltage/Frequency for the test. Evaluated at 50 MHz (0,9 – 1,1 of $U_N$ ) .....	Quietline 100: 255V, 50Hz Quietline Extra 150 T L: 264V, 50Hz	
Conditions for exemption from measurements above 300 MHz ..	<input checked="" type="checkbox"/>	Table 2 a limits reduced by Table 2 b applied and passed
	<input checked="" type="checkbox"/>	Maximum clock frequency < 30 MHz
Supplementary information .....	As the measurements were not performed in a shielded chamber, there are peaks shown on diagram, which derive not from EUT (which derive from external source).	

Test set-up photo .....	 <p style="text-align: center;">Quietline 100</p>
-------------------------	---

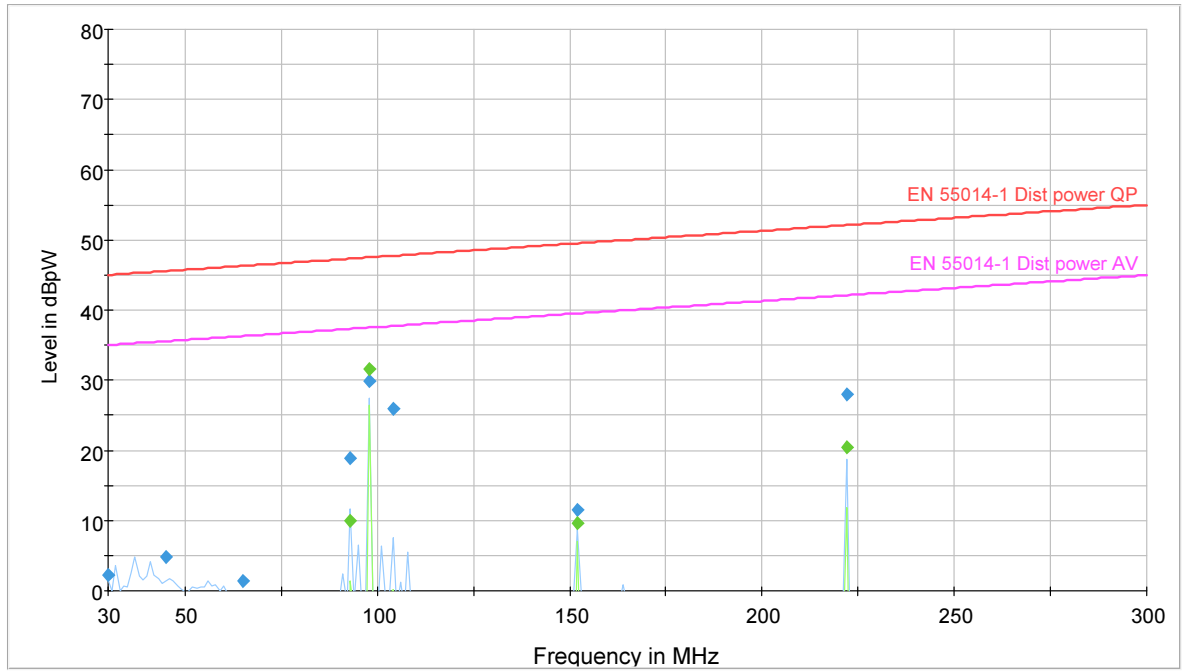




**Graphical presentation of the result:**



Quietline 100



Quietline Extra 150 T L

#### 4.4 Radiated emission (30 MHz to 1000 MHz)

Tested by..... :	N/A	
Test date..... :	N/A	
Test Location (stand)..... :	N/A	
Applied limit class..... :	<input type="checkbox"/>	Table 3 Radiated disturbance limits
	<input type="checkbox"/>	Other:
Test set-up description..... :	<input type="checkbox"/>	Equipment on a table of 80 cm height
	<input type="checkbox"/>	Equipment on the floor (insulated from ground plane)
	<input type="checkbox"/>	Other:
Supplementary test set-up description..... :	---	
Test method applied..... :	<input type="checkbox"/>	OATS or SAC with measurement distance [m]:
	<input type="checkbox"/>	FAR with measurement distance [m]:
	<input type="checkbox"/>	TEM Waveguide
Supplementary information..... :	Not applicable as the EUT passed the 2a table reduced by 2b table at the disturbance power measurement.	
Test set-up photo..... :	---	

#### 4.5 Magnetic field induced current for induction cooking appliances

Tested by .....	N/A	
Test date .....	N/A	
Test Location (stand) .....	N/A	
Applied limit class .....	<input type="checkbox"/>	Table B.2; Induction cooking appliances intended for commercial use and those for domestic use with diameter more than 1,6 m
	<input type="checkbox"/>	Table B.3; Induction cooking appliances for domestic use (diameter less than 1,6 m)
	<input type="checkbox"/>	Other:
Test set-up description .....	<input type="checkbox"/>	Equipment on a table of 80 cm height
	<input type="checkbox"/>	Equipment on the floor (insulated from ground plane)
	<input type="checkbox"/>	Equipment placed in the centre of the loop antenna system (LAS) according CISPR 16-2-3
	<input type="checkbox"/>	Other:
Supplementary test set-up description .....	---	
Test method applied .....	<input type="checkbox"/>	3 m distance with 0,6 m loop antenna according CISPR 16-1-4
	<input type="checkbox"/>	2 m loop antenna system (LAS) according CISPR 16-2-3
Supplementary information .....	The EUT is not an induction cooking appliance.	
Test set-up photo: .....	---	

#### 4.6 Discontinuous disturbance (clicks)

Tested by .....	N/A	
Test date.....	N/A	
Test Location (stand).....	N/A	
Applied limit class or environment.....	<input type="checkbox"/>	Table 2a (Columns 2 and 3); Mains terminals
	<input type="checkbox"/>	Other:
Test set-up description .....	<input type="checkbox"/>	Equipment on table of 80 cm height
	<input type="checkbox"/>	Equipment on support of 10 cm height
	<input type="checkbox"/>	Other:
Supplementary Test set-up description .....	---	
Used mains voltage for the test measured at 160 kHz (0,9 – 1,1 of UN) .....	---	
Used mains frequency for the test measured at 160 kHz (50 Hz / 60 Hz).....	---	

Test set-up photo .....	See disturbance voltage test.
-------------------------	-------------------------------

##### 4.6.1 Discontinuous disturbances result table(s)

Operating mode .....	---
Click rate at 150 kHz.....	---
Click rate at 500 kHz.....	---
Click rate based on number of switching events.....	---
Applied factor f .....	---
Clause (7.X) according to which the click rate has been determined .....	---
Are individual switching operations applicable? .....	---
Combination of clicks in a time frame less than 600 ms.....	---
Instantaneous switching? Click rate < 0,2 and duration of clicks less than 10 (20) ms.....	---
Exemptions from click measurements applicable (No upper quartile method)? .....	---
Supplementary information:	---



Measurement results:						
Frequency (MHz)	First Measurement: Determination of the limit $L_q$ – Quasi-peak					
	Limit $L$ (dB $\mu$ V)	Number of clicks – $N_1$	Time of measurement (min.)	Click rate $N$	Increased limit (dB)	Increased Limit $L_q$
0,15	66	---	---	---	---	---
0,5	56	---	---	---	---	---
1,4	56	---	---	---	---	---
30	60	---	---	---	---	---
Frequency (MHz)	Second measurement with Limit = $L_q$ (Upper quartile method):					
	Limit $L_q$ (dB $\mu$ V)	Number of clicks – $N_2$	Number of authorized clicks $N_2 \leq N_1/4$			Verdict
0,15	---	---	---			---
0,5	---	---	---			---
1,4	---	---	---			---
30	---	---	---			---
Supplementary information:						
--						

## 5 Harmonic current emissions

Tested by .....	Balázs György	
Test date .....	2016-04-07 (Quietline 100), 2016-04-07 (Quietline Extra 150 T L)	
Test Location (stand) .....	Harmonic measurement area	
Test set-up description .....	Standard setup	
Operating modes of EUT .....	1	
Limit classification in accordance with the standard .....	<input checked="" type="checkbox"/>	Class A
	<input type="checkbox"/>	Class B
	<input type="checkbox"/>	Class C with active input power > 25 W
	<input type="checkbox"/>	Class C with active input power ≤ 25 W (First requirement, Table 3 column 2)
	<input type="checkbox"/>	Class C with active input power ≤ 25 W (Second requirement)
	<input type="checkbox"/>	Class D
Observation period .....	Description	Period selected $T_{obs}$
	<input type="checkbox"/> Quasi stationary	2.5 min
	<input type="checkbox"/> Short cyclic	$T_{obs} \geq 10$ cycles =
	<input type="checkbox"/> Random	$T_{obs} =$
	<input type="checkbox"/> Long cyclic	Full program cycle or 2.5 min. with highest THC $T_{obs} =$
Version of measurement instrument standard used IEC 61000-4-7 (Clause 7) .....	<input type="checkbox"/>	IEC 61000-4-7:1991
	<input checked="" type="checkbox"/>	IEC 61000-4-7:2002 + A1:2008
Control principle used in the sample .....	---	
Supplementary information .....	Clause 7 of the standard IEC 61000-3-2 reads: „For the following categories of equipment, limits are not specified in this standard: ...equipment with a rated power of 75 W or less, other than lighting equipment.” Rated power of the EUT is less than 75 W.	

## 6 Voltage changes, voltage fluctuations and flicker

Tested by .....	Balázs György		
Test date .....	2016-04-07 (Quietline 100), 2016-04-07 (Quietline Extra 150 T L)		
Test Location (stand) .....	Flicker measurement area		
Test set-up description .....	Standard setup		
Test method .....	<input checked="" type="checkbox"/>	4.2.2 Flickermeter according IEC 61000-4-15	
	<input type="checkbox"/>	4.2.3 Simulation	
	<input type="checkbox"/>	4.2.4 Analytical method	
	<input type="checkbox"/>	4.2.5 Use of Pst = 1 curve	
	<input type="checkbox"/>	4.3 Long-Term flicker value Plt	
Observation time selected .....	<input type="checkbox"/>	10 Minutes	
	<input checked="" type="checkbox"/>	120 Minutes	
	<input type="checkbox"/>	24 times switching according to Annex B	
Limit for dmax applied .....	<input checked="" type="checkbox"/>	4 %	
	<input type="checkbox"/>	6 %	
	<input type="checkbox"/>	7 %	
AC Mains voltage during test .....	230V, 50Hz		
Supplementary information .....	---		

### Measurement results:

#### Maximum Flicker results (Quietline 100):

	EUT values	Limit	Result
Pst	0.157	1.00	PASS
Plt	0.156	0.65	PASS
dc [%]	0.012	3.30	PASS
dmax [%]	0.173	4.00	PASS
dt [s]	0.000	0.50	PASS

#### Maximum Flicker results (Quietline Extra 150 T L):

	EUT values	Limit	Result
Pst	0.157	1.00	PASS
Plt	0.156	0.65	PASS
dc [%]	0.012	3.30	PASS
dmax [%]	0.214	4.00	PASS
dt [s]	0.000	0.50	PASS

## 7 Immunity

### 7.1 General information

Performance criteria as defined by the standard	
Criterion	Description from standard
A	The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
B	The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however no change of actual operating state or stored data is allowed to persist after the test. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
C	Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.
Other:	--


Manufacturer defined performance criteria .....	---
	---
	---
	---
Monitoring during the tests .....	Visual and audial observation of the fan speed.

### 7.2 Specific information CISPR 14-2

Category acc. CISPR 14-2 (7.2). :	<input type="checkbox"/>	CAT I (Category I)
	<input checked="" type="checkbox"/>	CAT II (Category II)
	<input type="checkbox"/>	CAT III (Category III)
	<input type="checkbox"/>	CAT IV (Category IV)

### 7.3 Electrostatic discharge

Tested by .....	Balázs György
Test date.....	2016-04-12 (Quietline 100), 2016-04-12 (Quietline Extra 150 T L)
Test Location(Stand) .....	Immunity measurement area
Test set-up.....	<input checked="" type="checkbox"/> Table top equipment
	<input type="checkbox"/> Floor standing equipment
	<input type="checkbox"/> Wall or ceiling mounted equipment (Treated as table top)
Supplementary test set-up description .....	Standard setup
Size of horizontal coupling plate. :	1,6 x 0,8 m
Size of vertical coupling plate..... :	0,5 x 0,5 m
Number of discharges for each test point .....	10 positive and 10 negative
Discharge interval.....	60 s
Performance criterion .....	B
Supplementary information .....	---

Test set-up photo .....	 <p>Quietline 100 (Air discharges)</p>
-------------------------	---



Quietline 100 (Contact discharge, indirect, horizontal coupling plane)



Quietline 100 (Contact discharge, indirect, vertical coupling plane)



Quietline 100 (Contact discharge, direct)





Quietline Extra 150 T L (Air discharges)



Quietline Extra 150 T L (Contact discharge, indirect, horizontal coupling plane)



Quietline Extra 150 T L (Contact discharge, indirect, vertical coupling plane)




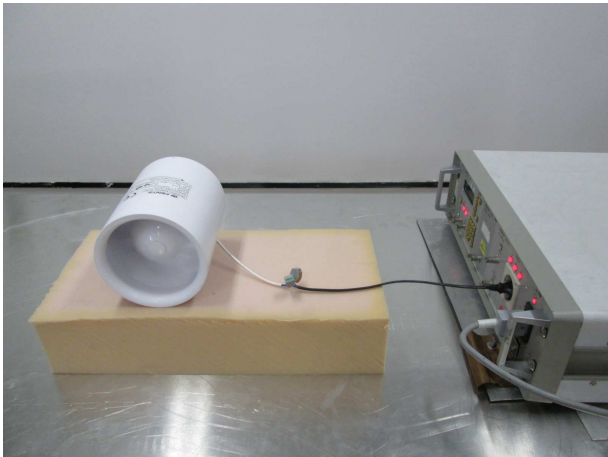
Quietline Extra 150 T L (Contact discharge, direct)

Photo of selected test points ..... : ---

Table: Test results for electrostatic discharges							
No.	Location of discharge	Polarity	Discharge	Number of discharges	Test level [kV]	Operating mode	Observations
1	HCP	P	C	10	4	1	no change was observed
2	HCP	N	C	10	4	1	no change was observed
3	VCP	P	C	10	4	1	no change was observed
4	VCP	N	C	10	4	1	no change was observed
5	Screw	P	C	10	4	1	no change was observed
6	Screw	N	C	10	4	1	no change was observed
7	Plastic enclosure of fan	P	A	10	8	1	no change was observed
8	Plastic enclosure of fan	N	A	10	8	1	no change was observed
HCP = Horizontal coupling plate		N = Negative		A = Air discharge			
VCP = Vertical coupling plate		P = Positive		C = Contact discharge			
Supplementary information:							
---							

#### 7.4 Fast transients



Tested by .....	Balázs György
Test date .....	2016-04-12 (Quietline 100), 2016-04-12 (Quietline Extra 150 T L)
Test location (stand) .....	Immunity measurement area
Test set-up .....	<input checked="" type="checkbox"/> Equipment on the table ( $0,1 \pm 0,01$ ) m above ground plane
	<input type="checkbox"/> Equipment standing on floor at ( $0,1 \pm 0,01$ ) m above ground plane
	<input type="checkbox"/> Artificial hand applied. Location see photo.
Supplementary test set-up description .....	Standard setup
Repetition frequency .....	5 kHz
Test time .....	120 s
Performance criterion .....	B
Supplementary information .....	---

Test set-up photo .....	 <p>Quietline 100</p>  <p>Quietline Extra 150 T L</p>
-------------------------	--

<b>Test results fast transients</b>						
<b>Port</b>	<b>Coupling</b>	<b>Level [kV]</b>	<b>Polarity</b>	<b>Operating mode</b>	<b>Mains voltage/ frequency</b>	<b>Observation</b>
AC mains	CDN (built in).	1	Positive	1	230 V, 50 Hz	no change was observed
AC mains	CDN (built in).	1	Negative	1	230 V, 50 Hz	no change was observed
Supplementary information: ---						

**7.5 Injected currents, 0,15 MHz to 80 MHz (0,15 MHz to 230 MHz)**

Tested by .....	Balázs György
Test date.....	2016-04-15 (Quietline 100), 2016-04-15 (Quietline Extra 150 T L)
Test location (Stand) .....	Immunity measurement area
Test set-up.....	<input checked="" type="checkbox"/> Equipment located (0,1 ± 0,05) m above ground plane
	<input type="checkbox"/> Elevated ground plane according to Annex F
	<input type="checkbox"/> Artificial hand applied. Location see photo.
	<input type="checkbox"/> Other:
Supplementary test set-up description .....	Standard setup
Modulation .....	<input checked="" type="checkbox"/> 80 % AM with 1 kHz
	<input type="checkbox"/> 100 % PM with 222 Hz
	<input type="checkbox"/> Other:
Step size.....	0,5 %
Performance criterion .....	A
Mains voltage / frequency during test.....	230 V, 50 Hz
Supplementary information .....	---

Test set-up photo .....	 <p>Quietline 100</p>  <p>Quietline Extra 150 T L</p>
-------------------------	---



Test results for conducted disturbances, induced by radio-frequency fields							
Frequency range	Test Level [V]	Port under test	CDN type	Port with terminated CDN	Operating mode	Dwell time [s]	Observations
0,15 MHz to 230 MHz	3	AC Mains	M2	---	1	1	no change was observed
Supplementary information:							
---							

## 7.6 Radio-frequency electromagnetic fields

Tested by .....	N/A	
Test date .....	---	
Test location (Stand) .....	---	
Test set-up .....	<input type="checkbox"/>	Equipment on the table (0,8 m height)
	<input type="checkbox"/>	Equipment standing on floor (0,05 – 0,15 m height)
Supplementary test set up description .....	---	
Exposed side of EUT .....	<input type="checkbox"/>	0° (Front)
	<input type="checkbox"/>	90 °
	<input type="checkbox"/>	180 ° (Rear)
	<input type="checkbox"/>	270 °
	<input type="checkbox"/>	Top side
	<input type="checkbox"/>	Bottom side
Reason for not exposing a side..	---	
Distance Antenna to EUT .....	---	
Test method .....	<input checked="" type="checkbox"/>	IEC 61000-4-3
	<input type="checkbox"/>	IEC 61000-4-22
Step size [%] .....	---	
Performance criterion .....	A	
Mains voltage / frequency during test .....	---	
Supplementary information .....	Classification of apparatus: II.	

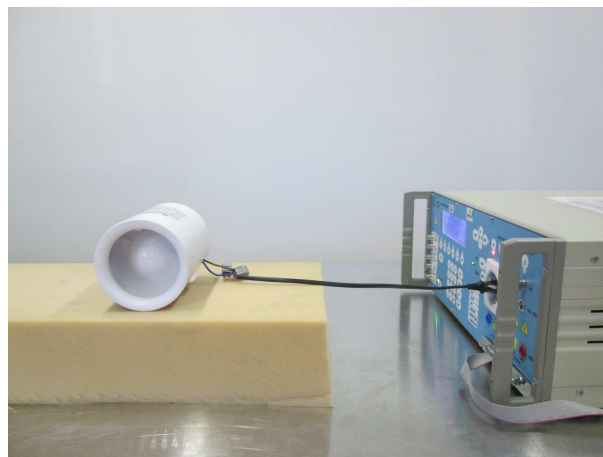
Test set-up photo .....	---
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Test results for radiated electromagnetic field						
Frequency range	Test Level [V/m]	Polarization	Modulation	Operation mode	Dwell time [s]	Observations
---	---	---	---	---	---	---
---	---	---	---	---	---	---
---	---	---	---	---	---	---
---	---	---	---	---	---	---
H = Horizontal V = Vertical						
Supplementary information: ---						

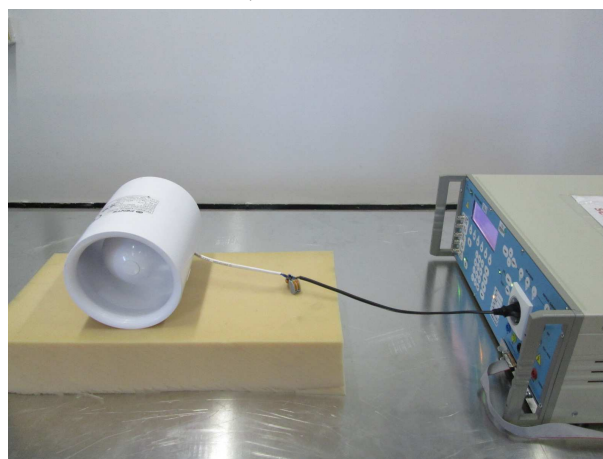
## 7.7 Surges

Tested by .....	Balázs György
Test date.....	2016-04-15 (Quietline 100), 2016-04-15 (Quietline Extra 150 T L)
Test location(Stand) .....	Immunity measurement area
Test set-up description .....	Standard setup
Repetition rate .....	60 s
Number of pulses for each coupling .....	5 positive at 90° 5 negative at 270 °
Performance criterion .....	B
Supplementary information .....	---

Test set-up photo .....



Quietline 100



Quietline Extra 150 T L

Test results for surges								
Port	Coupling	CDN	Level [kV]	Polarity	Phase angles [°]	Operating mode	Mains voltage/frequency	Observation
AC Mains	L – N	---	1	N	90	1	230 V, 50 Hz	no change was observed
AC Mains	L – N	---	1	P	270	1	230 V, 50 Hz	no change was observed
Lower test levels..... :			<input type="checkbox"/>	Tested				
			<input checked="" type="checkbox"/>	Not tested				
P = Positive N = Negative				MCN = Mains Coupling Network ICN = Coupling Network for interconnection lines D = Direct Coupling (shielded lines)				
Supplementary information: ---								

## 7.8 Voltage dips and interruptions

Tested by .....	Balázs György
Test date .....	2016-04-15 (Quietline 100), 2016-04-15 (Quietline Extra 150 T L)
Test Location (Stand) .....	Immunity measurement area
Test set-up description .....	Standard setup
Repetition rate .....	10 s
Number of dips or interruptions ..	3
Performance criterion .....	B (Voltage dips) C (Short interruptions UN= 0 %)
Supplementary information .....	---

Test results voltage dips and interruptions						
$U_N$ [V]	Frequency in Hz	Test Level [% of $U_N$ ]	Phase angle	Duration [Cycles]	Operating mode	Observations
220	50	0	0°	0,5	1	The speed of the motor has decreased for a moment, but the original state was restored automatically.
220	50	40	0°	10	1	The speed of the motor has decreased for a moment, but the original state was restored automatically.
220	50	70	0°	25	1	The speed of the motor has decreased for a moment, but the original state was restored automatically.
Supplementary information: ---						

Test set-up photo ..... :



Quietline 100



Quietline Extra 150 T L



## 8 List of test equipment

Equipment used					
Equipment	Type	Inventory number	Manufacturer	Last calibration date	Calibration due date
Test Stand:	Terminal disturbance voltage				
Shielded cabinet	3,5X3,5X2,4m	92155	Siepel	2013-05	2016-05
Measuring receiver	PMM 9010F	020WW41001	Narda	2015-11	2016-11
Pulse limiter	ESH3-Z2	357.8810.52/2	R & S	2013-06	2016-06
Artificial mains network	ESH2-Z5	827729-018	R & S	2013-06	2016-06
Test Stand:	Disturbance power				
Measuring receiver	ESVS10	845165/009	R & S	2015-09	2016-09
Absorbing clamp	MDS21	827643-018	R & S	2013-05	2016-05
RFI power measuring table	KMS560	560/302	HD	2013-05	2016-05
Clamp controller	HD100	100/304	HD	2013-05	2016-05
Test Stand:	AC Mains Voltage fluctuation and flicker				
Harmonic and Flicker Analyzer	DPA500N	P1402129116	EM TEST	2015-12	2016-12
Test Stand:	Electrostatic discharge according IEC 61000-4-2				
ESD generator	ESD3000+ ESD3000RM32 +ESD3000DN1	0497+0185+0153	EMC PARTNER AG	2015-07	2016-07
Test Stand:	Fast transients acc. IEC 61000-4-4				
Burst tester	PEFT.1	082948-17	HAEFELY	2016-02	2017-02
Test Stand:	Injected currents (radio frequency common mode) IEC 61000-4-6				
Signal generator	SMY 01	844146/052	Rhode & Schwarz	2016-01	2017-01
Amplifier	25A250A	18727	Amplifier Research	2015-08	2016-08
RF millivoltmeter	URV 5	894296/0004	Rhode & Schwarz	2015-08	2016-08
CDN	CDN-M2/M3N	1212-117	EM Test GmbH	2015-12	2018-12
Test Stand:	Surges acc. IEC 61000-4-5				
EMC Test System	EXT-TRA 3000S	1562	EMC PARTNER	2016-02	2017-02
Test Stand:	Voltage dips and short interruptions acc. IEC 61000-4-11				
Power supply	PCR 2000L	A0000233	Kikusui	2014-07	2016-07
Digital multimeter	3257-50	040418901	HIOKI	2015-07	2016-07

## 9 Measurement instrumentation uncertainties

Type of disturbance test method	Used test equipment (only main instruments, no details)	Calculated uncertainty	$U_{\text{CISPR}}$
Disturbance voltage Mains terminals 150 kHz ... 30 MHz	Test receiver, Artificial mains supply, Impulse limiter	2.54 dB	3.6 dB
Disturbance voltage Unsym. load terminals and others 150 kHz ... 30 MHz	not measured	---	not specified
Disturbance power Power cables and others 30 MHz ... 300 MHz	Test receiver, Absorbing clamp	3.18 dB	4.5 dB
Magnetic field strength 9 kHz ... 30 MHz	not measured	---	not specified
Magnetic field strength (Induced RF current) 9 kHz ... 30 MHz	not measured	---	not specified
Electric field strength Horiz. 30 MHz ... 200 MHz Horiz. 200 MHz ... 1000 MHz Vert. 30 MHz ... 200 MHz Vert. 200 MHz ... 1000 MHz	not measured	---	5.2 dB
Electric field strength 1 GHz ... 3.5 GHz 3.5 GHz ... 7 GHz 7 GHz ... 18 GHz	not measured	---	not specified
Harmonic currents EN 61000-3-2 EN 61000-3-12	Digital flickermeter- real time harmonic analyser, Power supply	0.25	not applicable
Flicker EN 61000-3-3 EN 61000-3-11	Digital flickermeter- real time harmonic analyser, Reference impedance, Power supply	not specified	not applicable

## 10 Annex

### 10.1 Critical components table

Table: Critical components information			
Object	Manufacturer/ Trademark	Type/Model	Remark
Motor for fans: Quietline-x 100	Cixi Yixiong Electromotor Factory	Blauberg BL 58-12Y04 (YJ58-12)	TUV
Motor for fans: Quietline-x 125, Quietline-x 150 Q	Hunan Keli Motor Co., Ltd	Blauberg BL 58-20Y04 (YJ58-20)	QA Technic
Motor for fans: Quietline-x 100 L	Cixi Yixiong Electromotor Factory	Blauberg BL 58-12Y041 (YJ58-12)	TUV
Motor for fans: Quietline-x 125 L, Quietline-x 150 Q L,	Hunan Keli Motor Co., Ltd	Blauberg BL 58-20Y041 (YJ58-20)	QA Technic
Motor protector	Aupo Electronics Ltd.	P3-F	VDE
Motor for fans: Quietline-x 150 L, Quietline-x 150 L Duo,	SHENGZHOU DONGFANG Motor	Blauberg BL 72-2E-A041	---
Motor for fans: Quietline-x Extra L 150	SHENGZHOU DONGFANG Motor	Blauberg BL 72-2E-A042	---
Motor protector	Chang Zhou Citi Tong Li Electronic Co. Ltd	KW-C1	VDE
Capacitor of motor for fans: Quietline-x 150 yz, Quietline-x 150 yz Duo, Quietline-x Extra 150 yz	Zhenjiang Liwah Electrical Co. Ltd.	CBB61	TUV
Terminal	Heavy Power Co. Ltd	PA 8	VDE
Supply cord provided with non- rewirable plug (for Europe)	KENIC ELECTRIC	KE-25	VDE
Power cord (for Europe)	KENIC ELECTRIC	H05VVH2-F 2x075mm <sup>2</sup>	VDE
Non-rewirable plug (for Australia)	Ningbo Yunbuan Electronics Group Corporation	YA-2	Queensland Government
Power cord (for Australia)	Ningbo Yunbuan Electronics Group Corporation	DL2 2x0,75mm <sup>2</sup>	Fair Trading
Non-rewirable 4-pins plug with cord (for Australia)	PrJSC "VENTS"	Joetech YA-4 (4 Pin Plug & Lead)	TÜV Rheinland Australia
<b>Alt.</b> Non-rewirable 4-pins plug with cord (for Australia)	Ventilation Solutions Australia Pty Ltd.	Airwave AW 4 Pin Plug & Lead	SAA
Non-rewirable plug (for Saudi Arabia)	Ningbo Yunhuan Electronics Group Corporation	Y006	Kitemark BSI
Power cord (for Saudi Arabia)	Ningbo Joetech Industrial Co. Ltd.	H05VV-F	Kitemark BSI
Plastic	Cheil Industries Ltd.	ABS SD-0150	---

Table: Critical components information			
Object	Manufacturer/ Trademark	Type/Model	Remark
<b>PCB</b>			
Timer (T)	PrJSC "VENTS"	VKO1	---
Timer (T)	PrJSC "VENTS"	VKO2-150	---
<b>PCB component</b>			
Terminal	DEGSON	DG301-5.0	VDE
Terminal	DEGSON	DG300-7.5	VDE
Capacitor (C4)	JENN FU Electronics Corporation	MPX	VDE
Capacitor (C2)	Xiamen Faratronic Co.,Ltd.	MKP62, X2	VDE
PCB	Lamitec - AG	LAMPLEX – FR4	---

## 10.2 Type designation code

Type designation:

Quietline-x 100 y z q

Quietline-x 125 y z q

Quietline-x 150 y z q

Quietline-x Extra 150 y z L

Meaning of characters in type references:

x: =blank or k: equipped with a fixing bracket,

100; 125; 150: the diameter of the duct [mm],

y: = blank or T: equipped with a timer,

z: = blank or K, R, KR

K: equipped with a back valve;

R: equipped with a power cord with non-rewireable plug;

q: = blank or Q, L, L Q, Duo, L Duo

Duo: equipped with a double-speed motor (only for fans with a diameter of 150 mm);

L: equipped motor with a ball-bearings;

Q: equipped quiet operation motor;

Extra: equipped with a double-speed high-powered motor.

Possible variants of model list and technical data can be seen below:

Approved fan type <b>VENTS</b> <b>Quietline series</b>	Rated voltage	Rated power (W)	IP protection	Motor type
Quietline 100	220-240V, 50/60Hz	7,5	IPX4	Blauberg BL 58-12Y04 (YJ58-12)
Quietline 100 T				
Quietline-k 100				
Quietline-k 100 T				
Quietline 100 K				
Quietline 100 T K				
Quietline-k 100 K				

Quietline-k 100 T K				
Quietline 100 R				
Quietline-k 100 R				
Quietline 100 KR				
Quietline-k 100 KR				
Quietline 100 L				
Quietline 100 T L				
Quietline-k 100 L				
Quietline-k 100 T L				
Quietline 100 K L				
Quietline 100 T K L				
Quietline-k 100 K L				
Quietline-k 100 T K L				
Quietline 100 R L				
Quietline-k 100 R L				
Quietline 100 KR L				
Quietline-k 100 KR L				
Quietline 125		17		Blauberg BL 58-12Y041 (YJ58-12)
Quietline 125 T				
Quietline-k 125				
Quietline-k 125 T				
Quietline 125 K				
Quietline 125 T K				
Quietline-k 125 K				
Quietline-k 125 T K				
Quietline 125 R				
Quietline-k 125 R				
Quietline 125 KR		26		Blauberg BL 58-20Y04 (YJ58-20)
Quietline-k 125 KR				
Quietline 150 Q				
Quietline 150 T Q				
Quietline-k 150 Q				
Quietline-k 150 T Q				
Quietline 150 K Q				
Quietline 150 T K Q				
Quietline-k 150 K Q				
Quietline-k 150 T K Q				
Quietline 150 R Q		220-240V, 50/60Hz	IPX4	Blauberg BL 58-20Y041 (YJ58-20)
Quietline-k 150 R Q				
Quietline 150 KR Q				
Quietline-k 150 KR Q				
Quietline 125 L				
Quietline 125 T L				
Quietline-k 125 L				
Quietline-k 125 T L				
Quietline 125 K L				
Quietline 125 T K L				
Quietline-k 125 K L				
Quietline-k 125 T K L				
Quietline 125 R L				
Quietline-k 125 R L				
Quietline 125 KR L				

Quietline-k 125 KR L		26	IPX4			
Quietline 150 L Q						
Quietline 150 T L Q						
Quietline-k 150 L Q						
Quietline-k 150 T L Q						
Quietline 150 K L Q						
Quietline 150 T K L Q						
Quietline-k 150 K L Q						
Quietline-k 150 T K L Q						
Quietline 150 R L Q						
Quietline-k 150 R L Q						
Quietline 150 KR L Q						
Quietline-k 150 KR L Q						
Quietline 150 L		22		Blauberg BL 72-2E-A041		
Quietline 150 T L						
Quietline-k 150 L						
Quietline-k 150 T L						
Quietline 150 K L						
Quietline 150 T K L						
Quietline-k 150 K L						
Quietline-k 150 T K L						
Quietline 150 R L						
Quietline-k 150 R L						
Quietline 150 KR L						
Quietline-k 150 KR L						
Quietline 150 L Duo					19/22	
Quietline 150 T L Duo						
Quietline-k 150 L Duo						
Quietline-k 150 T L Duo						
Quietline 150 K L Duo						
Quietline 150 T K L Duo						
Quietline-k 150 K L Duo						
Quietline-k 150 T K L Duo		22/25		Blauberg BL 72-2E-A042		
Quietline Extra 150 L						
Quietline Extra 150 T L						
Quietline-k Extra 150 L						
Quietline-k Extra 150 T L						
Quietline Extra 150 K L						
Quietline Extra 150 T K L						
Quietline-k Extra 150 K L		220-240V, 50/60Hz		7,5	IPX4	Blauberg BL 58-12Y04 (YJ58-12)
Quietline-k Extra 150 T K L						
Quietline 100 T R						
Quietline-k 100 T R						
Quietline 100 T KR						
Quietline-k 100 T KR						
Quietline 100 T R L	Blauberg BL 58-12Y041 (YJ58-12)					
Quietline-k 100 T R L						
Quietline 100 T KR L						
Quietline-k 100 T KR L						
Quietline 125 T R	17		Blauberg BL 58-20Y04			
Quietline-k 125 T R						
Quietline 125 T KR						



Quietline-k 125 T KR				(YJ58-20)
Quietline 150 T R Q				
Quietline-k 150 T R Q		26		
Quietline 150 T KR Q				
Quietline-k 150 T KR Q				
Quietline 125 T R L				
Quietline-k 125 T R L		17		
Quietline 125 T KR L				
Quietline-k 125 T KR L				
Quietline 150 T R L Q				
Quietline-k 150 T R L Q		26		
Quietline 150 T KR L Q				
Quietline-k 150 T KR L Q				
Quietline 150 T R L				
Quietline-k 150 T R L		22		
Quietline 150 T KR L				
Quietline-k 150 T KR L				
Quietline 150 T R L Duo				
Quietline-k 150 T R L Duo		19/22		
Quietline 150 T KR L Duo				
Quietline-k 150 T KR L Duo				
Quietline Extra 150 T R L				
Quietline-k Extra 150 T R L		22/25		
Quietline Extra 150 T KR L				
Quietline-k Extra 150 T KR L				
				Blauberg BL 58-20Y041 (YJ58-20)
				Blauberg BL 72-2E-A041
				Blauberg BL 72-2E-A042

Models differ in model name, rated power, type of the motor, facilities.