TÜRKAK
Test
TS EN ISO/IEC 17025
AB-0114-T

Esim

TEST REPORT / *DENEY RAPORU*
IEC 60335-2-80
Safety of household and similar electrical appliances Part 2 : Particular requirements for fans / *Güvenlik kuralları – Ev ve benzeri yerlerde kullanılan elektrikli cihazlar için - Bölüm 2-80:Vantilatörler için özel kurallar*

Report Reference No./ *Rapor Referans No*.....:	LVD-2017331
Tested by (name + signature) / *Test eden (isim+imza)* .....:	Serkan KEFALI
Approved by (name + signature) / *Onaylayan (isim+imza)*.....:	Engin URULU
Date of issue / *Yayın Tarih*.....:	2017-12-20
Total number of pages/*Sayfa sayısı*:	102 **Pages** / *Sayfa*
Testing Laboratory / *Test Laboratuvarı*.....:	ESİM Test Hizmetleri San. ve Tic. A.Ş.
Address / *Adres*.....:	TOSB – Otomotiv Yan Sanayi İhtisas OSB 2.Cadde 17. Sokak No:2/5 41420 Çayırova - Kocaeli **Turkey** / *Türkiye*
Applicant's name / *Başvuran*.....:	CVS Havalandırma Sist. San. Tic. A.Ş.
Address / *Adres*.....:	Cumhuriyet Mah. Kartal Cad. No:101/1 Kartal - İstanbul **Turkey** / *Türkiye*
Test specification and directive / *Test tanımı ve direktif*.....:	**Standard** / *Standart*
Standard / *Standart*.....:	IEC 60335-2-80:2015 **in conjunction with** / *ile beraber* IEC 60335-1:2010, **COR1:2010, COR2:2011** / *Düzeltme 1 ve düzeltme 2 içerir*, AMD1:2013, AMD2:2016
Non-standard test method / *Standart olmayan test methodu* ....:	**N/A** / *Uygulanmaz*
Test Report Form No. / *Test Rapor Form No*.....:	ESİM60335_2_80I
Test Report Form(s) Originator / *Test Rapor Formu Düzenleyen* .....:	ESİM
Master TRF / *Asıl TRF*.....:	2017-09
Test item description / *Test ögesi tanımı*.....:	**Axial fan** / *Aksiyel fan*
Trademark / *Ticari marka*.....:	CVS Air
Manufacturer / *Üretici*.....:	CVS Havalandırma Sist. San. Tic. A.Ş.
Model and/or type reference / *Model ve/veya tip referansı* .....:	CVS-Q1250 22/4P
Ratings / *Beyan değerleri*. .....:	22000 W, 380-400 V, 41.9 A, 50/60 Hz, **Class** / *Sınıf* F, IP55

Esim
Test Hizmetleri Sanayi ve Ticaret A.Ş.
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List of Attachments / *Eklerin listesi:*

APPENDIX 1 : European group differences & national differences in page 79 to 85 / *Ek 1 :EN Avrupa ve uluslararası farklılıklar sayfa 79'dan 85'e kadar.*

APPENDIX 2 : EMF in page 85 / *EK 2 : EMF – Elektromanyetik Alan Ölçümü sayfa 85'de.*

APPENDIX 3 : List of test equipments used, page 97 / *EK 3 : Kullanılan test ekipmanlarının listesi sayfa 97'de.*

APPENDIX 4 : Photos of product, pages 98 to 102 / *EK 4 : Ürünün fotoğrafları sayfa 98'den 102'ye kadar.*

Summary of testing / *Deney özeti :*

Tests performed (name of test and test clause):

All tests for relevant clauses of this standart has been performed /
Bu standardın ilgili maddelerindeki tüm testler yapılmıştır

Testing location / *Test yeri:*
ESİM Test Hizmetleri San. ve Tic. A.Ş.
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2.Cadde 17. Sokak No:2/5
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Summary of compliance with National Differences / *Ulusal farklılıklara uyumluluğun özeti :*

European Group Differences and National Differences , see Appendix 1 /
Avrupa ve ulusal farklılıklar , bakınız Ek-1

The product fulfils the requirements of IEC 60335-2-80:2015 used in conjunction with IEC 60335-1:2010 incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013 + A2:2016 & EN 60335-2-80:2003 + A1:2004 + A2:2009 used in conjunction with EN 60335-1:2012 + A11:2014 & EN 62233:2008 /
Ürün IEC 60335-2-80:2015 ile beraber IEC 60335-1:2010 düzeltme 1:2010 ve düzeltme 2:2011 içerir + A1:2013 + A2:2016 & EN 60335-2-80:2003 + A1:2004 + A2:2009 ile beraber EN 60335-1:2012 + A11:2014 & EN 62233:2008 standartlarındaki tüm gereklilikleri yerine getirmektedir.

Copy of marking plates / *İşaret etiketi kopyaları* :

TİP*(Type)*:	**Axial Fan**
MODEL *(Model)*:	**CVS-Ø1250 22/4P**
MOTOR MARKASI*(Motor Manufacturer)*:	GAMAK
SERİ NO*(Serial Number)*:	1117-lvd-001
FAZ-FREKANS-VOLTAJ: *(Phase-Frequency-Voltage)*	3ph-50/60Hz-380-400 V
GÜÇ *(Power)*:	22 kW
NOMİNAL AKIM*(Nominal Current)(In)*:	41,9 A
NOMİNAL HIZ*(Nominal Speed)(n)*:	1470 rpm
KORUMA SINIFI*(Protection Class)*:	IP 55
SICAKLIK SINIFI*(Temperature Class)*:	F
PROJE KODU*(Project Code)*:	-

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CE

TİP*(Type)*:	**Axial Fan**
MODEL *(Model)*:	**CVS-Ø1250 18,5/4P**
MOTOR MARKASI*(Motor Manufacturer)*:	GAMAK
SERİ NO*(Serial Number)*:	1117-lvd-002
FAZ-FREKANS-VOLTAJ: *(Phase-Frequency-Voltage)*	3ph-50/60Hz-380-400 V
GÜÇ *(Power)*:	18,5 kW
NOMİNAL AKIM*(Nominal Current)(In)*:	34,5 A
NOMİNAL HIZ*(Nominal Speed)(n)*:	1470 rpm
KORUMA SINIFI*(Protection Class)*:	IP 55
SICAKLIK SINIFI*(Temperature Class)*:	F
PROJE KODU*(Project Code)*:	-

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CE

TİP*(Type)*:	**Axial Fan**
MODEL *(Model)*:	**CVS-Ø1250 15/4P**
MOTOR MARKASI*(Motor Manufacturer)*:	**GAMAK**
SERİ NO*(Serial Number)*:	**1117-lvd-003**
FAZ-FREKANS-VOLTAJ: *(Phase-Frequency-Voltage)*	**3ph-50/60Hz-380-400 V**
GÜÇ *(Power)*:	**15 kW**
NOMİNAL AKIM*(Nominal Current)(In)*:	**29,4 A**
NOMİNAL HIZ*(Nominal Speed)(n)*:	**1465 rpm**
KORUMA SINIFI*(Protection Class)*:	**IP 55**
SICAKLIK SINIFI*(Temperature Class)*:	**F**
PROJE KODU*(Project Code)*:	-

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CE

TİP*(Type)*:	**Axial Fan**
MODEL *(Model)*:	**CVS-Ø1250 11/4P**
MOTOR MARKASI*(Motor Manufacturer)*:	**GAMAK**
SERİ NO*(Serial Number)*:	**1117-lvd-004**
FAZ-FREKANS-VOLTAJ: *(Phase-Frequency-Voltage)*	**3ph-50/60Hz-380-400 V**
GÜÇ *(Power)*:	**11 kW**
NOMİNAL AKIM*(Nominal Current)(In)*:	**21,3 A**
NOMİNAL HIZ*(Nominal Speed)(n)*:	**1465 rpm**
KORUMA SINIFI*(Protection Class)*:	**IP 55**
SICAKLIK SINIFI*(Temperature Class)*:	**F**
PROJE KODU*(Project Code)*:	-

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CE

TİP *(Type)*:	Axial Fan
MODEL *(Model)*:	CVS-Ø1250 7,5/4P

MOTOR MARKASI *(Motor Manufacturer)*:	**GAMAK**
SERİ NO *(Serial Number)*:	**1117-lvd-005**
FAZ-FREKANS-VOLTAJ: *(Phase-Frequency-Voltage)*	3ph-50/60Hz-380-400 V
GÜÇ *(Power)*:	7,5 kW
NOMİNAL AKIM *(Nominal Current)(In)*:	29,4 A
NOMİNAL HIZ *(Nominal Speed)(n)*:	1465 rpm
KORUMA SINIFI *(Protection Class)*:	IP 55
SICAKLIK SINIFI *(Temperature Class)*:	F
PROJE KODU *(Project Code)*:	-

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CE

	ÜRÜN ADI	Güç (kW)	Devir(d/dak)	Frekans(Hz)	Voltaj(V)	Faz	Akım(A)
1	CVS-Ø400-0,75/2P	0,75	2860	50-60	380-400	3	1,7
2	CVS-Ø400-1,1/2P	1,1	2880	50-60	380-400	3	2,3
3	CVS-Ø400-1,5/2P	1,5	2880	50-60	380-400	3	3,3
4	CVS-Ø400-2,2/2P	2,2	2870	50-60	380-400	3	4,5
5	CVS-Ø450-1,1/2P	1,1	2880	50-60	380-400	3	2,3
6	CVS-Ø450-1,5/2P	1,5	2880	50-60	380-400	3	3,3
7	CVS-Ø450-2,2/2P	2,2	2870	50-60	380-400	3	4,5
8	CVS-Ø450-3/2P	3	2880	50-60	380-400	3	5,8
9	CVS-Ø500-1,5/2P	1,5	2880	50-60	380-400	3	3,3
10	CVS-Ø500-2,2/2P	2,2	2870	50-60	380-400	3	4,5
11	CVS-Ø500-3/2P	3	2880	50-60	380-400	3	5,8
12	CVS-Ø500-4/2P	4	2880	50-60	380-400	3	7,9
13	CVS-Ø500-5,5/2P	5,5	2900	50-60	380-400	3	10,3
14	CVS-Ø560-2,2/2P	2,2	2870	50-60	380-400	3	4,5
15	CVS-Ø560-3/2P	3	2880	50-60	380-400	3	5,8
16	CVS-Ø560-4/2P	4	2880	50-60	380-400	3	7,9
17	CVS-Ø560-5,5/2P	5,5	2900	50-60	380-400	3	10,3
18	CVS-Ø560-7,5/2P	7,5	2910	50-60	380-400	3	13,6
19	CVS-Ø630-4/2P	4	2880	50-60	380-400	3	7,9
20	CVS-Ø630-5,5/2P	5,5	2900	50-60	380-400	3	10,3
21	CVS-Ø630-7,5/2P	7,5	2910	50-60	380-400	3	13,6
22	CVS-Ø630-11/2P	11	2945	50-60	380-400	3	19,5
23	CVS-Ø630-15/2P	15	2945	50-60	380-400	3	28,3
24	CVS-Ø630-18,5/2P	18,5	2950	50-60	380-400	3	32,3
25	CVS-Ø710-1,1/4P	1,1	1420	50-60	380-400	3	2,6
26	CVS-Ø710-1,5/4P	1,5	1430	50-60	380-400	3	3,5
27	CVS-Ø710-2,2/4P	2,2	1435	50-60	380-400	3	5,0
28	CVS-Ø710-3/4P	3	1435	50-60	380-400	3	6,6
29	CVS-Ø710-4/4P	4	1440	50-60	380-400	3	8,4
30	CVS-Ø710-5,5/4P	5,5	1465	50-60	380-400	3	11,2
31	CVS-Ø800-1,5/4P	1,5	1430	50-60	380-400	3	3,5
32	CVS-Ø800-2,2/4P	2,2	1435	50-60	380-400	3	5,0
33	CVS-Ø800-3/4P	3	1435	50-60	380-400	3	6,6
34	CVS-Ø800-4/4P	4	1440	50-60	380-400	3	8,4
35	CVS-Ø800-5,5/4P	5,5	1465	50-60	380-400	3	11,2
36	CVS-Ø800-7,5/4P	7,5	1465	50-60	380-400	3	15,4
37	CVS-Ø900-3/4P	3	1435	50-60	380-400	3	6,6
38	CVS-Ø900-4/4P	4	1440	50-60	380-400	3	8,4
39	CVS-Ø900-5,5/4P	5,5	1465	50-60	380-400	3	11,2
40	CVS-Ø900-7,5/4P	7,5	1465	50-60	380-400	3	15,4
41	CVS-Ø900-11/4P	11	1465	50-60	380-400	3	21,3
42	CVS-Ø900-15/4P	15	1465	50-60	380-400	3	29,4
43	CVS-Ø1000-4/4P	4	1440	50-60	380-400	3	8,4
44	CVS-Ø1000-5,5/4P	5,5	1465	50-60	380-400	3	11,2
45	CVS-Ø1000-7,5/4P	7,5	1465	50-60	380-400	3	15,4
46	CVS-Ø1000-11/4P	11	1465	50-60	380-400	3	21,3
47	CVS-Ø1000-15/4P	15	1465	50-60	380-400	3	29,4
48	CVS-Ø1000-18,5/4P	18,5	1470	50-60	380-400	3	34,5
49	CVS-Ø1000-22/4P	22	1470	50-60	380-400	3	41,9
50	CVS-Ø1120-5,5/4P	5,5	1465	50-60	380-400	3	11,2
51	CVS-Ø1120-7,5/4P	7,5	1465	50-60	380-400	3	15,4
52	CVS-Ø1120-11/4P	11	1465	50-60	380-400	3	21,3
53	CVS-Ø1120-15/4P	15	1465	50-60	380-400	3	29,4
54	CVS-Ø1120-18,5/4P	18,5	1470	50-60	380-400	3	34,5
55	CVS-Ø1120-22/4P	22	1470	50-60	380-400	3	41,9
56	CVS-Ø1250-5,5/4P	5,5	1465	50-60	380-400	3	11,2
57	CVS-Ø1250-7,5/4P	7,5	1465	50-60	380-400	3	15,4
58	CVS-Ø1250-11/4P	11	1465	50-60	380-400	3	21,3
59	CVS-Ø1250-15/4P	15	1465	50-60	380-400	3	29,4
60	CVS-Ø1250-18,5/4P	18,5	1470	50-60	380-400	3	34,5
61	CVS-Ø1250-22/4P	22	1470	50-60	380-400	3	41,9

Test item particulars / *Deney maddesi ayrıntısı..... :*	**Axial fan** / *Aksiyel fan*
Classification of installation and use / *kullanım ve yerleşim sınıfı .....:*	**Stationary fixed appliance, Class I** / *Sabit, sınıf I cihaz*
Supply Connection / *Besleme bağlantısı .....:*	**AC, Y attachment** / *AC, Y tip bağlantı*
Possible test case verdicts / *Test durum kararları.....:*	
- **test case does not apply to the test object** / *Bu ürüne uygulanmaz.....:*	**N/A** / *Uygulanmaz*
- **test object does meet the requirement** / *test edilen ürünü kuralları karşılıyor.....:*	**P(Pass)** / *Karşılıyor*
- **test object does not meet the requirement** / *test edilen ürün kuralları karşılamıyor.....:*	**F(Fail)** / *Karşılamıyor*
Testing / *Deney.....:*	LVD
Date of receipt of test item / *Ürünün geliş tarihi .....:*	2017-11-23
Date (s) of performance of tests / *Ürün testlerinin yapılış tarihleri.....:*	2017-11-24 – 2017-12-18

General remarks:

The test results presented in this report relate only to the object tested / *Bu raporda yer alan test sonuçları yanlız test edilen numuneye aittir.*
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory / *Bu rapor test laboratuvarın yazılı onayı dışında çoğaltılmaz.*
"(see Enclosure #)" refers to additional information appended to the report / *(ilişikteki # bakınız) Rapora eklenmiş ilave bilgilere başvurur.*
"(see appended table)" refers to a table appended to the report / *(eklenmiş tabloya bakınız) Rapora eklenmiş tabloya başvurur.*
Throughout this report a comma is used as the decimal separator / *Bu raporda ondalık ayırıcı olarak virgül kullanılmıştır.*

General product information / *Ürün hakkında genel bilgi:*

The test item is an axial fan / *Test numunesi bir aksiyel fandır.*

Trade Mark / *Ticari marka :*

CVS Air

The model CVS-Q1250 22/4P as representative sample of the products covered by this report has been tested and complies with the applicable requirements of this standard.

All models are same as construction. The differences between models are the dimension (W x L x H) of Axial fan and motor in order to achieve different wattage (P) of the designation.

See for the contained models in page 7.

Bu rapor tarafından kapsanan ürünleri temsilen CVS-Q1250 22/4P numunesi test edildi ve bu numune belirtilen standardın uygulanabilir tüm gerekliklerini yerine getimektedir.

Tüm modeller aynı yapısal özellikte olup modeller aralarındaki fark gerekli gücü (P watt) sağlamak için fan ve motor boyutlarındaki (G x U x Y) farklılıktır.

Kapsanan modeller için sayfa 7'ye bakınız.

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.	50 / 60 Hz	P
5.7	Fans to be used in tropical climates, the tests of clause 10,11 and 13 are carried out at 40 °C +/- 2 °C (IEC 60335-2-8)		N/A
	Fans marked with ambient operating temperature, the tests of clause 10, 11 and 13 are carried out at marked value +/- 2 °C (IEC 60335-2-80/A1)		N/A
6	CLASSIFICATION		
6.1	Protection against electric shock: Class 0, 0I, I, II, III..... ..... :	Class I	P
	For a class III construction with a detachable power supply part the appliance is classified according to the detachable power supply part		N/A
6.2	Protection against harmful ingress of water		P
	At least IPX2 for Duct fans (IEC 60335-2-8)	IP55	P
6.101	Classification to climatic conditions (IEC 60335-2-80): - fans for temperature climates - fans for tropical climates		N/A
7	MARKING AND INSTRUCTIONS		
7.1	Rated voltage or voltage range (V) .... :	380-400 V	P
	Symbol for nature of supply, or .... :		N/A
	Rated frequency (Hz) .... :	50/60 Hz	P
	Rated power input (W), or .... :	22000 W	P
	Rated current (A) .... :	41,9 A	P
	Manufacturer's or responsible vendor's name, trademark or identification mark..... ..... :	CVS Air	P
	Model or type reference..... ..... :	CVS-Q1250 22/4P	P
	Symbol IEC 60417-5172, for class II appliances	Class I	N/A
	IP number, other than IPX0 .... :	IP55	P
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only		N/A
	Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth		N/A
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	Symbol IEC 60417-5180 (2003-02), for class III appliances. This marking is not necessary for appliances operated only by batteries (primary batteries or secondary batteries recharged outside of the appliance) or appliances powered by rechargeable batteries recharged in the appliance.		N/A
	For tropical climates marked with letter T (IEC 60335-2-8)		N/A
	Fans intended for operation in location where the local temperature exceeds 40 °C shall be marked with the ambient operating temperature. (IEC 60335-2-80/A1)		N/A
7.2	Warning for stationary appliances for multiple supply		N/A
	Warning placed in vicinity of terminal cover		N/A
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen	380-400 Vac	P
	Different rated values marked with the values separated by an oblique stroke		N/A
7.4	Appliances adjustable for different rated voltages, the voltage setting is clearly discernible		N/A
	Requirement met if frequent changes are not required and the rated voltage to which the appliance is to be adjusted is determined from a wiring diagram		N/A
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless	380-400 Vac	P
	the power input is related to the arithmetic mean value of the rated voltage range		N/A
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used		P
	Symbol for nature of supply placed next to rated voltage		P
	Symbol for class II appliances placed unlikely to be confused with other marking		N/A
	Units of physical quantities and their symbols according to international standardized system		P
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless		P
	correct mode of connection is obvious		P
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		-

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	- marking of terminals exclusively for the neutral conductor (letter N)		N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)		P
	- marking of functional earthing terminals (symbol IEC 60417-5018)		N/A
	- marking not placed on removable parts		P
7.9	Marking or placing of switches which may cause a hazard	No switch	N/A
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means .... :		N/A
	This applies also to switches which are part of a control		N/A
	If figures are used, the off position indicated by the figure 0		N/A
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		N/A
7.11	Indication for direction of adjustment of controls		N/A
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	The instructions state that:		-
	- the appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction		P
	- children being supervised not to play with the appliance		P
	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided		N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless		N/A
	it is a battery-operated appliance, the battery being charged outside the appliance		N/A
	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated .... :		P
	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	If the instructions state that the guard has to be removed for cleaning purposes, the instructions shall state the substance of the following: (IEC 60335-2-80/A1)		-
	Ensure that the fan is switched off from the supply mains before removing the guard.		N/A
	The instructions for ceiling fans shall include the substance of the following warning:		-
	WARNING: If unusual oscillating movement is observed, immediately stop using the ceiling fan and contact the manufacturer, its service agent or suitably qualified persons. (IEC 60335-2-80/A1)	Axial fan	N/A
	The instructions for ceiling fans shall include the substance of the following: (IEC 60335-2-80/A1)		-
	– the maintenance cycle and method of maintenance; (IEC 60335-2-80/A1)	Axial fan	N/A
	– the weight of the appliance in kilograms; (IEC 60335-2-80/A1)		N/A
	– that the replacement of parts of the safety suspension system device shall be performed by the manufacturer, its service agent or suitably qualified persons. (IEC 60335-2-80/A1)		N/A
	The instructions for fans incorporating motors containing brushes shall include the substance of the following: (IEC 60335-2-80/A1)		-
	If it is necessary to replace the live or neutral brushes to ensure operation of the motor then both brushes and the earth brush shall be replaced at the same time. The brushes shall only be replaced by a suitably qualified person. (IEC 60335-2-80/A1)		N/A
7.12.1	Sufficient details for installation supplied		P
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	The installation instructions for ceiling fans shall include the substance of the following: (IEC 60335-2-80)		-
	– the fixing means for attachment to the ceiling such as hooks or other devices shall be fixed with a sufficient strength to withstand 4 times the weight of the ceiling fan; (IEC 60335-2-80)	Axial fan	N/A
	– that the mounting of the suspension system shall be performed by the manufacturer, its service agent or suitably qualified persons; (IEC 60335-2-80)		N/A
	– that the fan is to be installed so that the blades are more than 2,3 m above the floor; (IEC 60335-2-80)		N/A
	– the model or type reference of a luminaire that may be installed in a fan constructed for this purpose. (IEC 60335-2-80)		N/A
	The instructions for other fans shall include the substance of the following: (IEC 60335-2-80)		-
	– whether the fan is intended for mounting in outside windows or walls (for partition fans); (IEC 60335-2-80)		N/A
	– that the fan is to be installed so that the blades are more than 2,3 m above the floor (for fans intended to be mounted at high level); (IEC 60335-2-80)		N/A
	– that precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances (for duct and partition fans). (IEC 60335-2-80)		P
	If different rated voltages or different rated frequencies are marked, the instructions state what action to be taken to adjust the appliance		P
7.12.2	Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules		P
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected		N/A
7.12.4	Instructions for built-in appliances:		-
	- dimensions of space		N/A
	- dimensions and position of supporting and fixing		N/A
	- minimum distances between parts and surrounding structure		N/A
	- minimum dimensions of ventilating openings and arrangement		N/A
	- connection to supply mains and interconnection of separate components		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless		N/A
	a switch complying with 24.3		N/A
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A
	Replacement cord instructions, type Y attachment	Y attachment	P
	Replacement cord instructions, type Z attachment		N/A
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard		P
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed		P
7.12.8	Instructions for appliances connected to the water mains:		-
	- max. inlet water pressure (Pa) .... :		N/A
	- min. inlet water pressure, if necessary (Pa)..... :		N/A
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		N/A
7.12.9	Instructions specified in 7.12 and from 7.12.1 to 7.12.8 appear together before any other instructions supplied with the appliance	Refer to instruction manual	P
	These instructions may be supplied with the appliance separately from any functional use booklet		N/A
	They may follow the description of the appliance that identifies parts, or follow the drawings/sketches		N/A
	In addition, instructions are also available in an alternative format such as on a website or on request from the user in a format such as a DVD		N/A
	In addition, instructions are also available in an alternative format such as on a website or in a format such as a DVD .... :		N/A
7.13	Instructions and other texts in an official language		P
7.14	Marking clearly legible and durable, rubbing test as specified		P
	Signal words WARNING, CAUTION, DANGER in uppercase having a height as specified.. ..... :		N/A
	Uppercase letter of the text explaining the signal word not smaller than 1,6 mm .... :		N/A
	Moulded in, engraved, or stamped markings either raised above or have a depth below the surface of at least 0,25 mm, unless		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	contrasting colours are used		N/A
	Markings checked by inspection, measurement and rubbing test as specified		N/A
7.15	Markings on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool		N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		P
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		P
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading		N/A
	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180		N/A
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		N/A
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed		P
	Lamps behind a detachable cover not removed, if conditions met		N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N/A
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts	Test probe B	P
	Use of test probe B of IEC 61032 through openings, with a force of 20N: no contact with live parts		P
	Lamps are not removed. However, during insertion or removal of lamps, no contact with live parts of the lamp cap. (IEC 60335-2-8)		N/A
8.1.2	Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		N/A
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032, with a force not exceeding 1 N: no contact with live parts of visible glowing heating elements		N/A
	For a single switching action obtained by a switching device, requirements as specified		N/A
	For appliances with a supply cord and without a switching device, the single switching action may be obtained by the withdrawal of the plug		N/A
8.1.4	Accessible part not considered live if:		-
	- safety extra-low a.c. voltage: peak value not exceeding 42.4 V		N/A
	- safety extra-low d.c. voltage: not exceeding 42.4 V		N/A
	- or separated from live parts by protective impedance		N/A
	If protective impedance: d.c. current not exceeding 2 mA, and		N/A
	a.c. peak value not exceeding 0.7 mA		N/A
	- for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0,1 μF		N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μC		N/A
	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ		N/A
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		-
	- built-in appliances		N/A
	- fixed appliances		N/A
	- appliances delivered in separate units		N/A
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		N/A
	Only possible to touch parts separated from live parts by double or reinforced insulation		N/A
	After removal of detachable parts for user maintenance purposes, the basic insulation of internal wiring may be touched provided the equivalent insulating of cords complying with IEC 60227 or IEC 60245. (IEC 60335-2-80)		N/A
9	STARTING OF MOTOR-OPERATED APPLIANCES		

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	Requirements and tests are specified in part 2 when necessary		N/A
10	POWER INPUT AND CURRENT		
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1..... :	(see appended table)	P
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the power input is the arithmetic mean value		P
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		P
	the rated power input is related to the arithmetic mean value		P
	Appliances are tested with shutters or similar devices in the open position.(IEC 60335-2-80)		N/A
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2 ..... :	(see appended table)	P
	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the current is the arithmetic mean value		P
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		P
	the rated current is related to the arithmetic mean value of the range		P
	Appliances are tested with shutters or similar devices in the open position. (IEC 60335-2-80)		N/A
11	HEATING		
11.1	No excessive temperatures in normal use		P
11.2	The appliance is held, placed or fixed in position as described ..... :		P
11.3	Temperature rises, other than of windings, determined by thermocouples		P

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	Temperature rises of windings determined by resistance method, unless		P
	the windings are non-uniform or it is difficult to make the necessary connections		N/A
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W) ..... :		N/A
11.5	Motor-operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V) ..... :	380-400 Vac x 1,06 = 424 Vac	P
11.6	Combined appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V) ..... :		N/A
11.7	Appliances are operated until steady conditions are established. (IEC 60335-2-80)		P
11.8	Temperature rises monitored continuously and not exceeding the values in table 3 ..... :	(see appended table)	P
	If the temperature rise of a motor winding exceeds the value of table 3, or		N/A
	if there is doubt with regard to classification of insulation,		N/A
	tests of Annex C are carried out		N/A
	Sealing compound does not flow out		N/A
	Protective devices do not operate, except		N/A
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4		N/A
	The temperature rise limits for appliances for tropical climates are reduced by 15 K. (IEC 60335-2-80)		N/A
	The temperature rise limits for fans marked with an ambient operating temperature are reduced by the difference between the marked value and 25 °C. (IEC 60335-2-80/A1)		N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1.15 times the rated power input (W) ..... :		N/A
	Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V)..... :	400 Vac x 1,06 = 424 Vac	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
13.2	For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990	Class I	N/A
	For other appliances, a low impedance ammeter may be used		P
	Leakage current measurements..... :	(see appended table)	P
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table 4..... :	(see appended table)	P
	No breakdown during the tests		P
14	TRANSIENT OVERVOLTAGES		
	Appliances withstand the transient over-voltages to which they may be subjected		N/A
	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6 ..... :	(see appended table)	N/A
	No flashover during the test, unless		N/A
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited		N/A
15	MOISTURE RESISTANCE		
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance		P
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3		P
	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29		P
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529..... :	IP55	P
	Water valves containing live parts in external hoses for connection of an appliance to the water mains tested as specified for IPX7 appliances		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	The outer part of fans to be installed in the external structure is subjected to subclause 14.2.4(a) of IEC 60529:1989. The part of fans that is not mounted on the outside surface is protected against the spray water from the oscillating tube. (IEC 60335-2-80)		P
	The test is carried out with the appliance in the rest position and then in operation while supplied at rated voltage, shutters or similar devices being in the open position. (IEC 60335-2-80)		N/A
	Fans marked with the second numeral of the IP system are subjected to the appropriate test of IEC 60529 both at rest and in operation while supplied at rated voltage. (IEC 60335-2-80)		N/A
15.1.2	Hand-held appliance turned continuously through the most unfavourable positions during the test		N/A
	Built-in appliances installed according to the instructions		N/A
	Appliances placed or used on the floor or table placed on a horizontal unperforated support		N/A
	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board		P
	For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube		N/A
	For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube, and		N/A
	for appliances normally used on the floor or table, the movement is limited to two times 90° for a period of 5 min, the support being placed at the level of the pivot axis of the oscillating tube		N/A
	Wall-mounted appliances, take into account the distance to the floor stated in the instructions		P
	Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support, the pivot axis of the oscillating tube located at the level of the underside of the support, and		P
	for IPX4 appliances, the movement of the tube is limited to two times 90° from the vertical for a period of 5 min		N/A
	Appliances with type X attachment fitted with a flexible cord as described		N/A
	Detachable parts subjected to the relevant treatment with the main part		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	However, if a part has to be removed for user maintenance and a tool is needed, this part is not removed		N/A
15.2	Spillage of liquid does not affect the electrical insulation		N/A
	Spillage solution comprising water containing approximately 1 % NaCl and 0,6 % rinsing agent		N/A
	Appliances with type X attachment fitted with a flexible cord as described		N/A
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable		N/A
	Detachable parts are removed		N/A
	Overfilling test with additional amount of water, over a period of 1 min (l)..... :		N/A
	The appliance withstands the electric strength test of 16.3		N/A
	No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29		N/A
15.3	Appliances proof against humid conditions		P
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		P
	Detachable parts removed and subjected, if necessary, to the humidity test with the main part		P
	Humidity test for 48 h in a humidity cabinet		P
	Reassembly of those parts that may have been removed		P
	The appliance withstands the tests of clause 16		P
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		
16.1	Leakage current not excessive and electric strength adequate		P
	Protective impedance disconnected from live parts before carrying out the tests		N/A
	Tests carried out at room temperature and not connected to the supply		P
16.2	Single-phase appliances: test voltage 1.06 times rated voltage (V)..... :		N/A
	Three-phase appliances: test voltage 1.06 times rated voltage divided by √3 (V)..... :	400 Vac x 1,06 / √3 = 245 Vac	P
	Leakage current measurements..... :	(see appended table)	P
	Limit values doubled if:		-

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	- all controls have an off position in all poles, or		N/A
	- the appliance has no control other than a thermal cut-out, or		N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		N/A
	- the appliance has radio interference filters		N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified .... :	(see appended table)	N/A
16.3	Electric strength tests according to table 7..... :	(see appended table)	P
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified ..... :	(see appended table)	P
	No breakdown during the tests		P
17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use ..... :	(see appended table)	N/A
	Appliance supplied with 1.06 or 0.94 times rated voltage under the most unfavourable short-circuit or overload likely to occur in normal use (V) ..... :		N/A
	Basic insulation is not short-circuited		N/A
	Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K		N/A
	Temperature of the winding not exceeding the value specified in table 8		N/A
	However, limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1		N/A
18	ENDURANCE		
	Requirements and tests are specified in part 2 when necessary		N/A
19	ABNORMAL OPERATION		
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe ..... :	(see appended table)	N/A
	Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and		N/A
	if the appliance also has a control that limit the temperature during clause 11 it is subjected to the test of 19.4, and		N/A
	if applicable, to the test of 19.5		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	Appliances incorporating PTC heating elements are also subjected to the test of 19.6		N/A
	Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable	Only Cl.19.7	P
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable		N/A
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		N/A
	Appliances incorporating voltage selector switches subjected to the test of 19.15		N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		N/A
	until steady conditions are established		P
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample		N/A
	If the control performs more than one function, only that aspect of the control under consideration is rendered inoperative. Other functions of the control may continue to operate normally.		N/A
	Fans incorporating shutters or similar subjected to the test of cl. 19.101 (IEC 60335-2-80)		N/A
19.2	Test of appliances with heating elements with restricted heat dissipation; test voltage (V), power input of 0.85 times rated power input (W) ..... :		N/A
19.3	Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W) ..... :		N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		N/A
19.5	Test of 19.4 repeated on Class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath		N/A
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		N/A
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4		N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	The working voltage of the PTC heating element is increased by 5% and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1.5 times working voltage or until the PTC heating element ruptures (V):		N/A
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or		N/A
	locking moving parts of other appliances		P
	Locked rotor, capacitors open-circuited one at a time	No capacitor	N/A
	Test repeated with capacitors short-circuited one at a time, unless		N/A
	the capacitor is of class S2 or S3 of IEC 60252-1		N/A
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed..... :		N/A
	An electronic timer or programmer that operates to ensure compliance with the test before the maximum period under the conditions of Clause 11 is reached, is a protective electronic circuit		N/A
	Other appliances supplied with rated voltage for a period as specified..... :		P
	Winding temperatures not exceeding values specified in table 8 ..... :	(see appended table)	P
	Mounting of separate control (IEC 60335-2-8)		N/A
	Approximately 50 % of the area of each ventilating opening is blocked. (IEC 60335-2-8)		N/A
	Winding temperatures not exceeding values specified in table 8 (IEC 60335-2-8)	(see appended table)	N/A
	The temperature rise of the board not exceed: (IEC 60335-2-8)		-
	– 50 K, for appliances with T marking;		N/A
	– 65 K, for other appliances.		N/A
19.8	Multi-phase motors operated at rated voltage with one phase disconnected		P
19.9	Not applicable. (IEC 60335-2-8)		N/A
19.10	Series motor operated at 1.3 times rated voltage for 1 min (V) ..... :		N/A
	During the test, parts not being ejected from the appliance		N/A
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless	No electronic circuit	N/A
	they comply with the conditions specified in 19.11.1		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless		N/A
	restarting does not result in a hazard		N/A
	Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4		N/A
	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out		N/A
	During and after each test the following is checked:		-
	- the temperature of the windings do not exceed the values specified in table 8		N/A
	- the appliance complies with the conditions specified in 19.13		N/A
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4		N/A
	If a conductor of a printed board becomes open-circuited, the appliance is considered to have withstood the particular test, provided both of the following conditions are met:		-
	- the base material of the printed circuit board withstands the test of Annex E		N/A
	- any loosened conductor does not reduce clearance or creepage distances between live parts and accessible metal parts below the values specified in clause 29		N/A
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to circuits or parts of circuits meeting both of the following conditions:		-
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified		N/A
	- the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction of other parts of the appliance does not rely on the correct functioning of the electronic circuit		N/A
19.11.2	Fault conditions applied one at a time, the appliance operating under conditions specified in clause 11, but supplied at rated voltage, duration of the tests as specified:		-
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29	No electronic circuit	N/A
	b) open circuit at the terminals of any component		N/A
	c) short circuit of capacitors, unless		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	they comply with IEC 60384-14		N/A
	d) short circuit of any two terminals of an electronic component, other than integrated circuits		N/A
	This fault condition is not applied between the two circuits of an optocoupler		N/A
	e) failure of triacs in the diode mode		N/A
	f) failure of microprocessors and integrated circuits		N/A
	g) failure of an electronic power switching device		N/A
	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made		N/A
19.11.3	If the appliance incorporates a protective electronic circuit which operates to ensure compliance with clause 19, the relevant test is repeated with a single fault simulated, as indicated in a) to g) of 19.11.2		N/A
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or	No stand-by mode, remote control or PEC	N/A
	a device that can be placed in the stand-by mode,		N/A
	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode		N/A
	Appliances incorporating a protective electronic circuit subjected to the tests of 19.11.4.1 to 19.11.4.7, the tests being carried out after the protective electronic circuit has operated, except that		N/A
	appliances operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena.		N/A
	Surge protective devices disconnected, unless		N/A
	They incorporate spark gaps		N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4		N/A
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3		N/A
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified		N/A
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified		N/A
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling		N/A
	Earthed heating elements in class I appliances disconnected		N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		N/A
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-11		N/A
	Appliances having a rated current exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-34		N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2		N/A
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation. After 60s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate		N/A
	The appliance continues to operate normally, or		N/A
	requires a manual operation to restart		N/A
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A)..... :	No miniature fuse-link	N/A
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9..... :	(see appended table)	P
	Compliance with clause 8 not impaired		P
	If the appliance can still be operated it complies with 20.2		N/A
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		-
	- basic insulation (V)..... :	1250 Vac	P
	- supplementary insulation (V)..... :		N/A
	- reinforced insulation (V) ..... :	3000 Vac	P

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Clause	Requirement - Test	Result - Remark	Verdict
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage		N/A
	The appliance does not undergo a dangerous malfunction, and		P
	no failure of protective electronic circuits, if the appliance is still operable		N/A
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		-
	- do not become operational, or		N/A
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		N/A
	If the appliance contains lids or doors that are controlled by one or more interlocks, one of the interlocks may be released provided that:		-
	- the lid or door does not move automatically to an open position when the interlock is released, and		N/A
	- the appliance does not start after the cycle in which the interlock was released		N/A
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited	No relay or contactor	N/A
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time		N/A
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited		N/A
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied		N/A
19.101	Fans incorporating shutters or similar that are operated automatically are supplied at rated voltage in the closed or open position, whichever is more unfavourable (IEC 60335-2-80)	No shutters	N/A
20	STABILITY AND MECHANICAL HAZARDS		
20.1	Appliances having adequate stability	Stationary fixed appliance	N/A
	Tilting test through an angle of 10°, appliance placed on an inclined plane/horizontal support, not connected to the supply mains; appliance does not overturn		N/A
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9		N/A
	Portable pedestal fans exceeding 1,7 m and exceeding 10 kg tested with a force of 40 N at 1,5 m. (IEC 60335-2-80)		N/A
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury		P
	Protective enclosures, guards and similar parts are non-detachable, and		P
	have adequate mechanical strength		P
	Enclosures that can be opened by overriding an interlock are considered to be detachable parts		P
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure		N/A
	Not possible to touch dangerous moving parts with the test probe described		P
20.101	Fan blades, other than those for mounting at high level, shall be guarded, unless their leading edges and tips are rounded with a radius of not less than 0,5 mm and: (IEC 60335-2-80)		N/A
	-they have a hardness less than D 60 Shore, or		N/A
	-they have a peripheral speed less than 15 m/s when the fan is supplied at rated voltage, or		N/A
	-the fan has a power output not exceeding 2 W when supplied at rated voltage.		N/A
20.102	There shall be no risk of entrapment or injury caused by movement of the oscillating head of pedestal fans or table fans. (IEC 60335-2-80)	Axial fan	N/A
	Unless the entrapment point is guarded so that it cannot be touched by test probe 18 of IEC 61032, the appliance is operated at rated voltage and test probe 18 is placed at the entrapment point across the width and height of its opening. (IEC 60335-2-80)		N/A
	If test probe 18 is touched by the moving part, it shall not be subjected to a force exceeding 15 N. (IEC 60335-2-80)		N/A
21	MECHANICAL STRENGTH		
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J		P

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Clause	Requirement - Test	Result - Remark	Verdict
	The appliance shows no damage impairing compliance with this standard, and		P
	compliance with 8.1, 15.1 and clause 29 not impaired		P
	If doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3		N/A
	If necessary, repetition of groups of three blows on a new sample		N/A
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements		P
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm	3,85 mm > 2 mm	P
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		P
21.101	Fan guards are subjected to a push and pull force of 20 N applied along the axis of the motor. Dangerous moving parts are not accessible with a test probe that is similar to test probe B of IEC 61032, but having a circular stop face with a diameter of 50 mm instead of the non-circular face. (IEC 60335-2-80)	Axial fan	N/A
	The test probe is applied with a force not exceeding 5N. (IEC 60335-2-80)		N/A
21.102	Ceiling fans have adequate strength. Ceiling fans are mounted in accordance with the installation instructions. A load equal to four times the mass of the fan is suspended from the body of the fan for 1 min. A torque of 1 Nm is then applied to the fixed body of the fan for 1 min. The test is repeated with the torque applied in the reverse direction. The suspension system including any safety suspension system device shall not break and the fan shall not be damaged to such an extent that compliance with 8.1, 16.3 and Clause 29 is impaired. (IEC 60335-2-80)	Axial fan	N/A
22	CONSTRUCTION		
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	IP55	P
	NOTE 101 The enclosure defined in IEC 60529 does not include guards for fan blades. (IEC 60335-2-80)		P
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		-
	- a supply cord fitted with a plug, or		N/A
	- a switch complying with 24.3, or		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or		P
	- an appliance inlet		N/A
	Singe-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class 01 and class I appliances, connected to the phase conductor		N/A
22.3	Appliance provided with pins: no undue strain on socket-outlets		N/A
	Applied torque not exceeding 0.25 Nm		N/A
	Pull force of 50N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1mm		N/A
	Each pin subjected to a torque of 0.4Nm; the pins are not rotating, unless		N/A
	rotating does not impair compliance with this standard		N/A
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		N/A
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance exceeding 0,1μF, the appliance being disconnected from the supply at the instant of voltage peak	No capacitor	N/A
	Voltage not exceeding 34 V (V)..... :		N/A
	If compliance relies on the operation of an electronic circuit, the electromagnetic phenomena tests of 19.11.4.3 and 19.11.4.4 are applied		N/A
	The discharge test is then repeated three times, voltage not exceeding 34 V (V)..... :		N/A
22.6	Electrical insulation not affected by condensing water or leaking liquid		N/A
	Electrical insulation of Class II appliances not affected if a hose ruptures or seal leaks		N/A
	In case of doubt, test as described		N/A
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices		N/A
22.8	Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use		P

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Clause	Requirement - Test	Result - Remark	Verdict
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless		P
	the substance has adequate insulating properties		P
22.10	Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if:		N/A
	- a non-self-resetting thermal cut-out is required by the standard, and		N/A
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it		N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless		N/A
	they are voltage maintained		N/A
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		N/A
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts		P
	Obvious locked position of snap-in devices used for fixing such parts		N/A
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing		P
	The 50 N force is not applied to clips used to fasten fan guards. (IEC 60335-2-80)		N/A
	Instead, a force of 15 N is applied in any direction to the clips in an attempt to release them. (IEC 60335-2-80)	Supply box cover	P
	Tests as described		P
22.12	Handles, knobs etc. fixed in a reliable manner, if loosening result in a hazard		N/A
	Removing or fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible, if resulting in a hazard		N/A
	A choking hazard does not apply to appliances for commercial use		N/A
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		N/A
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	If the part is removed and can be contained within the small parts cylinder, it is considered to be a choking hazard		N/A
22.13	Unlikely that handles, when gripped as in normal use, make the operator's hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only		N/A
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance		P
	No exposed pointed ends of self-tapping screws or other fasteners, likely to be touched by the user in normal use or during user maintenance		P
22.15	Storage hooks and the like for flexible cords smooth and well rounded		N/A
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands and no undue wear of contacts		N/A
	Cord reel tested with 6000 operations, as specified		N/A
	Electric strength test of 16.3, voltage of 1000 V applied		N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		N/A
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.19	Driving belts not relied upon to provide the required level of insulation, unless		N/A
	constructed to prevent inappropriate replacement		N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		N/A
	material used is non-corrosive, non-hygroscopic and non-combustible		N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless		P
	impregnated		N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		N/A
22.22	Appliances not containing asbestos	Declared by manufacturer	P
22.23	Oils containing polychlorinated biphenyl (PCB) not used	Declared by manufacturer	P
22.24	Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts		N/A
22.25	Sagging heating conductors, except in class III appliances or class III constructions that do not contain live parts, cannot come into contact with accessible metal parts		N/A
22.26	For class III constructions the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation		N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulation		N/A
22.28	Metal parts of Class II appliances conductively connected to gas pipes or in contact with water, separated from live parts by double or reinforced insulation		N/A
22.29	Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation		N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or		N/A
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		N/A
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear		P
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		N/A
22.32	Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29		P
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2		N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Ceramic and similar porous material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		N/A
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N/A
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts		N/A
	unearthed metal parts separated from live parts by basic insulation only		N/A
	Electrodes not used for heating liquids		N/A
	For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts, not in direct contact with basic or reinforced insulation, unless		N/A
	the reinforced insulation consists of at least 3 layers		N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless		N/A
	the reinforced insulation consists of at least 3 layers		N/A
	An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid		N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless	No shaft	N/A
	the shaft is not accessible when the part is removed		N/A
22.35	For other than class III constructions, handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation		N/A
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, are either adequately covered by insulation material or their accessible parts are separated from their shafts or fixings by supplementary insulation		N/A
	This requirement does not apply to handles, levers and knobs on stationary appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal		N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
22.36	For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless		N/A
	they are separated from live parts by double or reinforced insulation		N/A
22.37	Capacitors in Class II appliances not connected to accessible metal parts and their casings, if of metal, separated from accessible metal parts by supplementary insulation, unless	Class I appliance, no capacitor	N/A
	the capacitors comply with 22.42		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out	No capacitor	N/A
22.39	Lamp holders used only for the connection of lamps		N/A
22.40	Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible	Stationary and fixed motor appliance	N/A
	If the appliance cannot operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch for stopping the operation. The actuating member of the switch being easily visible and accessible		N/A
22.41	No components, other than lamps, containing mercury	Declared by manufacturer	P
22.42	Protective impedance consisting of at least two separate components		N/A
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		N/A
	Resistors checked by the test of 14.1 a) in IEC 60065		N/A
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14		N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		N/A
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		P
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure		P

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Clause	Requirement - Test	Result - Remark	Verdict
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1		N/A
	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards		N/A
	These requirements are not applicable to software used for functional purpose or compliance with clause 11		N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use		N/A
	No leakage from any part, including any inlet water hose		N/A
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water		N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless		N/A
	the appliance switches off automatically or can operate continuously without hazard		N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation		N/A
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode		N/A
	There is a visual indication showing that the appliance is adjusted for remote operation		N/A
	These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard:		-
	- continuously, or		N/A
	- automatically, or		N/A
	- remotely		N/A
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold		N/A
22.53	Class II appliances and class III appliances that incorporate functionally earthed parts have at least double insulation or reinforced insulation between live parts and the functionally earthed parts		N/A
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously		N/A
22.55	Devices operated to stop the intended function of the appliance, if any, are be distinguished from other manual devices by means of shape, size, surface texture or position .....:		N/A
	The requirement concerning position does not preclude use of a push on push off switch		N/A
	An indication when the device has been operated is given by:		N/A
	– tactile feedback from the actuator or from the appliance, or		N/A
	– reduction in heat output; or		N/A
	– audible and visible feedback		N/A
22.56	Detachable power supply part provided with the part of class III construction		N/A
22.57	The properties of non-metallic materials do not degrade from exposure to UV-C radiation, as specified in Annex T		N/A
	This requirement does not apply to glass, ceramics or similar materials		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
22.101	Appliances having provision for attaching a luminaire incorporate appropriate terminals and internal wiring. The internal wiring associated with the luminaire shall have insulation at least equivalent to silicone rubber compound type IE2 complying with IEC 60245-3. This requirement is not applicable to fans incorporating a luminaire that cannot be replaced without breaking the appliance. (IEC 60335-2-80)		N/A
22.102	The ceiling fan shall be constructed so that a failure of the fixing device of the motor to the mounting rod could not give rise to risk of injury to the user or surroundings. (IEC 60335-2-80)		N/A
22.102.1	The ceiling fan shall incorporate a device that disconnects the fan from the supply before the suspension system fails. An example of this construction is shown in Figure 101. (IEC 60335-2-80)		N/A
22.102.2	The ceiling fan shall be constructed so that the fan motor and blades do not fall more than 300 mm after failure of the suspension system and the fan shall be disconnected from the supply. An example of this construction is shown in Figure 103. (IEC 60335-2-80)		N/A
22.102.3	The ceiling fan shall be constructed so that the fan blades and motor are connected to the suspension system via a threaded down rod that is locked by means of one or more setscrews. An example of this construction is shown in Figure 104. (IEC 60335-2-80)		N/A
22.102.4	The ceiling fan shall be constructed so that an additional through bolt, lock washer and nut, or the like limits the distance of drop by no more than 75 mm in case of the suspension system failure. An example of this construction is shown in Figure 105. (IEC 60335-2-80)		N/A
22.102.5	The ceiling fan shall be constructed so that all components required to prevent the failure of the suspension system are treated or coated to resist corrosion. Any fixing bolts shall have a minimum diameter of 5 mm and a minimum tensile strength of 200 MPa. Any such bolts shall have provision to prevent them working loose due to vibration. An example of this construction is shown in Figure 106. (IEC 60335-2-80)		N/A
23	INTERNAL WIRING		
23.1	Wireways smooth and free from sharp edges		P
	Wires protected against contact with burrs, cooling fins etc.		P
	Wire holes in metal well-rounded or provided with bushings		P
	Wiring effectively prevented from coming into contact with moving parts		P

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Clause	Requirement - Test	Result - Remark	Verdict
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges		N/A
	Beads inside flexible metal conduits contained within an insulating sleeve		N/A
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress		N/A
	Flexible metallic tubes not causing damage to insulation of conductors		N/A
	Open-coil springs not used		N/A
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N/A
	No damage after 100 000 flexings for conductors flexed during normal use and at rated voltage, or (IEC 60335-2-80)	Stationary fixed appliance	N/A
	100 flexings for conductors flexed during user maintenance		N/A
	Electric strength test of 16.3, 1000 V between live parts and accessible metal parts		N/A
	Not more than 10% of the strands of any conductor broken, and		N/A
	not more than 30% for wiring supplying circuits that consume no more than 15W		N/A
23.4	Bare internal wiring sufficiently rigid and fixed		N/A
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use		N/A
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or		N/A
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		N/A
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or		N/A
	be such that it can only be removed by breaking or cutting		N/A
23.7	The colour combination green/yellow only used for earthing conductors		P
23.8	Aluminium wires not used for internal wiring		P
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	the contact pressure is provided by spring terminals		N/A
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)		N/A
24	COMPONENTS		
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components ..... :	(see appended table)	P
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance		P
	Relays tested as part of the appliance, or		N/A
	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1		N/A
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance		P
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard		P
	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections		P
	Components that have not been previously tested to comply with the IEC standard for the relevant component are tested according to the requirements of 30.2		P
	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met		P
	If these conditions are not satisfied, the component is tested as part of the appliance.		P
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance		N/A
	If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		P

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Clause	Requirement - Test	Result - Remark	Verdict
	For components mentioned in 24.1.1 to 24.1.9 no additional tests specified in the relevant component standard are necessary other than those specified in 24.1.1 to 24.1.9		P
	Components not tested and found to comply with relevant IEC standard and components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance		P
	Lampholders and starterholders that have not being tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant IEC standard		N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of IEC 60320-1 and IEC 60309		N/A
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, complying with IEC 60384-14	No X2 capacitor	N/A
	If the capacitors have to be tested, they are tested according to Annex F		N/A
24.1.2	Transformers in associated switch mode power supplies comply with Annex BB of IEC 61558-2-16	No safety isolating transformer	N/A
	Safety isolating transformers complying with IEC 61558-2-6		N/A
	If they have to be tested, they are tested according to Annex G		N/A
24.1.3	Switches complying with IEC 61058-1, the number of cycles of operation being at least 10 000	No switch	N/A
	If they have to be tested, they are tested according to Annex H		N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		N/A
	If the switch only operates a motor staring relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested		N/A
24.1.4	Automatic controls complying with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:		-
	- thermostats: 10 000		N/A
	- temperature limiters: 1 000		N/A
	- self-resetting thermal cut-outs: 300		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	- voltage maintained non-self-resetting thermal cut-outs: 1 000		N/A
	- other non-self-resetting thermal cut-outs: 30		N/A
	- timers: 3 000		N/A
	- energy regulators: 10 000		N/A
	The number of cycles for controls operating during clause 11 need not be declared, if the appliance meets the requirements of this standard when they are short-circuited		N/A
	Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D	No thermal motor protector	N/A
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7		N/A
	Thermal cut-outs of the capillary type comply with the requirements for type 2.K controls in IEC 60730-2-9		N/A
24.1.5	Appliance couplers complying with IEC 60320-1		N/A
	However, for appliances classified higher than IPX0, the appliance couplers complying with IEC 60320-2-3		N/A
	Interconnection couplers complying with IEC 60320-2-2		N/A
24.1.6	Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicable		N/A
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151		N/A
24.1.8	The relevant standard for thermal links is IEC 60691		N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19		N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance		N/A
	They are also tested in accordance with Clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance..... :		N/A
24.2	Appliances not fitted with:		-
	- switches or automatic controls in flexible cords		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		N/A
	- thermal cut-outs that can be reset by soldering, unless		N/A
	the solder has a melding point of at least 230 °C		N/A
	Switches or automatic controls in flexible cords are allowed for appliances not exceeding 25 W. (IEC 60335-2-80)		N/A
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions		P
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1		N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly	No motor capacitor	N/A
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load		N/A
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V		N/A
	In addition, the motors comply with the requirements of Annex I		N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		N/A
	They are supplied with the appliance		N/A
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set		N/A
24.8	Motor running capacitors in appliances for which 30.2.3 is applicable and that are permanently connected in series with a motor winding, not causing a hazard in event of a failure	No motor running capacitor	N/A
	One or more of the following conditions are to be met:		-
	- the capacitors are of class S2 or S3 according to IEC 60252-1		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	- the capacitors are housed within a metallic or ceramic enclosure		N/A
	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm		N/A
	- adjacent non-metallic parts within 50 mm withstand the needle-flame test of Annex E		N/A
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10		N/A
24.101	Thermal cut-outs in duct fans in order to comply with cl. 19 are not self-resetting (IEC 60335-2-80)		N/A
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:		-
	- supply cord fitted with a plug, the current rating and voltage rating of the plug being not less than the corresponding ratings of its associated appliance		N/A
	- an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or		N/A
	- pins for insertion into socket-outlets		N/A
25.2	Appliance not provided with more than one means of connection to the supply mains		N/A
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown		N/A
25.3	Appliance intended to be permanently connected to fixed wiring provided with one of the following means for connection to the supply mains:		-
	- a set of terminals allowing the connection of a flexible cord		N/A
	- a fitted supply cord		N/A
	- a set of supply leads accommodated in a suitable compartment		P
	- a set of terminals for the connection of cables of fixed wiring, cross-sectional areas specified in 26.6, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support		N/A
	- a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate types of cable or conduit, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	For a fixed appliance constructed so that parts can be removed to facilitate easy installation, this requirement is met if it is possible to connect the fixed wiring without difficulty after a part of the appliance has been fixed to its support		N/A
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm) ..... :	41,9 A, stationary fixed appliance	N/A
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in clause 29		N/A
25.5	Method for assembling the supply cord to the appliance:		-
	- type X attachment		N/A
	- type Y attachment	Y attachment	P
	- type Z attachment is allowed for portable fans (IEC 60335-2-80)		N/A
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords		N/A
	For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment		N/A
25.6	Plugs fitted with only one flexible cord	No plug	N/A
25.7	Supply cords, other than for class III appliances, being one of the following types:		-
	- rubber sheathed (at least 60245 IEC 53)	No supply cord	N/A
	- polychloroprene sheathed (at least 60245 IEC 57)		N/A
	- polyvinyl chloride sheathed. Not used if they are likely to touch metal parts having a temperature rise exceeding 75 K during the test of clause 11		-
	• light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg		N/A
	• ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances		N/A
	- heat resistant polyvinyl chloride sheathed. Not used for type X attachment other than specially prepared cords		-
	• heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg		N/A
	• heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances		N/A
	- halogen-free, low smoke, thermoplastic insulated and sheathed		-
	• - light duty halogen-free low smoke flexible cable (62821 IEC 101) for circular cable and (62821 IEC 101f) for flat cable		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	• - Ordinary duty halogen-free low smoke flexible cable (62821 IEC 102) for circular cable and (62821 IEC 102f) for flat cable		N/A
	Supply cords for class III appliances adequately insulated		N/A
	Test with 500 V for 2 min for supply cords of class III appliances that contain live parts		N/A
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm^2) ..... :	36,5 A ; 6 mm^2	P
25.9	Supply cords not in contact with sharp points or edges		P
25.10	Supply cord of class I appliances have a green/yellow core for earthing		P
	In multi-phase appliances, the colour of the neutral conductor of the supply cord is blue.	No neutral conductor	N/A
	Where additional neutral conductors are provided in the supply cord:		-
	- other colours may be used for these additional neutral conductors;		N/A
	- all of the neutral conductors and line conductors are identified by marking using the alpha numeric notation specified in IEC 60445		N/A
	- the supply cord is fitted to the appliance		N/A
25.11	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless		N/A
	the contact pressure is provided by spring terminals		N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure		N/A
25.13	Inlet openings so constructed as to prevent damage to the supply cord		P
	If the enclosure at the inlet opening is not of insulating material, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided		N/A
	If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is		N/A
	class 0, or		N/A
	a class III appliance not containing live parts		N/A
25.14	Supply cords moved while in operation adequately protected against excessive flexing		N/A
	Flexing test, as described:		-

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Clause	Requirement - Test	Result - Remark	Verdict
	- applied force (N)..... :		N/A
	- number of flexings..... :		N/A
	The test does not result in:		-
	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current		N/A
	- breakage of more than 10% of the strands of any conductor		N/A
	- separation of the conductor from its terminal		N/A
	- loosening of any cord guard		N/A
	- damage to the cord or the cord guard		N/A
	- broken strands piercing the insulation and becoming accessible		N/A
25.15	For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage	Cord anchorage	P
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		P
	Pull and torque test of supply cord:		-
	- fixed appliances: pull 100 N; torque (not on automatic cord reel) (Nm)..... :		P
	- other appliances: values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm)..... :	>100 kg ; 100 N	P
	Cord not damaged and max. 2 mm displacement of the cord	< 2 mm	P
25.16	Cord anchorages for type X attachments constructed and located so that:		-
	- replacement of the cord is easily possible	Y attachment	N/A
	- it is clear how the relief from strain and the prevention of twisting are obtained		N/A
	- they are suitable for different types of supply cord		N/A
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless		N/A
	they are separated from accessible metal parts by supplementary insulation		N/A
	- the cord is not clamped by a metal screw which bears directly on the cord		N/A
	- at least one part of the cord anchorage securely fixed to the appliance, unless		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	it is part of a specially prepared cord		N/A
	- screws which have to be operated when replacing the cord do not fix any other component, unless		N/A
	the appliance becomes inoperative or incomplete or the parts cannot be removed without a tool		N/A
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood		N/A
	- for class 0, 0I and I appliances they are of insulating material or are provided with an insulating lining, unless		N/A
	failure of the insulation of the cord does not make accessible metal parts live		N/A
	- for class II appliances they are of insulating material, or		N/A
	if of metal, they are insulated from accessible metal parts by supplementary insulation		N/A
	After the test of 25.15, under the conditions specified, the conductors have not moved by more than 1 mm in the terminals		N/A
25.17	Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance		P
25.18	Cord anchorages only accessible with the aid of a tool, or		P
	Constructed so that the cord can only be fitted with the aid of a tool		P
25.19	Type X attachment, glands not used as cord anchorage in portable appliances		N/A
	Tying the cord into a knot or tying the cord with string not used		N/A
25.20	The insulated conductors of the supply cord for type Y and Z attachment additionally insulated from accessible metal parts	Y attachment	P
25.21	Space for supply cord for type X attachment or for connection of fixed wiring constructed:		-
	- to permit checking of conductors with respect to correct positioning and connection before fitting any cover		N/A
	- so there is no risk of damage to the conductors or their insulation when fitting the cover		N/A
	- for portable appliances, so that the uninsulated end of a conductor, if it becomes free from the terminal, prevented from contact with accessible metal parts		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	2 N test to the conductor for portable appliances; no contact with accessible metal parts		N/A
25.22	Appliance inlets:		-
	- live parts not accessible during insertion or removal		N/A
	Requirement not applicable to appliance inlets complying with IEC 60320-1		N/A
	- connector can be inserted without difficulty		N/A
	- the appliance is not supported by the connector		N/A
	- not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless		N/A
	the supply cord is unlikely to touch such metal parts		N/A
25.23	Interconnection cords comply with the requirements for the supply cord, except that:		-
	- the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11		N/A
	- the thickness of the insulation may be reduced		N/A
	- for class I or class II appliance with class III construction, the cross sectional areas of the conductors need not comply with 25.8 if specified conditions are met		N/A
	If necessary, electric strength test of 16.3		N/A
25.24	Interconnection cords not detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected		N/A
25.25	Dimensions of pins that are inserted into socket-outlets compatible with the dimensions of the relevant socket-outlet.		N/A
	Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC/TR 60083		N/A
26	TERMINALS FOR EXTERNAL CONDUCTORS		
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors		P
	Terminals only accessible after removal of a non-detachable cover, except		P
	for class III appliances that do not contain live parts		N/A
	Earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection		P

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Clause	Requirement - Test	Result - Remark	Verdict
26.2	Appliances with type X attachment and appliances for the connection of cables to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless	Y attachment	N/A
	the connections are soldered		N/A
	Screws and nuts not used to fix any other component, except		N/A
	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors		N/A
	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unless		N/A
	barriers provided so that neither clearances nor creepage distances between live parts and other metal parts reduced below the values for supplementary insulation if the conductor becomes free at the soldered joint		N/A
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor		N/A
	Terminals fixed so that when the clamping means is tightened or loosened:		-
	- the terminal does not become loose		N/A
	- internal wiring is not subjected to stress		N/A
	- neither clearances nor creepage distances are reduced below the values in clause 29		N/A
	Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified (Nm) ..... :		N/A
	No deep or sharp indentations of the conductors		N/A
26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and		N/A
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened		N/A
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Stranded conductor test, 8 mm insulation removed		N/A
	No contact between live parts and accessible metal parts and,		N/A
	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only		N/A
26.6	Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm^2) ..... :		N/A
	If a specially prepared cord is used, terminals need only be suitable for that cord		N/A
26.7	Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosure		N/A
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other		P
26.9	Terminals of the pillar type constructed and located as specified		N/A
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless		P
	conductors ends fitted with means suitable for screw terminals		P
	Pull test of 5 N to the connection		P
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used		P
	For Class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone		N/A
	If soldering, welding or crimping alone used, barriers provided so that clearances and creepage distances between live parts and other metal parts are not reduced below the values for supplementary insulation if the conductor becomes free		N/A
27	PROVISION FOR EARTHING		
27.1	Accessible metal parts of Class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet		P
	Earthing terminals and earthing contacts not connected to the neutral terminal		P
	Class 0, II and III appliances have no provision for earthing		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Class II appliances and class III appliances can incorporate an earth for functional purposes		N/A
	Safety extra-low voltage circuits not earthed, unless		N/A
	protective extra-low voltage circuits		N/A
27.2	Clamping means of earthing terminals adequately secured against accidental loosening		P
	Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2.5 to 6 mm², and		N/A
	do not provide earthing continuity between different parts of the appliance, and		N/A
	conductors cannot be loosened without the aid of a tool		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part		N/A
	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
	The allowed travel of the live and neutral brushes due to wear shall be less than the allowed travel of the earth brush so that the earthing circuit is maintained even after the appliance ceases to operate due to live and neutral brush wear. (IEC 60335-2-80)		N/A
27.4	No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal		N/A
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion		N/A
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 µm		N/A
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	In the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloys, precautions taken to avoid risk of corrosion		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
27.5	Low resistance of connection between earthing terminal and earthed metal parts		P
	This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided the clearances of basic insulation are based on the rated voltage of the appliance		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
	Resistance not exceeding 0,1 Ω at the specified low-resistance test (Ω) ..... :	0,024 Ω < 0,1 Ω	P
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances.		N/A
	They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
28	SCREWS AND CONNECTIONS		
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		P
	Screws not of soft metal liable to creep, such as zinc or aluminium		P
	Diameter of screws of insulating material min. 3 mm		N/A
	Screws of insulating material not used for any electrical connections or connections providing earthing continuity		N/A
	Screws used for electrical connections or connections providing earthing continuity screwed into metal		P
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	For type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw impairs basic insulation		N/A
	For screws and nuts; torque-test as specified in table 14..... :	(see appended table)	P
28.2	Electrical connections and connections providing earthing continuity constructed so that contact pressure is not transmitted through non-ceramic insulating material liable to shrink or distort, unless		N/A
	there is resiliency in the metallic parts to compensate for shrinkage or distortion of the insulating material		N/A
	This requirement does not apply to electrical connections in circuits of appliances for which:		-
	• 30.2.2 is applicable and that carry a current not exceeding 0,5 A		N/A
	• 30.2.3 is applicable and that carry a current not exceeding 0,2 A		N/A
28.3	Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together		N/A
	Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a full form standard machine screw thread		N/A
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer		N/A
	Thread-cutting, thread rolling and space threaded screws may be used in connections providing earthing continuity provided it is not necessary to disturb the connection:		-
	- in normal use,		N/A
	- during user maintenance,		N/A
	- when replacing a supply cord having a type X attachment, or		N/A
	- during installation		N/A
	At least two screws being used for each connection providing earthing continuity, unless		N/A
	the screw forms a thread having a length of at least half the diameter of the screw		N/A
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity		N/A
	This requirement does not apply to screws in the earthing circuit if at least two screws are used, or		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	if an alternative earthing circuit is provided		N/A
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion		N/A
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		
	Clearances, creepage distances and solid insulation withstand electrical stress		P
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), Annex J applies ..... :		N/A
	The microenvironment is pollution degree 1 under type 1 protection		N/A
	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3		N/A
	These values apply to functional, basic, supplementary and reinforced insulation..... :		P
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless..... :	(see appended table)	P
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14		P
	However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500V and above are increased by 0,5 mm and the impulse voltage test is not applicable		N/A
	For appliances intended for use at altitudes exceeding 2 000 m, the clearances in Table 16 is increased according to the relevant multiplier values in Table A.2 of IEC 60664-1		N/A
	Impulse voltage test is not applicable:		-
	- when the microenvironment is pollution degree 3, or		P
	- for basic insulation of class 0 and class 01 appliances		N/A
	- to appliances intended for use at altitudes exceeding 2 000 m		N/A
	Appliances are in overvoltage category II		P
	A force of 2 N is applied to bare conductors, other than heating elements		N/A
	A force of 30 N is applied to accessible surfaces		N/A
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage	13,9 mm > 1,5 mm	P

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Clause	Requirement - Test	Result - Remark	Verdict
	The values of table 16 or the impulse voltage test of clause 14 are applicable..... :	(see appended table)	P
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1		N/A
	Lacquered conductors of windings considered to be bare conductors		P
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16..... :	(see appended table)	N/A
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, using the next higher step for rated impulse voltage ..... :	(see appended table) 45,45 mm > 3 mm	P
	For double insulation, with no intermediate conductive part between basic and supplementary insulation, clearances are measured between live parts and the accessible surface, and the insulation system is treated as reinforced insulation		N/A
29.1.4	Clearances for functional insulation are the largest values determined from:		-
	- table 16 based on the rated impulse voltage ..... :	(see appended table) 16,1 mm > 1,5 mm	P
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless		N/A
	the microenvironment is pollution degree 3, or		N/A
	the distances can be affected by wear, distortion, movement of the parts or during assembly		N/A
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
	Lacquered conductors of windings considered to be bare conductors		N/A
	However, clearances at crossover points are not measured		N/A
	Clearance between surfaces of PTC heating elements may be reduced to 1mm		N/A
29.1.5	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from:		-
	- table 16 based on the rated impulse voltage ..... :		N/A
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or Clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation		N/A
	If clearances for basic insulation are selected from Clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation		N/A
	If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage		N/A
	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation are based on the working voltage used as the rated voltage in table 15		N/A
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree..... :	(see appended table)	P
	Pollution degree 2 applies, unless		N/A
	- precautions taken to protect the insulation; pollution degree 1		N/A
	- insulation subjected to conductive pollution; pollution degree 3	Pollution degree 3	P
	Microenvironment is pollution degree 3 unless insulation is enclosed or located that it is unlikely to be exposed to pollution during normal use. (IEC 60335-2-80)		P
	A force of 2 N is applied to bare conductors, other than heating elements		N/A
	A force of 30 N is applied to accessible surfaces		N/A
	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system		N/A
29.2.1	Creepage distances of basic insulation not less than specified in table 17..... :	(see appended table) 19,1 mm > 4 mm	P

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Clause	Requirement - Test	Result - Remark	Verdict
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17 ..... :		N/A
	Except for pollution degree 1, corresponding creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14 ..... :		N/A
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or..... :	(see appended table)	N/A
	Table 2 of IEC 60664-4, as applicable ..... :		N/A
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or..... :	(see appended table) 45,45 mm > 8 mm	P
	Table 2 of IEC 60664-4, as applicable ..... :		N/A
29.2.4	Creepage distances of functional insulation not less than specified in table 18..... :	(see appended table) 16,1 mm > 3,2 mm	P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18 ..... :		N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		P
	Compliance checked:		-
	- by measurement, in accordance with 29.3.1, or		P
	- by an electric strength test in accordance with 29.3.2, or		N/A
	- for insulation, other than single layer internal wiring insulation, by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	- by an assessment of the thermal quality of the material according to 29.3.3 combined with an electric strength test in accordance with 23.5, for each single layer internal wiring insulation touching each other, or		N/A
	- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz		N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm		N/A
	Reinforced insulation have a thickness of at least 2 mm	Reinforced insulation 3,85 mm > 2 mm	P
29.3.2	Each layer of material withstand the electric strength test of 16.3 for supplementary insulation		N/A
	Supplementary insulation consist of at least 2 layers		N/A
	Reinforced insulation consist of at least 3 layers		N/A
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by		N/A
	the electric strength test of 16.3		N/A
	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out		N/A
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19 ..... :		N/A
30	RESISTANCE TO HEAT AND FIRE		
30.1	External parts of non-metallic material,		P
	parts supporting live parts, and		P
	parts of thermoplastic material providing supplementary or reinforced insulation		P
	sufficiently resistant to heat		P
	Ball-pressure test according to IEC 60695-10-2		P
	External parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C) ..... :	(see appended table)	P
	Parts supporting live parts tested at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C)..... :	(see appended table)	P

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Clause	Requirement - Test	Result - Remark	Verdict
	Parts of thermoplastic material providing supplementary or reinforced insulation tested at 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C) ..... :	(see appended table)	N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire		P
	This requirement does not apply to:		-
	parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or		N/A
	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance		N/A
	Compliance checked by the test of 30.2.1, and in addition:		-
	- for attended appliances, 30.2.2 applies		N/A
	- for unattended appliances, 30.2.3 applies		P
	For appliances for remote operation, 30.2.3 applies		N/A
	For base material of printed circuit boards, 30.2.4 applies		N/A
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11 at 550 °C		P
	However, test not carried out if the material is classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 550 °C, or		N/A
	the material is classified at least HB40 according to IEC 60695-11-10		N/A
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF		N/A
30.2.2	Not applicable. (IEC 60335-2-80)		N/A
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		P
	The tests are not applicable to conditions as specified ..... :		N/A
30.2.3.1	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and		N/A
	parts of non-metallic material, other than small parts, within a distance of 3 mm,		N/A
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C		P

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Clause	Requirement - Test	Result - Remark	Verdict
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 850 °C		P
30.2.3.2	Parts of non-metallic material supporting connections, and		P
	parts of non-metallic material within a distance of 3mm,		P
	subjected to glow-wire test of IEC 60695-2-11		P
	The test severity is:		-
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation	Ceramic terminal	P
	- 650 °C, for other connections		N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	However, the glow-wire test of 750 °C or 650 °C as appropriate, is not carried out on parts of material fulfilling both or either of the following classifications:		-
	- a glow-wire ignition temperature according to IEC 60695-2-13 of at least:		-
	• 775 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	• 675 °C, for other connections		N/A
	- a glow-wire flammability index according to IEC 60695-2-12 of at least:		-
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		P
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		-
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		P
	- comply with the needle-flame test of Annex E, or		N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
	The consequential needle-flame test of Annex E applied to non-metallic parts that encroach within the vertical cylinder placed above the centre of the connection zone and on top of the non-metallic parts supporting current-carrying connections, and parts of non-metallic material within a distance of 3 mm of such connections if these parts are those:		-

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Clause	Requirement - Test	Result - Remark	Verdict
	- parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or		N/A
	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		P
	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts for which the needle-flame test of Annex E was applied, or		N/A
	- small parts for which a material classification of V-0 or V-1 was applied		N/A
	However, the consequential needle-flame test is not carried out on non-metallic parts, including small parts, within the cylinder that are:		-
	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or		N/A
	- parts shielded by a flame barrier that meets the needle-flame test of Annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of Annex E		N/A
	Test not applicable to conditions as specified ..... :		N/A
31	RESISTANCE TO RUSTING		
	Relevant ferrous parts adequately protected against rusting		P
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		
	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use		N/A
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		
	Description of routine tests to be carried out by the manufacturer		P
B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES		
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance	No battery	N/A
	This annex does not apply to battery chargers		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
3.1.9	Appliance operated under the following conditions:		-
	- the appliance, supplied by its fully charged battery, operated as specified in relevant part 2		N/A
	- the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate		N/A
	-if possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2		N/A
	- if the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed		N/A
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable		N/A
5.B.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances		N/A
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage and polarity of the terminals		N/A
	The positive terminal indicated by symbol IEC 60417-5005 and the negative terminal by symbol IEC 60417-5006		N/A
7.6	Symbols 60417-5005 and IEC 60417-5006		N/A
7.12	The instructions give information regarding charging		N/A
	The instructions for appliances incorporating batteries intended to be replaced by the user includes required information		N/A
	Details about how to remove batteries containing materials hazardous to the environment given		N/A
7.15	Markings placed on the part of the appliance connected to the supply mains		N/A
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment		N/A
	If the appliance can be operated without batteries, double or reinforced insulation required		N/A
11.7	The battery is charged for the period stated in the instructions or 24 h ..... :		N/A
19.1	Appliances subjected to tests of 19.B.101, 19.B.102 and 19.B.103		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
19.10	Not applicable		N/A
19.B.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged		N/A
19.B.102	For appliances having batteries that can be removed without the aid of a tool, short-circuit of the terminals of the battery, the battery being fully charged,		N/A
19.B.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction		N/A
21.B.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength		N/A
	Part of the appliance incorporating the pins subjected to the free fall test, procedure 2, of IEC 60068-2-31, the number of falls being:		-
	- 100, if the mass of the part does not exceed 250 g (g) ..... :		N/A
	- 50, if the mass of the part exceeds 250 g ..... :		N/A
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met		N/A
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible		N/A
25.13	An additional lining or bushing not required for interconnection cords in class III appliances or class III constructions operating at safety extra-low voltage not containing live parts		N/A
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies		N/A
	For other parts, 30.2.2 applies		N/A
C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding		N/A
	Test conditions as specified		N/A
D	ANNEX D (NORMATIVE) THERMAL MOTOR PROTECTORS		
	Applicable to appliances having motors that incorporate thermal motor protectors necessary for compliance with the standard	No thermal motor protector	N/A
	Test conditions as specified		N/A
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		

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Clause	Requirement - Test	Result - Remark	Verdict
	Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications:		-
7	Severities		
	The duration of application of the test flame is 30 s ± 1 s	Not needed	N/A
9	Test procedure		
9.1	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1		N/A
9.2	The first paragraph does not apply		N/A
	If possible, the flame is applied at least 10 mm from a corner		N/A
9.3	The test is carried out on one specimen		N/A
	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both withstanding the test		N/A
11	Evaluation of test results		
	The duration of burning not exceeding 30 s		N/A
	However, for printed circuit boards, the duration of burning not exceeding 15 s		N/A
F	ANNEX F (NORMATIVE) CAPACITORS		
	Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or voltage dividing, comply with the following clauses of IEC 60384-14, with the following modifications:		-
1.5	Terms and definitions		
1.5.3	Class X capacitors tested according to subclass X2	No capacitor	N/A
1.5.4	This subclause is applicable		N/A
1.6	Marking		
	Items a) and b) are applicable		N/A
3.4	Approval testing		
3.4.3.2	Table 3 is applicable as described		N/A
4.1	Visual examination and check of dimensions		
	This subclause is applicable		N/A
4.2	Electrical tests		
4.2.1	This subclause is applicable		N/A
4.2.5	This subclause is applicable		N/A
4.2.5.2	Only table 11 is applicable		N/A
	Values for test A apply		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	However, for capacitors in heating appliances the values for test B or C apply		N/A
4.12	Damp heat, steady state		
	This subclause is applicable		N/A
	Only insulation resistance and voltage proof are checked		N/A
4.13	Impulse voltage		
	This subclause is applicable		N/A
4.14	Endurance		
	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 are applicable		N/A
4.14.7	Only insulation resistance and voltage proof are checked		N/A
	No visible damage		N/A
4.17	Passive flammability test		
	This subclause is applicable		N/A
4.18	Active flammability test		
	This subclause is applicable		N/A
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		
	The following modifications to this standard are applicable for safety isolating transformers:		-
7	Marking and instructions		
7.1	Transformers for specific use marked with:		-
	-name, trademark or identification mark of the manufacturer or responsible vendor..... :	No transformer	N/A
	-model or type reference ..... :		N/A
17	Overload protection of transformers and associated circuits		
	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1		N/A
22	Construction		
	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable		N/A
29	Clearances, creepage distances and solid insulation		
29.1, 29.2, 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply		N/A
	For insulated winding wires complying with subclause 19.12.3 of IEC 61558-1 there are no requirements for clearances or creepage distances		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	For windings providing reinforced insulation, the distance specified in item 2c of table 13 of IEC 61558-1 is not assessed		N/A
	For safety isolating transformers subjected to periodic voltages with a frequency exceeding 30 kHz, the clearances, creepage distances and solid insulation values specified in IEC 60664-4 are applicable, if greater than the values specified in items 2a, 2c and 3 in table 13 of IEC 61558-1		N/A
H	ANNEX H (NORMATIVE) SWITCHES		
	Switches comply with the following clauses of IEC 61058-1, as modified below:		-
	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance	No switch	N/A
	Before being tested, switches are operated 20 times without load		N/A
8	Marking and documentation		
	Switches are not required to be marked		N/A
	However, a switch that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference		N/A
13	Mechanism		
	The tests may be carried out on a separate sample		N/A
15	Insulation resistance and dielectric strength		
15.1	Not applicable		N/A
15.2	Not applicable		N/A
15.3	Applicable for full disconnection and micro-disconnection		N/A
17	Endurance		
	Compliance is checked on three separate appliances or switches		N/A
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless		N/A
	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335..... :		N/A
	Switches for operation under no load and which can be operated only by a tool, and		N/A
	switches operated by hand that are interlocked so that they cannot be operated under load,		N/A
	are not subjected to the tests		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation		N/A
	Subclauses 17.2.2 and 17.2.5.2 not applicable		N/A
	The ambient temperature during the test is that occurring in the appliance during the test of Clause 11 in IEC 60335-1		N/A
	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1 (K)..... :		N/A
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		
	This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in table 24		N/A
I	ANNEX I (NORMATIVE) MOTORS HAVING BASIC INSULATION THAT IS INADEQUATE FOR THE RATED VOLTAGE OF THE APPLIANCE		
	The following modifications to this standard are applicable for motors having basic insulation that is inadequate for the rated voltage of the appliance:		-
8	Protection against access to live parts		
8.1	Metal parts of the motor are considered to be bare live parts		N/A
11	Heating		
11.3	The temperature rise of the body of the motor is determined instead of the temperature rise of the windings		N/A
11.8	The temperature rise of the body of the motor, where in contact with insulating material, not exceeding values in table 3 for the relevant insulating material		N/A
16	Leakage current and electric strength		
16.3	Insulation between live parts of the motor and its other metal parts is not subjected to the test		N/A
19	Abnormal operation		
19.1	The tests of 19.7 to 19.9 are not carried out		N/A
19.I.101	Appliance operated at rated voltage with each of the following fault conditions:		-
	- short circuit of the terminals of the motor, including any capacitor incorporated in the motor circuit		N/A
	- short circuit of each diode of the rectifier		N/A
	- open circuit of the supply to the motor		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	- open circuit of any parallel resistor, the motor being in operation		N/A
	Only one fault simulated at a time, the tests carried out consecutively		N/A
22	Construction		
22.I.101	For class I appliances incorporating a motor supplied by a rectifier circuit, the d.c. circuit being insulated from accessible parts of the appliance by double or reinforced insulation		N/A
	Compliance checked by the tests specified for double and reinforced insulation		N/A
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS		
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:		-
5.7	Conditioning of the test specimens		
	When production samples are used, three samples of the printed circuit board are tested	No coated printed circuit board	N/A
5.7.1	Cold		
	The test is carried out at -25 °C		N/A
5.7.3	Rapid change of temperature		
	Severity 1 is specified		N/A
5.9	Additional tests		
	This subclause is not applicable		N/A
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		
	The information on overvoltage categories is extracted from IEC 60664-1		P
	Overvoltage category is a numeral defining a transient overvoltage condition		P
	Equipment of overvoltage category IV is for use at the origin of the installation		N/A
	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements		N/A
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation	Cat II	P
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level		N/A
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		
	Information for the determination of clearances and creepage distances		P
M	ANNEX M (NORMATIVE) POLLUTION DEGREE		
	The information on pollution degrees is extracted from IEC 60664-1		P
	Pollution		
	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment		P
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		P
	Minimum clearances specified where pollution may be present in the microenvironment		P
	Degrees of pollution in the microenvironment		
	For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:		-
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence		N/A
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected		N/A
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected	Pollution degree 3	P
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow		N/A
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		
	The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:		-
7	Test apparatus		P
7.3	Test solutions		P

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	Test solution A is used		P
10	Determination of proof tracking index (PTI)		
10.1	Procedure		
	The proof voltage is 100V, 175V, 400V or 600V.. :		P
	The test is carried out on five specimens		N/A
	In case of doubt, additional test with proof voltage reduced by 25V, the number of drops increased to 100		N/A
10.2	Report		
	The report states if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V		N/A
O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30		
	Description of tests for determination of resistance to heat and fire		P
P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES		
	Modifications applicable for class 0 and 01 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WDaE		N/A
	Modifications may also be applied to class 1 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WdaE, if liable to be connected to a supply mains that excludes the protective earthing conductor		N/A
5.7	The ambient temperature for the tests of clauses 11 and 13 is 40 +3/0 °C		N/A
7.1	The appliance marked with the letters WDaE	Not for tropical climatic used appliance	N/A
7.12	The instructions state that the appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA		N/A
	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries		N/A
11.8	The values of Table 3 are reduced by 15 K		N/A
13.2	The leakage current for class I appliances not exceeding 0,5 mA		N/A
15.3	The value of t is 37 °C		N/A
16.2	The leakage current for class I appliances not exceeding 0,5 mA (mA):		N/A

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Clause	Requirement - Test	Result - Remark	Verdict
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3		N/A
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS		
	Description of tests for appliances incorporating electronic circuits		N/A
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 validated in accordance with the requirements of this annex	No software	N/A
R.1	Programmable electronic circuits using software		
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 constructed so that the software does not impair compliance with the requirements of this standard		N/A
R.2	Requirements for the architecture		
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 use measures to control and avoid software-related faults/errors in safety-related data and safety-related segments of the software		N/A
R.2.1.1	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.2 have one of the following structures:		-
	- single channel with periodic self-test and monitoring		N/A
	- dual channel (homogenous) with comparison		N/A
	- dual channel (diverse) with comparison		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 have one of the following structures:		-
	- single channel with functional test		N/A
	- single channel with periodic self-test		N/A
	- dual channel without comparison		N/A
R.2.2	Measures to control faults/errors		
R.2.2.1	When redundant memory with comparison is provided on two areas of the same component, the data in one area is stored in a different format from that in the other area		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
R.2.2.2	Programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.2 and that use dual channel structures with comparison, have additional fault/error detection means for any fault/errors not detected by the comparison		N/A
R.2.2.3	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, means are provided for the recognition and control of errors in transmissions to external safety-related data paths		N/A
R.2.2.4	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the programmable electronic circuits incorporate measures to address the fault/errors in safety-related segments and data indicated in table R.1 and R.2 as appropriate		N/A
R.2.2.5	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, detection of a fault/error occur before compliance with clause 19 is impaired		N/A
R.2.2.6	The software is referenced to relevant parts of the operating sequence and the associated hardware functions		N/A
R.2.2.7	Labels used for memory locations are unique		N/A
R.2.2.8	The software is protected from user alteration of safety-related segments and data		N/A
R.2.2.9	Software and safety-related hardware under its control is initialized and terminates before compliance with clause 19 is impaired		N/A
R.3	Measures to avoid errors		
R.3.1	General		
	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the following measures to avoid systematic fault in the software are applied		
	Software that incorporates measures used to control the fault/error conditions specified in table R.2 is inherently acceptable for software required to control the fault/error conditions specified in table R.1		N/A
R.3.2	Specification		
R.3.2.1	Software safety requirements:	Software Id:	N/A
	The specification of the software safety requirements includes the descriptions listed		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
R.3.2.2	Software architecture		
R.3.2.2.1	The specification of the software architecture includes the aspects listed - techniques and measures to control software faults/errors (refer to R.2.2); - interactions between hardware and software; - partitioning into modules and their allocation to the specified safety functions; - hierarchy and call structure of the modules (control flow); - interrupt handling; - data flow and restrictions on data access; - architecture and storage of data; - time-based dependencies of sequences and data	Document ref. No:	N/A
R.3.2.2.2	The architecture specification is validated against the specification of the software safety requirements by static analysis		N/A
R.3.2.3	Module design and coding		
R.3.2.3.1	Based on the architecture design, software is suitably refined into modules		N/A
	Software module design and coding is implemented in a way that is traceable to the software architecture and requirements		N/A
R.3.2.3.2	Software code is structured		N/A
R.3.2.3.3	Coded software is validated against the module specification by static analysis		N/A
	The module specification is validated against the architecture specification by static analysis		N/A
R.3.3.3	Software validation		
	The software is validated with reference to the requirements of the software safety requirements specification		N/A
	Compliance is checked by simulation of:		-
	- input signals present during normal operation		N/A
	- anticipated occurrences		N/A
	- undesired conditions requiring system action		N/A

TABLE R.1 – GENERAL FAULT/ERROR CONDITIONS						
Component [1)]	Fault/error	Acceptable measures [2) 3)]	Definitions	Document reference for applied measure	Document reference for applied test	Ver-dict

IEC 60335-2-80						
Clause	Requirement - Test		Result - Remark			Verdict
1 CPU 1.1 Registers	Stuck at	Functional test, or periodic self-test using either: - static memory test, or - word protection with single bit redundancy	H.2.16.5 H.2.16.6 H.2.19.6 H.2.19.8.2			N/A
1.2 VOID						
1.3 Programme counter	Stuck at	Functional test, or Periodic self-test, or Independent time-slot monitoring, or Logical monitoring of the programme sequence	H.2.16.5 H.2.16.6 H.2.18.10.4 H.2.18.10.2			N/A
2 Interrupt handling and execution	No interrupt or too frequent interrupt	Functional test, or time-slot monitoring	H.2.16.5 H.2.18.10.4			N/A
3 Clock	Wrong frequency (for quartz synchronized clock: harmonics/ sub-harmonics only)	Frequency monitoring, or time slot monitoring	H.2.18.10.1 H.2.18.10.4			N/A
4. Memory 4.1 Invariable memory	All single bit faults	Periodic modified checksum, or multiple checksum, or word protection with single bit redundancy	H.2.19.3.1 H.2.19.3.2 H.2.19.8.2			N/A
4.2 Variable memory	DC fault	Periodic static memory test, or word protection with single bit redundancy	H.2.19.6 H.2.19.8.2			N/A
4.3 Addressing (relevant to variable and invariable memory)	Stuck at	Word protection with single bit redundancy including the address	H.2.19.8.2			N/A
5 Internal data path	Stuck at DC fault	Word protection with single bit redundancy Comparison of redundant CPUs by either: - reciprocal comparison - independent hardware comparator	H.2.19.8.2 H.2.18.15 H.2.18.3			N/A
5.1 VOID						

IEC 60335-2-80						
Clause	Requirement - Test		Result - Remark			Verdict
5.2 Addressing	Wrong address	Word protection with single bit redundancy including the address	H.2.19.8.2			N/A
6 External communication	Hamming distance 3	Word protection with multi-bit redundancy, or CRC – single work, or Transfer redundancy, or Protocol test	H.2.19.8.1 H.2.19.4.1 H.2.18.2.2 H.2.18.14			N/A
6.1 VOID						
6.2 VOID						
6.3 Timing	Wrong point in time	Time-slot monitoring, or scheduled transmission Time-slot and logical monitoring, or Comparison of redundant communication channels by either: - reciprocal comparison - independent hardware comparator	H.2.18.10.4 H.2.18.18 H.2.18.10.3 H.2.18.15 H.2.18.3			N/A
	Wrong sequence	Logical monitoring, or time-slot monitoring, or Scheduled transmission (same options as for wrong point in time)	H.2.18.10.2 H.2.18.10.4 H.2.18.18			
7 Input/output periphery	Fault conditions specified in 19.11.2	Plausibility check Comparison of redundant communication channels by either: - reciprocal comparison - independent hardware comparator	H.2.18.13 H.2.18.15 H.2.18.3			N/A
7.1 VOID						
7.2 Analog I/O 7.2.1 A/D and D/A-converter	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13			N/A
7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13			N/A
8 VOID						

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict

9 Custom chips [4] e.g. ASIC, GAL, Gate array	Any output outside the static and dynamic functional specification	Periodic self-test	H.2.16.6			N/A
NOTE A Stuck-at fault model denotes a fault model representing an open circuit or a non-varying signal level. A DC fault model denotes a stuck-at fault model incorporating short circuit between signal lines.						
[1] For fault/error assessment, some components are divided into their sub-functions. [2] For each sub-function in the table, the Table R.2 measure will cover the software fault/error. [3] Where more than one measure is given for a sub-function, these are alternatives. [4] To be divided as necessary by the manufacturer into sub-functions.						

S	**ANNEX S (NORMATIVE)** **BATTERY OPERATED APPLIANCES POWERED BY BATTERIES THAT ARE NON-RECHARGEABLE OR NOT RECHARGED IN THE APPLIANCE**		
	The following modifications to this standard are applicable for battery-operated appliances where the batteries are either non-rechargeable (primary batteries), or	Not battery operated appliance	N/A
	rechargeable batteries (secondary batteries) that are not recharged in the appliance		N/A

Appendix 1 : European Group Differences and National Differences

ATTACHMENT TO TEST REPORT IEC 60335-2-80 **EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES** (Part 2: Particular requirements for fans)	
Differences according to:	EN 60335-1:2012+A11:2014 EN 60335-2-80:2003+A1:2004+A2:2009 EN 62233:2008
Attachment Form No.:	EU_GD_ESİM60335_2_80G
Attachment Originator:	ESİM
Master Attachment:	2015-09

	CENELEC COMMON MODIFICATIONS		
6.1	Delete “class 0” and “class 01”		N/A
7.1	Single-phase appliances to be connected to the supply mains: 230 V covered		N/A
	Multi-phase appliances to be connected to the supply mains: 400 V covered	380-400 Vac	P

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
7.10	Devices used to start/stop operational functions of the appliance distinguished from other manual devices by means of shape, size, surface texture, position, etc.		N/A
	An indication that the device has been operated is given by:		-
	• a tactile feedback, or		N/A
	• an audible and visual feedback		N/A
7.12	The instructions include the substance of the following:		-
	- this appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved		P
	- children shall not play with the appliance		P
	- cleaning and user maintenance shall not be made by children without supervision		P
7.12.Z1	The specific instructions related to the safe operation of this appliance is collated together in the front section of the user instructions		P
	The height of the characters, measured on the capital letters, is at least 3 mm		P
	These instructions are also available in an alternative format, e.g. on a website		P
8.1.1	Also test probe 18 of EN 61032 is applied	Test probe 18	P
	The appliance being in every possible position during the test		P
	The force on the probe in the straight position is increased to 10 N when probe 18 is used		P
	When using test probe 18 the appliance is fully assembled as in normal use without any parts removed, and		P
	parts intended to be removed for user maintenance are also not removed		P
8.2	Compliance is checked by applying the test probes of EN 61032		N/A
	For built-in appliances and fixed appliances, the test probe B and probe 18 of EN 61032 are applied only after installation		N/A
11.8	Footnotes to "External enclosure of motor-operated appliances" to be taken into account		P

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
15.1.2	Appliances with an automatic cord reel tested with the cord in the most unfavourable position so that the reeling of the wet cord may affect electrical insulation during operation, the cord not being dried before reeling		N/A
20.2	When using the test probe similar to test probe B with a circular stop face, the accessories and detachable covers are removed		P
	Test probe 18 applied with a force of 2,5N on the appliance fully assembled		P
24.1	Components comply with the safety requirements specified in the relevant standards as far as they reasonably apply		P
	The requirements of Clause 29 of this standard apply between live parts of components and accessible parts of the appliance.		P
	The requirements of 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections inside components		P
	Components that have not been previously tested or do not comply with the standard for the relevant component are tested according to the requirements of 30.2		P
	Components that have been previously tested and shown to comply with the resistance to fire requirements in the standard for the relevant component need not be retested provided that:		-
	- the severity specified in the component standard is not less than the severity specified in 30.2, and		N/A
	- the test report for the component states whether it complied with the standard for the relevant component with or without flame, flames not exceeding 2 s during the test are ignored		N/A
	Unless components have been previously tested and found to comply with the relevant standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		N/A
	For components mentioned in 24.1.1 to 24.1.9, no additional tests specified in the relevant standard for the component are necessary other than those specified in 24.1.1 to 24.1.9		N/A
	Components that have not been separately tested and found to comply with the relevant standard, and		N/A
	components that are not marked or not used in accordance with their marking,		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	are tested in accordance with the conditions occurring in the appliance, the number of samples being that required by the relevant standard		N/A
	Lamp holders and starter holders that have not been previously tested and found to comply with the relevant standard are tested as a part of the appliance and additionally comply with the gauging and interchangeability requirements of the relevant standard under the conditions occurring in the appliance		N/A
	Where the relevant standard specifies these gauging and interchangeability requirements at elevated temperatures, the temperatures measured during the tests of Clause 11 are used		N/A
	Plugs and socket-outlets and other connecting devices of interconnection cords are not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1, or		N/A
	with connectors and appliance inlets complying with the standard sheets of IEC 60320-1,		N/A
	if direct supply to these parts from the supply mains gives rise to a hazard		N/A
24.1.7	If the remote operation of the appliance is via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is EN 41003		N/A
	Compliance with Clause 8 of this standard is not impaired by connecting the appliance to a device covered by EN 41003		N/A
24.Z1	For motor running capacitors (IEC 60252-1 type P2) with a metallic enclosure having an overpressure fuse the flame testing of internal plastic parts supporting current carrying connections as required in 30.2.2 and 30.2.3.1 is not necessary		N/A
25.6	Supply cords of single-phase portable appliances having a rated current not exceeding 16 A, fitted with a plug complying with the following standard sheets of IEC/TR 60083:		-
	- for Class I appliances: standard sheet C2b, C3b or C4..... :		N/A
	- for Class II appliances: standard sheet C5 or C6 ..... :		N/A
25.7	Rubber sheathed cords (60245 IEC 53) are not suitable for appliances intended to be used outdoors or when they are liable to be exposed to significant amount of ultraviolet radiation		N/A

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
	Halogen-free thermoplastic compound sheathed supply cords have properties at least those of:		-
	• halogen-free thermoplastic compound sheathed cords (H03Z1Z1H2-F or H03Z1Z1-F), for appliances having a mass not exceeding 3 kg		N/A
	• halogen-free thermoplastic compound sheathed cords (H05Z1Z1H2-F or H05Z1Z1-F), for other appliances		N/A
	Cross-linked halogen-free compound sheathed supply cords have properties at least those of cross-linked halogen-free compound sheathed cords (H07ZZ-F)		N/A
26.11	Conductors connected by soldering are not considered to be positioned or fixed so that reliance is not placed upon the soldering alone to maintain them in position unless they are held in place near the terminals independently of the solder		P
29.3.Z1	Appliance constructed so that if there is a possibility of damaging the insulation during installation, the insulation withstands the scratch and penetration test of 21.2		N/A
32	Compliance regarding electromagnetic fields is checked according to EN 50366 or EN 62233		P
Annex I, 19.I.101	The appliance is supplied at rated voltage and operated under normal operation with each of the fault conditions specified		N/A
	The duration of the test is as specified in 19.7	Propellers locked	P

ZA	**ANNEX ZA** (NORMATIVE) **SPECIAL NATIONAL CONDITIONS**		
	Norway		N/A
19.5	The test is also applicable to appliances intended to be permanently connected to fixed wiring		N/A
	Norway		N/A
22.2	The second paragraph of this subclause, dealing with single-phase, permanently connected class I appliances having heating elements, is not applicable due to the supply system		N/A
	All CENELEC countries		

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
25.6 and 25.25	Information concerning National plug and socket-outlets is available from the CENELEC website. Normative national requirements concerning plug and socket-outlets are shown in the relevant National standard		N/A
	Ireland and United Kingdom		N/A
25.8	In the table, the lines for 10 A and 16 A are replaced by:		N/A
	> 10 and ≤ 13 1,25		N/A
	> 13 and ≤ 16 1,5		N/A
ZB	**ANNEX ZB** (INFORMATIVE) **A-DEVIATIONS**		
	Ireland		N/A
25.6	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs complying with I.S. 401:1997, or equivalent, to be fitted to domestic appliances		N/A
	United Kingdom		N/A
25.6	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs to BS 1363 to be fitted to domestic appliances. It also allows plugs to BS 4573 and EN 50075 to be fitted to shavers and toothbrushes		N/A
ZC	**ANNEX ZC** (NORMATIVE) **NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**		
	A list of referenced documents in this standard		P
ZD	**ANNEX ZD** (INFORMATIVE) **IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS**		
	A table with IEC and CENELEC code designations for flexible cords		P
ZE	**ANNEX ZE** (INFORMATIVE) **SPECIFIC ADDITIONAL REQUIREMENTS FOR APPLIANCES AND MACHINES INTENDED FOR COMMERCIAL USE**		

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict
7.1	Business name and full address of the manufacturer and, where applicable, his authorized representative..... :	Appliance not for commercial use	N/A
ZF	**ANNEX ZF** (INFORMATIVE) **CRITERIA APPLIED FOR THE ALLOCATION OF PRODUCTS COVERED BY STANDARDS IN THE EN 60335 SERIES UNDER LVD OR MD**		
	List of standards under CENELEC/TC61 with the allocation under the LVD (Low Voltage Directive) or the MD (Machinery Directive)..... :	LVD and MD	P
ZG	**ANNEX ZG** (NORMATIVE) **UV APPLIANCES**		
	The following modifications to this standard apply to appliances having UV emitters		N/A
	This annex is not applicable to appliances covered by the scopes of IEC 60335-2-27, IEC 60335-2-59 or IEC 60335-2-109		N/A
7.12.ZG	The instructions for appliances incorporating UVC emitters include the substance of the following: WARNING — This appliance contains a UV emitter. Do not stare at the light source		N/A
32	For appliances incorporating UV emitters the manufacturer delivers a declaration providing evidence that the plastic material exposed to the radiation is UV resistant		N/A
ZZ	**ANNEX ZZ** (INFORMATIVE) **COVERAGE OF ESSENTIAL REQUIREMENTS OF EC DIRECTIVES**		
	Description of the relation between this European standard and the LVD (Low Voltage Directive, 2014/35/EU) and the MD (Machinery Directive, 2006/42/EC)	LVD	P

Appendix 2 : EMF test result

Annex EN 62233:2008			
Clause	Requirement + Test	Result - Remark	Verdict
EMF- ELECTROMAGNETICS FIELDS			
	The tested product also complies with the requirements of EN 62233:2008		P
	Limit 100%	Measured max. : 30 cm front; 0,12%	P

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict

10.1	**TABLE: Power input deviation**				P
Input deviation of/at:	P rated (W)	P measured (W)	dP (W, %)	Required dP (W, %)	Remark
CVS-Q1250 22/4P; 380 Vac, 50 Hz	22000	13214	-%39,94	+15 % or 60 W (whichever is the greater)	P
CVS-Q1250 22/4P; 400 Vac, 50 Hz	22000	13315	-%39,48	+15 % or 60 W (whichever is the greater)	P
CVS-Q1250 22/4P; 380 Vac, 60 Hz	22000	22271	+%1,23	+15 % or 60 W (whichever is the greater)	P
CVS-Q1250 22/4P; 400 Vac, 60 Hz	22000	22272	+%1,236	+15 % or 60 W (whichever is the greater)	P
Supplementary information:					

10.2	**TABLE: Current deviation**				P
Current deviation of/at:	I rated (A)	I measured (A)	dI (A, %)	Required dI (A, %)	Remark
CVS-Q1250 22/4P; 380 Vac, 50 Hz	41,9	22,323	-%46,72	+15 % or 0,30 A (whichever is the greater)	P
CVS-Q1250 22/4P; 400 Vac, 50 Hz	41,9	22,65	-%45,94	+15 % or 0,30 A (whichever is the greater)	P
CVS-Q1250 22/4P; 380 Vac, 60 Hz	41,9	36,497	-%12,89	+15 % or 0,30 A (whichever is the greater)	P
CVS-Q1250 22/4P; 400 Vac, 60 Hz	41,9	35,383	-%15,55	+15 % or 0,30 A (whichever is the greater)	P
Supplementary information:					

IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict

11.8	TABLE: Heating test, thermocouple measurements / CVS-Q1250 22/4P		P
	Test voltage (V) ..... :	400 Vac x 1,06 = 424 Vac	—
	Ambient (°C) ..... :	24,5	—

Thermocouple locations	Max. temperature rise measured, dT (K)	Max.temperature rise limit, dT (K)
Supply cord	8	50
Internal wiring	7	50
Ceramic supply terminal	6	Cl.30
Main anchorage	3	Cl.30
Motor metal body	13	115, Class F
Supplementary information:		

11.8	TABLE: Heating test, resistance method / CVS-Q1250 22/4P					P
	Test voltage (V) ..... :			424		—
	Ambient, t1 (°C) ..... :			22,7		—
	Ambient, t2 (°C) ..... :			25		—

Temperature rise of winding	R1 (Ω)	R2 (Ω)	dT (K)	Max. dT (K)	Insulation class
Motor u-v winding	0,4	0,5	62	115	Class F
Motor u-w winding	0,4	0,5	62	115	Class F
Motor v-w winding	0,4	0,5	62	115	Class F
Supplementary information:					

13.2	TABLE: Leakage current		P
	Heating appliances: 1.15 x rated input (W) ..... :	--	—
	Motor-operated and combined appliances: 1.06 x rated voltage (V) ..... :	424 x 1,06 = 424 Vac	—

Leakage current between	I (mA)	Max. allowed I (mA)
At L1, L2, L3 close circuited, between live part N and PE (accessible earthed metal parts)	0,094	3,5

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At L1 open circuited, between live part N and PE (accessible earthed metal parts)	0,064	3,5
At L2 open circuited, between live part N and PE (accessible earthed metal parts)	0,057	3,5
At L3 open circuited, between live part N and PE (accessible earthed metal parts)	0,062	3,5
Supplementary information:		

13.3	**TABLE: Electric strength**		P
Test voltage applied between:		Voltage (V)	Breakdown (Yes/No)
Between live parts and accessible earthed metal parts		1000	5 mA No breakdown
Between accessible earthed metal part and metal foil covered accessible plastic parts		1750	0,01 mA No breakdown
Between live parts and metal foil covered accessible plastic parts		3000	0,01 mA No breakdown
Supplementary information:			

14	**TABLE: Transient overvoltages**				N/A
Clearance between:	Cl (mm)	Required Cl (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Flashover (Yes/No)
					N/A
Supplementary information:					

16.2	**TABLE: Leakage current**		P
	Single phase appliances: 1.06 x rated voltage (V) ..... :	--	—
	Three phase appliances 1.06 x rated voltage divided by √3 (V) ..... :	400 Vac x 1,06 / √3 : 245 Vac	—
Leakage current between		I (mA)	Max. allowed I (mA)
Between live part U and accessible earthed metal parts		0,8	3,5
Between live part V and accessible earthed metal parts		1,2	3,5
Between live part W and accessible earthed metal parts		1,1	3,5
Between accessible earthed metal part and metal foil covered accessible plastic parts		0,01	0,25

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Between live part U and metal foil covered accessible plastic parts	0,01	0,25
Between live part V and metal foil covered accessible plastic parts	0,01	0,25
Between live part W and metal foil covered accessible plastic parts	0,01	0,25
Supplementary information:		

16.3	**TABLE: Electric strength**		P
Test voltage applied between:		**Voltage (V)**	**Breakdown (Yes/No)**
Between live parts and accessible earthed metal parts		1250	8,7 mA No breakdown
Between accessible earthed metal part and metal foil covered accessible plastic parts		1750	0,01 mA No breakdown
Between live parts and metal foil covered accessible plastic parts		3000	0,01 mA No breakdown
Supplementary information:			

17	**TABLE: Overload protection, thermocouple measurements**	N/A
Temperature rise of part/at:	**dT (K)**	**Max. dT (K)**
		N/A
Supplementary information:		

17	**TABLE: Overload protection, resistance method**					N/A
	Test voltage (V) ..... :					—
	Ambient, t1 (°C) ..... :					—
	Ambient, t2 (°C) ..... :					—
Temperature of winding		**R1 (Ω)**	**R2 (Ω)**	**dT (K)**	**T (°C)**	**Max. T (°C)**
						N/A
Supplementary information:						

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19	**Abnormal operation conditions**		P
Operational characteristics		**YES/NO**	**Operational conditions**
Are there electronic circuits to control the appliance operation?		NO	
Are there "off" or "stand-by" position?		NO	
The unintended operation of the appliance results in dangerous malfunction?		NO	

Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2	N/A	N/A					N/A
19.3	N/A	N/A					N/A
19.4	N/A	N/A					N/A
19.5	N/A	N/A					N/A
19.6	N/A	N/A					N/A
19.7	P (rotor locked)	P (No electrical shock, fire and mechanical hazard)					P
19.8	P (One phase disconnected)	P (No electrical shock, fire and mechanical hazard)					P
19.10	N/A	N/A					N/A
19.11.2	N/A	N/A					N/A
19.11.4.8	N/A	N/A					N/A
19.10X	N/A	N/A					N/A
Supplementary information:							

19.7	**TABLE: Abnormal operation, locked rotor/moving parts**		P
	Test voltage (V) ..... :	400	—
	Ambient, t1 (°C) ..... :	22,7	—
	Ambient, t2 (°C) ..... :	25,1	—

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Temperature of winding	R1 (Ω)	R2 (Ω)	dT (K)	T (°C)	Max. T (°C)
Motor u-v winding	0,4	0,6	126	151	Class F, 190 °C
Impedance protected motor , motor windings were short-circuited and no hazardous , no dangerous malfunction					
Supplementary information:					

19.8	**TABLE: Abnormal operation, one phase disconnected**					P
	Test voltage (V) ..... :	400				—
	Ambient, t1 (°C) ..... :	22,7				—
	Ambient, t2 (°C) ..... :	25				—
Temperature of winding		R1 (Ω)	R2 (Ω)	dT (K)	T (°C)	Max. T (°C)
Motor u-v winding		0,4	0,55	94	119	Class F, 190 °C
Impedance protected motor, no dangerous malfunction						
Supplementary information:						

19.13	**TABLE: Abnormal operation, temperature rises / Cl.19.7 locked rotor**	P
Thermocouple locations	Max. temperature rise measured, dT (K)	Max.temperature rise limit, dT (K)
Motor ceramic terminal	15	Cl.30
Motor metal body	43	190 °C=165 K, Class F
Main anchorage	10	Cl.30
Supplementary information:		

24.1	**TABLE: Components information**				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1])
Motor	GAMAK	AGM2E 180 L4	0,06 kW-355 kW; 50-60 Hz; 110-690 V; Class F; IP55	TS EN 60034-1	TSE (000118)

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Driver of motor	**ABB**	**ACH550**	**380-480 V, 208-240 V, 48-63 Hz**	**IEC EN 60335-1, IEC EN 60335-2-80**	**Tested with appliance**
Main anchorage	Ortaçlar	TACFLEX	IP40, -25 °C	TS EN 61386-22	TSE (66188)
Supply terminal	ROKET	No-3	Ceramic	IEC EN 60335-1, IEC EN 60335-2-80	Tested with appliance
Internal wiring	ÖZNUR Kablo	NHXMH-O	300-500 V, HM2	TSE K328	TSE (001015)
Internal wiring	ÖZNUR Kablo	H05V-U; H05V-K	--	TS EN 50525-2-31	TSE (001015)
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

28.1	**TABLE: Threaded part torque test**		P
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)
Screw of supply box cover	5,78	II	2,5 Nm; 5 times
Supplementary information:			

29.1	**TABLE: Clearances**					P
	Overvoltage category ....:	Cat II				—
		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)	Verdict / Remark
330	0,2* / 0,5 / 0,8**					N/A
500	0,2* / 0,5 / 0,8**					N/A
800	0,2* / 0,5 / 0,8**					N/A
1 500	0,5 / 0,8** / 1,0***					N/A
2 500	1,5 / 2,0***	X			X	P
4 000	3,0 / 3,5***			X		P
6 000	5,5 / 6,0***					N/A
8 000	8,0 / 8,5***					N/A
10 000	11,0 / 11,5***					N/A

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Supplementary information:
*) For tracks on printed circuit boards if pollution degree 1 and 2
**) For pollution degree 3
***) If the construction is affected by wear, distortion, movement of the parts or during assembly

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*)	B**)	S**)	R**)	Verdict
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9		—	—	N/A
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9	—		—	N/A
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8	—	—		N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4		—	—	N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4	—		—	N/A
125	0,56	1,5	2,1	3,0	3,8	4,2	4,8	—	—		N/A
250	0,56	1,25	1,8	2,5	3,2	3,6	**4,0**	X	—	—	**P**
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	—		—	N/A
250	1,12	2,5	3,6	5,0	6,4	7,2	**8,0**	—	—	X	**P**
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	N/A
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	N/A
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	N/A
500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	N/A
>630 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—		N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		—	—	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—		—	N/A
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—		N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		—	—	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—		—	N/A

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Clause	Requirement - Test							Result - Remark			Verdict
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—		N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0		—	—	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—		—	N/A
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—		N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		—	—	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—		—	N/A
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—		N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		—	—	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—		—	N/A
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—		N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		—	—	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—		—	N/A
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—		N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		—	—	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—		—	N/A
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—		N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		—	—	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—		—	N/A
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—		N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0		—	—	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—		—	N/A
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—		N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0		—	—	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—		—	N/A
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—		N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0		—	—	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—		—	N/A
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—		N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0		—	—	N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—		—	N/A
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—		N/A
Supplementary information: *) Material group IIIb is allowed if the working voltage does not exceed 50 V **) B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation											

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29.2	**TABLE: Creepage distances, functional insulation**							P
Working voltage (V)	Creepage distance (mm) Pollution degree							
	1	2			3			
		Material group			Material group			
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*)	Verdict / Remark
≤10	0,08	0,4	0,4	0,4	1,0	1,0	1,0	N/A
50	0,16	0,56	0,8	1,0	1,4	1,6	1,8	N/A
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N/A
250	0,42	1,0	1,4	2,0	2,5	2,8	**3,2**	**P**
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	N/A
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	N/A

Supplementary information:

*) Material group IIIb is allowed if the working voltage does not exceed 50 V

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Clause	Requirement - Test	Result - Remark	Verdict

30.1	**TABLE: Ball Pressure Test of Thermoplastics**		P
Allowed impression diameter (mm) .....:		2	—
Object/ Part No./ Material		**Test temperature (°C)**	**Impression diameter (mm)**
Main anchorage		75	1,24
Supplementary information:			

30.2	**TABLE: Resistance to heat and fire - Glow wire tests**						P
Object/ Part No./ Material	**Glow wire test (GWT); (°C)**						**Verdict**
	550	**650**		**750**		**850**	
		te	**ti**	**te**	**ti**		
Main anchorage	X						P
Object/ Part No./ Material	**Glow-wire flammability index (GWFI), °C**				**Tracking test (PTI-CTI) V**		**Verdict**
	550	**650**	**750**	**850**	**175**	**250**	
Ceramic supply terminal					X		P
The test specimen passed the glow wire test (GWT) with no ignition [(te – ti) ≤ 2s] (Yes/No):							YES
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No) .....:							NO
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)?.....:							YES
Ignition of the specified layer placed underneath the test specimen (Yes/No) .....:							NO
Supplementary information: - 550 °C GWT not relevant (or applicable) to parts of material classified at least HB40 or if relevant HBF - The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not relevant (or applicable) for attended appliances							

30.2/30.2.4	**TABLE: Needle- flame test (NFT)**			N/A
Object/ Part No./ Material	**Duration of application of test flame (ta); (s)**	**Ignition of specified layer Yes/No**	**Duration of burning (tb) (s)**	**Verdict**
Not needed				N/A
Supplementary information: - NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1 - NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0				

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Clause	Requirement - Test	Result - Remark	Verdict

Appendix 3 : List of test equipment used

TABLE: Test equipment list

No.	Test Equipment	Mark	Model/Type	Serial No.	Calibration Date	Calibration Due Date
EL1-3	Varying Transformer 7 KVA	Devotrans	DVT	981021	--	--
EL1-8	Power Meter	Yokogawa	WT110	2534GA461E	2015/12	2017/12
EL1-7	Temperature recorder	Yokogawa	DR230	--	2017/09	2019/09
EL2-12	Portable Multimeter	Goldstar	DM-332	S70104055	2017/10	2018/10
EL1-117	Leakage current measurement EUT	Esim	--	--	2017/04	2020/04
EL1-174	Climatic chamber	WELLTECH	YTH960	--	2017/02	2019/02
EL1-203	Ce Test Multimeter	Metrel	MI 3394	--	2017/03	2018/03
EL1-31	Etüv Heating Chamber	Nüve	FN 400	01-2219	2017/09	2019/09
EL1-32	Etüv Heating Chamber	Nüve	FN 400	01-2220	2017/11	2019/11
EL1-110	Dijital Dinamometre-Force Guage	Handy	--	112438	2017/07	2019/07
EL2-45	Caliper	Mitutoyo	0-150 mm	7288030	2016/01	2018/01
EL2-49	Test probe B	KEMA	--	--	2012/02	2022/02
EL1-43	Tracking test EUT	KEMA	KEMA Technik	--	2017/11	2019/11
EL1-102	Glow-wire test EUT	EMS	EMS	--	2017/11	2019/11
EL2-115	Torkmeter	Gedore	757-01	14M07543	2016/09	2018/09
EL2-40	Spring Hammer	PTL	F 22-50 F22-80	9807287-1	2016/04	2018/04
EL1-108	EMF Test EUT	NARDA	ELT-400	S/N F-0042	2016/05	2019/05
EL1-109	B-Field Probe	NARDA	ELT	S/N F-0044	2016/05	2019/05

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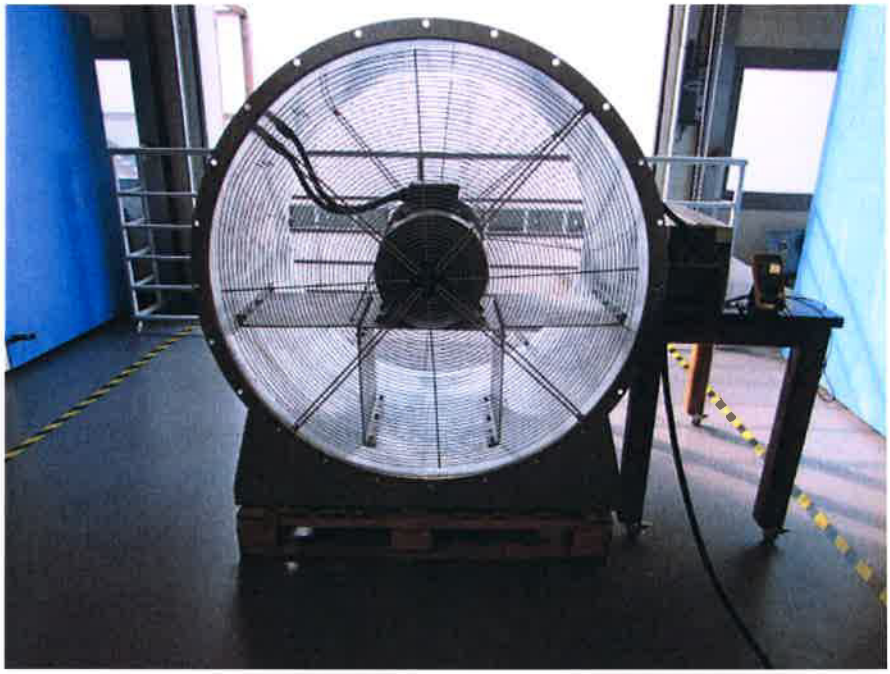
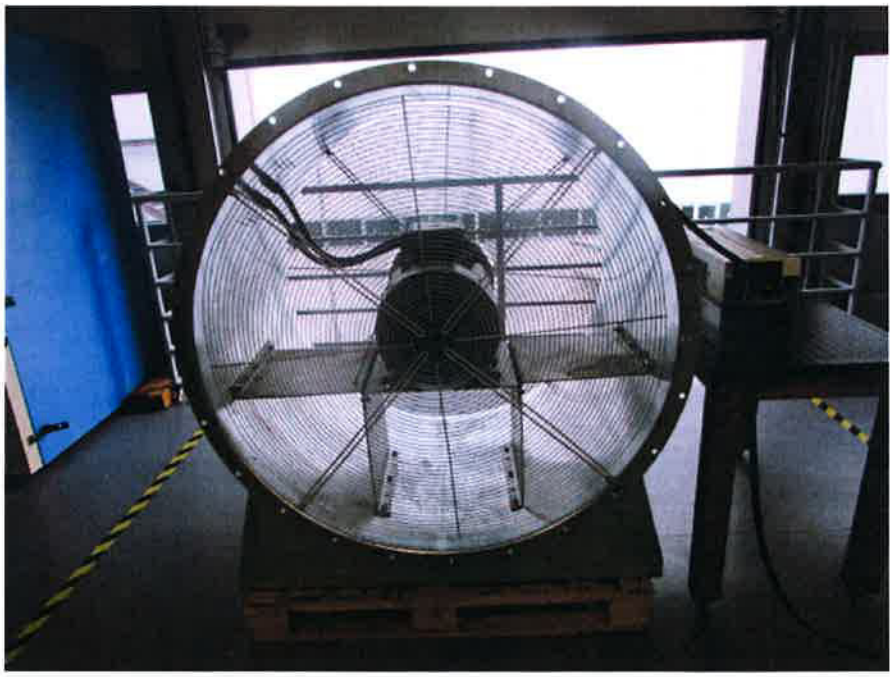
Appendix 4 : Photos





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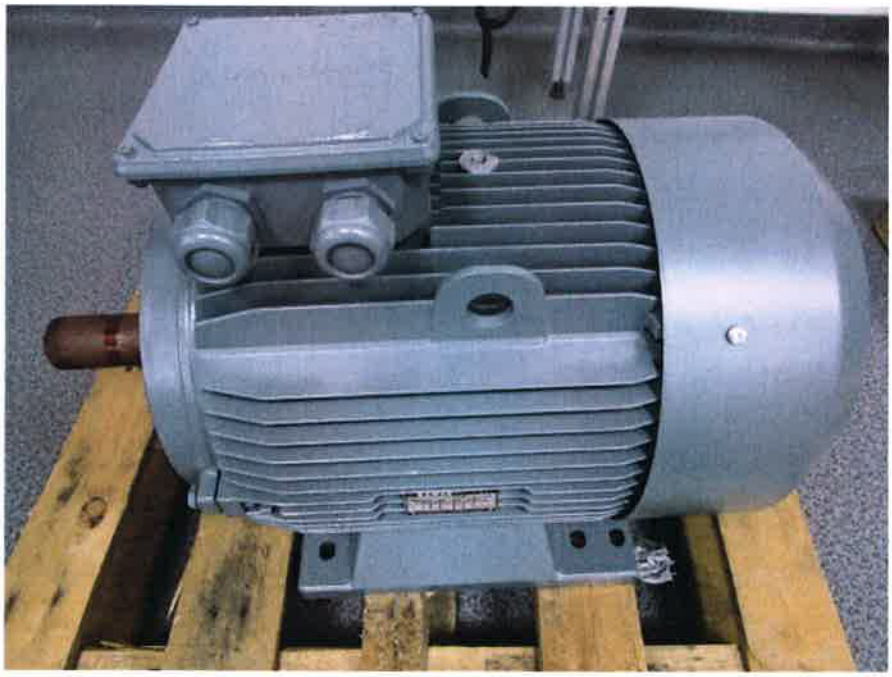
Clause	Requirement - Test	Result - Remark	Verdict



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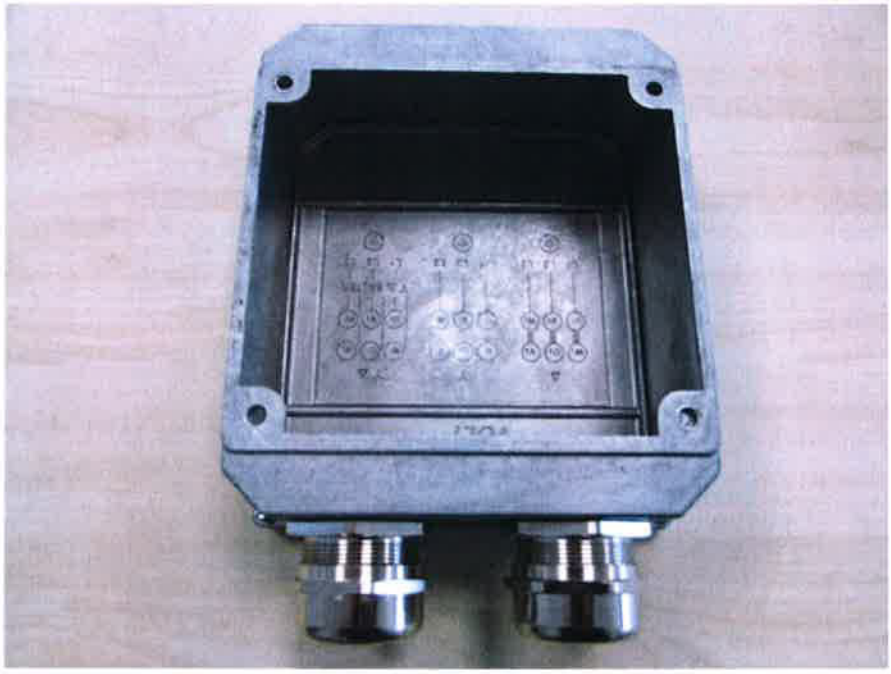
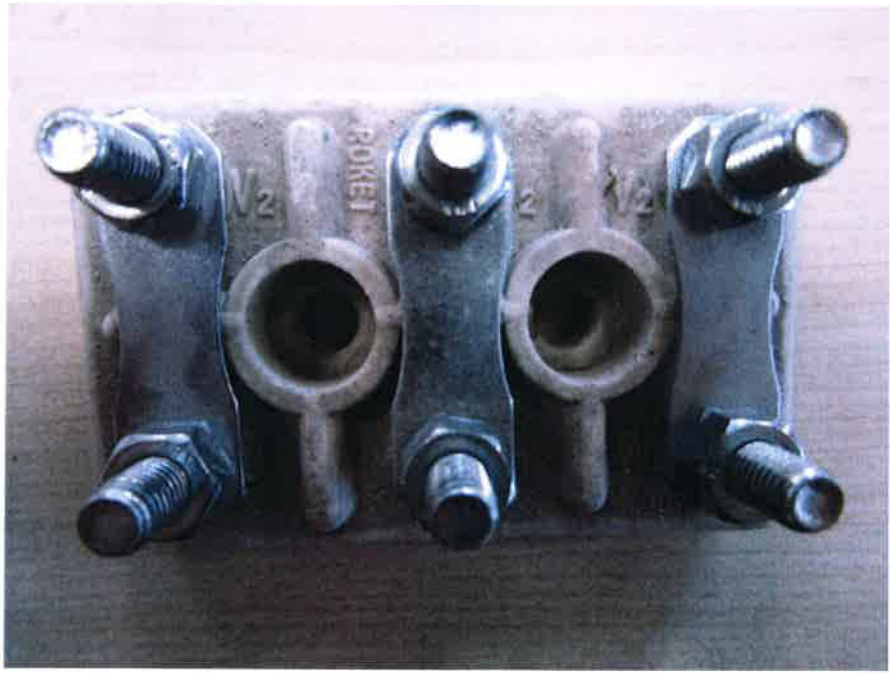
Clause	Requirement - Test	Result - Remark	Verdict



IEC 60335-2-80			
Clause	Requirement - Test	Result - Remark	Verdict



وزارة الداخليـــة
الادارة العامة للدفاع المدني
ادارة الوقاية

تاريخ الطباعة : 2022-02-27
وقت الطباعة : AM 9:03
رقم الطلب : PAC22002137

شهـــــادة عدم ممانعة

نوع الشهادة : اعتماد منتج

بيانات المنشأة

الإسم التجاري : المؤيد للتكييف

رقم السجل التجاري : 30261 **رقم الرخصة التجارية** : 50811

رقم قيد المنشأة : 12-0652-00 **رقم الهاتف** :

البريد الإلكتروني :

التصنيف : Smoke and Heat Control Ventilation Systems

إسم المنتج : Powered Smoke and Heat Control Ventilators / Pressurization Fans & Components

تفاصيل الشهادة

تم مراجعة الطلب المقدم واتضح بأنه لا مانع من اعتماد المنتج /المنتجات الموضحه فى التقرير الفنى المرفق بناء على اعتماده من قبل الهيئه المختبرية الموضحه فى التقرر الفني المرفق.

ملاحظات

1. يجب على الشركه الالتزام والعمل بما جاء في اشتراطات قسم أنظمة السلامه التي تم الاطلاع والموافقة عليها من خلال الموقع.
2. يجب ان يقوم بتركيب هذا المنتج من قبل مهندسين وفنيين معتمدين من الإدارة العامة للدفاع المدني.
3. يجب ان يحمل المنتج العلامة التجارية للهيئه المختبرية المعتمدة والموضحه في التقرير الفني المرفق .

تاريخ الاعتماد : 2022-02-27 **تاريخ الإنتهاء** : 2024-02-27

ع/
مدير ادارة الوقاية
الادارة العامة للدفاع المدني

DATE : 2022-02-27 : التاريـــــخ

PERMIT # PAC22002137 : رقم الطلب

وزارة الداخلية
الإدارة العامة للدفاع المدني
إدارة الوقاية

TECHNICAL REPORT				التقرير الفني
PRODUCT	Powered Smoke and Heat Control Ventilators / Pressurization Fans & Components			منتج
PRODUCT APPLICATION	Smoke and Heat Control Ventilation Systems			تصنيف المعدة
APPLICANT / P.O BOX	المؤيد للتكييف			مقدم الطلب
MANUFACTURER / LOCATION	CVS HAVALANDIRMA SISTEMLERI SAN VE TIC A S / TURKEY			الشركة المصنعة / بلد الصنع
الوصف				الموديل
Powered smoke and heat exhaust ventilator, Axial Jet fan, 2895 Max. RPM speed, 160mm hub diameter, 5 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz				AJ-TR400-F300
3RD PARTY CERTIFICATE / APPROVAL		EEA-1902-0170_21-0	EFECTIS France	شهادة المختبرات المساندة (من هيئات معتمدة)
RECOMMENDATIONS				التوصيات

1. STANDARD: The product(s) has/have been investigated and found to be in compliance with EN12101-3.

EFECTIS Certificate # EEA-1902-0170_21-0
Validity: 2022-Sep-10

2. Not for installation in commercial cooking exhaust system. Not for installation on Guideway Transit and Passenger Rail Systems.

3. As per Kahramaa regulations, motors with a nameplate rating of above 15 horsepower shall be arranged for reduced voltage starting. All motors shall be rated at 415 volts 50 hz., three (03) phase or 240 volts 50 hz single phase.

4. This product approval shall comply with the Design, Inspection, Installation, Testing and Maintenance requirements of NFPA 92/90A/IMC (and/or other related NFPA Codes / Standards), other acceptable International Codes / Standards, Local Regulations and/or Manufacturer's Published Instructions subject to the technical review and approval of the Authority Having Jurisdiction (Qatar Civil Defense).

ع/

مدير ادارة الوقاية
الادارة العامة للدفاع المدني

وزارة الداخليـــة
الادارة العامة للدفاع المدني
ادارة الوقاية

تاريخ الطباعة : 2022-02-28
وقت الطباعة : AM 8:02
رقم الطلب : PAC22002133

شهـــــادة عدم ممانعة

نوع الشهادة : اعتماد منتج

بيانات المنشأة

الإسم التجاري : المؤيد للتكييف

رقم السجل التجاري : 30261 **رقم الرخصة التجارية** : 50811

رقم قيد المنشأة : 12-0652-00 **رقم الهاتف** :

البريد الإلكتروني :

التصنيف : Smoke and Heat Control Ventilation Systems

إسم المنتج : Powered Smoke and Heat Control Ventilators / Pressurization Fans & Components

تفاصيل الشهادة

تم مراجعة الطلب المقدم واتضح بأنه لا مانع من اعتماد المنتج /المنتجات الموضحه فى التقرير الفنى المرفق بناء على اعتماده من قبل الهيئه المختبرية الموضحه فى التقرر الفني المرفق.

ملاحظات

1. يجب على الشركه الالتزام والعمل بما جاء في اشتراطات قسم أنظمة السلامه التي تم الاطلاع والموافقة عليها من خلال الموقع.
2. يجب ان يقوم بتركيب هذا المنتج من قبل مهندسين وفنيين معتمدين من الإدارة العامة للدفاع المدني.
3. يجب ان يحمل المنتج العلامة التجارية للهيئه المختبرية المعتمدة والموضحه في التقرير الفني المرفق .

تاريخ الاعتماد : 2022-02-27 **تاريخ الإنتهاء** : 2024-02-27

ع/
مدير ادارة الوقاية
الادارة العامة للدفاع المدني

وزارة الداخلية
الإدارة العامة للدفاع المدني
إدارة الوقاية

DATE : 2022-02-28 : التاريـــــخ
PERMIT # PAC22002133 : رقم الطلب

TECHNICAL REPORT — التقرير الفني

PRODUCT	Powered Smoke and Heat Control Ventilators / Pressurization Fans & Components	منتج
PRODUCT APPLICATION	Smoke and Heat Control Ventilation Systems	تصنيف المعدة
APPLICANT / P.O BOX	المؤيد للتكييف	مقدم الطلب
MANUFACTURER / LOCATION	CVS HAVALANDIRMA SISTEMLERI SAN VE TIC A S / TURKEY	الشركة المصنعة / بلد الصنع

الوصف	الموديل
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 3000 RPM speed, 160mm hub diameter, 8 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-400
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 3000 RPM speed, 180mm hub diameter, 8 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-450
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 3000 RPM speed, 200mm hub diameter, 8 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-500
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 3000 RPM speed, 224mm hub diameter, 8 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-560
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 3000 RPM speed, 355mm hub diameter, 6 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-630
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 1500 RPM speed, 280mm hub diameter, 9 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-710
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 1500 RPM speed, 315mm hub diameter, 9 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-800
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 1500 RPM speed, 355mm hub diameter, 10 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-900

3RD PARTY CERTIFICATE / APPROVAL	EEA-1902-0094_21-0	EEA-1902-0094_21-0	EFECTIS France	شهادة المختبرات المساندة (من هيئات معتمدة)

RECOMMENDATIONS — التوصيات

1. STANDARD: The product(s) has/have been investigated and found to be in compliance with EN12101-3.

EFECTIS Certificate # EEA-1902-0094_21-0
Validity: 2022-Sep-10

2. Not for installation in commercial cooking exhaust system. Not for installation on Guideway Transit and Passenger Rail Systems.

3. As per Kahramaa regulations, motors with a nameplate rating of above 15 horsepower shall be arranged for reduced voltage starting. All motors shall be rated at 415 volts 50 hz., three (03) phase or 240 volts 50 hz single phase.

ع/
مدير ادارة الوقاية
الادارة العامة للدفاع المدني

4. This product approval shall comply with the Design, Inspection, Installation, Testing and Maintenance requirements of NFPA 92/90A/IMC (and/or other related NFPA Codes / Standards), other acceptable International Codes / Standards, Local Regulations and/or Manufacturer's Published Instructions subject to the technical review and approval of the Authority Having Jurisdiction (Qatar Civil Defense).

/ع

مدير ادارة الوقاية

الادارة العامة للدفاع المدني

وزارة الداخليـــة
الادارة العامة للدفاع المدني
ادارة الوقاية

تاريخ الطباعة : 2022-02-28
وقت الطباعة : AM 8:04
رقم الطلب : PAC22002136

شهـــــادة عدم ممانعة

نوع الشهادة : اعتماد منتج

بيانات المنشأة

الإسم التجاري : المؤيد للتكييف

رقم السجل التجاري : 30261 **رقم الرخصة التجارية** : 50811

رقم قيد المنشأة : 12-0652-00 **رقم الهاتف** :

البريد الإلكتروني :

التصنيف : Smoke and Heat Control Ventilation Systems

إسم المنتج : Powered Smoke and Heat Control Ventilators / Pressurization Fans & Components

تفاصيل الشهادة

تم مراجعة الطلب المقدم واتضح بأنه لا مانع من اعتماد المنتج /المنتجات الموضحه فى التقرير الفنى المرفق بناء على اعتماده من قبل الهيئه المختبرية الموضحه فى التقرر الفني المرفق.

ملاحظات

1. يجب على الشركه الالتزام والعمل بما جاء في اشتراطات قسم أنظمة السلامه التي تم الاطلاع والموافقة عليها من خلال الموقع.
2. يجب ان يقوم بتركيب هذا المنتج من قبل مهندسين وفنيين معتمدين من الإدارة العامة للدفاع المدني.
3. يجب ان يحمل المنتج العلامة التجارية للهيئه المختبرية المعتمدة والموضحه في التقرير الفني المرفق .

تاريخ الاعتماد : 2022-02-27 **تاريخ الإنتهاء** : 2024-02-27

ع/
مدير ادارة الوقاية
الادارة العامة للدفاع المدني

وزارة الداخلية
الإدارة العامة للدفاع المدني
إدارة الوقاية

DATE : 2022-02-28 : التاريـــــخ
PERMIT # PAC22002136 : رقم الطلب

TECHNICAL REPORT — التقرير الفني

PRODUCT	Powered Smoke and Heat Control Ventilators / Pressurization Fans & Components	منتج
PRODUCT APPLICATION	Smoke and Heat Control Ventilation Systems	تصنيف المعدة
APPLICANT / P.O BOX	المؤيد للتكييف	مقدم الطلب
MANUFACTURER / LOCATION	CVS HAVALANDIRMA SISTEMLERI SAN VE TIC A S / TURKEY	الشركة المصنعة / بلد الصنع

الوصف	الموديل
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 1500 RPM speed, 560mm hub diameter, 10 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-1000
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 1500 RPM speed, 280mm hub diameter, 8 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-1120
Powered smoke and heat exhaust ventilator, Axial smoke exhaust fan, 1500 RPM speed, 280mm hub diameter, 8 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz	CVS-1250

3RD PARTY CERTIFICATE / APPROVAL		EEA-1902-0094_21-0	EFECTIS France	شهادة المختبرات المساندة (من هيئات معتمدة)
RECOMMENDATIONS				التوصيات

1. STANDARD: The product(s) has/have been investigated and found to be in compliance with EN12101-3.

EFECTIS Certificate # EEA-1902-0094_21-0
Validity: 2022-Sep-10

2. Not for installation in commercial cooking exhaust system. Not for installation on Guideway Transit and Passenger Rail Systems.

3. As per Kahramaa regulations, motors with a nameplate rating of above 15 horsepower shall be arranged for reduced voltage starting. All motors shall be rated at 415 volts 50 hz., three (03) phase or 240 volts 50 hz single phase.

4. This product approval shall comply with the Design, Inspection, Installation, Testing and Maintenance requirements of NFPA 92/90A/IMC (and/or other related NFPA Codes / Standards), other acceptable International Codes / Standards, Local Regulations and/or Manufacturer's Published Instructions subject to the technical review and approval of the Authority Having Jurisdiction (Qatar Civil Defense).

ع/
مدير ادارة الوقاية
الادارة العامة للدفاع المدني

وزارة الداخليـــة
الادارة العامة للدفاع المدني
ادارة الوقاية

تاريخ الطباعة : 2022-03-10
وقت الطباعة : AM 6:38
رقم الطلب : PAC22002659

شهـــــادة عدم ممانعة

نوع الشهادة : اعتماد منتج

بيانات المنشأة

الإسم التجاري : المؤيد للتكييف

رقم السجل التجاري : 30261 **رقم الرخصة التجارية** : 50811

رقم قيد المنشأة : 12-0652-00 **رقم الهاتف** :

البريد الإلكتروني :

التصنيف : Smoke and Heat Control Ventilation Systems

إسم المنتج : Powered Smoke and Heat Control Ventilators / Pressurization Fans & Components

تفاصيل الشهادة

تم مراجعة الطلب المقدم واتضح بأنه لا مانع من اعتماد المنتج /المنتجات الموضحه فى التقرير الفنى المرفق بناء على اعتماده من قبل الهيئه المختبرية الموضحه فى التقرر الفني المرفق.

ملاحظات

1. يجب على الشركه الالتزام والعمل بما جاء في اشتراطات قسم أنظمة السلامه التي تم الاطلاع والموافقة عليها من خلال الموقع.
2. يجب ان يقوم بتركيب هذا المنتج من قبل مهندسين وفنيين معتمدين من الإدارة العامة للدفاع المدني.
3. يجب ان يحمل المنتج العلامة التجارية للهيئه المختبرية المعتمدة والموضحه في التقرير الفني المرفق .

تاريخ الاعتماد : 2022-03-09 **تاريخ الإنتهاء** : 2024-03-08

ع/
مدير ادارة الوقاية
الادارة العامة للدفاع المدني

DATE : 2022-03-10 : التاريـــــخ

PERMIT # PAC22002659 : رقم الطلب

وزارة الداخلية
الإدارة العامة للدفاع المدني
إدارة الوقاية

TECHNICAL REPORT				التقرير الفني
PRODUCT	Powered Smoke and Heat Control Ventilators / Pressurization Fans & Components			منتج
PRODUCT APPLICATION	Smoke and Heat Control Ventilation Systems			تصنيف المعدة
APPLICANT / P.O BOX	المؤيد للتكييف			مقدم الطلب
MANUFACTURER / LOCATION	CVS HAVALANDIRMA SISTEMLERI SAN VE TIC A S / TURKEY			الشركة المصنعة / بلد الصنع
الوصف				الموديل
Powered smoke and heat exhaust ventilator, Radial Jet fan, 1430 Max. RPM speed, 225mm hub diameter, 7 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz				CVS-60NR
Powered smoke and heat exhaust ventilator, Radial Jet fan, 1390 Max. RPM speed, 225mm hub diameter, 7 blades, Class F300, uninsulated outside of smoke reservoir application class. Motor: Insulation class H, 415 volts, 50 hertz				CVS-100NR
3RD PARTY CERTIFICATE / APPROVAL		EEA-1902-0093_21-0	EFECTIS France	شهادة المختبرات المساندة (من هيئات معتمدة)
RECOMMENDATIONS				التوصيات

1. STANDARD: The product(s) has/have been investigated and found to be in compliance with EN12101-3.

EFECTIS Certificate # EEA-1902-0093_21-0
Validity: 2022-Sep-10

2. Not for installation in commercial cooking exhaust system. Not for installation on Guideway Transit and Passenger Rail Systems.

3. As per Kahramaa regulations, motors with a nameplate rating of above 15 horsepower shall be arranged for reduced voltage starting. All motors shall be rated at 415 volts 50 hz., three (03) phase or 240 volts 50 hz single phase.

4. This product approval shall comply with the Design, Inspection, Installation, Testing and Maintenance requirements of NFPA 92/90A (and/or other related NFPA Codes / Standards), other acceptable International Codes / Standards, Local Regulations and/or Manufacturer's Published Instructions subject to the technical review and approval of the Authority Having Jurisdiction (Qatar Civil Defense).

ع/
مدير ادارة الوقاية
الادارة العامة للدفاع المدني

TÜRKMENISTANYŇ YKDYSADYÝET WE ÖSÜŞ MINISTRLIGINIŇ INTELLEKTUAL EÝEÇILIK BOÝUNÇA DÖWLET GULLUGY

№ 12959 HARYT NYŞANYNYŇ

ŞAHADATNAMASY

Eýesi (ýurt): **SiWieS Hawalandyrma Sistemleri Sanaýi we Tijaret Limited Şirketi (TR)**

Harytlaryň we/ýa-da hyzmatlaryň klaslary:	**11, 35, 37.**
Ilkinjilik:	**17.05.2013**
Haýyşnamanyň №:	**2013.0269**
Haýyşnamanyň gelen senesi:	**17.05.2013**
Döwlet reýestrinde bellige alynan senesi:	**29.07.2015**
Hereket edýän möhleti	**17.05.2023** çenli

TÜRKMENISTANYŇ YKDYSADYÝET WE ÖSÜŞ MINISTRLIGINIŇ INTELLEKTUAL EÝEÇILIK BOÝUNÇA DÖWLET GULLUGY

Başlygyň orunbasary _____ ***A.Annanıýazow***

ГОСУДАРСТВЕННАЯ СЛУЖБА ИНТЕЛЛЕКТУАЛЬНОЙ СОБСТВЕННОСТИ МИНИСТЕРСТВА ЭКОНОМИКИ И РАЗВИТИЯ ТУРКМЕНИСТАНА

СВИДЕТЕЛЬСТВО НА ТОВАРНЫЙ ЗНАК № 12959

Владелец (страна): **СиВиэС Хаваланырма Системлери Санайи ве Тиджарет Лимитед Ширкети (TR)**

Классы товаров и/или услуг по МКТУ:	**11, 35, 37.**
Приоритет:	**17.05.2013**
Заявка №	**2013.0269**
Дата поступления заявки:	**17.05.2013**
Дата регистрации в Государственном реестре:	**29.07.2015**
Срок действия до:	**17.05.2023**

STATE SERVICE ON INTELLECTUAL PROPERTY UNDER MINISTRY OF ECONOMY AND DEVELOPMENT OF TURKMENISTAN

TRADEMARK CERTIFICATE № 12959

Owner (country): **CVS Havalandırma Sistemleri Sanayi ve Ticaret Limited Şirketi (TR)**

Goods and/or services by Int. cl.:	**11, 35, 37.**
Priority date:	**17.05.2013**
Application №:	**2013.0269**
Filing date:	**17.05.2013**
Date of registration:	**29.07.2015**
Valid to:	**17.05.2023**

Haryt nyşany/ Товарный знак/ Trademark

TÜRKMENISTANYŇ YKDYSADYÝET WE ÖSÜŞ MINISTRLIGINIŇ * INTELLEKTUAL EÝEÇILIK BOÝUNÇA DÖWLET GULLUGY *

CVS air® Ventilation Technic

TÜRKMENISTANYŇ YKDYSADYÝET WE ÖSÜŞ MINISTRLIGINIŇ
INTELLEKTUAL EÝEÇILIK BOÝUNÇA DÖWLET GULLUGY

№ 12960 HARYT NYŞANYNYŇ

ŞAHADATNAMASY

Eýesi (ýurt): **SiWieS Hawalandyrma Sistemleri Sanaýi we Tijaret Limited Şirketi (TR)**

Harytlaryň we/ýa-da hyzmatlaryň klaslary:	**11, 35, 37.**
Ilkinjilik:	**17.05.2013**
Haýyşnamanyň №:	**2013.0270**
Haýyşnamanyň gelen senesi:	**17.05.2013**
Döwlet reýestrinde bellige alynan senesi:	**29.07.2015**
Hereket edýän möhleti	**17.05.2023** çenli

TÜRKMENISTANYŇ YKDYSADYÝET WE ÖSÜŞ MINISTRLIGINIŇ INTELLEKTUAL EÝEÇILIK BOÝUNÇA DÖWLET GULLUGY

Başlygyň orunbasary _____ ***A.Annanıýazow***

ГОСУДАРСТВЕННАЯ СЛУЖБА ИНТЕЛЛЕКТУАЛЬНОЙ СОБСТВЕННОСТИ МИНИСТЕРСТВА ЭКОНОМИКИ И РАЗВИТИЯ ТУРКМЕНИСТАНА

СВИДЕТЕЛЬСТВО НА ТОВАРНЫЙ ЗНАК № 12960

Владелец (страна): **СиВиэС Хаваланырма Системлери Санайи ве Тиджарет Лимитед Ширкети (TR)**

Классы товаров и/или услуг по МКТУ:	**11, 35, 37.**
Приоритет:	**17.05.2013**
Заявка №	**2013.0270**
Дата поступления заявки:	**17.05.2013**
Дата регистрации в Государственном реестре:	**29.07.2015**
Срок действия до:	**17.05.2023**

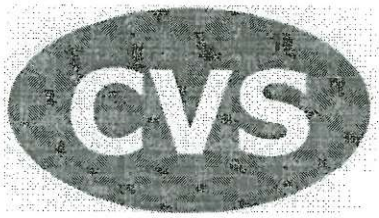
STATE SERVICE ON INTELLECTUAL PROPERTY UNDER MINISTRY OF ECONOMY AND DEVELOPMENT OF TURKMENISTAN

TRADEMARK CERTIFICATE № 12960

Owner (country): **CVS Havalandırma Sistemleri Sanayi ve Ticaret Limited Şirketi (TR)**

Goods and/or services by Int. cl.:	**11, 35, 37.**
Priority date:	**17.05.2013**
Application №:	**2013.0270**
Filing date:	**17.05.2013**
Date of registration:	**29.07.2015**
Valid to:	**17.05.2023**

Haryt nyşany/ Товарный знак/ Trademark



EFECTIS France
Espace Technologique
Bâtiment Apollo
Route de l'Orme des Merisiers
F-91193 Saint-Aubin
www.efectis.com

CERTIFICAT DE CONSTANCE DES PERFORMANCES
CERTIFICATE OF CONSTANCY OF PERFORMANCE

CERTIFICAT DE CONSTANCE DES PERFORMANCES
CERTIFICATE OF CONSTANCY OF PERFORMANCE

N° 1812-CPR-1706

Conformément au Règlement 305/2011/EU du Parlement européen et du Conseil du 9 mars 2011 (Règlement Produits de Construction – RPC), il a été établi que le produit de construction :
In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), it was established that the construction product:

Produit *Product*	**VENTILATEURS EXTRACTEURS DE FUMÉES ET CHALEUR** ***Powered smoke and heat control ventilator***
Référence du produit *Reference of the product*	**Axial Smoke Exhaust Fan F400**
mis sur le marché par ou pour *placed on the market by or for*	**CVS HAVALANDIRMA SİSTEMLERİ SAN. VE TİC. A.Ş.** **Orta Mah., Tevfik İleri Cad., Ördekçioğlu Binası, No:32/1** **Pendik/İSTANBUL, Turkey**
et produit dans l'usine de fabrication de *and produced in the manufacturing plant located in*	**BILECIK, Turkey**

est soumis par le fabricant à un contrôle de production en usine, et que EFECTIS France, organisme de certification notifié, a réalisé les essais/calculs de type initiaux relatifs aux caractéristiques concernées du produit, l'inspection initiale de l'usine et du contrôle de la production en usine, et réalise la surveillance continue, l'évaluation et l'acceptation du contrôle de la production en usine.
is submitted by the manufacturer to a factory production control , and that the notified certification body EFECTIS France, has performed the initial type-testing for the relevant characteristics of the product, the initial inspection of the factory and of the factory production control and performs the continuous surveillance, assessment and approval of factory production control.

Ce certificat atteste que toutes les dispositions concernant l'évaluation et la vérification de la constance des performances et les performances décrites dans l'annexe ZA de la norme de référence **EN 12101-3 : 2015** pour le système 1 sont appliquées, et que le ou les produits satisfont toutes les exigences prescrites.
*This certificate attests that all provisions concerning the assessment and verification of constancy of performance and the performance, described in Annex ZA of the standard **EN 12101-3 : 2015** under system 1 are applied, and that the product(s) fulfill(s) all the prescribed requirements set out above.*

Ce certificat, délivré pour la première fois le **17 avril 2020**, demeure valide tant que les exigences relatives aux méthodes d'essai et au contrôle de production en usine incluses dans la norme harmonisée et utilisées pour évaluer les caractéristiques déclarées restent inchangées, et que le produit et les conditions de fabrication dans l'usine ne sont pas modifiés de manière significative.
*This certificate, first issued on **April 17th, 2020**, remains valid as long as the test methods and/or factory production control requirements included in the harmonised standard, used to assess the performance of the declared characteristics, do not change, and the product and the manufacturing conditions in the plant are not modified significantly.*

Ce certificat permet au fabricant, ses mandataires ou ses distributeurs, établis dans l'Espace Economique Européen, d'apposer le marquage CE.
This certificate allows the manufacturer, its mandatories or its distributors, stated in the European Economic Area, to affix the CE marking.

Certificat établi à Saint-Aubin le / *Certificate established at Saint-Aubin on :* **10/03/2021.**

Par délégation du Directeur technique Certification / *By delegation of the technical Certification director,*

Yannick LE TALLEC
Directrice Certification / *Certification director*

cofrac
CERTIFICATION DE PRODUITS ET SERVICES
ACCREDITATION N° 5-0540 PORTÉE DISPONIBLE SUR WWW.COFRAC.FR

Organisme notifié
Notified body
n° 1812

SASU au capital de 1 512 170 € - SIRET 490 550 712 00031

ANNEXE AU CERTIFICAT DE CONSTANCE DES PERFORMANCES A LA NORME EN 12101-3 : 2015

N° 1812-CPR-1706

ANNEX TO THE CERTIFICATE OF CONSTANCY OF PERFORMANCE TO THE STANDARD EN 12101-3 : 2015

Produit
Product

VENTILATEURS EXTRACTEURS DE FUMÉES ET CHALEUR
Powered smoke and heat control ventilator

Référence du produit
Reference of the product

Axial Smoke Exhaust Fan F400

Certificat délivré à
Certificate delivered to

CVS HAVALANDIRMA SİSTEMLERİ SAN. VE TİC. A.Ş.
Orta Mah., Tevfik İleri Cad., Ördekçioğlu Binası, No:32/1
Pendik/İSTANBUL, Turkey

Description du champ couvert par le certificat / ***Description of the field covered by the certificate:***

Classement résistance au feu / *Fire resistance class:* **F_{400} /120 - F_{400} /90 – F_{300} – F_{200}**

- Installation hors du réservoir de fumée / *Installation outside of the smoke reservoir*
- Non isolé thermiquement / *Apparatus with no heat insulation*
- Classe de neige et classe de vent : sans objet / *Snow load and wind load: not applicable*

1. VENTILATEURS / *VENTILATORS*

Les caractéristiques validées sont / *The Approved characteristics are:*

- Carcasse des ventilateurs : acier galvanisé ST37 / *Ventilator frames Galvanized steel ST37*
- Hélices / *Impellers*: Alliage d'aluminium (ETIAL 145) / *Aluminium alloy (ETIAL 145)*

Diamètre ventilateur/*Fan diameter*	**315**	**355**	**400**	**450**	**500**	**560**	**630**	**710**	**800**	**900**	**1000**	**1120**	**1250**
Vitesse de rotation maximum/*Maximum speed* (rpm)	3000	3000	3000	3000	3000	3000	3000	1500	1500	1500	1500	1500	1500
Hauteur d'axe/*Hub diameter* (mm)	160	160	160	280	280	280	280	380	380	380	380	430	430
Jeu fonctionnel /*Nominal tip gap* (mm)	5	5	4	5	6	6	4	8	8	8	8	12	12
Longueur de pale/*Nominal blade length* (mm)	72,5	92,5	105	80	102,5	132,5	155	157,5	200	250	295	335	400
Nombre maximum de pales /*Maximum number of blades*	5	5	4	5	6	6	4	8	8	8	8	12	12
Taille de moteur maximum/ *Largest motor frame*	100	100	100	112	112	132	132	160	160	160	200	200	200
Taille de moteur minimum /*Smallest motor frame*	90	90	90	90	90	100	100	100	100	112	132	132	132
Puissance moteur (minimum)/*Motor power (smallest)*	0,8	0,8	0,8	1,1	1,5	2,2	4	1,1	1,5	3	4	5,5	7,5
Puissance moteur maximum/*Motor Power (largest)*	0,8	1,1	0,8	3	5,5	7,5	5,5	5,5	7,5	15	30	30	30

cofrac CERTIFICATION DE PRODUITS ET SERVICES ACCREDITATION N° 5-0540 PORTÉE DISPONIBLE SUR WWW.COFRAC.FR

Organisme notifié
Notified body
n° 1812

SASU au capital de 1 512 170 € - SIRET 490 550 712 00031

2. MOTEURS / *MOTORS*

Les moteurs validés sont les moteurs AEHBYH-401 / *The approved motors are Motors AEHBYH-401*

- Classe d'isolation / *Insulation class :* H
- Classe de protection / *Protection index:* IP55
- Classe d'échauffement / *Thermal class :* F
- Roulement à bille ZZ – Jeu interne C3 – Graisse Barrieta L55/2 / *Ball bearing ZZ– Internal fit bearing C3 – Grease Barrieta L55/2*
- Triphasé / *Three phase* :
  - 380 V - 415 V, 50 Hz
  - 400-480 V, 60 Hz : sous réserve que la puissance à 60Hz soit au maximum de 1,15 fois celle de la puissance à 50 Hz les ventilateurs ayant été testés à la vitesse maximale / *providing the rated power at 60Hz correspond to maximum 1,15 times the power for 50 Hz as the fans were tested at maximum speed.*

Certificat établi à Saint-Aubin le / *Certificate established at Saint-Aubin on :* **10/03/2021.**

Par délégation du Directeur technique Certification / *By delegation of the technical Certification director,*

Yannick LE TALLEC
Directrice Certification / *Certification director*

SASU au capital de 1 512 170 € - SIRET 490 550 712 00031

1О175
ДСТУ EN ISO/IEC 17065

ЦСМВ
CCM&G

СЕРТИФІКАТ ВІДПОВІДНОСТІ

СЕРТИФИКАТ СООТВЕТСТВИЯ/ CERTIFICATE ON CONFORMITY

Зареєстровано в реєстрі органу сертифікації за №
Зарегистрирован в реестре органа сертификации под №/
Registered at the Record of certification body under №

UA.032.CC.0084-21

Термін дії з
Срок действия с/
Term of validity is from

31 березня 2021 р. до 30 березня 2022 р.

Сертифікат видано
Сертификат выдан/
Certificate is issued on

ТОВ «Кліма Комфорт»
03150, м. Київ, вул. Анрі Барбюса, 5-В, секція 3, оф. 29, код ЄДРПОУ 23524734

Продукція
Продукция/Production

Радіальний вентилятор реактивного струменя (RADIAL JET FAN),
тип RJ.
Модель: 60 N/R
Клас вогнестійкості *F300/2h (видалення димових газів температурою 300 ^{0}С протягом 120 хвилин)*

8414
(код (и) УКТЗЕД) (ДКПП)
(UKTZED/DKPP code (s))

(повна назва, тип, вид, марка, торгова марка) / (complete product name, type, kind, model, merchandise mark (trademark))

Відповідає вимогам
Соответствует требованиям/
Comply with the requirements

Державних будівельних норм і стандартів України:
ДБН В.2.3-15:2007 «Споруди транспорту. Автостоянки і гаражі для легкових автомобілів» *із змінами №№1, 2,* п. 8.33;
ДБН В.2.5-56:2014 «Системи протипожежного захисту» *із зміною №1*, п. 10.2;
prEN 12101-11:2011 «Smoke and heat control systems. Part 11. Desing, installation & commissioning reguinements for enclosed car parks»;
ДСТУ EN 12101-3:2017 «Системи противодимного захисту. Частина 3. Вентилятори димовидалення (EN 12101-3: 2015, IDT)»

(позначення нормативних документів)/(denotation of normative documents)

Виробник
Производитель/
Producer

Фірма «CVS HAVALANDIRMA SiSTEMLERi SAN. ve TIC. A.s.» (Туреччина),
Orta Mah. Tevfik Ileri Cad. Ordekcioglu Binası No: 32/1 Pendik Istanbul / Turkey

Місце виробництва
Место производства/
Place of production

Фірма «CVS HAVALANDIRMA SiSTEMLERi SAN. ve TIC. A.s.» (Туреччина),
BILECIK / Turkey

Сертифікат видано органом сертифікації
Сертификат выдан органом сертификации/
Certificate is issued by the certification body

ОС «Центр сертифікації матеріалів та виробів»,
юр. адр.: 03164, м. Київ, вул. Малинська, 20-А;
пошт. адр.: 03067, м. Київ, вул. Олекси Тихого, 103;
тел. 221-94-10; 404-88-03; 457-69-23

Додаткова інформація
Дополнительная информация/Additional information

Продукція, *що виробляється серійно з 31.03.2021 до 30.03.2022.*
Монтування вентиляторів димовидалення здійснюється у відповідності до інструкції виробника.
Здійснюється інспекційний контроль за сертифікованою продукцією протягом терміну дії сертифіката відповідності згідно з Ліцензійною угодою

На підставі
На основании/
On the grounds of

Протокол випробувань від 02.04.2015 № RFTR-15036, класифікаційний протокол від 02.04.2015 № EEA-14-041, звіт оцінювання EEA-15-035 від 02.04.2015 випробувальної лабораторії EFECTIS ERA AVRASYA TEST VE BELGELENDIRME A.S. (Туреччина).
Сертифікат відповідності від 25.01.2019 № 1812-CPR-1199, що виданий органом сертифікації EFECTIS France Espace Technologique (Франція).
Рішення ОС «ЦСМВ» № 099/21 від 30.03.2021 про видачу сертифіката відповідності

Заст. керівника органу з сертифікації
Руководитель органа сертификации/
Director of the certification body

М.П./Stamp

Україна * Товариство з обмеженою відповідальністю * м. Київ *
«ОРГАН СЕРТИФІКАЦІЇ «ЦЕНТР СЕРТИФІКАЦІЇ МАТЕРІАЛІВ ТА ВИРОБІВ» Ідентифікаційний код 36038552

В.І. Приймаченко
(підпис, ініціали, прізвище)
(signature, initials, family name)

Чинність сертифіката відповідності можна перевірити в базі даних органа сертифікації по тел. 044 221-94-10 Действие сертификата соответствия можно проверить в базе данных органа сертификации по тел. 044 221-94-10 Validity of the Certificate of conformity can be verified on the base of data of the certification body tel. 044 221-94-10

ЦСМВ
CCM&G

ДОДАТОК

до сертифіката відповідності

СЕРТИФИКАТ СООТВЕТСТВИЯ/ CERTIFICATE ON CONFORMITY

№ UA.032.CC.0084-21 від 31 березня 2021 р. до 30 березня 2022 р.

1. Вентилятор

- установка безпосередньо в димовій зоні
- без теплоізоляції
- снігове навантаження N/A

Габаритні розміри, мм	1237x823x330/80
Діаметр вхідного отвору, мм	480
Кількість лопаток, шт..	7
Діаметр робочого колеса, мм	560
Діаметр ступиці, мм	225
Швидкість обертання, об/хв	1390

2. Електродвигун

Марки електродвигунів для використання у вентиляторах: GAMAK або LEROY SOMER

Суттєві характеристики

Клас ізоляції	H
Клас вогнестійкості	F
Ступінь захисту оболонки	IP 55
Електричні характеристики	3 фази, 400 В, 50 Гц,

Заст. керівника органу з сертифікації

Руководитель органа сертификации/
Director of the certification body

М.П./ Stamp

В.І. Приймаченко

(підпис, ініціали, прізвище)
(signature, initials, family name)

Україна * Товариство з обмеженою відповідальністю * м. Київ *
«ОРГАН СЕРТИФІКАЦІЇ «ЦЕНТР СЕРТИФІКАЦІЇ МАТЕРІАЛІВ ТА ВИРОБІВ»
Ідентифікаційний код 36038552

1О175
ДСТУ EN ISO/IEC 17065

ЦСМВ
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СЕРТИФІКАТ ВІДПОВІДНОСТІ

СЕРТИФИКАТ СООТВЕТСТВИЯ/ CERTIFICATE ON CONFORMITY

Зареєстровано в реєстрі органу сертифікації за № UA.032.CC.0085-21

Зарегистрирован в реестре органа сертификации под №/
Registered at the Record of certification body under №

Термін дії з
Срок действия с/
Term of validity is from
31 березня 2021 р. до 30 березня 2022 р.

Сертифікат видано
Сертификат выдан/
Certificate is issued on
ТОВ «Кліма Комфорт»
03150, м. Київ, вул. Анрі Барбюса, 5-В, секція 3, оф. 29, код ЄДРПОУ 23524734

Продукція
Продукция/Production
Радіальний вентилятор реактивного струменя (RADIAL JET FAN),
тип RJ.
Модель: 100N/R.
Клас вогнестійкості *F300/1,5h (видалення димових газів температурою 300 ^{0}С протягом 90 хвилин)*

8414
(код (и) УКТЗЕД/ДКПП)
(UKTZED/DKPP code(s))

(повна назва, тип, вид, марка, торгова марка) / (complete product name, type, kind, model, merchandise mark (trademark))

Відповідає вимогам
Соответствует требованиям/
Comply with the requirements
Державних будівельних норм і стандартів України:
ДБН В.2.3-15:2007 «Споруди транспорту. Автостоянки і гаражі для легкових автомобілів» *із змінами №№1, 2*, п. 8.33;
ДБН В.2.5-56:2014 «Системи протипожежного захисту» *із зміною №1*, п. 10.2;
prEN 12101-11:2011 «Smoke and heat control systems. Part 11. Desing, installation & commissioning reguinements for enclosed car parks»;
ДСТУ EN 12101-3:2017 «Системи противодимного захисту. Частина 3. Вентилятори димовидалення (EN 12101-3: 2015, IDT)»

(позначення нормативних документів)/(denotation of normative documents)

Виробник
Производитель/
Producer
Фірма «CVS HAVALANDIRMA SiSTEMLERi SAN. ve TIC. A.s.» (Туреччина),
Orta Mah. Tevfik Ileri Cad. Ordekcioglu Binası No: 32/1 Pendik Istanbul / Turkey

Місце виробництва
Место производства/
Place of production
Фірма «CVS HAVALANDIRMA SiSTEMLERi SAN. ve TIC. A.s.» (Туреччина),
BILECIK / Turkey

Сертифікат видано органом сертифікації
Сертификат выдан органом сертификации/
Certificate is issued by the certification body
ОС «Центр сертифікації матеріалів та виробів»,
юр. адр.: 03164, м. Київ, вул. Малинська, 20-А;
пошт. адр.: 03067, м. Київ, вул. Одекси Тихого, 103;
тел. 221-94-10; 404-88-03; 457-69-23

Додаткова інформація
Дополнительная информация/Additional information
Продукція, *що виробляється серійно з 31.03.2021 до 30.03.2022.*
Монтування вентиляторів димовидалення здійснюється у відповідності до інструкції виробника.
Здійснюється інспекційний контроль за сертифікованою продукцією протягом терміну дії сертифіката відповідності згідно з Ліцензійною угодою

На підставі
На основании/
On the grounds of
Протокол випробувань від 02.04.2015 № RFTR-15037 , класифікаційний протокол від 02.04.2015 р. № EEA-14-042, звіт оцінювання EEA -15-036 від 02.04.2015 випробувальної лабораторії EFECTIS ERA AVRASYA TEST VE BELGELENDIRME A.S. (Туреччина).
Сертифікат відповідності від 25.01.2019 № 1812-CPR-1199, що виданий органом сертифікації EFECTIS France Espace Technologique (Франція).
Рішення ОС «ЦСМВ» № 100/21 від 30.03.2021 про видачу сертифіката відповідності

Заст. керівника органу з сертифікації
Руководитель органа сертификации/
Director of the certification body

м. Київ * Україна * Товариство з обмеженою відповідальністю
ОРГАН СЕРТИФІКАЦІЇ «ЦЕНТР СЕРТИФІКАЦІЇ МАТЕРІАЛІВ ТА ВИРОБІВ» ідентифікаційний код 36038552

В.І. Приймаченко
(підпис, ініціали, прізвище)
(signature, initials, family name)

Чинність сертифіката відповідності можна перевірити в базі даних органу сертифікації за тел. 044 221-94-10 Действие сертификата соответствия можно проверить в базе данных органа сертификации по тел. 044 221-94-10 Validity of the Certificate of conformity can be checked on the base of data of the certification body tel. 044 221-94-10

1О175
ДСТУ EN ISO/IEC 17065

ЦСМВ
CCM&G

ДОДАТОК
до сертифіката відповідності
СЕРТИФИКАТ СООТВЕТСТВИЯ/ CERTIFICATE ON CONFORMITY

№ UA.032.CC.0085-21 від 31 березня 2021 р. до 30 березня 2022 р.

1. Вентилятор

- установка безпосередньо в димовій зоні
- без теплоізоляції
- снігове навантаження N/A

Габаритні розміри, мм	**1235x800x290/90**
Діаметр вхідного отвору, мм	536
Кількість лопаток, шт..	7
Діаметр робочого колеса, мм	500
Діаметр ступиці, мм	225
Швидкість обертання, об/хв	1430

2. Електродвигун

Марки електродвигунів для використання у вентиляторах: GAMAK або LEROY SOMER

Суттєві характеристики

Клас ізоляції	H
Клас вогнестійкості	F
Ступінь захисту оболонки	IP 55
Електричні характеристики	3 фази, 400 В, 50 Гц,

Заст. керівника органу з сертифікації
Руководитель органа сертификации/
Director of the certification body

М.П./Stamp

«ОРГАН СЕРТИФІКАЦІЇ «ЦЕНТР СЕРТИФІКАЦІЇ МАТЕРІАЛІВ ТА ВИРОБІВ» Ідентифікаційний код 36038552

В.І. Приймаченко
(підпис, ініціали, прізвище)
(signature, initials, family name)

سلطنة عمان
الهيئة العامة للدفاع المدني والإسعاف
الإدارة العامة للحماية المدنية

رقم الشهادة (هـ . ع . د. م . إ / حماية /٠٣٠٨/٢٠٢٠م)

شهادة مطابقة للمعدات والأجهزة والمواد الخاصة بالحماية المدنية للمواصفات القياسية

تشهد الإدارة العامة للحماية المدنية بأن الأجهزة والمعدات والمواد المبينة أدناه :

١- Axial smoke exhaust fan F٣٠٠
٢- Efectis(١٨١٢CPR-١٧٠٥)
٣- Axial smoke exhaust fan f٤٠٠
٤- Efectis(١٨١٢CPR-١٧٠٦)

المصنعة من قبل : سي في اس هافالاندير ما سيستمليري سان في ، وقد تم فحصها من قبل مختبرات دولية معتمدة لدينا.

وعليه يصرح للوكيل المحلي : صحار للصناعات والتوريدات التجارية ش م م ، باستيرادها والإتجار فيها.

هذه الشهادة صالحة اعتباراً من : ٢٠٢٠/١٠/٠٦م إلى : ٢٠٢٣/١٠/٠٥م

القائم بالدراسة : النقيب.مهندس/سعود بن راشد السعدي

الرائد / أحمد بن ناصر الكندي
عن / مدير عام الحماية المدنية

أي كشط أو تعديل يلغي هذه الشهادة.

ملاحظات :

* يجب تجديد هذه الشهادة عند إنتهاء المدة المحددة دون تأخير .

سلطنة عمان
الهيئة العامة للدفاع المدني والإسعاف
الإدارة العامة للحماية المدنية

رقم الشهادة (هـ . ع . د. م . إ / حماية / ٠٣٠٩/ ٢٠٢٠م)

شهادة مطابقة للمعدات والأجهزة والمواد الخاصة بالحماية المدنية للمواصفات القياسية

تشهد الإدارة العامة للحماية المدنية بأن الأجهزة والمعدات والمواد المبينة أدناه :

١- Axial jet fan f٣٠٠
٢- Efectis(١٨١٢CPR-١٧٠٧)
٣- Radial jet fan f٣٠٠
٤- Efectis(١٨١٢CPR-١٧٠٤)

المصنعة من قبل : سي في اس هافالاندير ما سيستمليري سان في ، وقد تم فحصها من قبل مختبرات دولية معتمدة لدينا.

وعليه يصرح للوكيل المحلي : صحار للصناعات والتوريدات التجارية ش م م ، باستيرادها والإتجار فيها.

هذه الشهادة صالحة اعتباراً من : ٢٠٢٠/١٠/٠٦م إلى : ٢٠٢٣/١٠/٠٥م

القائم بالدراسة : النقيب.مهندس/سعود بن راشد السعدي

الهيئة العامة للدفاع المدني والإسعاف
الإدارة العامة للحماية المدنية

الرائد / أحمد بن ناصر الكندي
عن / مدير عام الحماية المدنية

أي كشط أو تعديل يلغي هذه الشهادة.

ملاحظات :

* يجب تجديد هذه الشهادة عند إنتهاء المدة المحددة دون تأخير .

Certificate of Registration

This certificate has been awarded to

CVS HAVALANDIRMA SİSTEMLERİ SAN. VE TİC. A.Ş.

Orta Mahalle, Tevfik İleri Cd No:32, 34000 Pendik/ İSTANBUL, Turkey

in recognition of the organization's Quality Management System which complies with

ISO 9001:2015

The scope of activities covered by this certificate is defined below

Manufacture, Purchasing and Selling of All Types of Industrial Heating, Ventilation and Cooling Systems and Its Equipments, All Construction Works and Services

Certificate Number:	Date of Issue: (Original)	Date of Issue:
205350/A/0001/UK/En	21 July 2020	21 July 2020
Issue No:	**Expiry Date:**	
1	20 July 2023	

Issued by: *On behalf of the Schemes Manager*

0043

AMCA International
Air Movement and Control Association International, Inc.
The International Authority on Air System Components Since 1917

International Headquarters
30 W. University Dr. · Arlington Heights, IL 60004-1893 ·USA

Phone: +1 847-394-0150
E-Mail: treilly@amca.org
Website: www.amca.org

Test No. 35939-A1

October 09,2018

TO: CVS Havalandirma Sistemleri San Ve Tic AS
Cumhuriyet Mah. Kartal Cad. No 101/1
Istanbul, Kartal TURKEY 34876

ATTN: Murat Pilge
murat.pilge@cvsair.com.tr

SUBJECT : CONTRACT TESTING
MODEL No. CVS-UAX-800 4/4P F300

Attached are the test results of the subject model performed on 10/9/2018

If you should have any questions concerning these data, please let us know.

Sincerely,

AIR MOVEMENT AND CONTROL
ASSOCIATION INTERNATIONAL, INC.

Tim Reilly
Laboratory Manager
Approved Signatory

Attachment
Copy To: murat.pilge@cvsair.com.tr

Air Movement and Control Association International, Inc.
30 West University Drive, Arlington Heights, Illinois 60004-1893, U.S.A.

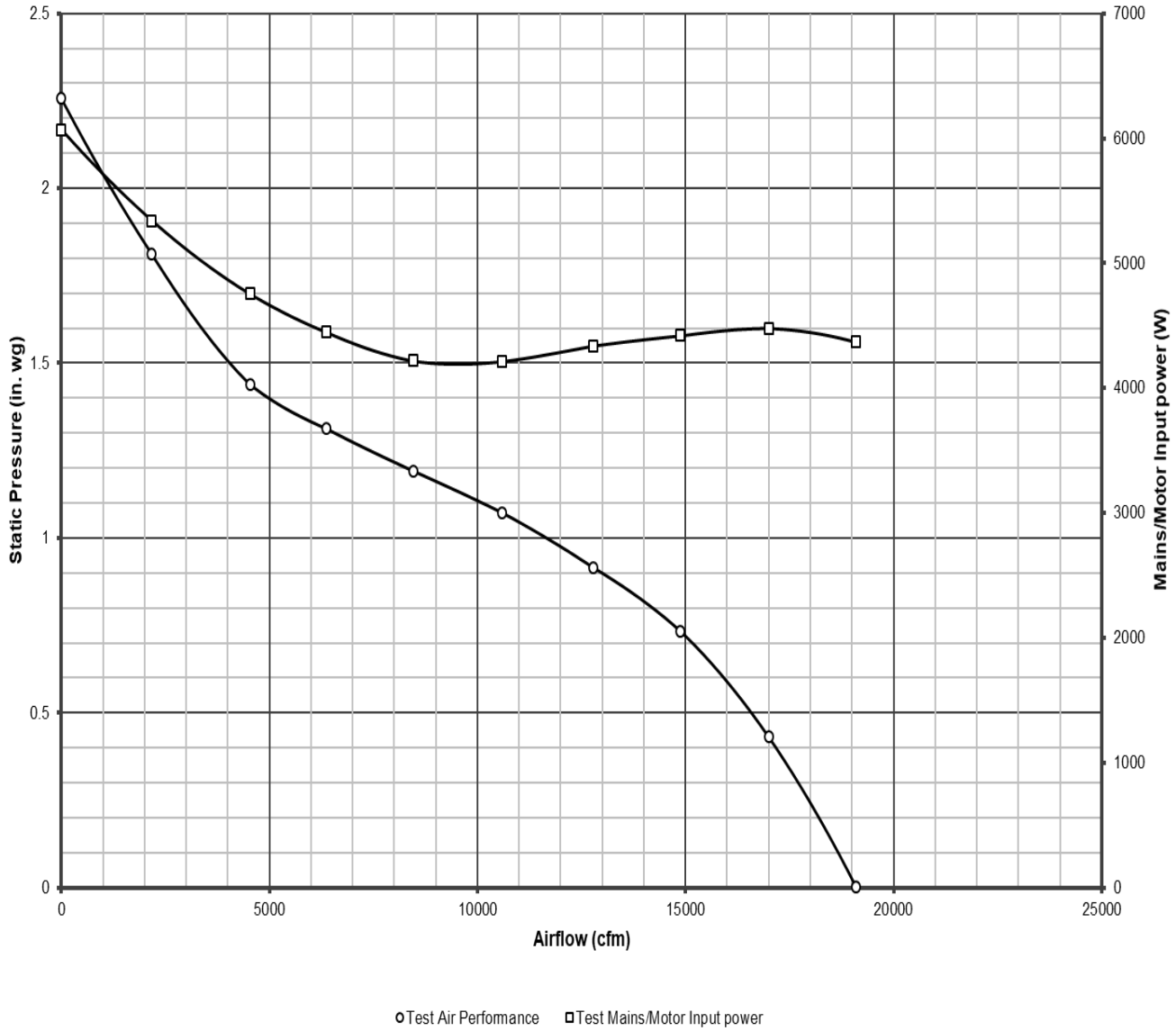
Test Number
35939-A1

Test Unit:	Axial	Test Purpose:	Contract Test
Manufacturer:	CVS Havalandirma Sistemleri San Ve Tic AS	Date of Test:	10/09/2018
Trade Name:	CVSAIR UNIQUE AXIAL FAN	Client:	CVS Havalandirma Sistemleri San Ve Tic AS
Model Number:	CVS-UAX-800 4/4P F300	Witness:	None
Impeller Diameter:	31.250 in.	Personnel:	cpeshek
Inlet Area:	5.410 ft²	P_b:	29.27 in. Hg
Outlet Area:	5.410 ft²	Unit System:	IP

Test Method per ANSI / AMCA Standard 210-16, Figure 15 Setup, Installation Type A

Comments:

As-Run Results at Standard Air



Air Movement and Control Association International, Inc.
30 West University Drive, Arlington Heights, Illinois 60004-1893, U.S.A.

Test Number
35939-A1

Test Unit:	Axial	Test Purpose:	Contract Test
Manufacturer:	CVS Havalandirma Sistemleri San Ve Tic AS	Date of Test:	10/09/2018
Trade Name:	CVSAIR UNIQUE AXIAL FAN	Client:	CVS Havalandirma Sistemleri San Ve Tic AS
Model Number:	CVS-UAX-800 4/4P F300	Witness:	None
Impeller Diameter:	31.250 in.	Personnel:	cpeshek
Inlet Area:	5.410 ft²	P_b:	29.27 in. Hg
Outlet Area:	5.410 ft²	Unit System:	IP

Test Method per ANSI / AMCA Standard 210-16, Figure 15 Setup, Installation Type A

Comments:

Results at Test Conditions:

Det. No.	ρ (lbm/ft³)	N (rpm)	P_t (in. wg)	P_v (in. wg)	P_s (in. wg)	Q (cfm)	Wmi (W)
1	0.0723	1454	0.751	0.749	0.002	19102	4214.000
2	0.0722	1452	1.007	0.592	0.415	17002	4314.000
3	0.0722	1453	1.158	0.452	0.706	14881	4253.000
4	0.0721	1454	1.214	0.333	0.881	12778	4172.000
5	0.0721	1455	1.260	0.229	1.031	10598	4053.000
6	0.0721	1454	1.292	0.146	1.146	8466	4057.000
7	0.0721	1451	1.346	0.083	1.263	6362	4279.000
8	0.0721	1447	1.426	0.042	1.384	4533	4572.000
9	0.0721	1439	1.750	0.010	1.740	2177	5132.000
10	0.0720	1430	2.165	0.000	2.165	0	5824.000

As-Run Results at Standard Air:

Det. No.	P_t (in. wg)	P_v (in. wg)	P_s (in. wg)	Q (cfm)	W (W)
1	0.779	0.776	0.002	19102	4368.894
2	1.045	0.614	0.431	17002	4479.873
3	1.204	0.470	0.734	14881	4420.593
4	1.263	0.347	0.916	12778	4339.065
5	1.311	0.238	1.072	10598	4215.310
6	1.344	0.152	1.192	8466	4218.376
7	1.399	0.086	1.313	6362	4449.684
8	1.483	0.044	1.439	4533	4754.861
9	1.821	0.010	1.811	2177	5341.127
10	2.256	0.000	2.256	0	6068.964

Air Movement and Control Association International, Inc.
30 West University Drive, Arlington Heights, Illinois 60004-1893, U.S.A.

Test Number
35939-A1

Test Unit:	Axial	Test Purpose:	Contract Test
Manufacturer:	CVS Havalandirma Sistemleri San Ve Tic AS	Date of Test:	10/09/2018
Trade Name:	CVSAIR UNIQUE AXIAL FAN	Client:	CVS Havalandirma Sistemleri San Ve Tic AS
Model Number:	CVS-UAX-800 4/4P F300	Witness:	None
Impeller Diameter:	31.250 in.	Personnel:	cpeshek
Inlet Area:	5.410 ft²	P_b:	29.27 in. Hg
Outlet Area:	5.410 ft²	Unit System:	IP

Test Method per ANSI / AMCA Standard 210-16, Figure 15 Setup, Installation Type A

Comments:

Data at Test Conditions:

Det. No.	t_{d0} (°F)	t_{wo} (°F)	t_{d2} (°F)	t_{d5} (°F)	P_{s5} (in. wg)	ΔP (in. wg)	t_{d8} (°F)	P_{t8} (in. wg)	N (rpm)	Wmi (W)	I (A)	V (V)
1	72.1	65.6	73.2	73.1	2.995	2.997	72.8	-0.002	1454	4214	7.67	400.5
2	72.2	65.7	73.4	73.5	1.958	2.373	73.1	-0.415	1452	4314	7.81	400.4
3	72.2	65.7	73.5	73.5	1.112	1.818	73.2	-0.706	1453	4253	7.72	400.5
4	72.3	65.7	73.5	73.3	0.460	1.341	73.3	-0.881	1454	4172	7.61	400.5
5	72.3	65.7	73.6	72.9	-0.107	0.924	73.1	-1.031	1455	4053	7.43	400.6
6	72.2	65.7	73.6	72.3	-0.555	0.591	72.8	-1.146	1454	4057	7.44	400.6
7	72.2	65.7	73.7	72.2	-0.928	0.335	72.7	-1.263	1451	4279	7.75	400.4
8	72.3	65.7	74.0	72.1	-1.213	0.171	72.6	-1.384	1447	4572	8.18	400.3
9	72.2	65.7	74.2	72.0	-1.700	0.040	72.5	-1.740	1439	5132	9.02	399.8
10	71.9	65.6	74.3	71.8	-0.002	2.163	72.6	-2.165	1430	5824	10.1	399.2

Open Nozzle Diameters (in.):

Det. No.	Open Nozzle Diameters
1	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
2	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
3	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
4	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
5	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
6	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
7	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
8	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
9	10.0120 in., 10.0120 in., 10.0120 in., 10.0110 in., 10.0120 in.
10	All nozzles closed.

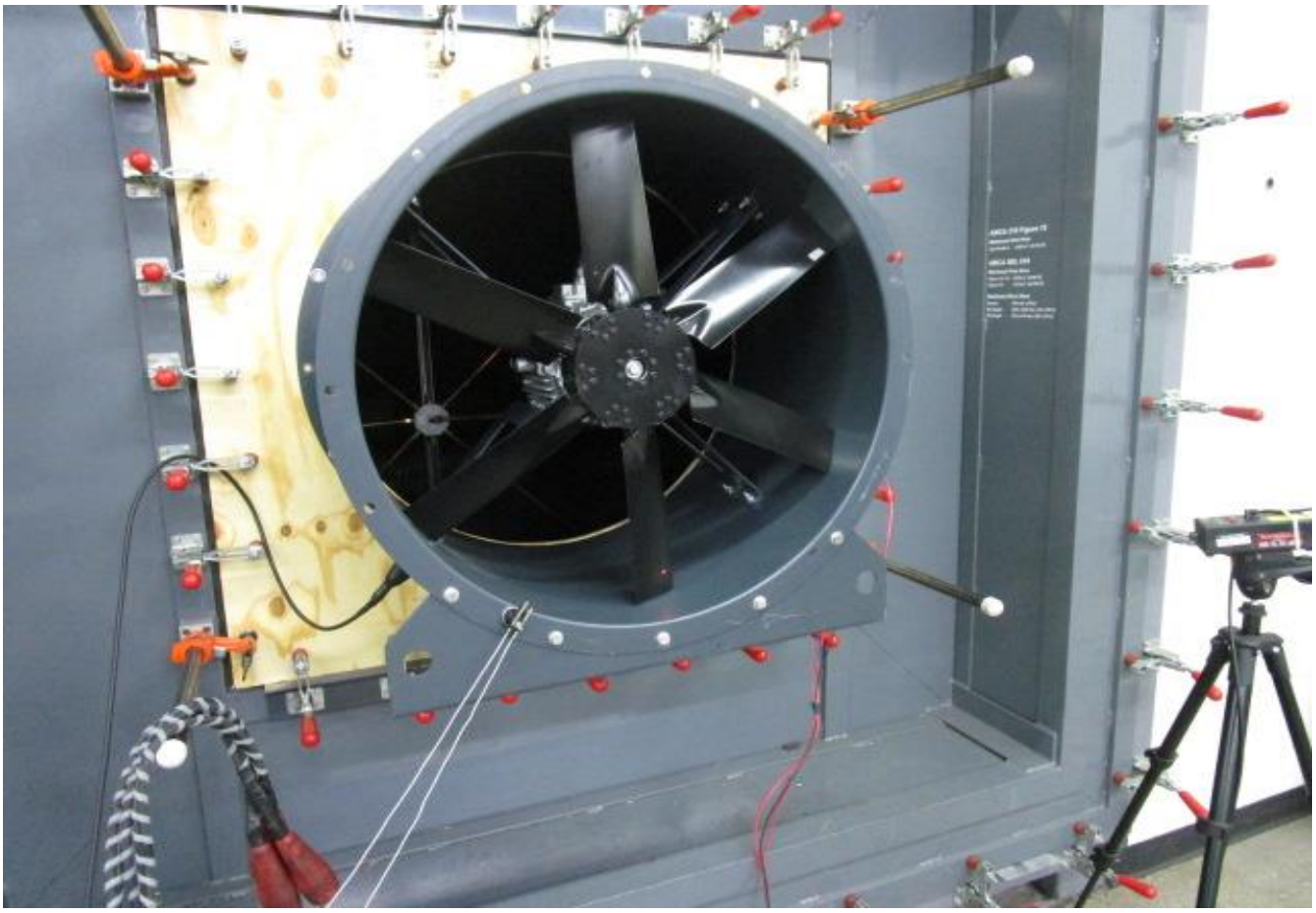
Air Movement and Control Association International, Inc.
30 West University Drive, Arlington Heights, Illinois 60004-1893, U.S.A.

Test Number
35939-A1

Test Unit:	Axial	Test Purpose:	Contract Test
Manufacturer:	CVS Havalandirma Sistemleri San Ve Tic AS	Date of Test:	10/09/2018
Trade Name:	CVSAIR UNIQUE AXIAL FAN	Client:	CVS Havalandirma Sistemleri San Ve Tic AS
Model Number:	CVS-UAX-800 4/4P F300	Witness:	None
Impeller Diameter:	31.250 in.	Personnel:	cpeshek
Inlet Area:	5.410 ft²	P_b:	29.27 in. Hg
Outlet Area:	5.410 ft²	Unit System:	IP

Test Method per ANSI / AMCA Standard 210-16, Figure 15 Setup, Installation Type A

Comments:



Air Movement and Control Association International, Inc.
30 West University Drive, Arlington Heights, Illinois 60004-1893, U.S.A.

Test Number
35939-A1

Test Unit:	Axial	Test Purpose:	Contract Test
Manufacturer:	CVS Havalandirma Sistemleri San Ve Tic AS	Date of Test:	10/09/2018
Trade Name:	CVSAIR UNIQUE AXIAL FAN	Client:	CVS Havalandirma Sistemleri San Ve Tic AS
Model Number:	CVS-UAX-800 4/4P F300	Witness:	None
Impeller Diameter:	31.250 in.	Personnel:	cpeshek
Inlet Area:	5.410 ft²	P_b:	29.27 in. Hg
Outlet Area:	5.410 ft²	Unit System:	IP

Test Method per ANSI / AMCA Standard 210-16, Figure 15 Setup, Installation Type A

Comments:

AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC

30 West University Drive ● Arlington Heights, Illinois 6004-1893 U.S.A. Phone: 847.394.0150 ● Fax: 847.253.0088 ● E-Mail: lab@amca.org

Instrument List

Application Number : 35939 - A1 **Dated :** 10-09-2018 **Technician :** CP

Facility : RR1 - Reverberant Room 1 **Standard :** AMCA 210 **Figure :** Figure 15

The following instruments, calibrated as applicable per the test standard, were used for this test.

Asset No.	Manufacturer	Model Number	Plane	Serial Number	Scale Range	Last Calibration Date	Next Calibration Date	Calibration Lab
Air Velocity								
457	Broan	RR1 Psychrometer	0	072011-1	N/A	03-29-2018	05-29-2019	AMCA
Electric Meters								
434	Yokogawa	WT1600/760101	0	91K208901	N/A	05-17-2018	07-17-2019	Trescal
Facility								
376	AMCA	Air Chamber	NA	376	N/A			
454	National Instruments	NI cDAQ	NA	454	N/A	01-30-2018	03-30-2019	AMCA
Pressure								
411	Vaisala	PTU301	0	E1510100	14.8 - 32.5 in Hg	08-06-2018	10-06-2019	AMCA
449	Furness Controls	332	5,6	903161	0 - 6 in. wg	01-30-2018	03-30-2019	AMCA
99	Edwards	590D	8	309-11645	0 - ±10 in. wg	01-30-2018	03-30-2019	AMCA
Speed								
394	Monarch	SLS	0	1520623	N/A	07-02-2018	09-02-2019	AMCA
Temperature								
162	Templine	1141-342	0	66858	N/A	01-30-2018	03-30-2019	AMCA
164	Templine	188 100-2-3-A-X-O	0	31658	N/A	01-30-2018	03-30-2019	AMCA
156	GIC Thermodynamics	12382	2	156	N/A	01-30-2018	03-30-2019	AMCA
158	GIC Thermodynamics	12382	5	158	N/A	01-30-2018	03-30-2019	AMCA
160	GIC Thermodynamics	12382	8	160	N/A	01-30-2018	03-30-2019	AMCA

The results contained herein relate only to the item(s) tested and were obtained by testing in compliance with the designated test methods and specifications. These methods specify limits to the values of the major sources of measurement uncertainty and the results are considered to satisfy the requirements for accuracy without the inclusion of uncertainty calculations. This test report shall not be reproduced except in full, without written approval of AMCA International, Inc.

Testing Laboratory Cert. # 2477.01

State Of Kuwait
Kuwait Fire Force

دولـة الكـويـت
قـوة الإطفـاء العـام

تجديد اعتماد

الجهـــــة	شركة الأنظمة التلقائية للتجارة العامة		
الموضـــوع	تجديد اعتماد مراوح سحب دخان صنع الشركة التركية CVS Air		
تاريخ الاعتمـاد	٢٠٢١/٢/١٧	تاريخ انتهاء الاعتمـاد	٢٠٢٣/٢/١٦

بيانات الاعتماد:

Smoke Fans (Efectis 1812-CPR-1705, 1812-CPR-1706)												
S. NO	Fan Model	Fan Dia (mm)	Blade Angle (°a)		Air Flow (CMH)		Pressure (In. Wg.)		Motor Power (kW)		Max Rotation (RPM)	Efficiency (%)
			From	To	From	To	From	To	From	To		
1	CVS-Ø315-a/b	Ø315	25	45	750	4500	0.5	1.2	0.8	2,2	3000	50-84
2	CVS-Ø355-a/b	Ø355	25	45	100	5500	0.5	1.2	0.8	2,2	3000	50-86
3	CVS-Ø400-a/b	Ø400	30	50	6000	10500	0.5	1.6	0.8	2,2	3000	50-82
4	CVS-Ø450-a/b	Ø450	30	45	9500	14250	0.5	1.764	1,1	3	3000	50-78
5	CVS-Ø500-a/b	Ø500	25	45	11000	20000	0.5	2.4	1,5	5,5	3000	50-84
6	CVS-Ø560-a/b	Ø560	25	45	14000	26500	0.5	2.8	2,2	7,5	3000	53-82
7	CVS-Ø630-a/b	Ø630	30	40	25500	34250	0.5	4.512	5,5	18,5	3000	54-78
8	CVS-Ø710-a/b	Ø710	25	50	19000	30000	0.5	1.456	1,5	15	1500	50-84
9	CVS-Ø800-a/b	Ø800	25	45	26000	40000	0.5	1.616	2,2	15	1500	55-86

S. NO	Fan Model	Fan Dia (mm)	Blade Angle (°a)		Air Flow (CMH)		Pressure (In. Wg.)		Motor Power (kW)		Max Rotation (RPM)	Efficiency (%)
			From	To	From	To	From	To	From	To		
10	CVS-Ø900-a/b	Ø900	30	45	40000	55000	0.5	2.008	4	15	1500	56-82
11	CVS-Ø1000-a/b	Ø1000	32,5	50	56000	74000	0.5	2.128	5,5	22	1500	53-81
12	CVS-Ø1120-a/b	Ø1120	25	50	75000	108000	0.5	2.592	5,5	30	1500	54-79
13	CVS-Ø1250-a/b	Ø1250	30	45	86000	128000	0.5	2.556	5,5	30	1500	55-78

Certificate number of F400 " 1812-CPR-1706 " by Efectis
Certificate number of F300 "1812-CPR-1705 " by Efectis
All motor are IP55
All motors are class H /F300 and F400 , for installation inside fire rated areas
All motors are 50Hz-400V +- 10%V
All motors are TEFC
Motor Brands: TECO , Gamak

شروط الاعتماد :

١) صلاحية الاعتماد مرتبطة باستمرارية الوكالة.
٢) ابلاغ قوة الإطفاء العام في حال الغاء او تجديد او تعديل الوكالة.
٣) أن يحمل المنتج اسم وموديل وشعار المختبر ورقم التسجيل.

وتفضلوا بقبول فائق الاحترام ،،،

نائب الرئيس لقطاع الوقاية

عقيد
م. أنور عبد المحسن الحايكي
مراقب اعتماد مقاولي وتجار معدات الإطفاء

قوة الإطفاء العام
قطاع الوقاية

IEP | ENERGY PETROLEUM INSTITUTE

IEP ATEX

(1) # EU-Type Examination Certificate

(2) Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres

Directive 2014/34/EU

(3) EU – Type Examination Certificate Number: **IEP 18 ATEX 0561**

(4) Equipment: **CVS x Series , (AF, RF, WA type) Axial Fans**

(5) Manufacturer: **CVS Havalandırma Sistemleri Sanayi ve Ticaret A.Ş.**

(6) Address: **Orta Mah. Tevfik İleri Cad. No: 32/1 Pendik / İSTANBUL – TURKEY**

(7) Production Address : **Fatih Mah. 103 Sokak No:48 Bayırköy / BİLECİK– TURKEY**

(8) This product any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(9) The IEP Uluslararası Enerji Petrol Gözetim, Sertifikasyon ve Teknik Hizmetler Organizasyonu Tic. Ltd. Şti., notified body number 2284 in accordance with Article 17 of the Directive 2014/34/EU of European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in confidential Report Nr: IEP.Rp.Ex.10-1214 date 05.09.2018.

(10) Compliance with Essential Health and safety requirements has been assured by compliance with;

EN 14986 : 2007 , EN 60079-0 : 2013 , EN ISO 80079-36:2016 , EN ISO 80079-37:2016

(11) If the sign " X " is placed after the certificate number, it indicates that the product is subject to specified conditions of safe use specified in the schedule to this certificate.

(12) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the directive 2014/34/EU. Further requirements of the directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(13) The marking of the equipment or protective system shall include the following:

II 2G Ex db or eb IIC T4 Gb (engine)
II 2D Ex tb IIIB T130 °C Max (engine)
II 2GD Ex h IIC/IIIB T4 Gb/Db (Fans)

Responsible Person:

Nurettin Terzioglu
Head of Certification Body

Date of Issue: 06.09.2018

IEP Uluslararası Enerji Petrol Göz., Sertifikasyon ve Teknik Hiz. Org. Tic. Ltd. Sti.
5746/1 Sok. No:9 K:2 Bornova - IZMIR / TURKEY
Tel: +90 232 431 17 45 –46 Fax : +90 232 431 17 30 E-mail: iep@iep.com.tr Fr:45

(14) Schedule

(15) Certificate Nr: **IEP 18 ATEX 0561**

(16) Description of Equipment:

CVS series axial fans are single inlet. Fans used for ventilation purposes. This device the electrical axial fans. These devices are used for IIC gas group and IIIB dust group explosive atmospheres.

Axial fan with adjustable blade pitch angle at standstill, long cylindrical casing with flanges on both ends, direct driven, explosion proof according to ATEX. Cylindrical duct casing in S235JR steel, covering impeller (motor protrudes at rear). Rolled flanges at both ends. Dimensions and flange drillings to Explosion-proof execution according to ATEX.

Description of equipment protective system axial fan mechanical and electrical parts list is part 2.6 and date 26.10.2017.

Axial Fans are used as external zone 1, 21 or zone 2, 22 and interior zone 1,21 that be used danger area determined in the EN 60079-10-1/2 standard.

Information's of assembled working of Axial Fans with order related equipment's exist in instruction manual with 16 pages and date 05.10.2017.

CVS x Series (AF, RF, WA type) Axial Fans Technical Parameters:

Type	Capacity		Motor Power		Motor Speed	Hub Size Min	Hub Size Max
Model	Min (m3/h)	Max (m3/h)	Kw(min)	Kw (Max)	(rpm)	(mm)	(mm)
CVS – Ø400	1000	11000	0,75	2,2	1500 - 3000	160	200
CVS – Ø450	1500	15000	1,5	3		160	200
CVS – Ø500	5000	21500	4	5,5		160	290
CVS – Ø560	8500	28000	4	7,5		160	290
CVS – Ø630	4000	33500	4	11		160	290
CVS – Ø710	10000	30000	2,2	4		160	290
CVS – Ø800	16000	42000	4	7,5		160	290
CVS – Ø900	15000	57500	5,5	15		160	380
CVS – Ø1000	20000	87500	7,5	30		160	380
CVS – Ø1120	27000	102000	11	30		280	380
CVS – Ø1250	29000	130000	15	45		280	380
Air / Gas Transition Max 80 °C							
Ambient Temperature Max (-20 ~ +40 °C)							

(17) Special conditions for safe use

The installation and the operation of the axial fans has to confirm to the relevant national regulations.

Responsible Person :

Nurettin Terzioglu
Head of Certification Body

(18) Certificate Nr: **IEP 18 ATEX 0561**

(19) Essential Health and Safety Requirements:

19.1 Are included in standards, which are mentioned in clause (10) of this certificate. The products were approved in accordance with above mentioned standards and manufacturer's instruction.

19.2 At the installation and the operation of the axial fans has to be observed manufacturer's manual 16 pages dated 05.10.2017.

(20) List of Documentation:

- Axial fans user manual : 16 pages, dated 05.10.2017
- Component lists : Part 2.6 dated 26.10.2017
- Mounting pictures and technical drawings : 10 pages Part 2
- Certificates and test reports : 49 pages, Part 4
- Drawings;

Drawing Nr	Drawing Name	Date
CVS-01	Exploded Picture – AF tunnel type	11.08.2017
CVS-02	Exploded Picture – RF roof type	11.08.2017
CVS-03	Exploded Picture – WA Wall type	11.08.2017
CVS-04	Dimensions – AF tunnel type	11.08.2017
CVS-05	Dimensions – RF roof type	11.08.2017
CVS-06	Dimensions – WA Wall type	11.08.2017
CVS-07	Electrical Mechanical Connection Shame	11.08.2017
CVS-08	Rotor – Body gaps	11.08.2017
CVS-09	Security details	11.08.2017
CVS-10	Label	11.08.2017

For the validity of analysis type certificate, the parts that are used in radial fans is determined in confirmed the list of equipment's part 2,6 and date 26.10.2017.

Responsible Person :

Nurettin Terzioglu
Head of Certification Body

Date of Issue : 06.09.2018

UNITED ARAB EMIRATES
MINISTRY OF INTERIOR
DIRECTORATE GEN. OF DUBAI CIVIL DEFENSE
PREVENTIVE SAFETY DEPT.
COMPANIES APPROVAL SECT.

الإمارات العربية المتحدة
وزارة الداخلية
الإدارة العامة للدفاع المدني - دبي
إدارة السلامة الوقائية
قسم إعتماد الشركات

رقم الترخيص License Number	SATNA0000000344-2011
عدد التراخيص Number of Licenses	2 – 5

اسم وكيل Name of Agent	ميناس للتجارة العامة شركة الشخص الواحد ش.ذ.م.م

م	اسم المعدة Type of Products	الاسم التجاري Brand Name	رقم شهادة السلامة Certification Number	اسم المختبر الصادر للشهادة Name of Certification Body	بلد الصنع Place of origin
2	**Fire-resistant ducts** 4-Material: GI, Mild and Stainless steel Thickness: 0,8mm / 1,0mm / 1,2mm /0,6MM Stability rating: 241 minutes. Integrity rating: 241 minutes. Accessories included: Access door/ Volume control dampers reference VCD 100/25 L30.	AL MUTHATHAWER AH A/C.SYSTEM ACCESSORIES IND.CENTER LLC	APF-1492	APPLUS+ LGAI technological center S.A	United Arab Emirates
3	مراوح شفط الدخان AXIAL SMOKE EXHAUST FAN 400 مراوح شفط الدخان Description of the product: -Smoke and heat exhaust axial ventilator with a size range from 315 mm to 1250 mm in diameter. -Ventilator frames Galvanized steel ST37. -Impellers: Aluminum alloy (ETIAL 145) -Motors: AEHBYH-401 *Ball bearings ZZ Class of fit: C3 Bearing Clearance :H6. *arrangement : Not locked Lubricant : Barrieta L55/2 *Insulation Class : H- Protection index: IP55 *Thermal class : F Moderl: AXIAL SMOKE EXHAUST FAN 400	CVS AIR	EFR-2001-0223_20-0	EFECTIS FRANCE	تركيا

ملاحظة :

1. يعتبر الوكيل مرخص من قبل الإدارة العامة للدفاع المدني- دبي ويحق له مزاولة نشاطه في إمارة دبي فقط، استناداً إلى قرار مجلس الوزاري رقم (213) لسنة 2017 في شأن تنظيم خدمات الدفاع المدني للائحة التنفيذية رقم (505) لسنة 2013، ولا يحق له بمزاولة أنشطته في باقي الإمارات إلا بعد استخراج ترخيص موزع من قبل الإدارات العامة ذات الاختصاص بكل إمارة.
2. يحق للوكيل تركيب وصيانة المعدات المراد تداولها والمسجلة بترخيصه فقط
3. ابلاغ الإدارة العامة للدفاع المدني –دبي في حالة تغيير أو تعديل في البيانات المتعلقة في الترخيص الصادر من قبل الإدارة.

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يعتمد / عن مدير الإدارة العامة للدفاع المدني – دبي
Signature of Directorate of Civil Defense - Dubai

Tel : 04 - 2611111
Fax : 04 - 2612449
P.O. Box 11377, Dubai
United Arab Emirates
www.dcd.gov.ae

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الرؤية :
أن تكون دولة الإمارات العربية المتحدة من أفضل دول العالم في تحقيق الأمن والسلامة.

Vision :
To have the United Arab Emirates as one of the best countries in the world in achieving safety and security.

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ
ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ

Заявитель Общество с ограниченной ответственностью "Система".
Основной государственный регистрационный номер: 1135032004722.
Место нахождения: 143002, Российская Федерация, Московская область, Одинцовский район, город Одинцово, улица Молодежная, дом 46, офис 318
Телефон: +74992577631, адрес электронной почты: zapros@cdcrus.ru

в лице Генерального директора Соколова Артема Лериевича, действующего на основании Устава

заявляет, что

Вентиляторы промышленные осевые, круговой встроенный вентилятор (CIRCULAR INLINE FAN), вентилятор для прямоугольных каналов (RECTANGULAR DUCT FAN), осевой вентилятор (AXIAL FAN), струйный вентилятор (JETFAN), горизонтальный крышный вентилятор (HORIZONTAL ROOF FAN), вертикальный крышный вентилятор (VERTICAL ROOF FAN), прямоточный вентилятор (PLUG BOX FAN), бытовой вентилятор (DOMESTIC FAN), запасные части и принадлежности для вентиляторов (FAN PARTS&ACCESSORIES), промышленный вентилятор (Industrial fans), марка: "CVSAIR"

Продукция изготовлена в соответствии с директивами 2014/30/EU Европейского парламента и Совета Европы от 26 февраля 2014 года "О гармонизации законодательств Государств-членов по электромагнитной совместимости", 2014/35/EU Европейского парламента и Совета Европы от 26 февраля 2014 года "О гармонизации законодательств Государств-членов в отношении допуска на рынок низковольтного электрооборудования", 2006/42/EC (Machinery Directive) о безопасности машин и оборудования Европейского парламента и Совета Европы от 17 мая 2006 года

изготовитель "CVS HAVALANDIRMA SISTEMLERI SAN. VE TIC. A.S.".
Место нахождения: ТУРЦИЯ, ORDEKCIOGLU BINASI, Orta Mahalle Tevfik İleri Caddesi No:32/1 Pendik – istanbul. Филиал изготовителя "CVS HAVALANDIRMA SISTEMLERI SAN. VE TIC. A.S.". Место нахождения: ТУРЦИЯ, FATIH MAH. 103 SOK. NO: 48/1 BAYIRKOY BILECIK

код ТН ВЭД ЕАЭС 8414 59

Серийный выпуск

соответствует требованиям

Технического регламента Таможенного союза ТР ТС 004/2011 "О безопасности низковольтного оборудования"; Технического регламента Таможенного союза ТР ТС 010/2011 "О безопасности машин и оборудования"; Технического регламента Таможенного союза ТР ТС 020/2011 "Электромагнитная совместимость технических средств"

Декларация о соответствии принята на основании

протоколов испытаний №№ 710-03-03/2018, 711-03-03/2018, 712-03-03/2018 от 26.03.2018 года, Испытательной лаборатории "Стандартконтроль" Общества с ограниченной ответственностью "Стандарт-Групп", регистрационный номер СДС-СМ.RU.3791.ИЛ02. Обоснования безопасности, комплекта эксплуатационной документации

Схема декларирования: 1д

Дополнительная информация

Перечень стандартов, в результате применения которых обеспечивается соблюдение требований технического регламента: ГОСТ 12.2.007.0-75 "Система стандартов безопасности труда. Изделия электротехнические. Общие требования безопасности"; ГОСТ 30804.6.2-2013 (IEC 61000-6-2:2005), (раздел 8) "Совместимость технических средств электромагнитная. Устойчивость к электромагнитным помехам технических средств, применяемых в промышленных зонах. Требования и методы испытаний"; ГОСТ 30804.6.4-2013 (IEC 61000-6-4:2006), (раздел 7) "Совместимость технических средств электромагнитная. Электромагнитные помехи от технических средств, применяемых в промышленных зонах. Нормы и методы испытаний"; ГОСТ МЭК 60335-2-41-2009, (разделы 4 и 7) "Бытовые и аналогичные электрические приборы. Безопасность. Часть 2-41. Дополнительные требования к насосам". Условия хранения продукции в соответствии с ГОСТ 15150-69. Срок хранения (службы, годности) указан в прилагаемой к продукции товаросопроводительной и/или эксплуатационной документации

Декларация о соответствии действительна с даты регистрации по 02.04.2023 **включительно.**

(подпись) Соколов Артем Лериевич

(инициалы и фамилия руководителя организации-заявителя или физического лица, зарегистрированного в качестве индивидуального предпринимателя)

М.П.

Сведения о регистрации декларации о соответствии:

Регистрационный номер декларации о соответствии: ЕАЭС № RU Д-TR.АЖ26.В.02151
Дата регистрации декларации о соответствии 03.04.2018