

The following sample was submitted and identified on behalf of the client as:

TEST REPORT COMMISSION REGULATION (EU) No 206/2012 of 6 March 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for air conditioners and comfort fans COMMISSION REGULATION (EU) No 626/2011 of 4 May 2011 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of air conditioners	
Report Reference No.	GZEE250100012431
Tested by (name + signature).....	Project engineer/ Kushion Li <i>Kushion</i>
Approved by (name + signature) :	Reviewer/ David Lei <i>David Lei</i>
Date of issue.....	2025-01-14
Total number of pages	29 pages
Testing Laboratory	SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch
Address	Building 1, European Industrial Park, No.1, Shunhe South Road, Wusha, Daliang, Shunde District, Foshan, Guangdong, China
Applicant's name	HANTECH İKLİMLENDİRME SAN. TİC.A.Ş.
Address	Ziya Gökalp Mah. Süleyman Demirel Blv. No:7E / 138, Başakşehir - İstanbul, Türkiye
Test specification:	
Standard	COMMISSION REGULATION (EU) No 206/2012, (EU) No 626/2011, (EU)2016/2282, (EU)2017/254, (EU)2023/2048
Test procedure.....	STR: EU Directive 2009/125/EC
Non-standard test method.....	None
Test Report Form No.	206/2012/626/2011_03
Test Report Form(s) Originator.....	SGS-CSTC
Master TRF.....	2015-06-01
<p>This test report is issued under SGS general terms of delivery (available on request and accessible at www.sgs.com). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. Unless otherwise stated: (a) the results shown in this document refer only to the sample(s) tested and (b) such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of SGS.</p> <p>Any unauthorized alteration, forgery or falsification of the content or appearance of this report is unlawful and offenders may be prosecuted to the fullest extent of the law</p>	
Test item description	Split-type air-conditioner
Trade Mark	 HANTECH
Manufacturer/Factory	TCL Air Conditioner (Zhong Shan) Co., Ltd. 59 Nantou Road West, Nantou, Zhongshan, Guangdong, China
Model/Type reference	Indoor unit: HNT-BN09VMCL/I Outdoor unit: HNT-BN09VMCL/O
Ratings	See the rating for details



Summary of testing:

Tests performed (name of test and test clause):

COMMISSION REGULATION (EU) No 206/2012
 COMMISSION REGULATION (EU) No 626/2011
 (EU)2016/2282
 (EU)2017/254
 (EU)2023/2048

The length of refrigerant lines between indoor unit and outdoor unit was 5m.

The tests were performed on a new unit.





And the results are listed below:





Items	Declared values	Measured values
SEER	6,1	6,391
SCOP (Average)	4,0	4,042
SCOP (Warmer)	5,1	5,340
SCOP (Colder)	3,4	3,416
Cooling, energy efficiency class	A++	A++
Heating (Average) , energy efficiency class	A+	A+
Heating (Warmer) , energy efficiency class	A+++	A+++
Heating (Colder) , energy efficiency class	A	A

Testing location:

See page 1

Copy of marking plate:

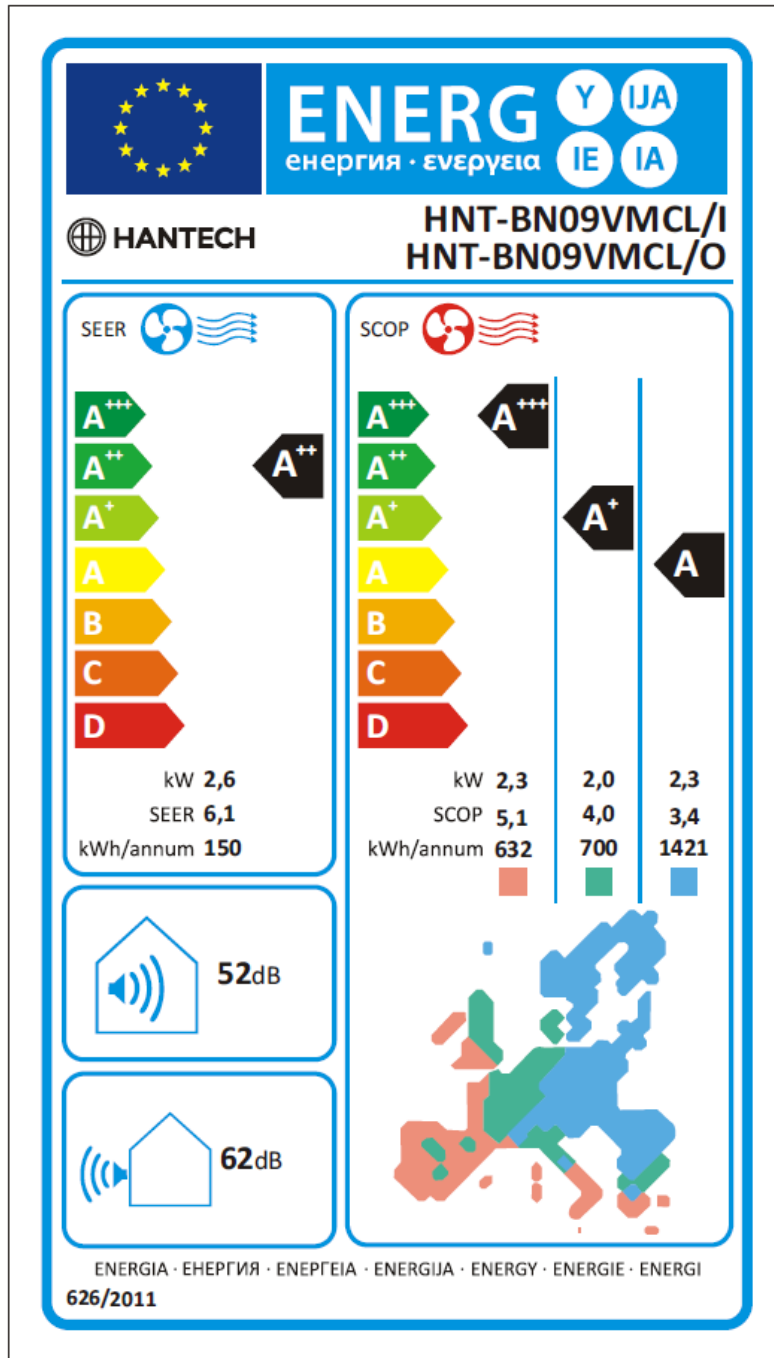
 HANTECH  		
SPLIT TYPE AIR CONDITIONER/ INDOOR SPLİT TİP KLİMA/ İÇ ÜNİTE		
INDOOR MODEL CODE İÇ ÜNİTE MODEL KODU	HNT-BN09VMCL/I	
	COOLING/ SOĞUTMA	HEATING/ ISITMA
CAPACITY/ KAPASİTE	2600(940~3300)W	2680(940~3200)W
CURRENT / ÇALIŞMA AKIMI	4,1(1,2~8,0)A	3,6(1,2~9,0)A
RATED CURRENT / MAKS. AKIM (IEC/EN60335)	8,0A	9,0A
POWER INPUT /ENERJİ TÜKETİMİ	851(240~1380)W	786(240~1552)W
RATED POWER INPUT / MAKS.ENERJİ TÜKETİMİ (IEC/EN60335)	1380W	1552W
INDOOR AIR VOLUME / İÇ ÜNİTE HAVA DEBİSİ	420m ³ /h	420m ³ /h
MAX.ALLOWABLE PRESSURE MAKSİMUM İZİN VERİLEN BASINÇ	DISCHARGE / BASMA	3,7Mpa
	SUCTION /EMİŞ	1,2Mpa
SOUND POWER / SES GÜCÜ SEVİYESİ	52dB(A)	
WEIGHT/ AĞIRLIK	6.5kg	
RATED VOLTAGE/ANMA GERİLİMİ	220-240V~	
RATED FREQUENCY/ ANMA FREKANSI GERİLİMİ	50Hz	
CONTAINS FLUORINATED GREENHOUSE GASES / FLORLU SERA GAZLARI İÇERİR		
INDOOR UNIT WATER PROOF PROTECTION/ İÇ ÜNİTE KORUMA SINIFI		IPX0
MANUFACTURE/ADRES/ DATE ÜRETİCİ FİRMA/ TARİH	TCL AIR CONDITIONER(ZHONGSHAN)CO.,LTD 59, Nantou Road West, Nantou Town, Zhongshan, Guangdong, 528427 China	
IMPORTER / İTHALATÇI	HANTECH İKLİMLENDİRME SAN. TİC.A.Ş. Ziya Gökalp Mah. Süleyman Demirel Biv. No:7E / 138 Başakşehir – İstanbul / Türkiye	
X	 4 260414 718151	
MADE IN CHINA		

 HANTECH  		
SPLIT TYPE AIR CONDITIONER/ OUTDOOR SPLİT TİP KLİMA/ DIŞ ÜNİTE		
OUTDOOR MODEL CODE DIŞ ÜNİTE MODEL KODU	HNT-BN09VMCL/O	
	COOLING/ SOĞUTMA	HEATING/ ISITMA
CAPACITY/ KAPASİTE	2600(940~3300)W	2680(940~3200)W
CURRENT / ÇALIŞMA AKIMI	4,1(1,2~8,0)A	3,6(1,2~9,0)A
RATED CURRENT / MAKS. AKIM (IEC/EN60335)	8,0A	9,0A
POWER INPUT /ENERJİ TÜKETİMİ	851(240~1380)W	786(240~1552)W
RATED POWER INPUT / MAKS.ENERJİ TÜKETİMİ (IEC/EN60335)	1380W	1552W
MAX.ALLOWABLE PRESSURE MAKSİMUM İZİN VERİLEN BASINÇ	DISCHARGE / BASMA	3,7Mpa
	SUCTION /EMİŞ	1,2Mpa
SOUND POWER / SES GÜCÜ SEVİYESİ	62dB(A)	
WEIGHT/ AĞIRLIK	19kg	
RATED VOLTAGE/ANMA GERİLİMİ	220-240V~	
RATED FREQUENCY/ ANMA FREKANSI GERİLİMİ	50Hz	
REFRIGERANT /CHARGE/GWP SOĞUTKAN TİPİ/ŞARJ MİKTARI/GWP	R32/0,49kg/675	
CO ₂ EQUIVALENT / CO ₂ SALINIMI	0,331 TONNES	
CONTAINS FLUORINATED GREENHOUSE GASES / FLORLU SERA GAZLARI İÇERİR		
OUTDOOR UNIT WATER PROOF PROTECTION/ DIŞ ÜNİTE KORUMA SINIFI		IPX4
MANUFACTURE/ADRES/ DATE ÜRETİCİ FİRMA/ TARİH	TCL AIR CONDITIONER(ZHONGSHAN)CO.,LTD 59, Nantou Road West, Nantou Town, Zhongshan, Guangdong, 528427 China	
IMPORTER / İTHALATÇI	HANTECH İKLİMLENDİRME SAN. TİC.A.Ş. Ziya Gökalp Mah. Süleyman Demirel Biv. No:7E / 138 Başakşehir – İstanbul / Türkiye	
X	 4 260414 718168	
MADE IN CHINA		

Remark:

The copy of marking plate listed as above is just for reference.

Copy of energy label:



Remark:

The copy of energy label listed as above is just for reference.

Test item particulars:	
Classification of installation and use	Fixed appliance
Supply Connection	Connected to fixed wiring
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	2024-07-10
Date (s) of performance of tests	From 2024-07-10 to 2024-12-05
General remarks:	
arks:	
<p>The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>This document is issued by the Company subject to its General Conditions of Service, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.</p> <p>Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.</p> <p>Unless otherwise stated: (a) the results shown in this document refer only to the sample(s) tested and (b) such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the company.</p> <p>OU: outdoor unit; IU: indoor unit</p>	
Test data is based on original report GZEE240700293431 which issued on 2024-12-05, the difference between them is just only the trademark and model number.	
General product information:	
<p>Split-type air conditioner is for household use only, the refrigerant is R32. The appliance has cooling and heating functions. The appliance is assembled with a variable speed motor-compressor WM081SJ70 (RECHI).</p> <p>For cooling season, Tdesign is 35°C (OU). For heating/Average season, Tdesign is -10°C (OU), TOL is -10°C (OU), and Tbivalent is -7°C (OU). For heating/Warmer season, Tdesign is 2°C (OU), TOL is 2°C (OU), and Tbivalent is 2°C (OU). For heating/Colder season, Tdesign is -22°C (OU), TOL is -22°C (OU), and Tbivalent is -15°C (OU).</p>	

COMMISSION REGULATION (EU) No 206/2012																						
Cl.	Requirement-Test	Result-Remark	Verdict																			
ANNEX I	Ecodesign requirements		—																			
1	DEFINITIONS APPLICABLE FOR THE PURPOSES OF THE ANNEXES		P																			
2	REQUIREMENTS FOR MINIMUM ENERGY EFFICIENCY, MAXIMUM POWER CONSUMPTION IN OFF-MODE AND STANDBY MODE AND FOR MAXIMUM SOUND POWER LEVEL		P																			
	(a) From 1 January 2013, single duct and double duct air conditioners shall correspond to requirements as indicated in Tables 1, 2 and 3 below, calculated in accordance with Annex II. Single duct and double duct air conditioners and comfort fans shall fulfil the requirements on standby and off mode as indicated in Table 2 below. The requirements on minimum energy efficiency and maximum sound power shall relate to the standard rating conditions specified in Annex II, Table 2.		N/A																			
	<p style="text-align: center;"><i>Table 1</i></p> <p style="text-align: center;">Requirements for minimum energy efficiency</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Double duct air conditioners</th> <th colspan="2">Single duct air conditioners</th> </tr> <tr> <th>EER_{rated}</th> <th>COP_{rated}</th> <th>EER_{rated}</th> <th>COP_{rated}</th> </tr> </thead> <tbody> <tr> <td>If GWP of refrigerant > 150</td> <td style="text-align: center;">2,40</td> <td style="text-align: center;">2,36</td> <td style="text-align: center;">2,40</td> <td style="text-align: center;">1,80</td> </tr> <tr> <td>If GWP of refrigerant ≤ 150</td> <td style="text-align: center;">2,16</td> <td style="text-align: center;">2,12</td> <td style="text-align: center;">2,16</td> <td style="text-align: center;">1,62</td> </tr> </tbody> </table>			Double duct air conditioners		Single duct air conditioners		EER _{rated}	COP _{rated}	EER _{rated}	COP _{rated}	If GWP of refrigerant > 150	2,40	2,36	2,40	1,80	If GWP of refrigerant ≤ 150	2,16	2,12	2,16	1,62	—
	Double duct air conditioners			Single duct air conditioners																		
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If GWP of refrigerant > 150	2,40	2,36	2,40	1,80																		
If GWP of refrigerant ≤ 150	2,16	2,12	2,16	1,62																		
	<p style="text-align: center;"><i>Table 2</i></p> <p style="text-align: center;">Requirements for maximum power consumption in off-mode and standby mode for single duct and double duct air conditioners and comfort fans</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 30%;">Off mode</td> <td>Power consumption of equipment in any off-mode condition shall not exceed 1,00 W.</td> </tr> <tr> <td rowspan="2">Standby mode</td> <td>The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 1,00 W.</td> </tr> <tr> <td>The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 2,00 W.</td> </tr> <tr> <td>Availability of standby and/or off mode</td> <td>Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.</td> </tr> </tbody> </table>		Off mode	Power consumption of equipment in any off-mode condition shall not exceed 1,00 W.	Standby mode	The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 1,00 W.	The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 2,00 W.	Availability of standby and/or off mode	Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.	—												
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COMMISSION REGULATION (EU) No 206/2012															
Cl.	Requirement-Test	Result-Remark	Verdict												
	<p style="text-align: center;"><i>Table 3</i></p> <p style="text-align: center;">Requirements for maximum sound power level</p> <hr/> <p style="text-align: center;">Indoor sound power level in dB(A)</p> <hr/> <p style="text-align: center;">65</p> <hr/>		—												
(b)	From 1 January 2013, air conditioners, except single and double duct air conditioners, shall correspond to minimum energy efficiency and maximum sound power level requirements as indicated in Tables 4 and 5 below, calculated in accordance with Annex II. The requirements on energy efficiency shall take into account the reference design conditions specified in Annex II, Table 3 using the 'Average' heating season where applicable.	GWP of refrigerant > 150	P												
	The requirements on sound power shall relate to the standard rating conditions specified in Annex II, Table 2		P												
	<p style="text-align: center;"><i>Table 4</i></p> <p style="text-align: center;">Requirements for minimum energy efficiency</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">SEER</th> <th style="text-align: center;">SCOP (Average heating season)</th> </tr> </thead> <tbody> <tr> <td>If GWP of refrigerant > 150</td> <td style="text-align: center;">3,60</td> <td style="text-align: center;">3,40</td> </tr> <tr> <td>If GWP of refrigerant ≤ 150</td> <td style="text-align: center;">3,24</td> <td style="text-align: center;">3,06</td> </tr> </tbody> </table>			SEER	SCOP (Average heating season)	If GWP of refrigerant > 150	3,60	3,40	If GWP of refrigerant ≤ 150	3,24	3,06	—			
	SEER	SCOP (Average heating season)													
If GWP of refrigerant > 150	3,60	3,40													
If GWP of refrigerant ≤ 150	3,24	3,06													
	<p style="text-align: center;"><i>Table 5</i></p> <p style="text-align: center;">Requirements for maximum sound power level</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Rated capacity ≤ 6 kW</th> <th colspan="2" style="text-align: center;">6 < Rated capacity ≤ 12 kW</th> </tr> <tr> <th style="text-align: center;">Indoor sound power level in dB(A)</th> <th style="text-align: center;">Outdoor sound power level in dB(A)</th> <th style="text-align: center;">Indoor sound power level in dB(A)</th> <th style="text-align: center;">Outdoor sound power level in dB(A)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">60</td> <td style="text-align: center;">65</td> <td style="text-align: center;">65</td> <td style="text-align: center;">70</td> </tr> </tbody> </table>		Rated capacity ≤ 6 kW		6 < Rated capacity ≤ 12 kW		Indoor sound power level in dB(A)	Outdoor sound power level in dB(A)	Indoor sound power level in dB(A)	Outdoor sound power level in dB(A)	60	65	65	70	—
Rated capacity ≤ 6 kW		6 < Rated capacity ≤ 12 kW													
Indoor sound power level in dB(A)	Outdoor sound power level in dB(A)	Indoor sound power level in dB(A)	Outdoor sound power level in dB(A)												
60	65	65	70												
(c)	From 1 January 2014, air conditioners shall correspond to requirements as indicated in the table below, calculated in accordance with Annex II. The requirements on energy efficiency for air conditioners, excluding single and double duct air conditioners, shall relate to the reference design conditions specified in Annex II, Table 3 using the 'Average' heating season where applicable. The requirements on energy efficiency for single and double duct air conditioners shall relate to the standard rating conditions specified in Annex II, Table 2.	GWP > 150	P												

COMMISSION REGULATION (EU) No 206/2012

Cl.	Requirement-Test	Result-Remark	Verdict																																									
	<p style="text-align: center;"><i>Table 6</i></p> <p style="text-align: center;">Requirements for minimum energy efficiency</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Air conditioners, except double and single duct air conditioners</th> <th colspan="2">Double duct air conditioners</th> <th colspan="2">Single duct air conditioners</th> </tr> <tr> <th>SEER</th> <th>SCOP (heating season: Average)</th> <th>EER_{rated}</th> <th>COP_{rated}</th> <th>EER_{rated}</th> <th>COP_{rated}</th> </tr> </thead> <tbody> <tr> <td>If GWP of refrigerant > 150 for < 6 kW</td> <td>4,60</td> <td>3,80</td> <td>2,60</td> <td>2,60</td> <td>2,60</td> <td>2,04</td> </tr> <tr> <td>If GWP of refrigerant ≤ 150 for < 6 kW</td> <td>4,14</td> <td>3,42</td> <td>2,34</td> <td>2,34</td> <td>2,34</td> <td>1,84</td> </tr> <tr> <td>If GWP of refrigerant > 150 for 6-12 kW</td> <td>4,30</td> <td>3,80</td> <td>2,60</td> <td>2,60</td> <td>2,60</td> <td>2,04</td> </tr> <tr> <td>If GWP of refrigerant ≤ 150 for 6-12 kW</td> <td>3,87</td> <td>3,42</td> <td>2,34</td> <td>2,34</td> <td>2,34</td> <td>1,84</td> </tr> </tbody> </table>		Air conditioners, except double and single duct air conditioners		Double duct air conditioners		Single duct air conditioners		SEER	SCOP (heating season: Average)	EER _{rated}	COP _{rated}	EER _{rated}	COP _{rated}	If GWP of refrigerant > 150 for < 6 kW	4,60	3,80	2,60	2,60	2,60	2,04	If GWP of refrigerant ≤ 150 for < 6 kW	4,14	3,42	2,34	2,34	2,34	1,84	If GWP of refrigerant > 150 for 6-12 kW	4,30	3,80	2,60	2,60	2,60	2,04	If GWP of refrigerant ≤ 150 for 6-12 kW	3,87	3,42	2,34	2,34	2,34	1,84		—
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(d)	<p>From 1 January 2014, single duct and double duct air conditioners and comfort fans shall correspond to requirements as indicated in Table 7 below, calculated in accordance with Annex II.</p>		N/A																																									
	<p style="text-align: center;"><i>Table 7</i></p> <p style="text-align: center;">Requirements for maximum power consumption in off-mode and standby mode</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 30%;">Off mode</td> <td>Power consumption of equipment in any off-mode condition shall not exceed 0,50 W.</td> </tr> <tr> <td rowspan="2">Standby mode</td> <td>The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0,50 W.</td> </tr> <tr> <td>The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display shall not exceed 1,00 W.</td> </tr> <tr> <td>Availability of standby and/or off mode</td> <td>Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.</td> </tr> </tbody> </table>	Off mode	Power consumption of equipment in any off-mode condition shall not exceed 0,50 W.	Standby mode	The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0,50 W.	The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display shall not exceed 1,00 W.	Availability of standby and/or off mode	Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.		—																																		
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COMMISSION REGULATION (EU) No 206/2012			
Cl.	Requirement-Test	Result-Remark	Verdict
	<p>Power management</p>	<p>When equipment is not providing the main function, or when other energy-using product(s) are not dependent on its functions, equipment shall, unless inappropriate for the intended use, offer a power management function, or a similar function, that switches equipment after the shortest possible period of time appropriate for the intended use of the equipment, automatically into:</p> <ul style="list-style-type: none"> — standby mode, or — off mode, or — another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source. The power management function shall be activated before delivery. 	—
3.	PRODUCT INFORMATION REQUIREMENTS		P
	(a) From 1 January 2013, as regards air conditioners and comfort fans, the information set out in points below and calculated in accordance with Annex II shall be provided on:		P
	(i) the technical documentation of the product;		P
	(ii) free access websites of manufacturers of air conditioners and comfort fans;		P
	(b) The manufacturer of air conditioners and comfort fans shall provide laboratories performing market surveillance checks, upon request, the necessary information on the setting of the unit as applied for the establishment of declared capacities, SEER/EER, SCOP/COP values and service values and provide contact information for obtaining such information.		P
	(c) Information requirements for air conditioners, except double duct and single duct air conditioners.	See attached table 1	P
	(d) Information requirements for single duct and double duct air conditioners. Single duct air conditioners shall be named 'local air conditioners' in packaging, product documentation and in any advertisement material, whether electronic or in paper. Manufacturer shall provide information as detailed in the table 2.		N/A
	(e) Information requirements for comfort fans. Manufacturer shall provide information as detailed in the table 3		N/A
ANNEX II	Measurements and calculations		—

COMMISSION REGULATION (EU) No 206/2012			
Cl.	Requirement-Test	Result-Remark	Verdict
1	For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards the reference numbers of which have been published in the Official Journal of European Union , or other reliable, accurate and reproducible method, which takes into account the generally recognised state of the art methods, and whose results are deemed to be of low uncertainty. They shall fulfill all of the following technical parameters.	EN 14825: 2022 EN 50564: 2011 EN14511-2: 2022 EN14511-3: 2022 EN 12102-1: 2022 used	P
2	The determination of the seasonal energy consumption and efficiency for seasonal energy efficiency ratio (SEER) and seasonal coefficient of performance (SCOP) shall take into account:		P
	(a) European cooling and heating season(s), as defined in Table 1 below;		P
	(b) reference design conditions, as defined in Table 3 below;		P
	(c) electric energy consumption for all relevant modes of operation, using time periods as defined in Table 4 below;		P
	(d) effects of the degradation of the energy efficiency caused by on/off cycling (if applicable) depending on the type of control of the cooling and/or heating capacity;		P
	(e) corrections on the seasonal coefficients of performance in conditions where the heating load can not be met by the heating capacity;		P
	(f) the contribution of a back-up heater (if applicable) in the calculation of the seasonal efficiency of a unit in heating mode.		N/A
3	Where the information relating to a specific model, being a combination of indoor and outdoor unit(s), has been obtained by calculation on the basis of design, and/or extrapolation from other combinations, the documentation should include details of such calculations and/or extrapolations, and of tests undertaken to verify the accuracy of the calculations undertaken (including details of the mathematical model for calculating performance of such combinations, and of measurements taken to verify this model).		P
4	The rated energy efficiency ratio (EER rated) and, when applicable, rated coefficient of performance (COP rated) for single and double duct air conditioners shall be established at the standard rating conditions as defined in Table 2 below.		N/A
5	The calculation of seasonal electricity consumption for cooling (and/or heating) shall take into account electric energy consumption of all relevant modes of operation, as defined in Table 3 below, using operational hours, as defined in Table 4 below.		P

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Cl.	Requirement-Test	Result-Remark	Verdict																																																													
	<p style="text-align: center;"><i>Table 2</i></p> <p style="text-align: center;">Standard rating conditions, temperatures in 'dry bulb' air temperature (‘wet bulb’ indicated in brackets)</p> <table border="1"> <thead> <tr> <th>Appliance</th> <th>Function</th> <th>Indoor air temperature (°C)</th> <th>Outdoor air temperature (°C)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">air conditioners, excluding single duct air conditioners</td> <td>cooling</td> <td>27 (19)</td> <td>35 (24)</td> </tr> <tr> <td>heating</td> <td>20 (max. 15)</td> <td>7(6)</td> </tr> <tr> <td rowspan="2">single duct air conditioner</td> <td>cooling</td> <td>35 (24)</td> <td>35 (24) (*)</td> </tr> <tr> <td>heating</td> <td>20 (12)</td> <td>20 (12) (*)</td> </tr> </tbody> </table> <p>(*) In case of single duct air conditioners the condenser (evaporator) when cooling (heating) is not supplied with outdoor air, but indoor air.</p>	Appliance	Function	Indoor air temperature (°C)	Outdoor air temperature (°C)	air conditioners, excluding single duct air conditioners	cooling	27 (19)	35 (24)	heating	20 (max. 15)	7(6)	single duct air conditioner	cooling	35 (24)	35 (24) (*)	heating	20 (12)	20 (12) (*)		—																																											
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Cl.	Requirement-Test				Result-Remark				Verdict
	Type of appliance/functionality (if applicable)	Unit	Heating season	On mode	Thermostat-off mode	Standby mode	Off mode	Crankcase heater mode	—
				cooling: H _{Ce} heating: H _{HE}	H _{TO}	H _{SB}	H _{OFF}	H _{CK}	
	Heating mode, if appliance offers heating only	h/annum	Average	1 400	179	0	3 672	3 851	
			Warmer	1 400	755	0	4 345	4 476	
			Colder	2 100	131	0	2 189	2 944	
	Double duct air conditioner								—
	Cooling mode, if appliance offers cooling only	h/60 min		1	n/a	n/a	n/a	n/a	
	Cooling and heating modes, if appliance offers both modes	Cooling mode	h/60 min		1	n/a	n/a	n/a	
		Heating mode	h/60 min		1	n/a	n/a	n/a	
	Heating mode, if appliance offers heating only	h/60 min		1	n/a	n/a	n/a	n/a	
	Single duct air conditioner								
	Cooling mode	h/60 min		1	n/a	n/a	n/a	n/a	
	Heating mode	h/60 min		1	n/a	n/a	n/a	n/a	

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Cl.	Requirement-Test		Verdict
ANNEX II	Energy efficiency classes		—
1	The energy efficiency of air conditioners shall be determined on the basis of measurements and calculations set out Annex VII.		P
	Both the SEER and SCOP shall take into account the reference design conditions and the operational hours per relevant mode of operation, and the SCOP shall relate to the heating season 'average', as laid down in Annex VII. The rated energy efficiency ratio (EER rated) and the rated coefficient of performance (COP rated) shall relate to standard rating conditions, as laid down in Annex VII.		P

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Cl.	Requirement-Test		Result-Remark		Verdict	
2	<i>Table 1</i> Energy efficiency classes for air conditioners, except double ducts and single ducts				P	
	Energy Efficiency Class	SEER	SCOP			
	A+++	SEER ≥ 8,50	SCOP ≥ 5,10			
	A++	6,10 ≤ SEER < 8,50	4,60 ≤ SCOP < 5,10			
	A+	5,60 ≤ SEER < 6,10	4,00 ≤ SCOP < 4,60			
	A	5,10 ≤ SEER < 5,60	3,40 ≤ SCOP < 4,00			
	B	4,60 ≤ SEER < 5,10	3,10 ≤ SCOP < 3,40			
	C	4,10 ≤ SEER < 4,60	2,80 ≤ SCOP < 3,10			
	D	3,60 ≤ SEER < 4,10	2,50 ≤ SCOP < 2,80			
	E	3,10 ≤ SEER < 3,60	2,20 ≤ SCOP < 2,50			
	F	2,60 ≤ SEER < 3,10	1,90 ≤ SCOP < 2,20			
G	SEER < 2,60	SCOP < 1,90				
	<i>Table 2</i> Energy efficiency classes for double ducts and single ducts				N/A	
	Energy Efficiency Class	Double ducts		Single ducts		
		EER _{rated}	COP _{rated}	EER _{rated}		COP _{rated}
	A+++	≥ 4,10	≥ 4,60	≥ 4,10		≥ 3,60
	A++	3,60 ≤ EER < 4,10	4,10 ≤ COP < 4,60	3,60 ≤ EER < 4,10		3,10 ≤ COP < 3,60
	A+	3,10 ≤ EER < 3,60	3,60 ≤ COP < 4,10	3,10 ≤ EER < 3,60		2,60 ≤ COP < 3,10
	A	2,60 ≤ EER < 3,10	3,10 ≤ COP < 3,60	2,60 ≤ EER < 3,10		2,30 ≤ COP < 2,60
	B	2,40 ≤ EER < 2,60	2,60 ≤ COP < 3,10	2,40 ≤ EER < 2,60		2,00 ≤ COP < 2,30
	C	2,10 ≤ EER < 2,40	2,40 ≤ COP < 2,60	2,10 ≤ EER < 2,40		1,80 ≤ COP < 2,00
	D	1,80 ≤ EER < 2,10	2,00 ≤ COP < 2,40	1,80 ≤ EER < 2,10		1,60 ≤ COP < 1,80
	E	1,60 ≤ EER < 1,80	1,80 ≤ COP < 2,00	1,60 ≤ EER < 1,80		1,40 ≤ COP < 1,60
F	1,40 ≤ EER < 1,60	1,60 ≤ COP < 1,80	1,40 ≤ EER < 1,60	1,20 ≤ COP < 1,40		
G	< 1,40	< 1,60	< 1,40	< 1,20		
ANNEX IV	Product fiche				—	
1	The information in the product fiche shall be given in the order specified below:				—	
	(a) supplier's name or trade mark;				P	
	(b) model identifier of the indoor air conditioner or of the indoor and outdoor elements of the air conditioner;				P	

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Cl.	Requirement-Test	Result-Remark	Verdict
	(c) without prejudice to any requirements under the Union eco-label scheme, where a model has been granted a 'European Union eco-label' under Regulation (EC) No 66/2010, a copy of the eco-label may be added;		N/A
	(d) inside and outside sound power levels at standard rating conditions, on cooling and/or heating modes;		P
	(e) the name and GWP of the refrigerant used and a standard text as follows:		P
	'Refrigerant leakage contributes to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atmosphere. This appliance contains a refrigerant fluid with a GWP equal to [xxx]. This means that if 1 kg of this refrigerant fluid would be leaked to the atmosphere, the impact on global warming would be [xxx] times higher than 1 kg of CO ₂ , over a period of 100 years. Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional.'		P
2	Additionally, the following information shall be included in the product fiche on air conditioners on the cooling mode, when efficiency is declared on the basis of the seasonal energy efficiency ratio (SEER):		—
	(a) the SEER and the energy efficiency class of the model (model of a unit or of a combination of units) determined in accordance with definitions and test procedures in Annex I and VII for the cooling mode as well as with the class limits defined in Annex II;		P
	(b) the indicative annual electricity consumption Q_{CE} in kWh/a during the cooling season, determined in accordance with definitions and test procedures in Annex I and VII, respectively. It shall be described as: 'Energy consumption "XYZ" kWh per year, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.'		P
	(c) the design load $P_{designc}$ in kW of the appliance in cooling mode determined in accordance with definitions and test procedures in Annex I and VII, respectively;		P
3	Additionally, the following notes define the information to be included in the fiche on the heating mode, when efficiency is declared on the basis of seasonal coefficient of performance (SCOP):		—
	(a) the SCOP and the energy efficiency class of the model, or combination, in heating mode determined in accordance with definitions and test procedures in Annex I and VII, respectively, as well as with the class limits defined in Annex II;		P

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Cl.	Requirement-Test	Result-Remark	Verdict
	(b) the indicative annual electricity consumption for an average heating season Q_{HE} in kWh/a, determined in accordance with definitions and test procedures in Annex I and VII, respectively. It shall be described as: 'Energy consumption "XYZ" kWh per year, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.'		P
	(c) other designated heating seasons for which the unit is declared fit for purpose, with options of warmer (optional) or colder (optional) seasons, as defined in Annex I;		P
	(d) the design load $P_{designh}$ in kW of the appliance in heating mode determined in accordance with definitions and test procedures in Annex I and VII;		P
	(e) the declared capacity and an indication of the back up heating capacity assumed for the calculation of SCOP at reference design conditions.		P
4	Additionally, the following notes define the information to be included in the fiche of air conditioners, when efficiency is declared on the basis of energy efficiency ratio (EER rated) or coefficient of performance (COP rated):		—
	(a) the energy efficiency class of the model, determined in accordance with definitions and test procedures in Annex I and VII, as well as the class limits defined in Annex II;		N/A
	(b) for double ducts, the indicative hourly electricity consumption Q_{DD} in kWh/60 minutes determined in accordance with definitions and test procedures in Annex I and VII. It shall be described as: 'Energy consumption "X,Y" kWh per 60 minutes, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.'		N/A
	(c) for single ducts, the indicative hourly electricity consumption Q_{SD} in kWh/60 minutes determined in accordance with definitions and test procedures in Annex I and VII. It shall be described as: 'Energy consumption "X,Y" kWh per 60 minutes, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.'		N/A
	(d) the cooling capacity P rated in kW of the appliance determined in accordance with definitions and test procedures in Annex I and VII;		N/A
	(e) the heating capacity P rated in kW of the appliance determined in accordance with definitions and test procedures in Annex I and VII.		N/A
5	One fiche may cover a number of appliance models supplied by the same supplier.		N/A

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Cl.	Requirement-Test	Result-Remark	Verdict
6	The information contained in the fiche may be given in the form of a copy of the label, either in colour or in black and white. Where this is the case, the information listed in points 1-4 not already displayed on the label shall also be provided.		N/A
ANNEX V	Technical documentation		—
	The technical documentation referred to in Article 3 (1)(c) shall include at least the following items:		—
	(a) the name and address of the supplier;		P
	(b) a general description of the appliance model, sufficient for it to be unequivocally and easily identified. Single ducts shall be referred to as 'local air conditioners'		P
	(c) where appropriate, the references for the harmonised standards applied;		P
	(d) where appropriate, the other calculation methods, measurement standards and specifications used;		N/A
	(e) identification and signature of the person empowered to bind the supplier;		P
	(f) where appropriate the technical parameters for measurements, established in accordance with Annex VII:		P
	(i) overall dimensions;		P
	(ii) specification of the type of the air conditioner;		P
	(iii) specification whether the appliance is designed for cooling or heating only or for both;		P
	(iv) the energy efficiency class of the model as defined in Annex II;		P
	(v) The energy efficiency ratio (EER rated) and coefficient of performance (COP rated) for single and double duct air conditioners or seasonal energy efficiency ratio (SEER) and seasonal coefficient of performance (SCOP) for other air conditioners;		P
	(vi) The heating season for which the appliance is declared fit for purpose;		P
	(vii) Sound power levels expressed in dB(A) re1 pW, rounded to the nearest integer;		P
	(viii) the name and GWP of refrigerant used.		P
	(g) the results of calculations performed in accordance with Annex VII. Suppliers may include additional information at the end of the above list.		P

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Cl.	Requirement-Test	Result-Remark	Verdict
	Where the information included in the technical documentation file for a particular air conditioner model has been obtained by calculation on the basis of design, or extrapolation from other equivalent appliances, or both, the documentation shall include details of such calculations or extrapolations, or both, and of tests undertaken by suppliers to verify the accuracy of the calculations undertaken. The information shall also include a list of all other equivalent appliance models where the information was obtained on the same basis.		N/A
ANNEX VI	Information to be provided in the cases where end-users cannot be expected to see the product displayed		—
1	The information referred to in Article 4(b) shall be provided in the following order:		—
	(a) The energy efficiency class of the model as defined in Annex II;		P
	(b) for air conditioners other than single ducts and double ducts:		P
	(i) the seasonal energy efficiency ratio (SEER) and/or seasonal coefficient of performance (SCOP);		P
	(ii) the design load (in kW);		P
	(iii) the annual electricity consumption;		P
	(iv) the cooling and/or each heating ('Average, Colder, Warmer') season the appliance is declared fit for purpose;		P
	(c) for single duct and double duct air conditioners:		N/A
	(i) the energy efficiency ratio (EER) and/or coefficient of performance (COP);		N/A
	(ii) the rated capacity (kW);		N/A
	(iii) for double ducts, the hourly electricity consumption for cooling and/or heating;		N/A
	(iv) for single ducts, the hourly electricity consumption for cooling and/or heating;		N/A
	(d) Sound power levels expressed in dB(A) re1 pW, rounded to the nearest integer;		P
	(e) Name and GWP of refrigerant used.		P
2	Where other information contained in the product information fiche is also provided, it shall be in the form and order specified in Annex IV.		P
3	The size and font in which all the information referred in this Annex is printed or shown shall be legible.		P

Part 1: Declared values and the necessary information provided by manufacturer

Table 1: Information requirements for air conditioners, except for double duct and single duct air conditioners.							P	
(the number of decimals in the box indicates the precision of reporting) Information to identify the model(s) to which the information relates to:								
Function (indicate if present)				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.				
Cooling		Y		Average (mandatory)		Y		
Heating		Y		Warmer (if designated)		Y		
				Colder (if designated)		Y		
Item	symbol	value	unit	item	symbol	value	unit	
Design load				Seasonal efficiency				
Cooling	Pdesignc	2,6	kW	Cooling	SEER	6,1	—	
Heating/Average	Pdesignh	2,0	kW	Heating/Average	SCOP/A	4,0	—	
Heating/Warmer	Pdesignh	2,3	kW	Heating/Warmer	SCOP/W	5,1	—	
Heating/Colder	Pdesignh	2,3	kW	Heating/Colder	SCOP/C	3,4	—	
Declared capacity (*) for cooling, at indoor temperature 27(19) °C and outdoor temperature Tj				Declared energy efficiency ratio (*), at indoor temperature 27(19) °C and outdoor temperature Tj				
Function (indicate if present)				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.				
Cooling		Y		Average (mandatory)		Y		
Heating		Y		Warmer (if designated)		Y		
				Colder (if designated)		Y		
Item	symbol	value	unit	item	symbol	value	unit	
Tj = 35 °C	Pdc	2,60	kW	Tj = 35 °C	EERd	2,87	—	
Tj = 30 °C	Pdc	1,82	kW	Tj = 30 °C	EERd	4,84	—	
Tj = 25 °C	Pdc	1,17	kW	Tj = 25 °C	EERd	7,99	—	
Tj = 20 °C	Pdc	0,69	kW	Tj = 20 °C	EERd	13,04	—	
Declared capacity (*) for heating/Average season, at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance (*)/Average season, at indoor temperature 20 °C and outdoor temperature Tj				
Item	symbol	value	unit	item	symbol	value	unit	
Tj = - 7 °C	Pdh	1,78	kW	Tj = - 7 °C	COPd	2,54	—	
Tj = 2 °C	Pdh	1,11	kW	Tj = 2 °C	COPd	4,17	—	
Tj = 7 °C	Pdh	0,76	kW	Tj = 7 °C	COPd	4,92	—	
Tj = 12 °C	Pdh	0,81	kW	Tj = 12 °C	COPd	6,25	—	

Tj = bivalent temperature	Pdh	1,81	kW	Tj = bivalent temperature	COPd	2,58	—
Tj = operating limit (-10 °C)	Pdh	2,19	kW	Tj = operating limit (-10 °C)	COPd	2,25	—
Declared capacity (*) for heating/Warmer season, at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance (*)/Warmer season, at indoor temperature 20 °C and outdoor temperature Tj			
Item	symbol	value	unit	item	symbol	value	unit
Tj = 2 °C	Pdh	2,30	kW	Tj = 2 °C	COPd	2,70	—
Tj = 7 °C	Pdh	1,44	kW	Tj = 7 °C	COPd	5,30	—
Tj = 12 °C	Pdh	0,77	kW	Tj = 12 °C	COPd	6,29	—
Tj = bivalent temperature	Pdh	2,30	kW	Tj = bivalent temperature	COPd	2,70	—
Tj = operating limit	Pdh	2,30	kW	Tj = operating limit	COPd	2,70	—
Declared capacity (*) for heating/Colder season, at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance (*)/Colder season, at indoor temperature 20 °C and outdoor temperature Tj			
Item	symbol	value	unit	item	symbol	value	unit
Tj = -7 °C	Pdh	1,55	kW	Tj = -7 °C	COPd	2,82	—
Tj = 2 °C	Pdh	0,91	kW	Tj = 2 °C	COPd	4,31	—
Tj = 7 °C	Pdh	0,76	kW	Tj = 7 °C	COPd	5,22	—
Tj = 12 °C	Pdh	0,77	kW	Tj = 12 °C	COPd	6,44	—
Tj = bivalent temperature	Pdh	1,88	kW	Tj = bivalent temperature	COPd	2,05	—
Tj = operating limit	Pdh	1,51	kW	Tj = operating limit	COPd	1,88	—
Tj = -15 °C	Pdh	1,88	kW	Tj = -15 °C	COPd	2,05	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-10	°C
heating/Warmer	Tbiv	2	°C	heating/Warmer	Tol	2	°C
heating/Colder	Tbiv	-15	°C	heating/Colder	Tol	-22	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	—
for heating	Pcyh	—	kW	for heating	COPcyc	—	—
Degradation coefficient cooling (**)	Cdc	0,25	—	Degradation coefficient heating (**)	Cdh	0,25	—
Electric power input in power modes other than 'active mode'				Annual electricity consumption			

off mode	P _{OFF}	—	kW	for cooling	Q _{CE}	150	kWh/a
standby mode (cooling / heating)	P _{SB}	0,005/0,005	kW	Heating/Average	Q _{HE}	700	kWh/a
thermostat-off mode (cooling / heating)	P _{TO}	0,025/0,025	kW	Heating/Warmer	Q _{HE}	632	kWh/a
crankcase heater mode	P _{CK}	—	kW	Heating/Colder	Q _{HE}	1421	kWh/a
Capacity control (indicate one of three options)				Other items			
Function (indicate if present)				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Cooling		Y		Average (mandatory)		Y	
Heating		Y		Warmer (if designated)		Y	
				Colder (if designated)		Y	
Item	symbol	value	unit	item	symbol	value	unit
Fixed		N		Sound power level (indoor/outdoor)	level (indoor / outdoor) L _{WA}	52 / 62	dB(A)
Staged		N		Global warming potential	GWP	675	kg CO ₂ eq.
Variable		Y		Rated air flow (indoor/outdoor)	—	420/1700	m ³ /h
Contact details for obtaining more information	HANTECH İKLİMLENDİRME SAN. TİC.A.Ş. Ziya Gökalp Mah. Süleyman Demirel Blv. No:7E / 138, Başakşehir - İstanbul, Türkiye						
(*) For staged capacity units, two values divided by a slash ('/') will be declared in each box in the section 'Declared capacity of the unit' and 'declared EER/COP' of the unit.							
(**) If default Cd = 0,25 is chosen then (results from) cycling tests are not required. Otherwise either the heating or cooling cycling test value is required.							
In as much as is relevant in view of the functionality, the manufacturer shall supply the information as requested in the above Table 1 in the technical documentation of the product. For units with capacity control marked 'staged', two values for the highest and lowest, noted 'hi/lo' divided by a slash ('/') will be declared in each box under 'Declared capacity'.							

Table 2: Information requirements for single duct and double duct air conditioners			N/A
Information to identify the model(s) to which the information relates to [fill in as necessary]:			
Description	Symbol	Value	Unit
Rated capacity for cooling	P_{rated} for cooling	—	kW
Rated capacity for heating	P_{rated} for heating	—	kW
Rated power input for cooling	P_{EER}	—	kW
Rated power input for heating	P_{COP}	—	kW
Rated Energy efficiency ratio	EER_d	—	—
Rated Coefficient of performance	COP_d	—	—
Information to identify the model(s) to which the information relates to [fill in as necessary]:			
Description	Symbol	Value	Unit
Power consumption in thermostat-off mode	P_{TO}	—	W
Power consumption in standby mode	P_{SB}	—	W
Electricity consumption of single/double duct appliances (indicate for cooling and heating separately)	$DD: Q_{DD}$ $SD: Q_{SD}$	—	DD: kWh/a SD: kWh/h
Sound power level	L_{WA}	—	dB(A)
Global warming potential	GWP	—	kgCO ₂ eq.
Contact details for obtaining more information	—		

Part 2: measured values (for air conditioners, except double duct and single duct air conditioners)					P
Test data according to EN 14825: 2022					
Test condition (Cooling function): Voltage: <u>230</u> V / frequency: <u>50</u> Hz / harmonic distortion <u>0,1%</u> .					
Table 2 — Part load conditions for reference SEER and reference SEER_{on} calculation of air-to-air units					
	Part load ratio	Part load ratio %	Outdoor air dry bulb temperature °C	Indoor air dry bulb (wet bulb) temperatures °C	
A	$(35-16)/(T_{designc} - 16)$	100	35	27(19)	
B	$(30-16)/(T_{designc} - 16)$	74	30	27(19)	
C	$(25-16)/(T_{designc} - 16)$	47	25	27(19)	
D	$(20-16)/(T_{designc} - 16)$	21	20	27(19)	
Test condition	Cooling capacity (kW)	Cooling power input (kW)	EER	Remark (For variable capacity units, the frequency settings for the same part load conditions.)	
A	2,602	0,907	2,869	61 Hz	
B	1,821	0,376	4,843	35 Hz	
C	1,166	0,146	7,986	19 Hz	
D	0,691	0,053	13,038	10 Hz	

Test condition (Heating function / Average heating season): Voltage: <u>230</u> V / frequency: <u>50</u> Hz / harmonic distortion <u>0,1%</u> ; T _j (bivalent temperature): <u>-7 °C</u> ; operating limit (TOL): <u>-10 °C</u> ;				
Table 6 — Part load conditions for reference SCOP, reference SCOP_{on} and reference SCOP_{net} calculation of air-to-air units for the reference heating season “A” = average				
	A		Outdoor air dry bulb (wet bulb) temperatures °C	Indoor air dry bulb temperature °C
	Part load ratio	Part load ratio %		
A	$(-7-16)/(T_{designh} - 16)$	88	-7(-8)	20
B	$(+2-16)/(T_{designh} - 16)$	54	2(1)	20
C	$(+7-16)/(T_{designh} - 16)$	35	7(6)	20
D	$(+12-16)/(T_{designh} - 16)$	15	12(11)	20
E	$(TOL-16)/(T_{designh} - 16)$		TOL	20
F	$(T_{bivalent}-16)/(T_{designh} - 16)$		T _{bivalent}	20

Test condition	Heating capacity (kW)	Heating power input (kW)	COP	Remark (For variable capacity units, the frequency settings for the same part load conditions.)
A	1,780	0,701	2,539	69 Hz
B	1,113	0,267	4,169	29 Hz
C	0,762	0,155	4,916	18 Hz
D	0,806	0,129	6,248	16 Hz
E	2,192	0,976	2,246	96 Hz
F	1,780	0,701	2,539	69 Hz

Test condition (Heating function / Warmer heating season):
 Voltage: 230 V / frequency: 50 Hz / harmonic distortion 0,1% ;
 Tj (bivalent temperature): 2 °C ; operating limit (TOL): 2 °C ;

Table 7 — Part load conditions for reference SCOP, reference SCOPon and reference SCOPnet calculation of air-to-air units for the reference heating season “W” = warmer

	W		Outdoor air dry bulb (wet bulb) temperatures °C	Indoor air dry bulb temperature °C
	Part load ratio	Part load ratio %		
A	(not applicable)			
B	$(+2-16)/(T_{designh} - 16)$	100	2(1)	20
C	$(+7-16)/(T_{designh} - 16)$	64	7(6)	20
D	$(+12-16)/(T_{designh} - 16)$	29	12(11)	20
E	$(TOL-16)/(T_{designh} - 16)$		TOL	20
F	$(T_{bivalent}-16)/(T_{designh} - 16)$		Tbivalent	20

Test condition	Heating capacity (kW)	Heating power input (kW)	COP	Remark (For variable capacity units, the frequency settings for the same part load conditions.)
A	Not applicable		—	—
B	2,302	0,854	2,696	70 Hz
C	1,442	0,272	5,301	32 Hz
D	0,774	0,123	6,293	16 Hz
E	2,302	0,854	2,696	70 Hz
F	2,302	0,854	2,696	70 Hz

Test condition (Heating function / Colder heating season):
 Voltage: 230 V / frequency: 50 Hz / harmonic distortion 0,1% ;
 Tj (bivalent temperature): -15 °C; operating limit (TOL): -22 °C ;

Table 8 — Part load conditions for reference SCOP, reference SCOPon and reference SCOPnet calculation of air-to-air units for the reference heating season “C” = colder

	C		Outdoor air dry bulb (wet bulb) temperatures °C	Indoor air dry bulb temperature °C
	Part load ratio	Part load ratio %		
A	$(-7-16)/(T_{designh} -16)$	61	-7(-8)	20
B	$(+2-16)/(T_{designh} -16)$	37	2(1)	20
C	$(+7-16)/(T_{designh} -16)$	24	7(6)	20
D	$(+12-16)/(T_{designh} -16)$	11	12(11)	20
E	$(TOL-16)/(T_{designh} -16)$		TOL	20
F	$(T_{bivalent}-16)/(T_{designh} -16)$		Tbivalent	20
G ^a	$(-15-16)/(T_{designh} -16)$	82	-15	20

^a Condition G is performed in case TOL is below -20 C.

Test condition	Heating capacity (kW)	Heating power input (kW)	COP	Remark (For variable capacity units, the frequency settings for the same part load conditions.)
A	1,550	0,550	2,818	58 Hz
B	0,910	0,211	4,313	24 Hz
C	0,757	0,145	5,221	18 Hz
D	0,773	0,120	6,442	16 Hz
E	1,505	0,801	1,879	92 Hz
F	1,882	0,917	2,052	92 Hz
G	1,882	0,917	2,052	92 Hz

The SEER ,SCOP and Sound power level established according to the test data:

SEER _{on}	SCOP _{on} (Average heating season)	SCOP _{on} (Warmer heating season)	SCOP _{on} (Colder heating season)	Sound power level (dB(A))
6,855	4,051	5,400	3,419	Indoor unit: 51,43 dB(A); Outdoor unit: 61,44 dB(A)
SEER	SCOP	SCOP	SCOP	—
6,391	4,042	5,340	3,416	—
P _{TO} (kW) (cooling / heating)	P _{SB} (kW) (cooling / heating)	P _{OFF} (kW)	P _{CK} (kW)	—
0,00685 / 0,00889	0,00379 / 0,00380	—	—	—

Requirements for minimum energy efficiency and maximum sound power level		P
<p>From 1 January 2013, air conditioners, except single and double duct air conditioners, shall correspond to minimum energy efficiency and maximum sound power level requirements as indicated in Tables 4 and 5 below, calculated in accordance with Annex II. The requirements on energy efficiency shall take into account the reference design conditions specified in Annex II, Table 3 using the 'Average' heating season where applicable. The requirements on sound power shall relate to the standard rating conditions specified in Annex II, Table 2 :</p>		
SEER	SCOP (average)	Sound power level (dB(A))
3,60	3,40	60 / 65 (IU / OU)
<p>From 1 January 2014, air conditioners shall correspond to requirements as indicated in the table below, calculated in accordance with Annex II. The requirements on energy efficiency for air conditioners, excluding single and double duct air conditioners, shall relate to the reference design conditions specified in Annex II, Table 3 using the 'Average' heating season where applicable.</p>		
SEER	SCOP (average)	Sound power level (dB(A))
4,60	3,80	60 / 65 (IU / OU)

Part 3: measured values (for double duct and single duct air conditioners)				N/A
Test data according to EN 14511-1, 2, 3: 2022				
Test condition:				
Voltage: ___ V / frequency: ___ Hz / harmonic distortion ___ ,				
<p><i>Table 2</i></p> <p>Standard rating conditions, temperatures in 'dry bulb' air temperature ('wet bulb' indicated in brackets)</p>				
Appliance	Function	Indoor air temperature (°C)	Outdoor air temperature (°C)	
air conditioners, excluding single duct air conditioners	cooling	27 (19)	35 (24)	
	heating	20 (max. 15)	7(6)	
single duct air conditioner	cooling	35 (24)	35 (24) (*)	
	heating	20 (12)	20 (12) (*)	
(*) In case of single duct air conditioners the condenser (evaporator) when cooling (heating) is not supplied with outdoor air, but indoor air.				
Cooling function				
Test condition	Cooling capacity (kW)	Cooling power input (kW)	EER _{rated}	Remark
For single duct air conditioner	—	—	—	—
Heating function				
Test condition	Heating capacity (kW)	Heating power input (kW)	COP _{rated}	Remark
For single duct air conditioner	—	—	—	—
The P_{off}, P_{SB} and Sound power level established according to the test standards:				
P_{off} (W)	P_{SB} (W)		Sound power level (dB(A))	
—	—		—	

Requirements for minimum energy efficiency and maximum power consumption in off-mode and standby mode, maximum sound power level			N/A
<p>From 1 January 2013, single duct air conditioner shall correspond to requirements as indicated in the table below, calculated in accordance with Annex II. Single duct air conditioner shall fulfil the requirement on standby mode as indicated in below. The requirements on minimum energy efficiency and maximum sound power shall relate to the standard rating conditions specified in Annex II, Table 2.</p>			
EER_{rated}	COP_{rated}	P_{SB} (W)	Sound power level (dB(A))
—	—	—	—
<p>From 1 January 2014, single duct air conditioner shall correspond to requirements as indicated in the table below, calculated in accordance with Annex II. The requirements on energy efficiency for single duct air conditioner shall relate to the standard rating conditions specified in Annex II, Table 2.</p>			
EER_{rated}	COP_{rated}	P_{SB} (W)	Sound power level (dB(A))
—	—	—	—

Photo documents:

Details of: Indoor unit

View:

- general
- front
- rear
- right
- left
- top
- bottom



Details of: Outdoor unit

View:

- general
- front
- rear
- right
- left
- top
- bottom



--- End of Report ---