

# HJ

## **Standard for Environmental Protection of the People's Republic of China**

HJ 2535-2013  
In replacement of HJ/T 304-2006

### **Technical Requirement for Environmental Labelling Products Room Air Conditioners**

Issued on January 13, 2014

Putting into effect as of March 1, 2014

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Issued by Ministry of Environmental Protection

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## Foreword

This standard is developed for the purpose of implementing the Law of the People's Republic of China on Environmental Protection, reducing the impact of room air conditioners on the environment and human health during the production and use process and protecting the environment.

This standard puts requirements on battery's raw materials, production, products, packages and recycling.

This standard makes revision of the technical part of Technical Requirement for the Certification of Environmental Labelling Products—Room Air Conditioners (HJ/T 304-2006). The major changes are as follows:

—The product scope has been expanded to include room air conditioners whose revolution speed can be controlled and commercial conditioners whose refrigeration volume under 14000W.

—Adding requirements on refrigerant;

—Adding requirements on poisonous and hazardous substances;

—Raising requirements on energy efficiency;

—Raising requirements on noise;

—Adding requirements on control over production process.

This standard is applicable to the certification of China Environmental Labelling products.

The development of the standard is organized by the Department of Science, Technology and Standards of the Ministry of Environmental Protection.

The organization in charge of the development of this standard is Environmental Development Center of Ministry of Environmental Protection and Dajin (China) Investment Co., Ltd.

This standard was approved by Ministry of Environmental Protection on January 13, 2014.

This standard shall be put into effect as of March 1, 2014.

This standard shall be interpreted by Ministry of Environmental Protection.

The historical versions of the standard replaced by the current one are:

—HJBZ 18-1997, HJBZ 18-2000, HJ/T304-2006.

# **Technical Requirement for Environmental Labelling Products Room Air Conditioners**

## **1. Application Scope**

This standard stipulates terminology, definition, basic requirements, technical contents and examination method for Environmental Labelling products of room air conditioners.

This standard is applicable to air-cooled condenser, hydro-cooler, and room air conditioner with totally-enclosed motor-compressor and the cooling capacity below 14000W that aims to create comfortable indoor environment for domestic or similar use.

The standard is not applicable to the following products:

- movable air conditioner;
- packaged room air conditioner;
- single unit that can not comprise complete cooling system;
- air conditioner that adopts absorbing cooling recycle.

## **2. Standard Quotation Documents**

The standard has quoted items from following document. The latest versions of all quotation documents without specific date are applicable to this standard.

GB/T 16288 Label of Plastic Products

GB/T 18455 Packaging and Recycling Label

GB/T 20861—2007 Terminology of recycling of wasted products

GB/T 26572 Volume Limit Requirement on Restricted Substance of Electronic Products

HJ/T 239 Technical Requirement for Environmental Labelling Products -- Hg-free Dry Cells and Batteries

## **3. Terminology and Definition**

The following terminologies and definitions are applicable to this standard.

### **3.1 Room air conditioner**

It refers to equipment which provides processed air into confined space, room or area. It mainly includes cooling system, air circulating and air purifying device that can

refrigerate and dehumidifies, as well as heating and ventilation device (they can be packed in a shell or designed to be unit system used together) such as free blowing air conditioner, water-source heat pump unit, unit air conditioner, ducted air-conditioning unit, multi-coupled air conditioning unit and rooftop air conditioning unit.

### 3.2 Ozone depleting potential

Certain substance causes ozone loss during its atmospheric lifetime. Ozone depleting potential refers to the rate of global ozone loss against the ozone loss caused by CFC-11 emission of same quality.

### 3.3 Recyclability rate

The percentage of quality of recyclable part (excluding energy recycling) in quality of the product.(GB/T 20861-2007)

## **4. Basic Requirements**

4.1 The quality of products shall meet relevant quality requirements.

4.2 The product safety and electromagnetic compatibility should comply with relevant requirements.

4.3 The pollution discharge of enterprises must meet the requirements of national or local pollution discharge standards.

4.4 The producer should enhance clean production during the production and comply with relevant clean production standards.

## **5. Technical Contents**

### 5.1 Eco-design

#### 5.1.1 Design easy for recycling

5.1.1.1 Recyclability rate shall not be less than 83%.

5.1.1.2 Plastic parts with quality more than 25g or surface area more than 200mm<sup>2</sup> shall use one-type polymer or block polymer.

5.1.1.3 Plastic parts with quality more than 25g or surface area more than 200mm<sup>2</sup> shall labeled according to GB/T 16288.

#### 5.1.2 Requirement on hazardous substance in components

5.1.2.1 ODP of refrigerant that the product will use is 0.

5.1.2.2 Basic material of exterior shell and electro circuit board shall not use SCCPs, and the content shall not surpass 0.1% of the plastic part.

5.1.2.3 Plastic parts of exterior shell with quality more than 25g shall not use polymer containing chlorine and bromine, and shall not use fire retardant containing organic chloride and Organic bromide

5.1.2.4 Plastic parts with quality more than 25g excluding electrical wires and cables shall not use phthalate in Annex A as plasticizers.

5.1.2.5 The total of benzo(a)pyrene in shell of remote control, press key of all kinds, filter screen and external power wires shall not exceed 20mg/kg, and the total of 18 PAHs listed in Annex B shall not exceed 200 mg/kg.

5.1.2.6 The dry battery in the product should comply with the requirement in HJ/T 239.

## 5.2 Requirement during production stage

5.2.1 Recycling facility for refrigerant is required.

5.2.2 HCFCs, C<sub>2</sub>H<sub>3</sub>CL<sub>3</sub>, C<sub>2</sub>HCL<sub>3</sub>, CH<sub>3</sub>CHCL<sub>2</sub>, CH<sub>2</sub>CL<sub>2</sub>, CHCL<sub>3</sub>, CCL<sub>4</sub>, C<sub>3</sub>H<sub>7</sub>Br should not used as cleaning solvent.

5.2.3 Assembly and connection process of components should use non-lead jointing.

5.2.4 Pretreatment process of sheet metal should not use degreasant containing phosphorus and skin pellicle containing phosphorus.

## 5.3 Requirement on products

5.3.1 The volume requirement of restricted substance should comply with GB/T 26572.

5.3.2 The product should comply with the requirement on energy saving assessment value in relevant national energy efficiency standards.

5.3.3 Noise rating of the product shall not exceed requirement in Table 3.

Table 3 Noise Rating of the Product (sound pressure level)

Testing item	Refrigeration Volume Rating/kW		Noise Rating/dB(A)
	≤2.5	indoor unit	39
		indoor unit with static pressure	40
		outdoor unit	49
	>2.5-4.5	indoor unit	41

Noise Rating		indoor unit with static pressure	42
		outdoor unit	52
	>4.5-7.1	indoor unit	43
		indoor unit with static pressure	44
		outdoor unit	56
	>7.1	indoor unit	47
		indoor unit with static pressure	48
		outdoor unit	59

#### 5.4 Packaging requirement

5.4.1 Packaging materials should not use HCFCs as vesicant.

5.4.2 The total volume of Pb, Cd, Hg and Cr6+ should not exceed 100mg/kg.

5.4.3 Package should be marked according to GB/T 18455.

#### 5.5 Requirement on recycling of products

Producers should provide relevant information on recycling of products.

#### 5.6 Product introduction

The product introduction should be given to consumers together with the product. It should include following content:

- a) Use and maintenance introduction
- b) Statement on stand-by mode and reminding that energy consumption is zero when the product is not connected with input power supply.
- c) Set temperature correctly. It will be lower by 2°C than expected value when heating and higher by 2°C than expected value when refrigerating in order to save energy.
- d) Avoid sunlight to shed on house directly when using air conditioner and do not open and close doors and windows often.
- e) Clean filter screen periodically.
- f) The producer shall provide all repairable and replaceable components during design life of the air conditioner, so as to ensure that the product shall be used properly

during its design life.

## **6. Examination Method**

6.1 Testing of Technical Content 5.3.2.1 shall be done according to the method in its energy efficiency standard.

6.2 Testing of Technical Content 5.3.3 shall be done according to the method in its product standard.

6.3 Other indexes in Technical Contents should be examined by document review and on-site inspection.



## Annex A

### (Regulative Annex)

#### Forbidden Phthalate in Plastic Component

中文名称	英文名称	缩写
邻苯二甲酸二异壬酯	Di-iso-nonylphthalate	DINP
邻苯二甲酸二正辛酯	Di-n-octylphthalate	DNOP
邻苯二甲酸二(2-乙基己基)酯	Di-(2-ethylhexy)-phthalate	DEHP
邻苯二甲酸二异癸酯	Di-isodecylphthalate	DIDP
邻苯二甲酸丁基苄基酯	Butylbenzylphthalate	BBP
邻苯二甲酸二丁酯	Dibutylphthalate	DBP

## Annex B

### (Regulative Annex) PAHs for Restricted Use

中文名称	英文名称	缩写
萘	Naphthalene	Nap
萘烯	Acenaphthylene	AcPy
萘	Acenaphthene	Acp
芴	Fluorene	Flu
菲	Phenanthrene	PA
蒽	Anthracene	Ant
荧蒽	Fluoranthene	FL
芘	Pyrene	Pyr
1,2-苯并菲	Chrysene	CHR
苯并(a)蒽	Benzo[a]anthracen	BaA
苯并(b)荧蒽	Benzo[b]fluoranthene	BbF
苯并(k)荧蒽	Benzo[k]fluoranthene	BkF
苯并(a)芘	Benzo[a]pyrene	BaP
二苯并(a,h)蒽	Dibenzo[a,h]anthracene	DBA
茚并(1,2,3-cd)芘	Indeno[1,2,3-cd]pyrene	IND
苯并(g,h,i)芘(二苯嵌苯)	Benzo[g,h,i]perylene	BghiP
苯并(j)荧蒽	Benzo[j]fluoranthene	
苯并(e)芘	Benzo[e]pyrene	