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(JARI/JSA)

**Air conditioning units for
rolling stock**

ICS 23.120; 45.060.01

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Land, Infrastructure and Transport and the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee, as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Association of Rolling Stock Industries (JARI)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS E 6602 : 1989** is replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

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Contents

	Page
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Items designated by the purchaser	1
5 Performance	2
6 Construction	5
6.1 Construction	5
6.2 Shape and dimensions	5
6.3 Appearance	5
7 Test	5
8 Inspections	9
9 Packaging	11
10 Designation of product	11
11 Marking	11

Air conditioning units for rolling stock

1 Scope This Japanese Industrial Standard specifies air conditioning units which are installed in rolling stocks to carry out cooling and/or heating by circulating the air inside the rolling stock (hereafter referred to as “air conditioner”).

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS C 1502 *Sound level meters*

JIS C 1505 *Precision sound level meters*

JIS E 4001 *Railway rolling stock—Vocabulary*

JIS E 4014 *Test methods for insulation resistance and withstand voltage of railway rolling stock*

JIS E 4031 *Railway rolling stock parts—Test methods for vibration*

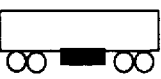
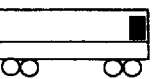
JIS Z 8704 *Temperature measurement—Electrical methods*

3 Definitions For the purposes of this Standard, the definitions given in **JIS E 4001** apply.

4 Items designated by the purchaser The purchaser shall designate the following items in a deal or an order. The final specification shall be subject to agreement between the interested parties.

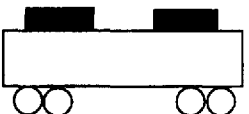
- a) **Classification of rolling stock** The class, type and the like of the rolling stock to which an air conditioner is to be installed.
- b) **Loading position** The division based on the part to which an air conditioner is to be installed. It shall be as given in table 1.

Table 1 Classification by the installing position of air conditioner

Classification	On the roof	Under floor	In floor	On floor
Installing position				

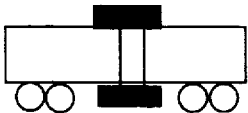
- c) **The number of loaded conditioners** The division of an air conditioner based on the number of loaded conditioners. It shall be as given in table 2.

Table 2 Division based on the number of loaded air conditioners

Classification	Centralization system	Semi centralization system	Dispersed system
The number of loaded air conditioners	One air conditioner	Two air conditioners	Three air conditioners or more
			

- d) **Structure of an air conditioner** The division based on the structure of an air conditioner. It shall be as given in table 3.

Table 3 Division based on the structure of an air conditioner

Classification	Unit type	Separate type
Structure	That composed of single body as an air conditioner	That wherein functional parts are separately arranged and connected by piping
		

- e) **Types of air conditioners** The types of air conditioners shall be as follows.
- 1) **Air conditioner for cooling only**
 - 2) **Cooling and heating air conditioner heat pump**
 - 3) **Heater heating type cooling heater**
- f) **Capacity** Cooling capacity and/or heating capacity.
- g) **Air condition** When there are requests for air conditions other than those specified in 7 a) 1), they shall be individually specified.
- h) **Voltage and frequency** The rated voltage, frequency of main circuit and control circuit which become the input power source of an air conditioner and their fluctuation ranges, and the time and frequency of power discontinuance.
- i) **Track condition** Conditions necessary for designing an air conditioner such as the maximum cant, the maximum gradient, presence of a tunnel and the like.

5 Performance The performance of an air conditioner shall be as follows. a) to h) and u) to aa) apply to air conditioners for cooling exclusive use, a) to o) and u) to aa) to heat pump heating type cooling heaters, and a) to h) and o) to aa) to heater heating type cooling heaters.

- a) **Cooling capacity** When the test in 7 b) is carried out, the result shall be the rated cooling capacity or higher.
- b) **Power consumption when cooling** When the test of 7 c) is carried out, the result shall be 110 % or less of the rated power consumption.