

ERRATA

Page 9, line 18

Error: 7.7.1 b)

Correct: 7.7.2 b)

Remarks: This erratum is for correcting the first edition of this Standard.

Japanese Standards Association

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

☞ JIS C 9612 : 1999

Room air conditioners

ICS 23.120

Descriptors : air conditioners, rooms, air-conditioning systems

Reference number : JIS C 9612 : 1999 (E)

C 9612 : 1999

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS C 9612:1994** is replaced with **JIS C 9612:1999**.

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 public which have the said technical properties.

Date of Establishment: 1964-03-01

Date of Revision: 1999-03-20

Date of Public Notice in Official Gazette: 1999-03-23

Investigated by: Japanese Industrial Standards Committee
Divisional Council on Electricity

JIS C 9612 :1999, First English edition published in 2001-04

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2001

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Classification	3
5 Rated voltage and rated frequency	4
6 Operational performances	4
6.1 Leakage of refrigerant	4
6.2 Cooling capacity	4
6.3 Cooling power consumption	4
6.4 Heating capacity	4
6.5 Heating power consumption	4
6.6 Power consumption of electric heater	4
6.7 Maximum cooling performance	4
6.8 Minimum cooling performance	4
6.9 Enclosure sweat and condensate disposal	4
6.10 Freeze-up property	5
6.11 Maximum heating performance	5
6.12 Automatic defrost performance	5
6.13 Noise	5
7 Safety performance	5
7.1 Temperature	5
7.2 Insulation resistance	6
7.3 Dielectric withstand voltage	6
7.4 Starting current	6
7.5 Insulation performance under water spray	7
7.6 Abnormality	7
7.7 Construction	7
7.7.1 Construction in general	7
7.7.2 Live part	10
7.7.3 Electrical insulating material	14
7.7.4 Wiring	15
7.7.5 Earthing terminal and earthing lead	16

C 9612 : 1999

7.7.6	Electric heater	16
7.7.7	Fuse and fuse mounting	17
7.7.8	Power supply cord	17
7.8	Strength of noise generated	17
7.9	Materials	18
7.9.1	Materials in general	18
7.9.2	Current carrying materials	19
7.9.3	Fuse and fuse mount	19
7.9.4	Refrigerant circuit	20
8	Tests	20
8.1	Operational performance test	20
8.1.1	General test conditions	20
8.1.2	Refrigerant leakage test	20
8.1.3	Cooling capacity test	20
8.1.4	Cooling power consumption test	20
8.1.5	Heating capacity test	20
8.1.6	Heating power consumption test	20
8.1.7	Test for electric-heater power consumption	21
8.1.8	Maximum cooling test	21
8.1.9	Minimum cooling test	21
8.1.10	Enclosure sweat and condensate disposal test	21
8.1.11	Freeze-up test	21
8.1.12	Maximum heating test	21
8.1.13	Automatic defrost test	21
8.1.14	Noise test	22
8.2	Safety performance test	22
8.2.1	Temperature test	22
8.2.2	Insulation resistance test	23
8.2.3	Dielectric withstand voltage test	23
8.2.4	Starting current test	23
8.2.5	Test for insulation under water spray	24
8.2.6	Abnormality test	24
8.2.7	Construction test	25
8.2.8	Test of strength of noise generated	25
8.2.9	Material test	25
9	Inspections	25
9.1	Type inspection	25

9.2	Product inspection	26
10	Designation of product	26
11	Marking	27
11.1	Marking on product	27
11.2	Marking on package	27
12	Precautions for use	29
13	Consideration for reclaiming resources	30
Attached Fig. 1	Impact-test apparatus	31
Attached Fig. 2	Test finger	31
Attached Fig. 3	Water spray test apparatus	32
Annex 1 (normative)	Room air conditioner (Type B)	33
Annex 2 (normative)	Noise test	38
1	Noise measuring chamber	38
2	Noise measuring instrument	38
3	Noise measuring method	38
Annex 3 (informative)	Simple calculation method of cooling and heating load in a general house	41

Room air conditioners

Introduction This Japanese Industrial Standard includes the body (type A) of which specifications regarding safety performance are based on **JIS C 9612:1994**, and Annex 1 (type B) based on **JIS C 9335-2-40**, which was prepared in accordance with its corresponding International Standard.

1 Scope This Japanese Industrial Standard specifies room air conditioners of single-package type (compressor refrigerating unit, fans, etc. are accommodated in a cabinet) or split-system type (compressor refrigerating unit, fans, etc. are accommodated in two cabinets) with a rated cooling capacity not exceeding 10 kW and a rated cooling power consumption not exceeding 3 kW (hereafter referred to as "air conditioner") which carry out cooling (ones which also carry out heating are included), circulation of air and removal of dust for the purpose of comfortable air conditioning of rooms.

Remarks 1 Annex 1 specifies air conditioners (type B) which conform to the requirements of safety performance of **JIS C 9335-2-40**.

2 The text (type A) and Annex 1 (type B) are applied individually.

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

JIS B 8615-1 *Non-ducted air conditioners and heat pumps — Testing and rating for performance*

Remarks: This is the Japanese Industrial Standard prepared based on **ISO 5151** *Non-ducted air conditioners and heat pumps — Testing and rating for performance* published as the first edition in 1994 with some addition due to special circumstances in Japan.

JIS C 1502 *Sound level meters*

JIS C 3306 *Polyvinyl chloride insulated flexible cords*

JIS C 9335-2-40 *Safety of household and similar electrical appliance — Part 2: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers*

Remarks: This is the Japanese Industrial Standard prepared based on **IEC 60335-2-40** *Part 2: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers* published as the third edition in 1995 with some addition due to special circumstances in Japan.

JIS K 5400 *Testing methods for paints*

JIS K 8116 *Ammonium chloride*

JIS S 6006 *Pencils and coloured pencils*

JIS Z 8731 *Methods of measurement and description of A-weighted sound pressure level*

3 Definitions For the purposes of this Standard the following principal definitions apply.

- a) **cooling capacity** The heat quantity which can be removed from the room per unit time when an air conditioner is operated for cooling. It is expressed in kW. There are the rated cooling capacity and the rated middle cooling capacity in the rated capacity when the air conditioner is operated for cooling

Remarks: The rated middle cooling capacity shall be determined in the range of $1/2 \pm 0.1$ kW of the rated cooling capacity and applied only to the rotation number control type air conditioner.

- b) **cooling power consumption** The total sum of electric power consumed by an air conditioner when the air conditioner is operated for cooling. There are the rated cooling power consumption and the rated middle cooling power consumption in the rated power consumption when the air conditioner is operated for cooling

Remarks: The rated middle cooling power consumption is applied only to the rotation number control type air conditioners.

- c) **heat pump** A refrigerating system which absorbs heat from air or water at low temperatures and discharges the heat in a room to raise the temperature of air in the room. This action is achieved by changeover of the refrigerant circuit from cooling run to heating run.

- d) **heating capacity** The heat quantity which can be introduced into a room per unit time when an air conditioner is operated for heating. It is expressed in kW. There are the rated standard heating capacity, the rated standard middle heating capacity and the rated minimum heating capacity in the rated capacity when the air conditioner is operated for heating.

Remarks: When the air conditioner has only heating function by heat pump, this capacity is also called heat-pump heating capacity. The rated standard middle heating capacity shall be determined in the range of $1/2 \pm 0.1$ kW of the rated standard heating capacity and applied only to the rotation number control type air conditioners.

- e) **heating power consumption** The total sum of electric power consumed by an air conditioner when the air conditioner is operated for heating. There are the rated standard heating power consumption, the rated standard middle heating power consumption and the rated standard minimum heating power consumption in the rated power consumption when the air conditioner is operated for heating.

Remarks: When the air conditioner has only heating function by heat pump, this consumption is also called heat-pump heating power consumption. The rated standard middle heating power consumption is applied only to the rotation number control type air conditioners.

- f) **performance factor** This is the generic name of cooling performance factor and heating performance factor. The cooling performance factor is the cooling capacity divided by the cooling power consumption, and heating performance factor is the standard heating capacity divided by the standard heating power consumption.

- g) **main electric heater** The electric heater provided in an air conditioner (including the one which is attachable in future) which performs heating by the electric heater only or by the heat pump and the electric heater which are changed over by a temperature switch (which operates according to the indoor temperature, outdoor temperature, outdoor water temperature, etc.) or the like.

- h) **supplementary electric heater** The electric heater which performs heating together with the heat pump (including the one which is attachable in future).
- i) **temperature limiter** A device which opens the circuit automatically or controls the temperature of appliance or a part of appliance at a fixed actuation setting when abnormal temperature rise occurs (including thermal fuses).
- j) **overload release** A device which, to protect the motor from burning, automatically opens or closes the relevant circuit at a fixed actuation setting, when the current or load increases abnormally.
- k) **thermostat** A device which is sensitive to temperature and serves to keep the temperature of air conditioner or a part of air conditioner within certain limits during normal operation by controlling the current of circuit by automatic opening and closing of the circuit, and the operating temperature of which is adjustable or fixed.
- l) **rotation number control type air conditioner** An air conditioner which is capable of changing the rotation number of a compressor by 3 or more stages or continuously in a fixed range according to the magnitude of the load.

4 Classification Air conditioners shall be classified, according to the function, configuration of unit, cooling system, rated cooling capacity and rated heating capacity, as given below.

a) **Classification by function**

- 1) Cooling only
- 2) Cooling and heating (by heat pump, and by supplementary electric heater and heat pump) ⁽¹⁾ ⁽²⁾
- 3) Cooling and heating by main electric heater

Notes ⁽¹⁾ Including such ones that the main electric heater changes over to supplementary electric heater used together with heat pump.

⁽²⁾ When the heating is done by heat pump only, this may be called "cooling and heat-pump heating", or "heat pump type".

b) **Classification by unit configuration**

- 1) Single-package type
- 2) Split-system type

c) **Classification by cooling system of condenser (in cooling operation)**

- 1) Air-cooled type
- 2) Water-cooled type

d) **Classification by rated cooling capacity (kW)**

1.0	1.1	1.2	1.4	1.6	1.8	2.0	2.2	2.5	2.8
3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	9.0
10.0									

e) **Classification by rated standard heating capacity (kW)**

1.6	1.8	2.0	2.2	2.5	2.8	3.0	3.2	3.4	3.6
3.8	4.0	4.2	4.5	4.8	5.0	5.3	5.6	6.0	6.3
6.7	7.1	7.5	8.0	8.5	9.0	9.5	10.0	10.6	11.2
11.8	12.5	13.2	14.0	15.0	16.0	17.0	18.0		

- f) **Classification by rated minimum heating capacity (kW)** The air conditioners shall be classified in the unit of 0.1 kW.

5 Rated voltage and rated frequency The rated voltage of an air conditioner shall be single phase a.c. 300 V or under, or three phases a.c. 300 V or under, and the rated frequency shall be 50 Hz, 60 Hz, or 50 Hz and 60 Hz (common).

6 Operational performances

6.1 Leakage of refrigerant There shall be no leakage of refrigerant in every part of the refrigerant circuit when leakage of refrigerant is examined in accordance with the method of 8.1.2.

6.2 Cooling capacity The cooling capacity shall be not less than 95 % of the rated cooling capacity marked on the appliance body when the test is carried out in accordance with the method of 8.1.3.

6.3 Cooling power consumption The cooling power consumption shall be not more than 110 % of the rated cooling power consumption marked on the appliance body when the test is carried out in accordance with the method of 8.1.4.

6.4 Heating capacity The heating capacity shall be not less than 95 % of the rated heating capacity marked on the appliance body when the test is carried out in accordance with the method of 8.1.5.

6.5 Heating power consumption The heating power consumption shall be not more than 110 % of the rated heating power consumption marked on the appliance body when the test is carried out in accordance with the method of 8.1.6.

6.6 Power consumption of electric heater When an air conditioner equipped with electric heater is subjected to the test of 8.1.7, the power consumption of electric heater for each item in 8.1.7 shall be such that the measured power shall fall within the tolerance of + 20 % or under of each rated power consumption, for air conditioners with electric heater of rated power-consumption marked on the appliance body up to and including 20 W, ± 15 % for over 20 W up to and including 100 W, ± 10 % for over 100 W up to and including 1 kW and +5 / -10 % for over 1 kW.

6.7 Maximum cooling performance When the test is carried out in accordance with the method of 8.1.8, the maximum cooling performance shall comply with the provision of 4.2 of JIS B 8615-1.

6.8 Minimum cooling performance When the test is carried out in accordance with the method of 8.1.9, the minimum cooling performance shall comply with the provision of 4.3 of JIS B 8615-1.

6.9 Enclosure sweat and condensate disposal When the test is carried out in accordance with the method of 8.1.10, the enclosure sweat and condensate disposal shall comply with the provision of 4.4 of JIS B 8615-1. The insulation resistance immediately after this test shall be not less than 1 M Ω and the dielectric withstand voltage shall comply with the provision of 7.3.

6.10 Freeze-up property The freeze-up property shall comply with the following requirements.

- a) **Air blockage** When the test is carried out in accordance with the method of 8.1.11 a), the air blockage shall comply with the provision of 4.5 of JIS B 8615-1.
- b) **Drip** When the test is carried out in accordance with the method of 8.1.11 b), the drip shall comply with the provision of 4.5 of JIS B 8615-1.

6.11 Maximum heating performance When the test is carried out in accordance with the method of 8.1.12, the maximum heating performance shall comply with the provision of 5.2 of JIS B 8615-1. However, the supplementary electric heater may stop its operation.

6.12 Automatic defrost performance The automatic defrosting is made by performing heat-pump heating utilizing air as the heat source. When the test is carried out in accordance with the method of 8.1.13, an air conditioner provided with automatic defrosting device shall comply with the provision of 5.4 of JIS B 8615-1.

6.13 Noise When the test is carried out in accordance with the method of 8.1.14, the noise shall not exceed the appropriate value given in Table 1 and shall not exceed + 3 dB to the rated noise designated.

Table 1 Noise

Unit: dB

Rated cooling capacity (kW)	Room side	Outdoor side	
		Single-package type	Split-system type
Up to and including 2.5	50	55	50
2.8 or over up to and including 4.0	55	60	55
4.5 or over	60	65	60

7 Safety performance

7.1 Temperature When the test is carried out in accordance with the method of 8.2.1, the temperatures of various parts during the cooling operation and heating operation shall not exceed the relevant values given in Table 2, and no abnormal heat shall generate in other parts. However, when the tests of 8.2.1 b) and c) are carried out, the temperature of easily accessible part of enclosure in Table 2 (excluding protective frame of heat generating part and outlet of hot air) shall not exceed 125 °C, and the temperature of the surface of wooden base on which the specimen is placed shall not exceed 80 °C.

Table 2 Limits of temperature

Unit: °C

Measurement point			Temperature
Winding	Hermetic compressor motor	Synthetic resin insulation	140
		Other insulation	130
	Others	Class A insulation	100
		Class E insulation	115
		Class B insulation	125 (120)
		Class F insulation	150 (140)
		Class H insulation	170 (165)
Enclosure of motor		150	
Rectifier (only that used in power supply circuit)	Made of selenium	75	
	Made of germanium	60	
	Made of silicon	135	
Contact of fuse clip and fuse		90	
Handle operated by a man during service	Made of metal, ceramics or glass	55	
	Made of others	70	
Knob of switch and push button	Made of metal, ceramics or glass	60	
	Made of others	75	
Enclosure	Touched by a man in service	Made of metal, ceramics or glass	55
		Made of others	70
	Easily accessed by a man (excluding protective frame of heat generating part and hot air outlet)	Made of metal, ceramics or glass	85
		Made of others	100
	Not easily accessed by a man		100
	Surface of wooden base on which specimen is placed		95

Remarks: The numerical values in parentheses apply to winding of rotating machine.

7.2 Insulation resistance The insulation resistance shall be not less than 1 MΩ when the test is carried out in accordance with the method of 8.2.2.

7.3 Dielectric withstand voltage The air conditioner shall withstand the test voltage when the test is carried out in accordance with the method of 8.2.3.

7.4 Starting current When the test is carried out in accordance with the method of 8.2.4, the starting current of single-phase air conditioner shall not exceed that marked as specified in 11. If there is no marking, the starting current shall not exceed 45 A in the case of single phase 100 V and 60 A in the case of single phase 200 V.

7.5 Insulation performance under water spray The insulation performance under water spray shall be such that the insulation resistance is 1 MΩ or more and the dielectric withstand voltage complies with the provision of 7.3, when the test is carried out on the part of an air conditioner protruding outdoors in accordance with the method of 8.2.5.

7.6 Abnormality When the test for abnormalities is carried out as given in 8.2.6, there shall be no mechanical damage which may result in risks of fire or electric shock, or may impair safety in other ways, the following items shall be complied with, the insulation resistance after the test shall be not less than 0.1 MΩ, and the dielectric withstand voltage shall comply with the provision of 7.3.

- a) When an air conditioner for cooling only is subjected to the test of 8.2.6 a), temperatures of enclosure surfaces of fan motor and compressor shall not exceed 150 °C and temperature of the winding shall not exceed the appropriate value given in Table 3.

Table 3 Limits of temperature

Unit: °C

Kind of protective device for fan motor		Class of winding insulation				
		A	E	B	F	H
Protected by impedance		150	165	175	190	210
Equipped with protective device	First one hour (maximum value)	200	215	225	240	260
	After one hour (maximum value)	175	190	200	215	235
	After one hour (arithmetic mean value)	150	165	175	190	210

- b) When an air conditioner for cooling and heating is subjected to the test of 8.2.6 b), temperatures of enclosure surfaces of fan motor and compressor shall not exceed 150°C and temperature of the winding shall not exceed the appropriate value given in Table 3.
- c) When an air conditioner for cooling and heating equipped with a supplementary electric heater is subjected to the test of 8.2.6 b), it shall comply with the provision of the above b), and when it is subjected to the test of 8.2.6 c), temperatures at the surface of air conditioner enclosure (excluding the protective frame of heat generating part and hot air outlet) and at the surface of wooden base shall not exceed 150°C.
- d) When an air conditioner for cooling and heating by electric heater is subjected to the test of 8.2.6 a), it shall comply with the provision of the above a), and when it is subjected to the test of 8.2.6 d), temperatures at the surface of air conditioner enclosure (excluding the protective frame of heat generating part and hot air outlet) and at the surface of wooden base shall not exceed 150°C.

7.7 Construction

7.7.1 Construction in general The construction shall comply with the following requirements.

- a) The air conditioners shall be so constructed that there is no risks of hazards under normal service conditions, the shape is correct, assembling is done well, and the operation is smooth.
- b) If a remote control is provided, closing of the circuit shall be impossible by other means than operation of the switch on the body or the remote controller.
- c) An appliance which is placed on the floor for service without installation work and piping work, having a mass of body not exceeding 40 kg shall not fall over when inclined through an angle of 10° (15° for appliance equipped with electric heater) under normal service conditions. If an appliance does not tumble when a force of 100 N is applied to every position of the body (excluding the bottom face), such a case is an exception.
- d) An appliance which serves being mounted on a structural member, shall be capable of being mounted easily and surely.
- e) The part of metallic cover or box which arc may reach when the switch is opened or closed shall be lined with arc resistant electric insulating materials.
- f) Adequate moisture proof treatment shall be applied to the part whose moisture absorption may result in such risks as burning of components and exposure of live parts.
- g) Accessible movable parts under normal use shall be equipped with a suitable protective frame or protective net so as to prevent easy access. However, the movable parts exposure of which is unavoidable due to their function or the movable part having no possibility to cause danger such as electric shock and injury, if accessed by a man, are exempted from the above requirements.
- h) When attaching or detaching a part of the appliance body, such operations shall be capable of being carried out easily, surely and safely.
- i) For switches operated by the user, the opening and closing operations, or open and closed states of the switch shall be marked on an easily visible place by means of letters, symbols or colors. If it is difficult to mark, such a case is an exception.
- j) The enclosure shall not cause fissures, cracks, or other abnormalities which result in such danger as electrical shock and fire when a weight of 0.25 kg in mass, with its spherical surface of 10 mm radius finished with polyamide having Rockwell hardness HR R100 is dropped vertically from the height of 20 cm once or when an impact force of $0.5 \text{ N} \cdot \text{m} \pm 0.05 \text{ N} \cdot \text{m}$ is applied once with the impact testing apparatus given in Attached Fig. 1.

However, the indicator lamp, fuse holder or the like exposed on the outside of appliance body and their protective cover, each of which has a surface area not exceeding 4 cm^2 , and does not project by 10 mm or more from the surface of appliance body, are excluded.

- k) The controller separated from the appliance body (excluding ones which are fixed to a wall or pillar in normal service conditions) shall not result in risks of electric shock, fire, etc. when dropped on the center of lauan plate of 30 mm thick with flat surface placed on a concrete floor from a height of 70 cm three times.
- l) The portion of appliance where the peak voltage between live parts of different polarity or between live parts and accessible dead metal parts exceeds 600 V shall be indelibly marked with "Caution High Voltage!!" or the like, in the vicinity or on the enclosure.

- m) As for the appliance having plastic enclosure (with exception of plastic enclosure requiring either translucency or transparency or that requiring flexibility, mechanical strength, etc. due to its function), a flat square part of enclosure having an area of at least 9 cm² (if there is no flat square part not less than 9 cm², a square test piece of side length 3 cm in the original thickness of the enclosure) shall be inclined at an angle of roughly 45° to the horizontal plane, and the tip of a flame approximately 20 mm long produced by a 0.5 mm nozzle gas burner whose air inlet is shut off shall be applied to the central part of the square part (specimen) vertically from the bottom for 5 s. The specimen shall not burn after the flame removed.
- n) When a circuit containing electronic tubes, capacitors, semiconductor elements, resistors or the like, is subjected to the following test, the component connected to that circuit shall not burn. However, when there is no possibility of burning of other parts even if a component connected to the circuit burns, such a case is an exception.
- 1) For electron tubes, display lamps, etc., the heater or filament shall be opened, and for other components the terminals shall be short-circuited. [Excluding the case where the provision of 7.7.1 b) is complied with. This applies to each item in n)].
 - 2) For capacitors, transformers, coils or the similar components used in the secondary circuit of an insulating transformer or in a rectified circuit, the terminals shall be short-circuited or opened.
 - 3) For semiconductor elements (excluding thermistors of positive characteristic), the terminals shall be short-circuited or opened.
 - 4) For resistors and thermistors of positive characteristic, the terminals shall be opened, or short-circuited if the peak voltage across the terminals exceeds 2.5 kV.
 - 5) The insulation resistance measured by a d.c. 500 V insulation resistance tester between the live parts and dead metal parts liable to be earthed, or the surface of accessible dead metal parts, when the circuit is shorted or opened in the tests of 1), 2), 3) and 4), shall be not less than 0.1 MΩ. If the live parts are not exceeding 30 V for a.c. or 45 V for d.c. in the voltage to earth and the voltage between lines, or if neither the current flowing through the 1 kΩ resistor connected between the live parts and the earth, nor that connected between the lines exceed 1 mA (excluding such a case that the frequency is not less than power frequency and there is no risk of electric shock), such a case is an exception.
- o) The heat reserving material, heat insulating material, etc. to be filled in the vicinity of electric apparatus (less than 50 mm) shall be flame retardant ones. If burning of the heat reserving material, heat insulating material, etc. does not result in risks of electric shock or fire, such a case is an exception.
- p) The air conditioner shall operate safely without remarkable vibration and noise during its service.
- q) The compressor motor and a motor with a rated output exceeding 0.2 kW shall be equipped with overload release to prevent burning of motor.
- r) An air conditioner which performs heating and humidification by electric heater shall have such construction that the electric heating circuit cannot be closed under