

# JIS

**JAPANESE INDUSTRIAL STANDARD**

**Microwave ovens**

Ⓒ JIS C 9250—1992

**Translated and Published**

**by**

**Japanese Standards Association**

In the event of any doubt arising,  
the original Standard in Japanese is to be final authority.



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Microwave ovens

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# 1. Scope

This Japanese Industrial Standard specifies microwave ovens of rated high-frequency output not exceeding 2 kW and those incorporating additional devices (hereafter referred to as "ovens") for heating food stuffs by electromagnetic energy of a frequency band 2450 MHz (hereafter referred to as "microwave").

This Standard is not applicable to combination ovens which also use gas or other heat sources.

Remarks 1. The following Standards are cited in this Standard:

- JIS C 0602 General rules of color identification for protective conductor and neutral conductor and terminal marking for apparatus
- JIS C 1102 Electrical indicating instruments
- JIS C 1302 Insulation resistance testers (Battery operated)
- JIS C 2520 Wires and rolled wires for electrical heating
- JIS C 3301 Rubber insulated flexible cords
- JIS C 3306 Polyvinyl chloride insulated flexible cords
- JIS C 3327 600 V rubber insulated flexible cables
- JIS C 4505 Sensitive switches
- JIS C 8303 Plugs and receptacles for domestic and similar general use
- JIS C 8304 Small switches for indoor use
- JIS H 4461 Tungsten wires for lighting and electronic equipments
- JIS K 5400 Testing methods for paints
- JIS K 7202 Method of Rockwell hardness test for plastics
- JIS R 3503 Glass apparatus for chemical analysis
- JIS S 6006 Pencils and coloured pencils

2. The Corresponding International Standards to this Standard are shown below.

IEC 335-1: 1991 Safety of household and similar electrical appliances. Part 1: General requirements

IEC 335-2-6: 1986 Safety of household and similar electrical appliances. Part 2: Particular requirements for cooking ranges, cooking tables, ovens and similar appliances for household use

IEC 335-2-25: 1988 Safety of household and similar electrical appliances. Part 2: Particular requirements for microwave ovens

IEC 705: 1988 Methods for measuring the performance of microwave cooking appliances for household and similar purposes

3. The units and numerical values given in{ } in this Standard are based on the traditional unit system and are appended for Informative reference.

## 2. Definitions

For the purposes of this Standard, the following definitions shall apply:

- (1) body Whole apparatus including a heating chamber, a microwave generating device and a control device as well as additional devices but not including the power supply cord or cable.
- (2) heating chamber Chamber for heating the food stuffs laid in it by a microwave generating device, and other additional devices.
- (3) tray Flatware or stand for holding food stuffs to be heated by microwave generating device, and other additional devices.
- (4) additional device A device added to an oven for the purpose of expansion of cooking category or of effective cooking by combination with the microwave generating device. It means an electric heating device and a steam generating device.
- (5) electric heating device Device equipped with heating element used to heat food stuffs directly or indirectly.

Remarks: The electric heating device includes, besides an independent heater and cooker, the one which performs grill function supplementing microwave heating, such as making scorched pattern, etc.

- (6) steam generating device Device for heating the food stuffs by steam.
- (7) short-time high-output function A function by which a microwave output larger than the output when the temperature at each part stabilizes, can be exerted for a short period of time immediately after start of operation or the like. This function shall be maintained at least one minute.

### 3. Classification

Ovens shall be classified into the following two kinds:

- (1) Oven only for microwave heating
- (2) Oven incorporating an additional device to (1)

Remarks: Oven incorporating an electric heating device in the above (2) is classified functionally as follows:

- (a) Oven whose electric heating device performs the oven function.
- (b) Oven whose electric heating device performs the grill function as a support to microwave heating.
- (c) Oven whose electric heating device performs both the oven function and the grill function.

### 4. Rating

4.1 Rated voltage Rated voltage of oven shall be single phase or three phase a.c. 300 V or less.

4.2 Rated frequency The rated frequency shall be 50 Hz, 60 Hz and 50/60 Hz in common.

#### 4.3 Rated power consumption

4.3.1 Rated power consumption at microwave heating Rated power consumption at microwave heating shall be the power consumption under the working condition at microwave heating applying the rated voltage and rated frequency. In the case of the oven equipped with output changeover, rated power consumption at microwave heating shall be power consumption at the time when changeover is so made that high-frequency output becomes maximum.

It means the power consumption when the short-time high-power function, if provided, is in operation.

4.3.2 Rated power consumption at electric heating Rated power consumption at electric heating shall be the power consumption under the working condition of electric heating while the rated voltage and rated frequency are applied. However, in the case of the oven integral with the steam generating device, when its power consumption at steam heating turns out greater than the rated power consumption at electric heating, the power consumption at steam heating shall be deemed as the rated power consumption at electric heating.

In the case of the oven equipped with heating changeover, rated power consumption at electric heating shall be the power consumption at the time when changeover is so made as to maximize power consumption.

**4.3.3 Rated power consumption of electric heating device** Rated power consumption of electric heating device shall be the power consumption of heating element under the working condition while the rated voltage and rated frequency are applied. However, as for the oven incorporating a steam generating device, when the power consumption of heating element of steam generating device at steam heating is larger than the rated power consumption of electric heating device, the power consumption of heating element of steam generating device shall be deemed as the rated power consumption of electric heating device.

**4.4 Rated microwave output** Rated microwave output shall be microwave output under the working condition at microwave heating while the rated voltage and rated frequency are applied. In the case of oven equipped with output changeover, the rated microwave output shall be the microwave output when changeover is so made as to maximize microwave output.

As to ovens equipped with short-time high-output functions, the maximum output when oscillator continues the operation without a break shall be the rated continuous microwave output.

## 5. Performances

**5.1 Voltage fluctuation characteristic** When the voltage fluctuation characteristic test is carried out according to the method of 8.2.2, the specimen shall operate without any trouble.

**5.2 Power consumption** When the power consumption test is carried out according to the method of 8.2.3, the power consumption shall fall within the tolerance given in Table 1 correlating with the rated power consumption.

Table 1. Tolerance

Classification	Rated power consumption W	Tolerance %
Rated power consumption of electric heating device, if incorporated	$P \leq 20$	+ 20
	$20 < P \leq 100$	$\pm 15^{(+15)}_{(-20)}$
	$100 < P \leq 1000$	$\pm 10^{(+10)}_{(-15)}$
	$1000 < P$	+ 5(+ 5) - 10(-12)
Rated power consumption at microwave heating and at electric heating	$P \leq 1000$	$\pm 15$
	$1000 < P$	$\pm 10$

Remarks: The values in parentheses are applicable in such a case that a thyristor or the like is connected in series to the heating element.