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JAPANESE INDUSTRIAL STANDARD

**Double sizers —
Test and inspection methods**

JIS B 6596—1991

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In the event of any doubt arising,
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Double sizers - Test and inspection methods

B 6596-1991

1. Scope

This Japanese Industrial Standard specifies the test methods relating to the functions, running performances and rigidities and inspection methods on static accuracies and machining accuracies of the double sizers of 950 mm or over to 3350 mm or under in the maximum interval of circular saws.

Remarks 1. The double sizer means the machine which cuts ply woods and the like, feeding these automatically, into the prescribed dimensions mainly by two of circular saws.

In many cases, two sets are combined to cut into the prescribed longitudinal and lateral dimensions (See JIS B 0114).

2. The applicable standards to this Standard are as given in the following:

JIS B 0114-Glossary of terms for wood working machinery

JIS B 6507-General code of safety for wood working machinery

JIS B 6521-Methods of measurement for noise emitted by wood working machinery

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

2. Functional test methods

The functional tests of the double size shall be in accordance with Table 1.

Table 1. Functional tests

No.	Test item	Test method
1	Electric equipment	Before and after running the test, examine insulating conditions once each.
2	Start, stop and running operation of left and right main spindles	At an appropriate rotational speed of main spindle, carry out 10 times of start and stop repeatedly to examine the smoothness and reliability of actions.
3	Changing operation of rotational speeds of left and right main spindles	Change the rotational speeds of main spindle on overall speeds of rotation of the marking to examine the smoothness of the actions and the reliability of the indications of the operating device.

Table 1. (Continued)

No.	Test item	Test method
4	Start, stop and running operation of feed device	At an appropriate feed speed, carry out 10 times of start and stop repeatedly to examine the smoothness and reliability of actions.
5	Changing operation of feed speeds	Change the feed speeds on overall marked speeds, and, for that of variable speed type, on the three speeds of the minimum, intermediate and maximum, to examine the smoothness of actions and the reliability of indications of the operating device.
6	Operations of ascending and descending and clamping of main spindle and operation of automatic stop	Allow the main spindle to ascend and descend and examine the smoothness and uniformity of actions throughout the overall length of the motion, and examine, at the center and both ends of the motion, the reliability of clamping and the smoothness of the actions of the clamping device. In addition, at both ends of the motion, examine the smoothness and reliability of the actions of the automatic stopping device.
7	Attaching and detaching of circular saw	Examine the smoothness and reliability of the attaching and detaching of circular saw and clamping of the clamping screw.
8	Adjusting device of circular saw interval	Allow the travelling table of main spindle device to travel to examine its smoothness and reliability.
9	Pressurizing device	Examine the smoothness and reliability of function.
10	Safety device	Examine the safety function for workers and the reliability of the protective function for machine (See JIS B 6507).
11	Lubrication device	Examine the reliability of such functions as the oil-tightness and proper distribution of oil quantity.
12	Pneumatic device	Examine the reliability of such functions as the air-tightness and pressure regulation.
13	Accessories	Examine the reliability of functions.

Remarks: For the double sizer which is not provided with the said functions, test items corresponding to these in Table 1 shall be omitted.

3. Running test methods

3.1 No-load running test Allow the left and right spindles to rotate, continue running for 30 to 60 minutes, measure the required electric power and noise after bearing temperatures have been stabilized, record on each item specified in the Record Format 1 of Table 2, and, at the same time, observe that no abnormal vibration takes place by the sense of touch.

Furthermore, the measurement of the noise shall be in accordance with JIS B 6521.

Table 2. Recording format 1

No.	Time of measurement o'clock·minute		Rotational speed of spindle r/min {rpm}		Feed speed m/min	Bearing temperatures °C				Required electric power			dB (A)	Room temperature °C	Description
	Marked	Actually measured	Left	Right spindle		Left spindle	Voltage V	Current A	Input kW						
										Right	Left	Right			

Remarks 1. That is provided with the variable speed device of rotational speeds of left and right spindles, record shall be made on the rotational speeds of at least two conditions including the maximum rotational speed.

2. The measuring conditions of the noise shall be recorded in the description column.

3.2 Load running test Saw a test specimen, measure the required electric power and noise, record on each item specified in the Record Format 2 of Table 3, and at the same time, observe that no abnormal vibration takes place and the conditions of sawn section by the sense of touch.

The measurement of the required electric power shall be carried out by changing the thicknesses of test specimen at a definite feed speed or changing the feed speeds at a definite thickness of the test specimen.

Furthermore, the measurement of the noise shall be in accordance with JIS B 6521.

Table 3. Recording format 2

No.	Test specimen				Humidity	Tool						Sawing conditions				Required electric power					Noise	Description
	Dimension	Species of tree or type of wood			Moisture content %																	
		Length mm	Width mm	Thickness mm																		

Remarks 1. The cutting direction of test specimen, saw-way width and measuring conditions of noise shall be recorded in the description column.

2. As regards the tooth shape, main dimensions shall be filled in an illustration.

4. Rigidity test method

The rigidity test of the double sizer shall be in accordance with Table 4.

Table 4. Rigidity test

No.	Test item	Measuring method	Diagram for measuring method
1	Bending rigidity of main spindle system ⁽¹⁾	Apply a fixed indicator to the extreme end part (side face) of the spindle, apply the load (P) in the vertical direction of the spindle⁽²⁾, and measure the deflection of the main spindle. In this measurement, carry out applying the load in two directions vertical to each other.	

Note ⁽¹⁾ This measurement shall be carried out on the left and right spindles.

⁽²⁾ The position to which the load is applied should be the nearer position to the spindle end as far as possible, and the distance from the fixed end of the spindle shall be recorded.

- Remarks 1. The rigidity test of the machines of the same design shall be represented by the results of the test which has been carried out on a representative set, and the tests on others may also be omitted.
2. The magnitude of the load (P) shall be the recommended value by the manufacturer, and its value shall be recorded.
3. This measurement shall be carried out after the bearing temperatures have been stabilized, rotating the spindle.