


## TEST CERTIFICATE

We, hereby, verify that the under mentioned electrical product submitted to the test of our laboratory dated March 30, 2006 (Reception No. D05Y1209) is in compliance with the requirement of the test standard to be applied, as shown in the attached TEST REPORT (Ref. No. 06TR-Y0220).

Applicant (name & address)	A & D Company Limited  3-23-14 Higashi-Ikebukuro, Toshima-ku, Tokyo 170-0013 Japan
Name of product:	Dust & Waterproof Digital Scale
Model/Type Ref.:	FS-i Series
Rating and principal characteristics:	100-240V, 10W, 50-60Hz
Date of issue:	May 29 , 2006



Shoichi Mochizuki  
Director, Yokohama Laboratory  
Japan Electrical Safety & Environment  
Technology Laboratories (JET)

# TEST REPORT

Report reference No.: 06TR - Y0220

Date & No. of reception: March 30, 2006 (D05Y1209)

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3-23-14 Higashi-Ikebukuro, Toshima-ku,  
Tokyo 170-0013 Japan

Name of product: Dust & Waterproof Digital Scale

Model/Type Ref.: FS-i Series

Rating and principal characteristics: 100~240V, 10W, 50-60Hz

Test Standard: JIS C 0920:2003 (IEC 60529:2001)  
Degrees of protection provided by enclosures  
(IP Code)

Test Result: Approved

Date of issue: May 29, 2006



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Director, Yokohama Laboratory  
Japan Electrical Safety & Environment  
Technology Laboratories (JET)

## Testing Laboratory

### Japan Electrical Safety & Environment Technology Laboratories

- JET Tokyo Laboratory  
5-14-14 Yoyogi, Shibuya-ku, Tokyo, 151-8545 Japan
- JET Yokohama Laboratory  
1-12-30 Motomiya, Tsurumi-ku, Yokohama, 230-0004 Japan
- JET Kansai Laboratory  
3-9-1 Nakouji, Amagasaki-shi, Hyogo, 661-0974 Japan

Date of sample received: April 3, 2006

Date of test: April 25, 2006

Complied by (+ signature) : *I. Kanai*  
Ikuyo Kanai

Approved by (+ signature) : *R. Kobayashi*  
Ryoji Kobayashi

#### Possible test case verdicts:

- N (.A.) Test case does not apply to the test object
- P (ass) Test object does meet the requirement
- F (ail) Test object does not meet the requirement

#### General remarks

- The test results presented in this report relate only to the object tested.
- This report shall not be reproduced except in full without the written approval of JET

JIS C 0920:2003(IEC 60529:2001)			
Clause	Requirement Test	Result Remark	Verdict
11	<b>General requirements for the tests</b>		P
11.1	<b>Atmospheric conditions for water or dust tests</b>		
	Temperature range: 15°C to 35°C	24°C	—
	Relative humidity: 25% to 75%	43%	—
	Air pressure: 86 kPa to 106 kPa	986 kPa	—
11.2	<b>Test samples</b>		—
	The samples to be tested		
	- In a clean and new condition	New condition	—
	- The complete equipment	Complete equipment	—
	- Representative parts	Display	—
	- Smaller equipment having the same full-scale design	—	—
	- Number of samples to be tested	2 pcs (show as bellowing)	—
		• Dust test sample : 1pcs • Water protection test sample : 1pcs	—
- Conditions for mounting, assembling and positioning of samples	Keep main body in vertically condition	—	
- Pre-conditioning	Dust test: At back of body had taken Piping process for depressurization using  Water protection test: without	—	
- Whether to be tested energized or not	Without	—	

JIS C 0920:2003(IEC 60529:2001)			
Clause	Requirement Test	Result Remark	Verdict
	- Whether to be tested with its parts in motion or not	Without	-
<b>11.3</b>	<b>Application of test requirements and Interpretation of test results</b>		-
	Standard applied for the application of the general requirements for tests and the acceptance condition for equipment containing drain-holes or ventilation opening is the responsibility of "the relevant Technical Committee" or "this standard"	Without drain - holes and ventilation opening "This standard"	-
	Standard applied for the Interpretation of test results is the responsibility of "the relevant Technical Committee" or "this standard"	"This standard"	-
<b>11.4</b>	<b>Combination of test conditions for the first characteristic numeral</b>		-
	Table V applied	The first characteristic Numeral 6	-

JIS C 0920:2003(IEC 60529:2001)			
Clause	Requirement Test	Result Remark	Verdict
13	Tests for protection against solid foreign objects indicated by the first characteristic numeral		P
13.4	Dust test for characteristic numerals 5 and numerals 6 Use of dust chamber shown in Fig. 2	Using the dust chamber	- -
13.4A	Category 1 enclosures  - 2 hours (extraction rate: 40~60 volumes per hour)  - continued until 80 volumes have been drawn through or a period of 8 hours elapsed.	The test condition is appointed by Category 1 enclosures  -  8 hours	-  -  -
13.4B	Category 2 enclosures  - continued for a period of 8 hours	-	-  -
13.4C	Category 1 enclosures and Category 2 enclosures  If it is impracticable to test the complete enclosure in the test chamber, one of the following procedure shall be applied:  - Testing of individually enclosed sections of the enclosure.  - Testing of representative parts of the enclosure, in position during test. §1  - Testing of a smaller enclosure having the same full - scale design details. §1	Test sample is practicable to test the complete enclosure  -  -  -	-  -  -  -

JIS C 0920:2003(IEC 60529:2001)			
Clause	Requirement Test	Result Remark	Verdict
	*1 The volume of air to be drawn through the enclosure under test shall be the same as for the whole enclosure in full scale	—	—
13.6	Special conditions for first characteristic numeral 6		—
13.6.1	Special conditions for first characteristic numeral 6  - Category 1 applied	The test continued 8 h under reductions in pressure below 2kPa in testing sample..	—  —
13.6.2	Special conditions for first characteristic numeral 6  No deposit of dust is observable inside the enclosure at the end of the test	No deposit of talcum powder is observable inside the testing sample at the end of the test	P

JIS C 0920:2003(IEC 60529:2001)			
Clause	Requirement Test	Result Remark	Verdict

<b>14</b>	<b>Tests for protection against water indicated by the second characteristic numeral</b>		<b>P</b>
<b>14.1</b>	<b>Test means</b>  The test means and the main test conditions applied as in Table 8	Fig 6. (Using Standard hose nozzle)  The second characteristic is numeral 5	--  -
<b>14.2</b>	<b>Test conditions</b>  Tests performed according to sub-cl.14.2, the test method and main test which was given in Table 8  - Difference between water temperature and temperature of the specimen under test (the maximum is 5K)	    With in tolerance (no problem ) water temperature: 20°C Sample temperature: 24°C	--  --  --  --
<b>14.2.5</b>	<b>Test for second characteristic numeral 5 with 6.3 mm nozzle</b>  Tests performed according to sub-cl.14.2.5 and test with standard test nozzle.  - Internal diameter of nozzles: 6.3 mm - Delivery rate: 12.5 L ± 0.625L /min  - Water pressure: depending on delivery rate  - Core of the substantial stream: circle of approximately 40mm diameter at 2.5 m distance from nozzle	    6.3mm 12.5L  Adjusted to achieve the delivery rate  Ditto	--  --  --  --  --



JIS C 0920:2003(IEC 60529:2001)			
Clause	Requirement Test	Result Remark	Verdict
	- test duration per square metre of enclosure surface area likely. To be sprayed	Less than 1.0m <sup>2</sup>	-
	- Minimum test duration: 3 min	3 min	-
	- Distance from nozzle to enclosure surface: between 2.5m~3m	2.5m	-
<b>14.3</b>	<b>Acceptance conditions</b>		--
	sub clause 14.2.1~14.2.8	Test of sub clause 14.2.5	-
	Acceptance conditions applied as specified in sub clause 14.3 or the relevant product standard	Test conditions of sub clause 14.3	-
	<b>(Result)</b> Inspected for whether or not any ingress of water	No water entered	P
	If any water has entered, it shall not:	-	N
	- Be sufficient to interfere with the correct operation of the equipment or impair safety:	-	-
	- Deposit on insulation parts where it could lead to tracking along the creepage distances;	-	-
	- Reach live parts or windings not designed to operate when wet	-	-
	- Accumulate near the cable end or enter the cable but drain away when wet	-	-

JIS C 0920:2003(IEC 60529:2001)			
Clause	Requirement Test	Result Remark	Verdict
	- Accumulate the live part when water enters but drain away	—	—
	- If the enclosure is provided with drain holes when water enters it drain away	—	—
	- For enclosures without drain holes the relevant standard shall specify the acceptance condition.	—	—

Only the part of Display be tested

Test Sample: FSi Series

FS6Ki: (the size of Platform: 250mm x 250 mm) right in photo

FS30Ki: (the size of Platform: 380mm x 300 mm) left in photo

The Display of FS30Ki and FS6Ki are same.



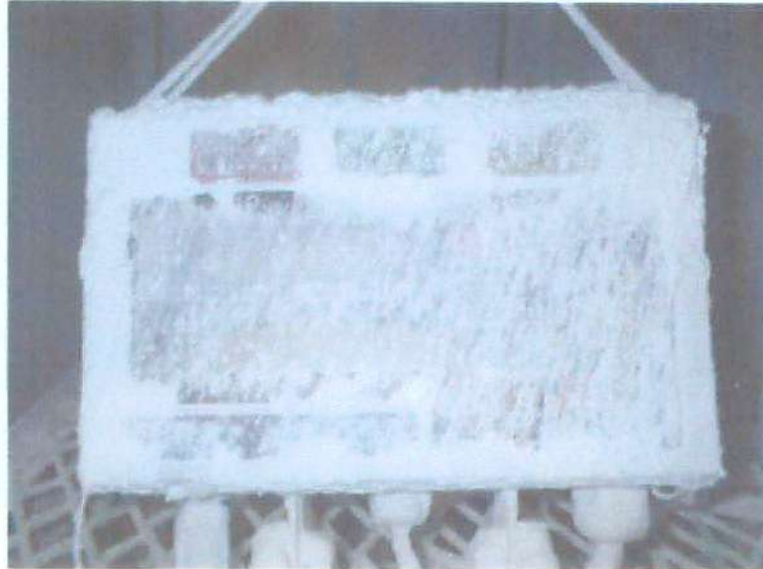
FS30Ki

FS6Ki

Before Dust Test



**After Dust Test**



**Tests of the Second Characteristic Number 5**

