NO.: TSTQ201504028-V1

Cooperation Partners

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Email: sales@agstech.net Web: http://www.agstech.net

Company Qualification

Haida Testing Machine corresponded to BIFMA X5.1 2011

BIFMA X 5.1 Standard Clause	Haida Applied Machine
5 Backrest Strength Test-Static-Type I	HD-F739 Chair Universal Tester
6 Backrest Strength Test-Static-Type II and III	HD-F739 Chair Universal Tester
7 Base Test-Static	HD-F733 Chair Base Tester
8 Drop Test-Dynamic	HD-F736 Chair Drop Tester
9 Swivel Test-Cyclic	HD-F731 Chair Swivel Tester
10 Tilt Mechanism Test-Cyclic	HD-F739 Chair Universal Tester
11 Seating Durability Tests-Cyclic	HD-F736 Chair Drop Tester
12 Stability Test	HD-F739 Chair Universal Tester
13 Arm Strength Test-Vertical-Static	HD-F739 Chair Universal Tester
14 Arm Strength Test-Horizontal-Static	HD-F739 Chair Universal Tester

15 Backrest Durability Test-Cyclic-Type I	HD-F739 Chair Universal Tester
16 Backrest Durability Test-Cyclic-Type II and Type III	HD-F739 Chair Universal Tester
17 Castor/Chair Base Durability Test-Cyclic	HD-F732 Chair Castor Durability Tester
18 Leg strength Test-Front and Side Application	HD-F735 Chair Arm and Leg Tester
19 Footrest Static Load Test-Vertical	HD-F739 Chair Universal Tester
20 Footrest Durability Test-Vertical-Cyclic	Not Applied
21 Arm Durability Test-Cyclic	HD-F735 Chair Arm and Leg Tester
22 Out Stop Tests for Chairs with Manually Adjustable Seat Depth	HD-F739 Chair Universal Tester
23 Tablet Arm Chair Static Load Test	HD-F739 Chair Universal Tester
24 Tablet Arm Chair Load Ease Test-Cyclic	HD-F739 Chair Universal Tester

Chair Testing Solution by BIFMA X 5.1 for Benithem

BIFMA X5.1 2011 clause 18

ANSI/BIFMA X5.1-2011

18 Leg Strength Test - Front and Side Application (See Figure 18a & 18b)

18.1 Applicability

This test applies to all chairs without pedestal bases.

18.2 Purpose of Test

The purpose of this test is to evaluate the ability of legs to withstand horizontal side and frontal forces.

BIFMA X5.1 2011 clause 21

21 Arm Durability Test - Cyclic (Figure 21a and 21b)

21.1 Purpose of test

The purpose of this test is to evaluate the ability of the chair armrests to withstand stresses that occur as a result of repetitive loading that can be imposed on the armrest structure. Loading of this type is the result of using the armrests as a support when getting into or out of the chair.

Haida Testing Solution:

HD-F735 Chair Arm and Leg Tester
Product Image

Electronic Actuater

(for reference only)

Tester Introduction:

Test rig for chair leg strength test according to BIFMA X 5.1 clause 18 and arm durability test

Test Procedure:

- BIFMA X 5.1 clause 18 (Front Load Test/ Side Load Test)

  1. Functional Load Test/ Proof Load Test

  A force of 334 N (75 lbf .) shall be applied once to each front leg individually for one(1) minute. Remove the force

  2. Proof Load Test

  Similar with functional load test, but the force is 503 N (113 lbf)

- BIFMA X 5.1 clause 21

Simultaneously apply a force of 400N (90 lbf.) to each arm initially at a 10 degrees ± 1 degree angle. The force shall be applied and removed for 60,000 cycles at a rate between 10 and 30 cycles per minute.

Consisting of:

BIFMA X5.1 2011 clause 7

ANSI/BIFMA X5.1-2011

7 Base Test - Static (See Figure 7)

7.1 Applicability

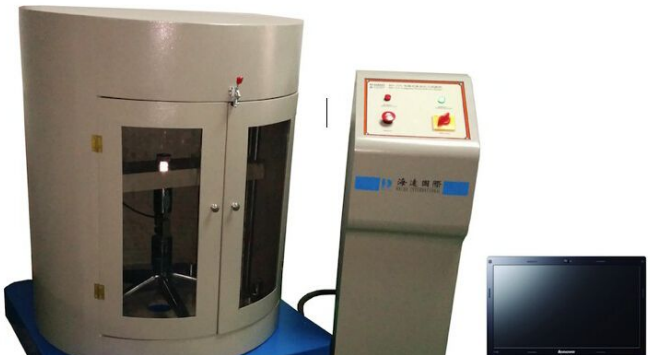
The test shall be performed on all pedestal bases.

7.2 Purpose of Test

The purpose of this test is to evaluate the ability of a pedestal base to withstand excessive vertical forces.

Haida Testing Solution:

HD-F733 Chair Base Tester
Product Image



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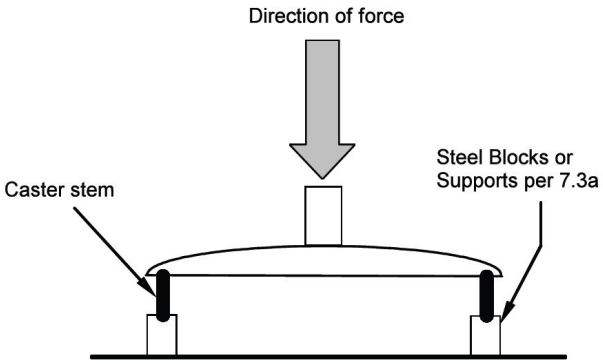


(For reference only)

The blocks or supports shall be of sufficient height to prevent the center column and/ or legs from touching the test platform during the test.

Tester Introduction:

Test rig for chair base test according to BIFMA X5.1 7th.

Test Procedure:

- A force of 11,120 N (2500 lbf.) shall be applied for one (1) minute.
- Remove the force
- Apply a second force of 11,120 N (2500 lbf.) for one (1) minute.
- Remove the load

Consisting of:

- 1 Computer with operation software
- Test parameters can be set in main interface; Time and elongation, elongation and force and others curve can be choose
- 800mm stroke including grip
- 1 TECSIS load cells 20 KN integrated in the axes

Parameters:

- Load resolution: 1/250,000
- Max sample width: 1000mm

BIFMA X5.1 2011 Clause 9

ANSI/BIFMA X5.1-2011

9 Swivel Test - Cyclic (See Figure 9)

9.1 Applicability

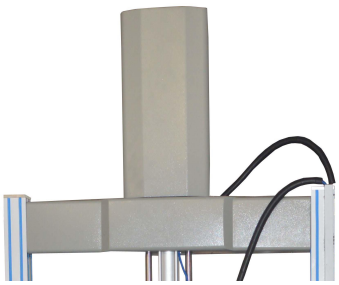
This test applies to all chair types with a swivel seat.

9.2 Purpose of Test

The purpose of this test is to evaluate the ability of the chair to withstand stresses and wear of repeated swiveling.

Haida Testing Solution:

HD-F731 Chair Swivel Tester
Product Image



Tester Introduction:

- Test rig for chair swivel test according to BIFMA X5.1 clause 9.
- To simulate people sit and rotate chair in daily use.

Test Procedure:

- The seat or platform shall rotate for 60,000 cycles at a rate between 5 and 15 rotations per minute.
- Adjust the seat height to its lowest position, repeat the above step

Consisting of:

- 800 mm rotary table diameter
- PLC and LCD touch screen display
- clockwise and counter-clockwise angle(45°to 355°) or 360°rotation single
- 113KG Weight by motor

Parameters:

- maximum seat diameter: 1000 mm
- Rotational speed : 5 to 20 cycles / minute
- Times setting: 0 ~ 999,999

17 Caster/Chair Base Durability Test - Cyclic (See Figures 17a through 17e)

17.1 Caster/Chair Base Durability Test for Pedestal Base Chairs

17.1.1 Applicability

This test applies to pedestal base chairs with casters.

17.1.2 Purpose of Test

The purpose of this test is to evaluate the ability of the chair base and casters to withstand fatigue stresses and wear caused by moving the chair back and forth.

17.2 Caster/Chair Frame Durability Test for Chairs with Legs

17.2.1 Applicability

This test applies to chairs with legs and casters. This test is not applicable to chairs with glide/caster combinations (i.e., those having two glides and two casters).

17.2.2 Purpose of Test

The purpose of this test is to evaluate the ability of the chair frame and casters to withstand fatigue stresses and wear caused by moving the chair back and forth.

Haida Testing Solution:

HD-F732 Chair Castor Durability Tester

Product image

(For reference only)

Tester Introduction:

- Test rig for Castor/Chair Base Durability Test-cyclic according to BIFMA X5.1 2001 clause 17. 1 and clause 17.2
- Test rig is suitable for Pedestal Base Chair and Chairs with legs and castors

Test Procedure:

The Chair or Chair base shall be cycled 2000 cycles over the obstacles and then 98000 cycles on a smooth, hard surface without obstacles.

Consisting of:

- Holder with the up and down adjustment range: 80mm ~ 500mm
- PLC and LCD touch screen display
- Base barriers block (It can be removed, for smoothing the surface accessibility block test)
- 1 accessories: overall test weight 113kg

Parameters:

- Stroke: 762mm (+ 50mm)

8 Drop Test - Dynamic (See Figure 8)

8.1 Applicability

This test applies to all chair types.

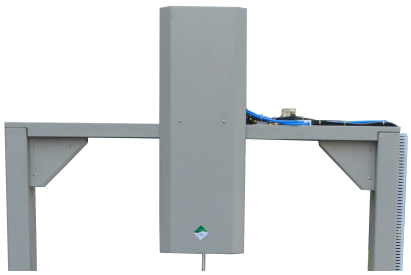
8.2 Purpose of Test

The purpose of this test is to evaluate the ability of the chair to withstand heavy and abusive impact forces on the seat.

11.3 Impact Test

Haida Testing Solution:

HD-F736 Chair Drop Tester
Product Image



(For reference only)

Tester Introduction:

- Test rig for chair drop test according to BIFMA X5.1 2001 Clause 8 & Clause 11.3.
- To evaluate Chair to withstand fatigue stresses and wear caused by free fall

Test Procedure:

BIFMA X5.1 2001 Clause 8

- **Functional Load Test**

  a) A test bag weighing 102 kg (225 lb.) shall be raised 152 mm (6 in.) above the uncompressed seat and released one time.

  b) Remove the bag.

  c) For chairs with seat height adjustment features, set height to its lowest position and repeat a) and b).

- **Proof Load Test** (Similar with Functional Load Test, but the force is 136 kg (300 lb).)

BIFMA X5.1 2001 Clause 11.3

The chair shall be tested to 10,000 times

BIFMA X 5.1 clause 5,6
Backrest Strength Test- Static-Type I / Type II &III

BIFMA X 5.1 clause 10
Tilt Mechanism Test- Cyclic

BIFMA X 5.1 clause 12
Stability Test

BIFMA X 5.1 clause 13,14
Arm Strength Test – Vertical- Static/ Horizontal- Static

BIFMA X 5.1 clause 15,16
Backrest Durability Test – Cyclic – Type I / Type II and III

BIFMA X 5.1 clause 19
Footrest Static Load Test – Vertical

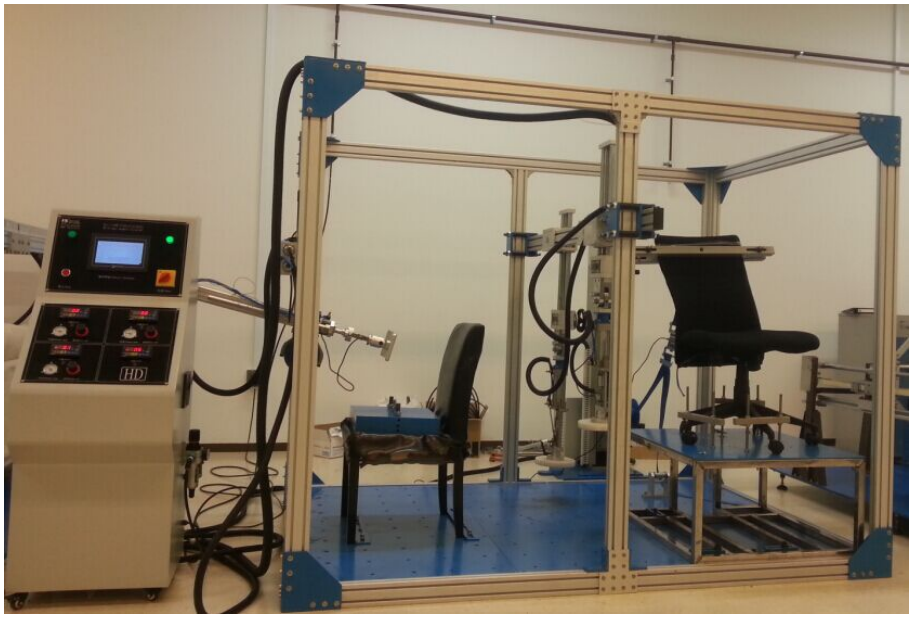
BIFMA X 5.1 clause 22
Tablet Arm Chair Static Load Test

BIFMA X 5.1 clause 23
Tablet Arm Chair Static Load Test

BIFMA X 5.1 clause 24
Tablet Arm Chair Load Ease Test

Haida Testing Solution:

HD-F739 Chair Universal Tester
Product Image (reference only)



Electronic actuator

(For reference only)

Tester Introduction:

- Test rig for chair strength and arm, backrest, footrest test according to BIFMA X5.1 2001 Clause 5,6,10,12,13,14,15,16,19,23,24.

Test Procedure:

See attachment (BIFMA X 5.1 standard)

Consist of:

- TECSIS Load Cell(maximum capacity 200Kg)
- Programmable logic controller, touch screen interface
- All accessories needed for the above mentioned test include the weight and fixtures
- One servo motor control pulley & belt system
- The machine with four base to fix when do the test, but it also with wheel can move around

Parameters:

Foam Testing Solution By ASTM D 3574 for Benithem

ASTM D 3574 TEST I_3

TEST I_3 —DYNAMIC FATIGUE TEST BY CONSTANT FORCE POUNDING

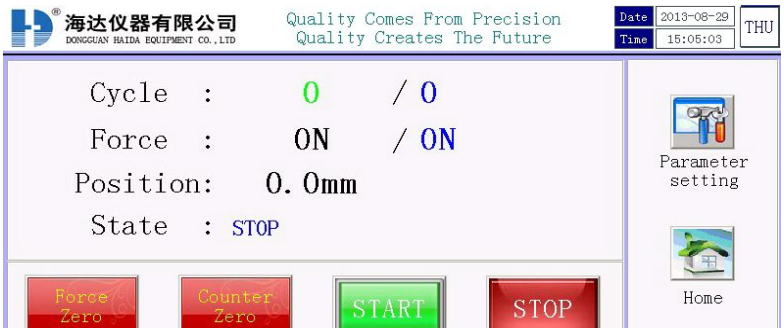
95. Scope

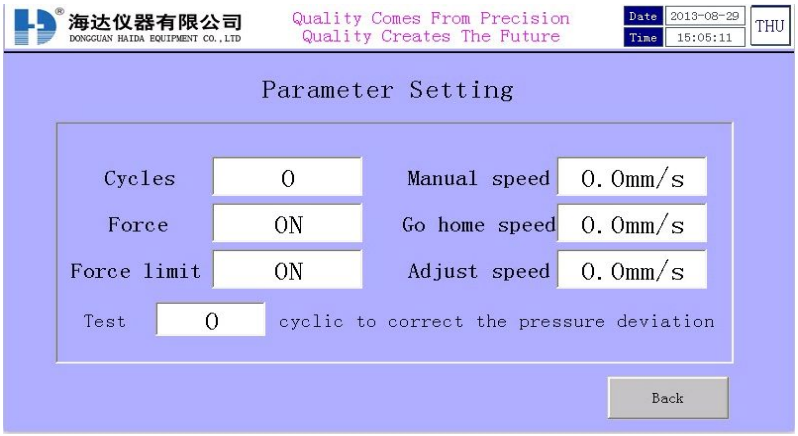
95.1 The purpose of the fatigue test is to determine: (*1*) the loss of force support at 40 % IFD (indentation force deflection), (*2*) a loss in thickness, and (*3*) structural breakdown as assessed by visual inspection. Deflections other than 40 % may be used as agreed upon between supplier and purchaser.

Haida Testing Solution:

HD-F750-2 Foam Fatigue Tester

Product image





(For reference only)

Tester Introduction:

Test rig for foam durability test according to ASTM D 3574 Test I_3.

Test Procedure:

Mount the specimen on the base platen. Set the counter to zero, start the machine, and fatigue the test specimen for either 8000 cycles (Procedure A) or 80 000 cycles (Procedure B)

Consist of:

- 6 digits cycle counter for test cycle setting
- LCD touch screen
- 250 mm± 1 mm with a 25 mm± 1 mm radius at its lower edge

Parameters:

- Max capacity: 6mm
- Plane plate: Holes diameter 6mm, space 20mm
- Speed: (70 ± 5) times per minute.(adjustable)
- Additional function: Adjust the test position during testing to compensate the force automatically

TEST B_1 —INDENTATION FORCE DEFLECTION TEST—SPECIFIED DEFLECTION

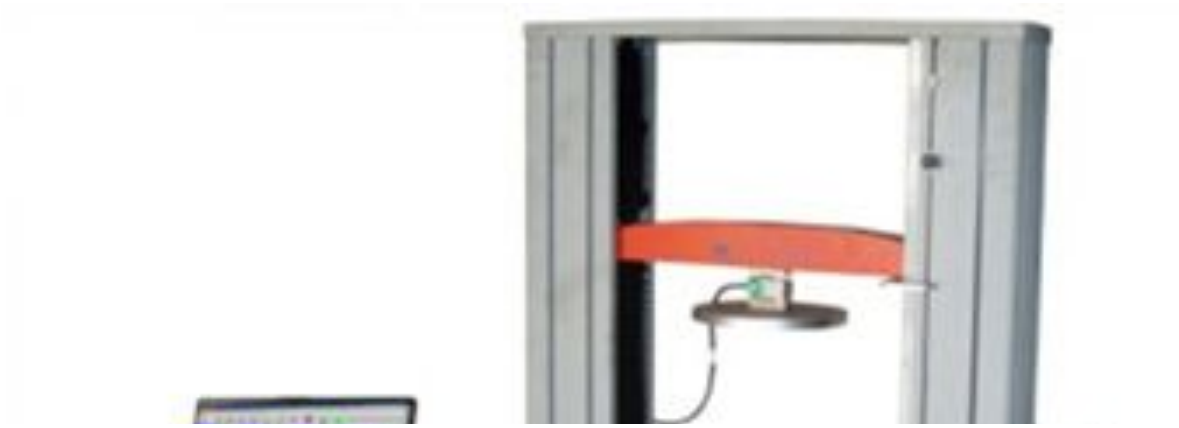
16. Scope

16.1 This will be known as the indentation force deflection test and the results as the IFD values. This test consists of measuring the force necessary to produce designated indentations in the foam product, for example, 25 and 65 % deflections. (Appendix X3).

Haida Testing Solution:

HD-F750 Foam IFD Tester

Product image



(For reference only)

Tester Introduction:

Test rig for foam indentation force deflection test- specified deflection according to ASTM D 3574 Test B1.

Test Procedure:

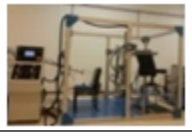
Twice lowering the indentor foot to a total deflection of 75 to 80% of the full-part thickness at a rate of 250 ± 25 mm/min. Indent the specimen at 50 ± 5 mm/min 25% of this thickness and observe the force in newtons after 60 ± 3 s. Without removing the specimen increase the deflection to 65% deflection, allowing the force to drift while maintaining the 65% deflection, and again observe the force in Newtons after 60± 3 s.

Consist of:

- One computer with software
- 200 Kg TECSIS Load cell
- 800×800mm platen, holes diameter 6mm, space 20mm
- Taiwan high precision ball screw
- Diameter 200mm Up plate

Machine Dimension

Haida International Equipment Co., Ltd				
Machine Description	**Picture**	**Width(cm)**	**Depth(cm)**	**Height(cm)**
HD-F735 Chair Arm and Leg Tester		188	103	230
HD-F733 Chair Base Tester		120	120	185
HD-F731 Chair Swivel Tester		120	120	185
HD-F732 Chair Castor Durability Tester		140	270	100
HD-F736 Chair Drop Impact Tester		151	151	235

HD-F739 Chair Universal Tester		200	200	210
HD-F750-2 Foam Fatigue Tester		90	90	135
HD-F750 Foam IFD Tester		122	85	126

(For reference only)

Quality Guarantee

A) Quality assurance items

The guarantee period with FOC within one year (not including expendable & transport and travel fees)

1. During the guarantee period, Haida shall supply free maintenance or replacement for the damaged part(just for nonexpendable part) induced by non-human damage;
2. If any quality problems occurs within the guarantee period, and Haida must provide on-site service, the transport and travel expense shall be borne by customer;
3. If any big quality problems occurs out of the guarantee period, Haida will provide a maintain service, the transport and travel expense shall be borne by customer, also charge for a favorable price;
4. Haida will provide a lifetime favorable price to the buyer with the materials and spare parts used in system operation, equipment maintenance;

B) The main quality warranty maintenance certificate

If there is any dispute please refer to our guarantee letter, so:

① please keep the guarantee letter, if you lost it, please connect with us in a month.

② If the guarantee letter has been altered or it has no our stamp, it is useless.

C) The following conditions need to be paid reasonably even in the assurance period:

① Natural reasons

② Operating mistakes

③ Voltage is not fit for our operation instruction

④ Repack it without our guides

⑤ Damaged for borrowing to others

⑥ Damaged for authorized machine modification

⑦ Damaged for authorized calibration

⑧ Authorized transshipment mistake

⑨ Serve for long distance area

D) Attentions

① Any service outside Guangdong, China, transport and travel fees shall be paid by customer.

② The apparatus try not to be used in the following situations:

a. Vibration, rocking the occasion.

b. Direct sunlight.

c. Hot, dusty, damp places.

d. To ensure safe, AC supply of the machine should be well grounded.

e. Do not use strong solvents (such as: benzene, nitro oil) washing machine.

f. Do not inject water and debris into the machine; prevent damage to electrical components and electrical shock.

g. Instrument displays the disassembly and debugging can only be measured by the State Department approved the units and the company, other people not allowed to overhaul.