



(2011)国认监认字(134)号

## Special Equipment Type Test Report

Report No. T3-F33-13-036

Category of Equipment: Safety Protection Component  
Type of Equipment: Buffer  
Name of Product: Oil Buffer  
Model of Product: YH73A/210 (DAA22550A3)  
Applicant: Hebei DongFang FuDa Machinery Co., Ltd.  
Manufacturer: Hebei DongFang FuDa Machinery Co., Ltd.



NETEC

National Elevator Inspection and Testing Center

Name of product		Oil buffer			
Model of product		YH73A/210 (DAA22550A3)			
Serial No. of sample		2013-02		Production date	201302001
Main technical parameter	Minimum and maximum masses	600kg~3500kg		Rated speed	≤1.75m/s
	Maximum impact speed	2.01m/s		Maximum permissible stroke	210 <sup>2</sup> mm
	Maximum mass	3500kg		Minimum mass	600kg
	Structure type			"O" Ring type orifice, external return spring type	
	Model of liquid	HM68 hydraulic oil	Capability of liquid	0.72L	
Applicant	Name	Hebei DongFang FuDa Machinery Co., Ltd.			
	Address	No.112 Guangming East Road, Langfang, Hebei			
Manufacturer	Name	Hebei DongFang FuDa Machinery Co., Ltd.			
	Address	No.112 Guangming East Road, Langfang, Hebei			
Receiving date	/		Sample No.	/	
Test date	2013-02-20		Sample state	No abnormal	
Test category	Type test		Test item	All application items	
Test place	Hebei DongFang FuDa Machinery Co., Ltd.				
Test condition	Ambient temperature: 17°C~19°C, relative humidity: 30%~35%				
Test basis	Regulation for Type Tests of Lifts (tryout 2012), Rule for Type Test of Buffers (tryout2012), GB 7588—2003, EN 81-1:1998				
Test conclusion	Rated speed of the buffer is not more than 1.75m/s and the permissible masses of one buffer are 600kg~3500kg. The type test is certificated.				
Reported by:	[Signature]		Institute approval No.: TS7610014-2011  Issue date: 2013-02-28		
Verified by:	[Signature]				
Issued by:	[Signature]				

## 1. Technical dossier examinations

No.	Items No.	Examination items	Examination results	Conclusion
1	P2.1	Technical information	Comply with requirements	Pass
2	P2.2	Information about structure of product	Comply with requirements	Pass
3	P2.3	Design information about special environment	/	/
4	P2.4	Other necessary information	/	/

## 2 Test items and test results

No.	Items No.	Test items	Test results	Conclusion
1	P3.2.1	Checking the total stroke of the buffer	Comply with requirements	Pass
2	P3.2.2	The Oil buffer shall be so constructed that the fluid level can easily be checked	Comply with requirements	Pass
3		The buffer shall be tested with the aid of weights, falling in free fall.	Comply with requirements	Pass
4		Reach the maximum speed called for at the moment of impact.	Comply with requirements	Pass
5		After each test the buffer shall be held in the completely compressed position for 5 min.	Comply with requirements	Pass
6		Before proceeding to another retardation test there shall be a delay of 30 min	Comply with requirements	Pass
7		The ambient temperature shall lie between 15 °C and 25 °C.	Comply with requirements	Pass
8		The average retardation shall not be more than 1.0g <sub>n</sub>	Max. value: 0.694g <sub>n</sub>	Pass
9		Retardation of more than 2.5g <sub>n</sub> shall not be longer than 0.04s	Max. value: 0.024s	Pass
10		When the buffer is of a type with spring or gravity return, the position of complete return shall be reached in a maximum period of 120s	Max. value: 2.03s	Pass

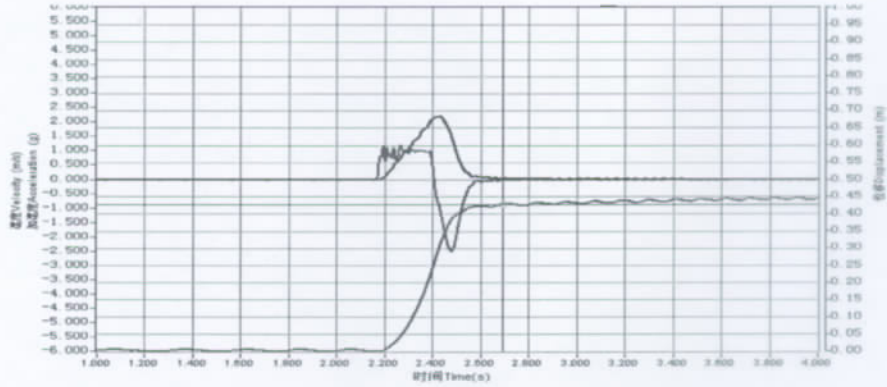
11	Before proceeding to another retardation test there shall be a delay of 30min to permit the liquid to return to the tank and for bubbles of air to escape	Comply with requirements	Pass
12	Checking of the condition of the buffer after tests	Comply with requirements	Pass

## 3 Test data

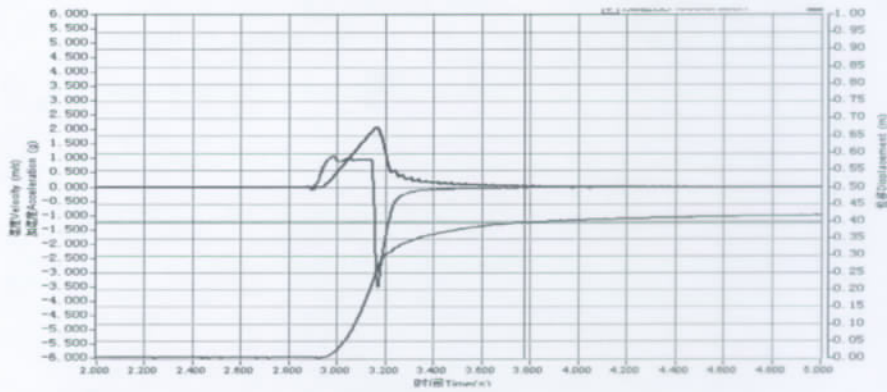
Test items		Test data	
		Maximum test mass	Minimum test mass
Test mass		3500kg	600kg
Height of free fall		206mm	206mm
Impact speed		2.04m/s	2.02m/s
Maximum retardation		2.494g <sub>n</sub>	3.504g <sub>n</sub>
Average retardation		0.694g <sub>n</sub>	0.319g <sub>n</sub>
Period of retardation of more than 2.5g <sub>n</sub>		0	0.024s
The time of the buffer holding in the completely compressed position		5min	5min
Period of the position of complete return		1.96s	2.03s
Maximum compression stroke		212mm	212mm
Ambient temperature		17.5℃	17.5℃
Liquid temperature	Before tests	17.4℃	17.8℃
	After tests	17.8℃	18.1℃
The time delay between two consecutive tests		40min	
Checking for the liquid losses after an interval of 30min		Comply with requirements	Comply with requirements
Checking of the condition of the buffer after tests		Comply with requirements	Comply with requirements



Appendix 1 Test charts



Test mass: 3500kg, Rated speed: 1.75m/s



Test mass: 600kg, Rated speed: 1.75m/s



Appendix 2 Sample photo





2011000708Z



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# Certificate of Type Test for Special Equipment

No. TX F330-003-13 0036

Applicant's name and address:	Hebei DongFang FuDa Machinery Co., Ltd. No.112 Guangming East Road,Langfang,Hebei
Manufacturer's name and address:	Hebei DongFang FuDa Machinery Co., Ltd. No.112 Guangming East Road,Langfang,Hebei
Name of product:	Oil buffer
Model and specifications:	YH73A/210 (DAA22550A3) Rated speed $\leq 1.75\text{m/s}$ Permissible masses:600kg~3500kg
Configuration of product:	See annex
Type test report No.:	T3-F33-13-036

This certificate is valid for products of the models and specifications below (without change of the product configuration):

Rated speed of the buffer is not more than 1.75m/s and the permissible masses of one buffer are 600kg~3500kg.

After Type Test, this product is accord with the *Regulation for Type Tests of Lifts (tryout 2012)*, *Rule for Type Test of Buffers (tryout2012)*, *GB 7588—2003* and *EN 81-1:1998*.

Issue date: 2013-02-28

## NETEC

### National Elevator Inspection and Testing Center

**Note:**

1. This certificate is to confirm the products on type and the tested sample on conformity, only valid for the products that are in conformance with the tested sample mentioned above.
2. The holder of this certificate has responsibilities to ensure that the products conform to the requirements of the codes and regulations, and to ensure that the products are consistent with the tested sample mentioned above.



# Annex

## Configuration of Lift Buffer (energy dissipation type)

No. TX F330-003-13 0036

Structure type	"O "Ring type orifice、 external return spring type		
Minimum and maximum masses	600kg~3500kg	Maximum impact speed	2.01m/s
Maximum permissible stroke	210.2 mm	Model and Capability of liquid	HM68 oil, 0.72L

Issue date:

2013-02-28

