Report EU-type examination

Report belonging to EU-type examination certificate no.	NL18-400-1002-295-01
Date of issue of original certificate	August 02, 2018
Concerns	Safety component
No. and date of revision	
Requirements	Lifts Directive 2014/33/EU Standards: EN81-20:2014, EN81-50:2014 EN 81-1:1998+A3:2009
Project no	P180238

1. General specifications

Name and address manufacturer	Shenyang Bluelight Drive Technology Co.,Ltd. No.37 Shiji Road, Hunnan New District Shenyang City, 110179 P.R. China.
Description of safety component	Brake as Ascending Car Overspeed protection (ACOP) to prevent uncontrolled unward movement of the car and as Unintended Car Movement Protection (UCMP) means
Type	BLB
Laboratory	SISE, No.1032, Honggang Road, Luohu District, Shenzhen, 518029, P.R. China
Data of examination	May - August 2018
Examination performed by	W.Visser

2. Description safety component

The Shenyang Bluelight Drive BLB, 2x2044 Nm is a brake that consist of two independent electro-mechanical block brakes, which fulfils the requirements for lift

also used as holding brakes during normal operation of the lift. The brake material is glued to the brake shoes and the shoes are bolted to the base.

ACOP
The Ascending Car Overspeed Protection shall be actuated by a governor overspeed contact or an equivalent EU-type tested device which was no part of this investigation.

UCMP
The brake can be used as braking element for Unintended Car Movement Protections according Art. 5.6.7 of EN 81-20:2014.
The brake torque for each type is pre-determined in the factory by application of a fixed amount of guided compression springs. The torque is indicated on a label attached to the brake. This setting is sufficient until the air gap between magnetic core and brake lining exceeds 0,65 mm. Each brake part is separately provided with a monitoring contact. The controller of the lift in which these brakes are used, must check the signals from each brake contact according to Art. 5.6.7.9 of EN 81-20:2014. If a failure is detected, the lift must be put out of service permanently.
The brake delay times t_{10} and/or t_{90} as indicated in this report shall be used to check by means of calculation that the stopping distance of the car fulfils the requirements. t_{10} means the time from activation until the moment that 10% of the nominal brake torque has been reached (T_{10}) and t_{90} means the time from activation until the moment that 90% of the nominal brake torque (T_{90}) has been reached.
A value of brake delay time between t_{10} and t_{90} can be interpolated if needed.
The defined and calculated nominal torque per brake is the minimum guaranteed

torque under the conditions which the manufacturer prescribes during the lifetime of the brake.

Brake Coil Connections
A brake connection box is mounted on top of the machine. It has a 110VDC input from a rectifier inside the lift control panel. Main contactors are on the DC side.

BRAKE DATA

Manufacturer	Shenyang Bluelight Drive Technology
Type	BLB
Number of friction surfaces	2
Number of brake springs	2 x 20
Brake drum diameter [mm]	610

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TRACTION MACHINE APPLICATION DATA

Shenyang Bluelight Drive Technology	WYT-T
Q=Nominal capacity range [kg]	450 - 2500
P=Car mass range [kg]	610 - 5375
System mass range [kg]	1400 - 12000
[redacted]	[redacted]
[redacted]	[redacted]
Roping factor	2:1
Traction sheave diameter [mm]	400
Max. allowed rpm traction sheave /speed lift	286 rpm / 3,00 m/s
Max. allowed tripping rpm/speed ACOP	366 rpm / 3,83 m/s
[redacted]	[redacted]
Bolted connection traction sheave -brake disc	8 x M12

3. Examinations and tests

The examination covered a check whether compliance with the Lifts Directive 2014/33/EU is met, based on the harmonized product standards EN81-20:2014 and [redacted]

Liftinstituut verified and accepts the tests and the results by this ISO 17025 accredited laboratory.

- Tests to verify the required monitoring according to Art. 5.6.7.3 of EN 81-20.
- The machine was placed on a test stand with a coupling to an intermediate shaft with a torque meter. (See annex 1c). On the other side of this intermediate shaft is an electric driving motor with overrated power to the shaft. The torque is stored as a function of time with a digital oscilloscope. [redacted]

[redacted]

tripping rpm's are calculated based on the maximum tripping speed of the

applied overspeed governor, which overspeed tripping contact activates the

brake as ACOP. After constant speed is reached, the brake holding voltage is cut and the brake set is applied until the machine has come to a full stop, while the electromotor continues giving the unbalance torque calculated from the maximum allowed unbalance for the applicable machine. This test is done 10

times in clockwise direction and 10 times in counter clock wise direction with the complete brake.
The results of the torque measurement has been recorded and studied. From these results the dynamic torque and the reaction times t_{10} and t_{90} have been

On the EU-type examination certificate the following conditions apply:

- The application of this certificate is limited to the brake mentioned in chapter 2 used as brake set for lift applications. Each brake set consists of two independent

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Lifts to be built according EN 81-20 shall fulfil Art. 5.9.2.2.2.7 allowing that it is possible to test each brake set independently from outside of the well.
This brake set can be used as braking element for an Ascending Car Overspeed Protection and as braking element for an Unintended Car Movement Protection according EN 81-20:2014.
For Ascending Car Overspeed Protection the tripping speed of governor contact shall be according Art. 5.6.6 of EN 81-20:2014.
Any controller shall take the lift out of service when a fault in the correct lifting and dropping of the brake parts occurs.
The Shenyang Bluelight Drive document "The Block Braking System Instruction manual" must be provided with every brake/machine, in order to make the correct installation and maintenance.
The installer of the lift needs to define the final complete UCMP solution taking into account the key-parameters of the WYT-T machine with BLB, 2x2044 Nm as UCMP stopping means.
An additional calculation shall be done to check whether the deceleration and stopping distance of the car is within the limits as required by EN 81-20:2014.
In case of no releveling and no pre-door opening condition, there is no need of any additional safety devices for unintended car movement protection, but only where this brake is mounted on a gearless machine. The controller of the lift

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7. CE marking and EU Decla[redacted]

Every safety component that is placed on the market in complete conformity with the examined type must be provided with a CE marking according to article 18 of the Lifts directive 2014/33/EU under consideration that conformity with eventually other applicable Directives is proven.

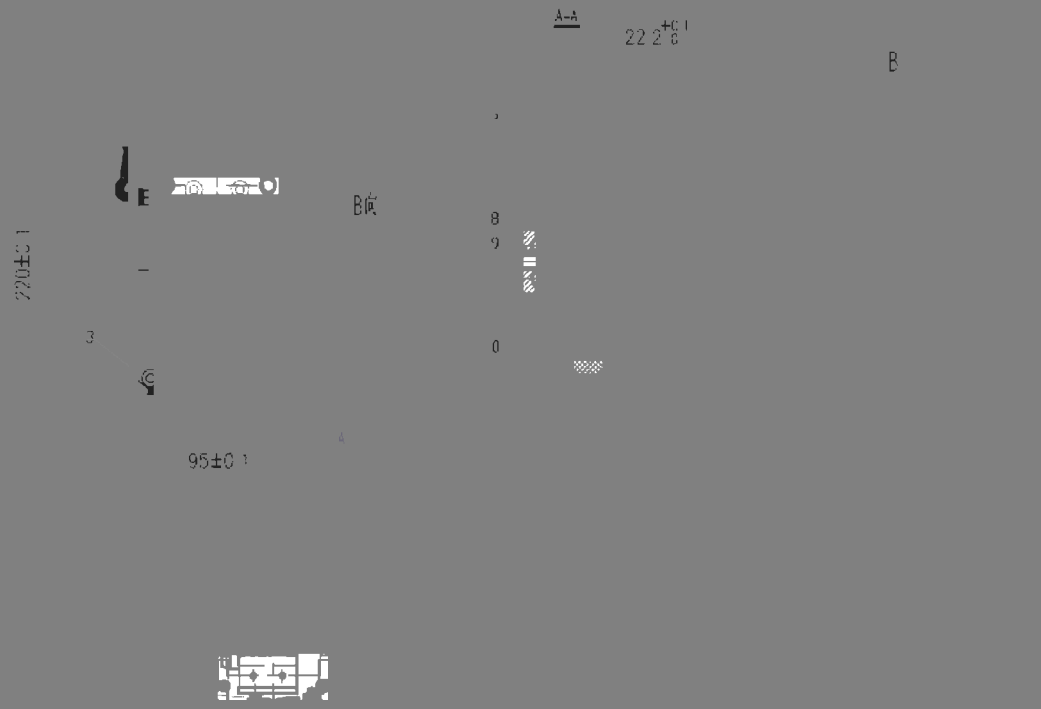
Also every safety component must be accompanied by an EU declaration of conformity according to annex II of the Directive in which the name, address and [redacted]

Notified Body identification number of Liftinstituut B.V. must be included as well as the number of the EU-type examination certificate.

An EU type certified safety component shall be random checked e.g. according to [redacted]

Annexes

Annex 1a : Outline drawing of BLB, 2x2044 Nm brake



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Annex 1b: Test stand with BLB brake and WYT-T traction machine

Annex 2 Documents of the Technical File which were subject of the

title	document number	date
Drawings	WYT-TA3	23-08-2017
Drawings	WYT-TE3	23-08-2017
Drawings	WYT-U3	14-07-2017
Drawings	WYT-V4	23-08-2017
Brake Calculations	Ver.1	17-05-2018
Main axis calculation	Ver.1	25-08-2017
Instruction Manual	Version A1	03-2017
ACOP test reports	2017AF0144	28-02-2017
UCMP test reports	2017AF4186	01-12-2017

Annex 3. Reviewed deviations from the standards

EN xx-x par x.x.x	Requirement	Accepted design

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REVISIONS OF THE CERTIFICATE AND REPORT

Rev	Date	Summary of revision
-	02-08-2018	Original

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