ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Industrie Service

EC type-examination certificate

Certificate no.:	ABV 769/1
Notified body:	TÜV SÜD Industrie Service GmbH Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199, 80686 München - Germany
Applicant/ Certificate holder:	WARNER Electric Europe 7, rue de Champfleur BP 20095 49124 St. Barthélemy D'Anjou - France
Date of submission:	2007-12-06
Manufacturers:	WARNER Electric Europe 7, rue de Champfleur BP 20095 49124 St. Barthélemy D'Anjou - France Altra Industrial Motion (Shenzhen) Songshan Industry Zone 12 Songshan Western Road Bogang county, Shajing town Baoan district, Shenzhen city 518104 Guangdong Province - China (PRC)
Product:	Braking device acting on the traction sheave, as part of the protection device against overspeed for the car moving in upwards direction
Type:	ERS VAR 11-01 FT = 3600 N
Test laboratory:	TÜV SÜD Industrie Service GmbH Abteilung Aufzüge und Sicherheitsbauteile Westendstraße 199, 80686 München - Germany
Date and number of test report:	2008-01-10 769/1
EC-Directive:	95 / 16 / EC
Statement:	The safety component conforms to the directive's essential safety requirements for the respective scope of application stated on page 1 - 2 of the annex to this EC type-examination certificate.
Certificate date:	2008-01-11

Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile
EC-Identification number: 0036

D. Roas
Dieter Roas

TÜV SÜD Industrie Service GmbH 00 36 Benannte Stelle

TÜV®

Industrie Service

Annex to the EC type-examination certificate no. ABV 769/1 dated 2008-01-11

1. Scope of Application

1.1 Permissible brake force when the braking device acts on the brake disk while the car is moving upward, depends on the maximum tripping speed (gliding speed)

Max. tripping speed (gliding speed) [m/s]	Brake force [N]
10.21	1979 - 3872
6.13	2190 - 4503

The brake force refers to a single brake on the brake disk diameter effectively.

Unless the brake disk is an integral element of the traction sheave (e. g. cast on), it must be connected directly or indirectly with the latter via the common shaft. In cases where brake disk and traction sheave are connected indirectly via the shaft, the brake disk must be positioned in the immediate vicinity of the traction sheave.

1.2 Maximum tripping speed of the overspeed governor and maximum rated speed

The maximum tripping speed and the maximum rated speed must be calculated on the basis on the brake disk's maximum tripping speed and maximum rated speed (gliding speed) as outlined in sections 1.2.1 and 1.2.2 taking into account brake disk diameter effectively, traction sheave diameter and car suspension

$$v = \frac{D_{TS} = v_{BS}}{D_{BS} \times i}$$

v = Tripping (rated) speed (m/s)
D_{TS} = Diameter of the traction sheave from rope's centre to rope's centre (m)
D_{BS} = Diameter of the brake disk effectively (m)
v_{BS} = Gliding speed on the brake disk diameter effectively (m/s)
i = Ratio of the car suspension

Maximum tripping speed (gliding speed) on the brake disk diameter effectively [m/s]	6.13	10.21
Maximum rated speed (gliding speed) on the brake disk diameter effectively [m/s]	5.33	8.88

2. Conditions

2.1 In order to comply with the redundancy required in Section 9.10.2 of EN 81-1, at least two braking circuits (single brake actuator) must be used. Where more than two braking circuits are used, redundancy requirements necessitate that a sufficient braking effect as outlined in section 12.4.2.1 of EN 81.1 is still maintained if one of the braking circuit fails. It is not assumed that two braking circuits will fail simultaneously.

2.2 Since the braking device represents only a part oft the protection device against overspeed for the car moving in upwards direction, an overspeed governor as per EN 81-1, paragraph 9.9 must be used to monitor the upward speed and the braking device must be triggered (engaged) via the overspeed governor's electric safety device.

Alternatively, the speed may also be monitored and the braking device engaged by a device other than an overspeed governor as per paragraph 9.9 if the device shows the same safety characteristics and has been type tested.

2.3 In order to recognize the loss of redundancy, the movement of each brake circuit (each anchor plate) is to be monitored separately and directly (e.g. by micro switches). If a brake circuit fails to engage (close) while the lift machine is at standstill, next movement of the lift must be prevented.

2.4 In cases where the lift machine moves despite the brake being engaged (closed), the lift machine must be stopped at the next operating sequence at the latest and the next movement of the lift must be prevented (The car may, for example, be prevented form traveling by querying the position of the micro switch which is used to monitor the movement of the brake circuits, should both brake circuits fail to open).

2.5 If the brake disk does not form an integral part of the traction sheave (e. g. cast on) the manufacturer of the drive unit or the installation company must provide calculation evidence that the brake disk – traction sheave connection is sufficiently safe. This connection also includes the shaft if the brake disk is positioned on the common shaft in the immediate vicinity of the traction sheave.

The calculation evidence must be enclosed with the technical documentation of the lift.

3. Remarks

3.1 The permissible braking forces must be applied to the lift system in such a manner that they do not decelerate more than 1 g_n if the empty car is moving upwards.

3.2 In the scope of this type-examination it was found out, that the brake device also functions as a brake for normal operation, is designed as a redundant system and therefore meets the requirements to be used also as a part of the protection device against overspeed for the car moving in upwards direction.

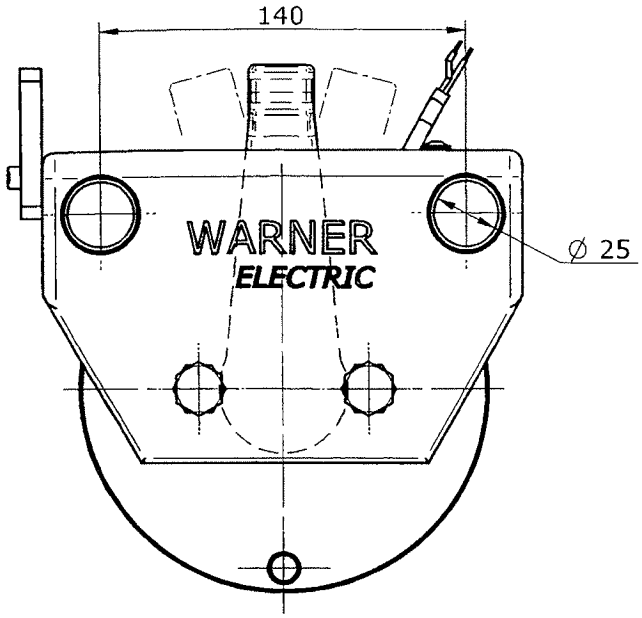
This type examination only refers to the requirements pertaining to brake devices as per EN 81-1, paragraph 9.10. Checking whether the requirements as per paragraph 12.4 have been complied with is not part of this type examination.

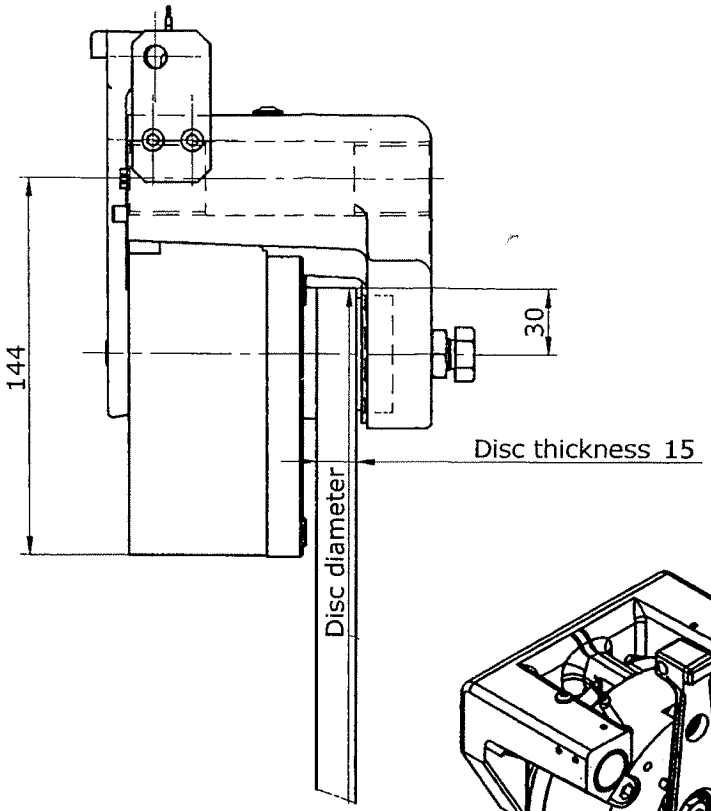
3.3 In order to provide identification and information about the design and its functioning drawing no. 1 12 106881, dated 04 August 2005 is to be enclosed with the EC type-examination certificate and the Annex thereto. The installation conditions and connection requirements are presented or described in separate documents (e. g. operating instructions).

3.4 The EC type-examination certificate may only be used in connection with the pertinent Annex.

Les cotes sans indication de tolérances sont
des cotes nominales.
Untoleranced dimensions are nominal dimensions.

NOTES

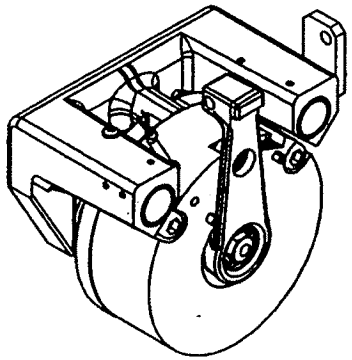


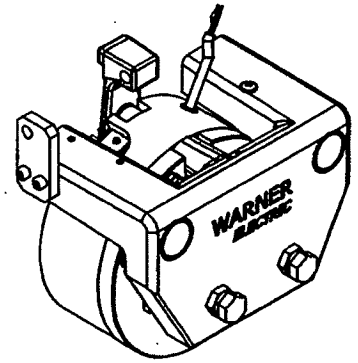


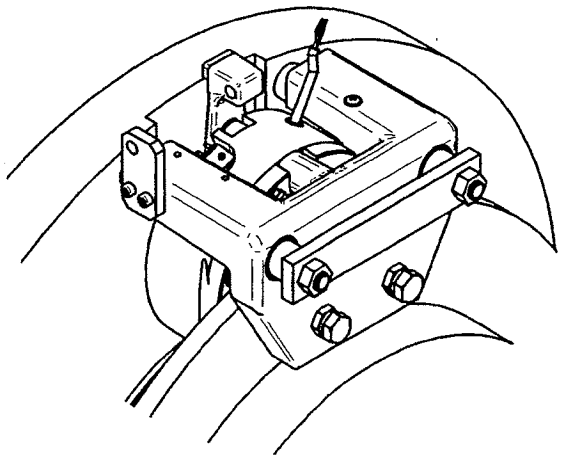
TÜV Industrie Service GmbH
TÜV SÜD
TÜV SÜD Gruppe

14. OKT. 2005

- GEPRÜFT -
TÜV Industrie Service GmbH
TÜV SÜD Gruppe
Abteilung Aufzüge und Sicherheitsbauteile
Westendstr. 199, D-80686 München
Der Sachverständige







FM	LT	REVISION		DATE		By	Ch.

Client/customer:

Ms (Nm) :
Md (Nm) :
n Md (min-1) :
n max (min-1) :
U (Vdc) :
P20°C (W) :
Insulation class (°C):

Customer ref :

Dimensions
In mm

Manual/Notice :
SM

Mass :
14.5 kg

Scale:
/

Drawn : G. Ferrand Date: 04.08.05
Checked: F.CHAILLOU Date: 08.08.05

Design.: **Electromagnetic Brake**
Frein électromagnétique

Type: **ERS VAR11-01 FT=3600N**

N° **1 12 106881**

A3

Warner Electric Europe

CAD SE