



EC type-examination certificate

Certificate no.: ABV 589/1

Notified body: TÜV Industrie Service GmbH TÜV SÜD Gruppe
(bis 31.03.2004 TÜV Süddeutschland Bau und Betrieb GmbH)
Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile
Westendstraße 199, 80686 Munich - Germany

**Applicant/
Certificate holder:** WARNER Electric Europe
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BP 20095
49124 St. Barthelemy D'Anjou - France

Date of submission: 2004-04-01

Manufacturer: WARNER Electric Europe
7, rue de Champfleür
BP 20095
49124 St. Barthelemy D'Anjou - France

Product, type: 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

Test Laboratory: TÜV Industrie Service GmbH
TÜV SÜD Gruppe
Abteilung Aufzüge und Sicherheitsbauteile
Westendstrasse 199, 80686 Munich - Germany

**Date and
Number of test report:** 2004-08-18
589/1

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: 2004-08-18

Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile
Identification number: 0036

D. Roas
i. V. Dieter Roas



Annex to the EC type-examination certificate No. ABV 589/1 dated 2004-08-18

1. Scope of Application

- 1.1 Permissible brake force when the braking device acts on the brake disk while the car is moving upward.
The brake force refers to a single brake.

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Unless the brake disk is an integral element of the traction sheave (e. g. cast on), it must be connected directly with the traction sheave (e. g. as a fix screwed unit)

- 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

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

v = Tripping (rated) speed (m/s)

D_{TS} = Diameter of the traction sheave from rope's center to rope's center (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

- 1.2.1 Maximum tripping speed (gliding speed) on the brake disk diameter effectively 10,21 m/s
- 1.2.2 Maximum rated speed (gliding speed) on the brake disk diameter effectively 8,88 m/s

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 devices (single brakes) must be used. Where more than two braking devices 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 devices fails. It is not assumed that two braking devices will fail simultaneously.

- 2.2 Since the braking device represents only a part of 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 The movement of each brake circuit (each single brake) 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.

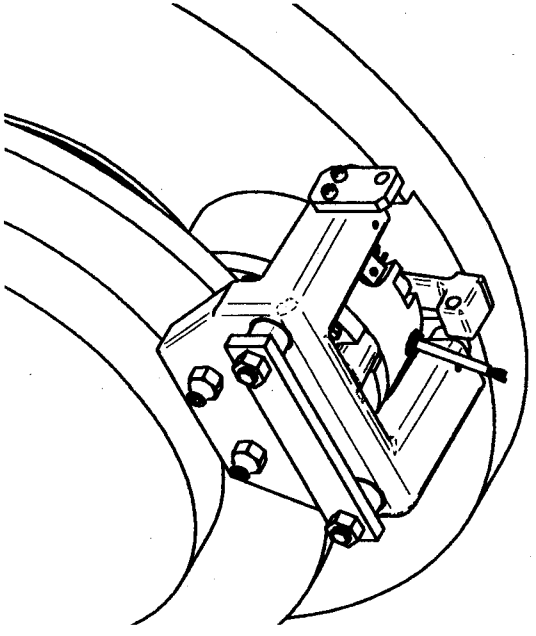
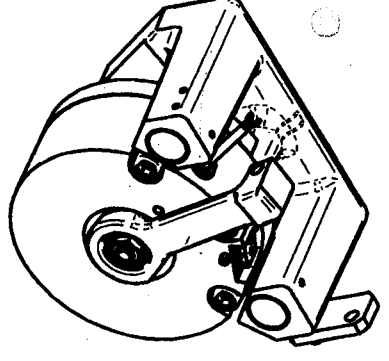
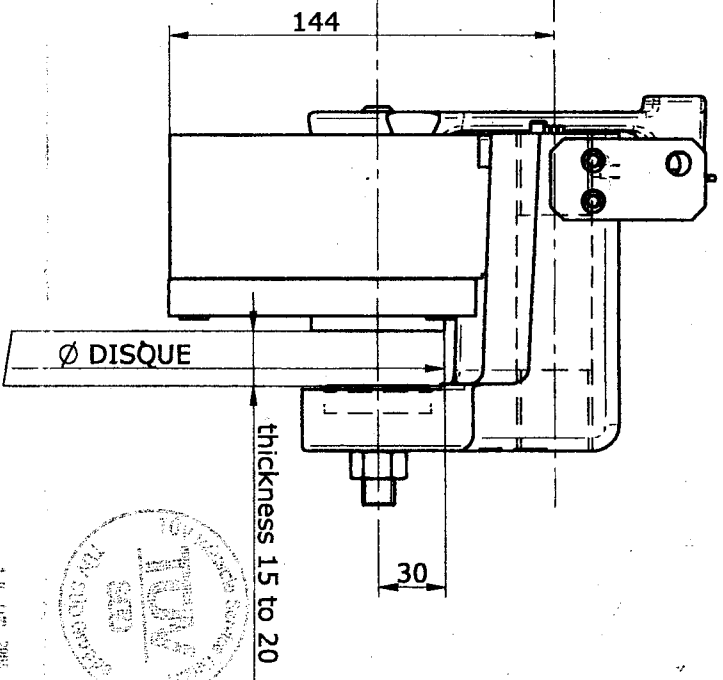
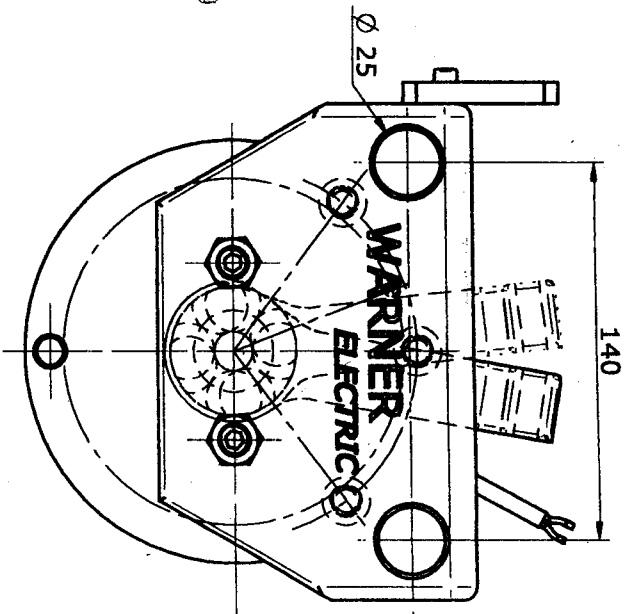


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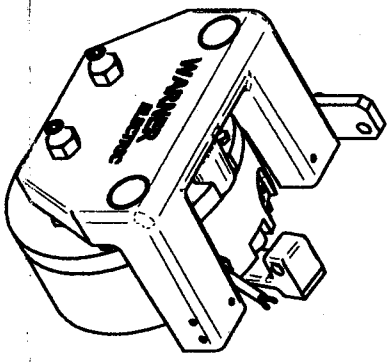
- 2.4 In cases where the lift machine moves despite the brake being engaged (closed), the lift machine must be stopped at the next operating sequence at the latest and the next movement of the lift must be prevented (The car may, for example, be prevented from traveling by querying the position of the micro switch which is used to monitor the movement of the brake circuits, should both brake circuits fail to open).
- 2.5 Unless the brake disk is an integral element of the traction sheave (e. g. cast on), the manufacturer of the drive unit or the installer must provide calculation evidence that the brake disk-traction sheave connection is sufficiently safe.
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 106598, dated 21 May 2001 with last modification dated 25 February 2004 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.



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Apfen



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

NOTES

Client/customer:		Customer ref.:	
Ms (Nm) :		Dimensions	
Md (Nm) :		In mm	
n Md (min-1) :		Manual/Notice :	
n max (min-1) :		SM	
U (Vdc) :		Mass :	Scale:
P20°C (N) :		14.5 Kg	1:1
Insulation class (°C):		Design: Frein électromagnétique	
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		No 1 12 106598	
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