



Industrie Service

EC type-examination certificate

Certificate no.: ABV 819/1

Notified body: TÜV SÜD Industrie Service GmbH
Westendstr. 199
80686 München - Germany

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

Date of application: 2009-12-02

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

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 VAR07 SZ300/_ _ _

Test laboratory: TÜV SÜD Industrie Service GmbH
Prüflaboratorium für Produkte der Fördertechnik
Prüfbereich Aufzüge und Sicherheitsbauteile
Westendstr. 199
80686 München - Germany

Date and number of the test report: 2010-04-30
ABV 819/1

EC-Directive: 95 / 16 / EC

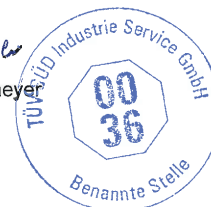
Result: The safety component conforms to the essential safety requirements of the Directive for the respective scope of application stated on page 1 - 2 of the annex to this EC type-examination certificate.

Date of issue: 2010-05-03

Certification body for lifts and safety components
Identification number: 0036

C. Rührmeyer

p. p. Christian Rührmeyer





**Enclosure of EC type - examination certificate
No. ABV 819/1 dated 2010-05-03**

Authorised manufacturer – Production sites (Stated: 2010-05-03):

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

Altra Industrial Motion Shenzhen Co. Ltd.
Dabo Industry Zone
18 Huanzhen Road
Bogang County, Shajing Town
Baoan District, Shenzhen City
518104 Guangdong province - China (PRC)

- END OF DOCUMENT -

**Annex to the EC type-examination certificate
no. ABV 819/1 dated 2010-05-03**

1 Scope of Application

1.1 Permissible brake moment when the braking device acts on the traction sheave while the car is moving upward 447 - 642 Nm

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 of the traction sheave's maximum tripping rotary speed and maximum rated rotary speed as outlined in sections 1.2.1 and 1.2.2 taking into account traction sheave diameter and car suspension.

$$v = \frac{D \times \pi \times n}{60 \times i}$$

v = speed (m/s)
 D = Diameter of the traction sheave from rope's center to rope's center (m)
 π = 3,14
 n = Rotary speed (min⁻¹)
 i = Ratio of the car suspension

1.2.1 Maximum tripping rotary speed of the traction sheave 500 min⁻¹

1.2.2 Maximum rated rotary speed of the traction sheave 435 min⁻¹

2 Conditions

2.1 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.

2.2 The movement of each brake circuit (each anchor) 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.

2.3 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 travelling by querying the position of the micro switch which is used to monitor the mechanical movement of the brake circuits, should both brake circuits fail to open).

Note: The English text is a translation of the German original. In case of any discrepancy, the German version is valid only.



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- 2.4 According to EN 81-1, paragraph 9.10.4 d a braking device must act directly on the traction sheave or on the same shaft on which the traction sheave is situated in the immediate vicinity thereof.

If the braking device does not act in the immediate vicinity of the traction sheave on the same shaft on which the traction sheave is situated, the standard is not complied with. In cases involving shaft failure between the traction sheave and the braking device, safety would no longer be ensured by the latter if the lift car made an uncontrolled upward movement.

Shaft failure in this area must therefore be ruled out by appropriate design and sufficient dimensioning. In order to eliminate or reduce influencing factors which may lead to failure wherever possible, the following requirements must be satisfied:

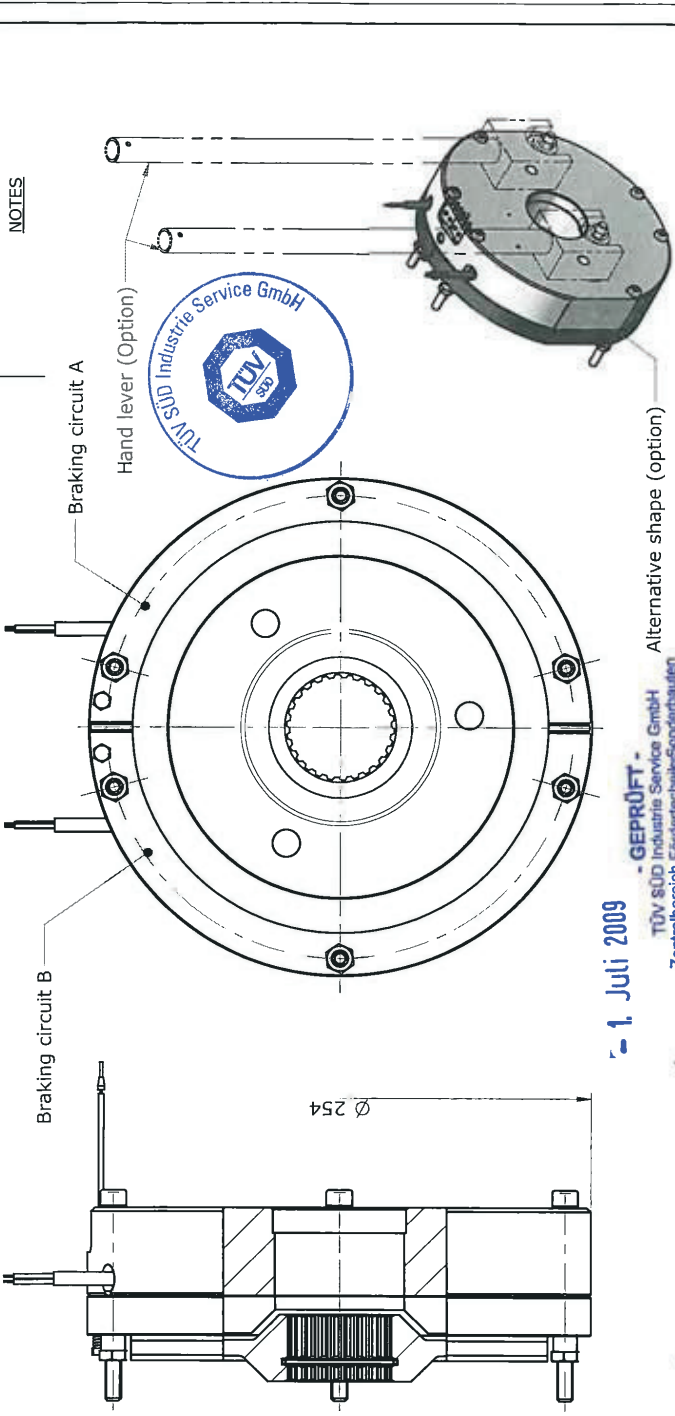
- Minimization of bending length between traction sheave and braking device or traction sheave and the next bearing (the next bearing must form part of the drive unit)
 - As far as possible, prevention of a reduction in load-bearing capacity in the area of reversed bending stress (reduction in load-bearing capacity caused, for example, by stress concentration and cross-sectional reductions)
 - Between traction sheave and braking device the shaft must be continuous (made from one piece)
 - Cross-sectional influences on the shaft are only permitted if they act on the following connections: traction sheave – shaft, braking device – shaft, torque of the transmitting component – shaft (situated between traction sheave and braking device).
- 2.5 The manufacturer of the drive unit must provide calculation evidence that the connection braking device – shaft, traction sheave - shaft and the shaft itself is sufficiently safe. The calculation evidence must be enclosed with the technical documentation of the lift.

3 Remarks

- 3.1 The brake moment effectively adjusted of one brake circuit will be marked at the blank after the type designation ÈRS VAR07 SZ300/___ .
- 3.2 The permissible braking moments 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.
- 3.3 In the scope of this EC 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 EC 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 EC type-examination.
- 3.4 In order to provide identification and information about the design and its functioning drawing No. 1 12 107185, dated 21. April 2009 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.
- 3.5 The EC type-examination certificate may only be used in connection with the pertinent annex and the list of the authorized manufacturers (according to enclosure). This enclosure shall be updated and re-edited following information of the certificate holder.

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



NOTES

1. Juli 2009

- GEPRÜFT -
 TÜV SÜD Industrie Service GmbH
 Zentralfachbereich Fördererische-Sonderbauten
 Abteilung Aufzüge und Sicherheitsbauteile
 Westendstr. 195, D-80699 München
 Der Sachverständige



TUV DIFFUSION

Client/customer:		Customer ref.:	
Md (Nm) :		Dimensions in mm	
n Md (min-1) :		Manual/Notice :	
n max (min-1) :		SM	
U (Vdc) :		Mass :	Scale: 1:1
P20°C (W) :		Insulation class (°C):	
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Design: Frein électromagnétique Electromagnetic brake		Type: ERS VAR07 SZ300/300	
Drawn : G. Ferrand Date: 21.04.09		Checked: JcJ Date: 21.04.09	
FM		LT	REVISION
DATE		BY	Ch.
Date: 21.04.09		Date: 21.04.09	
Warner Electric Europe		N° 1 12 107185	