

CERTIFICAT

CERTIFICADO

‘ΕΡΤΙΤΤΑΤΗ

認証証書

CERTIFICATE

ZERTIFIKAT

EC type-examination certificate



Certificate no.: ABV 604/1

Notified body: TÜV Süddeutschland Bau und Betrieb GmbH
Zertifizierungsstelle
für Aufzüge und Sicherheitsbauteile
Westendstraße 199, D-80686 München

**Applicant/
Certificate holder:** WARNER ELECTRIC EUROPE
7, rue Champfleür
B.P. 11095
F-49182 St. Barthélemy d'Anjou

Date of submission: 2002-12-13

Manufacturer: WARNER ELECTRIC EUROPE
7, rue Champfleür
B.P. 11095
F-49182 St. Barthélemy d'Anjou

Product, type: Braking device acting on the shaft of the traction sheave, as part of the protection device against overspeed for the car moving in upwards direction, type ERS VAR 10 SZ 5000/ _ _ _

Test Laboratory: TÜV Süddeutschland Bau und Betrieb GmbH
Abteilung Aufzüge und Sicherheitsbauteile
Westendstraße 199, D-80686 München

**Date and
Number of test report:** 2003-02-12
604/1

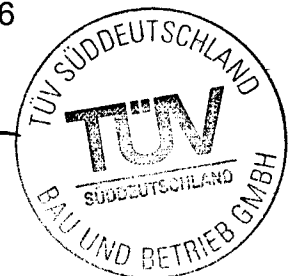
EC-directive: 95 / 16 / EC

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: 2003-02-12

Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile
Identification number: 0036

P. Tkalec
Peter Tkalec



Annex to the EC type-examination certificate No. ABV 604/1 dated 2003-02-12

1. Scope of Application

1.1 Permissible brake moment when the braking device acts on the shaft of the traction sheave while the car is moving upward 3200 - 5271 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 250 min⁻¹

1.2.2 Maximum rated rotary speed of the traction sheave 217 min⁻¹

2. Conditions

2.1 Since the braking device represents only a part off 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.

If the overspeed governor's electrical safety device is actuated in the same way, irrespective of whether the car is travelling upwards or downwards (consequence: braking device also responds when the car is travelling downwards) and the lift travels with a rated speed of more than 1 m/s, the electrical safety device must respond at speed clearly below (approx. 10 %) the speed at which the overspeed governor is triggered (for the safety gear).

If the braking device is triggered via an additional (second) electrical safety device of the overspeed governor, this device only has to be activated when the triggering speed of the overspeed governor is reached.

2.2 The energy supply to the magnetic coin must be directly interrupted by the overspeed governor's electrical safety device or two independently actuated operational elements being dependent on this safety device. In case no speed governor is installed (cf.2.1) interruption has to be made analogue.

2.3 When the braking device responds (anchors in braking position) an electrical device must be actuated (e.g. micro switches). (The actuation of the overspeed governor's electrical safety device satisfies the requirement outlined in Section 9.10.5, i. e. that an electrical safety device in conformity with 14.1.2 must be operated upon response of the protection device).

2.4 The triggering of the braking device (release of the anchor plates for engagement by means of pressure springs) is not caused positive mechanically but electrically resp. electromagnetically by interruption of the energy supply to the magnetic coin of the braking device (see point 2.2). However, the mechanically engagement of the braking device has to be absolutely guaranteed after the electrical safety device has responded.

In light of the above, the braking device must be made to engage at regular intervals, so that the anchor plates can be checked for correct closing. This may be done, for example, by engaging the braking device after every stop, in which case the braking device adopts an additional safety function, or once daily through (automatic) operation of the braking device when the lift is at standstill. If the anchor plates do not perform correctly (anchors fail to close) the lift must be kept at standstill.

- 2.5 Appropriate measures must ensure that it is evident in the machine room whether the braking device has responded in line with its intended use as a safety component (following failure of an item of operating equipment such as breakage of a gearing element or shaft) or whether the response was caused by other reasons (e. g. loss of power supply or reaction after every stop or as required under Section 2.4). It must also be evident how to proceed in emergency operation (moving the car through manual operation or return motion control) after the braking device has responded.

Once the braking device has responded in the intended way as a safety component, it should never be possible to move the lift machine via the return motion control.

- 2.6 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:

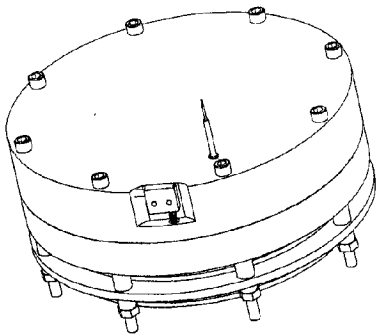
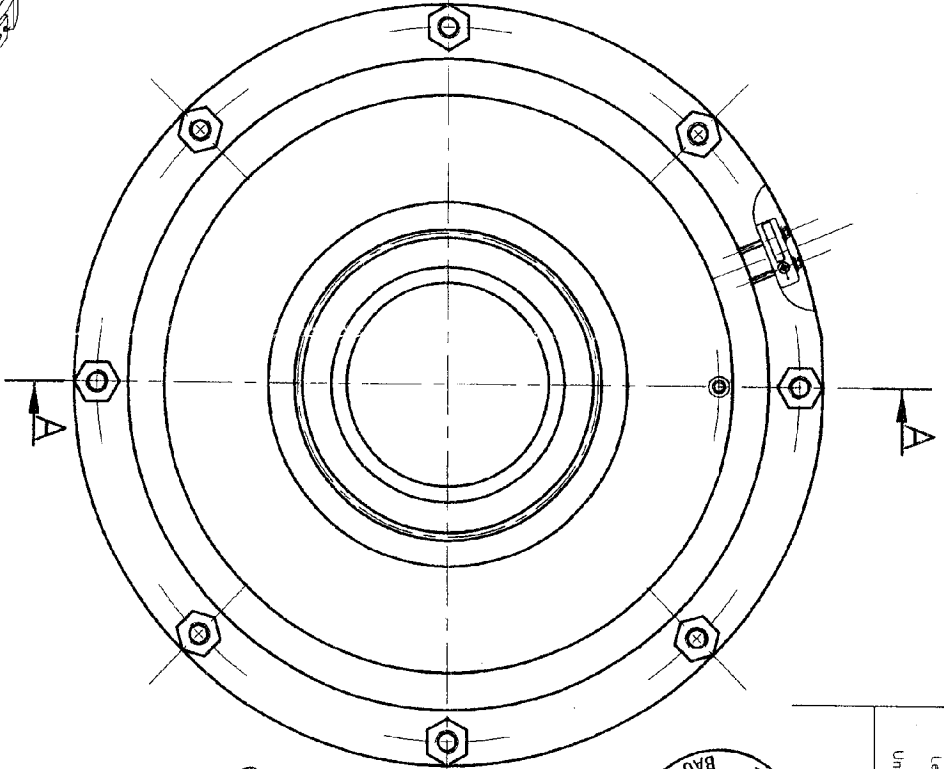
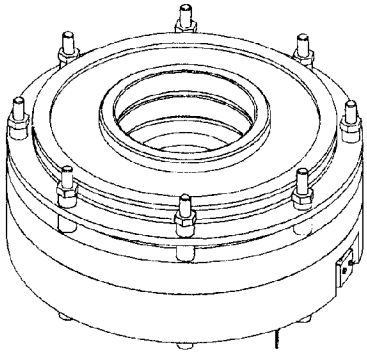
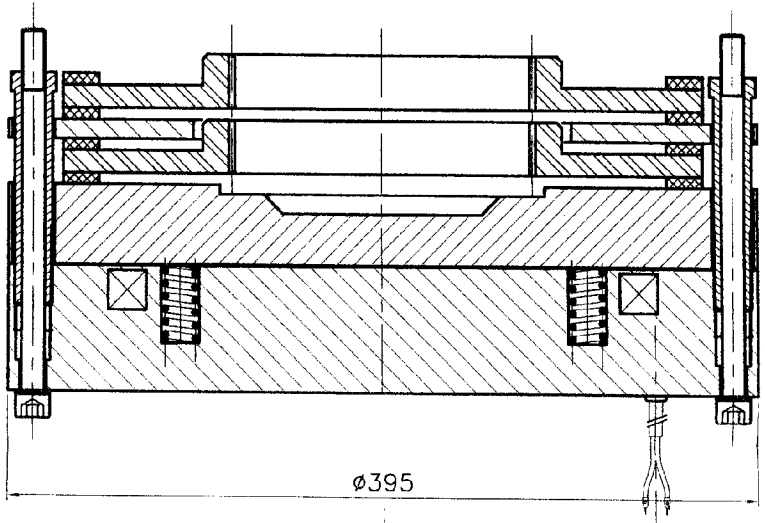
- Minimization of bending length between traction sheave and braking device or traction sheave and the next bearing (the next bearing must form part of the drive unit)
- As far as possible, prevention of a reduction in load-bearing capacity in the area of reversed bending stress (reduction in load-bearing 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).

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 will be marked at the blank after the type designation ERS VAR 10 SZ 5000/___ within the permissible scope of application of 3200 - 5271 Nm.
- 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_{gn} , if the empty car is moving upwards.
- 3.3 In order to provide identification and information about the design and its functioning drawing No. 1 12 106602, dated 29 October 2001 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.

COUPE A-A



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

NOTES



07. NOV. 2000
 - GEPRÜFT -
 TÜV SÜDDEUTSCHLAND Bau und Betrieb GmbH
 Abteilung Aufzüge und Sicherheitsauleile
 Westendstr. 199, D-80636 München
 Der Sachverständige
Hypner

Client / Customer :

MS (mm) :
 Md (Nm) :
 n Md (n1-n-1) :
 n max (m1-n-1) :
 U (Vdc) :
 P20°C (W) :
 Insulation class (°C) :
 Mass/Masse (kg) :

Identif. by

Manual / Notice

MS

Assembl. Instr. TIA

Emballage/packing

EMB

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WARNER & TOURCO

DESIGN	REVISION	DATE	Part	Ver
Frain électromagnétique Electromagnetic Brake				
Type : ERS VAR10 SZ5000 /				
N° 1 12 106602				

ORIGINAL