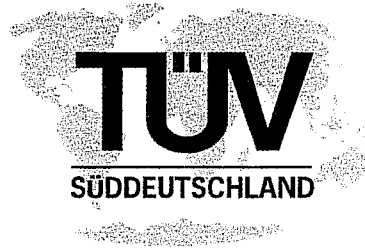


EC type-examination certificate



Certificate no.: ABV 591

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

**Applicant/
Certificate holder:** WARNER & TOURCO
Route de Spay,
B.P. 17
F-72700 Allonnes

Date of submission: 2001-07-02

Manufacturer: WARNER & TOURCO
7 rue Champfleür
B.P. 95
F-49182 St. Barthelemy 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 09 SZ 1700/___

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

**Date and
Number of test report:** 2001-08-08
591

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: 2001-08-08

Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile
Identification number: 0036

A handwritten signature in black ink, appearing to read 'P. Tkalec', written over a horizontal line.

Peter Tkalec

CERTIFICAT

CERTIFICADO

‘ΕΡΗΤΗΓΑΗ

認証証書

CERTIFICATE

ZERTIFIKAT

Annex to the EC type-examination certificate No. ABV 591 dated 2001-08-28

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 1445 - 3980 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 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 traveling 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).

- 2.4 The braking device must act on the shaft of the traction sheave in the immediate vicinity of the traction sheave. 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.
- 2.5 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 requirements outlined below must be satisfied to ensure safe operation:

- The braking device must be positioned directly at the side of the motor opposite the traction sheave (joint bearing with motor).
- The traction sheave must be placed in the direct vicinity of the motor (bending length minimized, no bearings or other components between traction sheave and motor).
- The joint shaft must be continuous and made from one piece. It may only be affected by cross-sectional influences acting on the connection to the traction sheave, motor and brake (it may not be affected, however, by a reduction in the load bearing capacity caused by stress concentration and cross-sectional reductions in the region exposed to reversed bending stress).

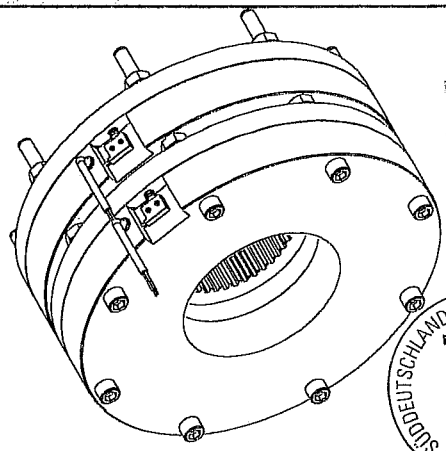
If the above requirements are satisfied, it can be assumed that the stress acting on the (traction-sheave) shaft is more favorable than if the overspeed protection device is placed in the direct vicinity of the traction sheave or between traction sheave and motor.

3. Remarks

- 3.1 The brake moment effectively adjusted of one brake circuit will be marked at the blank after the type designation ERS VAR 09 SZ 1700/___.
- 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 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.
- 3.4 In order to provide identification and information about the design and its functioning drawing No. 1 12 106581, dated 12 July 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).
- 3.5 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

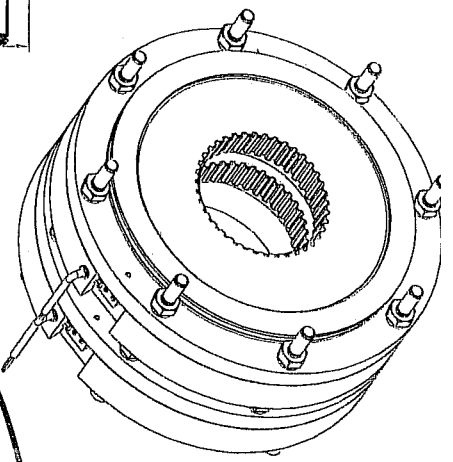
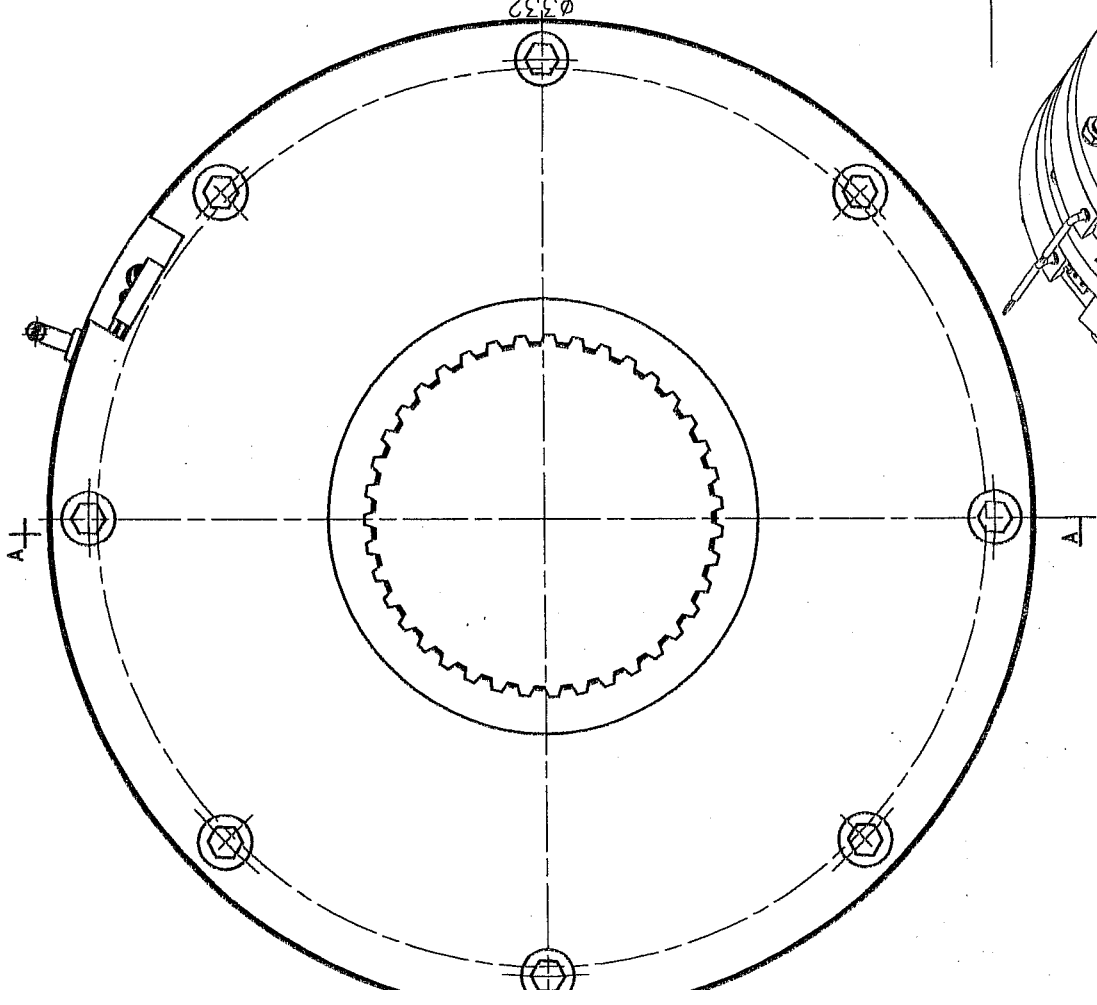
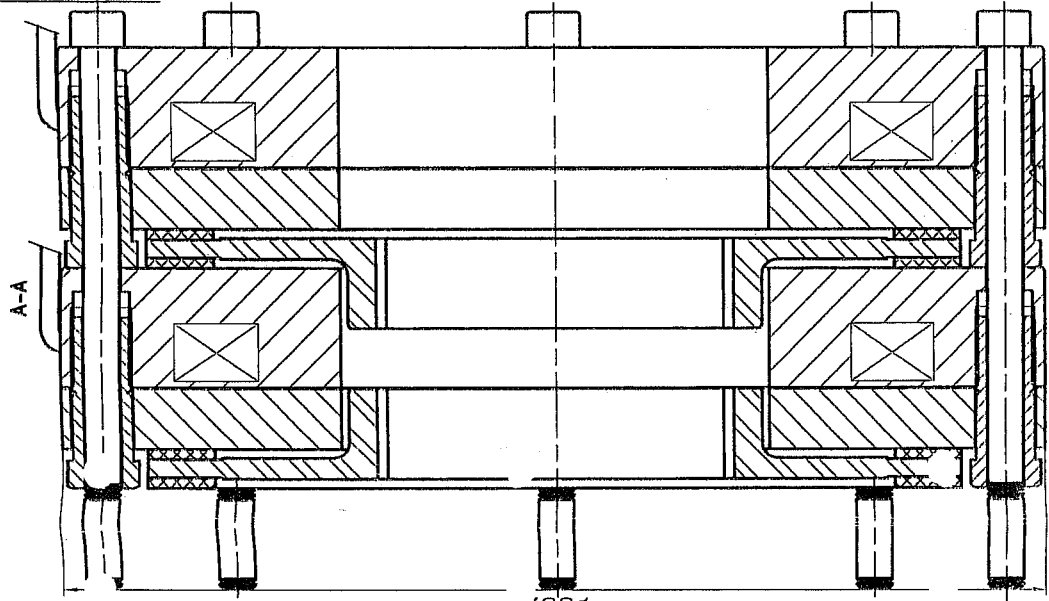


08. AUG. 2001

- GEPRÜFT -

TÜV Süddeutschland Bau und Betrieb GmbH
Abteilung Aufzüge und Sicherheitsbauteile
Westenstr. 199, D-89686 München
Der Sachverständige

[Signature]



Client / Customer :		Identif. by	
Ms (Nm) :		<input checked="" type="checkbox"/> Manual / Notice	MS
Md (Nm) :		Assembl. instr. ITA	
n Md (min-1) :		Emballage/packing	EMB
n max (min-1) :		<small> *en fait la propriété de WARNER & TOURCO il ne peut être divulgué produit, enditement ou parcellément, sans autorisation écrite. This document is the property of WARNER & TOURCO it is not to be disclosed or reproduced, totally or partially, without written permission. </small>	
U (Vdc) :			
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Insulation class (°C) :			
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FM	LET	REVISION	DATE	PartVer
		Drawn : M. Poiraud	12.07.01	
		Scale : /	Date : 12.7.01	
		Checked : /		
		Verified : /		
Design : Frein électromagnétique				
Type : ERS VAR09 SZ1700 / ---				
N° 1 12 106581				

WARNER & TOURCO