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

Industrie Service

EC type-examination certificate

Certificate no.:	ASBV 906
Notified body:	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München - Germany
Applicant/ Certificate holder:	WARNER Electric Europe 7, rue de Champfleur BP 20095 49124 St. Barthelemy D'Anjou - France
Date of application:	2012-07-06
Manufacturer of the test sample:	WARNER Electric Europe 7, rue de Champfleur BP 20095 49124 St. Barthelemy D'Anjou - France
Product:	Braking device acting on the shaft of traction sheave, as part of the protection device against overspeed for the car moving in upwards direction
Type:	ERS FENIX 09 _ _ - _ _ _ _
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:	2012-09-17 ASBV 906
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 the annex (total 3 pages) to this EC type-examination certificate.
Date of issue:	2012-09-24

Certification body for lifts and safety components
Identification number: 0036

Chadi Noureddine

TÜV SÜD Industrie Service GmbH 00 36 Benannte Stelle

Remark:

Additionally the braking element was tested as a part of the protection device against unintended car movement according EN 81-1:1998 + A3:2009 (D). Scope of application, conditions and remarks of intended use are listed in an amendment of the annex.

TÜV®

Industrie Service

Annex to the EC type-examination certificate no. ASBV 906 dated 2012-09-24

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 — 1537 – 2990 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 sheaves 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 centre to rope's centre (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 rpm

1.2.2 Maximum rated rotary speed of the traction sheave — 435 rpm

2 Conditions

2.1. Since the brake 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 brake device must be triggered (engaged) via the overspeed governor's electric safety device.
Alternatively, the speed may also be monitored and the brake 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 In order to recognize the loss of redundancy, 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 movement of the brake circuits, should both brake circuits fail to open).

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 in the extended area 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 the extended 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)
- Static defined bearing (e. g. 2-fold borne shaft) otherwise measures are required to obtain a defined loading
- 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. If necessary, evidence must be provided for the intended measures, too (see static undefined bearing). The calculation evidence must be enclosed with the technical documentation of the lift.

3 Remarks

3.1 A code number for the brake moment effectively adjusted will be marked at the first two blank in the type designation ERS FENIX 09 _ _ - _ _ _ _ within the permissible scope of application. The 4 blanks behind show the real adjusted brake torque.

3.2 The permissible brake 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 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 type examination.

3.4 In order to provide identification, information about the basic design and it's functioning and to show which parts have been tested pertaining to the tested and approved type, drawing no. 1 12 107689 with certification stamp dated 24 September 2012 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. assembly and operating instructions).

3.5 The EC type-examination certificate may only be used in connection with the pertinent annex, identification drawing according point 3.3, amendment (following) and the list of the authorized manufacturers (according to enclosure). This enclosure shall be updated and re-edited following information of the certificate holder.

Amendment

Intended use of the braking element as a part of the protection device against unintended car movement

1 Scope of application

1.1 Nominal brake torques and response times with relation to a brand-new brake element

Nominal brake torque* [Nm]	Maximum response times** with and without overexcitation [ms]		
	t_{10}	t_{50}	t_{90}
2 x 800 = 1600	130	155	180
2 x 1000 = 2000	100	130	160
2 x 1200 = 2400	100	140	180

Interim values can be interpolated

Explanations:

* **Nominal brake torque:** Brake torque assured for installation operation by the safety component manufacturer.

** **Response times:** t_X time difference between the drop of the braking power until establishing X% of the nominal brake torque, t_{50} optionally calculated $t_{50}= (t_{10}+ t_{90})/2$ or value taken from the examination recording

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

1.2 Assigned execution features

Type of powering / deactivation	Continuous current / continuous current end
Brake control	Serial or parallel
Nominal air gap	0.65 mm
Damping elements and adhesive foil integrated	YES
Overexcitation	at double non-release voltage
Maximum tripping rotary speed	500 rpm

2 Conditions

2.1 The above mentioned safety component represents only part of a protective equipment against unintended movement of the elevator car. Only in combination with a detecting and triggering component (two separate components also possible), which must be subjected to an own type examination, can the system created fulfil the requirements for a safety component in accordance with Annex F.8, EN 81-1:1998 + A3:2009 (D).

2.2 The safety component is used in combination as part of the ascending car overspeed protection means and as a drive brake.

2.3 The installer of a lift must create an examination instruction in accordance with D.2 p) of EN 81-1:1998 + A3:2009 (D) for lift(s) to fulfil the overall concept, add it to the lift documentation and provide any necessary tools or measuring devices, which allow a safe examination (e. g., with closed shaft doors).

2.4 The dimension configuration of the lift system must be designed as regards the brake torques in such a way that the permissible value of deceleration does not exceed 1 g_n in either direction. Excluded are decelerations, which are caused by an instantaneous roller safety gear up to a rated speed of the lift system of 0.63 m/s for instance.

2.5 The traction and its variance must be taken into account as regards its braking distance (transferable power / torque) and included in the calculation.

2.6 For installer of a lift, the compliance of the component with the type examined component and the assured nominal brake torques and response times must be confirmed in writing (e. g., type plate and/or supplement in the declaration of conformity).

2.7 The information evaluation for self-monitoring must prevent an operational starting of the lift in the event of a fault.

3 Remarks

3.1 The examination of other norm requirements, for example all requirements according point 12.4 [EN 81-1:1998 + A3:2009 (D)], deterioration of the brake torques due to wear and tear and the operation-related change of the drive capability were not part of this examination.

3.2 As part of this examination, it was detected that the brake element sets up redundant and the correct function is monitored by sensors.

3.3 This additional examination refers to the partial requirements for the protection device against unintended car movement according to EN 81-1:1998 + A3:2009 (D), Section 9.11 only.

Industrie Service

Enclosure of EC type-examination certificate no. ASBV 906 dated 2012-09-24

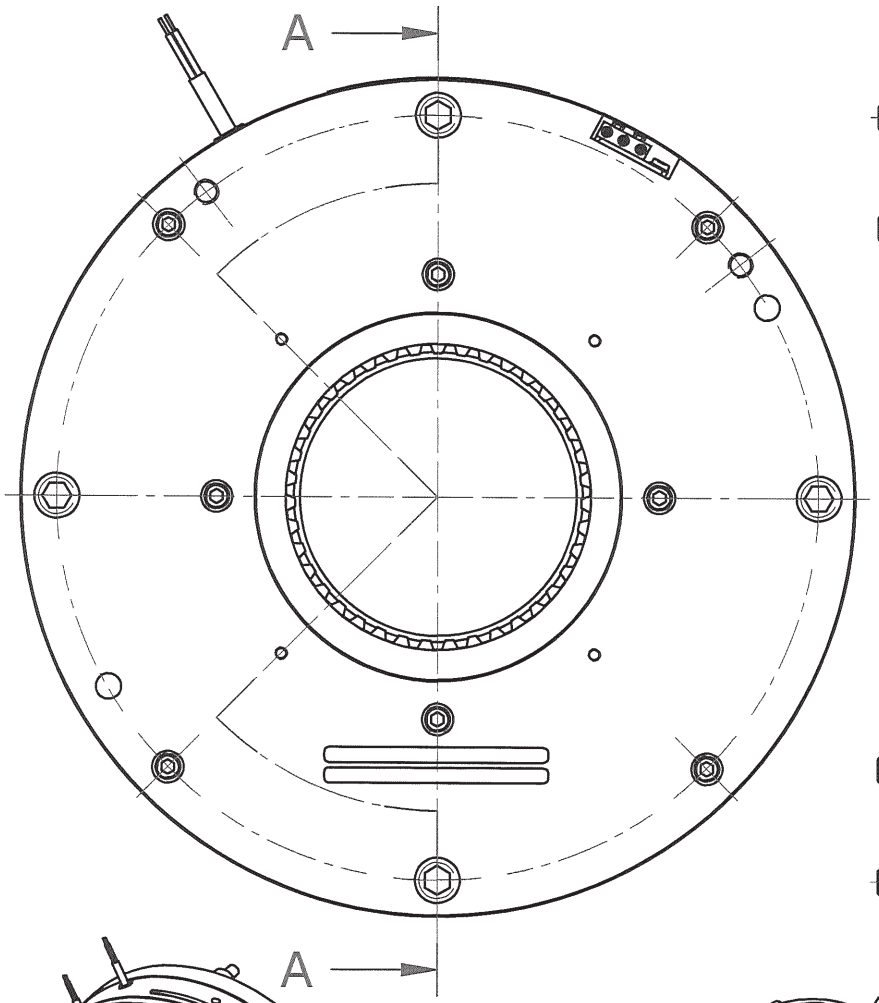
Authorised manufacturers – production sites (stated: 2012-09-24):

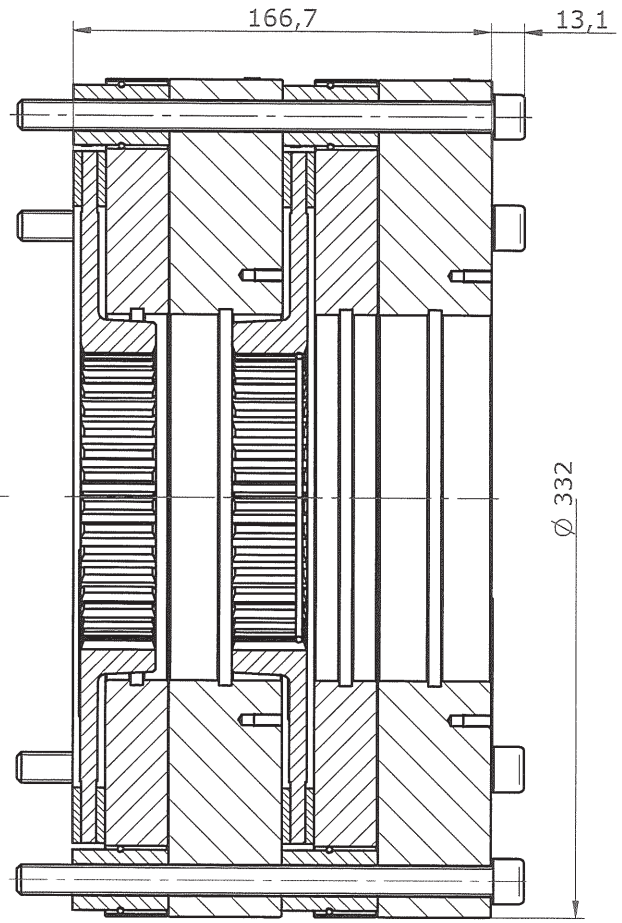
WARNER Electric Europe
7, rue de Champfleur
BP 20095
49124 St. Barthelemy D'Anjou – Frankreich

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 -

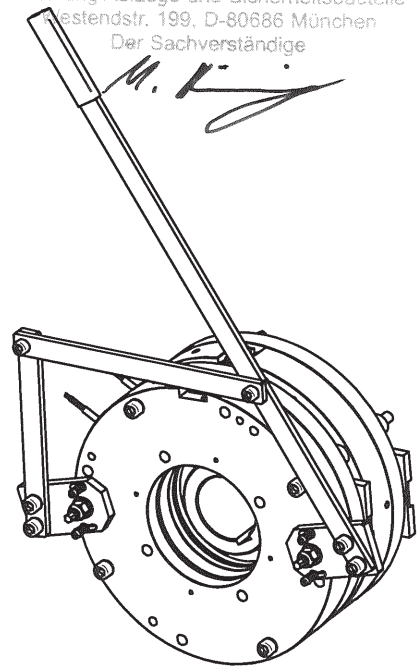
Base: Letter of Co. WARNER Electric Europe dated 2012-07-06

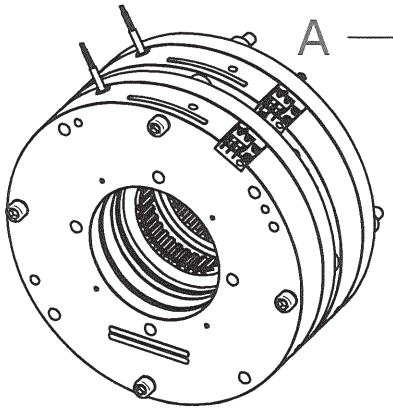


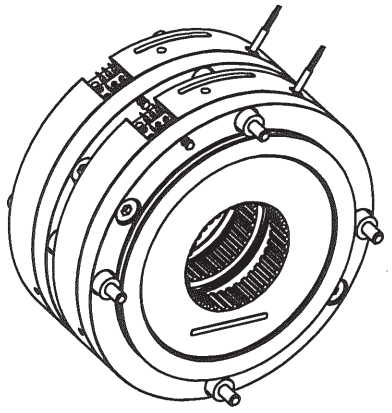


Les cotes sans indication de tolérances sont des cotes nominales.
Untoleranced dimensions are nominal dimensions.

NOTES







Client/customer:	TUV
Ms (Nm) :	-
Md (Nm) :	-
n Md (min-1) :	
n max (min-1) :	500
U (Vdc) :	-
P20°C (W) :	-
Insulation class (°C):	F

Customer ref : -

Dimensions in mm

Manual/Notice : SMXXX

Mass : 82.6 kg

Scale: 1:1

FM	LT	REVISION	DATE	By	Ch.

Drawn : JC Jardin Date: 20-07-12

Checked: RG Date: 20-07-12

Warner Electric Europe

Design.: **Frein Electromagnétique**
Electromagnetic brake

Type: **ERS FENIX 09 10-____**

N° 1 12 107689

CAD SE

A3