



Type-examination certificate

Certificate no.: ESV 777/4

Certification office: TÜV SÜD Industrie Service GmbH
Westendstr. 199
80686 München - Germany

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

Date of application: 2011-06-22

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

Product: Braking element acting on the shaft of the traction sheave, as a part of the protection device against unintended car movement

Type: ERS VAR15-02 FT2110/_ _ _ _

Test laboratory: TÜV SÜD Industrie Service GmbH
Prüflaboratorium für Produkte der Fördertechnik
Prüfbereich Aufzüge und Sicherheitsbauteile
Westendstr. 199
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**Date and
number of the test report:** 2011-09-09
ESV 777/3

Examination basis: EN 81-1:1998 + A3:2009 (D), issue December 2009

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

Date of issue: 2011-10-03

Certification office for products of conveyor systems
Lifts and safety components

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Annex to the type-examination certificate no. ESV 777/4 dated 2011-10-03

1 Scope of application

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

Minimum nominal brake force* [N]	Maximum nominal brake force* [N]	Maximum Response times** [ms]		
		t ₁₀	t ₅₀	t ₉₀
2028		180	250	320
	2705	140	195	250

Interim values can be interpolated

Explanations:

- * **Nominal brake force:** Brake force 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 force, t₅₀ optionally calculated t₅₀ = (t₁₀ + t₉₀)/2 or value taken from the examination recording

1.2 Assigned execution features

- Type of powering / deactivation Continuous current / continuous current end
- Brake control single
- Air gap for tests 0.6 mm
- Damping elements NO
- Overexcitation NO
- Tripping speed 6.5 m/s

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 or additional to the brake device as part of the ascending car overspeed protection means and as a drive brake.

When operating in combination with the brake device as a part of the ascending car overspeed protection means and the drive brake and thereby the use of two or more single brakes, to ensure redundancy, the single brakes have to be mounted with symmetric force distribution.

If, while the brake is used exclusively as a protection device against unintended car movement other safety devices can take effect, the specification of deceleration under 2.4 has to be fulfilled.

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 forces 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 forces and response times must be confirmed in writing (e. g. type plate and/or supplement in the conformity declaration).
- 2.7 The information evaluation for self-monitoring must prevent an operational starting of the lift in the event of a fault.
- 2.8 According to the norm requirements, the brake element of the protective device must impact directly on the traction sheave or on the same shaft in the immediate vicinity of the traction sheave. If the brake element does not impact in the immediate vicinity of the traction sheave on the same shaft, on which the traction sheave is also arranged, a deviation from the norm exists. A failure of the shaft in the area between the traction sheave and the brake element must be ruled out using corresponding construction designs and sufficient measurements. The manufacturer of the entire drive must prove the sufficient safety of the connection brake element – shaft and traction sheave – shaft as well as the shaft itself in calculations. This proof must be added to the technical documentation of the lift.

3 Remarks

- 3.1 As part of the type-examination, it was detected that the brake elements correct function is monitored by sensors.

The examination of compliance with all requirements under Section 12.4 [EN 81-1:1998 + A3:2009 (D)], deterioration of the brake torques/breaking forces due to wear and tear and the operation-related change of the drive capability are not part of this type-examination.

This type-examination refers to the partial requirements for the protective equipment against unintended movements of the elevator cabin only under EN 81-1:1998 + A3:2009 (D), Section 9.11.
- 3.2 In order to provide identification, information about the basic design and functioning and to show the environmental conditions and connection requirements, drawing with the relevant latest identification from the associated EC type-examination certification no. ABV 777/4 is to be enclosed with the type-examination certificate and the annex thereto.
- 3.3 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 of the corresponding EC type-examination certification no. ABV 777/4).

