



Type-examination certificate

Certificate no.: ESV 760

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

**Applicant/
certificate holder:** Chr. Mayr GmbH & Co. KG
Eichenstr. 1
87665 Mauerstetten - Germany

Date of application: 2011-03-01

Manufacturer of the test sample: Chr. Mayr GmbH & Co. KG
Eichenstr. 1
87665 Mauerstetten - Germany

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

Type: 896.0 __ . __, Größe 200, 300, 500, 800, 1300, 1800

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:** 2011-07-07
ESV 760

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: 2011-07-11

Certification office for products of conveyor systems
Lifts and safety components

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Annex to the type-examination certificate no. ESV 760 dated 2011-07-11

1 Scope of application

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

Name / Size	Minimum nominal brake torque* [Nm]	Maximum nominal brake torque* [Nm]	Maximum tripping rotary speed [rpm]	Maximum response times** [ms]		
				t ₀	t ₅₀	t ₉₀
200	2 x 150 = 300		1000	80	120	170
200		2 x 300 = 600	1000	35	60	100
300	2 x 225 = 450		800	90	170	200
300		2 x 500 = 1000	800	35	100	165
500	2 x 380 = 760		730	100	160	230
500		2 x 800 = 1600	730	45	75	140
800	2 x 600 = 1200		730	95	175	220
800		2 x 1200 = 2400	730	35	75	140
1300	2 x 980 = 1960		580	115	180	250
1300		2 x 1800 = 3600	580	45	90	130
1800	2 x 1350 = 2700		500	145	225	320
1800		2 x 2300 = 4600	500	65	150	190

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, 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	Parallel
Nominal air gap	0.45 mm
Damping elements	YES
Overexcitation	NO

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 with the brake device as part of the ascending car overspeed protection means and as a drive brake.

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

- 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.
- 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 element has a redundant design and that the 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 protection device against unintended car movement only according to 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 ABV 760/X 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 ABV 760/X).