



Type examination certificate

Certificate no.: ESV 766/1

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: 2010-06-17

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: RSR/8010. _ _ _ _ _ , Größe 200 till 1500

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 766/1

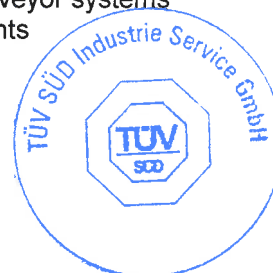
Examination basis: EN 81-1:1998 + A3:2009 (D), issue December 2009

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 766/1 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]		
				Parallel without overexcitation / Serial with overexcitation		
				t ₀	t ₅₀	t ₉₀
200	2 x 100 = 200		820	100 / 110	160 / 230	230 / 330
200		2 x 280 = 560	820	25 / 30	60 / 80	110 / 135
200 „Lang“	2 x 250 = 500		820	25 / 30	50 / 65	110 / 135
200 „Lang“		2 x 350 = 700	820	15 / 20	30 / 50	80 / 100
400 „Kurz“	2 x 210 = 420		710	135 / 140	185 / 265	240 / 340
400 „Kurz“		2 x 420 = 840	710	50 / 55	90 / 130	160 / 230
400 „Kurz - leistungs- optimiert“		2 x 350 = 700	335	30 / 40	80 / 100	100 / 150
400 „Lang“	2 x 375 = 750		500	40 / 45	75 / 105	135 / 190
400 „Lang“		2 x 550 = 1100	500	25 / 40	60 / 75	100 / 120
600	2 x 500 = 1000		500	85 / 100	140 / 200	185 / 260
600		2 x 800 = 1600	500	30 / 40	70 / 100	120 / 170
800	2 x 650 = 1300		400	80 / 100	145 / 180	170 / 230
800		2 x 950 = 1900	400	35 / 45	80 / 115	120 / 160
1000	2 x 920 = 1840		400	80 / 95	125 / 180	180 / 250
1000		2 x 1200 = 2400	400	40 / 50	95 / 130	150 / 210
1500	2 x 1200 = 2400		400	75 / 90	160 / 190	270 / 310
1500		2 x 1800 = 3600	400	35 / 40	105 / 115	180 / 240

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 and serial |
| ➤ Maximum air gap | 0.45 mm |
| ➤ Damping elements | YES |
| ➤ Overexcitation (Größe 200 - 1000) | at 1.5 non-release voltage |
| ➤ Overexcitation (Größe 1500) | at double non-release voltage |

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

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 over-speed 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.
- 2.8 According to the norm requirements, the brake element of the protective device must impact directly on the drive disc or on the same shaft in the immediate vicinity of the drive disc.

If the brake element does not impact in the immediate vicinity of the brake disc on the same shaft, on which the drive disc is also arranged, a deviation from the norm exists. A failure of the shaft in the area between the drive disc 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 drive – 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 766/X is to be enclosed with the type-examination certificate and the annex thereto.
- 3.3 The 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 766/X).

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