

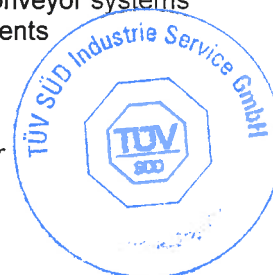


## Type-examination certificate

<b>Certificate no.:</b>	ESV 834
<b>Certification office:</b>	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München - Germany
<b>Applicant/ certificate holder:</b>	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten - Germany
<b>Date of application:</b>	2011-03-01
<b>Manufacturer of the test sample:</b>	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten - Germany
<b>Product:</b>	Braking element acting on the shaft of the traction sheave, as a part of the protection device against unintended car movement
<b>Type:</b>	RSO 1800/896.03_ - _ _
<b>Test laboratory:</b>	TÜV SÜD Industrie Service GmbH Prüflaboratorium für Produkte der Fördertechnik Prüfbereich Aufzüge und Sicherheitsbauteile Westendstr. 199 80686 München - Germany
<b>Date and number of the test report:</b>	2011-07-07 ESV 834
<b>Examination basis:</b>	EN 81-1:1998 + A3:2009 (D), issue December 2009
<b>Result:</b>	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
<b>Date of issue:</b>	2011-07-11

Certification office for products of conveyor systems  
Lifts and safety components

*C. Rührmeyer*  
Christian Rührmeyer



## Annex to the type-examination certificate no. ESV 834 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	Nominal brake torque* [Nm]	Maximum tripping rotary speed [rpm]	Maximum response times** [ms]		
			t <sub>0</sub>	t <sub>50</sub>	t <sub>90</sub>
RSO 1800	2 x 2800 = 5600	460	65	165	230

#### Explanations:

- \* **Nominal brake torque:** Brake torque assured for installation operation by the safety component manufacturer.
- \*\* **Response times:** t<sub>x</sub> time difference between the drop of the braking power until establishing X% of the nominal brake torque, t<sub>50</sub> optionally calculated  $t_{50} = (t_{10} + t_{90})/2$  or value taken from the examination recording

#### 1.2 Assigned execution features

Type of powering / deactivation	Continuous current / continuous current end
Brake control	Parallel
Maximum 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.
- 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<sub>n</sub> 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).

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

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 834/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 834/X).