



EU TYPE-EXAMINATION CERTIFICATE

According to Annex IV, Part A of 2014/33/EU Directive

Certificate No.: EU-BD 1014

Certification Body of the Notified Body: TÜV SÜD Industrie Service GmbH
Westendstr. 199
80686 Munich - Germany
Identification No. 0036

Certificate Holder: Chr. Mayr GmbH & Co. KG
Eichenstr. 1
87665 Mauerstetten - Germany

Manufacturer of the Test Sample: Chr. Mayr GmbH & Co. KG
Eichenstr. 1
87665 Mauerstetten - Germany
(Manufacturer of Serial Production – see Enclosure)

Product: Braking device acting on the shaft of the traction sheave, as part of the protection device against overspeed for the car moving in upwards direction and braking element against unintended car movement

Type: RTW Size 600, 800, 1000
Type 8012.

Directive: 2014/33/EU

Reference Standards: EN 81-20:2014
EN 81-50:2014
EN 81-1:1998+A3:2009

Test Report: EU-BD 1014 of 2016-02-01

Outcome: The safety component conforms to the essential health and safety requirements of the mentioned Directive as long as the requirements of the annex of this certificate are kept.

Date of Issue: 2016-02-01

Date of Validity: from 2016-04-20

Werner Rau
Werner Rau

Certification Body "lifts and cranes"



**Annex to the EC Type-Examination Certificate
No. EU-BD 1014 of 2016-02-01**



Industrie Service

1 Scope of application

1.1 Use as braking device – part of the the protection device against overspeed for the car moving in upwards direction – permissible brake torques and tripping rotary speeds

1.1.1 Permissible brake torques and maximum tripping rotary speeds of the traction sheave when the brake device acts on the shaft of the traction sheave while the car is moving upward

Size	Permissible brake torque [Nm]	Max. tripping rotary speed of the traction sheave [rpm]
600	800 - 1200	500
800	1100 - 2000	
1000	1600 - 2700	

1.1.2 Maximum tripping speed of the overspeed governor and maximum rated speed of the lift

The maximum tripping speed of the overspeed governor and the maximum rated speed of the lift must be calculated on the basis of the traction sheave's maximum tripping rotary speed as outlined above taking into account traction sheave diameter and car suspension.

$$v = \frac{D_{TS} \times \pi \times n}{60 \times i}$$

v = Tripping (rated) speed (m/s)
 D_{TS} = Diameter of the traction sheave from rope's center to rope's center (m)
 π = 3,14
 n = Rotary speed (rpm)
 i = Ratio of the car suspension

1.2 Use as braking element – part of the protection device against unintended car movement (acting in up and down direction) – permissible brake torques, tripping rotary speeds and characteristics

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

Name / Size	Minimum nominal brake torque * [Nm]	Medium nominal brake torque * [Nm]	Maximum nominal brake torque * [Nm]	Maximum tripping rotary speed [rpm]	Maximum response times** [ms]		
					without t_0	with t_{50}	Overexcitation t_{90}
RTW 600	2 x 400 = 800			500	45 / --	95 / --	135 / ---
RTW 600		2 x 550 = 1100			25 / --	60 / --	100 / ---
RTW 600			2 x 600 = 1200		-- / 30	-- / 65	--- / 110
RTW 800	2 x 550 = 1100				100 / ---	180 / ---	280 / ---
RTW 800		2 x 850 = 1700			40 / --	100 / ---	150 / ---
RTW 800			2 x 1000 = 2000		-- / 60	--- / 115	--- / 160
RTW 1000	2 x 800 = 1600				85 / --	160 / ---	240 / ---
RTW 1000		2 x 1200 = 2400			40 / --	95 / --	150 / ---
RTW 1000			2 x 1350 = 2700		-- / 45	--- / 110	--- / 170

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

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1.2.2	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	at double non-release voltage

2 Conditions

- 2.1 Above mentioned safety component represents only a part at the protection device against overspeed for the car moving in upwards direction and unintended car movement. Only in combination with a detecting and triggering component in accordance with the standard (two separate components also possible), which must be subjected to an own type-examination, can the system created fulfil the requirements for a protection device.
- 2.2 The installer of a lift must create an examination instruction 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).
- 2.3 The manufacturer of the drive unit must provide calculation evidence that the connection traction sheave – shaft – brake disc and the shaft itself is sufficiently safe, if the brake disc is not a direct component of the traction sheave (e. g. casted on). The shaft itself has to be statically supported in two points.
The calculation evidence must be enclosed with the technical documentation of the lift.
- 2.4 The setting of the brake torque has to be secured against unauthorized adjustment (e. g. sealing lacquer).
- 2.5 The identification drawing no. E02810400000261 including stamp dated 2016-02-01 shall be included to the EU type-examination for the identification and information of the general construction and operation and distinctness of the approved type.
- 2.6 The EU type-examination certificate may only be used in combination with the corresponding annex and enclosure (List of authorized manufacturer of the serial production). The enclosure will be updated immediately after any change by the certification holder.

3 Remarks

- 3.1 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 and as braking element as part of the protection device against unintended car movement.
- 3.2 Checking whether the requirements as per section 5.9.2.2 of EN 81-20:2014 (D) have been complied with is not part of this type examination.
- 3.3 Other requirements of the standard, such as reduction of brake moment respectively brake force due to wear or operational caused changes of traction are not part of this type examination.
- 3.4 This EU type-examination certificate was issued according to the following standards:
– EN 81-1:1998 + A3:2009 (D), Annex F.7 and F.8
– EN 81-20:2014 (D), part 5.6.6.11, 5.6.7.13
– EN 81-50:2014 (D), part 5.7 and 5.8
- 3.5 A revision of this EU type-examination certificate is inevitable in case of changes or additions of the above mentioned standards or of changes of state of the art.

**Enclosure to the EU Type-Examination Certificate
No. EU-BD 1014 of 2016-02-01**



Authorised Manufacturer of Serial Production – Production Sites (valid from: 2016-02-01):

Company Chr. Mayr GmbH & Co. KG
Address Eichenstr. 1
87665 Mauerstetten - Germany

Company Mayr Polska Sp. z o. o.
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63-500 Ostrzesów - Poland

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