



EU TYPE-EXAMINATION CERTIFICATE

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

Certificate No.: EU-BD 760

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: 896.0 __ . __, Size 200, 300, 500, 800, 1300, 1800

Directive: 2014/33/EU

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

Test Report: EU-BD 760 of 2015-09-30

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: 2015-09-30

Date of Validity: from 2016-04-20

Achim Janocha
Certification Body "lifts and cranes"



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]
200	300 - 600	1000
300	450 - 1000	800
500	760 - 1600	730
800	1200 - 2400	730
1300	1960 - 3600	580
1800	2700 - 4600	500

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

Size	Min. nominal brake torque* [Nm]	Max. nominal brake torque* [Nm]	Max. tripping rotary speed [rpm]	Maximum response times** [ms]		
				without overexcitation		
				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

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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

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	NO

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. E07909000000260 including stamp dated 2015-09-30 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 A code number for the brake moment effectively adjusted will be marked at the first blank in the type designation 896.0 __ . __ within the permissible scope of application. A code number for design characteristics which are not directly part of the type-examination will be marked at the second, third and fourth blank (e. g. in the second blank: with flange plate, hand release; in the third blank: characteristics for electrical connection; in the fourth blank: with or without cover).
- 3.2 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.

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- 3.3 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.
- 3.4 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.
- 3.5 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
- 3.6 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 760 of 2015-09-30**

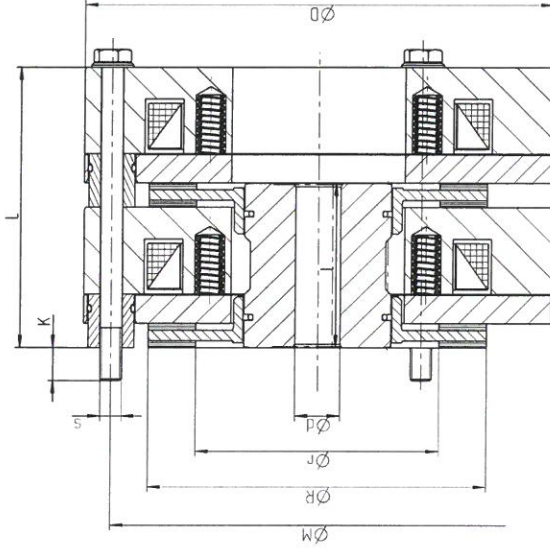


Authorised Manufacturer of Serial Production – Production Sites (valid from: 2015-09-30):

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

Company Mayr Polska Sp. z o. o.
Address Rojów, ul. Hetmanska 1
63-500 Ostrzesów - Poland

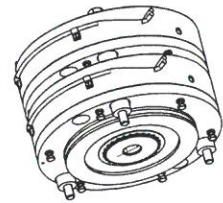
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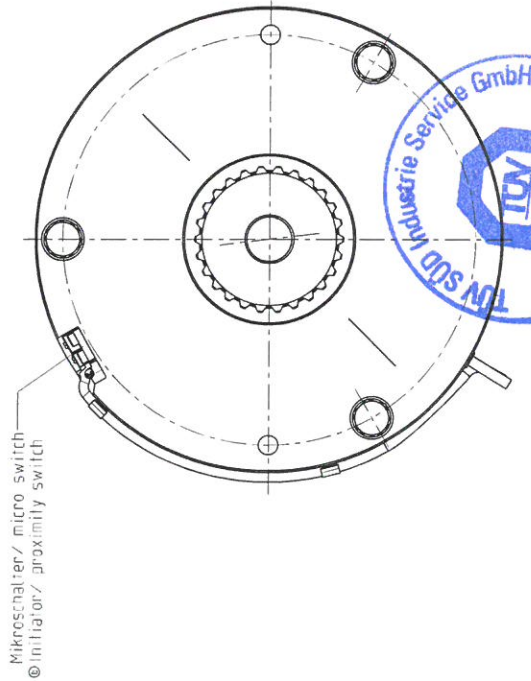
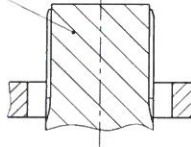
3.0. SEP. 2015

GEPRÜFT / APPROVED
 TÜV SÜD Industrie Service GmbH
 Prüflaboratorium für Produkte der Fördertechnik
 Westendstraße 199
 80686 München

Sachverständiger / Expert
M. Nijm



⑥ Sonderausführungen
 alternativ mit
 direktverzählter
 Motorwelle /
 special designed
 alternative with
 splined motor shaft



⑥ Nabe variabel:
 Zulässige Bohrungsdurchmesser, Nabenlängen und Einschraubtiefen sind vom Drehmoment der Bremse abhängig und können an vorgegebene Wellenenden bzw. Motorflansche angepasst sein. /
 Dimensions variable:
 Permitted bore diameters, hub lengths and screw in depth are dependent on
 braking torque an could be adapted to specified motor shafts and motor flanges.

Größe	Bohrung/ bore d	⑥ ØD ± 5	⑥ ØR+4	⑥ ØM	L	L	L	11 K	11 S
200	30-46	223	170	122	196	152	88	16.4	3xM10 ⑥6xM10
300	24-59	261	188	135	230	159	93	18.7	3xM12 ⑥6xM12
500	40-69	285	213	150	250	172	102	25.5	6xM12
800	45-79	329	246	180	290	189	122	28	6xM16
1300	56-95	370	283.5	208	⑥325/ 330	⑥168- 199	⑥115- 142	24- 30	⑥6xM16 8xM16
1800	66-104	415	320	230	370	205	152	32	8xM16

Fertigtage aus: (Part.-Nr.) Datum: 09.09.05 Name: Rigel Spezifikation: DIN 152 Normung: DIN 152 Material: 1.4571 Werkstoff: 1.4571 Temperatur: 150°C Prüfverfahren: DIN 152 / 152		Fertigtage aus: (Part.-Nr.) Datum: 11.09.05 Name: Rigel Spezifikation: DIN 152 Normung: DIN 152 Material: 1.4571 Werkstoff: 1.4571 Temperatur: 150°C Prüfverfahren: DIN 152 / 152		Fertigtage aus: (Part.-Nr.) Datum: 11.09.05 Name: Rigel Spezifikation: DIN 152 Normung: DIN 152 Material: 1.4571 Werkstoff: 1.4571 Temperatur: 150°C Prüfverfahren: DIN 152 / 152	
Zeichnungs-Nr.: E07909000000260 Fertigungs-Nr.: 0663888 Fertigtage aus: (Part.-Nr.) Datum: 11.09.05 Name: Rigel Spezifikation: DIN 152 Normung: DIN 152 Material: 1.4571 Werkstoff: 1.4571 Temperatur: 150°C Prüfverfahren: DIN 152 / 152					