



EU TYPE-EXAMINATION CERTIFICATE

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

Certificate No.: EU-BD 891

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: RSO 1300/896.2 _ _ . _ _

Directive: 2014/33/EU



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

Test Report: EU-BD 891 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"


**Annex to the EC Type-Examination Certificate
No. EU-BD 891 of 2015-09-30**



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 torque and tripping rotary speed

1.1.1 Permissible brake torque when the braking device acts on the shaft of the traction sheave while the car is moving upward 2600 - 4000 Nm

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 below 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

Maximum tripping rotary speed of the traction sheave 200 rpm

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]		
				with overexcitation		
				t_0	t_{50}	t_{90}
1300	2600		200	125	200	300
1300		4000	200	115	190	300

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

1.2.2 Assigned execution features

Type of powering / deactivation	continuous current / continuous current end
Nominal air gap	0.65 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.

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- 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 triggering of the braking device is not caused positive mechanically but electrically resp. electromagnetically by interruption of the energy supply to the magnetic coil of the braking device. However, the mechanical engagement of the braking device has to be absolutely guaranteed after the electrical safety device has responded.
In light of the above, the braking device must be made to engage at regular intervals e. g. once daily, so that the anchor plates can be checked for correct closing (e.g. micro switches resp. proximity switch). If the anchor plates do not perform correctly (anchors fail to close) the lift must be kept at standstill.
- 2.4 Appropriate measures must ensure that it is evident in the machine room whether the braking device has responded in line with its intended use as a safety component (following failure of an item of operating equipment such as breakage of a gearing element or shaft) or whether the response was caused by other reasons (e. g. loss of power supply). It must also have to be provided a instruction sheet how to proceed in emergency operation (moving the car through manual operation or return motion control) after the braking device has responded. Once the braking device has responded in the intended way as a safety component, it should never be possible to move the lift machine via the return motion control.
- 2.5 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.
- 2.6 The setting of the brake torque has to be secured against unauthorized adjustment (e. g. sealing lacquer).
- 2.7 The identification drawing no. E07913216000260 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.
- 2.8 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 RSO 1300/896.2 _ _ . _ _ 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 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 891 of 2015-09-30**



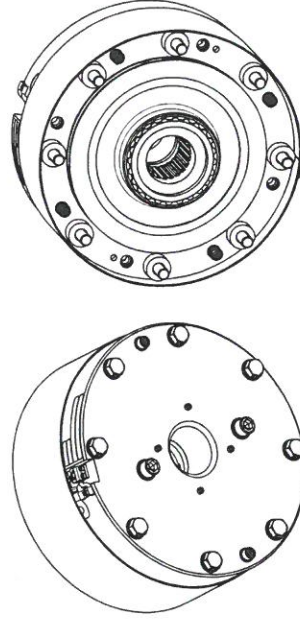
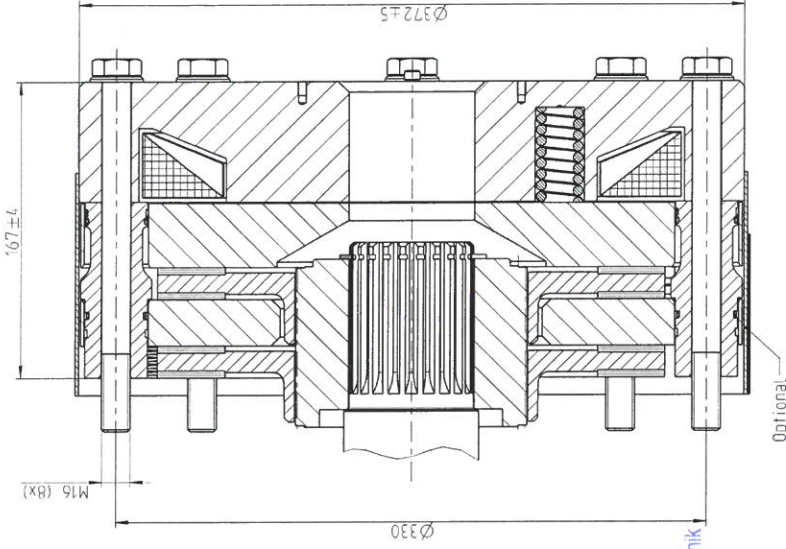
Industrie Service

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

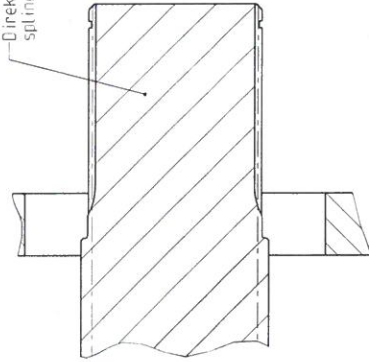
Company Chr. Mayr GmbH & Co. KG
Address Eichenstr. 1
87665 Mauerstetten - Germany

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

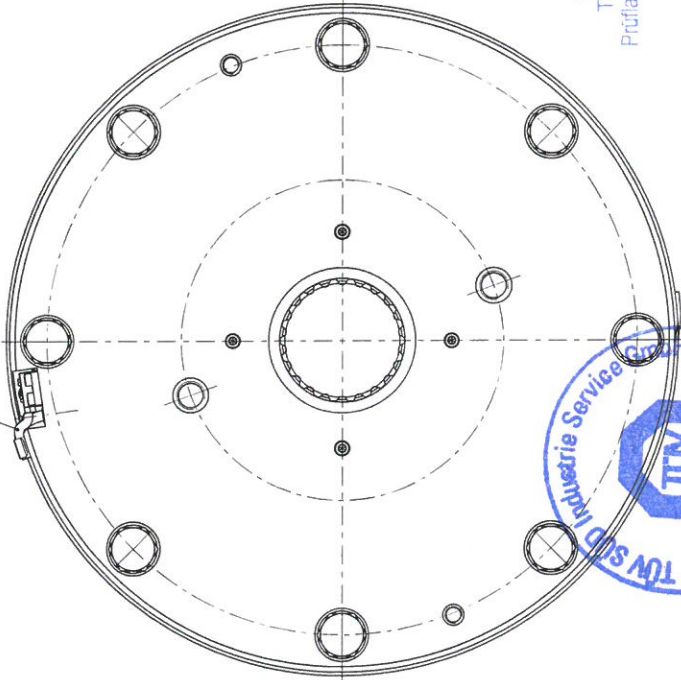
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Direktverzahnte Motorwelle/
splined motor shaft.



Mikroschalter / micro switch
Initiator / proximity switch



3 0. SEP. 2015

GEPRÜFT / APPROVED

TUV SUD Industrie Service GmbH

Prüflaborium für Produkte der Fördertechnik

Westendstraße 199

80686 München

Sachverständige(r) / Expert

M. Nagler

¹⁾ Maße variabel.

Zulässige Bohrungsdurchmesser, Nabeninnenzahnring,

Nabenlängen und Einschraubtiefen sind vom Drehmoment

abhängig und können an vorgegebene Wellenenden bzw. Motorflansche angepasst sein. /

Dimensions variable.

Permitted bore diameters, hub internal toothing, hub lengths and screw in depth are dependent on

braking torque an could be adapted to specified motor-shafts and motor flanges.

Zeichnung aus:		Zeichnungs-Nr.:		Abw. v. Lagerfeld	
Datum	Name	Datum	Name	Datum	Name
22.02.2012	Gumbler	08/12			
Zeichnung: DME EN ISO 1502 Fertigungszeichnung DIN ISO 8015 Allg.-Standard DIN ISO 2768-mS Verzeichnisse DIN ISO 1175 Oberflächen n. DIN ISO 8080-10000 Zahnrad 1:2000					
Werkstoff: St. Ritzzeichnung n. DIN ISO 8080-10000 Zahnrad 1:2000					
Fertigungs-Nr.: RSO 1300/896.2			Zeichnungs-Nr.: E07913216000260		
Maßstab: 1:2			Fertigungs-Nr.:		
Blatt: 1.2			Blatt: 1300		
Name:			Firmenstempel:		
Nachname:			Datum:		
Unterschrift:			Zeichnungs-Nr.:		
Datum:			Fertigungs-Nr.:		

mayer

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