

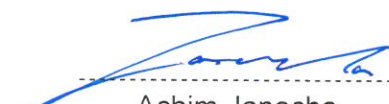


Industrie Service

EU TYPE-EXAMINATION CERTIFICATE

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

Certificate No.:	EU-BD 845/1
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: (Manufacturer of Serial Production – see Enclosure)	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten - Germany
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 150, 200, 250, 350 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 845/1 of 2016-06-03
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:	2016-07-18


Achim Janocha
Certification Body "lifts and cranes"



**Annex to the EC Type-Examination Certificate
No. EU-BD 845/1 of 2016-07-18**



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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]
150	180 - 400	981
200	240 - 500	979
250	370 - 640	800
350	500 - 920	800

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}
150	2 x 90 = 180		981	40	70	95
150		2 x 200 = 400	981	20	40	80
200	2 x 120 = 240		979	85	145	190
200		2 x 250 = 500	979	30	60	110
250	2 x 185 = 370		800	50	75	110
250		2 x 320 = 640	800	25	45	85
350	2 x 250 = 500		800	60	100	125
350		2 x 460 = 920	800	30	50	85

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	NO

2 Conditions

- 2.1 Above mentioned safety component represents only a part at the protection device against over-speed 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. E02812200000162 including stamp dated 2016-06-03 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 845/1 of 2016-07-18**



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Authorised Manufacturer of Serial Production – Production Sites (valid from: 2016-07-18):

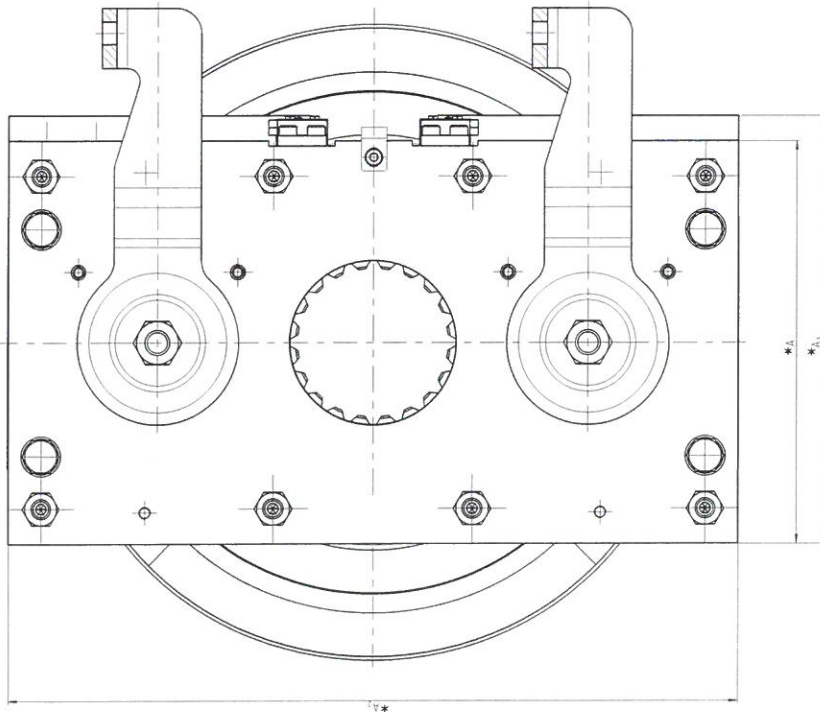
Company Chr. Mayr GmbH & Co. KG
Address Eichenstr. 1
87665 Mauerstetten - Germany

Company Mayr Power Transmission Co. Ltd.
Address 7 Fuxin Road, Jiangsu Province
215637 Zhangjiagang - P.R. China

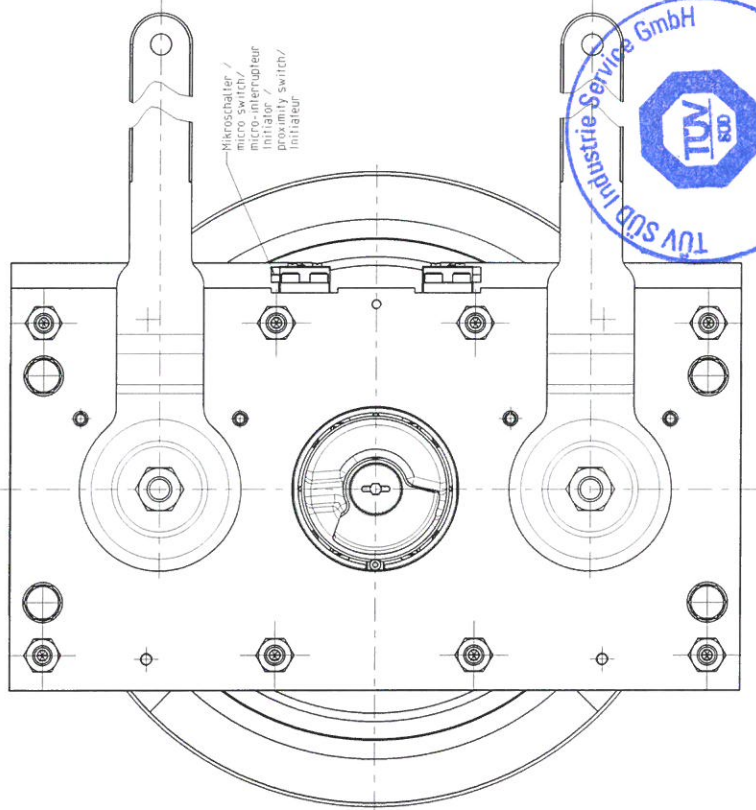
Company Mayr Polska Sp. z o. o.
Address Rojów, ul. Hetmanska 1
63-500 Ostrzesów - Poland

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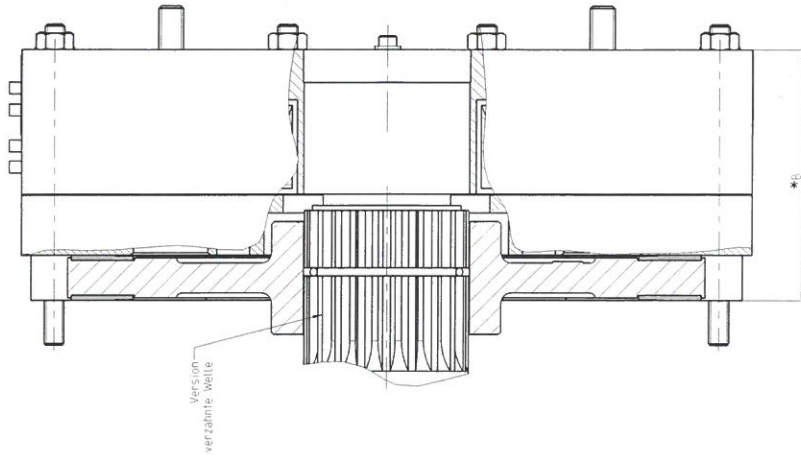
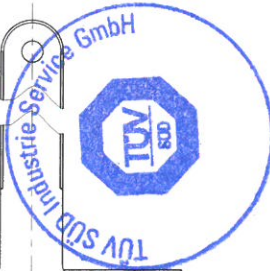
Luftversion für Bowdenzug
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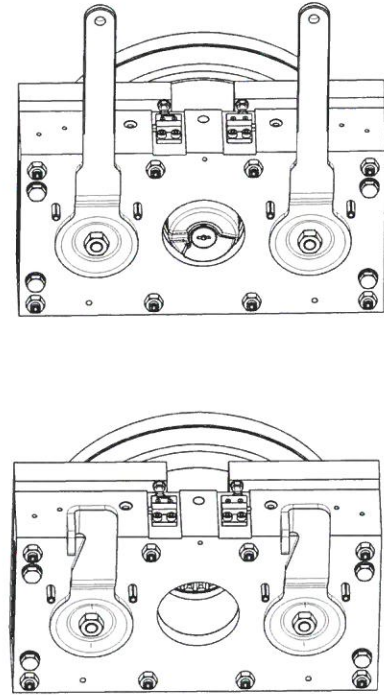
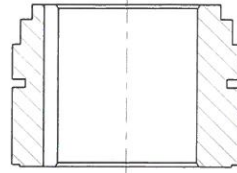
Luftversion von Hand
(optional)



Mikroschalter /
micro-interrupteur
Initiator /
proximity switch/
Initiateur



Version
Nabe
(optional)



E 3. JUNI 2016

GEPRÜFT / APPROVED
TÜV SÜD Industrie Service GmbH
Prüflaboratorium für Produkte der Fördertechnik
Westendstraße 199
80686 München
Sachverständiger Experte
H. Napp

• Maße variabel/
dimensions variable/
dimensions variables

Größe size taille	A	A ₁	A ₂	B
150	160	170	250	90-0
200	160	170	200	90-0
250	160	170	200	100-0
350	200	210	300	100-0