ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TYPE EXAMINATION CERTIFICATE

According to Lifts Regulations 2016, Schedule 11, Section A

Certificate No.:	UK-BD 845/3
Approved Body:	TUV SUD BABT UNLIMITED Octagon House Concorde Way, Segensworth North Fareham, Hampshire, PO15 5RL, UK Identification No. 0168
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, 450 Type 8012._ _ _ _ _
Regulation:	Lifts Regulations 2016
Reference Standards:	EN 81-20:2020 EN 81-50:2020
Test report:	UK-BD Chr. Mayr dated 2022-05-24
Outcome:	The product conforms to the essential health and safety requirements of the mentioned Regulation if the requirements of the annex to this type examination certificate are kept.
Date of Issue:	2022-05-27

TUV SUD BABT UNLIMITED 01 68 Approved Body

Achim Janocha

TUV SUD BABT UNLIMITED

Annex to the Type Examination Certificate No. UK-BD 845/3 of 2022-05-27

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] Typbezeichnung 8012. _ **X** _ _ _ **X** = 0, 1, 2, 3	Permissible brake torque [Nm] Typbezeichnung 8012. _ **X** _ _ _ **X** = 4, 5	Max. tripping rotary speed of the traction sheave [rpm]
150	180 - 400	240 - 460	981
200	240 - 500	----	979
250	370 - 640	370 - 700	800
350	500 - 920	520 - 1000	800
450	640 - 1100	600 - 1260	600

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 as well as type designation 8012. _ 0 _ _ _, 8012. _ 1 _ _ _, 8012. _ 2 _ _ _, 8012. _ 3 _ _ _

Size	Min. nominal brake torque* [Nm]	Max. nominal brake torque * [Nm]	Diameter of rotor [mm]	Max. tripping rotary speed [rpm]	Maximum response times** [ms] without overexcitation		
					t_0	t_{50}	t_{90}
150	2 x 90 = 180		222.5	981	40	70	95
		2 x 200 = 400			20	40	80
200	2 x 120 = 240		235	979	85	145	190
		2 x 250 = 500	253		30	60	110
250	2 x 185 = 370		253	800	50	75	110
		2 x 320 = 640			25	45	85
350	2 x 250 = 500		273	800	60	100	125
		2 x 460 = 920			30	50	85
450	2 x 320 = 640		253	600	90	130	190
		2 x 500 = 1000	253		35	60	100
		2 x 550 = 1100	281				

Interim values can be interpolated

1.2.2 Nominal brake torques and response times with relation to a brand-new brake element as well as type designation 8012. _ 4 _ _ _, 8012. _ 5 _ _ _

Size	Min. nominal brake torque* [Nm]	Max. nominal brake torque * [Nm]	Diameter of rotor (mm)	Max. tripping rotary speed [rpm]	Maximum response times** [ms] with / without overexcitation		
					t_0	t_{50}	t_{90}
150	2 x 120 = 240		222.5	981	- / 50	- / 70	- / 110
		2 x 200 = 400			- / 30	- / 45	- / 80
		2 x 230 = 460			40 / -	50 / -	85 / -
250	2 x 185 = 370		253	800	- / 60	- / 80	- / 120
		2 x 300 = 600			- / 35	- / 50	- / 90
		2 x 350 = 700			50 / -	60 / -	100 / -
350	2 x 260 = 520		253	800	- / 60	- / 100	- / 125
	2 x 280 = 560		273				
		2 x 410 = 820	253		- / 35	- / 50	- / 95
		2 x 440 = 880	273				
		2 x 470 = 940	253		40 / -	50 / -	90 / -
		2 x 500 = 1000	273				
450	2 x 300 = 600		253	600	- / 90	- / 130	- / 200
	2 x 325 = 650		273				
		2 x 500 = 1000	253		- / 40	- / 65	- / 130
		2 x 540 = 1080	273				
		2 x 585 = 1170	253		45 / -	70 / -	135 / -
		2 x 630 = 1260	273				

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

1.2.3 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 or 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. E02812200000163 including stamp dated 2021-05-17 shall be included to the type examination for the identification and information of the general construction and operation and distinctness of the approved type.

2.6 The type examination certificate may only be used in combination with the corresponding annex and enclosure (List of authorized manufacturers 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 81-20:2020 (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 type examination certificate was issued according to the following standards:

- EN 81-20:2014 (D), part 5.6.6.11 + 5.6.7.13
- EN 81-20:2020 (D), part 5.6.6.11 + 5.6.7.13
- EN 81-50:2014 (D), part 5.7 + 5.8
- EN 81-50:2020 (D), part 5.7 + 5.8

A revision of this 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 Type Examination Certificate
No. UK-BD 845/3 of 2022-05-27

Authorised Manufacturer of Serial Production – Production Sites (valid from: 2022-04-14):

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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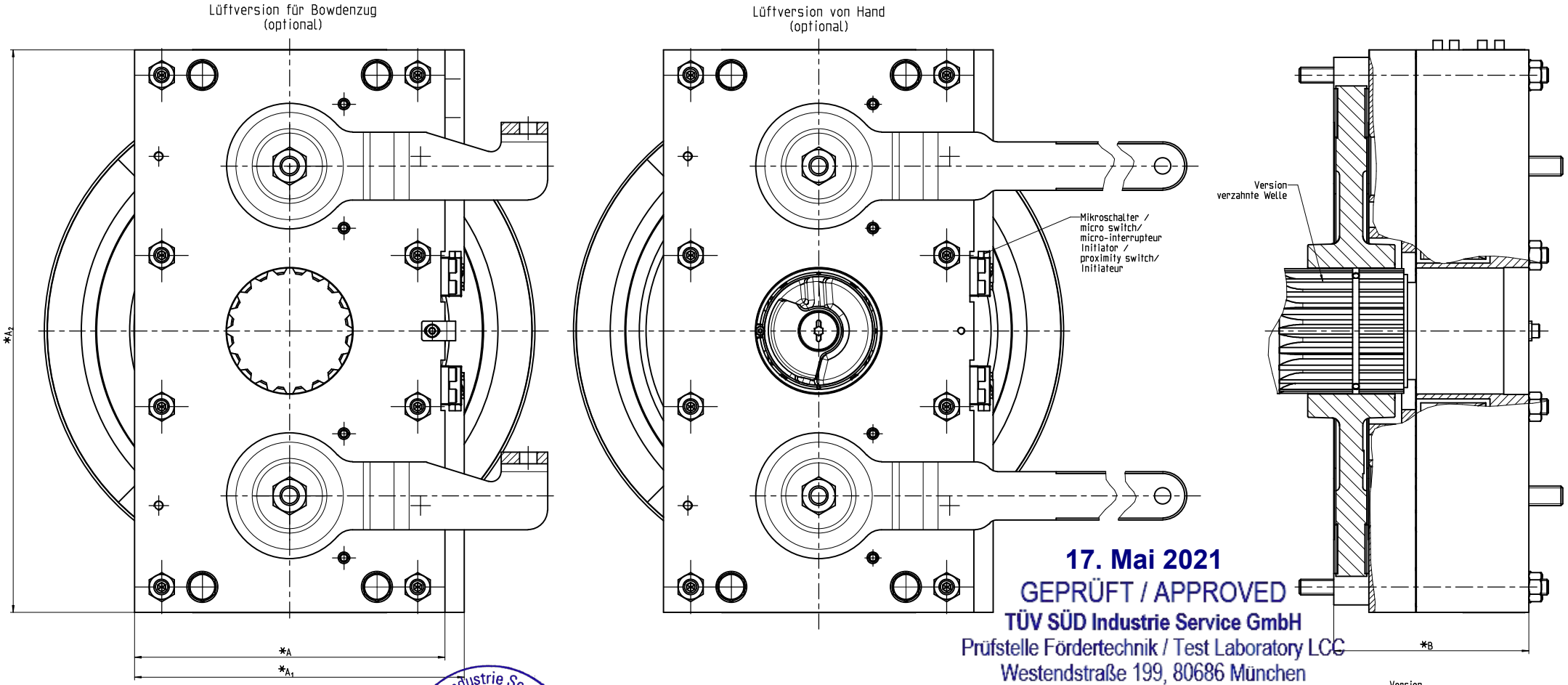
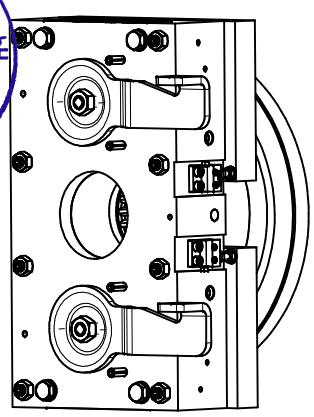
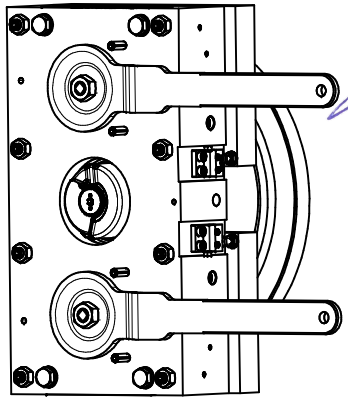
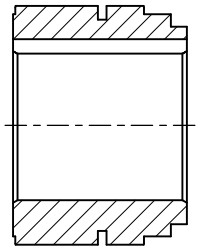


17. Mai 2021
GEPRÜFT / APPROVED
TÜV SÜD Industrie Service GmbH
Prüfstelle Fördertechnik / Test Laboratory LCC
Westendstraße 199, 80686 München
Sachverständiger (m/w/d) / Expert

TÜV SÜD Industrie Service GmbH







* Maße variabel/
dimensions variable/
dimensions variables

Type/ type/ type	8012.-0--- 8012.-1--- 8012.-2--- 8012.-3---			
Größe/ size/ taille	* A	* A_1	* A_2	* B
150	160	170	250	90.6 - 100.6
200	160	170	290	90.6
250	160	170	290	100.6 - 110.6
350	200	210	300	100.6 - 110.6
450	250	250	313	110.6

Type/ type/ type	8012.-4--- 8012.-5---			
Größe/ size/ taille	* A	* A_1	* A_2	* B
150	190	200	251	89.4
250	200	210	290	89.4
350	230	240	300	89.4
450	250	250	315	99.4

	Datum / date	Name / name
Gezeichnet / drawn:	16.11.2017	Hetzer
Geprüft / checked:		
Genehmigt / approved:		
Oberfläche / surface DIN EN ISO 1302 Ra = µm(√)	Werkstoffkantenform / edges DIN ISO 13715	

Werkstoff-Nr./material-no.:
Werkstoff / material:
alternativ / alternative

Maßtoleranzen / dimensional tolerances DIN ISO 8015
Tolerierungsgrundsatz / fundamental tolerancing principle DIN EN ISO 8015:2011
Allgem.-Toleranzen / general tolerances DIN ISO 2768-mK

Ersatz für / replacement for:

Benennung / part name:
RTW Baugröße 150 - 450
Type 8012._____

Art-Nr./Nummer / part number:
Dokumentnummer / document number:
Zeichnungsnummer / drawing number:
E028122000000163

Maßstab / scale:	Type / type:	Größe / size:	Gewicht / weight:
1:1	8012._____		kg

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