ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Industrie Service

EC type-examination certificate

Certificate no.:	ABV 760/2
Notified body:	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München - Germany
Applicant/ Certificate holder:	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten - Germany
Date of application:	2011-02-10
Manufacturer of the test sample:	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
Type:	896.0 _ _._ _, Größe 200, 300, 500, 800, 1300, 1800
Test laboratory:	TÜV SÜD Industrie Service GmbH Prüflaboratorium für Produkte der Fördertechnik Prüfbereich Aufzüge und Sicherheitsbauteile Westendstr. 199 80686 München - Germany
Date and number of the test report:	2011-04-11 ABV 760/2
EC-Directive:	95 / 16 / EC
Result:	The safety component conforms to the essential safety requirements of the Directive for the respective scope of application stated on page 1 - 2 of the annex to this EC type-examination certificate.
Date of issue:	2011-04-12

Certification body for lifts and safety components
Identification number: 0036

Christian Rührmeyer

TÜV SÜD Industrie Service GmbH 00 36 Benannte Stelle

TÜV®

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Annex to the EC type-examination certificate no. ABV 760/2 dated 2011-04-12

1. Scope of Application

1.1 Permissible brake moment, maximum tripping rotary speed and maximum rated rotary speed of the traction sheave when the brake device acts on the shaft of the traction sheave while the car is moving upward

Seize	Permissible brake moment (Nm)	Max. tripping rotary speed of traction sheave (min^{-1})	Max. rated rotary speed of traction sheave (min^{-1})
200	300 – 600	1000	873
300	450 - 1000	800	696
500	760 - 1600	730	635
800	1200 - 2400	730	635
1300	1960 - 3600	580	504
1800	2700 - 4600	500	435

1.2 Maximum tripping speed of the overspeed governor and maximum rated speed

The maximum tripping speed and the maximum rated speed must be calculated on the basis of the traction sheaves maximum tripping rotary speed and maximum rated rotary speed as outlined in sections 1.1 taking into account traction-sheave diameter and car suspension.

$$v = \frac{D \times \Pi \times n}{60 \times i}$$

v = speed (m/s)
D = Diameter of the traction sheave from rope's centre to rope's centre (m)
Π = 3,14
n = Rotary speed (min^{-1})
i = Ratio of the car suspension

2. Conditions

2.1 Since the brake device represents only a part oft the protection device against overspeed for the car moving in upwards direction an overspeed governor as per EN 81-1, paragraph 9.9 must be used to monitor the upward speed and the brake device must be triggered (engaged) via the overspeed governor's electric safety device.

Alternatively, the speed may also be monitored and the brake device engaged by a device other than an overspeed governor as per paragraph 9.9 if the device shows the same safety characteristics and has been type tested.

2.2 In order to recognise the loss of redundancy the movement of each brake circuit (each single brake) is to be monitored separately and directly (e.g. by micro switches, proximity switch). If a brake circuit fails to engage (close) while the lift machine is at standstill, next movement of the lift must be prevented.

2.3 In cases where the lift machine moves despite the brake being engaged (closed), the lift machine must be stopped at the next operating sequence at the latest and the next movement of the lift must be prevented. (The car may, for example, be prevented form traveling by querying the position of the micro switch, proximity switch which is used to monitor the mechanical movement of the brake circuits, should both brake circuits fail to open).

2.4 According to EN 81-1, paragraph 9.10.4 d a braking device must act directly on the traction sheave or on the same shaft on which the traction sheave is situated in the immediate vicinity thereof.

If the braking device does not act in the immediate vicinity of the traction sheave on the same shaft on which the traction sheave is situated, the standard is not complied with. In cases involving shaft failure in the extended area between the traction sheave and the braking device, safety would no longer be ensured by the latter if the lift car made an uncontrolled upward movement.

Shaft failure in the extended area must therefore be ruled out by appropriate design and sufficient dimensioning. In order to eliminate or reduce influencing factors which may lead to failure wherever possible, the following requirements must be satisfied:

- Minimization of bending length between traction sheave and braking device or traction sheave and the next bearing (the next bearing must form part of the drive unit)
- Static defined bearing (e. g. 2-fold borne shaft) otherwise measures are required to obtain a defined loading
- As far as possible, prevention of a reduction in load-bearing capacity in the area of reversed bending stress (reduction in load-bearing capacity caused, for example, by stress concentration and cross-sectional reductions)
- Between traction sheave and braking device the shaft must be continuous (made from one piece)
- Cross-sectional influences on the shaft are only permitted if they act on the following connections: traction sheave – shaft, braking device – shaft, torque of the transmitting component – shaft (situated between traction sheave and braking device).

The manufacturer of the drive unit must provide calculation evidence that the connection braking device – shaft, traction sheave - shaft and the shaft itself is sufficiently safe. If necessary, evidence must be provided for the intended measures, too (see static undefined bearing).

The calculation evidence must be enclosed with the technical documentation of the lift.

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).

The permissible brake moments must be applied to the lift system in such a manner that they do not decelerate more than 1 g_n, if the empty car is moving upwards.

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.

This type examination only refers to the requirements pertaining to brake devices as per EN 81-1, paragraph 9.10.

Checking whether the requirements as per paragraph 12.4 have been complied with is not part of this type examination.

3.3 In order to provide identification, information about the basic design and functioning and to show the environmental conditions and connection requirements, drawing no. E 079 09 000 000 2 60 with certification stamp dated 2011-04-12 is to be enclosed with the EC type-examination certificate and the annex thereto. The environment and connection conditions of the safety gear are described and depicted in additional documents (e. g. the assembly instructions).

3.4 The EC type-examination certificate may only be used in connection with the pertinent annex and the list of the authorized manufacturers (according to enclosure). This enclosure shall be updated and re-edited following information of the certificate holder.

Industrie Service

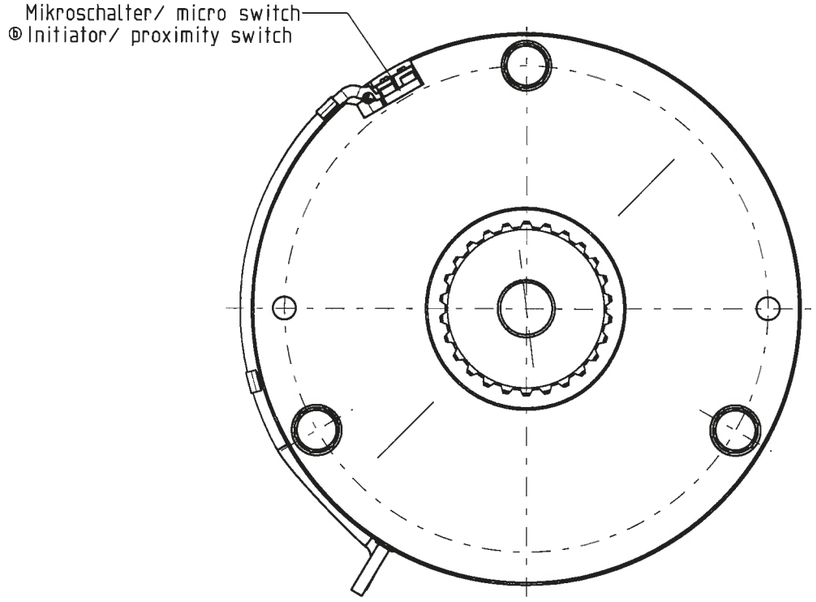
Enclosure of EC type-examination certificate no. ABV 760/2 dated 2011-04-12

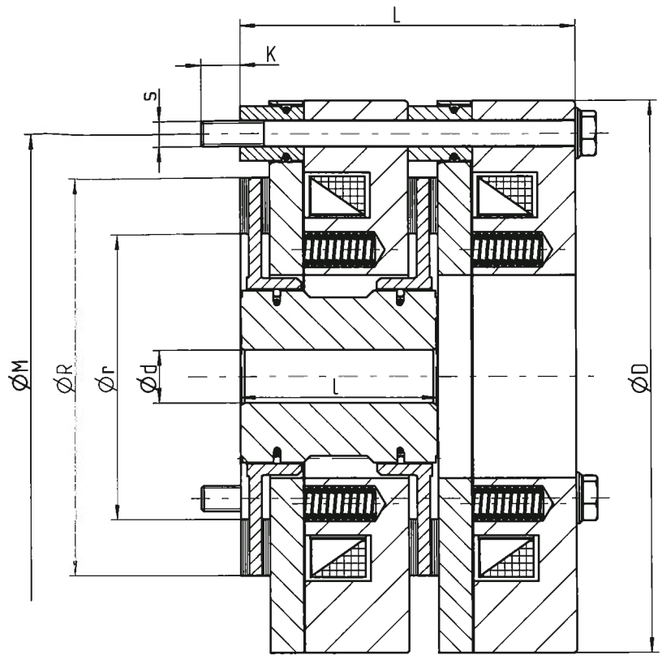
Authorised manufacturers – production sites (stated: 2011-04-12):

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

- END OF DOCUMENT -

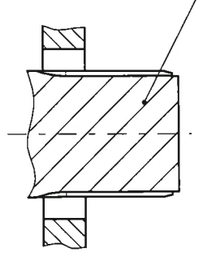
Base: Letter of Request of Co. Chr. Mayr GmbH & Co. KG dated 2011-02-10

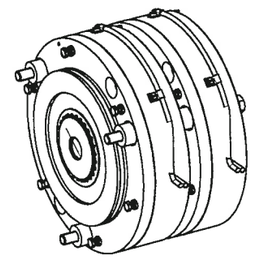




TÜV SÜD Industrie Service GmbH
TÜV SÜD
12. April 2011
- GEPRÜFT -
TÜV SÜD Industrie Service GmbH
Zentralbereich Fördertechnik-Sonderbauten
Abteilung Aufzüge und Sicherheitsbauteile
Westendstr. 199, D-80686 München
Der Sachverständige

ⓑ Sonderausführungen alternativ mit direktverzahnter Motorwelle / special designes alternative with splined motor shaft





1:5

1) ⓑ Maße 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 motorshafts and motor flanges.

Größe	1) ⓑ Bohrung/ bore d	ⓑ ØD ±5	ⓑ ØR+4	Ør	ØM	L	1) ⓑ l	1) ⓑ K	1) ⓑ s
200	30-48	223	170	122	196	152	88	16.4	3xM10 ⓑ 6xM10
300	24-59	261	188	135	230	159	93	18.7	3xM12 ⓑ 6xM12
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	ⓑ 325/ 330	ⓑ 168-199	ⓑ 115-142	ⓑ 24-30	ⓑ 6xM16 8xM16
1800	66-104	415	320	230	370	205	152	32	8xM16

gefertigt aus	Zeichn.-Nr.				Artikel-Nr.										* =Abweich. v. Lagerteil
	Datum	Name	Oberfläche: Ra= µm(√)				Index	Änder.-Nr.	Datum	Name	mayr				
Gezeichnet	02.02.05	Bigiel	DIN EN ISO 1302				ⓐ	--/--	11.08.06	Bigiel					
Geprüft			Tolerierungsgrundsatz DIN ISO 8015				ⓑ	--/--	03.02.11	Melzer					
Norm-geepr.			Allgem.-Toleranzen DIN ISO 2768-mH				ⓒ	.	.	.	CHR. MAYR GMBH + CO.KG Eichenstraße 1 87665 Mauerstetten				
Werkstoff			Werkstückkanten DIN ISO 13715				ⓓ	.	.	.					
							ⓔ	.	.	.					
Werkstoff -Nr.			Schutzvermerk n. DIN ISO 16016 beachten		Paßmaß	Abmaß	ⓕ	.	.	.					
							ⓖ	.	.	.					
RSO 200-1800 /896.0__.__ ⓐ											Zeichnungsnummer E07909000000260				
Maßstab	Reg. St.	Type		Größe			Fertig-Gewicht:				Artikelnr.				
1:2		Kunde					gew.				Zeichnungsnr. 0663888				
							ger.				Ersatz für				

Letzte Aktualisierung : 10.02.2011