



## EC type-examination certificate

|  |   |
|--|---|
| <b>Certificate no.:</b>                        | ABV 766/3   |
| <b>Notified body:</b>                          | TÜV SÜD Industrie Service GmbH<br>Westendstr. 199<br>80686 München - Germany  |
| <b>Applicant/<br/>Certificate holder:</b>      | Chr. Mayr GmbH & Co. KG<br>Eichenstr. 1<br>87665 Mauerstetten - Germany   |
| <b>Date of application:</b>                    | 2011-02-08  |
| <b>Manufacturer of the test sample:</b>        | Chr. Mayr GmbH & Co. KG<br>Eichenstr. 1<br>87665 Mauerstetten - Germany   |
| <b>Product:</b>                                | Braking device, acting on the shaft of the traction sheave,<br>as part of the protection device against overspeed for the<br>car moving in upwards direction  |
| <b>Type:</b>                                   | RSR/8010._ _ _ _ _ , Größe 200, 400, 600, 800, 1000, 1500   |
| <b>Test laboratory:</b>                        | TÜV SÜD Industrie Service GmbH<br>Prüflaboratorium für Produkte der Fördertechnik<br>Prüfbereich Aufzüge und Sicherheitsbauteile<br>Westendstr. 199<br>80686 München - Germany                                  |
| <b>Date and<br/>number of the test report:</b> | 2011-04-14<br>ABV 766/3   |
| <b>EC-Directive:</b>                           | 95 / 16 / EC  |
| <b>Result:</b>                                 | The safety component conforms to the essential safety<br>requirements of the Directive for the respective scope of<br>application stated on page 1 - 2 of the annex to this EC<br>type-examination certificate. |
| <b>Date of issue:</b>                          | 2011-04-15  |

Certification body for lifts and safety components  
Identification number: 0036

*C. Rührmeyer*  
Christian Rührmeyer



## Annex to the EC type-examination certificate no. ABV 766/3 dated 2011-04-15

### 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

| Size        | Permissible brake moment (Nm) | Max. tripping rotary speed of traction sheave (min <sup>-1</sup> ) | Max. rated rotary speed of traction sheave (min <sup>-1</sup> ) |
|-------------|-------------------------------|--|---|
| 200         | 200 – 560                     | 811  | 705   |
| 200 „long“  | 500 – 700                     | 820  | 713   |
| 400 „short“ | 420 – 840                     | 708  | 616   |
| 400 „long“  | 750 – 1200                    | 1011   | 879   |
| 600         | 1000 – 1600                   | 500  | 435   |
| 800         | 1300 – 1900                   | 400  | 348   |
| 1000        | 1840 – 2400                   | 400  | 348   |
| 1500        | 2400 – 3600                   | 400  | 348   |

- 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)  
 $\pi$  = 3,14  
 $n$  = Rotary speed (min<sup>-1</sup>)  
 $i$  = Ratio of the car suspension

### 2. Conditions

- 2.1 Since the brake device represents only a part of 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 from 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 8010. \_ \_ \_ \_ 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 rest of the blanks (e. g. in the second blank: with flange plate, in the third blank: with hand release; in the fourth blank: release control and/or wear control; in the fifth blank: characteristics for electrical connection).
- 3.2 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.
- 3.3 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.
- 3.4 In order to provide identification, information about the basic design and functioning and to show the environmental conditions and connection requirements, drawing no. E 028 01 000 000 1 61 with certification stamp dated 2011-04-15 is to be enclosed with the EC type-examination certificate and the annex thereto.
- 3.5 The environment and connection conditions of the safety gear are described and depicted in additional documents (e. g. the assembly instructions).
- 3.6 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 766/3 dated 2011-04-15**

**Authorised manufacturers – production sites (stated: 2011-04-15):**

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

Mayr Power Transmission Zhangjiagang Co.,Ltd.  
No. 3 Factory, No. 16 Changxing road,  
215600 Zhangjiagang, P.R. China

- END OF DOCUMENT -

Base: Letter of Request of Co. Chr. Mayr GmbH & Co. KG dated 2011-02-08



**EG – Konformitätserklärung**  
*EC – Declaration of conformity*  
**Déclaration CE de conformité**  
*Dichiarazione CE di conformità*  
**Declaración CE de conformidad**  
*Declaração de conformidade da CE*

Im Sinne der EG-Richtlinie Aufzüge 95/16/EG erklären wir  
*In terms of the EC Directive 95/16/EC relating to lifts, we*  
Conformément à la directive européenne 95/16/CE sur les ascenseurs, nous, la société  
*Secondo la Direttiva CE per ascensori 95/16/CE, la presente*  
En el sentido de la Directiva CE 95/16/CE sobre ascensores  
*Nos termos da diretiva da CE 95/16/CE relacionados aos elevadores declaramos*

**Chr. Mayr GmbH + Co. KG**  
**Eichenstraße 1**  
**D-87665 Mauerstetten**

dass die angeführten Produkte in alleiniger Verantwortung entwickelt, konstruiert und gefertigt wurden in Übereinstimmung mit der oben genannten EG-Richtlinie.  
*declare that the products stated below have been developed, constructed and manufactured in sole responsibility and in conformity with the above mentioned EC Directive.*  
déclarons sous notre seule responsabilité que les produits listés ci-dessous ont été développés, conçus et usinés dans le respect de la directive CE mentionnée ci-dessus.  
*dichiara che i prodotti sotto elencati sono stati progettati e realizzati sotto la propria responsabilità e in conformità alle Direttive CE sopra riportate.*  
declaramos que los productos indicados han sido desarrollados, construidos y fabricados de acuerdo con la Directiva CE arriba mencionada.  
*que os produtos abaixo mencionados foram desenvolvidos, construídos e fabricados sob única responsabilidade e em conformidade com a diretiva CE acima mencionada.*

**Elektromagnetische Federdruckbremse / Electromagnetic spring applied brakes / Freins électromagnétiques à ressort de pression / Freni elettromagnetici a molle compresse / Frenos de muelles electromagnéticos / Freio eletromagnético de molas**

| Produkt / Product / Produit / Prodotto / Producto / Produto | Größen / Sizes / Tailles / Grandezze / Dimensión / Dimensão | Typen / Types / Types / Serie / Tipos / Tipos | ANVP       |
|---|---|---|------------|
| ROBA <sup>1</sup> -duplostop <sup>1</sup>                   | 200/400/600/800/1000/1500                                   | 8010._____                                    | 1, **, *** |

**Jahr der Herstellung:**  
*Year of manufacture:*  
**Année de production:**  
*Anno di produzione:*  
**Año de fabricación:**  
*Ano de fabricação:*

**Siehe Typenschild am Produkt**  
*see product label*  
**Voir l'étiquette sur le produit**  
*vedi l'etichetta sul prodotto*  
**ver placa de identificación del producto**  
*Ver placa do produto*

Mauerstetten den 12.05.2011

Ort und Datum / place and date / Lieu et date /  
luogo - data / fecha y lugar / Lugar e data

  
Dipl. Ing. (FH) / graduate engineer / Engenheiro graduado  
Geschäftsführer / Managing Director / Directeur Général / Gerente / Gerente  
Günther Klingler

**Angewendete Normen, Vorschriften und Prüfungen (ANVP) / Applied standards, regulations and inspections (ANVP) / Normes, prescriptions et contrôles appliqués (ANVP) / In conformità alle direttive UE di norme, specifiche e controlli (ANVP) / Normas, regulaciones e inspecciones aplicadas (ANVP) / Normas, regulamentações e inspeções aplicadas (ANVP)**

|   |             |         |  |          |
|---|-------------|---------|--|----------|
| 1 | DIN EN 81-1 | 05/2000 | Sicherheitsregeln – Konstruktion u. Einbau von Aufzügen            | 95/16/EG |
| 1 | DIN EN 81-1 | 05/2000 | Safety rules – Construction and installation of lifts              | 95/16/EC |
| 1 | DIN EN 81-1 | 05/2000 | Règles de sécurité – construction et installation d'ascenseurs     | 95/16/CE |
| 1 | DIN EN 81-1 | 05/2000 | Regole di sicurezza per la costruzione e il montaggio di ascensori | 95/16/CE |
| 1 | DIN EN 81-1 | 05/2000 | Reglas de seguridad – Construcción y montaje de ascensores         | 95/16/CE |
| 1 | DIN EN 81-1 | 05/2000 | Regras de segurança – Construção e instalação de elevadores        | 95/16/CE |

**Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile, Überwachung gemäß Aufzugsrichtlinie:**

*Certification body for lifts and safety components, monitoring of production acc. lifts directive:*

**Organisme de certification pour ascenseurs et composants de sécurité, contrôle de production selon la directive sur les ascenseurs:**

*Organismo di certificazione per ascensori e componenti di sicurezza, controllo di produzione secondo la Direttiva per ascensori :*

**Centro de certificación para ascensores y componentes de seguridad, supervisión según la directiva de ascensores:**

*Centro de certificação para elevadores e componentes de segurança, monitoramento conforme a diretiva para elevadores:*

**© TÜV SÜD Industrie Service GmbH  
Westendstraße 199  
D-80686 München**

**Kennnummer 0036 / Identification number 0036 / Numéro d'identification 0036 / Numero d'identificazione 0036 / Número de identificación 0036 / Número de identificação 0036 /**

**Sicherheitsfunktion / Safety function / Fonction de sécurité / Funzione di sicurezza / Función de seguridad / Função de segurança**

**Bremseinrichtung, als Teil der Schutzeinrichtung für den aufwärtsfahrenden Fahrkorb gegen Übergeschwindigkeit.**

*Brake device to be used as part of the protective unit to prevent excessive speeds on upward-moving elevator cages.*

**Dispositif de freinage faisant partie du système de protection contre les survitesses en remontée accidentelle des cabines d'ascenseurs.**

*Dispositivo di frenatura da usare come sistema di protezione per prevenire la fuga verso l'alto della cabina*

**Dispositivo de frenado que se utiliza como parte del dispositivo de seguridad para evitar velocidades excesivas de la jaula del ascensor en movimiento ascendente**

*Dispositivo de freio para ser usado como parte da unidade de proteção para prevenir excesso de velocidade nas caixas de elevadores em movimento ascendente*

**EG-Baumusterprüfbescheinigung / EC type examination certificate / No d'homologation CE / Certificato di esame CE N / Certificado CE de examen de tipo / Certificado de exame "CE de tipo"**

**ABV 766, 766/1, 766/2, 766/3**

|   |   |  |
|---|---|--|
|   | * EG-Maschinenrichtlinie 2006/42/EG98/37/EG<br>* Directive 2006/42/CE sur les machines<br>* Directiva de Máquinas CE 2006/42/EG98/37/CE                                   | * EC-Machinery directive 2006/42/EC<br>* Direttiva macchine 2006/42/CE<br>* Diretiva para maquinaria CE 2006/42/CE   |
| X | ** EG-Richtlinien Niederspannung 2006/95/EG<br>** Directive 2006/95/CE sur les basses tensions<br>** Directivas CE de Baja Tensión 2006/95/CE                             | ** EC-Low voltage directive 2006/95/EC<br>** Direttiva CE per il basso voltaggio 2006/95/CE<br>** Diretiva de baixa voltagem CE 2006/95/CE   |
| X | *** Elektromagnetische Verträglichkeit 2004/108/EG<br>*** Directive 2004/108/CE sur la compatibilité électromagnétique<br>*** Compatibilidad Electromagnética 2004/108/CE | *** Electromagnetic compatibility directive 2004/108/EC<br>*** Direttiva CE per la compatibilità elettromagnetica 2004/108/CE<br>*** Diretiva de compatibilidade eletromagnética 2004/108/CE |

Mauerstetten den 12.05.2011

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