



Industrie Service

EU TYPE-EXAMINATION CERTIFICATE

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

| | |
|---|---|
| Certificate No.: | EU-BD 766 |
| 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: | RSR/8010._____, Size 200, 400, 600, 800, 1000, 1500 |
| Directive: | 2014/33/EU |
| Reference Standards: | EN 81-20:2014 EN 81-50:2014 EN 81-1:1998+A3:2009 |
| Test Report: | EU-BD 766 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 766 of 2015-09-30**



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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] |
|------------|-------------------------------|---|
| 200 | 200 - 560 | 811 |
| 200 „lang“ | 500 - 700 | 820 |
| 400 „kurz“ | 420 - 840 | 708 |
| 400 „lang“ | 750 - 1200 | 1011 |
| 600 | 1000 - 1600 | 500 |
| 800 | 1300 - 1900 | 400 |
| 1000 | 1840 - 2400 | 400 |
| 1500 | 2400 - 3600 | 400 |

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] | | |
|------------------------------------|---------------------------------|---------------------------------|----------------------------------|--|-----------|-----------|
| | | | | parallel without overexcitation / seriell with overexcitation | | |
| | | | | t_0 | t_{50} | t_{90} |
| 200 | 2 x 100 = 200 | | 820 | 100 / 110 | 160 / 230 | 230 / 330 |
| 200 | | 2 x 280 = 560 | 820 | 25 / 30 | 60 / 80 | 110 / 135 |
| 200 „lang“ | 2 x 250 = 500 | | 820 | 25 / 30 | 50 / 65 | 110 / 135 |
| 200 „lang“ | | 2 x 350 = 700 | 820 | 15 / 20 | 30 / 50 | 80 / 100 |
| 400 „kurz“ | 2 x 210 = 420 | | 710 | 135 / 140 | 185 / 265 | 240 / 340 |
| 400 „kurz“ | | 2 x 420 = 840 | 710 | 50 / 55 | 90 / 130 | 160 / 230 |
| 400 „kurz“ - leistungsoptimiert | | 2 x 350 = 700 | 335 | 30 / 40 | 80 / 100 | 100 / 150 |
| 400 „lang“ | 2 x 375 = 750 | | 500 | 40 / 45 | 75 / 105 | 135 / 190 |
| 400 „lang“ | | 2 x 550 = 1100 | 500 | 25 / 40 | 60 / 75 | 100 / 120 |
| 600 | 2 x 500 = 1000 | | 500 | 85 / 100 | 140 / 200 | 185 / 260 |

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| | | | | | | |
|------|-----------------|-----------------|-----|----------|-----------|-----------|
| 600 | | 2 x 800 = 1600 | 500 | 30 / 40 | 70 / 100 | 120 / 170 |
| 800 | 2 x 650 = 1300 | | 400 | 80 / 100 | 145 / 180 | 170 / 230 |
| 800 | | 2 x 950 = 1900 | 400 | 35 / 45 | 80 / 115 | 120 / 160 |
| 1000 | 2 x 920 = 1840 | | 400 | 80 / 95 | 125 / 180 | 180 / 250 |
| 1000 | | 2 x 1200 = 2400 | 400 | 40 / 50 | 95 / 130 | 150 / 210 |
| 1500 | 2 x 1200 = 2400 | | 400 | 75 / 90 | 160 / 190 | 270 / 310 |
| 1500 | | 2 x 1800 = 3600 | 400 | 35 / 40 | 105 / 115 | 180 / 240 |

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 |
| Brake control | parallel or serial |
| Nominal air gap | 0.45 mm |
| Damping elements | YES |
| Overexcitation (Seize 200 – 1000) | at 1.5 non-release voltage |
| Overexcitation (Seize 1500) | at double non-release voltage |

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. E02801000000161 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.
- 2.6 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.

**Annex to the EC Type-Examination Certificate
No. EU-BD 766 of 2015-09-30**



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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 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.
- 3.3 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.
- 3.4 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.
- 3.5 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
- 3.6 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 766 of 2015-09-30**



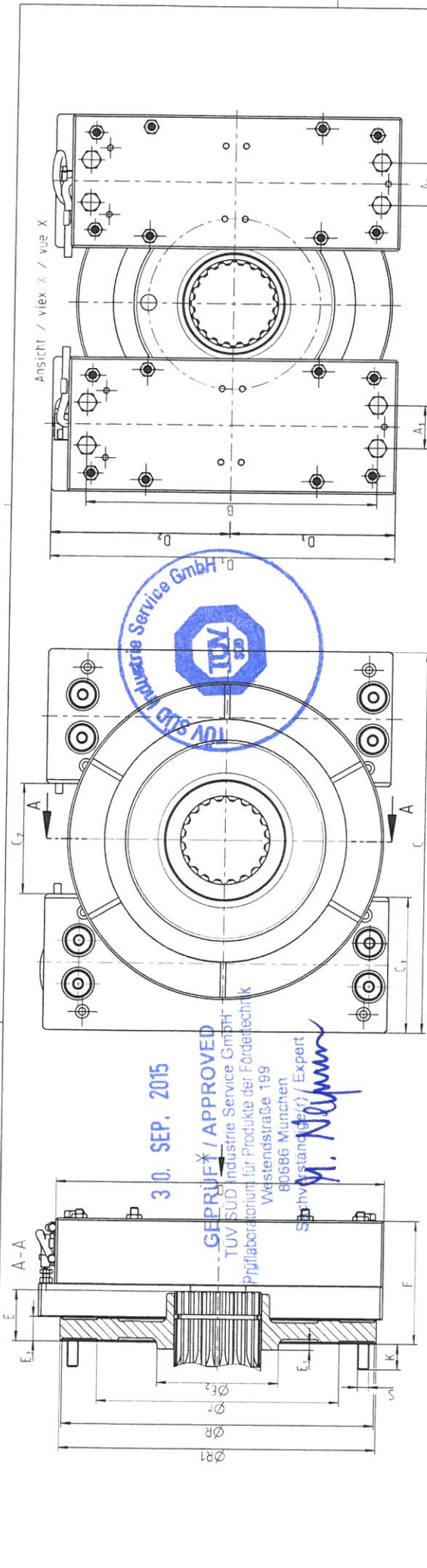
Authorised Manufacturer of Serial Production – Production Sites (valid from: 2016-01-13):

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

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

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

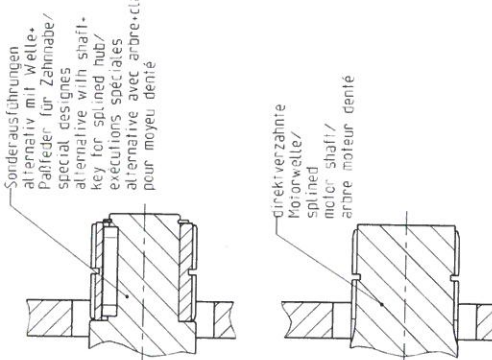
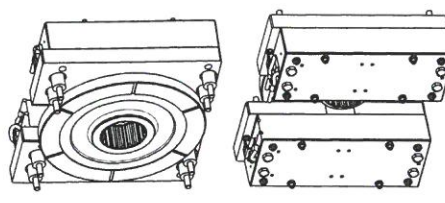
- END OF DOCUMENT -



1) = Maße variabel, alternative Befestigungsschrauben mit entsprechendem Festigkeitsnachweis/
dimensions variable, alternative bolts with relevant stressability proof/
Dimensions variables, autres vis de fixation possibles avec contrôle de qualité correspondant.

2) = alternative Verzahnungen mit entsprechendem Festigkeitsnachweis/
alternative splinnings with relevant stressability proof/
Autres cameures possibles avec contrôle de qualité correspondant

3) = alternative Rotordurchmesser mit entsprechendem Befestigungsnachweis/
alternative rotor diameters with relevant calculation of spring configuration/
Autres diamètres de rotor possibles avec contrôle des ressorts correspondant



| Große/ size/ taille | Bremsmomente/ braking torque/ couples de freinage | Max. Auslässe Drehzahl/ max. over speed/ vitesse max. | 2) Vorzugsverzahnungen der Motorwelle DIN 5400 / Paraz / Asplinnages teeth Cameures dentées de l'arbre du moteur | A | A ₁ | B | C | C ₁ | C ₂ | D | D ₁ | D ₂ | D ₃ | E | E ₁ | E ₂ | E ₃ | F | K | R | R ₁ | S | 1) | |
|---------------------------|---|---|---|-----|----------------|-----|-----|----------------|----------------|-----|----------------|----------------|----------------|------|----------------|----------------|----------------|-------|----|-----|----------------|-----|-----|----|
| 200 | 2x100 bis 2x260 [Ⓞ] | 811 | 60 x 2,5 x 22 65 x 3 x 20 67 x 3 x 21 | 138 | 32 | 216 | 270 | 100 | 70 | 244 | 256 | 134 | 122 | 36 | 5 | 90 | 18 | 86.1 | 14 | 160 | 232 | 235 | M8 | 1) |
| 200 lang | 2x250 bis 2x350 | 620 | 65 x 3 x 20 67 x 3 x 21 72 x 3 x 22 | 147 | 28 | 235 | 275 | 100 | 75 | 264 | 275 | 144 | 132 | 35 | 17 | 90 | 18 | 91.1 | 19 | 180 | 232 | 235 | M8 | 1) |
| 400 Kurz | 2x210 bis 2x420 | 708 | 65 x 3 x 20 67 x 3 x 21 72 x 3 x 22 | 153 | 42 | 238 | 315 | 120 | 75 | 268 | 280 | 146 | 134 | 35 | 17 | 90 | 18 | 96.1 | 14 | 180 | 232 | 236 | M10 | 1) |
| 400 lang | 2x375 bis 2x600 | 1011 | 72 x 3 x 22 82 x 3 x 26 90 x 3 x 28 | 128 | 42 | 256 | 290 | 120 | 50 | 290 | 303 | 157 | 146 | 35 | 17 | 90 | 18 | 101.1 | 19 | 200 | 250 | 253 | M10 | 1) |
| 600 | 2x500 bis 2x800 | 500 | 72 x 3 x 22 82 x 3 x 26 90 x 3 x 28 | 165 | 50 | 264 | 355 | 140 | 75 | 298 | 311 | 162 | 149 | 41 | 25 | 110 | 18 | 101.1 | 19 | 220 | 277 | 291 | M12 | 1) |
| 800 | 2x650 bis 2x950 | 400 | 82 x 3 x 26 90 x 3 x 28 98 x 4 x 33 | 169 | 56 | 300 | 375 | 150 | 75 | 336 | 349 | 181 | 166 | 41 | 20 | 124 | 20 | 108.1 | 22 | 250 | 311 | 315 | M12 | 1) |
| 1000 | 2x920 bis 2x1200 | 400 | 90 x 3 x 28 98 x 4 x 33 115.9 x 5 x 22 | 175 | 60 | 342 | 395 | 160 | 75 | 380 | 393 | 203 | 190 | 41 | 24 | 135 | 20 | 108.1 | 22 | 280 | 344 | 348 | M16 | 1) |
| 1500 | 2x1200 bis 2x1800 | 400 | 95 x 3 x 30 98 x 4 x 23 115 x 5 x 22 | 210 | 70 | 410 | 480 | 200 | 80 | 458 | 458 | 229 | 229 | 53.5 | 44 | 150 | 20 | 117.6 | 22 | 343 | 417 | 421 | M15 | 1) |

Artikelnr. / Item no. **RSR Baugröße 200 - 1500**
Type **8010**

Zeichnungsnummer / Drawing no. **E02801000000161**

Preis / Price **1.2**

Bestell-Nr. / Order no. **1788357**

Hersteller / Manufacturer **mayr**

Datum / Date **15.09.02 (aktualisiert)**

Gezeichnet / Drawn **DL 02.11.1997**

Geprüft / Checked **DL 02.11.1997**

Technische Zeichnung / Technical drawing

RSR Baugröße 200 - 1500

Typ 8010

Preis / Price **1.2**

Bestell-Nr. / Order no. **1788357**

EU – Konformitätserklärung
EU – Declaration of conformity
Déclaration de conformité UE
Dichiarazione di conformità UE
Declaración de conformidad de la UE
Declaração de conformidade da UE

Im Sinne der Richtlinie Aufzüge 2014/33/EU erklären wir
In terms of the Directive 2014/33/EU relating to lifts, we
Conformément à la directive 2014/33/UE sur les ascenseurs, nous déclarons par la présente,
Secondo la Direttiva per ascensori 2014/33/UE, la presente
En el sentido de la Directiva 2014/33/UE sobre ascensores
Nos termos da diretiva 2014/33/UE declaramos

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

dass die angeführten Produkte den Anforderungen der oben genannten EU-Richtlinie entsprechen.
declare that the listed products meet the requirements of the above mentioned EU Directive.
que les produits décrits satisfont aux exigences de la directive UE susmentionnée.
dichiara che i prodotti sotto elencati soddisfano i requisiti della suddetta Direttiva UE.
declaramos que los productos indicados arriba cumplen los requisitos de la Directiva UE.
que os produtos abaixo mencionados correspondem às exigências da diretiva UE supramencionada.

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®-duplostop® | 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, gültig ab dem 20.4.2016

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 | EN 81-20:2014 / EN 81-50:2014 / EN 81-1:1998 + A3:2009 | Sicherheitsregeln – Konstruktion u. Einbau von Aufzügen Safety rules – Construction and installation of lifts Règles de sécurité – construction et installation d'ascenseurs Regole di sicurezza per la costruzione e il montaggio di ascensori Reglas de seguridad – Construcción y montaje de ascensores Regras de segurança – Construção e instalação de elevadores | 2014/33/EU 2014/33/EU 2014/33/UE 2014/33/UE 2014/33/UE 2014/33/UE |
|---|--|---|--|

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 Schutzvorrichtung für den aufwärtsfahrenden Fahrkorb gegen Übergeschwindigkeit und Bremsselement gegen unbeabsichtigte Bewegung des Fahrkorbs.

Braking device as part of the protection device against over speed for the car moving in upwards direction and braking element against unintended car movement.

Dispositif de freinage faisant partie d'un système de protection contre la survitesse en montée de la cabine d'ascenseur et élément de freinage contre le déplacement involontaire de la cabine d'ascenseur.

Dispositivo di frenatura come parte del dispositivo di protezione contro la fuga verso l'alto della cabina e elemento di frenatura contro i movimenti incontrollati della cabina.

Dispositivo de frenado como parte de un dispositivo de seguridad contra la sobrevelocidad de la cabina en movimiento ascendente y como elemento de frenado contra movimientos incontrolados de la cabina.

Dispositivo de freio para ser usado como parte da unidade de proteção para prevenir excesso de velocidade da cabine elevadora em movimento ascendente e elemento de freio contra movimentos inadvertidos da cabine elevadora.

EU-Baumusterprüfbescheinigung / EU type examination certificate / Certificate d'examen de type UE / Certificato di omologazione UE / Certificado de examen UE / Certificado de exame UE

EU-BD 766

| | | |
|----------|--|--|
| | <ul style="list-style-type: none"> * EG-Maschinenrichtlinie 2006/42/EG * Directive 2006/42/CE sur les machines * Directiva de Máquinas 2006/42/CE | <ul style="list-style-type: none"> * EC-Machinery directive 2006/42/EC * Direttiva macchine 2006/42/CE * Diretiva para maquinaria 2006/42/CE |
| X | <ul style="list-style-type: none"> ** Richtlinie Niederspannung 2014/35/EU ** Directive 2014/35/UE sur les basses tensions ** Directivas de Baja Tensión 2014/35/UE | <ul style="list-style-type: none"> ** EC-Low voltage directive 2014/35/EU ** Direttiva per il basso voltaggio 2014/35/UE ** Diretiva de baixa voltagem 2014/35/UE |
| X | <ul style="list-style-type: none"> *** Elektromagnetische Verträglichkeit 2014/30/EU *** Directive 2014/30/UE sur la compatibilité électromagnétique *** Compatibilidad Electromagnética 2014/30/UE | <ul style="list-style-type: none"> *** Electromagnetic compatibility directive 2014/30/EU *** Direttiva per la compatibilità elettromagnetica 2014/30/UE *** Diretiva de compatibilidade eletromagnética 2014/30/UE |

Mauerstetten, gültig ab dem 20.4.2016

Ort und Datum / place and date / Lieu et date /
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Dipl. Ing. (FH) / graduate engineer / Engenheiro graduado
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