



# EU-TYPE EXAMINATION CERTIFICATE

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

**Certificate No.:** EU-BD 845/3

**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:** Chr. Mayr GmbH & Co. KG  
Eichenstr. 1  
87665 Mauerstetten - Germany  
(Manufacturer of Serial Production – see Enclosure)

**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. \_ \_ \_ \_ \_


**Directive:** 2014/33/EU

**Reference Standards:** EN 81-20:2020  
EN 81-50:2020

**Test Report:** EU-BD 845/3 of 2021-05-17

**Outcome:** The product conforms to the essential health and safety requirements of the mentioned Directive if the requirements of the annex to this EU-type examination certificate are kept.

**Date of Issue:** 2021-05-17



Achim Janocha  
Notified Body LCC



# Annex to the EU-Type Examination Certificate No. EU-BD 845/3 of 2021-05-17



Industrie Service

## 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<br>[Nm]                 | Permissible brake torque<br>[Nm]           | Max. tripping rotary<br>speed of the traction<br>sheave [rpm] |
|------|--|--|---|
|      | Typbezeichnung 8012. _ X _ _ _<br>X = 0, 1, 2, 3 | Typbezeichnung 8012. _ X _ _ _<br>X = 4, 5 |   |
| 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)  
 $\pi$  = 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<br>brake torque*<br>[Nm] | Max. nominal<br>brake torque *<br>[Nm] | Diamete-<br>r of rotor<br>[mm] | Max.<br>tripping<br>rotary<br>speed<br>[rpm] | Maximum response times**<br>[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

## Annex to the EU-Type Examination Certificate No. EU-BD 845/3 of 2021-05-17



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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 <sub>0</sub>                | t <sub>50</sub> | t <sub>90</sub> |
| 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                    |                                  | - / 35                        | - / 50          | - / 95          |
|      |                                 | 2 x 410 = 820                    | 253                    |                                  | 40 / -                        | 50 / -          | 90 / -          |
|      |                                 | 2 x 440 = 880                    | 273                    |                                  |                               |                 |                 |
|      |                                 | 2 x 470 = 940                    | 253                    |                                  |                               |                 |                 |
|      |                                 | 2 x 500 = 1000                   | 273                    |                                  |                               |                 |                 |
| 450  | 2 x 300 = 600                   |                                  | 253                    | 600                              | - / 90                        | - / 130         | - / 200         |
|      | 2 x 325 = 650                   |                                  | 273                    |                                  | - / 40                        | - / 65          | - / 130         |
|      |                                 | 2 x 500 = 1000                   | 253                    |                                  | 45 / -                        | 70 / -          | 135 / -         |
|      |                                 | 2 x 540 = 1080                   | 273                    |                                  |                               |                 |                 |
|      |                                 | 2 x 585 = 1170                   | 253                    |                                  |                               |                 |                 |
|      |                                 | 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<sub>x</sub> time difference between the drop of the braking power until establishing X% of the nominal brake torque, t<sub>50</sub> 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 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.

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

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 845/3 of 2021-05-17**



Industrie Service

**Authorised Manufacturer of Serial Production – Production Sites (valid from: 2021-05-17):**

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

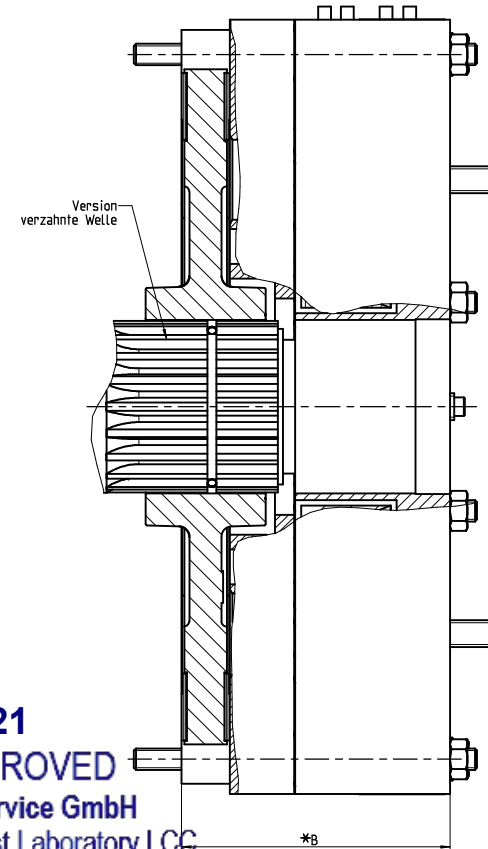
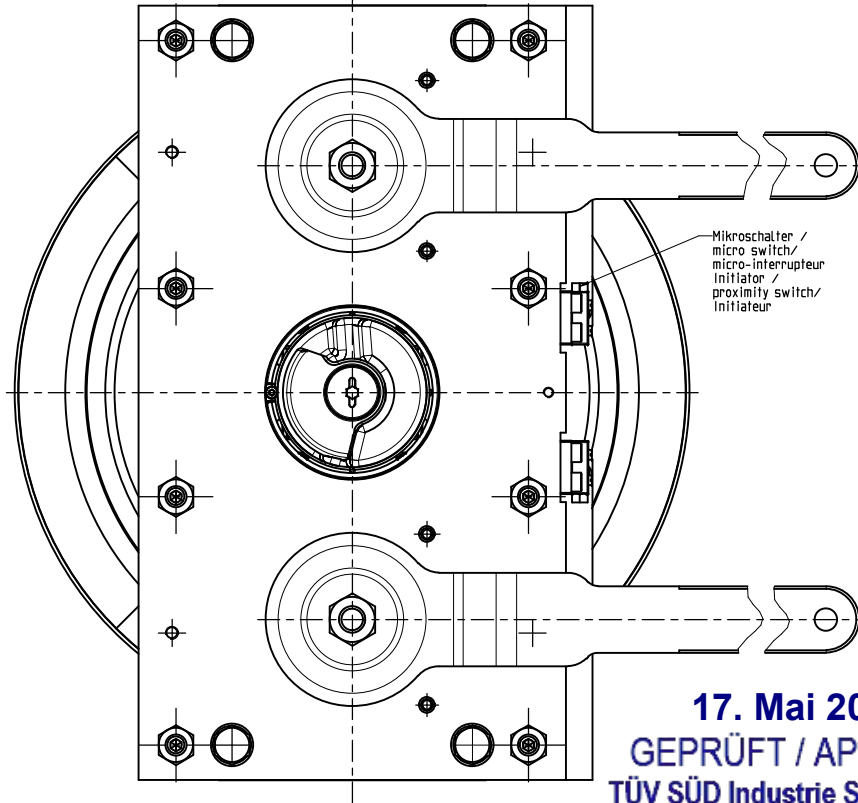
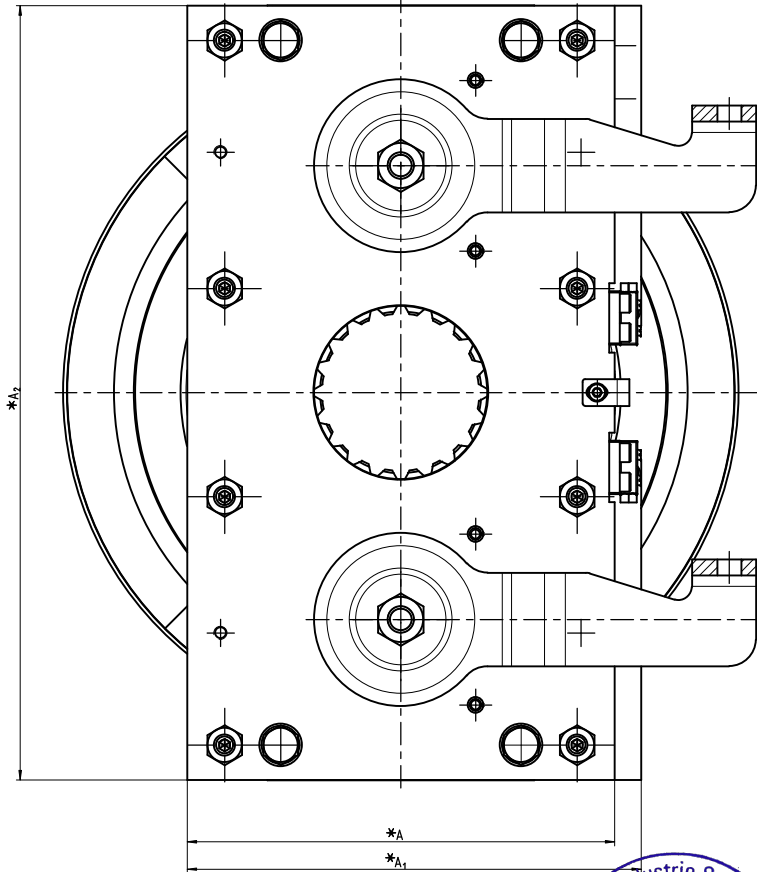
**Company** Mayr Power Transmission Co. Ltd.  
**Address** 1298 Fuxin Road, Jiangsu Province  
215637 Zhangjiagang - P.R. China

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

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Lüftversion für Bowdenzug  
(optional)

Lüftversion von Hand  
(optional)



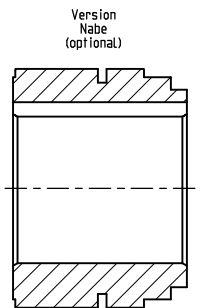
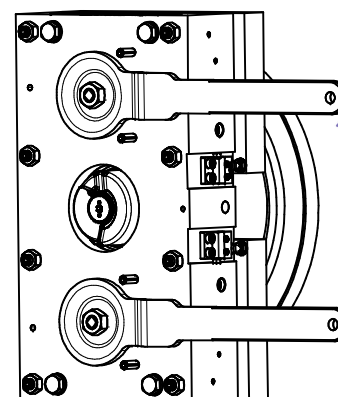
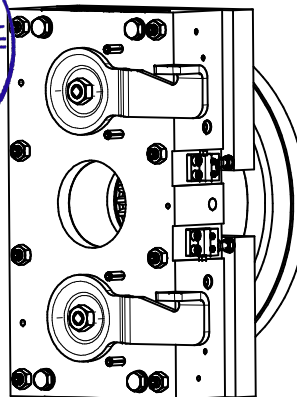
**17. Mai 2021**  
**GEPRÜFT / APPROVED**  
**TÜV SÜD Industrie Service GmbH**  
 Prüfstelle Fördertechnik / Test Laboratory LCG  
 Westendstraße 199, 80686 München  
 Sachverständiger (m/w/d) / Expert



\* Maße variabel/  
 dimensions variable/  
 dimensions variables

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

| Type/<br>type/<br>type    | 8012...4---<br>8012...5--- |                  |                  |      |  |
|---------------------------|----------------------------|------------------|------------------|------|--|
| Größe/<br>size/<br>taille | * A                        | * A <sub>1</sub> | * A <sub>2</sub> | * 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 |  |



|  |   |   |  |  |   |
|--|---|---|--|--|---|
| Gezeichnet / drawn<br>Geprüft / checked<br>Gezeichnet / drawn<br>Geprüft / checked<br>Date / date<br>Rev. / rev. | Erstellt / date<br>16.10.2017<br>16.10.2017<br>16.10.2017<br>16.10.2017<br>16.10.2017<br>16.10.2017 | Name / name<br>Mikroschalter / material<br>Mikroschalter / material<br>Mikroschalter / material<br>Mikroschalter / material<br>Mikroschalter / material<br>Mikroschalter / material | Merkstoff-Nr. / material-no.<br>Mikroschalter / material<br>Mikroschalter / material<br>Mikroschalter / material<br>Mikroschalter / material<br>Mikroschalter / material<br>Mikroschalter / material | Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no. | <b>mayr</b><br>Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no.<br>Drucknummer / part no. |
| Bauzeichnung / part name<br><b>RTW Baugröße 150 - 450</b><br><b>Type 8012</b>                                    |   |   |  |  |   |
| Maßstab / scale<br>1:1   |   | Typ / type<br>8012  |  | Größe / size<br>Gewicht / weight<br>kg   |   |
| Zeichnungsnummer / drawing number<br><b>E0281220000163</b>   |   |   |  |  |   |