

CERTIFICATE

1(2)

FOR EC TYPE-EXAMINATION OF AN ASCENDING CAR OVERSPEED PROTECTION MEANS

Certification No. 08495/2

| | |
|--|--|
| Notified body No. | Inspecta Tarkastus Oy 0424 |
| Device type examined | Ascending car overspeed protection means, disk type brake ROBA diskstop: type 894.5__ size 6,7,8 type 894.6__ size 6 |
| Name and address of manufacturer | Chr. Mayr GmbH + Co. KG Eichenstraße 1 D-87665 Mauerstetten Mayr Power Transmission (Zhangjiagang) Co., Ltd. Hale No.3, Changxing Road No.16 Zhangjiagang Ecomic Development Zone Postcode 215600 Zhangjiagang Jiangsu Province, PR China |
| Name and address of certificate holder | Chr. Mayr GmbH + Co. KG Eichenstraße 1 D-87665 Mauerstetten |
| Date of submission for EC type-examination | 18.09.2008 |
| Certificate issued on the basis of the following requirements: | Directive 95/16/EC |



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Y-tunnus: 2047308-3

Inspecta

2(2)

Inspection body

Inspecta Tarkastus Oy

Date and number of examination report

30.09.2008, No. 08495-01
30.09.2008, No. 08495-02
26.09.2008, No. 08495-03
26.09.2008, No. 08495-04
28.05.2009, No. 08495-05
13.06.2011, No. 08495-06

Documents annexed to this certificate

Appendix 1, Appendix 2, B.8.4.3.GB and drawings: RSD 6/894.510.03 104V(26.7.2010), RSD 6/894.610.03 104V(29.7.2008), RSD 7/894.510.03 104V(29.7.2008), RSD 8/894.510.03 104V(3.11.2010)


This certificate is valid until

17.11.2018

Date

16.06.2011

Signature



Jukka Vinnari



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Type of safety device:

Two disk type brakes acting to machinery brake disk. The brake disk is attached to the traction sheave. The brakes are activated by an overspeed monitoring device.

The monitoring device is subject to EC type-examination according to directive 95/16/EC (not part of this EC type-examination).

Conditions:

Disk brakes must be assembled and adjusted correctly according to manufacturer's instructions (B.8.4.3.GB). Brake disk used for the disk type brake must fulfil following conditions:

- Material; steel or cast iron
- Friction surface quality: Ra 3,2 µm or better
- Axial run-out deviation: max 0,25 mm
- Brake disk width:

| Size | Disk width |
|------------------|------------|
| 6/894.6, 6/894.5 | 10 - 15 mm |
| 7/894.5, 8/894.5 | 15 - 20 mm |
- Required brake disk diameter can be selected according to Diagram 1 of document B.8.4.3.GB which is annexed to this certificate.

Brake has been tested according EN 81-1 clause F7 in a test bench with a brake disk which fulfils conditions specified by manufacturer.

Allowed range of use for the one disk type brake is:

| Size | Allowed braking force (N) | Maximum rated speed (m/s) | Maximum, tripping speed (m/s) |
|---------|---------------------------|---------------------------|-------------------------------|
| 6/894.6 | 1724 - 2873 | 12 | 15 |
| 6/894.5 | 1939 - 3232 | 12 | 15 |
| 7/894.5 | 2180 - 3735 | 12 | 15 |
| 8/894.5 | 2936 - 4895 | 12 | 15 |

Maximum rated speed and tripping speed means brake disk gliding speed.

Nominal brake torque for a certain brake disk diameter can be calculated by the formula on appendix 2.

Always minimum 2 disk type brakes must be assembled to the brake disk to fulfil the requirement of redundancy.

Monitoring of the brake can be done by a micro switch attached to the brake or by some other means depending of a lift manufacturer. This certificate does not cover monitoring arrangements.

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APPENDIX 2 TO EC TYPE-EXAMINATION CERTIFICATE 08495/2

| surface pressure friction lining - braking force - brake torque | | |
|---|-----------------------|------------------------|
| brake size | nominal braking force | nominal brake torque |
| 6/894.6_ _ _ _ | 1724 N | $M_{Br}=860*(d-0,04)$ |
| | 2873 N | $M_{Br}=1435*(d-0,04)$ |
| 6/894.5_ _ _ _ | 1939 N | $M_{Br}=970*(d-0,04)$ |
| | 3232 N | $M_{Br}=1615*(d-0,04)$ |
| 7/894.5_ _ _ _ | 2180 N | $M_{Br}=1090*(d-0,05)$ |
| | 3735 N | $M_{Br}=1865*(d-0,05)$ |
| 8/894.5_ _ _ _ | 2936 N | $M_{Br}=1470*(d-0,05)$ |
| | 4895 N | $M_{Br}=2450*(d-0,05)$ |

minimum force/torque
 maximum force/torque
 minimum force/torque
 maximum force/torque
 minimum force/torque
 maximum force/torque
 minimum force/torque
 maximum force/torque

d: brake disc diameter in [m]

medium friction diameter size 6/894.6_ _ _ _ and 6/894.5_ _ _ _:
 d-0,04

medium friction diameter size 7/894.5_ _ _ _ and 8/894.5_ _ _ _:
 d-0,05

maximum sliding speed referred to medium friction diameter (max. tripping speed)
 15 m/s

nominal speed v in [m/s]
 12,0 m/s

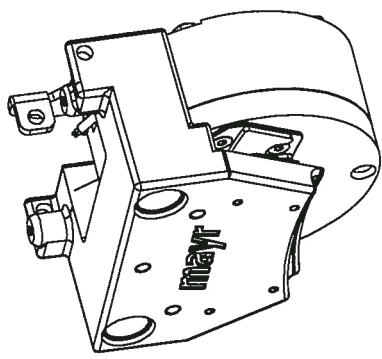
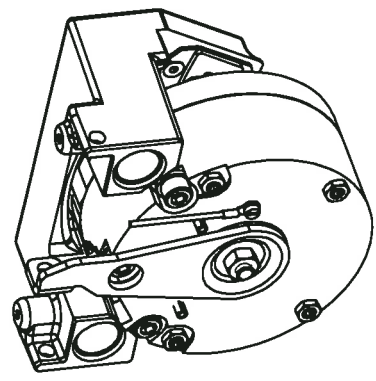
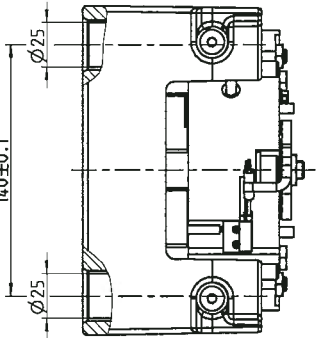
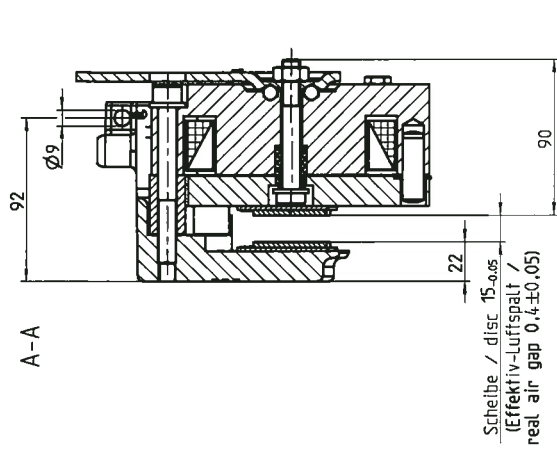
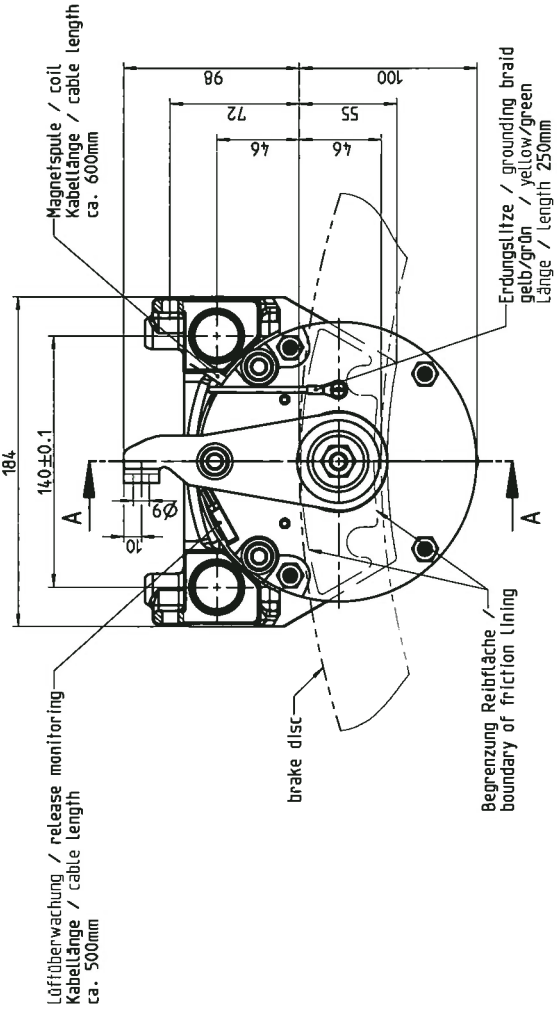
nominal speed of sheave n in [1/min]

$$n = \frac{60 \pm v}{\pi \cdot (d - 0,04)} \quad (\text{size 6/894.5_ _ _ _ and 6/894.6_ _ _ _})$$

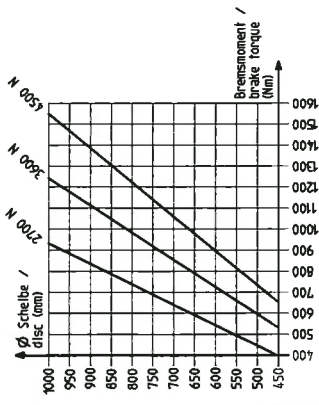
$$n = \frac{60 \pm v}{\pi \cdot (d - 0,05)} \quad (\text{size 7/894.5_ _ _ _ and 8/894.5_ _ _ _})$$

Cabin speed depends on roping transmission and diameter ratio of brake disc and grooves.



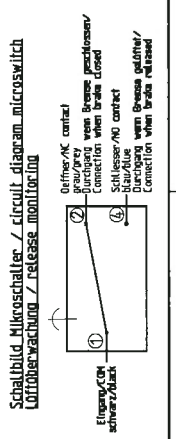


Art. Nr. B206479 F=4500N ±4.00N
 Technische Daten / technical data
 Bremsmoment / brake torque M = 1615 Nm
 Federkraft / spring force F = 4500 N
 Federhärte / spring stiffness p = 60 N/mm
 Federweg / spring travel s = 60 mm
 Federzeit / spring time t = 0.1 s
 Überverriegelung / overexcitation lock
 Überverriegelungszeit / overexcitation time t = ca. 1 s



Spezifikation des Mikroschalters / specification of the microswitch

| Bestandsnummern / part numbers | Bemerkung / comment |
|--------------------------------|---------------------|
| 250N- / 3A | |
| 27V / 10mA DC-2 | |
| 3A / 10...50 mA | |
| DC-2 | |
| DC-3 | |
| DC-5 | |



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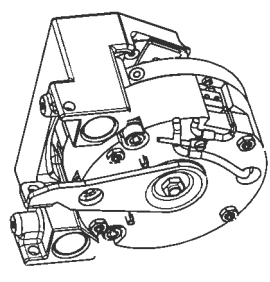
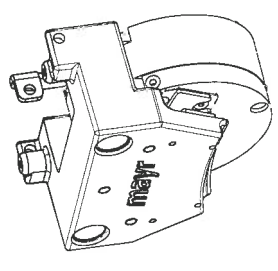
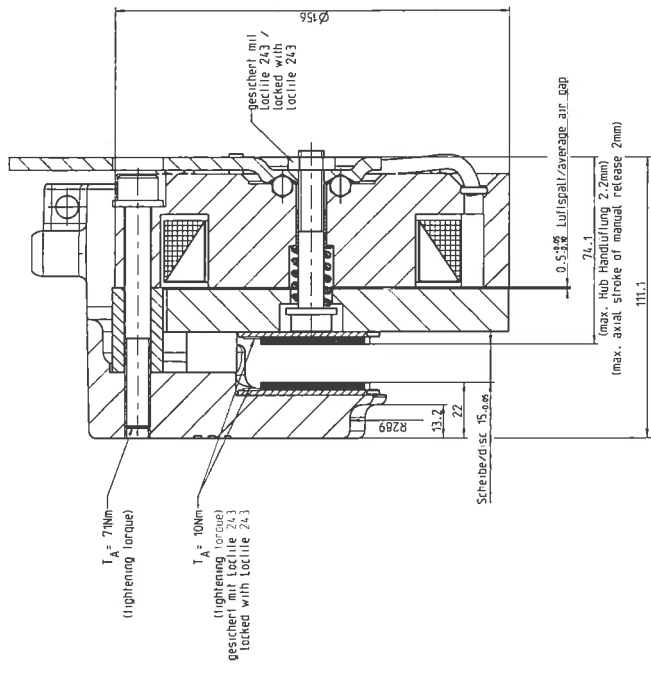
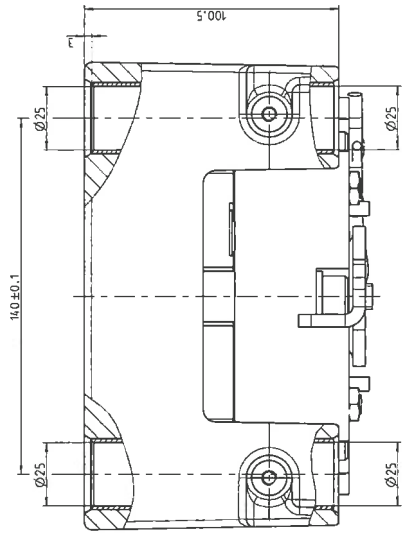
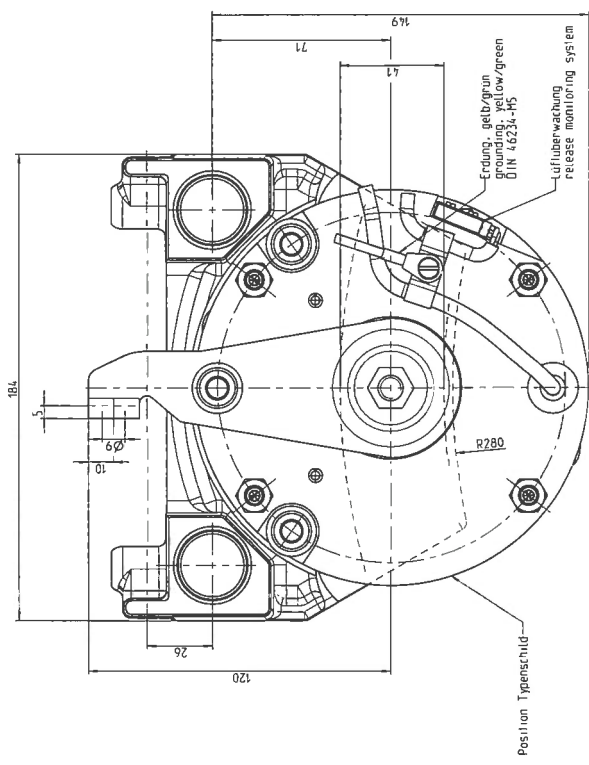
| Befederung / force level | | Federkraft / spring force | | Bremsmoment / brake torque | |
|--------------------------|--------------|---------------------------|--|----------------------------|--|
| 100% | 4500N ±4.00N | M=1615 x (d-0.04) | | | |
| 80% | 3600N ±3.20N | M=1295 x (d-0.04) | | | |
| 60% | 2700N ±2.40N | M=970 x (d-0.04) | | | |

| Technische Daten / technical data | |
|---|-------------|
| Bremsmoment / brake torque | M = 1615 Nm |
| Federkraft / spring force | F = 4500 N |
| Federhärte / spring stiffness | p = 60 N/mm |
| Federweg / spring travel | s = 60 mm |
| Federzeit / spring time | t = 0.1 s |
| Überverriegelung / overexcitation lock | |
| Überverriegelungszeit / overexcitation time | t = ca. 1 s |

| Schaltverhalten | |
|-----------------|-----------------|
| Spannung | 250V / 3A |
| Strom | 27V / 10mA DC-2 |
| Leistung | 3A / 10...50 mA |
| Lebensdauer | DC-2 |
| Lebensdauer | DC-3 |
| Lebensdauer | DC-5 |

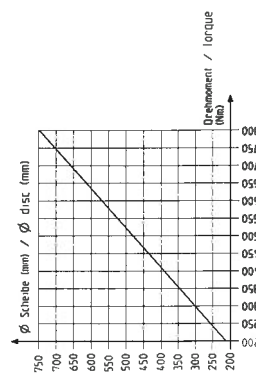
| Bestandsnummern / part numbers | |
|--------------------------------|------------|
| Art.Nr. | B206479 |
| Part No. | 894.510.03 |
| Part No. | 894.510.03 |
| Part No. | 894.510.03 |

09.06.2011



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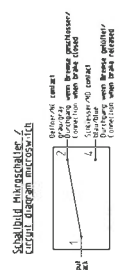
12



Max. allowable air gap after wear 1mm !!

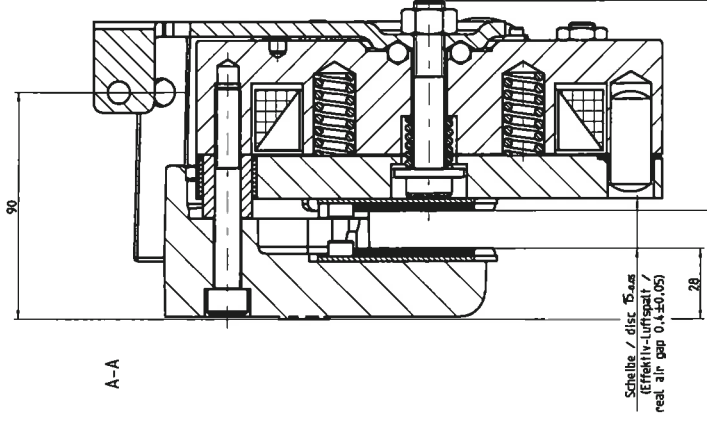
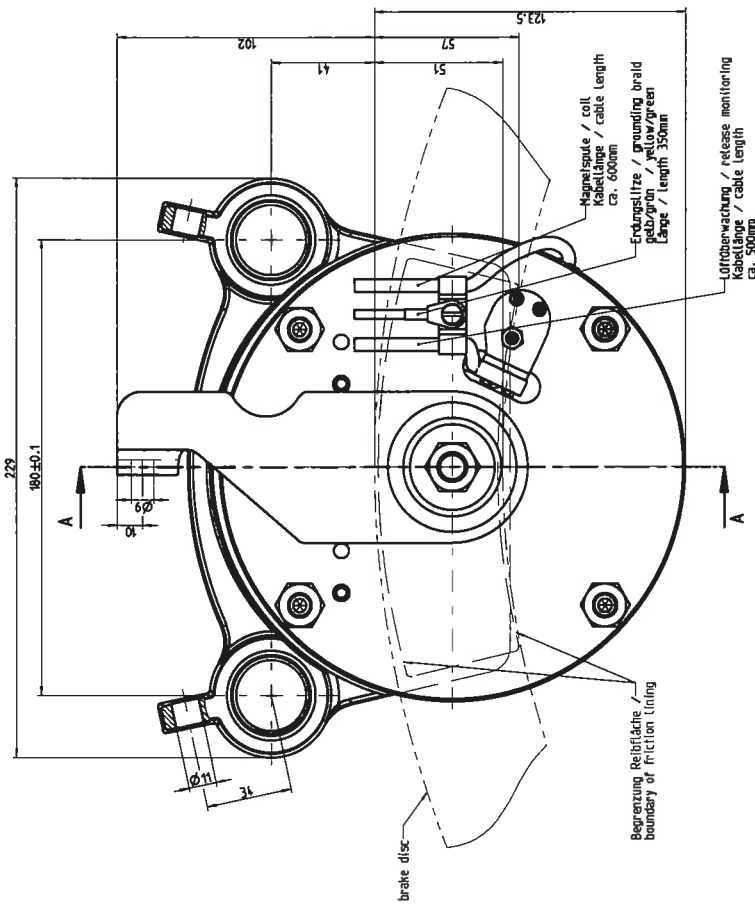
Belastung mit Übererregung
Hub Handführung 2 mm

| | |
|-----------------|------------------|
| Max. Drehmoment | 104V |
| Max. Drehmoment | 6/894,6/10.03 |
| Max. Drehmoment | F=4000N +/- 400N |
| Max. Drehmoment | 8194306 |
| Max. Drehmoment | 511001 |



| Parameter | Value |
|-----------------|------------------|
| Max. Drehmoment | 104V |
| Max. Drehmoment | 6/894,6/10.03 |
| Max. Drehmoment | F=4000N +/- 400N |
| Max. Drehmoment | 8194306 |
| Max. Drehmoment | 511001 |

Notified Body inspecta 0424
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B6
 (incl. 2.2mm Hub des Handöffnungs/
 incl. 2.2mm stroke of hand release)

