

2.1.5

Version with Mayr brake RSR1500/2x1700Nm and manual release, traction sheave D440 and motor terminal box – side right)

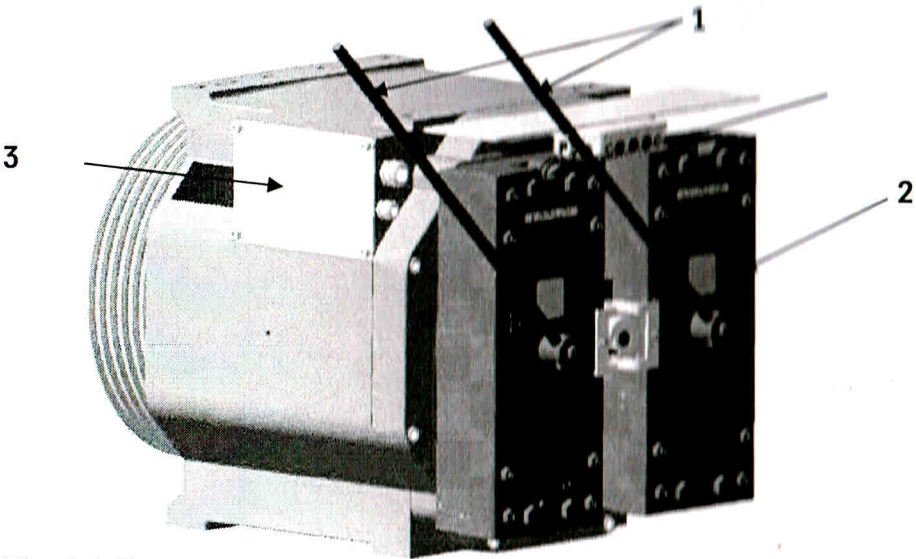


Fig. 2.1.7

Item	Part designation	Item	Part designation
1	Manual release lever	2	Disc brake RSR 1500/2x1700Nm, version incl. insertable manual release (levers can be inserted under 4x90°)
3	Motor terminal box, side right		

Versions:

The following versions can be supplied:

- 1. Drive output
- 2. Traction sheave groove profile
- 3. Traction sheave diameter

2.2 Functional description

Machine: The DAF270 is designed as a synchronous motor.
The registered product name is Mini gearless® DAF270

Ranges of performance

Machine	Suspension	Speed v [m/s]	Rated load ³⁾ Q [kg]	Traction sheave diameter [mm]	Remarks
DAF270M	1:1	1.0	1000	320	
			800	440	
DAF270L			1100		
DAF270M		1.6	800		
DAF270L			1000		
DAF270M	2:1	1.0 ÷ 2.0	1600	440	
		1.78 ÷ 2.54	1590		2)
		2.5	1350		
1.0		2500	1)		
1.0		2000		520	
DAF270L		1.78 ÷ 2.54	2270	440	2)
		1.0 ÷ 2.0	2000	490	
		2.5	1800		
		DAF270M			
DAF270L		3:1	1.0	2500	440
	1.0 ÷ 1.6		3000	490	
	1.0		4000	440	1)
	1.6		3400		
	4:1	1.0	4000		

¹⁾ Version with brake 2x2200 Nm

²⁾ EBS version

³⁾ Guide value

DAF270_20001_ENG

Depending on the machine size, the brake is optionally available incl. manual release for use in the machine room.

More details, see type plate.

Dimensions:
See Chapter 3

The **machine** has an overhung traction sheave and is configured for operation with a single rope wrap.
Rolling bearings lubricated for their entire service live on the motor shaft ensure that no maintenance is required.

3. Technology

3.1 Technical data

Description	Unit	Technical data					
Version of machine		DAF270M		DAF270L			
Version of brake	[Nm]	2x1250 / 2x1700		2x1700		2x2200	
Diameter of traction sheave	[mm]	320	440	440	490	440	520
Dimensions		See dimension sheet					
Weight (incl. traction sheave and brake)	[kg]	550	570	730	740	770	780
Moment of inertia (incl. traction sheave)	[kgm²]	2.63	3.60	4.40	5.35	4.40	5.45
Permitted radial shaft load F _{tper}	[kN]	43.5	58			73	
Airborne noise level	[dB(A)]	< 60					
Momentum grade		G 2.5					
Type of protection		IP21 / 54 ¹⁾				IP54	

¹⁾ IP 54 for Warner brake optional / for Mayr brake standard

DAF270_31101_ENG

Table 3.1.1

The value for the airborne noise level applies for the machine in operation at normal rating (measurement value determined at: 1 m / 45° with operation on the TKAW frequency converter).

Traction sheave



Important:

The arrangement of the carrier cables in the suspension plate, on the traction sheave as well as the cable rollers should be as symmetrical as possible.

Designation	Unit	Technical data					
Use on machine		DAF270M		DAF270L			
Traction sheave shaft version		Standard				Reinforced ³⁾	
Diameter - DT	[mm]	320	440	440	490	440	520
Rim width - B	[mm]	145	132	134	150	136	
Max. number of grooves - z x d ²⁾		10xdia.8	9 x dia. 8	9 x dia. 8	10 x dia. 8	9 x dia. 8	
			7xdia.10/11	8 x dia.10 ⁴⁾	9 x dia.10 ⁴⁾	8 x dia. 10 ⁴⁾	
				7xdia.10/11	8xdia.10/11	7 x dia. 10/11	
					6 x dia. 12		6xdia.13
Groove type		Seat / Vee groove ¹⁾					
Vee groove angle	[°]	Depends on project specs ¹⁾					
Weight	[kg]	35	55		65	57	60
Material		Specially alloyed EN-GJL 250				EN-GJS -600-3	

¹⁾ Version in accordance with a factory standard 60 300 50 00 0 with hardened groove flanks (min. 50 HRC)

²⁾ With minimum groove clearance - RA_{min} in accordance with standard sheet 60 300 50 00 0

³⁾ Only in combination with brake 2 x 2200 Nm

Table 3.1.2

⁴⁾ With groove clearance 16 mm

DAF270_31103_ENG

7.4 Replacing the traction sheave

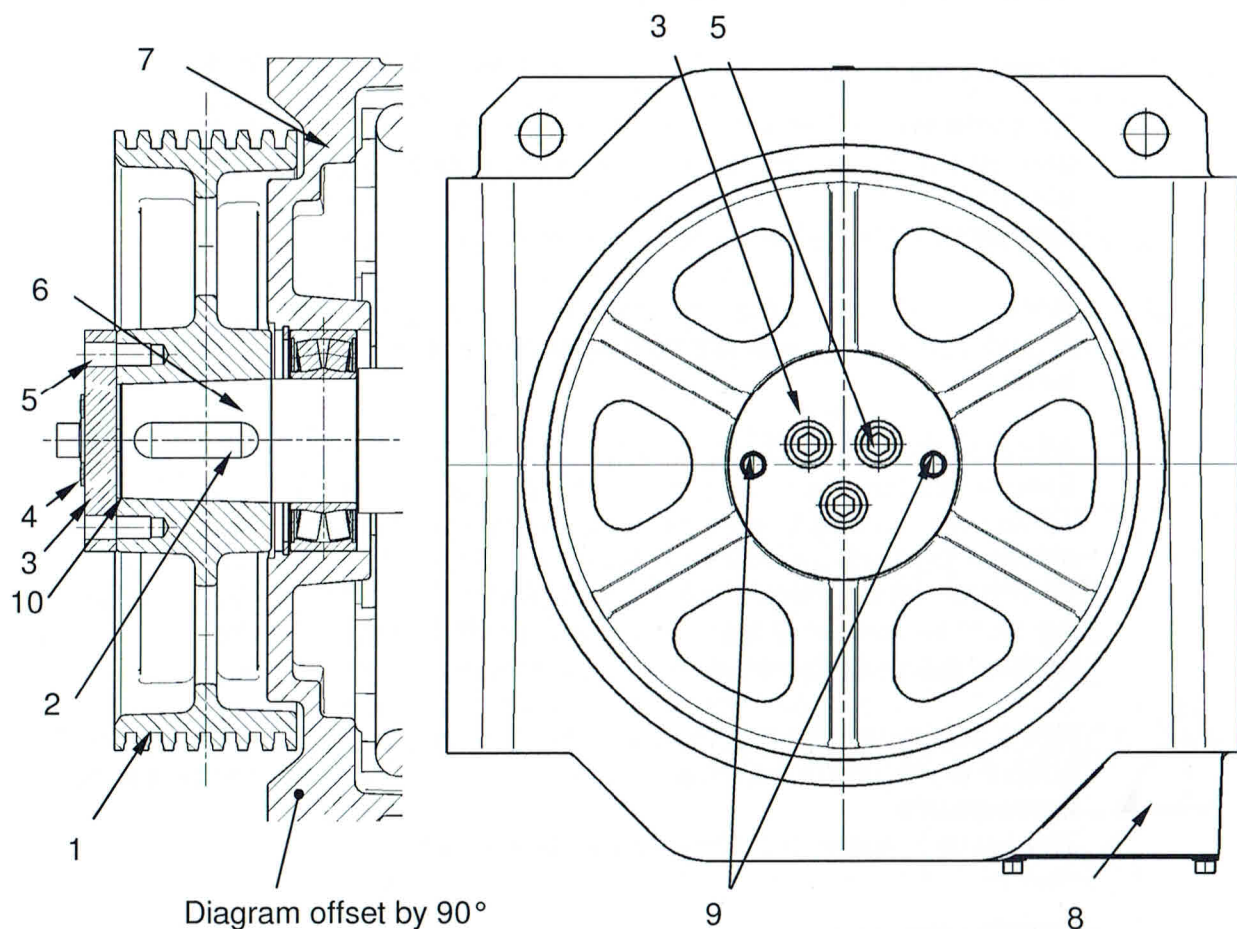


Fig. 7.6

1	Traction sheave
2	Feather key 25 x 14 x 90 mm
3	Disc
4	Detent edged washer SKM16
5	3xM16x50 – 8.8, Tightening torque = 190 Nm if 2x2200Nm Brake: 3xM16x60.-10.9 Tightening torque = 230 Nm
6	Motor shaft
7	Motor casing
8	Motor terminal box
9	Pull-off borehole
10	Reference dimension before tightening (3 - 6 mm)



Industrie Service

EC type-examination certificate

Certificate no.: ABV 766/3

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: 2011-02-08

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: RSR/8010._____, Größe 200, 400, 600, 800, 1000, 1500

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:** 2011-04-14
ABV 766/3

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: 2011-04-15

Certification body for lifts and safety components
Identification number: 0036

C. Rührmayer
Christian Rührmayer



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 ⁻¹)	Max. rated rotary speed of traction sheave (min ⁻¹)
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)
 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 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).

Note: The English text is a translation of the German original. In case of any discrepancy, the German version is valid only.

- 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:

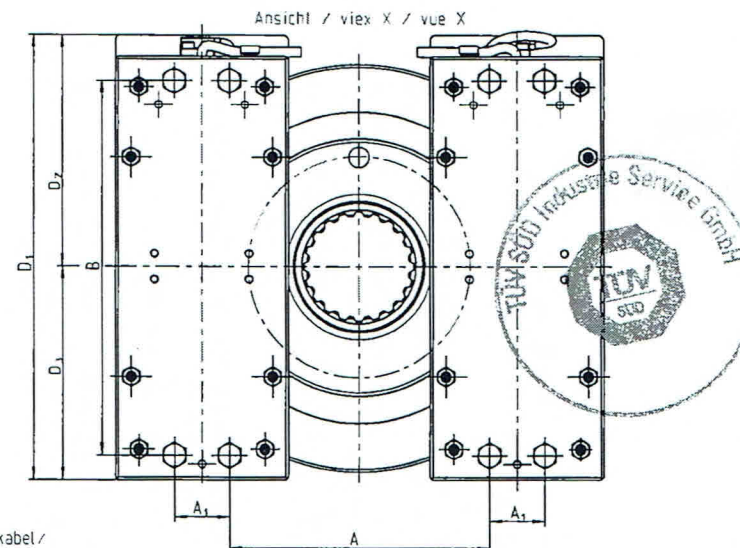
- Minimization of bending length between traction sheave and braking device or traction sheave and the next bearing (the next bearing must form part of the drive unit)
- Static defined bearing (e. g. 2-fold borne shaft) otherwise measures are required to obtain a defined loading
- As far as possible, 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.



- Spulenkabel/ cable/ câble
- Mikroschalter/ micro switch/ micro-interrupteur
- ① Initiator/ proximity switch/ initiateur

micro switch/ micro-interrupteur
ximity switch/ initiateur

Sonderausführungen
alternativ mit Welle-
Paßfeder für Zahnabe/
special designs
alternative with shaft-
key for splined hub/
exécutions spéciales
alternative avec arbre-clavette
pour moyeu denté

15. April 2011

GEPRÜFT

TÜV SÜD Industrie Service GmbH
Zentralbereich Fördertechnik-Sonderbau
Abteilung Aufzüge und Sicherheitsbauteile
Westendstr. 199, D-80686 München
Der Sachverständige

Lieferung an:		Zust.-Nr.		Artikel-Nr.		* Abwisch. v. Lagerf.	
Datum		Name		Übersichtl. Bez.		jezt/vj	
Geometrie		Gumbel		D 16 E 150 1302			
Geometrie		Gumbel		Teilegruppennummer D 16 E 150 805			
Hersteller		Alpen-Techniken D 16 E 150 1748-40		Werkstoffkennzeichen D 16 E 150 1715			
Verpackung		J		J		()	
Werkstoff-Nr.		Schweißnaht D 16 E 150 805a austenit		Paßmaß		Abmaß	
RSR Baugröße 200 - 1500® Type 8010.-----				Zeichnungsnummer E02801000000161 Fertigungs* Aktivator.			
Material		Typ 8010		Grade		per	
Dokumentation		1788357					



Industrie Service

Type examination certificate

Certificate no.: ESV 766/1

Certification office: 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: 2010-06-17

Manufacturer of the test sample: Chr. Mayr GmbH & Co. KG
Eichenstr. 1
87665 Mauerstetten - Germany

Product: Braking element acting on the shaft of the traction sheave, as a part of the protection device against unintended car movement

Type: RSR/8010. _____, Größe 200 till 1500

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:** 2011-07-07
ESV 766/1

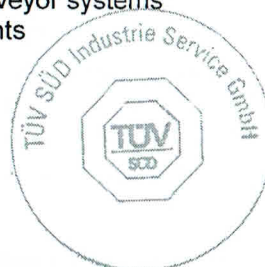
Examination basis: EN 81-1:1998 + A3:2009 (D), issue December 2009

Result: The safety component conforms to the requirements of examination basis for the respective scope of application stated on page 1 - 2 of the annex to this type-examination certificate.

Date of issue: 2011-07-11

Certification office for products of conveyor systems
Lifts and safety components

C. Rührmeyer
Christian Rührmeyer



Annex to the type-examination certificate no. ESV 766/1 dated 2011-07-11

1 Scope of application

1.1 Nominal brake torques and response times with relation to a brand-new brake element

Name / Size	Minimum nominal brake torque* [Nm]	Maximum nominal brake torque* [Nm]	Maximum tripping rotary speed [rpm]	Maximum response times** [ms]		
				Parallel without overexcitation / Serial 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 - leistungs- optimiert“		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
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, t₅₀ optionally calculated t₅₀ = (t₁₀ + t₉₀)/2 or value taken from the examination recording

1.2 Assigned execution features

- Type of powering / deactivation
- Brake control
- Maximum air gap
- Damping elements
- Overexcitation (Größe 200 - 1000)
- Overexcitation (Größe 1500)

Continuous current / continuous current end

Parallel and serial

0.45 mm

YES

at 1.5 non-release voltage

at double non-release voltage

Note: The English text is a translation of the German original. In case of any discrepancy, the German version is valid only.

2 Conditions

- 2.1 The above mentioned safety component represents only part of a protective equipment against unintended movement of the elevator car. Only in combination with a detecting and triggering component (two separate components also possible), which must be subjected to an own type examination, can the system created fulfil the requirements for a safety component in accordance with Annex F.8, EN 81-1:1998 + A3:2009 (D).
- 2.2 The safety component is used in combination with the brake device as part of the ascending car over-speed protection means and as a drive brake.
- 2.3 The installer of a lift must create an examination instruction in accordance with D.2 p) of EN 81-1:1998 + A3:2009 (D) for lift(s) 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).
- 2.4 The dimension configuration of the lift system must be designed as regards the brake torques in such a way that the permissible value of deceleration does not exceed $1 g_n$ in either direction. Excluded are decelerations, which are caused by an instantaneous roller safety gear up to a rated speed of the lift system of 0.63 m/s for instance.
- 2.5 The traction and its variance must be taken into account as regards its braking distance (transferable power / torque) and included in the calculation.
- 2.6 For installer of a lift, the compliance of the component with the type examined component and the assured nominal brake torques and response times must be confirmed in writing (e. g., type plate and/or supplement in the declaration of conformity).
- 2.7 The information evaluation for self-monitoring must prevent an operational starting of the lift in the event of a fault.
- 2.8 According to the norm requirements, the brake element of the protective device must impact directly on the drive disc or on the same shaft in the immediate vicinity of the drive disc.

If the brake element does not impact in the immediate vicinity of the brake disc on the same shaft, on which the drive disc is also arranged, a deviation from the norm exists. A failure of the shaft in the area between the drive disc and the brake element must be ruled out using corresponding construction designs and sufficient measurements. The manufacturer of the entire drive must prove the sufficient safety of the connection brake element – shaft and drive – shaft as well as the shaft itself in calculations. This proof must be added to the technical documentation of the lift.

3 Remarks

- 3.1 As part of the type examination, it was detected that the brake element has a redundant design and that the correct function is monitored by sensors.

The examination of compliance with all requirements under Section 12.4 [EN 81-1:1998 + A3:2009 (D)], deterioration of the brake torques/breaking forces due to wear and tear and the operation-related change of the drive capability are not part of this type examination.

This type examination refers to the partial requirements for the protection device against unintended car movement only according to EN 81-1:1998 + A3:2009 (D), Section 9.11.
- 3.2 In order to provide identification, information about the basic design and functioning and to show the environmental conditions and connection requirements, drawing with the relevant latest identification from the associated EC type-examination certification ABV 766/X is to be enclosed with the type-examination certificate and the annex thereto.
- 3.3 The type-examination certificate may only be used in connection with the pertinent annex and the list of the authorized manufacturers (according to enclosure of the corresponding EC type-examination certification ABV 766/X).

Mauerstetten, 05.03.2012

Confirmation of the Type Conformity

Dear Sir or Madam,

The TÜV Süd has meanwhile issued the three EC Type Examination Certificates ABV 766/1, ABV 766/2 and ABV 766/3, that apply to the ROBA –duplostop safety brake Type RSR/8010._____, which as brake equipment has an effect on the traction sheave.

ABV 766/1 (issued 26.2.2007) confirms the examination and approval of the ROBA –duplostop brakes RSR200 (2x250Nm), RSR400 short (2x350Nm) and RSR400 long (2x550Nm) used by ThyssenKrupp Aufzugswerke.

ABV 766/2 (issued 16.9.2007) merely confirms the examination and approval of brakes RSR200, RSR400 short and RSR400 long at higher speeds due to new customer requirements, and additionally the brake production by Mayr Power Transmission Zhangjiagang (China).

ABV 766/3 (issued 15.04.2011) includes two additional brake sizes (RSR200 long and RSR1500) and describes the possible application of a contactless brake control switch. This means that the Type Examinations ABV 766/2 and ABV 766/3 only include supplements to the Type Inspections ABV 766/1, which have been certified by the TÜV Süd.

Due to the additional requirements regarding EN81-1 A3, the A3 -relevant brake switching times were determined according to the stipulations and officially confirmed by the TÜV Süd in the appendix to the Type Inspection No. ESV 766/1 of 11.07.2011.

In this context, Mayr Antriebstechnik confirm that the ROBA –duplostop brakes RSR200 (Art. No. 8184496 und 8191909), RSR400 short (Art. No. 8184498 and 8191908) and RSR400 long (Art. No. 8184979 and 8191907), which have been used by ThyssenKrupp Aufzugswerke since ABV766/1 was issued, have not been changed as far as the design is concerned.

Yours faithfully,



(Josef Eisenburger, Head of Design)

Certificate
concerning the examination of traction sheave shaft calculation



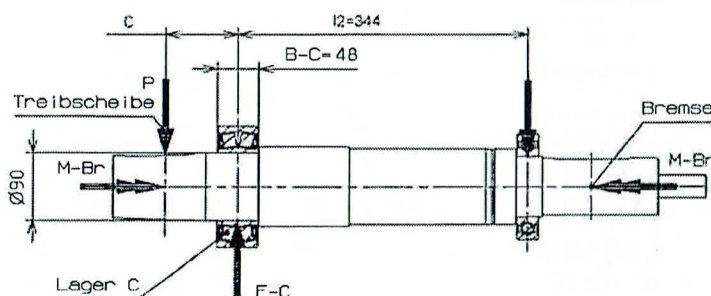
Industrie Service

Lift machine, type: DAF270M
 Brake, type ERS VAR 09 SZ1700/1700
 ERS VAR 09 SZ1700/1250
 Ordered by / Manufacturer: ThyssenKrupp Aufzugswerke GmbH
 Bernhäuser Str. 45, 73765 Neuhausen a.d.F.
 Number of examination: 923912/8b
 Object examined:

Choose certainty.
Add value.

Calculation of traction sheave shaft in connection with a redundancy designed brake (electromagnetic disk brake) as a brake for normal operation and additional as protection device against overspeed for the car moving in upward direction

Examination basis: DIN 743, Niemann, maschine elements (1983)



Design drawing: 6243 000 1025 / 17.06.2003
 Material: C60-N (1.0601)

Date: 2011-07-08

Our reference:
IS-FSA-MUC/mai

Document:
110708_THYSS_DAF270M_gb.d
oc

Load data

Max. shaft load	P	kN	58	43,5	43,5
Traction sheave Ø	Dt	mm	440	320	320
Distance	C	mm	85	117,5	117,5
Nom. moment	M _{Nenn}	Nm	1308	1308	962
Nom. break moment	M _{Br}	Nm	2x1700=3400	2x1700=3400	2x1250=2500
Max. break moment	M _{Br} x1,5	Nm	5100	5100	3750

This document consists of
1 Page.
Page 1 of 1

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TÜV SÜD Industrie Service GmbH.

Examination result:

The examination of the calculation was carried out on the basis of a comparison calculation. The result was that the traction sheave shaft and the connection shaft-hub are rated at the maximum load data in accordance with the requirements of the examination basis. The remarks in the maintenance instruction are to be attentioned.

The test results refer exclusively
to the units under test.

The conditions mentioned in Annex section 2.4 and 2.5 of the EC type-examination certificate no. ABV 591/3 are herewith fulfilled.

Prüflaboratorium für Produkte der Fördertechnik
 Prüfbereich Aufzüge und Sicherheitsbauteile

The expert

Martin Maier

p. p. Gerold Jilg



Headquarters: Munich
 Trade Register Munich HRB 96 869
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TÜV SÜD Industrie Service GmbH
 Zentralbereich Fördertechnik-Sonderbauten
 Abteilung Aufzüge und Sicherheitsbauteile
 Westendstrasse 199
 80686 Munich
 Germany



ThyssenKrupp Aufzugswerke

Certificate concerning the examination of traction sheave shaft calculation including shaft to collar connections

Neuhausen / April 23, 2012

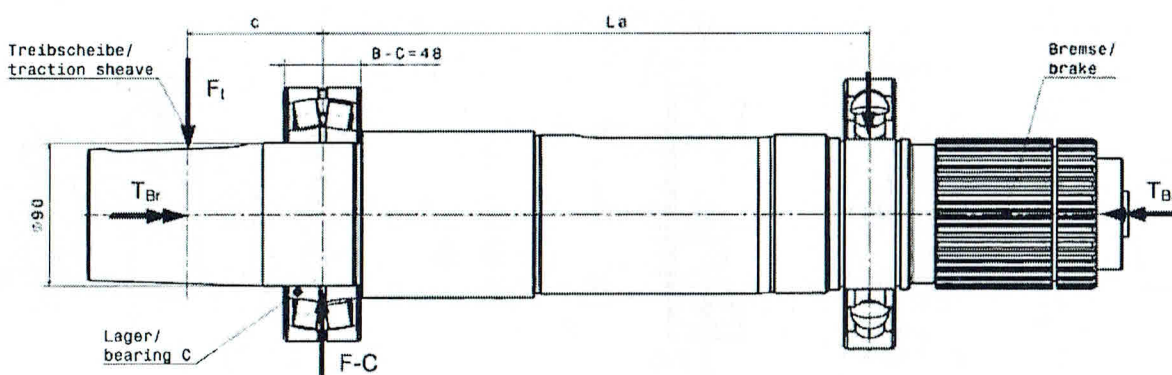
Lift machine, type: DAF270M

Brake type: RSR 1500 – 2x1700Nm
according to EC type-examination ABV 766/x

Manufacturer: ThyssenKrupp Aufzugswerke GmbH
Bernhäuser Str.45, 73765 Neuhausen a.d.F.

Object examined: Calculation of traction sheave shaft including shaft to collar connections

Examination basis: DIN743, machine elements Niemann/Winter/Höhn (2005)



Design drawing: 6243 000 9523

Material: 42CrMoS4+QT (1.7227) or 42CrMo4+QT (1.7225)

Load data:

Distance Traction sheave c	Bearing Distance La	Max. Shaft load F _t	Nominal torque T _{Nenn}	Nominal brake torque T _{Br}	Max. brake torque 1,6 x T _{Br}
(mm)	(mm)	(kN)	(Nm)	(Nm)	(Nm)
85	341,5	58	1308	2x1700=3400	5440
117,5	341,5	43,5	1308	2x1700=3400	5440

Examination result:

For the examination calculations were carried out based on the examination basis.
The result was that the traction sheave shaft and the shaft to collar connections were designed according the maximum load data.
The remarks in the maintenance instructions are to be observed.
The conditions mentioned in annex 2.4 of the EC type-examination certificate no. ABV766/x are herewith fulfilled.

(Executive board)

(Examiner / CCU-TDIE)