



EC type-examination certificate

Certificate no.: ABFV 489/3

Notified body: TÜV SÜD Industrie Service GmbH
Westendstr. 199
D-80686 München

**Applicant/
Certificate holder:** Inventio AG
Seestr. 55
CH-6052 Hergiswil

Date of application: 2009-05-27

**Accredited manufacturer
of the holding:** Schindler Drive Systems
Poligono „Empresarium“
Albardin, 58
ES-50720 La Cartuja Baja – Zaragoza

Suzhou Schindler Elevator Co. Ltd.
818 Jin Men Road
CN-Suzhou 215004

Elevadores Atlas Schindler S. A.
R. Angelina Ricci Vezozzo, 3400
BR-86087 – Londrina – PR

Product: Progressive safety gear with braking device as part of the protection device against overspeed for car moving in upwards direction

Type: SA GED 10

Test laboratory: TÜV SÜD Industrie Service GmbH
Abteilung Aufzüge und Sicherheitsbauteile
Westendstr. 199
D-80686 München

**Date and
number of test report:** 2009-11-25
489/3

EC-Directive: 95 / 16 / EC

Result: The safety component conforms to the directive's essential safety requirements for the respective scope of application stated on page 1 of the annex to this EC type-examination certificate.

Date of issue: 2009-11-27

Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile
Identification number: 0036

S. Melzer
Siegfried Melzer



Annex to the EC type-examination certificate no. ABFV 489/3 dated 2009-11-27

1. Scope of Application

- 1.1 Progressive safety gear (acting downwards)
Permissible total mass of car and rated load or counterweight in using one pair of safety gears, depends on condition of the guide rail running surface

Condition of the running surface	Total mass (kg)	
	min.	max.
dry	457	- 1670
oiled*	437	- 1956

*HLP-oils according to DIN 51524, part 2 or oils with comparable characteristics

- 1.2 Brake device (acting upwards)
Permissible brake force when using the braking devices in twos, depends on the condition of the guide rail running surface

Condition of the running surface	Brake force (N)	
	min.	max.
dry	3244	- 7563
oiled*	2816	- 8406

*HLP-oils according to DIN 51524, part 2 or oils with comparable characteristics

- 1.3 Maximum tripping speed of overspeed governor and range of the maximum rated speed, depends on the moving of the car

Moving direction	Max. tripping speed (m/s)	Max. rated speed (m/s)
upwards	2,21	1,77 - 1,92
downwards	2,73	2,18 - 2,37

- 1.4 Guide rails to be used

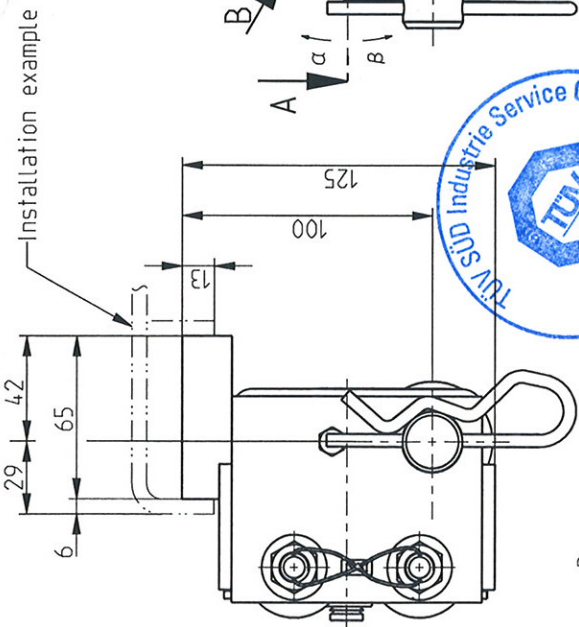
- 1.4.1 Manufactured by drawn
- 1.4.2 Minimum running surface width 25 mm
- 1.4.3 Blade width 8 - 16 mm

2. Conditions for the brake device

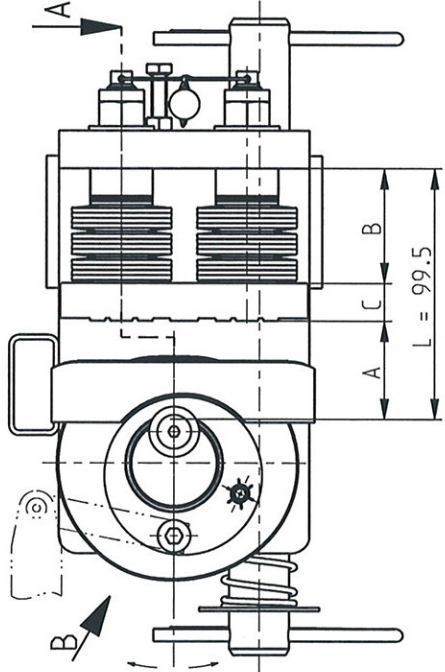
- 2.1 Since the brake device represents only the decelerating element of the protection device against overspeed for the car moving upwards direction against overspeed, the speed monitoring element for upwards direction must be an overspeed governor which also retracts the brake device as per EN 81-1, section 9.9.
- 2.2 The forces acting in upwards direction on the guide rails must be safely absorbed (e. g. without shifting the guide rails in upwards direction).

3. Remarks

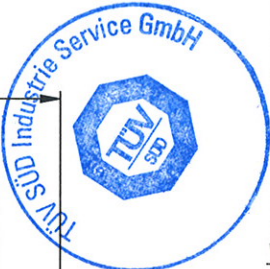
- 3.1 Due to the characteristics, the braking force for the safety gear acting downwards and the braking force for the brake device acting upwards are permanently related to each other. They cannot be adjusted separately in principle. The permissible total mass stated in 1.1 thus also is permanently related to the permissible braking force as defined in 1.2.
- 3.2 The permissible brake forces must be applied to the lift system in such a manner that the empty lift cabin travelling in an upwards direction is not decelerated by more than 1g.
- 3.3 Pursuant to the standard EN 81, annex F, paragraph 3, section 3.4. a) 2) the total mass determined for adjustment purposes may be 7.5% higher or lower.
- 3.4 In order to provide identification and information about the basic design and its functioning and to show the environmental conditions and connection requirements pertaining to the tested and approved type, and to define which parts have been tested, drawing no. M __ 253823 with revision state Ae5 is to be enclosed with the EC type-examination certificate and the annex thereto.
- 3.5 The EC type-examination certificate may only be used in connection with the pertinent annex.



Safety Gear SA GED 10 left



Safety Gear SA GED 10 right

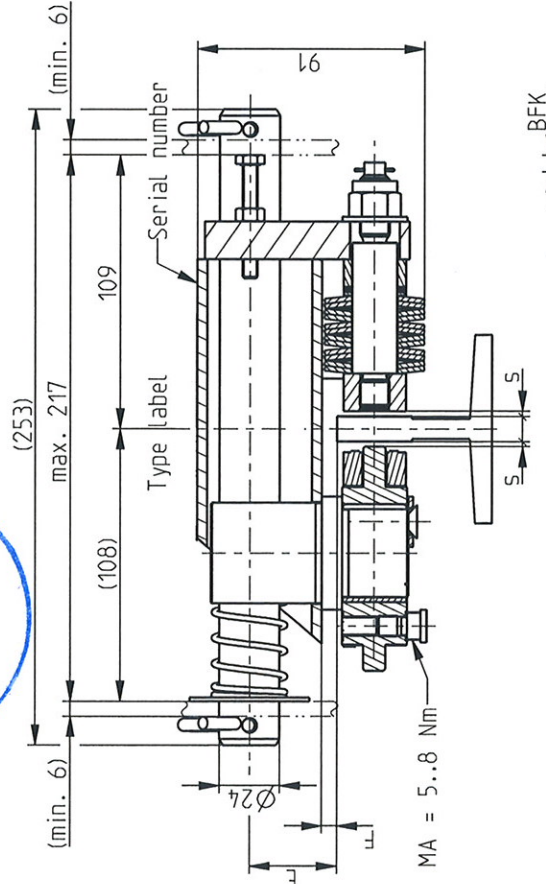


-GEPRÜFT -
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Zentralbereich Fördertechnik-Sonderbauten
Abteilung Aufzüge und Sicherheitsbauteile
Westendstr. 199, D-80688 München
Der Sachverständige

27. Nov. 2009

Notes:

- The safety gear SA GED 10 works in up direction and down direction.
- Actuating force F = 60 N for 1 pair SA GED 10 (without retaining spring) according to detail B
- α rotating angle for up direction
- $\alpha \sim 45^\circ$ contact of the braking elements with the guide rail
- $\alpha \sim 150^\circ$ brake position (maximum rotation angle)
- β rotating angle for down direction
- $\beta \sim 45^\circ$ contact of the braking elements with the guide rail
- $\beta \sim 105^\circ$ brake position (maximum rotation angle)
- Drawn version SA GED 10/AS with BFK 10
- Guiding rails information according ISO7465:2007 (E)



Example:

T89/A	16	62.0	45.0	39.5	15	34.0	35.0	6.0	2
T75/A	10	62.0	39.0	45.5	15	30.0	35.0	6.0	2
T82/A	9	68.0	38.0	44.5	17	34.0	35.0	6.0	2
T70/A	9	65.0	38.0	44.5	17	34.0	35.0	6.0	2
Type	BFK	HFP	A	B	C	D	E	F	S

59344500	Sent finished product / raw material	Item	Code surface	Heat treatment	Draw / Weight	12.031
Ident. No.	Ident. No.	Code surface	Heat treatment	Draw / Weight	12.031	
Modification	MA No.	MA Date	Release Level	Released	Name	Date
	Ae5	159006	7	Released	2009-11-05	draeyere
	2009-12-23	Model Ver.	4	Released	2009-11-05	osmanbfa
Group: SAFETY			Remark		Classification	Format A3
Dimensioned Drawing SA GED 10			Scale		1:1	T1540
SA GED 10			Replaces /A/c		Page	1/1
INVENTIO AG CH-6052 Hergiswil			Lead office		EB3	M_-253823
Format A3			Lang.		EN	