



EC type-examination certificate

Certificate no.:	ABFV 489/5
Notified body:	TÜV SÜD Industrie Service GmbH Westendstrasse 199 80686 München - Germany
Applicant/ Certificate holder:	Inventio AG Seestrasse 55 6052 Hergiswil - Switzerland
Date of application:	2013-03-06
Manufacturer of the test sample:	Schindler Drive Systems Poligono "Empresarium" Albardin, 58 50720 La Cartuja Baja - Zaragoza - Spain
Product:	Progressive safety gear with braking device as part of the protection device against overspeed for car moving in up- wards direction
Type:	SA GED 10
Test laboratory:	TÜV SÜD Industrie Service GmbH Prüflaboratorium für Produkte der Fördertechnik Prüfbereich Aufzüge und Sicherheitsbauteile Westendstrasse 199 80686 München - Germany
Date and number of the test report:	2013-03-27 ABFV 489/5
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:	2013-03-28

Certification body for lifts and safety components
Identification number: 0036

C. Rührmeyer
Christian Rührmeyer



**Annex to the EC type-examination certificate
no. ABFV 489/5 dated 2013-03-28**

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

Manufactured by and condition	Total mass (kg) min. - max.
machined / dry	590 - 2478
machined / oiled*	577 - 2590
drawn / dry	457 - 1670
drawn / oiled*	437 - 1956

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

1.2 Braking device (acting upwards)

Permissible brake force when using the braking devices in twos depends on the condition of the guide rail running surface

Manufactured by and condition	Brake force (N) min. - max.
drawn / dry	3244 - 7563
drawn / 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 maximum rated speed, depends on the moving of the car.

Moving direction/ Manufactured by	Max. tripping speed (m/s)	Max. rated speed (m/s)
upwards / drawn	2.21	1.77 – 1.92
downwards / drawn	2.73	2.18 – 2.37
downwards / machined	3.30	2.56 – 2.87

1.4 Guide rails to be used

- | | | |
|-------|-------------------------------|-----------|
| 1.4.1 | Minimum running surface width | 25 mm |
| 1.4.2 | Blade width | 8 - 16 mm |



2 Conditions for the brake device

- 2.1 Since the braking device represents only the decelerating element of the protection device against over-speed for the car moving in upwards direction, the speed monitoring element for upwards direction must be an overspeed governor which also retracts the braking device as per EN 81-1:1998 + A3:2009 (D), 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 car moving in upwards direction is not decelerated by more than $1g_n$.
- 3.3 Pursuant to the standard EN 81-1:1998 + A3:2009 (D), annex F, paragraph 3, section 3.4. a) 2) the total mass of the progressive safety gear determined for adjustment purposes may be 7,5 % higher or lower.
- 3.4 For the purposes of identification and information concerning the fundamental method of construction, the approval drawing no. M_41378100 with certification stamp dated 2013-03-28 have to be attached to the EC type-examination certificate ABFV 489/5 and its annex.
- 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.



Industrie Service

**Enclosure of EC type-examination certificate
no. ABFV 489/5 dated 2013-03-28**

Authorized manufacturers – production sites (stated: 2013-03-28):

Schindler Drive Systems

Poligono “Empresarium”
Albardin, 58
50720 La Cartuja Baja - Zaragoza - Spain

Suzhou Schindler Elevator Co. Ltd.

818 Jin Men Road
Suzhou 215004 - P.R. China

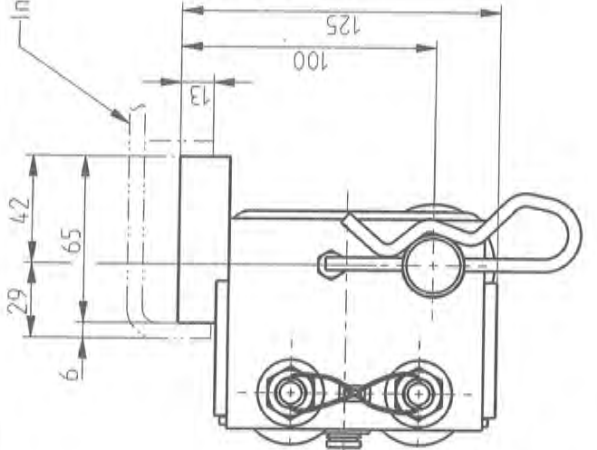
Elevadores Atlas Schindler S. A.

R. Angelina Ricci Vezozzo, 3400
86087 - Londrina - PR - Brasil

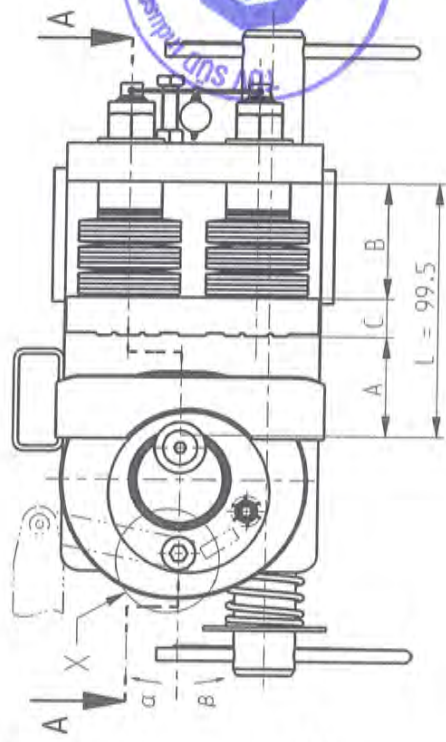
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Base: Application of Co. Schindler Aufzüge AG dated 2013-03-06

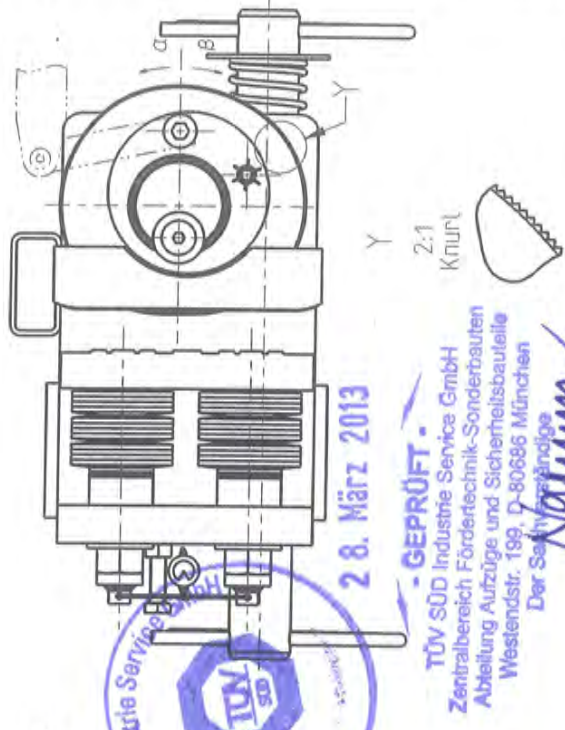
Installation example



Safety Gear SA GED 10 left



Safety Gear SA GED 10 right

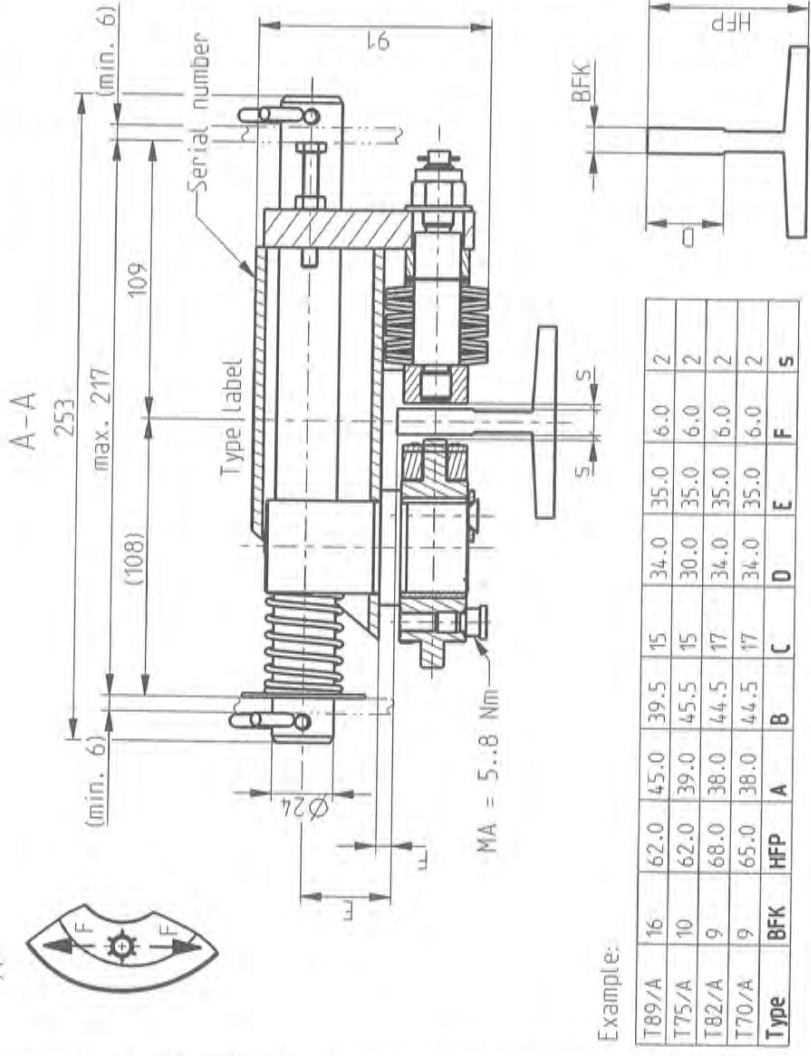


28. März 2013

- GEPRÜFT -
 TÜV SÜD Industrie Service GmbH
 Zentralforschungsbereich Fördererzeugnisse
 Abteilung Aufzüge und Sicherheitsbauteile
 Westendstr. 199 D-80686 München
 Der Sachverständige
[Signature]

Notes:

- The Safety Gear SA GED 10 works in up direction and down direction.
- Actuating force $F = 60N$ for 1 pair SA GED 10 (without retaining spring) according to detail B.
- α rotating angle for up direction
 - α -45° contact of the braking elements with the guide rail
 - α -150° brake position (maximum rotation angle)
- β rotating angle for down direction
 - β -45° contact of the braking elements with the guide rail
 - β -105° 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

59278100	Ident. No.	59278100	Item Code surface	Heat treatment	Drawn / Weight	12.024
Modification	Serial No. / Ident. No.	APD	Draw Ver.	Revised BFK	Revised BFK	
MA No.	59289	23	Model Ver.	Release Level	Released	
MA Date	2013-05-01	14				
GROUP: SAFETY						
Dimensioned Drawing SA GED 10						
SA GED 10						
Classification T1540 Form A3						
INVENTIO AG CH-6052 Hengiswil						
Lead Office EB3						
M__41378100						
Lang. EN						