

# Annex to the EU-Type Examination Certificate No. EU-BD 1025/1 of 2019-07-15



Industrie Service

## 1 Scope of application

- 1.1 Use as braking device – part of the protection device against overspeed for the car moving in upwards direction – permissible brake torque and maximum tripping speed  
Permissible brake torque when the braking devices act on the traction sheave while the car is moving upward and the maximum tripping speed of the overspeed governor of the lift.

Brake assembly drawing no. XF25561	Permissible brake torque [Nm]	Maximum tripping rotary speed [rpm]
XF2556121001	2 × 668 = 1336	223
XF2556116001	2 × 922 = 1844	251
XF2556116005	2 × 1000 = 2000	274

The maximum tripping speed of the overspeed governor of the lift must be calculated on the basis of the maximum tripping rotary speed of the traction sheave as outlined below taking into account the diameter of the traction-sheave and car suspension

$$v = \frac{D_{TS} \times \pi \times n}{60 \times i}$$

$v$  = Tripping speed [m/s]  
 $D_{TS}$  = Diameter of the traction sheave from rope's centre to rope's centre [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 torque, response time, maximum tripping speed and features

### 1.2.1 Nominal brake torque and response time with relation to a brand-new brake element

Brake assembly drawing no. XF25561	Nominal brake torque * [Nm]	Maximum tripping rotary speed [rpm]	Maximum response time ** [ms]		
			t <sub>10</sub>	t <sub>50</sub>	t <sub>90</sub>
XF2556121001	2 × 668 = 1336	223	163	246	329
XF2556116001	2 × 922 = 1844	251	94	116	137
XF2556116005	2 × 1000 = 2000	274	67	107	146

Interim values can be interpolated

Explanations:

- \* Nominal brake torque: Brake torque assured for installation operation by the safety component manufacturer.  
 \*\* Response time: 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<sub>50</sub> = (t<sub>10</sub> + t<sub>90</sub>)/2 or value taken from the examination recording

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## 1.2.2 Assigned execution features

Type of powering / deactivation		Continuous current / continuous current end					
Brake control		Parallel					
Nominal air gap		0.25 - 0.35 mm					
Damping elements		Yes					
Brake assembly drawing no. XF25561	-	Without over-excitation					
	XF2556121001	Rated voltage	110 VDC	Rated current	2 × 1.33 A	Rated power	2 × 146 W
	XF2556116001	Rated voltage	110 VDC	Rated current	2 × 1.15 A	Rated power	2 × 127 W
	XF2556116005	Rated voltage	110 VDC	Rated current	2 × 1.15 A	Rated power	2 × 127 W

## 2 Conditions

- 2.1 The above mentioned safety component represents only a part of the protection device against overspeed for the car moving in upwards direction and unintended car movement (acting in up and down direction), only in combination with a detecting and triggering component in accordance with the standards (two separate components also possible), which must be subjected to an own type-examination, can the system be created for fulfilling the requirements for a protection device.
- 2.2 The installer of a lift must create an examination instruction to fulfil the overall concept, add it to lift documentation and provide any necessary tools or measuring devices, which allow a safe examination (e.g. with closed shaft doors).
- 2.3 The single brakes have to be arranged symmetrically around the circumference of the brake drum (rotor, disc). In order to comply with the redundancy required in clause 5.6.6.2 of EN 81-20:2014, at least two braking circuits (single brake actuator) must be used.
- 2.4 Brake drum(rotor) and traction sheave is a fix screwed unit.
- 2.5 The setting of the brake torque/force has to be secured against unauthorized adjustment (e. g. sealing lacquer).
- 2.6 The approval drawing no. XF25561 with certification stamp dated on 2016-12-16 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.
- 2.7 The EU-type examination certificate may only be used in combination with the corresponding annex and enclosure (List of the authorized manufacturer of the serial production). The enclosure shall be updated immediately after any change by the certification holder

## 3 Notes

- 3.1 In the scope of this EU-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 a part of the protection device against unintended car movement.
- 3.2 Checking whether the requirements as per clause 5.9.2.2 of EN 81-20:2014 have been complied with is not part of this EU-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, clause 5.6.6.11 and 5.6.7.13
  - EN 81-50:2014, clause 5.7 and 5.8

A revision of this EU-type examination certificate will be necessary in case of changes or amendments of the above-mentioned standards or of changes of state of the art.