



Instantaneous Type Safety Gear

SGA-88735

Operating instructions



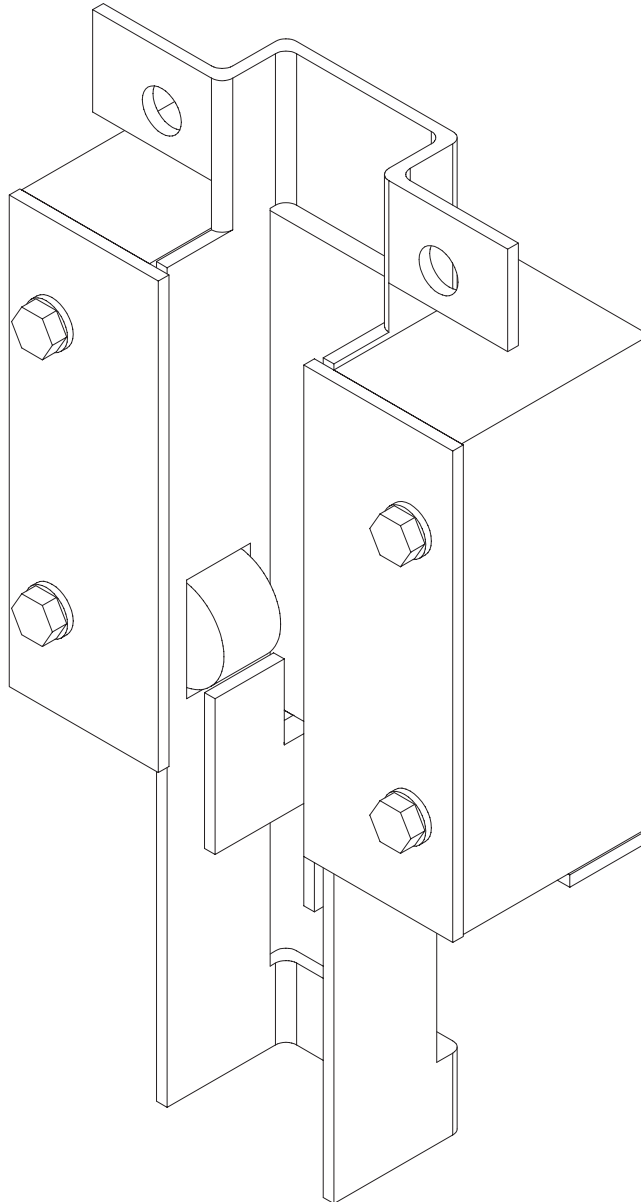
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Datum/date 10.07.2002

Stand/version D-07.04.2016

Geprüft/approved WAT/MZE

Instantaneous Type Safety Gear SGA-88735



D7AEMGB 12.2005

Original Instruction

www.wittur.com

Product manufacturer reference can be found on the product type label.
For any support or further questions please contact your trading office.



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Änderungen vorbehalten!

Subject to change without notice!



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1 General information prior to installation

1.1 Description and functions

The SGA-88735 is an instantaneous type safety gear which is braking the elevator immediately. The braking force is unlimited, therefore the safety gear is not adjustable. The safety gear is activated by a moveable roller lifting lever which is pushing the two rollers upwards.

It is activated by connection to the safety gear rope of the overspeed governor. Due to its principal of operation, maximum braking force is achieved immediately on activation, resulting in an extremely short braking distance. Irrespective of size and load, the elevator car is held secured on the rail after braking.

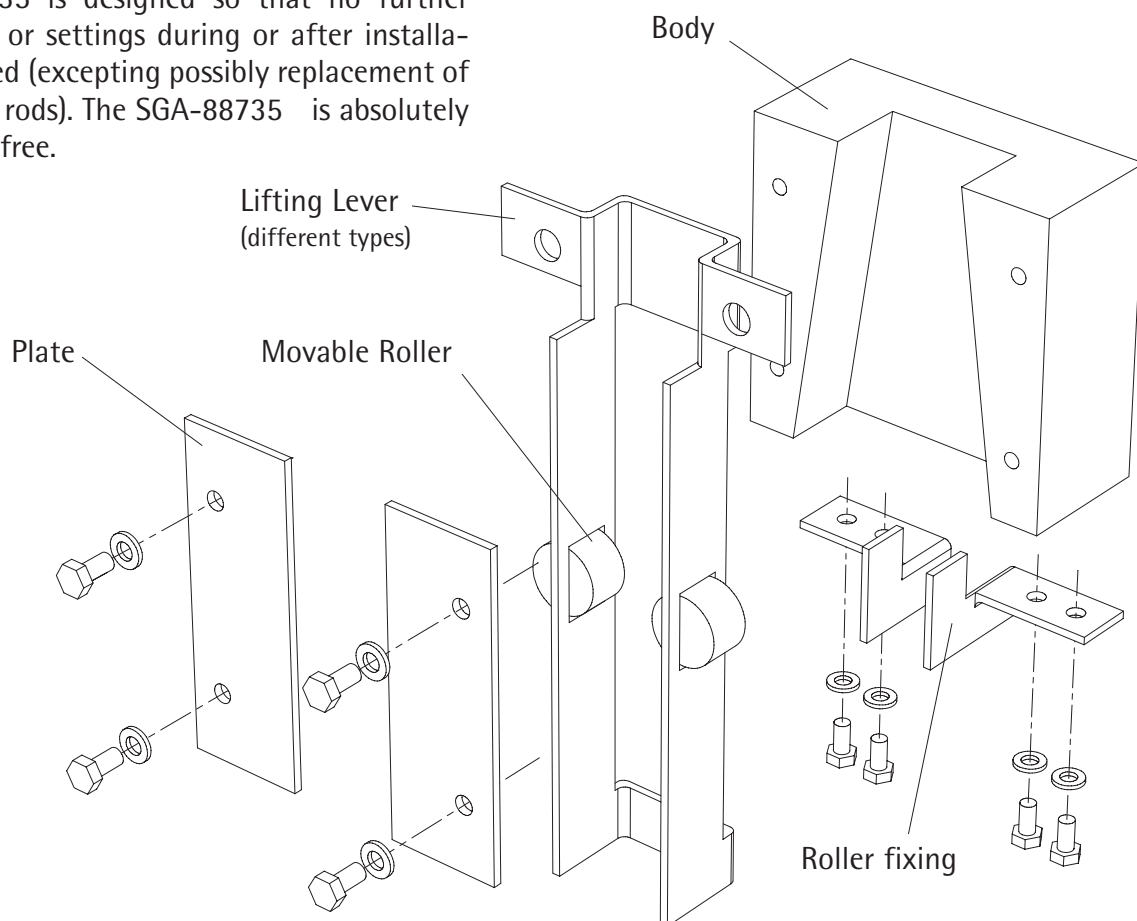
The SGA-88735 is designed so that no further modifications or settings during or after installation are needed (excepting possibly replacement of the actuating rods). The SGA-88735 is absolutely maintenance-free.

Its robust and simple construction guarantees long-term, safe and economical operation.

Compare the data of the EC-Type examination with the data of the elevator to guarantee a correct use.

The operating range is defined as follows:

- max. elevator speed 0,63m/s
- max. counterweight speed 1,00m/s
- width of guide rail head 8/9/16 mm
- max. mass to be gripped $F_{max} = 3555\text{kg}$
- Max. tripping force of the governor 250N +0/-50N



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1.2 Liability and guarantee

This instruction handbook is written for people who are familiar with lift servicing and installation. Sufficient knowledge of lifts is essential.

WITTUR accept no responsibility for damage caused by improper handling, or for damage caused as a result of actions other than those stated in these operating instructions.

The WITTUR guarantee may be voided if parts other than those described in these instructions are installed.

Unless stated otherwise, the following are not permissible due to technical safety reasons:

- The use of components other than those installed
- to install safety gear which is incorrect or different to that foreseen in the manual.
- Carrying out modifications, of any kind on the safety gear
- Installing two different brake heads with different index numbers together
- Combining different component types
- Carrying out faulty or improper maintenance or inspection checks
- Using unsuitable accessories, spare parts or operating material which has neither been released by the WITTUR Company nor consists of original WITTUR spare parts

1.3 Safety precautions

WITTUR machine installation or repair engineers are chiefly responsible for the safe operation of machinery.

It is essential to comply with and keep abreast of all safety rules and legal obligations in order to avoid personal / product damage during installation, maintenance and repair work.

Important safety advice and danger warnings are emphasized with the following symbols:



General danger warning



High danger risk warning (i.e. crushing edge, cutting edge etc.).



Risk of damage to machinery parts (i.e. due to incorrect installation, or such like).



Important information sign

These operating instructions belong with the whole installation and must be kept in a safe place at all times (i.e. machine room).

The proper assembly and installation of WITTUR safety gears requires correspondingly well trained fitting engineers. The responsibility of training lies with the company appointed to carry out the work.

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Before starting installation work:



Only properly trained personnel may carry out work, or be allowed access to the installation site.

- Attach safety devices to guard against falling (platform or harnesses)
- Cover any floor openings
- Secure installation tools or objects against accidental falling
- Lift shaft openings should be cordoned off and suitable warning signs should be erected when working in shaft openings
- Work involving electrical equipment should only be carried out by an electrical engineer or qualified personnel.

1.4 Preparation

Before beginning installation work it is in your own interest to ascertain the constructional and spatial conditions. Where (workshop or on site) and when which installation operations can or must be carried out. It is recommended therefore, taking into account all the given circumstances, to plan the various operational sequences in advance, rather than carrying them out prematurely and in an unconsidered manner.

On receipt of the delivery, the goods or components should be checked for correctness and completeness with the order sheet.

The following should be checked also:

- that the factory and order number correspond
- that the details on the name plate correspond to those on the order
- the elevator speed
- the width and type of guide rail used
- the total load (mass to be gripped)

1.5 Advice for when working on safety components

Safety gears are classified as safety components. It is most important that the standards and guidelines described in this section be complied with as well as those given in the rest of this operating manual.



These instructions, and especially the section on safety precautions, should be read and fully understood before work begins.

Safety devices require special attention. It is compulsory that they function perfectly to ensure danger free installation operation.

Safety devices that can only be adjusted after installation should be done so immediately after installation.

Operation of safety devices installed ex-works must be tested immediately.

If it is necessary to disassemble a safety device during servicing or repair, they should be reassembled and comply with the required tests, as soon as the work has been carried out.

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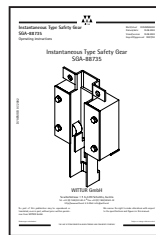
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1.6 Content of supply

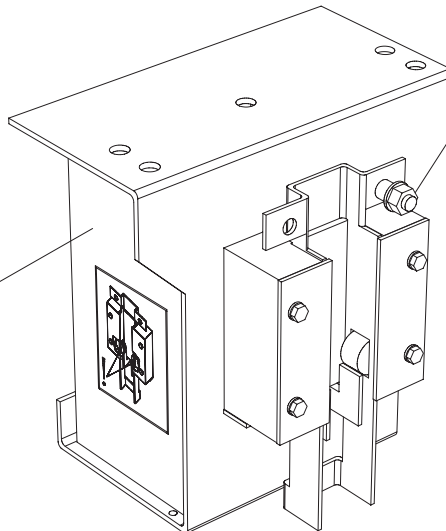
After delivery, check the safety gear for damage and for full delivery of parts. The content of supply covers:

- Operating instructions manual
- One left handed and one right handed safety gear (pre-adjusted and sealed at the factory)

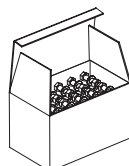


- Optional safety gear housing (pre-assembled)

Housing



- Mounting- and fixing screw-packages



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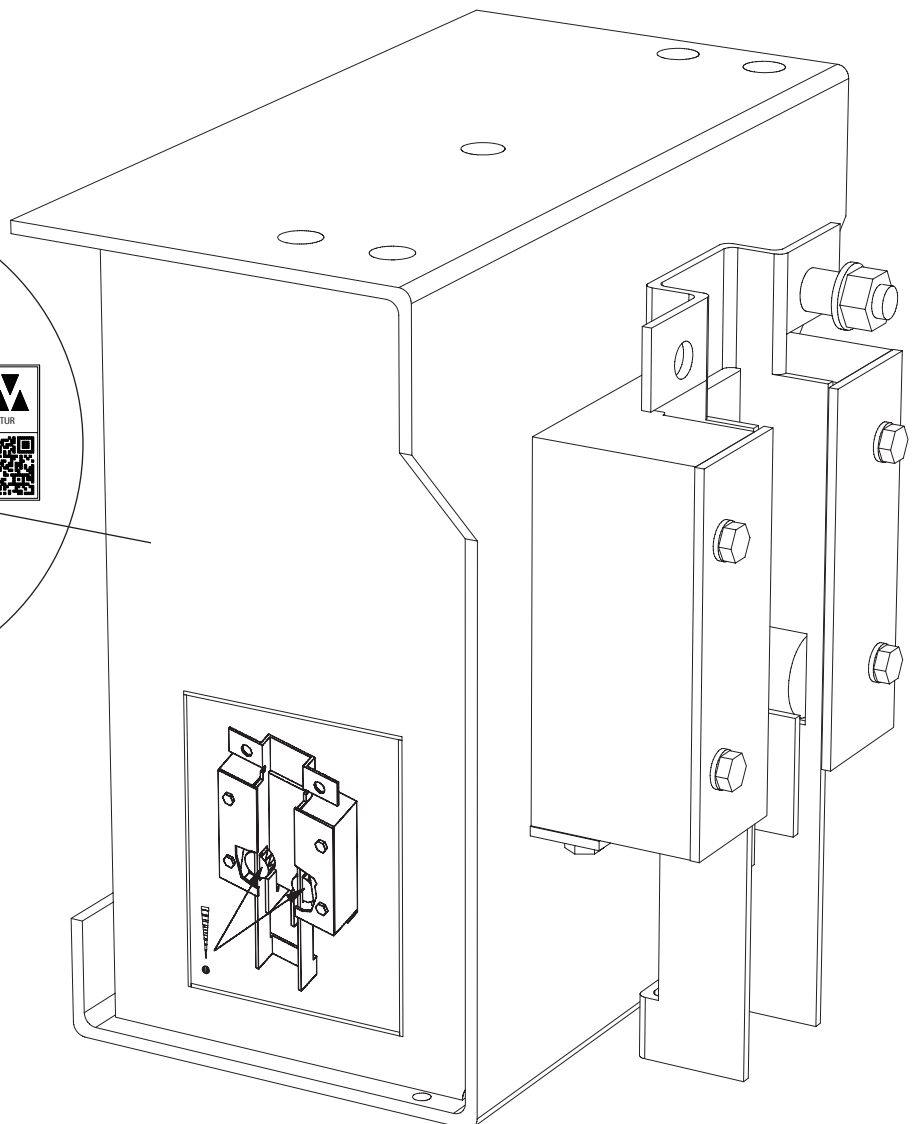
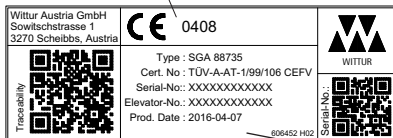
2 Name plate, designation, identification

The safety gear identification indicator is located on the side of the safety gear housing (if delivered) - otherwise they are delivered with the safety gear and have to be fixed near the safety gear body.

These consist of an identification sticker which gives following data:

- Type term of safety gear
- Certification number
- Manufacturing date

Type test designation and CE-label



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3 Installation and adjustment


3.1 Synchronization and adjustment of the moveable roller

After installation of the car frame and the guides, the correct centering and adjustment of the safety gear with regard to the rails have to be done.


 When mounting in the safety gear, observe the position of the overspeed governor rope. The position of the lifting lever of the rope at the safety gear cannot be changed if the safety gear is built-in.

Fixing method:

6 pcs. of hexagon bolts M12 on the back of the body

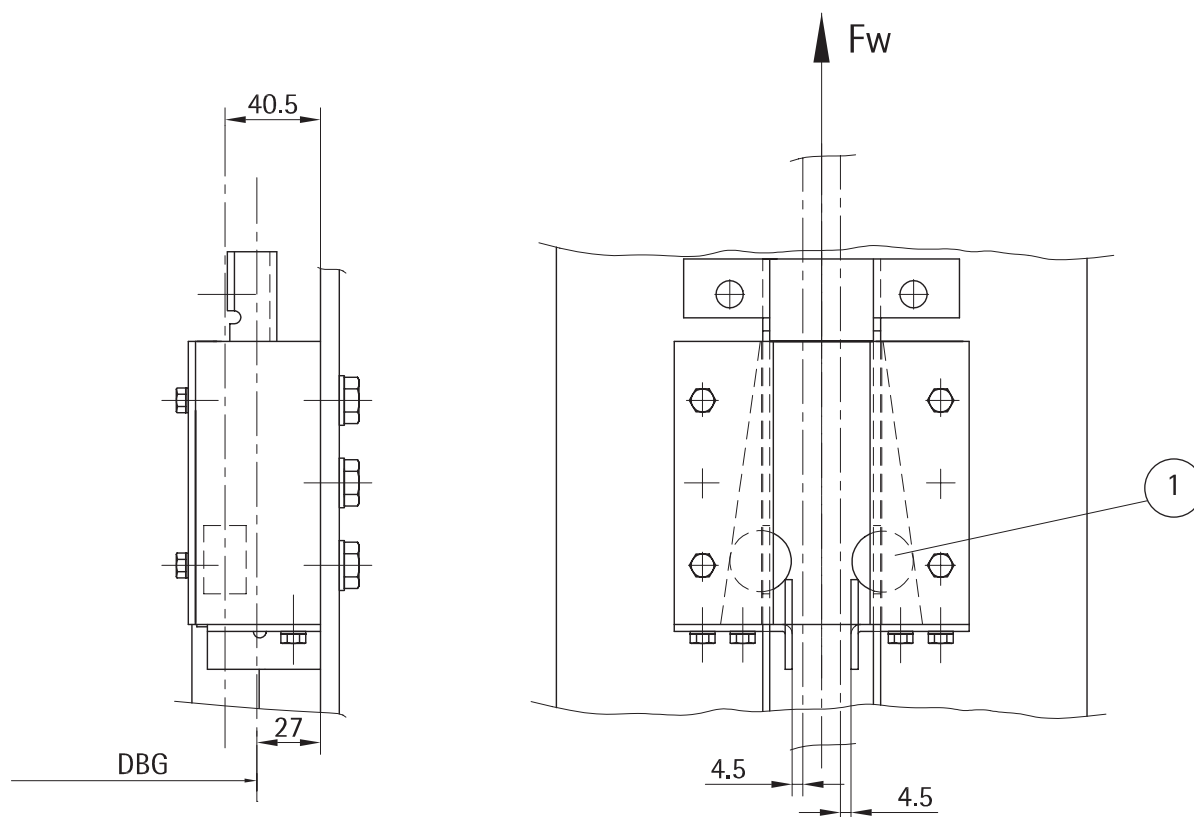
 Take care of tightening torque
Screw M12: 70-80Nm

(1) Check that the moveable roller (1) is on the most bottom position during normal run.

 Adjust the synchronization in accordance with the instructions for the car frame or the counter weight safety gear.

(2) Activate the synchronization by hand and check that both safety gears are activated at the same time.

(3) Check the horizontal adjustment and the running clearance of the safety gear.



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4 Functions testing

Operational reliability of the installation is assured. The quality and function of individual components are subject to thorough inspection and is checked before dispatch from our works. The safety gear system should undergo an operational test before commissioning or before possible inspection from a technical institute.

First test run after installation



Before the first test run:

The protective coating of grease is to be carefully removed from the guide rails! Clean the guide rails!



The cleaning of the guide rail must be done with a disc brake cleaner or a similar fluid. It is not allowed to do mechanical cleaning like grinding. If the surface cannot be cleaned properly contact the manufacturer.



Clear all people and objects from the lift shaft before commencing the test run
Risk of crushing injuries!

The entire lift travel path should be slowly travelled (in inspection mode) before the functions tests. Attention should be paid to the clearance of all fastened parts, especially with regards to the guide brackets/safety gear devices. Find and remove any protruding bolts or other dangerous restrictions well in advance.

4.1 Static functional test (movless elevator)

The operation of the safety gear can be tested in motionless elevator by lifting the overspeed governor rope manually from car roof.

The left and right handed synchronization levers and the lifting levers in the safety gear should be activated and reset simultaneously and block or release the car at the same time. The safety gear gripping test proper can be performed when the safety gear operation is shown to be correct.

The safety gear contact must be actuated. The safety gear contact design with snap action must be manually returned to its original position.

4.2 Testing criterion

Each car sling must be activated by its own overspeed governor. It is not allowed to activate the safety gear with electrical, hydraulic or with pneumatic devices.

Check the activating force of the safety gear synchronization (it should be between 200 and 250N). This is the minimum force which should be measured on the car sling safety gear synchronization to prevent unintended gripping. If the force is less than the retaining spring of the safety gear synchronization must be adjusted

Check the tripping force of the overspeed governor. This force must be at least twice as high as the force measured on the safety gear synchronization.

The maximum allowed tripping force of the Overspeed governor is $750 \pm 250\text{N}$.

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Notice: After each test or activation of the safety gear check that there are no defects that can impair the normal run of the elevator. Change the roller if there is any damage visible. A visual test is sufficient.

It is recommended to do the test near a door, to unload the weights and to make it easier to lift up the elevator after testing the safety gears.

4.3 Dynamic functional test

Each gripping test has to be documented and a copy of the test report should remain in the elevator book.

In order to ease the releasing of the elevator car from the safety gear do the following:

- When the elevator is equipped with a counterweight safety gear, lock the counterweight safety gear before testing the car safety gear to prevent unintended tripping of counterweight safety gear due to jumping of the counterweight.
- For testing the counterweight safety gear the car safety gear must be locked.



Remove the locking after the safety gear test has been performed!

4.3.1 Procedure of dynamic functions test

- Place the test weights in the centre of the elevator car (only for testing car safety gear).
- Drive the car/counterweight frame to the level near the mid point of the shaft or higher.
- Drive the car/counterweight frame about 2 m to up direction from the level, use service drive.
- In geared elevators accelerate the elevator with the motor. In gearless the acceleration can be done just by opening the motor brake.
- Shut down the power supply; keep the brake manually open.

The elevator should accelerate to the tripping speed of the Overspeed governor. When the tripping speed is reached the Overspeed governor must activate the safety gear and the safety gear must stop the elevator.



If this does not work correct (the elevator does not stop after 2 - 3 m) release immediately the motor brake so the elevator is stopped by it.

- Drive the elevator in up direction in order to release the safety gear.
Force to lift the elevator after gripping:

$$F = 1,3 - 1,5 \times F_{\max}$$

- Drive the elevator to a floor and remove the test weights from the car (only for testing car safety gear).
- Do the checks described in the following chapters.

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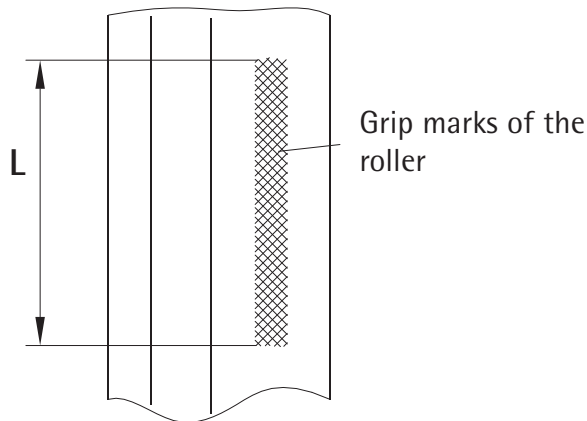
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4.4 Gripping distance

4.4.1 Measuring of gripping distance

Measure and calculate the gripping distance s as described in the following alternative:

 **NOTE:** Check if right and left safety gear head gripped simultaneously



$$s = L + 1 \text{ [cm]}$$

4.5 Permitted gripping distance

The permitted gripping distance „ s “ is to be within the maximum values which are based on the tripping speed „ v_t “ of the overspeed governor (stamped on the overspeed governor).

The max. gripping distance is :

$$s_{\max} = 6 \pm 2 \text{ [cm]}$$

4.6 Visual checks after safety gear test



During gripping the car may not incline more than 5% towards the normal position.

Drive the car to the lowest floor and check from the pit following items

- existence of roller
- visual defects of safety gear parts
- friction marks
- defects on the safety gear housing
- Check the running clearance between safety gear body and guide rail (= 4.5mm)



If there is any defect the safety gear must be replaced!



After the safety gear test the burrs caused by the movable roller must be removed from the guide rails.

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5 Maintenance, checks and repairs

5.1 Maintenance and inspection

The instantaneous type safety gear SGA-88735 is basically maintenance free. The whole installation is designed so that no large maintenance operations have to be carried out during damage free operation of the installation.

Inspection checks must be carried out at regular intervals (minimum twice a year with each service) to guarantee safe operation. Alterations, damage or other irregularities should be reported, and repaired if possible. Frequent servicing and control checks not only make operation of the installation safer, but also ensure long and reliable service life.

It is recommended that control checks and servicing be carried out before legally prescribed functional tests (e.g. before TÜV tests).



The lift installation must be immediately taken out of use should any damage or irregularities arise which could possibly impair operational safety.



Please contact us at WITTUR if you have any problems or queries.



Maintenance work should be expertly carried out with utmost care in order to guarantee safe installation operation.

5.1.1 General



When sliding guides shoes are used, a thin coating of the guide rail oil is to be applied to the guide rails.



The lubrication oil may not include high pressure additives.

Operation temp. [°C]	Viscosity
-20 ... +5	68 cSt/40°C
-5 ... +35	ISO VG-320
+30 ... +50	ISO VG-460

Tab. 1: Lubricant requirements

5.1.2 Maintenance and inspection check list

- Check free travel of guide shoe and safety gear rollers/rail.
- Check safety gear rollers for damage or obvious wear.
- Check movement of engaging mechanism.
- Check the axial play and the ease of rotation of the safety gear shaft; reset if necessary.
- Check even running of right- and left-hand safety gear heads (synchronization).
- Check actuating rods and rope/-hitch for proper movement/functioning. Check synchronization.
- Check safety gear contact for function/-clearance; reset if necessary. (see Chapter in Setting operations)
- Check safety gear device and adjacent components for damage and deformation.
- Check the lubrication of the guide rail (if prescribed); if necessary top up or replace lubricator.
- Clean system if heavy dirt deposits present.

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5.1.3 Cleaning of guide rails

Any dust or dirt on the guide rails can have influence to the friction between the guide rail and the safety gear. This means that the guide rails must be cleaned carefully whenever the dirt becomes visible on the guide rails or in minimum once per year.



As cleaning fluid a disc brake cleaner or a similar fluid should be used.



Mechanical cleaning like filing, grinding is not permitted.

Only the marks from the moveable rollers caused during safety gear activation may be removed with a file or a scraper.

5.2 Returning tests

The standard levels of returning tests should not be higher than the standards of the tests before installation.

These returning tests are not allowed to cause wear or stresses that impair the operation reliability of the elevator. The tests must be done with empty car and reduced speed.



The reset of the safety gear must be done by an expert person.

Each gripping test has to be documented and a copy of the test report should remain in the elevator book.

For detailed adjustment dimensions and testing procedures refer to chapter 4. Functions testing.

5.3 Operational life time of the safety gears



After 7 times of gripping with full load change the complete safety gear!

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5.4 Carrying out repairs



As a rule, the safety gear should neither be taken apart or altered in any other way. This also applies to repairs. An exception to this is the synchronization (e.g. due to reconstruction work etc). Condition for this, is that the process is carried out properly and functioning is in no way compromised.



It is forbidden to replace faulty or worn parts of the safety gear yourself.

The reasons are:

- conditions of liability and technical safety
- only original replacement parts may be installed (these are available from manufacturer only).
- repairs are carried out only in pairs and are checked before return.



Operation of the system without the safety gear, even for short periods of time, is forbidden.

Permitted repair work:

Repairs to the safety gear system which do not directly affect the safety gear (e.g. synchronization, safety gear contact, etc.) must be carried out locally. In other words, all procedures involved in initial installation are also included in the repairs and maintenance schedule.

Such repair work in the safety system must, of course, be carried out correctly and with utmost care, in order to guarantee long-term safe operation of the system.



Please contact WITTUR if for any reason something is unclear, or you encounter damage that cannot be repaired with the help of these instructions.

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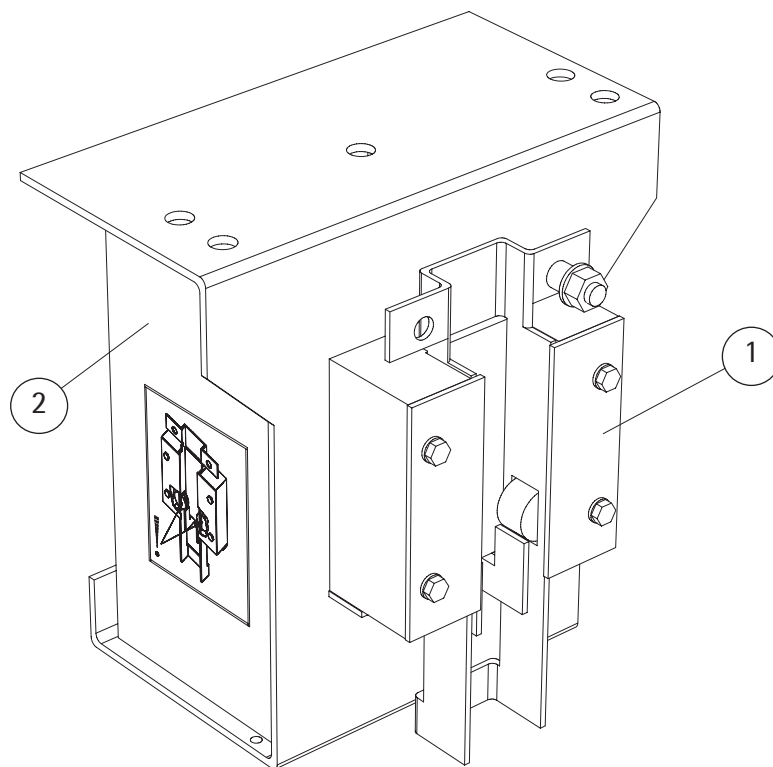
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5.5 Spare parts SGA-88735

Pos.	Description	Use	Remark	Pcs.	Part no.
1	pair of safety gear	Guide rail 8-9 mm		1	900523G09H
	pair of safety gear	Guide rail 16 mm		1	900523G16H
2	safety gear housing			1	89046G01





WITTUR manufacturing locations

Product manufacturer reference can be found on the product type label.

ARGENTINIA

WITTUR S.A.
Av. Belgrano 2445
Sarandi – Pcia. de Buenos Aires, Argentina

ITALY

WITTUR S.P.A.
Via Macedonio Melloni no 12
43052 Colorno, Italy

AUSTRIA

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Sowitschstrasse 1
3270 Scheibbs, Austria

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WITTUR Elevator Components India Pvt. Ltd.
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Sriperumbudur – 602 105
Tamil Nadu, India

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1406 Cambé Parana, Brazil

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