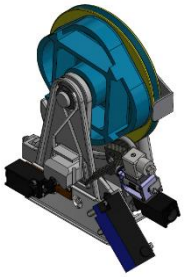
Operating Manual Overspeed Governor
Type Examination Certification
EN 81-20/50

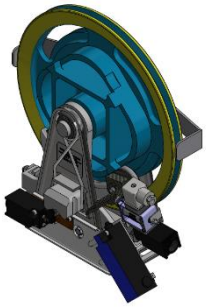
Version 21-01
Incl. Declaration of conformity

Important documents about your Overspeed Governor.

<u>In accordance with Lift Directive 2014/33/EU, paragraph 8 (7), these documents must be kept at the lift installation.</u>



Type 8 = with a diameter of 200 mm



Type 7 / 9= with a diameter of 300 mm

Type Plate

Our type examination certificate can be downloaded from our homepage.

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Contents

1.0 Preface

Since the foundation of our company on 01.04.1905 in Dusseldorf, our goal and our challenge has always been to ensure maximum operational and functional safety for elevators worldwide with high-quality products.

The focus of our developments has always been on the current state of the art.

Elevator systems are considered to be the safest means of transport worldwide. Millions of people depend on these lifts every day. The overspeed governor is an important part of a protective device against overspeed and uncontrolled movement of the elevator car. As a safety component, the speed limiter is in operation around the clock 365 days a year. Therefore, the speed limitation device must be checked regularly in accordance with its determination and function.

Its service life depends on the respective location or place of operation as well as the mileage of the elevator system. This means that, despite the maintenance and care performed, possible wear and tear must be taken into account over the service life of the product.

Taking all factors into account, we assume an average service life of 15 years. After this period at the latest, we recommend a precise and careful inspection of the overspeed governor so that it can continue to ensure the operational safety of the respective elevator system in the future.

Please always keep in mind that an elevator system with five stops in a medium segment can reach up to one million journeys in the 15 years of operation.

Düsseldorf, in July 2021

Managing Director

2.0 General

2.1 Definitions of terms used

- VN = rated speed
- VA = tripping speed
- AS = anti creep protection
- FA = remote release
- ACOP= Ascanding Car Overspeed Protection
- UCMP= Unintended Car Movement Protection

2.2 Safety instructions

Prerequisite for safe handling and troublefree operation oft he safety component is the knowlegde oft he basic safety regulations an istructions on safety included in this manual.

The notes on safety included in this manual are to be observed by any person installing, inspect, maintain or operating this safety component.
In addition, all generally applicable rules and regulation on accident prevention are to be strictly observed.

The personnel working on or operating the overspeed governor must observe the instructions included in the respective chapter on safety as well as the warnings contained in this manual. This manual is to be kept at the overspeed governor place of installation!

2.3 Prescribed use of the overspeed governor

The overspeed governor has been produced to the current state of technology and the generally acknowledged rules and regulations on safety. It must exclusively be employed as intended and in a safety-related flawless condition. The overspeed governor is intended to be exclusively employed as a safety component within the meaning of EN 81. Any other use is considered as non-intended.

2.4 Warranty and liability

BODE Components GmbH's terms of delivery and payments apply. You can find these anytime on our website **www.bode-components.com**.
Any claims for warranty or liability in case of injuries and damage are excluded if these are attributable to one or more of the following reasons:

- Improper installation, commissioning, operation and maintenance of the overspeed governor
- Operation of the overspeed governor with defect and/or non-working safety and protection devices.
- Non-intended use of the overspeed governor.
- Non-observance of the notes on transport, storage, installation, commissioning, operation, and maintenance of the overspeed governor included in this manual.
- Unauthorized modification of the overspeed governor tripping speed (damaging of the seal).
- Unauthorised constructional modifications of the overspeed governor.
- Poor inspection of parts being subject to wear.
- Improper installation of additional or spare parts.
- Improper electrical wirings.
- External impact, disaster or force majeure.

Each overspeed governor is factory set by BODE to the client's desired VA. This setting will be sealed and the VA is indicated on the type plate. The settings of the various safety switches are protected by a color sealing and seal labels. The overspeed governor is a safety component with Type Examination Certificate, therefore, these settings may not be changed.

2.5 Transport, storage and packaging

Each overspeed governor is delivered in an appropriate quality for transport packaging.
The packaging is to ensure that our products safely, arrive in perfect condition and without damage to you and at the place of mounting.

Normally, the packaging is a reinforced cardboard. Please follow the instructions on the packaging. The packaging is not taken back. They should be disposed of professionally and properly.

2.6 Examination of the goods by the receiver

Please check immediately after receipt of the goods the completeness according to the attached delivery note and on a perfect condition. Unfortunately subsequent complaints can not be taken into account.

In a complaint, the serial number of the overspeed governor is definately indicated. Transport damage must be notified to the shipping company immediately. They must be informed about the damage. The damage must be documented on the delivery papers. Then send a written notice to BODE.

2.7 Temporary storage

If the overspeed governor not used immediately, it must be stored so that it is protected against moisture, dirt and damage.

You are responsible for the safe redistribution in picks in the camp, driving through an installer or by a further package delivery to a building site. You have to provide the best possible packaging type, adapted to the type of transport chosen by him.

3.0 The overspeed governor

3.1 Type plate

The following information can be found on the type plate of the overspeed governor.

1. Company Address:
BODE Components GmbH Eichsfelder Straße 29, 40595 Dusseldorf, Germany

2. Number of Type Examination Certificate:
EU-OG 068, EU-OG 069, EU-OG 084 and EU-OG 262

3. Type of overspeed governor:
It is a mechanical overspeed governor

4. tripping speed VA:
factory-set VA according to customer specifications

5. Production year:

6. serial number
7 digits

7. Type designation

8. CE marking with Notified Body:
CE marking with the identification number of the notified body which has carried out the inspection in accordance with module C of the Lifts Directive.

9. QR Code Customer Traceability:
Information Traceability of the overspeed governor

"If the QR code is damaged, the traceability of the article on the serial number is guaranteed"

If the nameplate is changed, masked or pasted over, any guarantee on the part of BODE Components GmbH is void.

3.2 What is a overspeed governor?

A overspeed governor is a mechanical safety device.
Depending on the configuration, it can fulfill the following three safety functions:

1. **Overspeed governor, detecting and tripping element fixed at the overspeed governor, as a part of the protection device against overspeed for the car moving in upwards direction and tripping element against unintended car movement.**

2. **ACOP:** Using as a part of the protection device against overspeed for the car moving in upwards direction.
   Monitoring of upward speed will be done by overspeed governor itself and a braking device can be triggered (engaged) via the overspeed governor electric safety device or mechanically.

3. **UCMP:** Using as a part of the protection device against unintended car movement by an installed anti-creep protection.

   Using without detection system (activation at each landing).

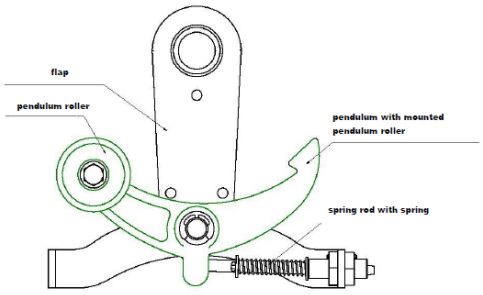
   Condition is, that only in combination with a braking respectively detecting component in accordancen with the standard, which must be subjected to an own type-examination, can the system created fulfil the requirements for a protection device.

3.3 How does a BODE overspeed governor works?

A overspeed governor is a mechanical safety device and operates on the physical principle of centrifugal force.

And so is done the mechanical tripping:

A compression spring which is guided by a spring rod, acts on the arresting pendulum. The pendulum roller is then pressed on the waveform at the wheel of the overspeed governor. At the the set Va is exceeded, the pendulum roller lifts by the centrifugal force of the running surface from the wheel.



After that the following happens:
The pendulum is so far deflected that it engages the opposite catch in the fishing cam at the wheel of the overspeed governor.
The overspeed governor-rope is caused clamped in the rope groove of overspeed governor by its wedge shape and generates a counter force. That force will, if it is sufficient to activate the safety gear on the car or on the counterweight.

At a VN up to 1.00 m / s the safety switch is triggered at the same time with the mechanical catch.

About a VN of 1.00 m / s is needed as a safety switch for pre-cutoff. This safety switch is operated before reaching VA of the switching cam. The mechanical adjustment of the pre-cutodd switch is a max. 5 % reduced tripping speed.

The tensile force in the governor rope generated by the overspeed governor must correspond to the higher one of the following values:

a) the double of the force required for engaging the safety gear or
b) min. 300 N

For tensioning the overspeed governor rope a suitable tension weight is to be used. A slack-rope switch must be installed on the tension weight.

Note: When triggered, for catching up (use of a tension weight SR/FO), or at a VA >= 2.50 m/s or when using a tension weight over 65 kg a hardened rope groove must be used at the overspeed governor. Please note that with a tension weight with lever arm, as the SR / FO, this 65 kg can be achieved quickly, depending on the lever positioning.

ATTENTION: The total weight acting on the pulley must NOT exceed 150kg.

3.4 Where is a overspeed governor used?

The overspeed governor can be used to activate a safety gear

- the elevator car
- on the counterweight
- or the balancing weight

The rules for machine and pulley rooms also apply to the ambient conditions at the site of the overspeed governor.

3.5 What is the standard of a overspeed governor?

- Setting range of the tripping speed at a
  200 mm overspeed governor wheel diameter:
  EU-OG 069 0.50 m/s to 2.04 m/s
  300 mm overspeed governor wheel diameter:
  EU-OG 068 0.70 m/s to 3.43 m/s
  EU-OG 084 0.50 m/s to 0.70 m/s
  EU-OG 262 0.70 m/s to 3.43 m/s
- Retraction of the safety gear in downward and upward direction
- Rope distance:
  200 mm overspeed governor wheel diameter 6.0 mm to 6.5 mm
  300 mm overspeed governor wheel diameter 6.0 mm to 8.0 mm
- Condition of rope groove:
  - 40° v-groove with undercut (at EU-OG 068/ EU-OG 069 / EU-OG 084)
  - 30° v-groove with undercut (at EU-OG 262)
- Safety switch acc. to EN 81 (IP 67)
  up to VN = 1,00 m/s non-latching
  up to VN = 1,00 m/s latching as pre-cut off
- Rope jump off protection

3.6 Tripping speed setting

Each overspeed governor is factory set to the client's desired VA and protected against misuse by lead-sealing.

The safety switch on the overspeed governor is actuated at a speed of:

- VN up to 1.00 m/s simultanuously with mechanical gear
- VN above 1.00 m/s at max. 5% below the mechanical gear as a pre-cutoff

In this case ech time the lift system´s safety circuit is interrupt.

3.7 Resetting a tripped overspeed governor

It applies:

The lift system must not be retaken into operation until it has been checked and the cause of the failure has been eliminated by expert personnel. Resettimh is made as follows:

- Lift system of VN = 1.00 m/s, turn the wheel of the overspeed governor against the catch direction, until the energised pendulum becomes free.
- Lift system above VN = 1.00 m/s,at first rotate the wheel agains the catch direction and than resett the pre-cut off switch electromagnatic or manual. The total duty cycle of the safety switches must be observed

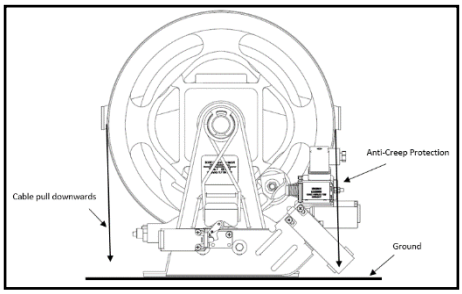
Now the overspeed governor is operable again.

4.0 Mounting instruction

The overspeed governors can be installed in the following locations:

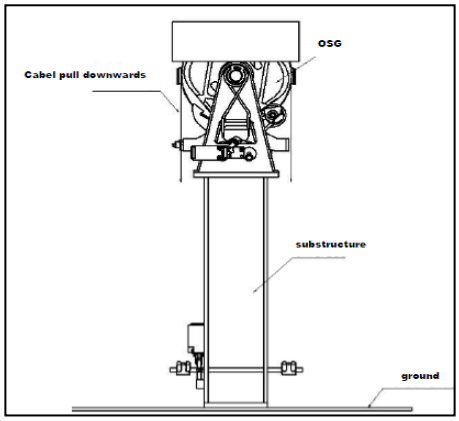
4.1 In the machine room

Note: If you need a cover for occupational safety look under chapter 10.2



- On the ground

The fixing material as screws and dowels are not supplied. The overspeed governor must be installed on a clean and even surface. When tightening the screws, make sure that the overspeed governor is not distorted.

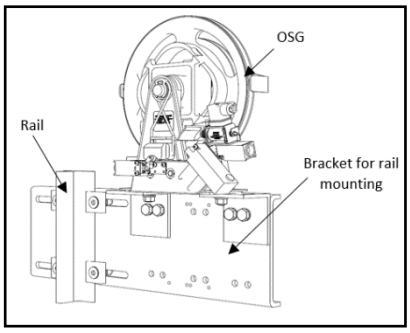


- On a substructure

The fixing material as screws and dowels are not supplied. The overspeed governor must be installed on a clean and even surface. When tightening the screws, make sure that the overspeed governor is not distorted.

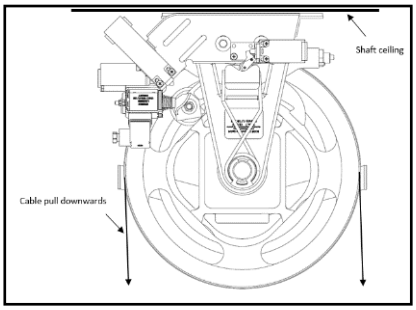
The substructure must be dimensioned for the forces that arise during the catch.

4.2 Above the shaft



- with console on the guide rail (standing, hanging)

The fixing of the console the lift car rails is made using the supplied clamping claws. The type plate is (standing or hanging) readable mounted according to the mounting method.



- at the pit head ceiling (hanging, 180° turned)

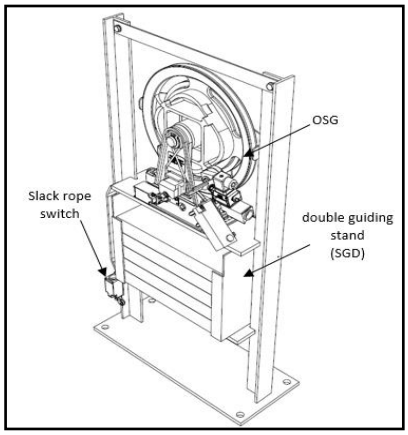
The fixing of the overspeed governor with suitable mounting dowels (not supplied) that are designed for this application. overspeed governor in hanging version are adjusted from the factory in accordance with it´s application.

Overspeed governor with a lateral rope direction are adjusted from the factory in accordance with its application. The type plate is readable mounted according to the mounting method. For mounting in the machine room or pit head a suitable tension pulley must be used.

Note:

A overspeed governor is set specifically for the desired installation position.
The change in the e-construction position leads to a different triggering behavior**!**

4.3 In the shaft pit



- Mounting on a tension weight with guide

The tension weight will be fixed on the pit floor. The fixing material as screws and dowels are not supplied The overspeed governor must be installed on a clean and even surface.

The rope direction is vertically aligned from the overspeed governor on the line attachment of the safety gear. The wrap angle must be at least 180°.

The overspeed governor is to secure against the intrusion of foreign bodies between the overspeed governor wheel and rope (EN 81-20). This cover can be obtained as an additional option. (look at point 10.1 and 10.2)

4.4 Commissioning

Before commissioning the following must be checked:

- Mounting of the governor
- Vertical rope departure
- Unobstructed movement of the tension weigh
- Operability of the attachments
- Die Connections of the safety switches
- Eine Funktionsüberprüfung der elektrischen Anbauteile wie Sicherheitsschalter
- Funktionsprüfung des Schlaffseilschalter am Spanngewicht

ⓘ For testing purposes, the overspeed governor rope must be pulled jerkily, because otherwise the required frictional resistance can not be achieved. Even at low speeds, the safety switch upon reaching the Va is reliably operated.

5.0 Safety switches

The use of a safety switch is described in the standard.
In the EN 81-20 under 5.6.2.2.1.6:

The overspeed governor must cause by an electrical safety device according to 5.11.2 shutdown of the elevator before the speed of the car in upward or downward movement reaches its tripping speed of the overspeed governor.

At nominal speeds not exceeding 1.00 m/s, this electrical safety device need only be at least effective in the tripping speed of overspeed governor.

ⓘ Please note that the electrical installation of the overspeed governor always corresponds to the currently valid accepted engineering.

Modeled on the DIN EN 60204-1 (VDE 0113-1) - Safety of machinery
Electrical equipment of machines Part 1: General requirements, Chap.:12.6 we recommend flexible connections.

To ensure the proper functioning of the safety switch, the wiring in the safety switch must be connected directly and without loops.

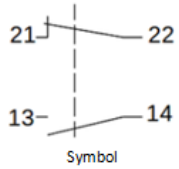
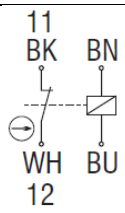
Note:

The safety switch for speed pre-connection is set accordingly to the triggering speed. Therefore, the pre-connection switch must not be dismantled! The fastening screws are therefore provided with seal labels. When removing the seal or switch, the warranty by BODE expires.

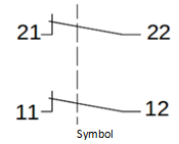
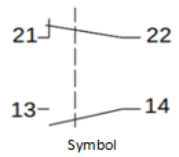
5.1 Standard equipment

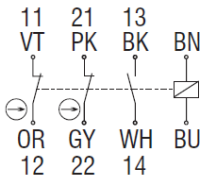
Standard safety switch overspeed governor

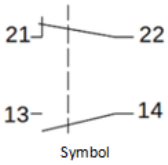
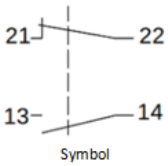
- Safety switch Type 1563 is standard employed with overspeed governor of a nominal speed of up to 1.00 m/s. Type 1563 has a NC with forced opening and a NO. It is non-arresting and when sliding out of the safety gear the break contact ist automatically close.
- At a nominal speed larger than 1.00 m/s is standard employed the safety switch type 2230. Type 2230 has a NC with forced opening, with arrest. The pre-switch is resting and can be reset electromagnetically and mechanically (by hand).

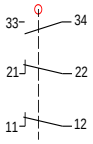
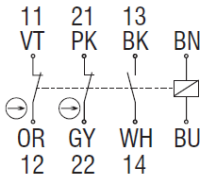
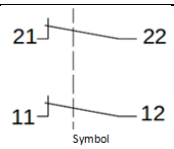
Safety switch	Wiring symbol	Description	Function
1563 without arrest		NC contact with forced opening, 1 NC 1 NO without arrest min. IP67 / IEC 60529	Standard switch till VN <= 1,00 m/s
2230 with arrest		NC contact with forced opening 1 NC with arrest min. IP67 / IEC 60529	Pre-cut-off switch off VN > 1,00 m/s, switched max. 5 % before VA, electrically and mechanically reset Ue/Ie=230VAC/4A
Warning: The safety switch 2230 MUST be only retrofitted by the manufaturer. All contacts are already connected and the switch cover is firmly glued.			

5.2 Optionally available safety switches

Safety switch	Wiring symbol	Descripton	Function
1562 without arrest		NC contact with forced opening 2 NC without arrest min. IP67 / IEC 60529	Same as 1563, but with a NC for the safety circuit and a NC for triggering an additional brake
1564 with arrest		NC contact with forced opening 1 NC 1 NO with arrest min. IP67 / IEC 60529	Same as 1563 but with arrest

Pre-Cut-Off safety switch			
2240 with arrest		NC contact with forced opening 2 NC 1 NO with arrest IP67 / IEC 60529	Same as pre-cut-off 2230, with electrically reset and 2 NC and 1 NO Ue/Ie=230VAC/4A only electromagnetically adjustable
Attention: The pre-cut off safety switch preliminary circuit can not be retrofitted. No additional safety switches required, thereby resulting lower assembly costs. One normally closed contact for separating the safety circuit and for triggering an additional brake. **Warning: The safety switch 2240 MUST only be retrofitted by the manufaturer.**			

Dependent on direction with an additional safety switches			
1563 without arrest		NC contact with forced opening, 1 NC 1 NO without arrest min. IP67 / IEC 60529	dependent on direction to activate an additional brake
1564 with arrest		NC contact with forced opening 1 NC 1 NO with arrest IP67 / IEC 60529	dependent on direction to activate an additional brake
Dependent on direction is possible with the safety switches of the type 1563 and 1564 as an additional safety switch. These safety switches can be retrofitted only limited to older overspeed governor.			

Safety switches in special version			
1571 without arrest		NC contact with forced opening 2 NC 1 NO without arrest IP67 / IEC 60529	to activate an additional brake
1475 with arrest		NC contact with forced opening 2 NC 1 NO with arrest IP67 / IEC 60529	VN<=1,0m/s with electrically reset
2500 with arrest		NC contact with forced opening 2 NC with arrest IP67 / IEC 60529	Safety switch with 2 NC

NOTE:
For over speed governors with VA>= 1.50 m/s including pre-cut off switch (2230 or 2240) in conjunction with an anti-creep protection or remote release (see 6.1 / 6.2), an additional switch (eg: Type 1563) is required!

6.0 Description and connection of electrical components

Basically following must be observed when using a FA or an AS:

- At overspeed governor fits only one FA or one AS, both together is not possible!
- In conjunction with an FA or AS with pre-cut off switch and additional safety switch, the NC contacts for the safety circuit must be connected in series

6.1 Remote release (FA)

Technical data:

- Supply voltage 12V DC 50Hz 100 % ED, 12 W
- Supply voltage 24V DC 50Hz 100 % ED, 13,4 W
- Supply voltage 230V AC 50Hz 100 % ED, 13,4 W incl. bridge rectifier
- Supply voltage 110V AC 50Hz 100 % ED, 14 W incl. bridge rectifier

The necessary components:

- Key switch (without arrest with NOC) is to be installed outside the shaft near the elevator control.

6.1.1 Application options

Each overspeed governor can be equipped as standard or later (from year of construction 2015) with a FA. It is possible with a FA to check a overspeed governor. For that the FA will be triggered with a key switch (without arrest with NOC). Please note:

1. FA on a overspeed governor in the machine room:

   - up to a nominal rate of 1.00 m/s must be used only one safety switch, with or without arrest
   - and at a nominal speed of > 1.00 m/s, an additional safety switch must be used in addition to the pre-activation, latching or non-locking safety switch. The pre-cut off switch is not activated until 95% of the VA has been reached.

2. FA on an overspeed governor in the shaft:

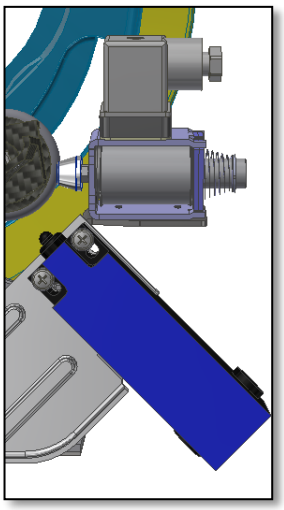
   - until 1.00 m/s rated speed, a non-latching safety switch must be used
   - and at a rated speed of > 1.00 m/s another non-latching safety switch must be used additionally to the pre-cut off switch, consisting of an electromagnetically resettable safety switch of the type 2230 and 2240. This is necessary because it is possible that a pre-cutoff switch according to the FA is not triggered.

! Please note: The key switch of the FA as such is to be clearly marked by a warning sign!

Functional description:

When actuating the key switch (without arrest with NOC) the magnetic coil is excited and the push bar is pressed in the direction of the switch cams. The so far free swinging arresting pendulum is thereby brought into the release position and blocks the governor's cam wheel. Now the safety gear is triggered.

6.1.2 Mounting notes



The FA has been factory fixed in position by means of a heavy duty dowel pin. When installing, the holder's M12 screw is inserted in the right hole of the sprag and tightended with a torque of 10 Nm.
When retrofitting a FA to the overspeed governor it is essential to ensure the correct position to the pendulum cam as well as the function on all 4 catches. If necessary an indent has to be filed in the switch cam so that the pendulum is pressed down by the FA's cone. Laterally, the FA has to be properly positioned. The FA's functionality is to be tested. It is now possible in the corresponding position on the shift cam under the bolts make deepening with a medium round file. The arresting pendulum must be at least. 3mm be engaged in the catch cam of the overspeed governor. Here is a function control absolutely essential.

6.2 Anti creep protection (AS)

Technical data:

- Supply voltage 12V DC 50Hz 100 % ED, 12 W
- Supply voltage 24V DC 50Hz 100 % ED, 13,4 W
- Supply voltage 230V AC 50Hz 100 % ED, 13,4 W incl. bridge rectifier

Each overspeed governor can be equipped as standard or later (from year of construction 2015) with an AS by a skilled machanic. **It must be ensured that always the specified supply voltage is available at the solenoid.**

The necessary components
Depending on the application, additional components for a secure function are required.

Please note the additional information in the individual applications.

6.2.1 Applications

6.2.1.1 **UCMP:** Unintended Car Movement Protection

Early eighties BODE introduced the anti-creep-protection. From now on it was possible to protect man and material when loading the cabin aof a lift. By the increasing number of accident in the past, increasingly deadly output, was preventting an uncrolled movement of the amendment 3 was included in the EN 81 1/2. The term UCM has since been used in the elevator world.

The current standard EN81-20/50:2014 specifies protection against unintended movement of the cabin under 5.6.7 and in our type examination EU-OG 068,069,084, and 262 under 1.2 to 1.4..

A magnetic coil with push bar is additionally installed on the governor. During the controlled cabin movement the magnetic coil is excited and keeps the push bar in its end position. The arresting pendulum can swing freely.

When the cabin comes to a halt the magnetic coil is switched to zero potential and de-energised after a delay preset via a time relay. Depending on the position of the cam disk the magnetic coil's push bar abuts on the switch cams or slides over it.

If the cabin starts creeping due to overloading or for other reasons the push bar keeps the arresting pendulum in the release position. The cam wheel is blocked and engages the safety gear. Until the locking of the cam wheel, a way of 50 to 70 mm can be covered. Within this way maybe a readjustment of the car without the pull rod of the solenoid coil must be moved. The elevator is located during the retrieval in the secured state. The safety circuit is interrupted via the switch on the AS and the safety-switch 1563.

The operability of the anti-creep protection can be checked via the lift control each time the lift magnet is de-energised. For this, there is a second contact in the AS switch. In case of malfunction the lift system should be taken out of operation.

The AS should be battery buffered as it would otherwise block the governor in the event of a power failure. The switch can be individually ordered as spare parts.

Functional test for overspeed governor with AS according to EN 81-20/50

For testing the functionality of the governor the car must be brought to a stop and the coil of the anti-creep protection must be deenergized. The deadbolt of the anti-creep protection is stands out and this must be indicated by a signal on the lift control.
For measuring the way from the detection of an uncontrolled movement until the release of the safety gear the markings must be set as follows:

1. Overspeed Governor is in the machine room:
A mark has to be applied to the governor rope and the distance travelled until the safety circuit is interrupted is to be measured.

2. Overspeed Governor is in the pit:
A mark has to be applied both on the guiding rail and on the car frame. Deenergize the anti-creep protective system so that the pushrod of the magnet at the governor is driven out. Now travel the car upwards or downwards respectively using the inspection control until the safety switch on the governor has disconnected the safety circuit. Measure the distance travelled with the help of the marking on the guiding rail.

The maximum distance until the safety gear is activated by

Overspeed Governor Type 7 / 9	350 mm
Overspeed Governor Type 8	250 mm

To determine the values permitted by EN 81-20:2014; 5.6.7.5 now the safety distance of the respective safety gear must be added. The safety gear also has to be EN 81-20:2014 certified.

The pre-cut-off switch (2230 oder 2240) would not be pressed during function of standstill monitoring because it‘s adjusted that it responds only to excess speed. To break the engagement of the safety circuit, an additional safety switch is provided (see 5.0 safety switches.

6.2.1.2 Hedging in a shortened protected space

The AS can be used as a safety component if the safety space is reduced. For this, a contact has to switch the AS to zero potential when the safety space is reached so that the governor is blocked and the safety gear is retracted.

6.2.1.3 Hedging with a magnification of the car without carrying capacity adapting:

If the cabin is increased in size without changing its load capacity the AS can be activated – in combination with a weighing system – when the nominal load is exceeded. The safety gear prevents the creeping and further travelling of the cabin.

6.2.1.4 Hedging during maintenance work in the shaft

With lift systems where the drive is installed in the pit the AS can be used for protecting the service technician in the pit. When opening the lower lift door in the pit for maintenance purposes the magnetic coil is switched to zero potential and de-energised.

6.2.1.5 Functional test of OSG while driving

With the attached AS, the OSG can be triggered while driving, for testing purposes. This is the secondary function of the AS, known as remote release. This function can be easily retrofitted by means of a key switch (without arrest with NCC) by integrating the key switch in the feeder of the power supply of AS. When the key switch is pressed, the voltage supply to the AS is interrupted, the bolt drops off and triggers the GB.

! Please note: The key switch for testing the AS must be clearly marked as such by a warning sign

6.3 Transport instructions

The holder of the AS is a mature product, consisting of a very resistant material. Under normal operating conditions, it may not come to destruction by a force when engaging a overspeed governor, since no force on the holder is effective.

Nevertheless, the holder may be damaged:

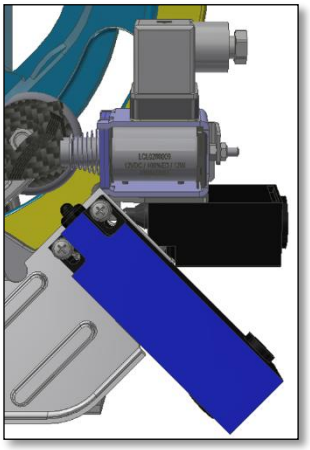
During transport
It must be ensured that the overspeed governor arrives in its high-quality original packaging and without any damage. Please transport the overspeed governor to the elevator system in its original packaging.

During the assembly
The overspeed governor is carried by hand and strikes laterally on the holder against an object with sufficient force, the possibility exists that the holder can bend. In this case, the function of the magnet can no longer be quaranteed.

By carelessness on site
For example, when someone has kicked against the anti creep protection (assembly overspeed governor on the floor in the machine room).

A overspeed governor with anti-creep protection is a safety component which must be with the utmost care transported, mounted and put into operation. Only then a proper functioning can be ensured.

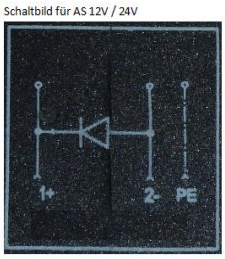
6.4 Mounting notes:



The AS has been factory fixed in position by means of a heavy duty dowel pin. When installing, the holder's M12 screw is inserted in the right hole of the sprag and tightended with a torque of 10 Nm. When retrofitting an AS, ensure the correct position for the pendulum cam and the function at all 4 catch cams. If necessary an indent has to be filed in the switch cam so that the pendulum is pressed down by the AS cone. Laterally, the AS has to be properly positioned. The functionality is to be tested. It is now possible in the corresponding position on the shift cam under the bolts make deepening with a medium round file. The arresting pendulum must be at least. 3 mm be engaged in the catch cam of the overspeed governor. Here is a function control absolutely essential.

Attenuation of the shutdown overvoltage:

Due to the energy stored in the magnetic circuit, a high induction voltage, especially with large lifting solenoids when switching off. This switch-off overvoltage can possibly destroy the excitation winding, switches and especially electronic components. For this reason, each anti-creep protection 12V/24V is equipped with a freewheeling diode in the connector!



For damping there are other possibilities:

Ohmic resistor (FIG. 25), diode circuit (FIG. 26), varistor circuit (FIG. 27), bridge rectifier (FIG. 28), spark quenching (FIG. 29)

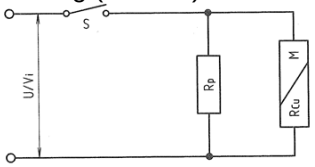


Fig. 25

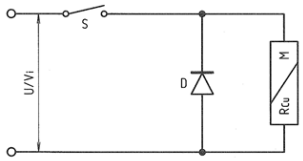


Fig. 26

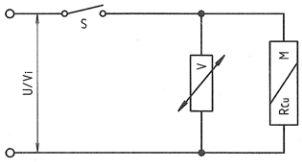


Fig. 27

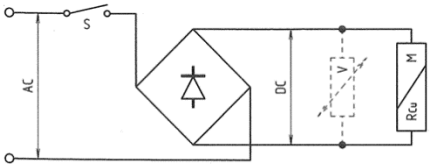


Fig. 28

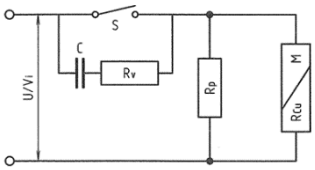
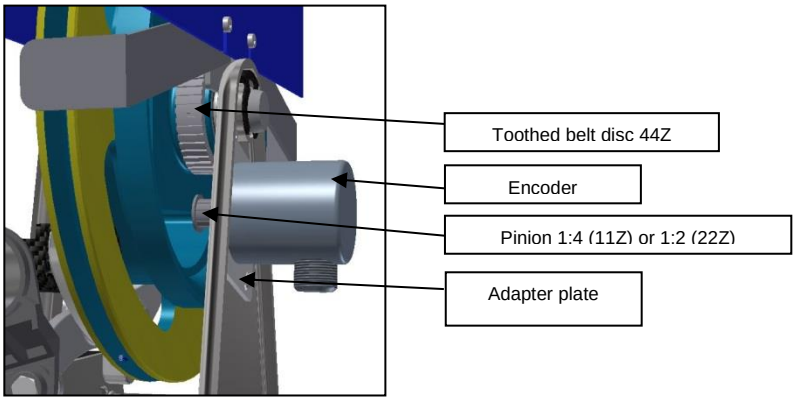


Fig. 29

6.5 Incremental encoders installation

Technical data:
Transmission ratio 1:4, pinion 11 teeth shaft diameter 6mm
Transmission ratio 1:2, pinion 22 teeth shaft diameter 10mm

An encoder can be mounted to the governor, the tension pulley or diverter pulley. For this purpose the tension pulley and diverter pulley must feature a v-groove. Retrofitting the components with the encoder assembly is **not** possible.



Scope of delivery:

- Adapter plate mounted to the governor.
- Toothed belt disc, 44 teeth mounted on the cam wheel.
- Toothed belt disc on the toothed belt disc.
- Transmission ratio 1:4, pinion 11 teeth / toothed belt 110XL / shaft diameter 6 mm or Transmission ratio 1:2, pinion 22 teeth / toothed belt 114XL / shaft diameter 10 mm (in bag).
- 3 mounting screws M4 (in bag)

Mounting instruction:

Remove the adjustable adapter plate from the support. Mount the encoder on the argyle plate using the countersink screws supplied. Shift the pinion onto the encoder's axle and gently fix it using the M4 stud screw. Move the pinion on the axle so that the toothed belt is properly aligned in both rotating directions of the cam wheel.

Then remove the argyle plate with the encoder again and tighten the stud screws on the pinion. Secure the stud screws using a screw locking device.

Now the argyle plate can be finally installed.

- **When sliding the pinion on please ensure that the stud screws do not portude into the bore hole.**
- **Tighten the toothed belt only slightly.**

7.0 Factory setting of a overspeed governor

The overspeed governor are safety components. Accordingly, they are authorized by a EU-type examination certificate.

They ers used to engage a safety brake and to disable the lift system, in downward an upward direction, or uncontrolled movement of a cabin, by interrupting the safety circuit.

The Va is adjusted in the manufacturer factory to customer specifications, inspected and sealed. Repairs may only be carried out by BODE. **A repair always requires a review of the Va. Settings may only carried out by BODE.**

The replacement of defective components can in individual cases also carried ot on site by a licensed contractor after consultation with BODE.

8.0 Maintenance

The overspeed governor are maintenance-free. A safety component is only as good as his condition. The overspeed governor MUST be checcked regulary and if necessary be maintained.

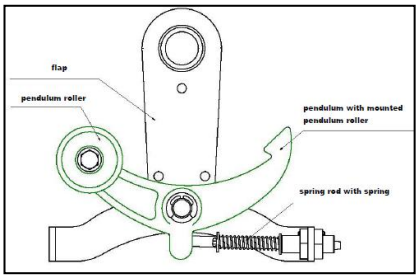
Please take into account that the overspeed governor is only a part of a complex system. The system is made up of:

- overspeed governor
- Tension weight
- overspeed governor-rope
- Safety brake
- Or additional brake

All of these components are important components of a protective device. And only if all the componets are matched and be in good condition, does this protective device as expected.
Each of these componets has unique characteristics that require inspection and maintenance. We would like to point out that not only the overspeed governor is considered.

8.1 Care of a overspeed governor

The care refers to the smooth running of the mechanical tripping system of the overspeed governor (see picture). Depending on the site must be intervened supportive here. Free from effects of weather may be present here various climatic conditions in an elevator shaft.



Even under normal conditions in the shaft or machine room at an operating temperature of 0° C to +40° C, it can here, for maximum or minimum frequenting of the elevator system, there will be different operating states.

Since this is a physical pendulum plays the mobility of the individual components a very big role. Impurities may affect the trigger mechanism here.

It is important here to adjust to the local conditions at the standard of maintenance of a new overspeed governor to obtain permanent. We use a light oil (type HN 68 or WD-40).
NOTE: NO LUBRICATING OIL

8.2 Checking of a overspeed governor

Periodic monitoring is necessary to ensure that no contamination or mechanical damage can affect the functional safety of the overspeed governor. This applies to all components used in the protective device, such as the overspeed governor-rope, the tension weight and the safety gear.

When overspeed governor all moving parts must be checked for contamination, on pollution caused by grease and to their free movement (see 8.1 Maintenance).

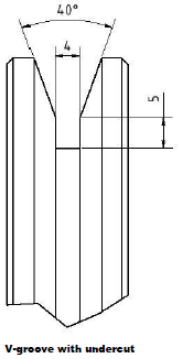
The cam wheel, the pulley and the O-ring on the pendulum roller must be checked for damage and wear.

The V-groove can clog by lubricating arrears with improper care of the overspeed governor-rope. This can in extreme cases lead to a delayed tripping of the safety gear. Please follow the care instructions of the rope-manufacturer.

The V-groove must be checked for changes. Please refer to chapters 8.3 and 8.4.

All safety switches and mechanical parts must be checked.

8.3 How do I recognize a faulty V-groove?



V-groove with undercut

The overspeed governor-rope may run in up to 3 mm above the bottom of the undercut. After this an exchange is imperative. Should the rope groove be become a seat groove, the overspeed governor need not necessarily be replaced because it has a free cut (EN 81). An entry of the rope groove can be improved by:

- the design of the used rope
- the weight of the tension weight used
- or a combination of both

8.4 What is a cable pattern in the V groove?

The use of a tension weight such as SR/FO, SGI, SIG-S, double guide stand or directional switch in combination with a non-hardened wheel can lead to a cable pattern in the rope groove. This imprint of the rope is so named because it is similar to a braided plait.

Damage to the overspeed governor-rope cannot be demonstrated, to our knowledge, as with a cable pattern no sharp edges. But by the cable pattern creates a greater force. The safety device is actuated in each case. Whether the safety gear can withstand the higher power without damage to the catch arm only the manufacturer of the safety gear can say.

9.0 Maintenance of a overspeed governor

A change in the factory-set VA is not permitted on site at the lift installation. The factory setting is sealed. If repairs or adjustments become necessary, they are to be carried out in the factory. A repair or testing with subsequent functional check can always be carried out at Bode.

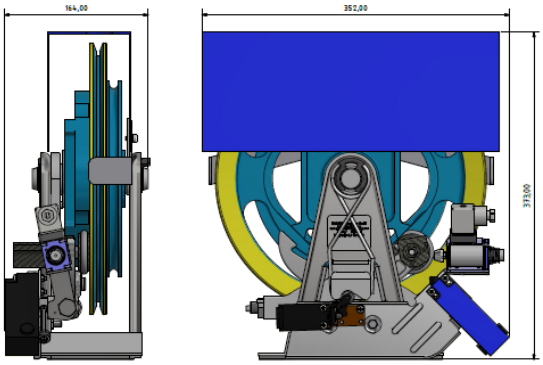
The settings of the safety switches are secured by color sealing and seal labels. Since this is a safety component with an EU-type examination certificate, these settings may not be changed. Damage to the seal of the adjusting nut, the color seals and seal labels automatically lead to a review of the overspeed governor, as functional safety cannot be guaranteed. In addition, you lost all warranty claims and liability BODE laughed.

10.0 Accessories

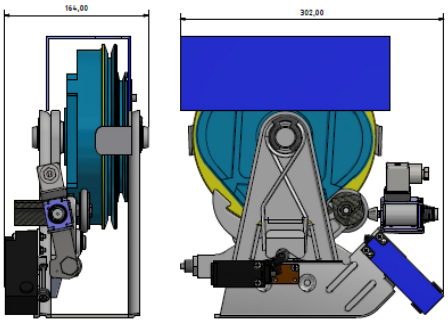
10.1 Cover according to EN 81

Mounted cover according to EN 81

-overspeed governor Type 7/9 with FA



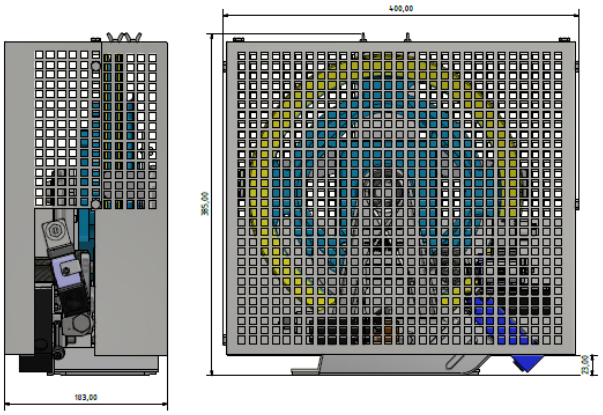
-overspeed governor Type 8 with FA



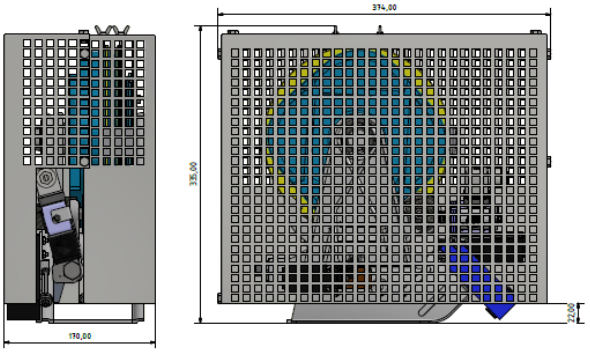
10.2 Cover according to Industrial Safety Regulation

Mounted cover according to Industrial Safety Regulation

- overspeed governor Type 7/9 with AS



- overspeed governor Type 8 with AS



EU- Konformitätserklärung für Sicherheitsbauteile für Aufzüge gemäß EU-Aufzugsrichtlinie 2014/33/EU

EU- Declaration of conformity for safety components for lifts according to the EU Lifts Directive 2014/33/EU

Hiermit erklären wir, dass die nachfolgend aufgeführten Bauteile den Anforderungen der EU-Aufzugsrichtlinie 2014/33/EU entsprechen.
We hereby certify that the components described hereafter meet the requirements of the EU Lift Directive 2014/33/EU.

Name und Anschrift des Hersteller: **Name and address of Manufacturer:**	BODE Components GmbH Eichsfelder Straße 29 40595 Düsseldorf – Deutschland
Beschreibung / Funktion: **Description / Function:**	Bidirektionaler Geschwindigkeitsbegrenzer für Sperrfangvorrichtungen und Bremsfangvorrichtungen **Bi-directional overspeed governor for progressive safety gear**
Bezeichnung: **Type:**	**Typ 7, Typ 8, Typ 9** Seriennummer und Baujahr: Siehe Typenschild **Type 7, Type 8, Type 9** **Serial number and production year: see label**
Das Sicherheitsbauteil entspricht: **The safety component complies:**	EN 81-1:1998+A3:2009 EN 81-2:1998+A3:2009 EN 81-20:2014 EN 81-50:2014
Benannte Stelle der Baumusterprüfung: **Notified Body of the type examination:**	TÜV Süd Industrie Service GmbH Westendstraße 199 80686 München – Deutschland Kennnummer / **Idenfication No.** CE 0036
Baumusterprüfbescheinigungs Nr.: **Type examination no.:**	Typ / Type 7: EU-OG 068 Typ / Type 8: EU-OG 069 Typ / Type 9: EU-OG 084
Benannte Stelle der Fertigungsstätten Überwachung: **Notified body of the production facility monitoring**	TÜV Rheinland Industrie Service GmbH Am Grauen Stein 51105 Köln – Deutschland Kennnummer / **Identification No.** CE 0035
Ort und Datum: **Place and Date:**	Düsseldorf, 19.04.2022
Bestätigung durch: **Confirmation by:**	Volker Trein Technischer Leiter / **Technical Director**