ÖZBEŞLER ASANSÖR

OVERSPEED REGULATOR

USER GUIDE

CE

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ÖZBEŞLER MAKİNA

OVERSPEED REGULATOR

USER GUIDE

MODELLERMODELS

HR40 0,40m/s

HR63 0,63m/s

HR80 0,80m/s

HR100 1,00m/s

HR120 1,20m/s

HR160 1,60m/s

HR200 2,00m/s

2019

1.GENEL BİLGİLER

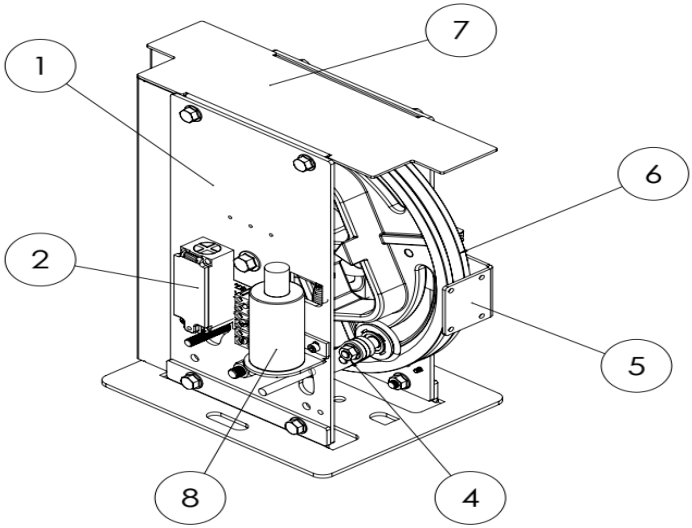
Speed governor is a crucial security measurement for elevators. It activates when speed of elevator exceeds a predetermined speed.

Our product meets all **EN 81-20** ve **EN 81-50** standards. However, wrong assebly or wrong usage might cause some technical problems.. Therefore, this instruction and maintenance manual must be read carefully and elevator must be assembled by experienced staff.

Overspeed regulators has been designed to be mounted to the floor at the machinery room or on the frame .

Overspeed regulator should not be used in open areas and in the environment where the regulator works should be prevented from excessive amount of dust and the other impurities.

The adjustments of regulator have already been verified on the label. One must compare the system speed to the values on the label. If there is any difference, it must not be used. Before the usage, be sure whether the electrical switch is on or not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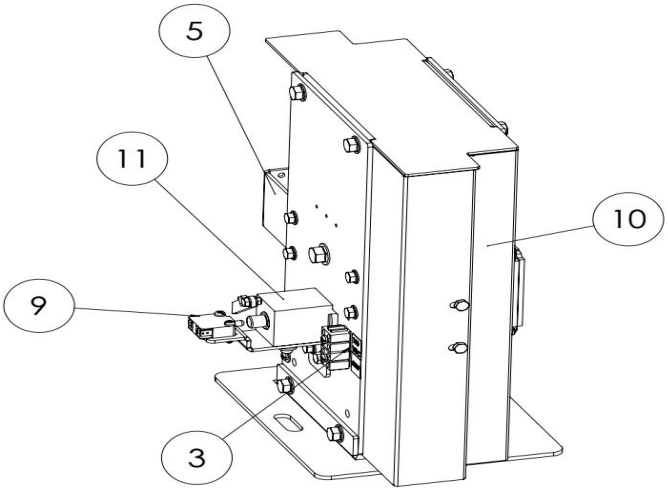
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11
10
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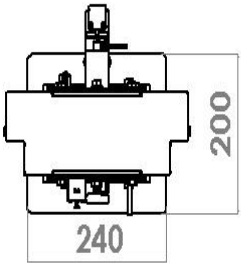
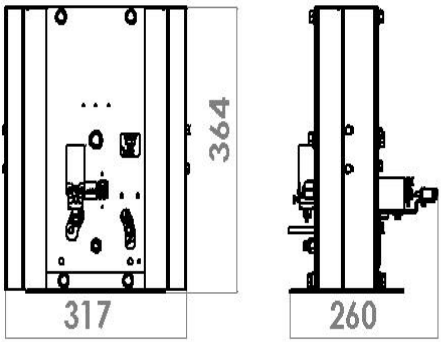
3

1. Regulator Main Body
2. i)Limit Switch(A3 or without A3 type)
   ii) Switch with reset (For machine roomless type)
3. Klemes Connector Groups
4. Overspeed Mechanic Locking
5. Rope Protection Parts
6. Pulley System
7. Upper Safety for Turning Parts
8. Test Coil(For Machine Roomless Type)
9. Coil Prime Switch(for A3 type)
10. Side Safety for Turning Parts
11. A3 Coil Group(for A3 type)





Yukarıdaki resimde regülatörümüze ait boyutsal bilgiler gösterilmektedir. Regülatörümüzün boyu tüm tiplerde standart olup 364 mm dir. Regülatörün genişliği de tüm tiplerde standart olup 317 mm dir. Regülatörün eni regülatör tipine göre farklılık göstermektedir. A3 süz ve Makine Dairesiz tiplerde regülatör eni aynı olmakla beraber 200 mm dir. A3 lü tiplerde regülatör eni 260 mm dir.

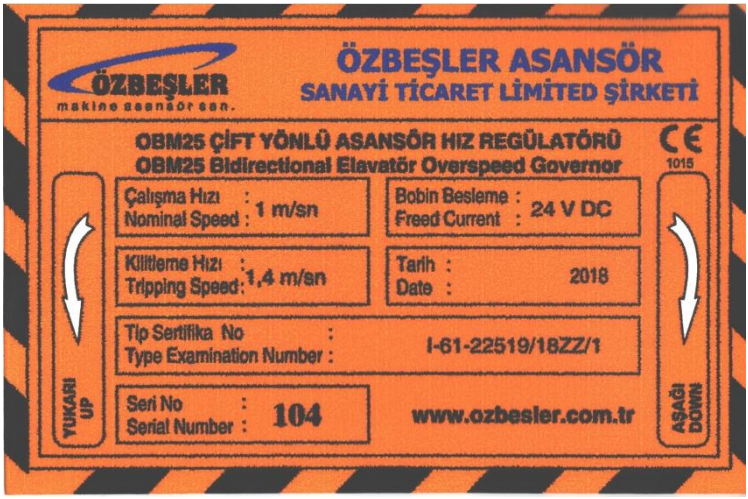
2.TECHNICAL DETAILS

Overspeed regulator starts to work by centrifugal force. It is designed to move in two directions in order that cabin and counter weight can drive the safety gear. It is adjusted according to the speed between 0,4 and 2,00 m/s. Overspeed regulator , if the nomiral speed is more than % 25-50 , activates the braking system and cuts off the electricity. It is set in the machinery room. Regulator rope transfers the operation to the pulley. The rope , compressed by the excessive speed activates the system. Overspeed regulator generally functions as limiting speed.

It is put into use and locked when the level is increased up to %25-50 Regulator does not function till the nomiral speed reaches to %115 The speed for functioning which is up to 1m/s should be %125-%150 of nominal speed. The speed for 1,2-2 m/s lifts is calculated according to the formula 1,25 v + 0,25 /v Before mechanical locking , electrical locking happens when the electrical locking increases up to %10 , mechanical locking is activated . The rope is subjected to minumun 300 N Additionally , the electric switch cuts of the electricity of the engine. Regulator is locked in order to get it restarted , it should be turned 15 mm in the opposite direction and the pawl should take its place. Regulator

has a label which shows direction signs the diameter of rope must be at least 6 mm. The rope security pin is used for preventing the rope from leaving the regulator.

2.1 REGULATOR LABEL



Information on the label should be checked before assembly.On the Label;

1. Working Speed
2. Locking Speed
3. Coil Supply Voltage
4. Production Date
5. Certificate Number

6. Serial Number
7. Up and Down Directional Signs

2.2 A3 STANDARD

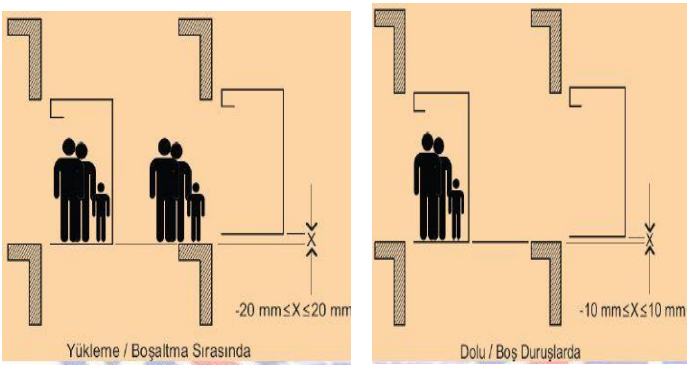
EN 81-1 and EN 81-2 standards, including construction and assembly safety rules for electrical and hydraulic elevators, have been amended twice before as A1 and A2 standard and have been updated as A3 standard.

i. Normal stopping and leveling accuracy of the car in stops: Vertical distance between the cabin sill and the stall threshold when the elevator car is stopped by the control system on the floor where it is going and where the doors are in the open position.

The purpose of this clause added to the standard is to keep the car and floor thresholds aligned during loading / unloading and to prevent injuries that may occur when the passengers are stepping on different levels of thresholds.

Car stopping accuracy at the floors, regardless of load, must not exceed 10 mm.

If the car moves more than 20 mm during loading / unloading, the level should be corrected.



ii. Involuntary Car Movement:
The involuntary movement of the open-door cabin within the opening area of the door prior to reaching the station, (during the door opening process) with the exception of movements of the cabin due to loading / unloading.

The purpose of this clause added to the standard is to prevent injuries and loss of life caused by uncontrolled movement of the cabin during loading / unloading.The uncontrolled movement of the car is defined as involuntary cabin movement when the car door is not locked and the car door is not closed.

The protection against involuntary car movement must detect the involuntary movement, stop the car at allowable distances and hold it in that position.

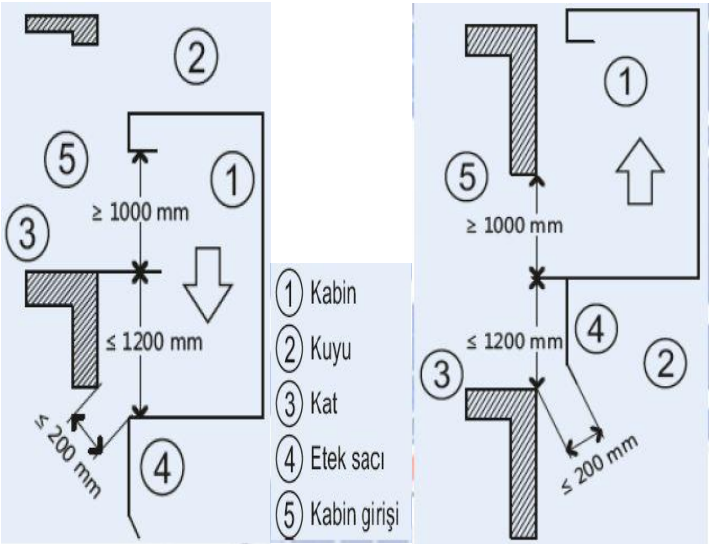
EN 81-1 + A3 9.11.1 Suspension ropes or chains, except for the failure of the pulley, drum or drive gear wheel, in

one component of the drive machineor the drive control system which controls the safe movement of the cabin, the cabin door in the closed position and the stop door in the locked position, must be equipped with the necessary protection device to stop the movement of the cab away from the stop.

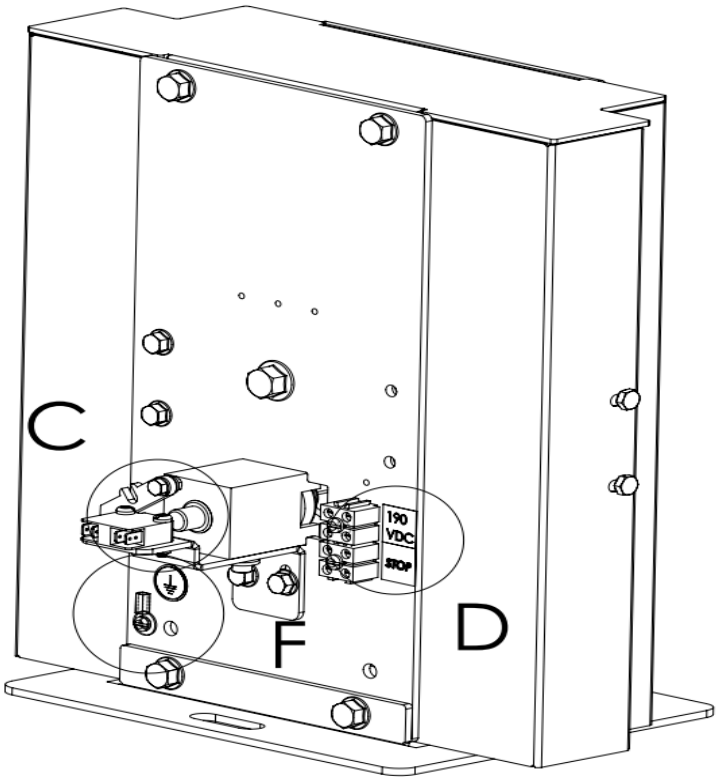
Note: Towing loss is included to the eror at towing pulley.

If the cabin has an unintentional movement during loading or unloading in a situation other than the following conditions, there must be a safety device which understands this movement and meets the requirements below, without departing from the lock-out zone.This device must act on the following components.•at car or •at counterweight or •rope system (hanging or balancing rope) or •at towing pulley (for example, directly on the pulley or on the same shaft next to the pulley).

As can be seen from the figure below, there are two conditions for the involuntary movement of the cabin in the downward movement of the cabinet and 3 conditions for the involuntary movement in the upward direction as he safety device engages and enters the cabin.

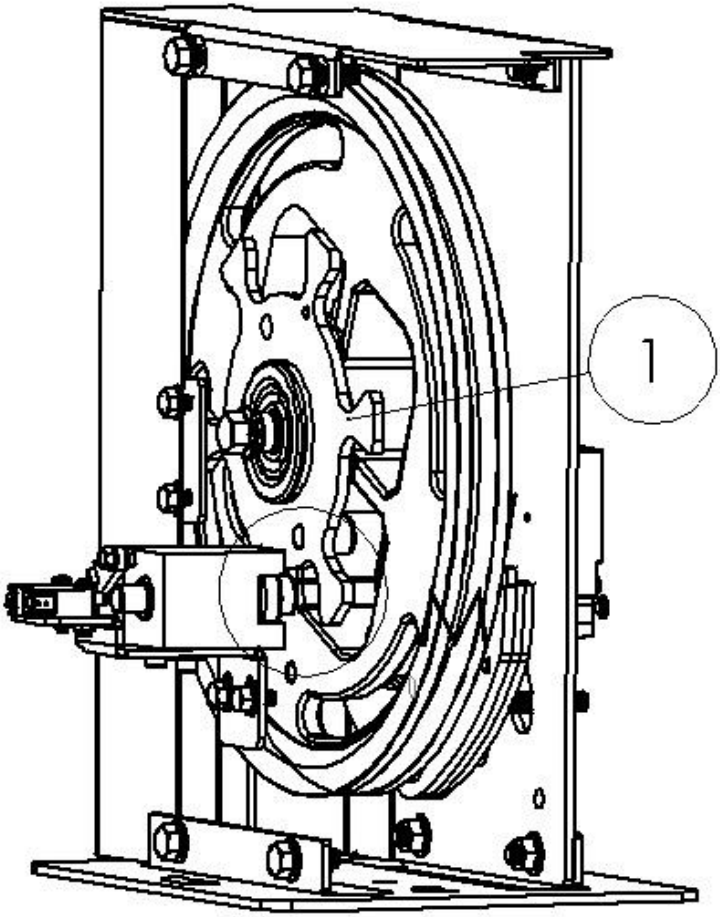


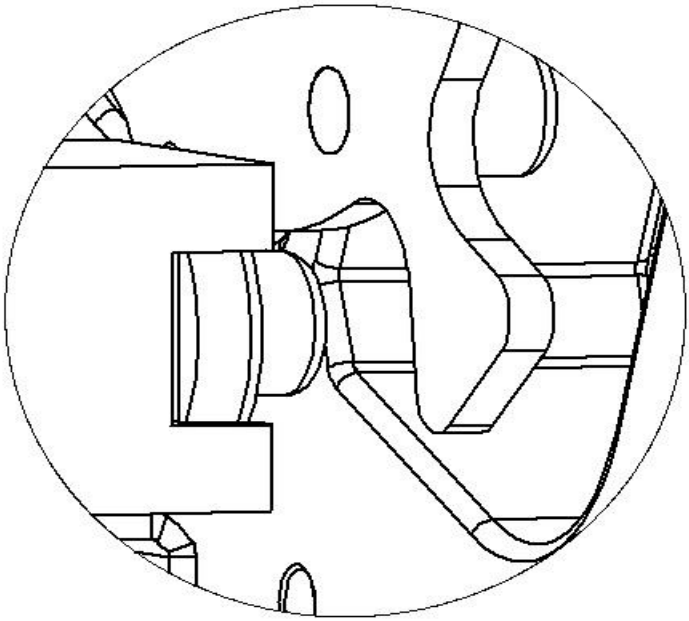
* Car should not move away from stop more than 1,2 m (this distance is 1 m for cabins whose entery height is 2 m) * The opening from the car or from the stop to the shaft must not exceed 200 mm.* escape height shuld be minimum 1 m * this values should be provided at all values included 100 % declaration load.



On the front side of our regulator which is prepared according to A3 standards, A3 coil, prime switch, product label, coil cutting part, grounding shoe, terminal group and terminal group labels are included.The A3 coil is powered by a 190 VDC voltage. Can also be prepared at 24 VDC voltage according to customer demands.When tension is applied to the A3 coil, the coil shaft is retracted, allowing the elevator to move from the NC (Normally Closed) position to the NO (Normally Open) position.When the elevator reaches the floor, the electricity

on the coil is cut off bobin shaft moves on and settles to A3 locking disk (No 1 at the diagram) on the regulator shaft and prevents unvilling movements.There are details of A3 coil and disc relations.

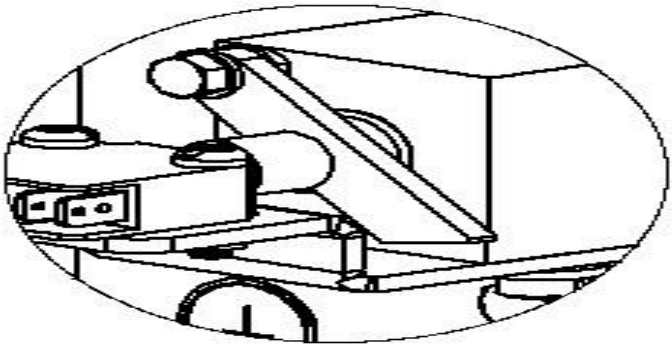




DETAY M

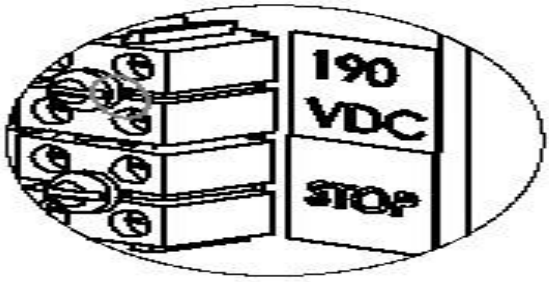
Installation is performed by disabling the elevator coil with the help of the coil cutting part on the A3 coil.After the installation process, the cutting part must be removed and the coil should be left in active position. You can see at DetayC A3 coil Detay C de A3 the coil is shown with its cut-

out part.



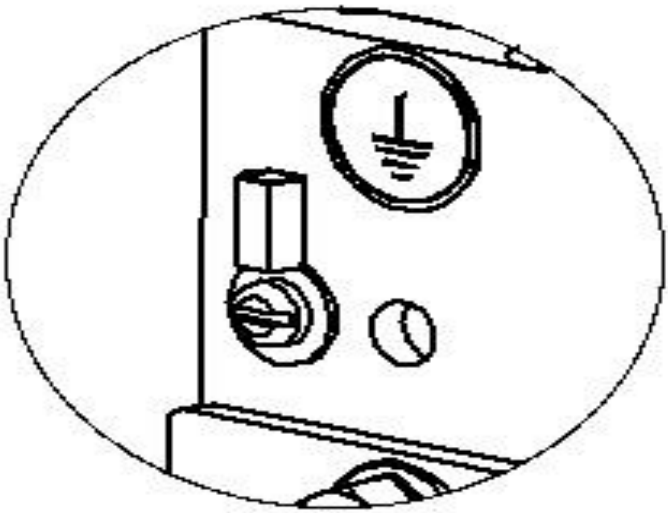
DETAY C

A3 coil and prime switch terminal connections are packaged by our company.There are labels on the connectors on the terminals and the panel connections should be made by considering these labels. Klemens group and label details belong to group is shown at Detay D.

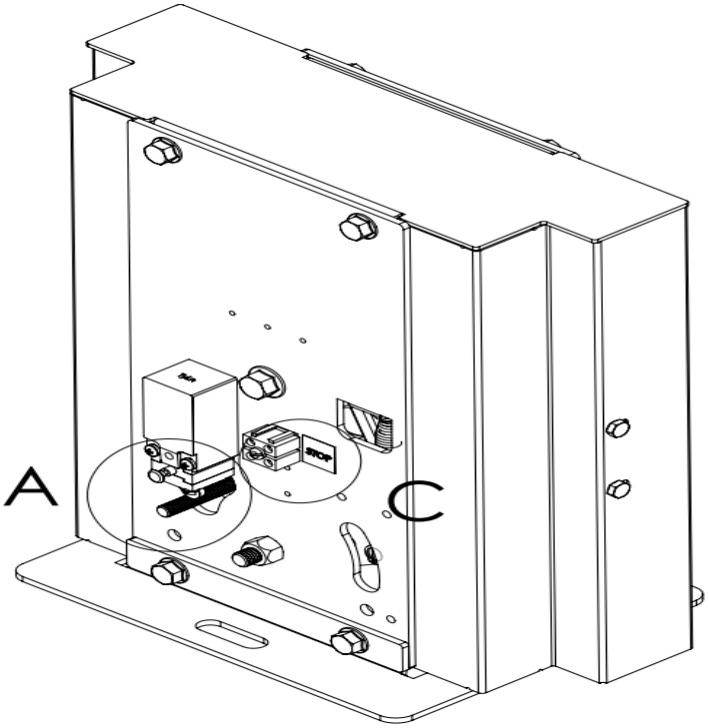


DETAY D

The grounding shoe in the regulator can be attached to both the front and back sides.The grounding shoe is fastened to the main body with M6 bolts.If desired, the bolt connection can be removed and attached to the desired face.The earthing shoe connection is marked with a grounding label.Detail F also shows the grounding shoe and grounding label.

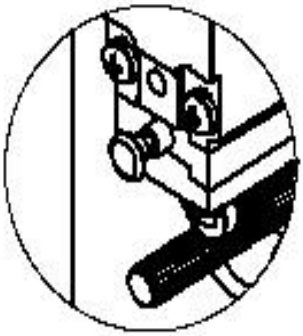


DETAY F

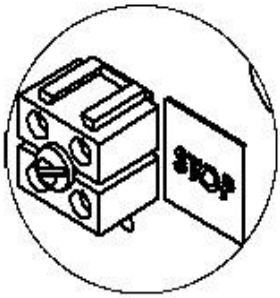


The regulator, which is prepared according to A3 standards, has a limit switch on the rear surface and a terminal block connection.The limit switch is actuated by the regulator mechanical locking part in the speed of the locking speed and above.The limit switches off the lift motor circuit from NC (Normally Closed) to NO (Normally Open) with the limit switch.The motor circuit is activated again by turning the switch from NO to NC position by means of the latch on the limit cross section located in Detay AAll the terminal

connections on the regulator are made by our company.The labels on the terminal groups should be taken into consideration when making the control panel connections and they should be fed with appropriate voltage values by making appropriate connections.The rear face terminal block and label are located in Detay C.



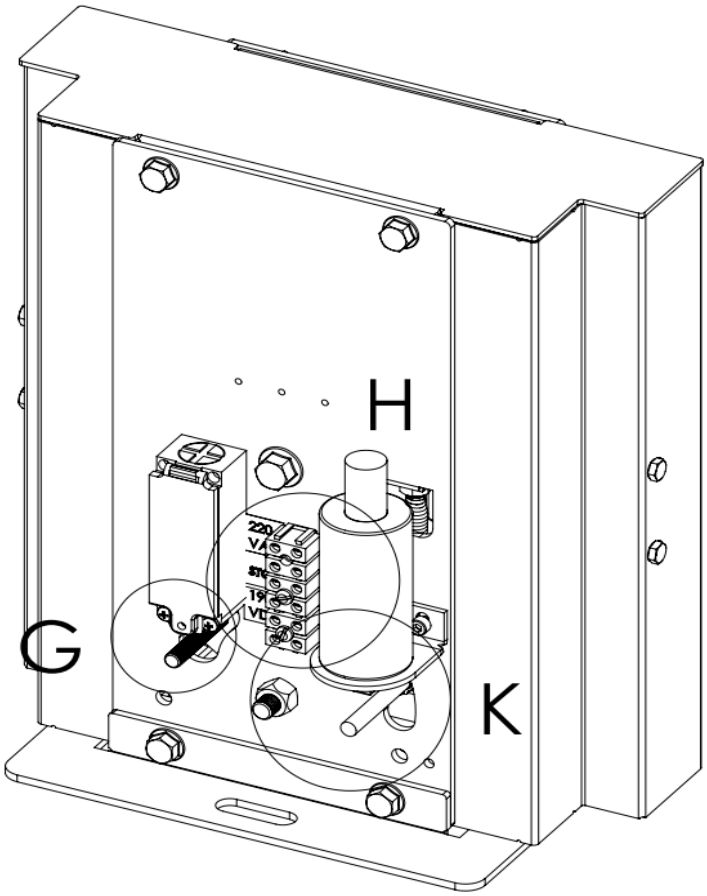
DETAY A



DETAY C

All coil and switch groups are checked by applying voltage by our company before the packing.

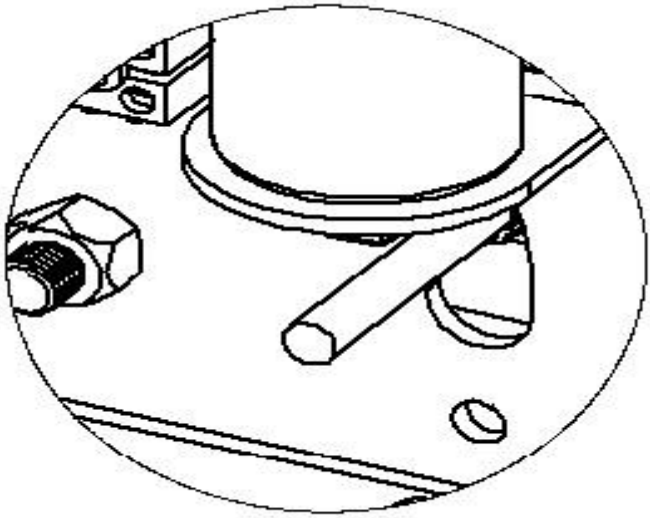
2.3 MRL (MACHINE ROOMLESS) TYPE REGULATOR



Regülatörümüz makine dairesiz kuyularda kullanım ve testlerde kolaylık sağlamak üzere hazırlanmıştır. Regülatörümüzde testlerde kolaylık sağlamak amacıyla 190 VDC gerilimde çalışan bir bobin yerleştirilmiştir. Bobine gerilim uygulandığı takdirde bobin mili hız aşım mekanik sistemini tahrik ederek regülatör sistemini kilitleyerek asansör

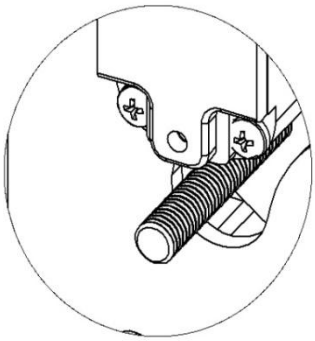
fren testini kolay bir hale getirmektedir. Ayrıca test esnasında oluşabilecek iş kazalarının engellenmesini de amaçlamaktadır. Detay K da test bobini ve hız aşım mekanik kilit ilişkisi gösterilmektedir.

The voltage to be applied to the coil must be 5 seconds, the MAX should be 10 seconds.When the voltage is applied over 10 seconds, the coil is damaged.Our company is responsible for the damages caused by misuse.



DETAY K

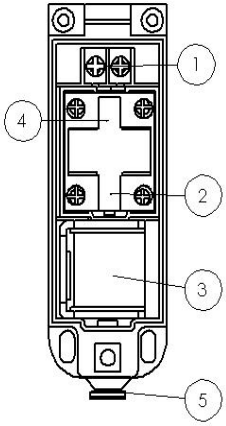
The spindle shaft speed overrides the mechanical lock pin to prevent the rotation of the pulley and to activate the brake system.



DETAY G

As shown in detail G, the elevator speed-shift mechanical lock is activated when the locking speed is reached and the switch drives.The NC switch switches to NO and cuts the power of the lift motor.The voltage is switched from NO to NC position by applying voltage to the coil placed in the spigot without the intervention of the regulator by means of the reset switch.**The voltage to be applied to the coil must be MIN 5 seconds, MAX 30 seconds.For voltages greater than 30 seconds, the coil is damaged.Our company is not responsible**

for any damage caused by misuse.

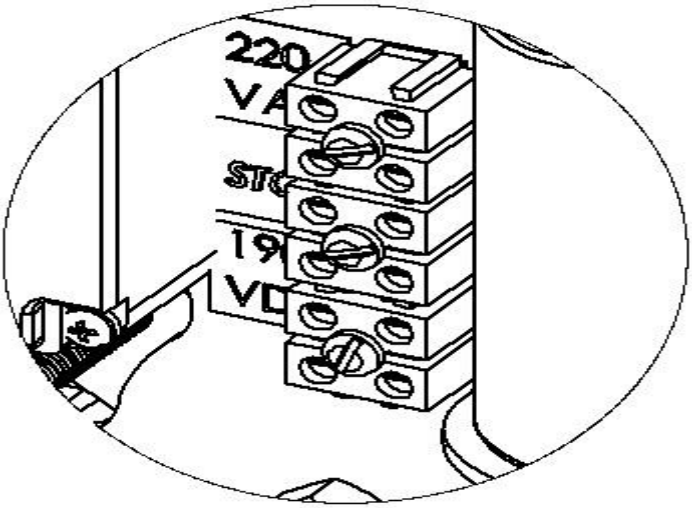


RESET SWITCH INTERNAL STRUCTURE

Connection 1 is used to apply tension to the coil.Connection part 4 is NO and not used. Part no 2 is NC part. Part 3 is the coil part that reactivates the switch.Check the positive pin 5 before installation. It must be observed that the switch is active.

The terminal connections of the regulator were made by our company.In case of connections to the panel from the terminal group, the labels placed on the terminal group must be taken into account.

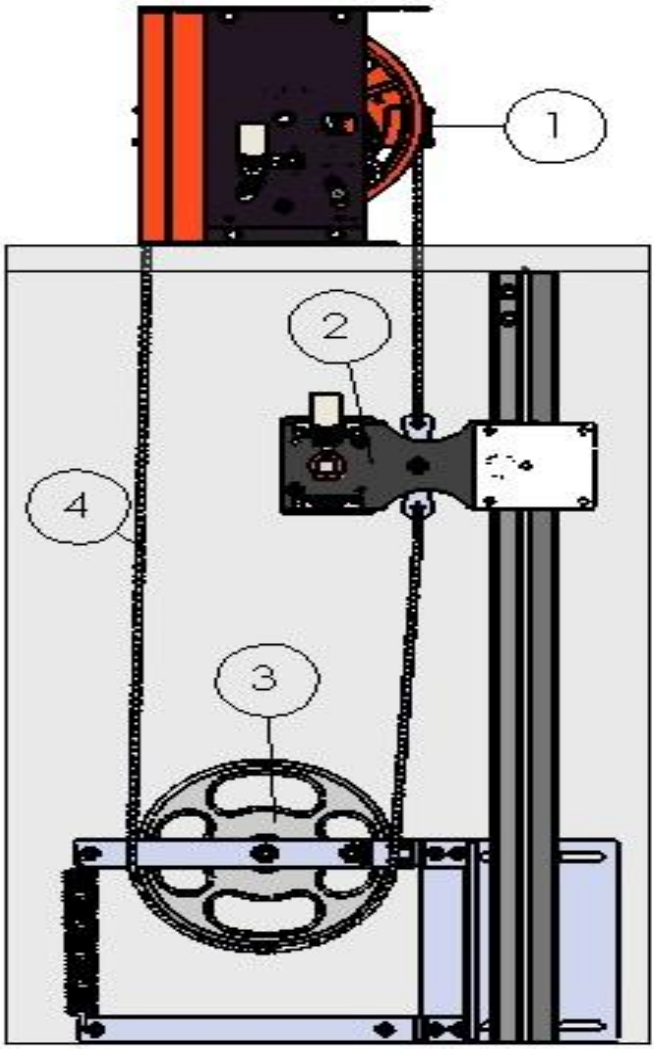
220 VAC should be used for the connection of the Reset Switch Coil. 190 VDC should be used for test coil connection.



DETAY H

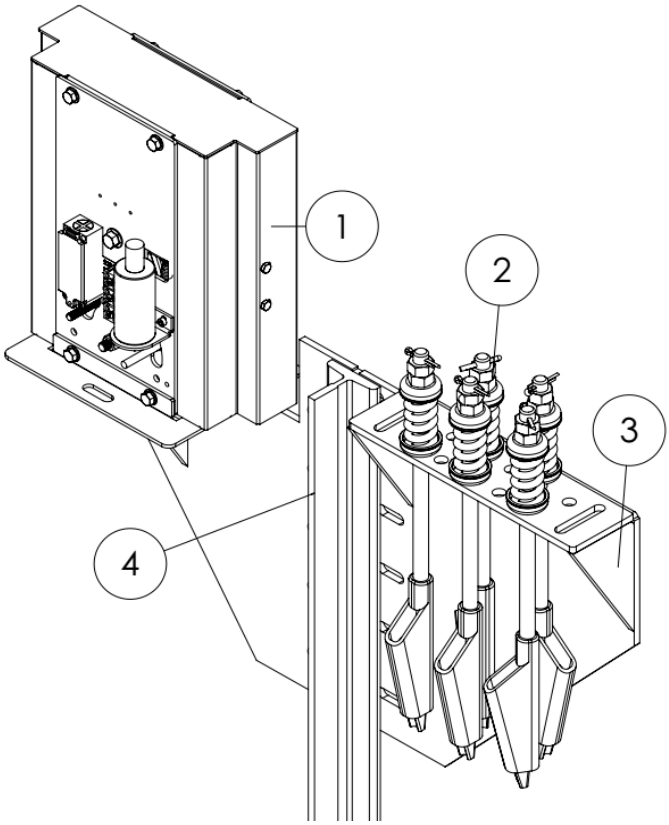
All coil and switch groups are checked by applying voltage by our company before the packing phase.

3.GENERAL ASSEMBLY



1) Özbeşler Regulator

2) Özbeşler Safety Gear
3) Özbeşler Spring Tensioner Pulley
4) Regulator Rope

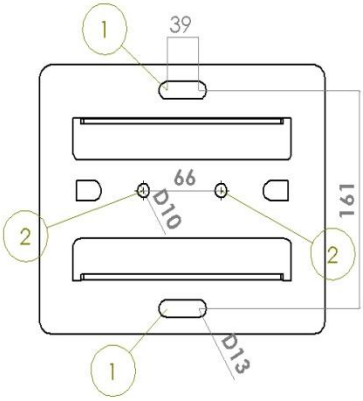


Assembling of the regulator is shown in the figure above.Our MRL type regulator can be easily installed on the counter suspension plate of the machine body.The reset switch can be used to reset the switch from the switchboard without having

to enter the well.With the sequence of parts marked on the picture;

Özbeşler MRL Type Regulator

1) Rope bottles
2) MRL Type Machine body counter hanger sheet
3) Elevator Rail



The above picture shows the fixing table in the main body of our regulator.In machine room types, fixing is done with two slots marked with 1.Fixation must be made with 2 M12 Steel Dowels.The center of the two dowels should be 161 mm as shown in the illustration.

For holes without machine room, use holes 2 to be used.The fixing process is carried out on the counter suspension plate by means of two M10 bolts and 2 M10 nuts.

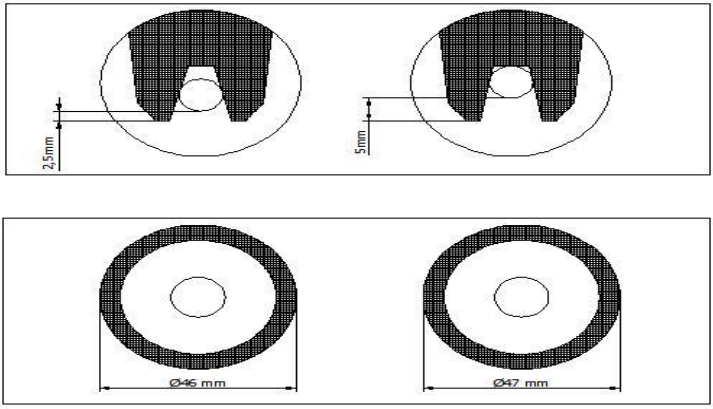
5.STARTING

Mechanical testing is required before starting.The speed during the test should be 45% more than the rated speed.If the cabinet is operating at rated speed, the regulator must start braking and perform its function.If the test is negative, the regulator should not be used and you should contact with our company.

6.RESTARTING

When the controller brakes, the following operations must be performed and the system must be restarted.

1- 1- Take the cabinet 15mm up and turn the regulator roller 15mm in the opposite direction to the arrow.
2- Move the switch into the first position.
3- Check regulator groove, ropes and slip brake connections.Correct if necessary.
4- Make sure that the regulator operates normally at nominal speed.
5- Check locking values.



- **The distance from the top diameter of the hoop to the top of the rope must be checked and if the distance exceeds 5 mm, the regulator must be replaced.**

- **Oring diameter should be checked. If the diameter is less than 46 mm, you should contact with our company.**

7.MAINTENANCE

7.1 MONTHLY MAINTENANCE

1- Make sure that the rope is oily.
2- Clean the pulley groove.
3- Check the seal.
4- Check if there is a damage at Regulator. If so, than don't try to fix it. All repair should be done with manufacturer company.

7.2 6MONTHLY MAINTENANCE

1- Check the rope for elongation and wear.
2- Check the parallelism of the lower tensioner pulley and the rope.
3- Check the pulley groove.The distance between the upper diameter of the regulator and the upper diameter of the rope must not exceed 5 mm.

Check the locking records and check for damage if the number has increased and replace the regulator in case of damage.

6- Check O-ring. If diameter is less than 46 mm than pleace get contact with the manufacturer.

8. PACKAGING AND STORING

Regülatör karton kutuda teslim edilmektedir. Regulator should be delivered with carton box.

Package dimensions: 400mm X 400mm X 270mm

Package Weight : 16,00Kg

Regolator type and working speed is indicated on the package.

Regulator should be stored indoors and away from moisture and dust.

LOCKING REGISTRATION FORM

Each locking of the regulator must be registered in this form.

S.No	Date	The Reason of Locking	Locking Load (kg)
