

Mounting instruction

Traction sheave cover

Safety advice



The traction sheave cover is exclusively suitable for traction sheaves in closed lift engine rooms, where only authorised persons have access to.



The mounting has to be effected only by specialised persons.*
When mounting all accordant safety regulations and the necessary safety measures for the lift assembly have to be considered.



The mounting and maintenance can only be effected if the system is switched off.



All details in the mounting instruction incl. the maintenance advice on page 15 have to be kept implicitly.

Keep this instruction for later use.

*Specialised person (corresponding to EN81-20):

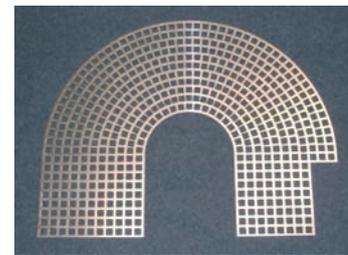
A person who has been trained accordingly and disposes of expertise based on knowledge and experience, and who is equipped with the necessary instructions to be able to safely effect the required maintenance or control of the lift, or the rescue of passengers.



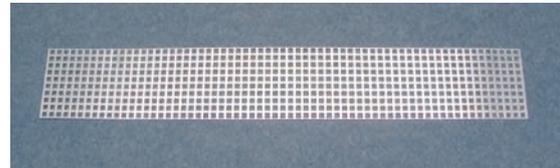
parts list

Single parts in foil bag 1:

- 30x tapping screw 5,5x8
- 18x case nut M6
- 16x self-locking screw M6x12
- 6x self-locking screw M6x16
- 3x self-locking screw M8x30
- 4x self-locking screw M8x20
- 10x self-locking nut M6
- 7x self-locking nut M8
- 4x washer 6,4
- 11x washer 8,4
- 2x dowel 12x60
- 2x screw 8x70
- 2x wedge washers for U-beam
- 1x marker
- 2x ties
- 1x caution label
- 1x label "maintenance flap"



cover plates



side cover plates (8mm perforated plates)
depending on traction sheave width 96 - 336mm wide



clamp

Single parts in foil bag 2:

- 2x cylinder head screw M6x10
- 2x lock-washer
- 2x self-locking screw M5x10
- 2x distance buff M5x10
- 1x screw 6,4 (only for mounting)
- 1x nut M6 (only for mounting)

Other parts:

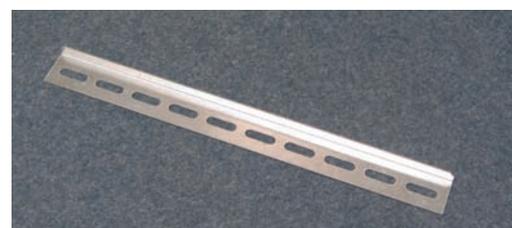
- 2x cover plates (front and back side 10mm perforated plates)
- 2(3)x side cover plates (8mm perforated plates)
- 7(8) clamps
- 2x reinforcing sheets 280x75
- 2x mounting angles 160x100
- 2x struts up to 570mm traction sheave 420x40x14
from 600mm traction sheave 570x40x14
- 2x guard plate extension
(10mm perforated plates 600x200)
- 1x cover plate, if there is no external bearing
(10mm perforated plate (240x300 or 210x300 or 180x300))
- 1 maintenance flap



reinforcing sheet

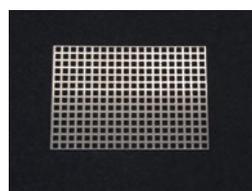


mounting angle

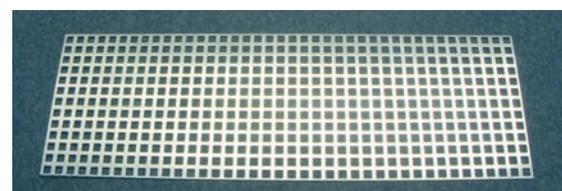


strut

Depending on the local conditions you need a portable drill with a 4mm and 8-9mm drill or a 12mm concrete drill.



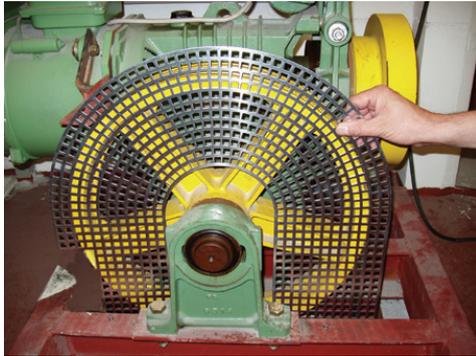
cover plate (10mm perforated plate)



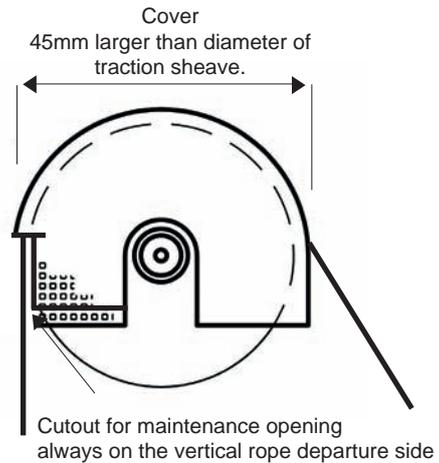
guard plate extension (10mm perforated plates)

Before mounting attend to the following instructions:

The diameter of the cover plates should be at least 45mm larger than the traction sheave. The circumferential distance between the cover and the traction sheave should be at least 20mm. For this purpose hold the cover plate in front of the traction sheave.



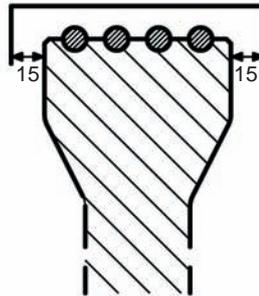
Cover plate in front of the traction sheave.



Important!

If the cover has a significantly wider diameter than the traction sheave and the cutout for the maintenance opening is not big enough to check the traction sheave groove, the opening has to be extended at first (see page 12).

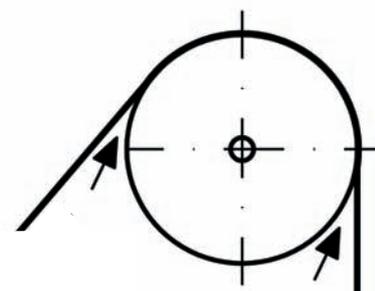
The clamps should be large enough for the distance to the traction sheave to be at least 15mm inside on both sides.



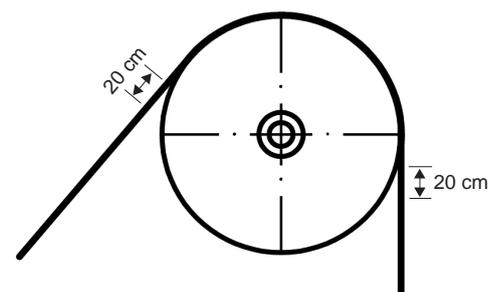
Mounting

The traction sheave cover prevents that extremities are accidentally dragged in.

The critical parts on the traction sheave are the two points, where the ropes enter and leave the grooves of the traction sheave.

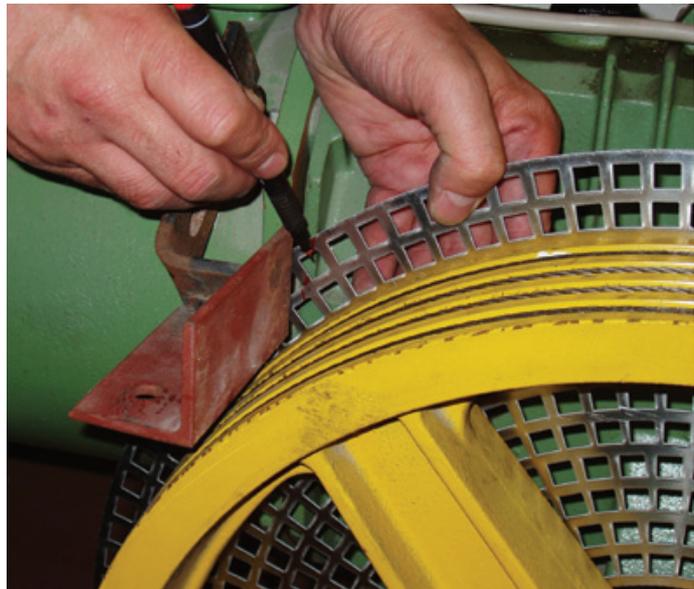


In order to cover both points safely, the overlap should be at least 20cm or end shortly above the machine frame.



1. Cutout for the rope jump off protection

Hold one of the cover plates in front of the jump off protection and mark the required sheet cutout with the enclosed marker.



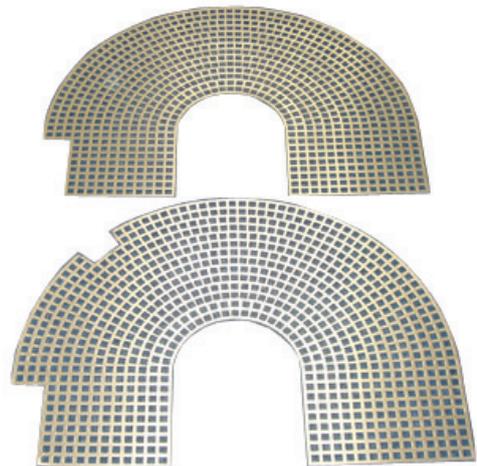
Before you cut out the opening in the jump off protection, assure yourself that the cutout for the maintenance flap is on the correct side!

The maintenance cutout has to be placed on the side of a vertical rope departure.

Cut out the jump off protection as required.

For small cutouts a universal side cutter is most suitable.

In many cases only the machine side cover plate has to be cut out, because the jump off protection only reaches as far as the end of the traction sheave and the outer cover plate does not interfere.



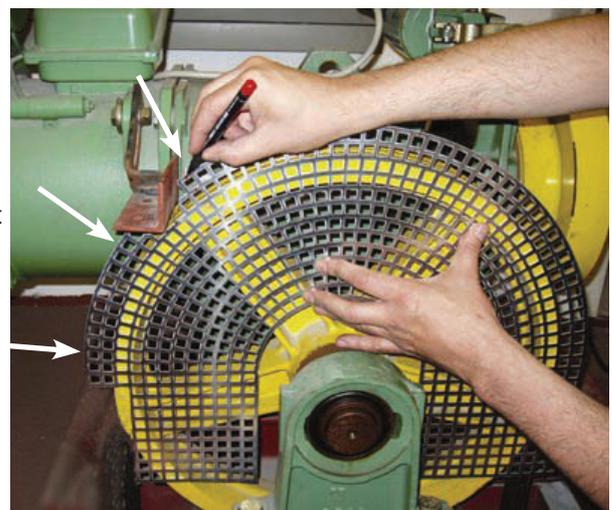
2. Mounting of clamps

Hold one cover plate at the correct position in front of the traction sheave and mark the clamp fixing points. Depending on the size of the traction sheave 7-8 clamps are provided.

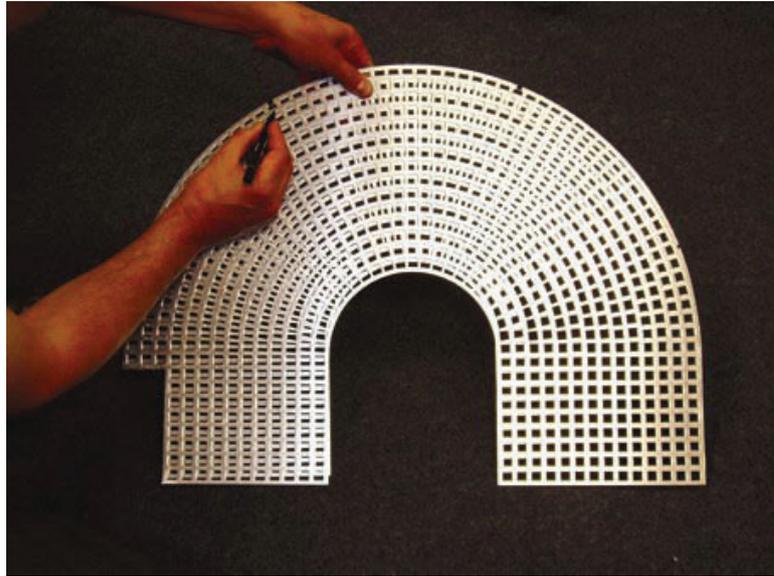
Mark the following clamp positions:

One clamp in the third hole above the maintenance cutout
One clamp in front of and another clamp behind the jump off protection

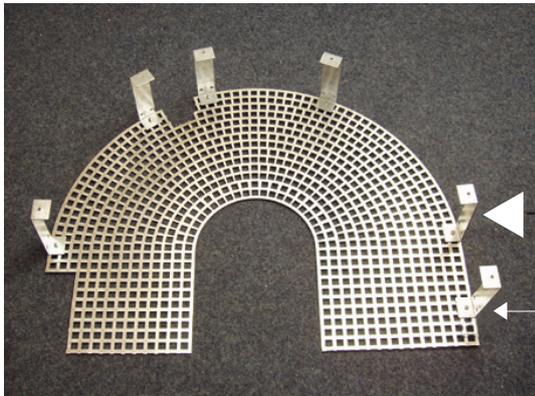
One clamp directly above the second rope departure
Arrange the remaining clamps symmetrically (in most cases a total of 5-6 clamps is enough)



Before you screw the clamps on the first sheet, we recommend to put both covers onto each other and copy the markings for the clamps to the second sheet.



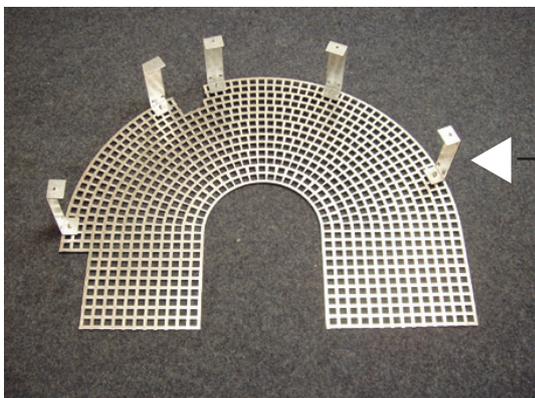
Fix all designated clamps to the rear cover plate with the enclosed tapping screws.



Example 180° rope departure

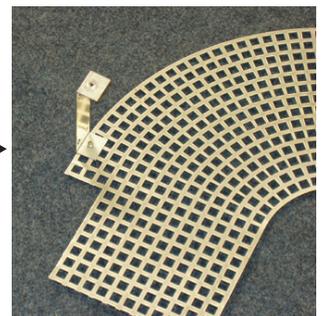
Important!
Last clamp in the fourth hole above the lower edge (only for vertical rope departure)

one clamp always directly above the rope departure



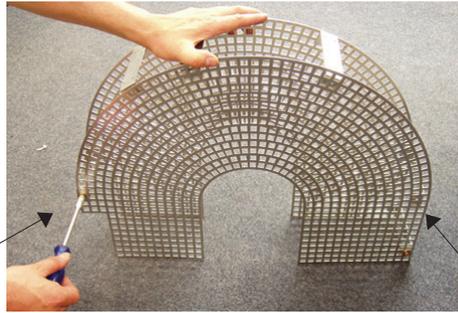
Example 160° rope departure

Important!
The last clamp has to be mounted in the third hole above the maintenance cutout



At first screw the counter plate on the outer sides. Take care that the hood stands **planely** on the floor with all sides.

first connecting screw



second connecting screw

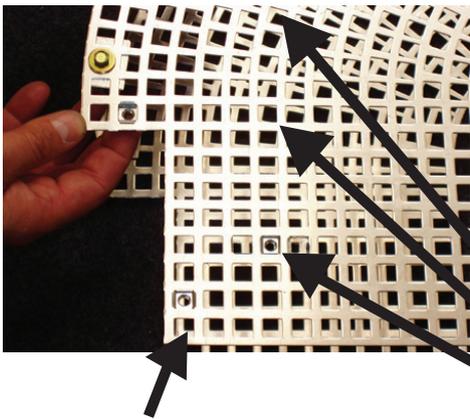
Important
Hood has to stand plane on the floor

Afterwards fix the remaining clamps. Fix the yellow caution label with ties to the upper area of the front cover plate.



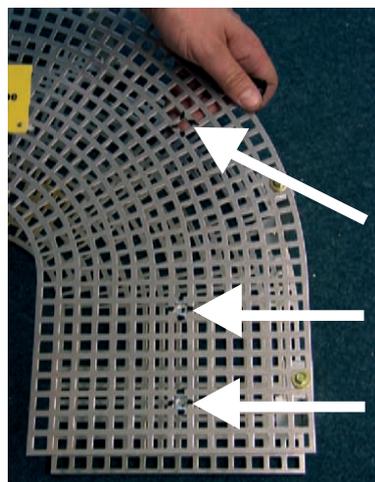
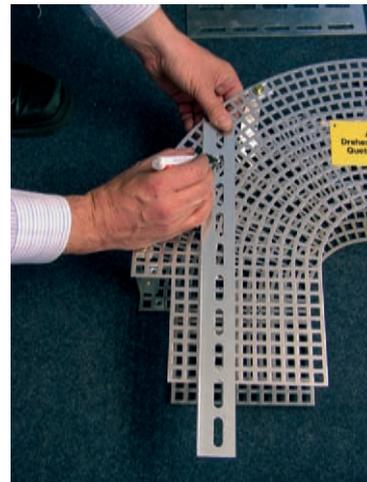
3. Mounting of the case nuts

Choose preferably the fourth row of holes next to the maintenance cutout (otherwise the wing nuts for the maintenance flap do not fit) and the seventh hole from the border of the other cover plate for the fixation of the angle.



Important!
Always use three case nuts for a mounting angle with strut

Case nuts for maintenance flap (two in the front and one in the back plate)

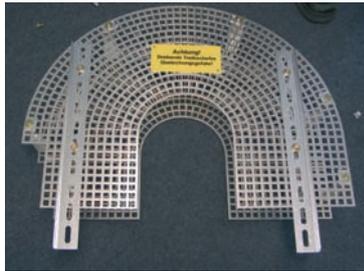


Seventh row of holes from the outer border

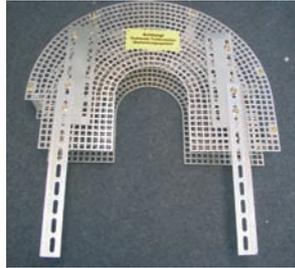


4. Mounting of the struts

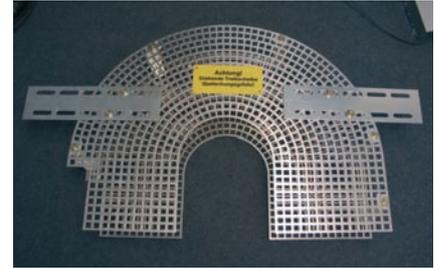
In order to make sure the cover is solid enough, both struts have to be mounted in any case and if necessary also both reinforcing plates.



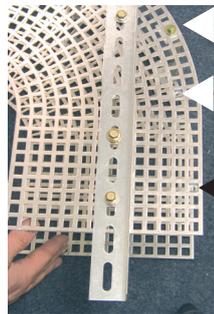
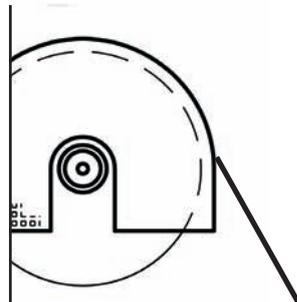
Standard mounting



Mounting in case of high sitting traction sheaves



Mounting in case of a large external bearing

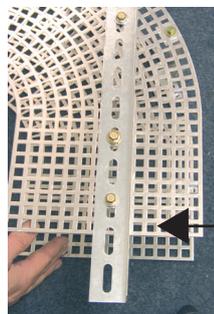
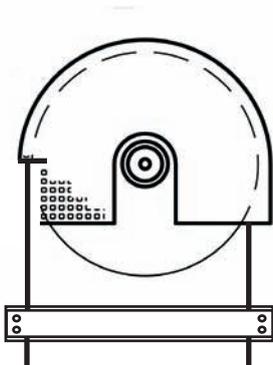


distance
6 holes

Clip in additional case nuts in case of inclined rope departures (opposite to the maintenance flap)

One case nut in the sixth hole of the second row below the fixing clamp in the front and back side sheet.

One case nut in the fourth hole from the bottom edge in the first row of holes in the front and in the back sheet



Clip in additional case nuts in case of high sitting traction sheaves with vertical rope departures

(Guard extension, if the cover plate ends above the machine frame).

Case nut in the first hole from the bottom edge in the fourth row of holes in the front and in the back sheet

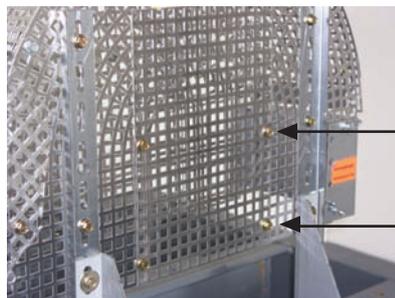
Important! Mounting in case of very large or wide traction sheaves

In case of traction sheaves with a diameter starting at 840mm or a width starting at 213mm, additional case nuts for a third mounting angle fixation have to be clipped into the plate on the side of the machine. (see page 14).

Mounting of the cover for traction sheaves without external bearing

Put the enclosed 10mm perforated plate on the opening of the front cover plate.

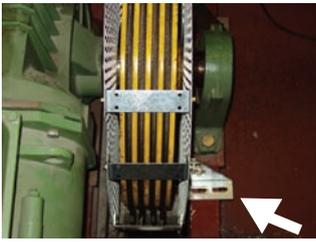
Clip in at least four case nuts into the cover plate. Mount the perforated plate with self-locking screws (M6x12) on the cover plate.



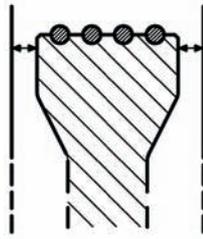
5. Mounting on the machine frame

If necessary dismount the jump off protection. Put the hood over the traction sheave. Hold the mounting angle in front of the cover and take care that:

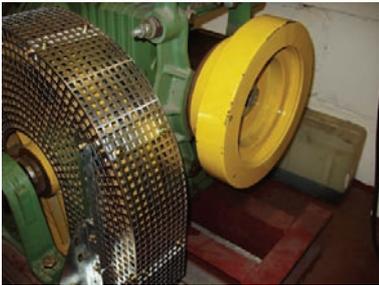
- a) the slots of the struts in the cover plate are placed centrally in front of the angles
- b) the cover has enough distance on both sides to the traction sheave



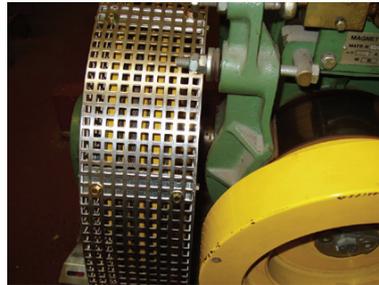
mounting angle



- c) the crush protection distance to a possible handwheel is sufficient

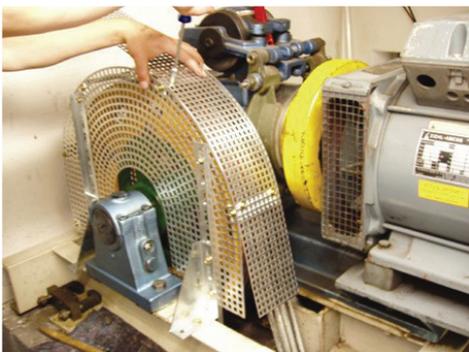
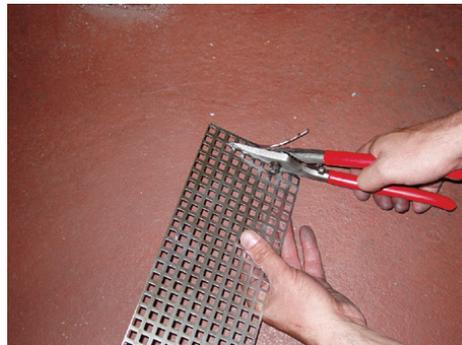


- d) the brake arm can open properly

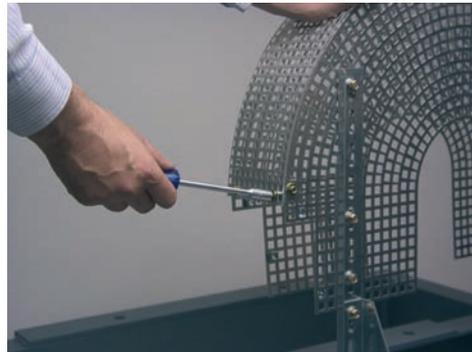


8mm perforated plate

Shorten the circumferential cover plate according to the demands and screw it on the clamps. Normally you need two plates for this.



Example for an inclined rope departure

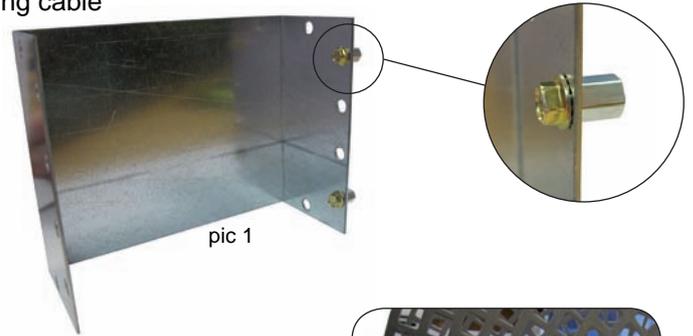


7. Maintenance lid with loss-proof screws

The assessor needs at least at one rope departure side easy access to:

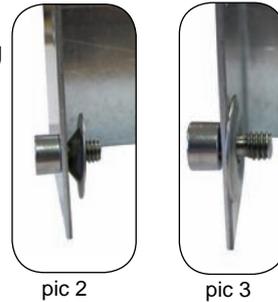
- check the traction sheave groove and the supporting cable
- be able to install a control unit

1. Screw two distance nuts M5x10 with latching screws M5x10 into two holes of the maintenance lid (picture 1)



2. Plug the maintenance lid into the traction sheave cover. The distance collars show towards the gear/motor.

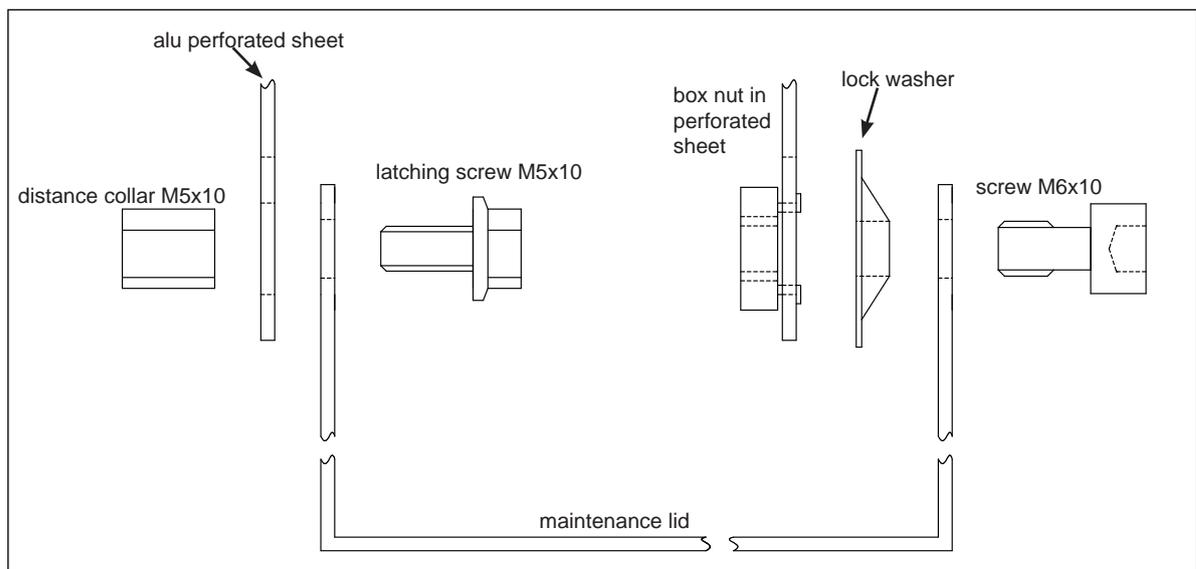
3. Mark the holes which lie in front of the cage nuts (see point 3). Take off the maintenance lid again. Plug two cylinder head screws and lock washers into the according holes. The pointed side of the lock washer must face the maintenance lid (picture 2). Tighten a nut by using a washer until the lock washer is flattened. After that remove nut and washer (picture 3). The screw is loss-proof then.



4. Fix the maintenance lid on the cover.



The screws cannot be removed anymore!

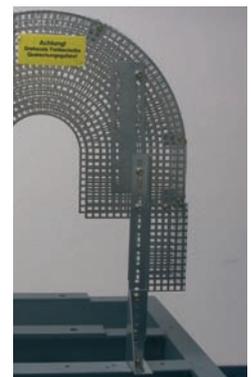
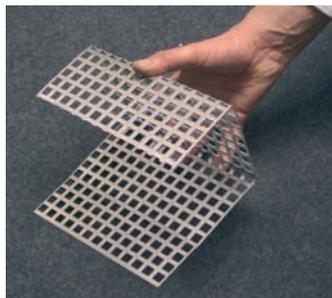
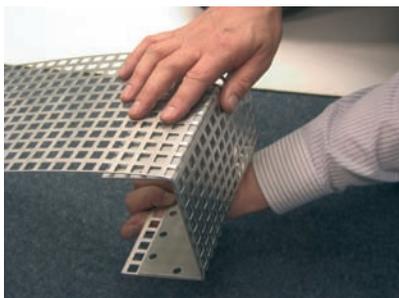


8. Extension of the cover in case of a vertical rope departure

If the cover is not limited by the machine frame, it has to be extended so that the finger entering area is covered safely.

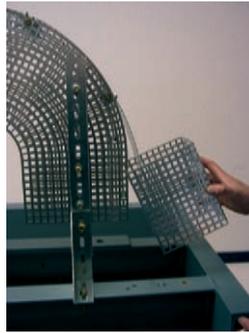
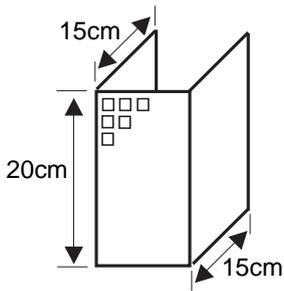
Take one of the 10mm perforated plates 600x200.

The easiest way is to dismantle the maintenance flap again and then to bend the perforated plate over the flap. Cut off the excessive length and screw the perforated plate on the case nuts clipped in before.

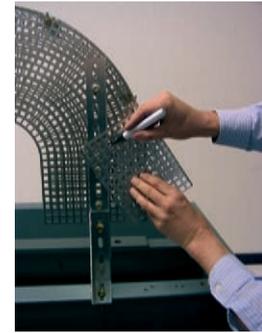


9. Protection at a vertical rope departure (optional)

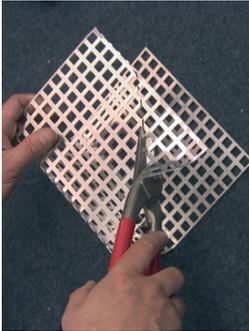
At first cant the sheet as aforesaid described. The edging has to be 15cm long in the front and in the back though.



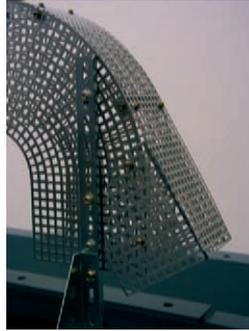
hold



mark



cut



screw on (the front side and at least one screw also on the back side).

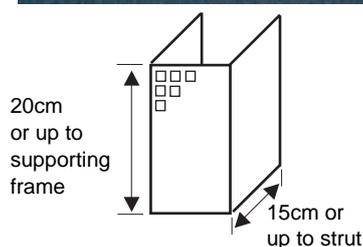
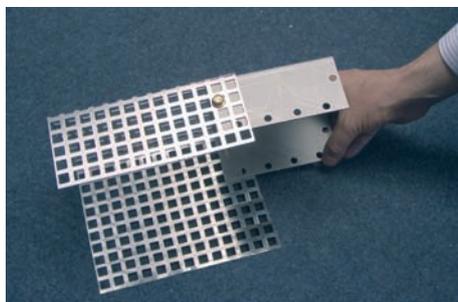
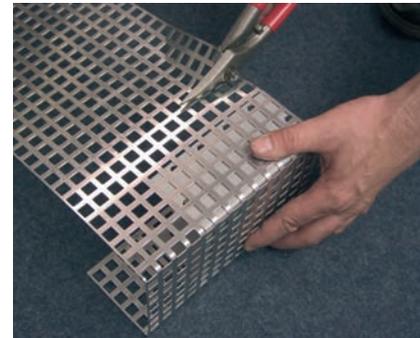
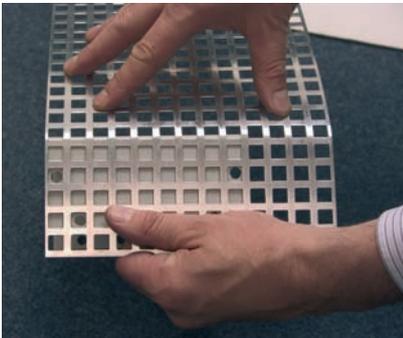


Affix one additional screw from the top.

Extension of the maintenance flap

According to the extension on the opposite rope departure side, the maintenance flap at high sitting traction sheaves has to be extended also with an additional perforated plate.

For this purpose take the second 10mm perforated plate 600x200 and bend it over the flap.

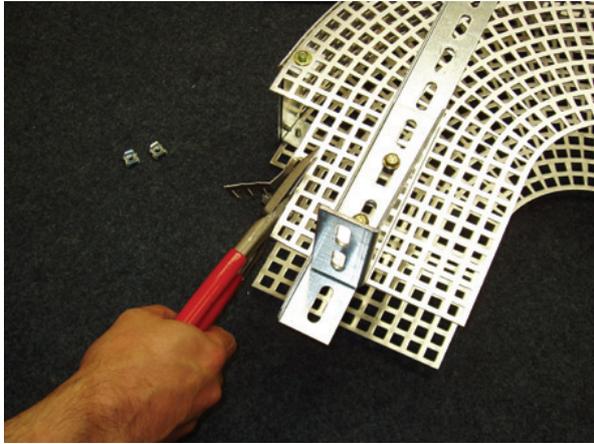


Fix the plate in the front and in the back with the self-locking screws M6x12 at the flap.

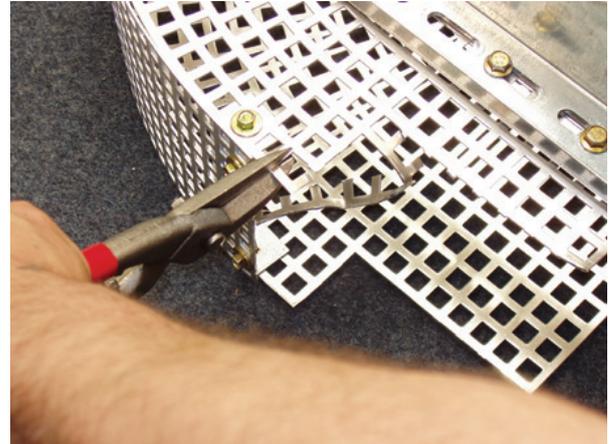


10. Displacing the maintenance opening

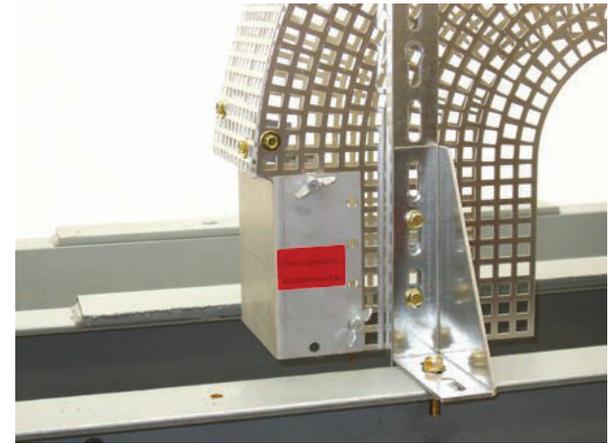
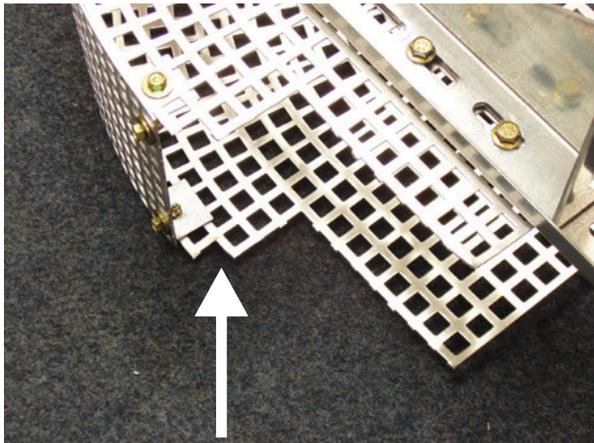
If the cover is considerably larger than the traction sheave, the maintenance opening has to be cut out deeper, so that the Technical Inspection Agency can check the rope groove.



Cut out one row of holes (8 holes).



The outermost hole has to be cut out as well.



Final inspection

Before finishing the assembly check again:

- the crush protection distance between handwheel and cover
- the function distance between brake arm and cover
- the distance between rope/traction sheave and cover (must not grind while in service)
- the overlaps of the finger entering areas are at least 20cm long on both sides or protected by guard deflectors (in case of horizontal rope departures)
- the stability of the cover
- that all screws are tightened

If dangers result from local imponderabilities which are opposed to a safe protection against finger entering or a safe cover, additional or other measures are necessary!
These are not contained in the scope of delivery.

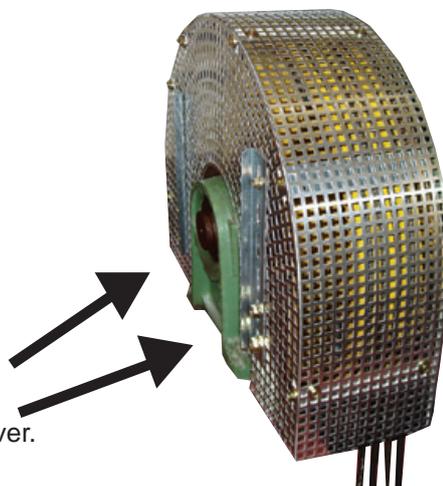
Special cases

What to do, if the clamps are too wide?



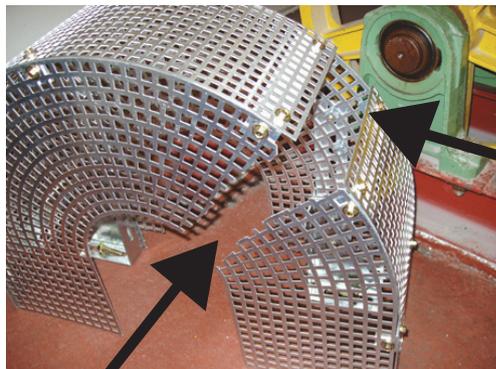
In most cases the hood can also be mounted with clamps which are too wide. For the fixation at the supporting frame the mounting angles can also be adjusted transversely or screwed on the traction sheave cover. From the outside the reinforcing struts have to be mounted nevertheless.

Example
The mounting angles
of the supporting frame
are placed inside the cover.



The fixing arm for the jump off protection is very close to the traction sheave; the cover plate in the back has no space.

Cut the rear cover plate in a way, that the fixing arm of the jump off protection fits in between.



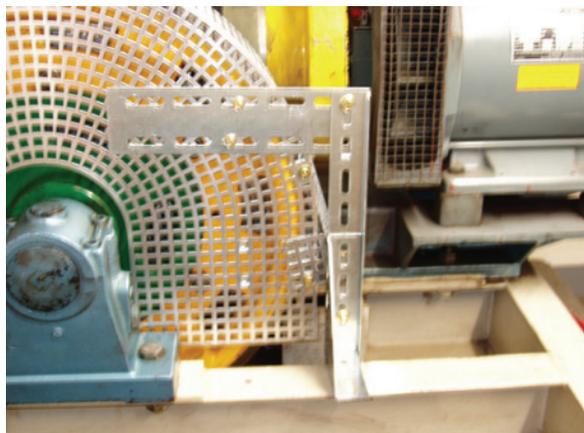
For the stabilisation of the hood a piece of the circumferential cover plate above the jump off protection has to be canted and screwed additionally.



Incision in the cover plate for the jump off protection

The external bearing is wider than the traction sheave.

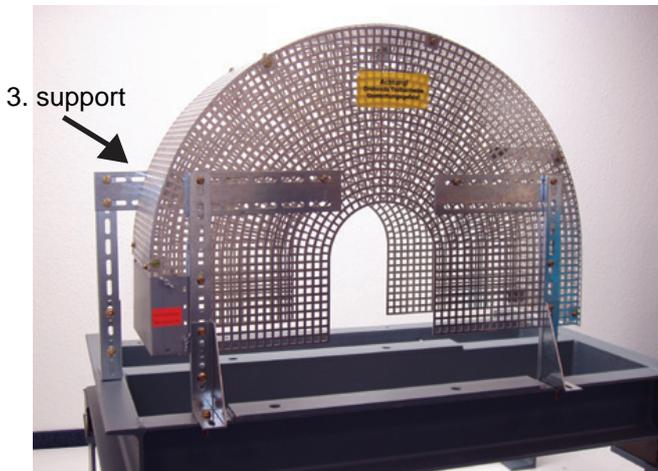
Displace the mounting angles by means of the flat reinforcing sheets to the outer side of the cover.



Mounting of large traction sheave covers starting at a diameter of 840mm or a traction sheave width of 213mm.

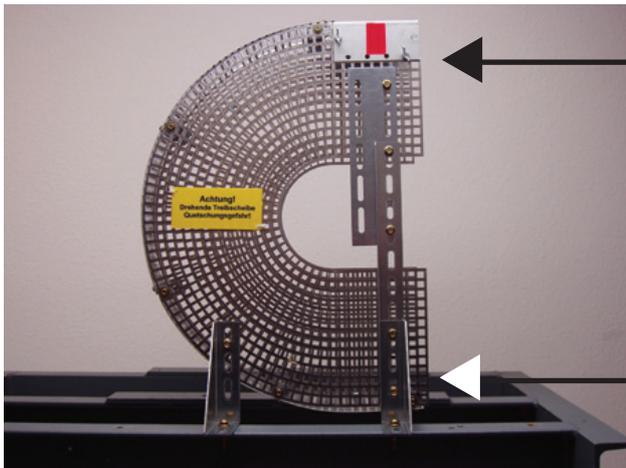
Starting at a traction sheave diameter of 840mm or a traction sheave width of 213mm a third mounting angle with a strut and an extraction sheet is provided.

It connects the cover plate on the driving side directly with the machine frame.



Afterwards the outer covers at the rope departures have to be extended. (without picture, see page 10 „**Extension of...**“ and page 11 „**Extension of the maintenance flap**“).

Mounting, when both rope departures are horizontal (often if the machine room is at the bottom).



Deflector caps

Bend the caps according to the description on page 11. Examine first, which optimal width the cap must have and cut the sheet accordingly. Mount the caps with case nuts and self-locking screws under the rope entering points, so that the clamping areas between the traction sheave and the rope, where it is possible to reach into, is safely protected. In case of a larger traction sheave width it is necessary to place a clamp under each covering cap for reinforcement.

Maintenance advice

For all cover variants it is necessary to check the stability of the screw connections once a year and after every safety gear test.

If the machine is exposed to regular hard shocks or vibrations resulting for example from stacking operation in the car or other imponderabilities, shorter maintenance intervals may be necessary.

It is also possible that machine unbalances cause vibration frequencies that loosen the screw connections.

It is incumbent on the user to fix and take the responsibility for the appropriate maintenance interval.