

DICTAMAT 50 BK-S

Technical Manual

You can find the current version of our manual on our website under «Downloads»:
<https://en.dictator.de/products/door-closing-solutions/door-closers/sliding-door-closer-dictamat50/bk/>

A) Safety Instructions / Components Included

1) Safety Instructions

When installing and using the DICTAMAT 50 BK-S with revolving rope make sure to observe all information and advice of this manual. During the installation we recommend to wear protective gloves to prevent any risk of getting hurt by sheet edges.

The casing of the spring rope pulley may never be opened as the released spring can cause major injuries. If the spring rope pulley should for some reason no longer work properly, the complete device has to be replaced!

It has also to be assured that the spring rope pulley, the radial damper and the idler pulley are protected in order to prevent fingers being trapped (protection cover!).

The closing speed has to be adjusted on the radial damper so that the door can easily be stopped by hand at every position, making sure nobody will be endangered.

2) Components Included (Ill. 1)

Spring rope pulley (closing force 25 N, 50 N or 80 N) with bracket and 2 m of Kevlar rope

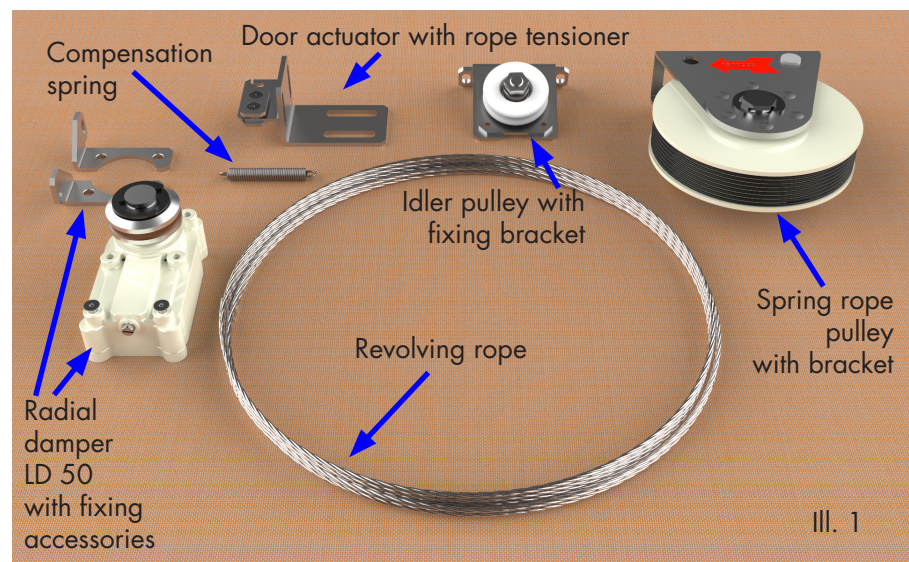
Radial damper with fixing brackets, deflection pulley and fixing accessories (plastic bag on the photo)

Idler pulley with belt coming-off prevention device and fixing brackets, pre-assembled

Door actuator with fixing bracket and rope tensioner

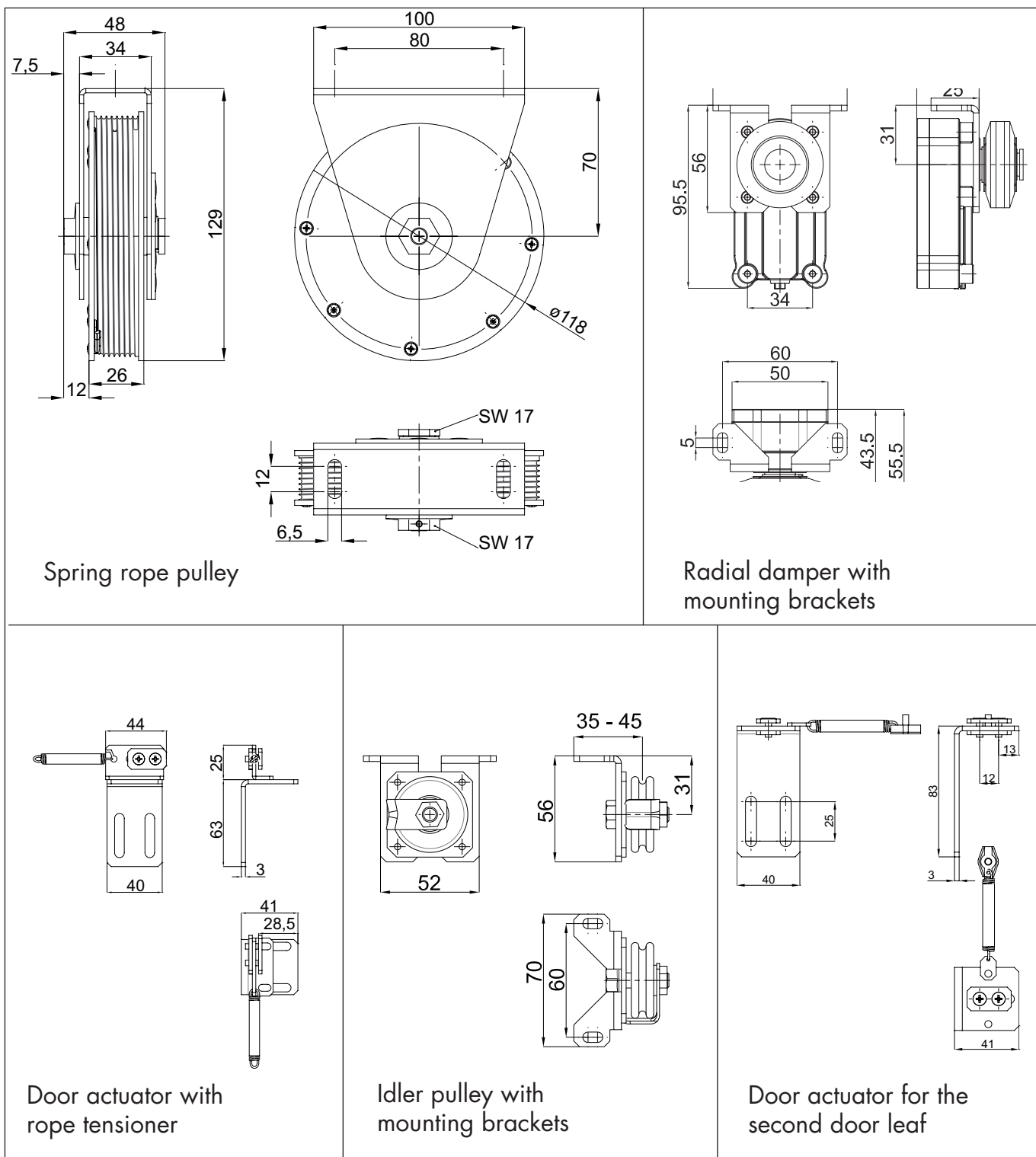
8 m steel rope $\varnothing = 2$ mm with compensation spring

Rope clamp for fixing the Kevlar rope to the revolving rope



B) Dimensions

The following dimensioned drawings show the most important dimensions. In case you need further dimensions, we would be happy to provide AutoCAD drawings - or you contact our technical customer service.



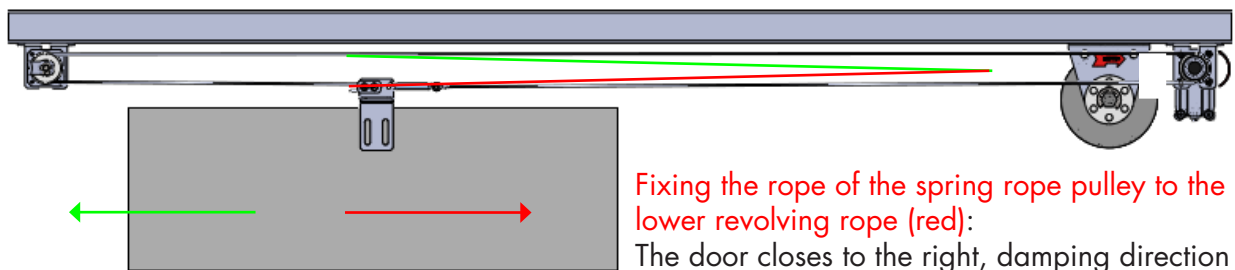
C) Installation of the DICTAMAT 50 BK-S

1) Determining the Installation Position

With the DICTAMAT 50 BK-S the spring rope pulley can be installed either on the left or right side of the door. Usually the radial damper LD 50 is installed beside the spring rope pulley (see ill. 2a and 2b). In case of space problems there can be exchanged e.g. the positions of the radial damper and the idler pulley.

The **closing direction** of the door is determined by where the Kevlar rope is fixed to the revolving rope.

The **damping direction** shown below has to be observed when installing the radial damper according to point C2!



Fixing the rope of the spring rope pulley to the lower revolving rope (red):

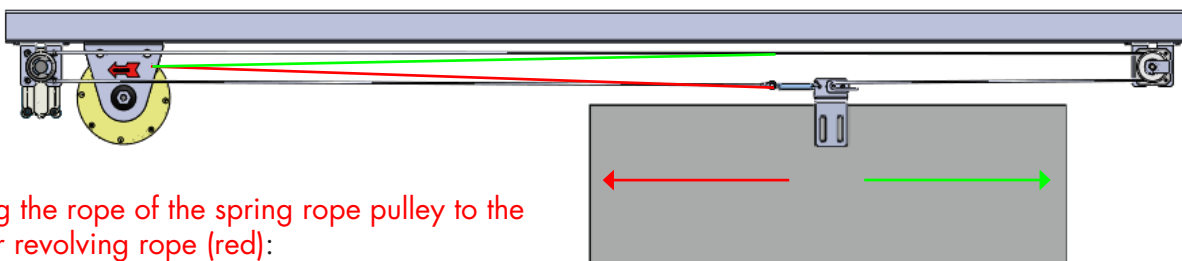
The door closes to the right, damping direction of the radial damper anti-clockwise.

Ill. 2a

Fixing the rope of the spring rope pulley to the upper revolving rope (green):

Door closes to the left, damping direction of the radial damper clockwise.

IMPORTANT: When choosing the fixing point of the rope of the spring rope pulley, you have to make sure the working travel of the spring rope pulley allows the complete travel of the door!



Fixing the rope of the spring rope pulley to the lower revolving rope (red):

Door closes to the left, damping direction of the radial damper clockwise.

Fixing the rope of the spring rope pulley to the upper revolving rope (green):

The door closes to the right, damping direction of the radial damper anti-clockwise.

Ill. 2b

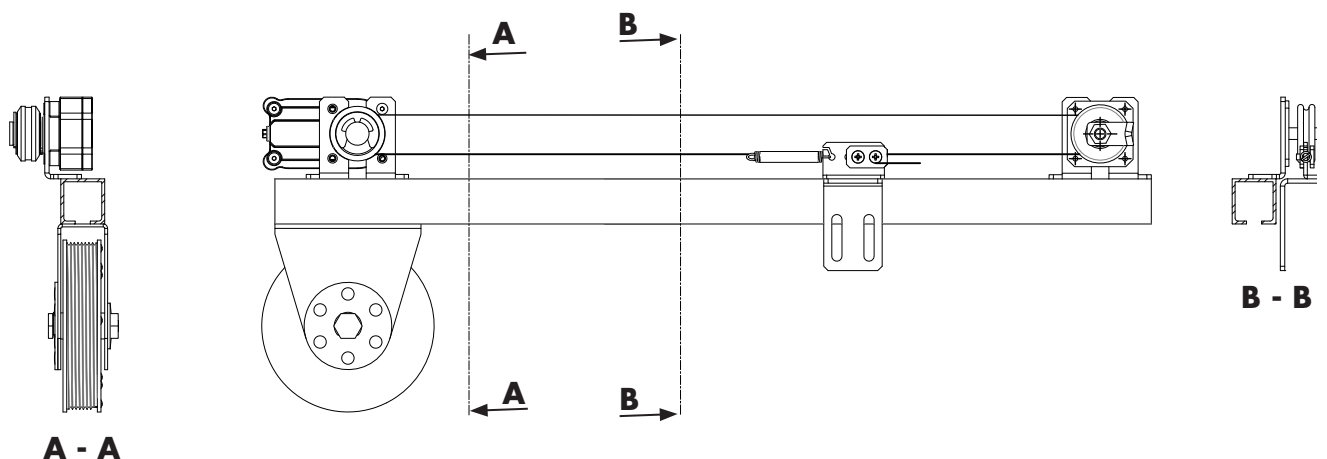
C) Installation of the DICTAMAT 50 BK-S - cont.

1) Determining the Installation Position - cont.

The modular system of the DICTAMAT 50 BK-S allows for many more installation variants. Here are shown two examples:

Example 1:

Installation of the revolving rope above the rail. In this case the rope of the spring rope pulley would directly be fixed to the door.



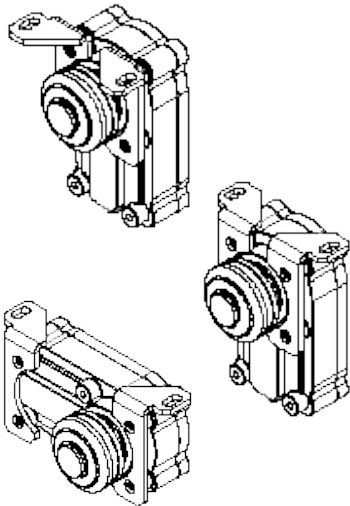
Example 2:

Installation of the spring rope pulley above the rail. The rope is deflected by an additional idler pulley. The radial damper LD 50 is installed at the other end of the rail as the "idler pulley" for the revolving rope. Below the spring rope pulley is fixed at this end of the rail, for lack of space, only the simple idler pulley.



C) Installation of the DICTAMAT 50 BK-S - cont.

2) Assembling and Installing the Radial Damper, Determining the Damping Direction



III. 3

The radial damper LD 50 offers many different possibilities of installation, depending on the available space. It has to be completed with the accessories in the plastic bag (ill. 1 of point A2).

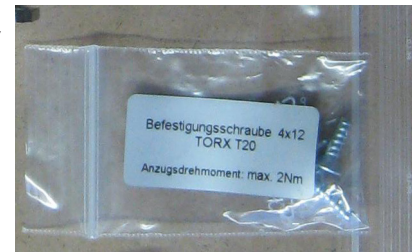
Step 1: Fixing the mounting brackets on the radial damper

- Determining at which position the brackets shall be screwed to the radial damper.

Possible mounting positions: horizontal or vertical
The adjacent illustrations show some examples.

In case the included brackets should not be enough, there are additional fixing accessories available.

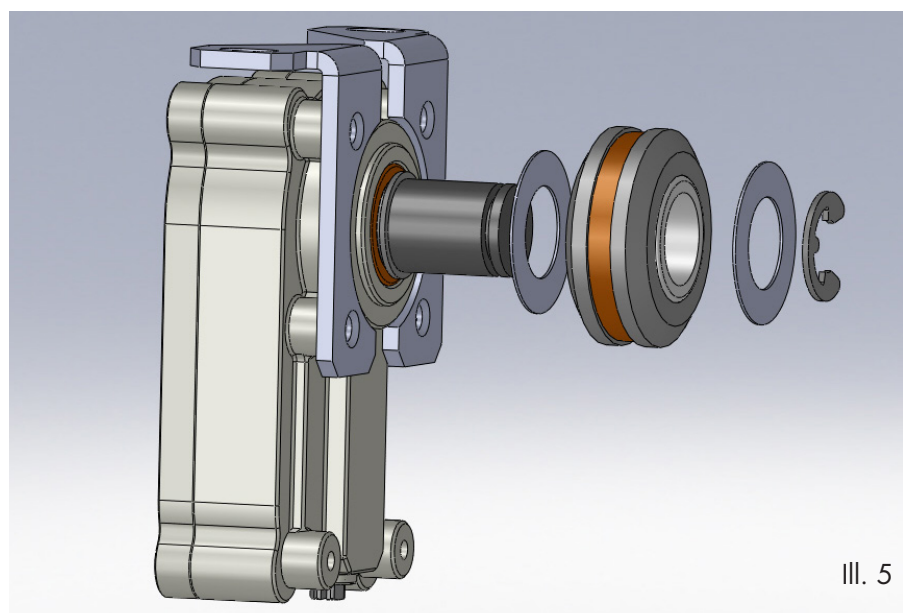
- Screw the brackets to the radial damper (4 screws TORX T20 are included - ill. 4, max. locking torque 2 Nm)



III. 4

Step 2: Fixing of the deflection pulley

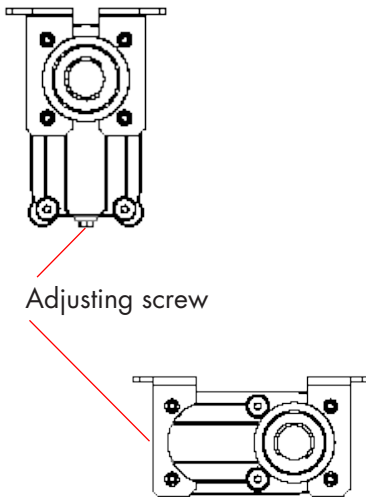
- Deciding on the damping direction (the default deflection pulley has a freewheel in one direction)
- Check in which direction the deflection pulley damps (just put it on the axis and test)
- After having decided on the damping direction (= rotating direction of the damper during closing), fix the deflection pulley on the axis of the radial damper according to the illustration 5. Keep also in mind the illustrations 2a and 2b.



III. 5

C) Installation of the DICTAMAT 50 BK-S - cont.

3) Installation



Ill. 6

Generally the spring rope pulley and the radial damper are installed below the rail either on the right or left rail end. Depending on the type of rail it is sufficient to fix the brackets with M5 screws and nuts. If necessary you can place some washers in the rail.

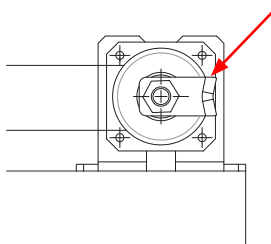
Further possibilities are the installation on the wall or ceiling. Usually spring rope pulley and radial damper are installed beside each other (see ill. 2a and 2b of point C1).

The idler pulley is then installed on the opposite side of the door. Please make sure the revolving rope runs exactly parallel to the door. The door actuator with rope tensioner is fixed more or less at the middle of the door.

However, the radial damper can also be used as an idler pulley. In this case the idler pulley is not fixed at the opposite side of the door but beside the spring rope pulley (see illustrations point C1).

IMPORTANT: During installation please make sure that the adjusting screw of the radial damper stays accessible once mounted (see ill. 6).

4) Placing the Revolving Steel Rope

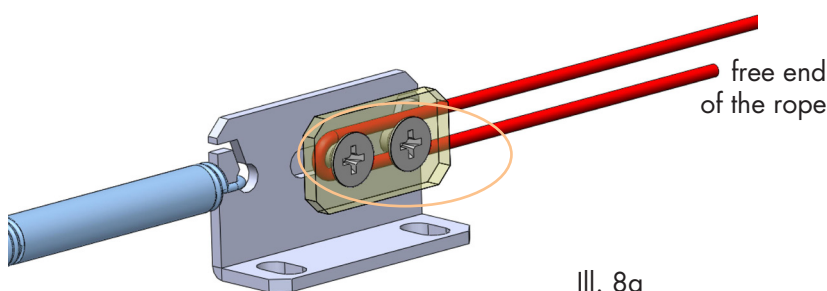


Ill. 7a

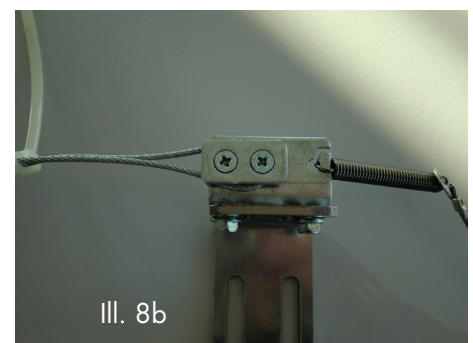
The end of the rope with the spring is clipped into the angle of the door actuator with rope tensioner (see adjacent ill. 7).

The free end of the steel rope is placed around the deflection pulley of the radial damper LD 50 and the idler pulley (underneath the rope coming-off prevention device, ill. 7a). Now loosen the screws of the connection, form with one rope end an eye and place it underneath the connection

(IMPORTANT: don't introduce it between the screws!) and pretension it by pulling at the end of the rope. Then the rope is temporarily secured by tightening the recessed head screws (ill. 8a and 8b).



Ill. 8a



Ill. 8b

C) Installation of the DICTAMAT 50 BK-S - cont.

5) Placing and Fixing the Kevlar Rope of the Spring Rope Pulley

Depending on the installation (ill. 2a and 2b), the Kevlar rope is either directly fixed to the door respectively the wheel hanger or to the revolving rope. When fixing it to the revolving rope, make sure the length of the rope of the spring rope pulley is sufficient for the door width and the necessary pretension and that the door can completely be opened and closed. For this purpose use the included rope clamp (see ill. 9).



6) Tensioning of the Revolving Rope

Before tensioning the revolving rope, make sure that it runs absolutely parallel to the door. If necessary, once again align the radial damper LD 50, the idler pulley and the door actuator with the help of the oblong holes.

For tensioning you have again to loosen the screws of the connection which temporarily secured the rope. Pull the free end of the rope by hand until it doesn't sag any more and the spring on the rope is tensioned. Now securely tighten both screws ill. 8a and 8b).

Fix the free rope end with a cable tie or something similar to the revolving rope. Any excess rope can then be cut off.

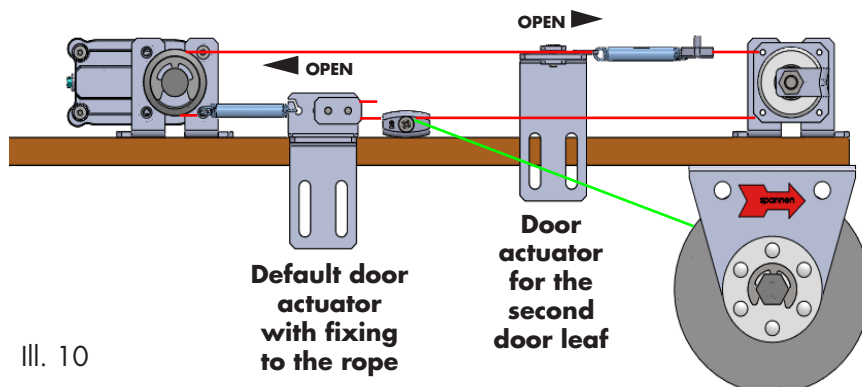
D) Installation of the DICTAMAT 50 BK-S on Double-Leaf Doors

1) Requirements

With a DICTAMAT 50 BK-S you can also move double-leaf doors.

Requirements:

- Simultaneous opening/closing of both door leaves (central closing!)
- Both leaves have the same dimensions.
- The force according to point E1 is sufficient for the double-leaf door.



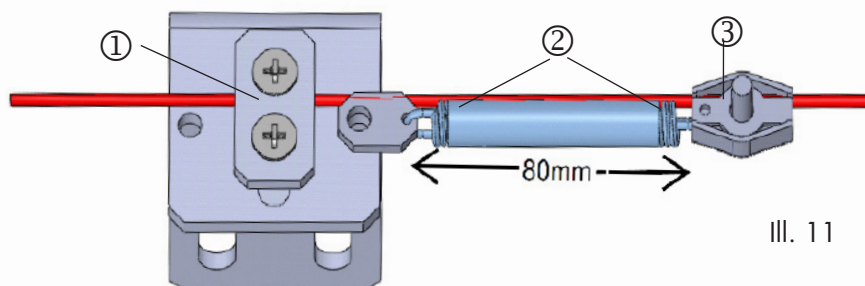
Ill. 10

2) Fixing of the Second Door Leaf

For double-leaf doors you need just one additional component: the door actuator for the second door leaf, part no. 700090 (zinc-plated) or 700091 (AISI 304).

Function: The door actuator for the second door leaf is fixed to the other part (upper or lower, ill.10) of the rope so that the second door leaf is moved automatically by the revolving rope.

Installation:



Ill. 11

Fix the door actuator for the second door leaf (Ill. 11) approximately in centre of the door leaf. The position has to be chosen so that the clamping plate is at the height of the revolving rope it has to be attached to.

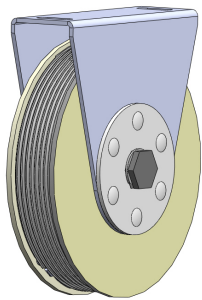
- ① Unscrew the clamping plate, take it off, position the rope between the two screws, cover all with the plate and tighten the screws.
- ② Pretension the spring to about 80 mm.
- ③ Fix the tensioned spring with the rope clamp to the rope.

IMPORTANT: The door actuator for the second door leaf has to be the last to be mounted, when the rope is already tensioned.

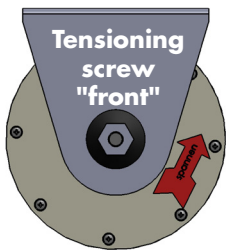
The spring of each door actuator has to show in the opening direction (see ill. 10).

E) Adjustment of the Closing Force and Speed

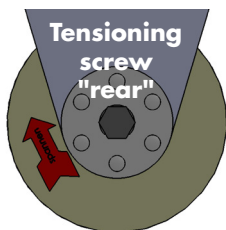
1) Adjustment of the Closing Force on the Spring Rope Pulley



Ill. 12a



Ill. 12b



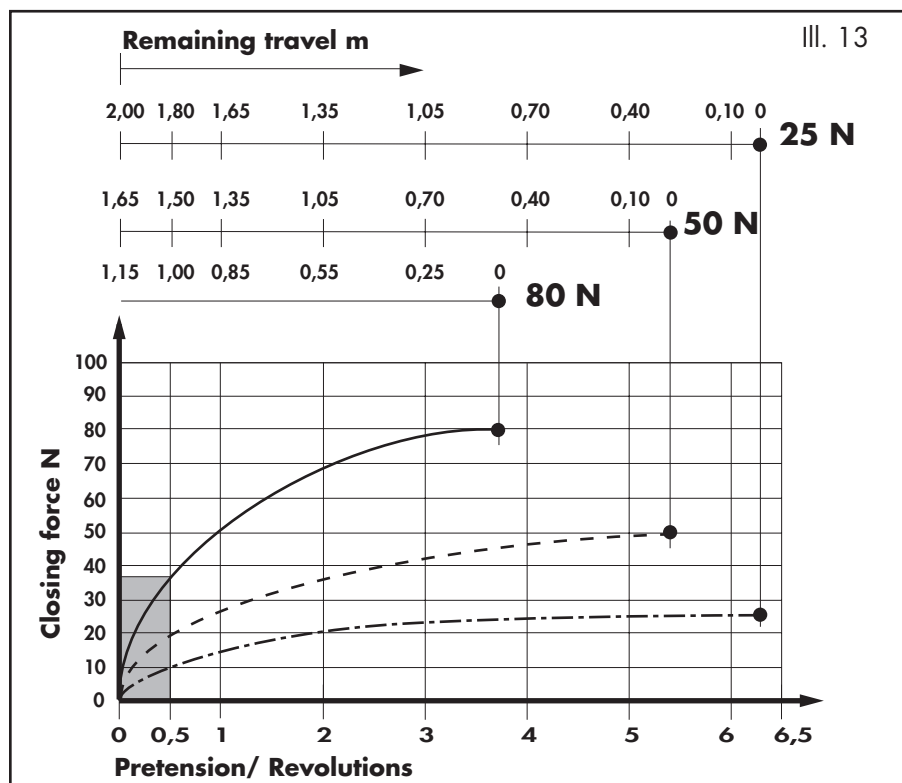
Ill. 12c

Open the door **completely** (max. opening 1.5 m). There have to be left at least 1.5 windings of rope on the spring rope pulley. The spring is pretensioned by the tensioning screw SW 17 that is accessible from both sides in the direction of the arrows "spannen" = tensioning (ill. 12a - 12c). Maximum pretension: 2, 4 respectively 5 revolutions depending on the used spring rope pulley (see table below)!

Releasing: in case the spring had been tensioned too much, the pretension can again be reduced by turning the tensioning screw against the direction of the arrow.

DICTAMAT 50 BK-S, 25 N		50 N		80 N	
Travel	Rev.	Travel	Rev.	Travel	Rev.
1800 mm	0,5	1500 mm	0,5	1000 mm	0,5
1650 mm	1	1350 mm	1	850 mm	1
1350 mm	2	1050 mm	2	550 mm	2
1050 mm	3	730 mm	3		
700 mm	4	400 mm	4		
400 mm	5				

The diagram below (ill. 13) indicates the closing force of the spring rope pulley in relation to the pretension and the door width.



E) Adjustment of the Closing Force and Speed - cont.

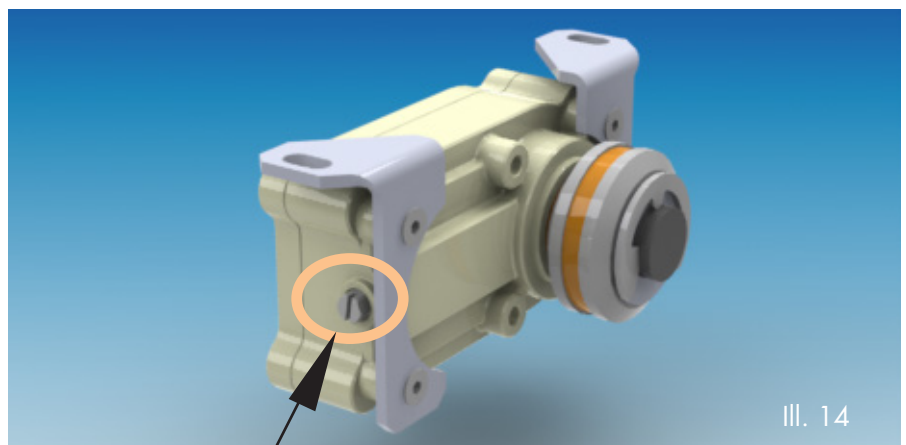
2) Adjustment of the Closing Speed

In order to adjust the closing speed open the door completely.

Now adjust the closing speed during the closing of the door by turning the adjustment screw on the radial damper (Allen key 5.5 mm or slotted screw driver) (see ill. 14).

Turning it clockwise:	reduces the closing speed
Turning it anticlockwise:	increases the closing speed

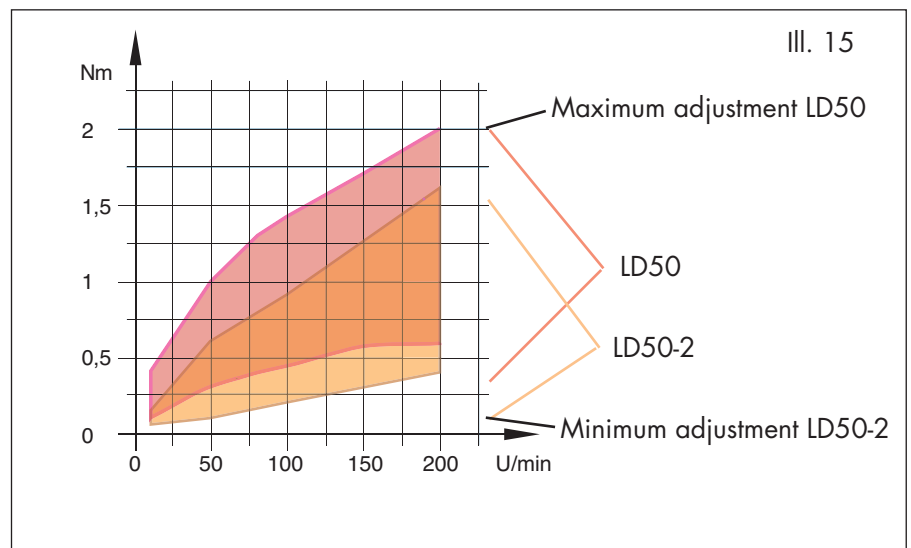
Now check whether the spring closes the door out of any open position independent from how far it had been opened. If necessary increase the tension of the spring or reduce the damping. **IMPORTANT:** Pretension the spring only when the door is completely opened!



Ill. 14

**Adjustment screw
for the closing speed**

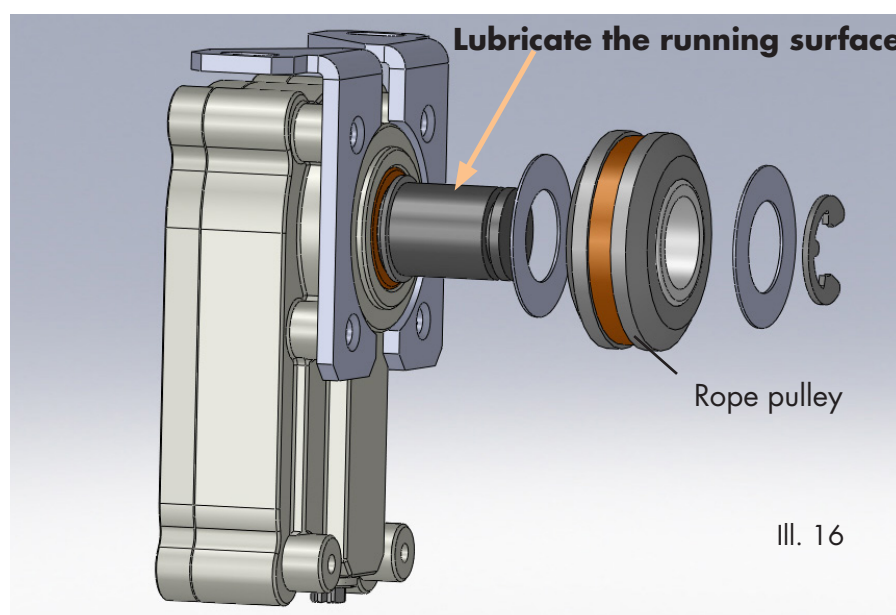
Damping Force



F) Maintenance, Servicing

Annually or at the latest after 30.000 movements:

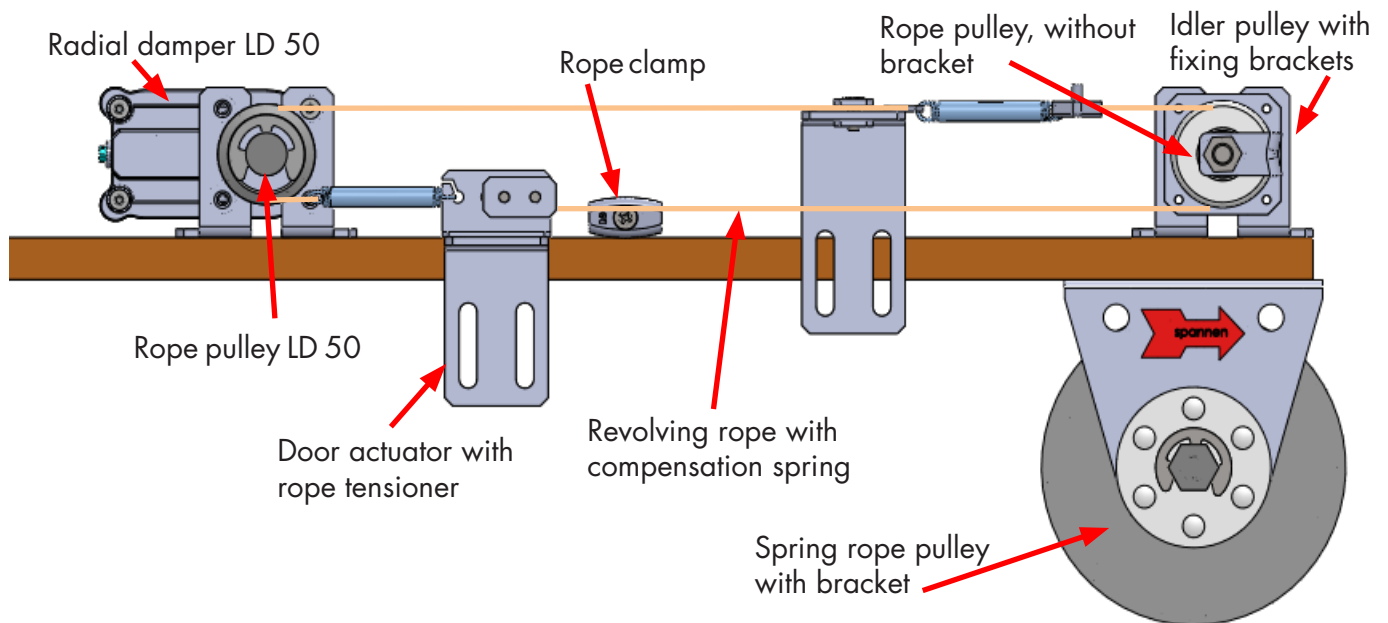
1. Check the door for damages and its smooth operation.
2. Check the fittings for damages and wearing: rail, wheel hanger, door handle etc.
3. Check the secure fixing of all door and operator fittings.
4. Rope, rope pulley and idler pulley have to be replaced at the latest after 50.000 movements.
5. Check the complete rope and the lining of the rope pulley for damages and wearing.
6. Check the freewheel of the rope pulley for smooth operation and running noises.
7. Lubricate just the running surface of the freewheel of the rope pulley with vaseline (ill. 16). For this purpose reduce the rope tension, partly pull off the rope pulley and put some vaseline on the shaft.



8. Check the rope tension. The rope may not slip on the rope pulley. If necessary, retension. Please respect the tension of the tensioning spring (see ill. 11).
9. Check the closing speed and force and, if necessary, adjust it. Too fast doors represent a risk of getting injured.
10. All damaged and worn parts have to be replaced as fast as possible by original spare parts.

G) List of Spare Parts

Below you will find the individual spare parts and their part numbers.



	Part no.
Radial damper LD 50, without bracket, without rope pulley	244045
Rope pulley LD 50	205465
Rope pulley, without bracket	205193
Door actuator with rope tensioner, zinc-plated steel	700071
Door actuator with rope tensioner, AISI 304	700073
Idler pulley with fixing brackets, zinc-plated steel	700070
Idler pulley with fixing brackets, AISI 304	700077
Revolving rope with compensation spring	700075
Revolving rope with compensation spring, from AISI 304	700076
Rope clamp	700074
Spring rope pulley 25 N with sliding hub, bracket zinc-plated	070102
Spring rope pulley 50 N with sliding hub, bracket zinc-plated	070093
Spring rope pulley 80 N with sliding hub, bracket zinc-plated	070094
Spring rope pulley 25 N with sliding hub, bracket AISI 304	070103
Spring rope pulley 50 N with sliding hub, bracket AISI 304	070098
Spring rope pulley 80 N with sliding hub, bracket AISI 304	070099
Rope for spring rope pulley	700058
Compensation spring (Z-115X), separately	701001