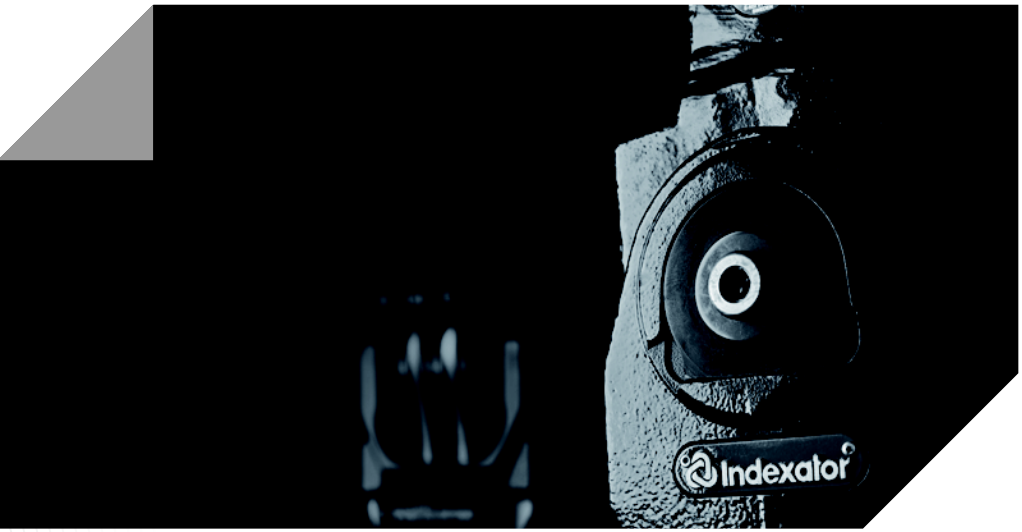
Indexator
Rotator Systems

User manual



LINK

G-184
MPBT1-80 swing damper
MPBT1-100 swing damper
MPB1-80 swing damper
MPB1-100 swing damper
MPB1-125 swing damper
MPB1-184 swing damper
Swingdamper MPB1-80 BC
Swingdamper MPB1-100 BC
Swingdamper MPB1-184 BC

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Content

Introduction

This manual is intended for installation engineers, maintenance personnel or users of the product.

As installation and maintenance personnel or the end user, it is presumed that you have basic knowledge of mechanics and hydraulics.

Read through the manual carefully and ensure that you understand its content prior to installing, repairing or using the product.

Installation and maintenance may only be performed by authorised personnel.

Storage and distribution of the manual

The manual is part of the product and should always be kept in an easily-accessible place, for example, in the driver's cab. Replace any lost manuals immediately.

Guarantee and claims

Contact your dealer.

Indexator AB cannot be held responsible for unauthorised repairs and/or modifications made to the product.

Other information

The information in this manual was correct at the time of going to print. No liability is accepted for any errors or omissions in this manual. Every effort has been made to ensure that the content is accurate and complete.

Indexator AB reserves the right to make technical improvements and modifications to the product as part of further development, and without changing the product's basic functions. These improvements and modifications do not necessarily mean that the manual will need updating. Contact your local dealer for information about any changes.

Safety instructions

General

Any possible risks have been minimised for this product. No protective or safety devices, however well designed they are, can replace the care and alertness of the machine operator.

Read through the manual carefully and ensure that you understand its content before using the product. Carelessness during installation, repair or use can result in serious, even life-threatening injury.

Description of warning texts

Terms regarding **personal safety** are classed in three levels as below, depending on the severity of the consequences of an accident.

DANGER

Danger means that an accident will occur if the regulations are not followed. The accident will cause serious personal injury or even death.

Warning

Warning means that an accident may occur if the regulations are not followed. The accident may cause serious personal injury or even death.

Caution

Caution means that an accident may occur if the regulations are not followed. An accident may lead to personal injury.

Terms regarding **other safety** (property, processes or environment) and management are classed as below.

Important

Important means that an accident may occur if the regulations are not followed. The accident may lead to damage to property, processes or the environment.

Additional information is marked as below.

Attention!

N.B. is important additional information that helps you understand or carry out a particular action.

Product-specific warnings

Transportation and transfer

Caution
Risk of personal injury. Always use a lifting aid when lifting the uninstalled product.

Important
Risk of product damage. When moving, the product must be relieved from the crane arm/tool's own weight to avoid breakage.

Before use

Warning
Risk of crushing. Before use check that no person is within the machine working area.

During work

Warning
Risk of crushing. The area under hanging loads/tools is a strictly prohibited area.

Caution
Risk of personal injury. Watch out for falling objects.

Attention!
Risk of collision between tool and base machine. Fitted tools will change the basic machine's geometry. Exercise caution during working.

Attention!
Risk of product damage. Ensure that the working area is sufficient for handling hanging loads. Avoid letting the product come into contact with the end position in the crane tip.

During maintenance

Warning
Risk of personal injury. The torque from the adjustment device causes potential energy to build up, which can have an explosive effect if a screw is damaged. Stand to the side of the adjustment device when tightening.

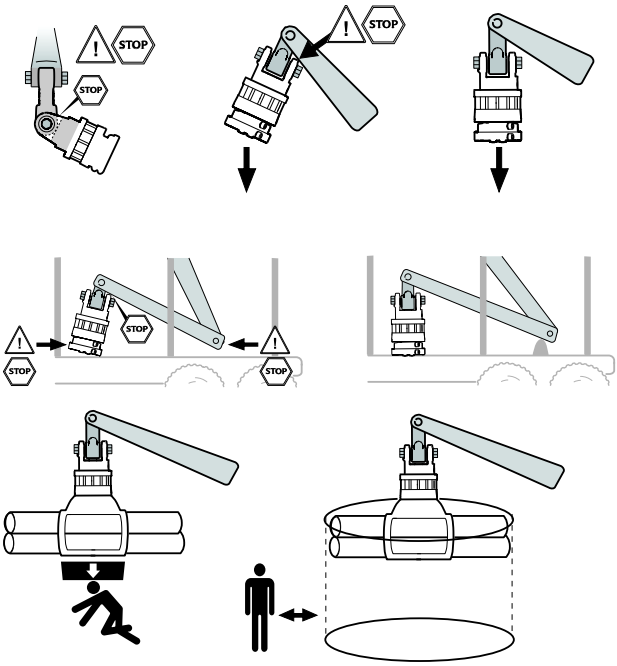
Safety

Risk area

The size of the risk area depends on the application and is determined by the application manufacturer. The risk area must be at least as big as the largest load, or as the width of the tool on a horizontal plane. The manufacturer must provide clear warnings about this.

DANGER

No personnel are permitted in the area under hanging loads/tools. It is a strictly prohibited area.



Caution

Risk of skin irritation/allergic reactions. There can be a number of chemical preparations on the product. Use protective gloves when handling.

Description

General

The product is a link or a swing damper.

The product is designed to be fitted between the rotator and the crane tip.

The product is designed to be used for positioning freely-hanging vertical loads.

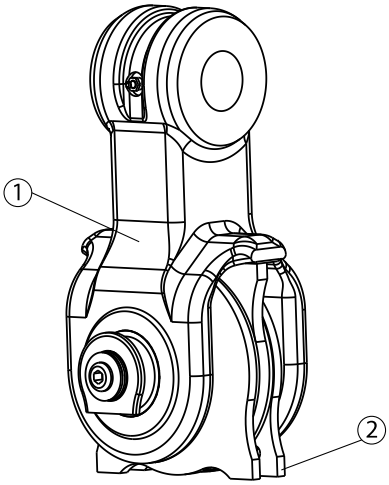


Image 1 MPB1

1. Link
2. Brake kit

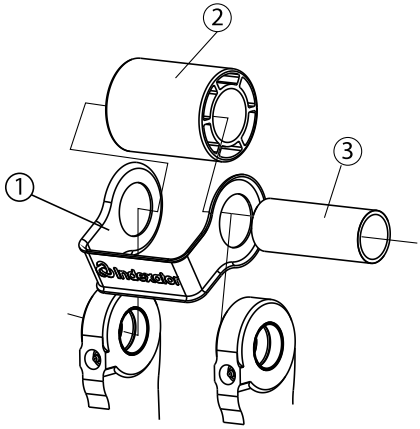


Image 2 KPL hose control

1. *Hose control*
2. *Hose reel*
3. *Tube*

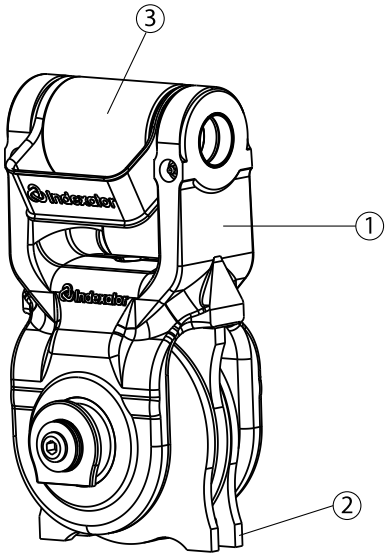


Image 3 MPB1–184

1. *Link*
2. *Brake kit*
3. *KPL hose control*

Brake kit (swing damper only)

Brake function

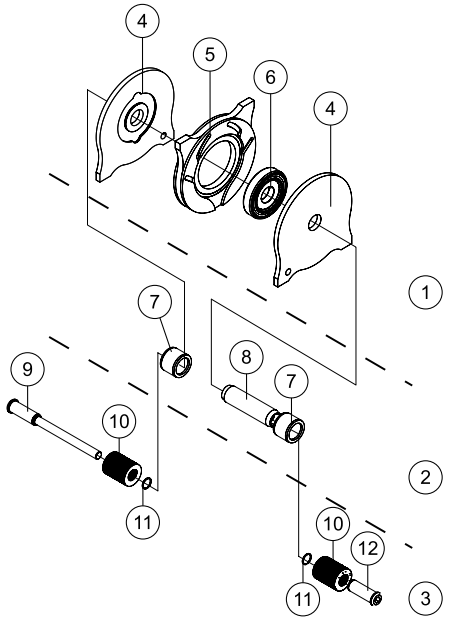


Image 4 Brake kit

1. *Brake kit*
2. *Centering device*
3. *Adjustment device*
4. *Brake disc*
5. *Brake block*
6. *Bearing*
7. *Sliding sleeve*
8. *Centre tube*
9. *Adjustment screw*
10. *Cup springs*
11. *Locking ring*
12. *Adjusting nut*

The brake kit is designed to brake the swinging movement in the actual direction. To ensure correct functioning, clean grease and oil from the brake disc.

The brake kit consists of the brake block, brake discs, bearings, adjustment device and centering device.

Centering device

The centering device holds the brake kit in place.

The centering device is fitted through the brake kit

and consists of a centre tube and sliding sleeves.

Adjustment device

The adjustment device consists of adjustment screws with cup springs and

is fitted through the centering device.

Changing the torque of the adjustment screw causes greater or lesser compression to the cup springs. The pressure on the braking device is changed, which then provides altered braking power.

Installation

Assembly

For installation of BC, see manual 5002927.

Assemble the link with the rotator

1. Lubricate the pins (x 2) externally with sufficient grease.
2. Fit pins with locating flat found on pin aligned with locating flat situated on rotator ear.

DANGER
Risk of personal injury. If the locking rings are incorrectly fitted, the pins can become loose and the entire head can become detached.

3. Fit the locking rings (x 2) on the pins, from the inside the link. Check that the locking rings sit firmly in the groove on the pins.

Warning
If the distance rings cannot be fitted, the locking rings are positioned incorrectly.

4. Secure the locking rings with the distance rings (x 2). Turn the groove towards the centre of the link.

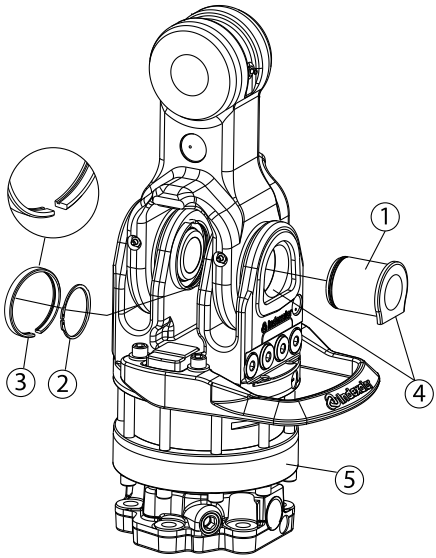


Image 5 Assemble the link with the rotator

1. *Pin*
2. *Locking ring*
3. *Distance ring*
4. *Locating flat*
5. *Rotator*

Assemble the brake kit

1. Lubricate the inside of the pins, as well as the inside and outside of the sliding sleeves with sufficient copper paste.
2. Fit the sliding sleeves inside the pins.
3. Lubricate the centre tube externally with copper paste.
4. Place a brake disc between the pins in the lower link, with the locating flat turned towards the rotator.

Important

Risk of product damage. Do not hit the centre tube, as this can damage the ball bearings located in the brake block.

5. Position the centre tube, through the sliding sleeve in the pin and through the hole in the brake disc. Ensure that the centre tube sticks out a few centimetres on the side where the brake disc surface is machined.

Important

Risk of reduced performance and product damage. Incorrect fitting of the brake block will damage the rotator. Braking power will be reduced or fail entirely.

6. Place a brake block against the machined surface of the brake disc. Centre the brake block hole against the protruding part of the centre tube. Turn the brake block's locating flat up against the link.

Important

Risk of product damage. Slightly lift the brake block before the centre tube has been inserted, otherwise the brake block ball bearings will be damaged.

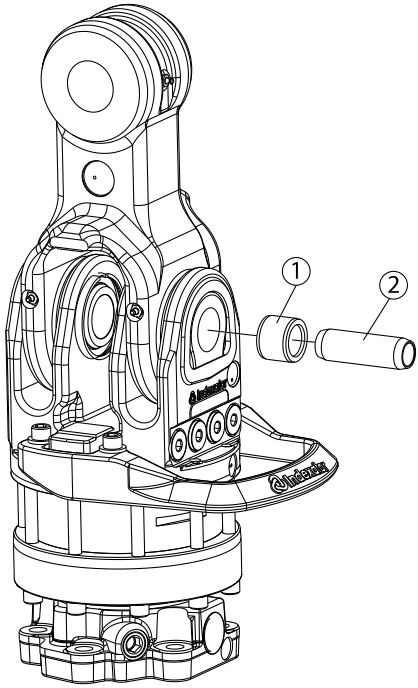


Image 6 Assembling the sliding sleeve

1. *Sliding sleeve*
2. *Centre tube*

7. Press the centre tube through the brake block hole. If required, slightly lift the brake block towards the crane tip, so that it is easier to insert the centre tube.
8. Place a brake disc with its machined side towards the brake block. Turn the locating flats on the brake disc towards the rotator.
9. Push the centre tube through the brake disc hole.
10. Lubricate the thread of the adjustment screw with copper paste.

> **Warning**
> Risk of personal injury. The torque from the adjustment device causes potential energy to build up, which can have an explosive effect if a screw is damaged. Stand to the side of the adjustment device when tightening.

11. Place the adjustment screw (with springs and locking ring) in the centre tube and tighten the adjustment screw to the adjustment nut using a 10 mm hexagon wrench. Tightening torque 60 Nm.

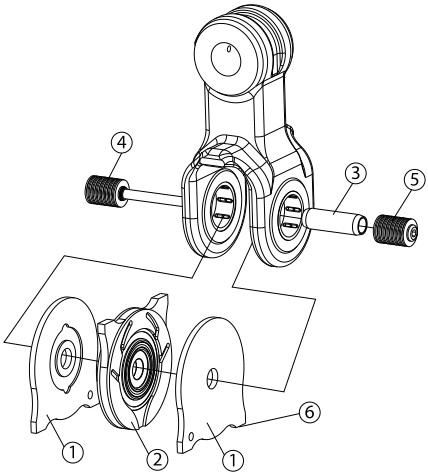


Image 7 Fitting the lower brake kit

1. *Brake disc*
2. *Brake block*
3. *Centre tube*
4. *Adjustment screw*
5. *Adjusting nut*
6. *Stop cleat*

Settings and adjustments

Adjusting the braking power

By removing the two outermost cup springs from both adjustment screws and adjustment nuts, the braking power can be reduced. The springs are saved for later use, as natural wear and tear will decrease the braking power. This enables the service life of the entire brake block to be extended.

Important
Risk of product damage. Tightening torque that is too low can result in the adjustment screw and nut seizing up and the brake kit being lost.

Reduced tightening torque when tightening the adjustment screw will reduce the braking power.

1. Remove the locking ring from the adjustment nut and adjustment screw.
2. Note the placement of the cup springs and remove the two outermost cup springs from the adjustment nut and adjustment screw.
3. Refit the locking ring to the adjustment nut and adjustment screw.

Image 8 Removing the cup springs from the adjustment device
1. The two outermost cup springs

Attention!
When refitting the cup springs, they must be placed in the same way as existing cup springs.

Adjusting the weighing instrument

This is carried out according to the documentation from the weighing instrument's supplier.

Maintenance

Maintenance overview

Important
Irregular maintenance can lead to product damage.

Preventative maintenance, as required

Braking power	Check, adjustment

Every 50 hours

Bushings	Lubrication

Every 600 hours

Brake kit	Check for wear, clean components, and make replacements where necessary
Brake discs	Check for wear, clean components, and make replacements where necessary
Sleeves and centre tube	Lubrication
Attachment	Check for cracks, change if necessary
Bushings	Check the size of play, possible change

Maintenance instructions

Preventative maintenance, as required

Braking power

Important
Irregular maintenance can lead to product damage.

Important
Risk of product damage. Tightening torque that is too low can result in the adjustment screw and nut seizing up.

Check that the brake disc does not have any grease or oil on the surface. If this occurs, the surface of the brake block can be cleaned using fine sandpaper. Adjust the braking power by refitting the removed cup springs or by tightening the adjustment screw. The tightening torque for the adjustment screw is 60 Nm.

Every 50 hours

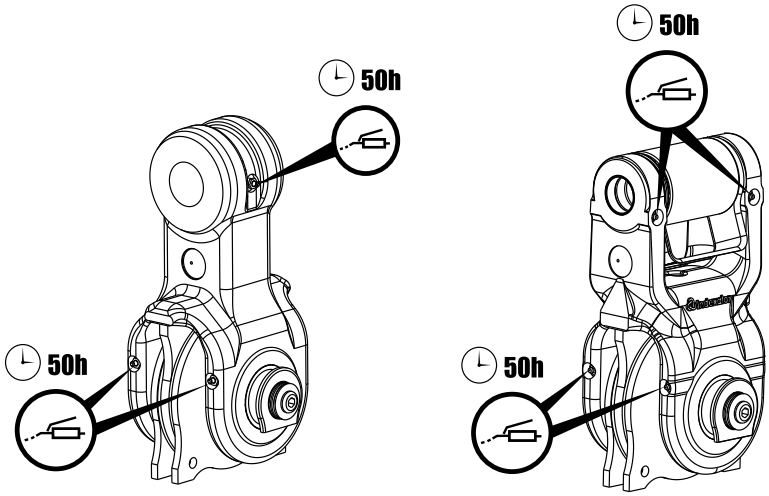


Image 9 Bushings

Bushings

Connect a grease gun with sufficient lubrication to the grease nipples. Keep on pumping until you see grease between the pin and the link.

Every 600 hours

Brake kit

Check that the brake block wear surface is sufficiently thick. The brake block is changed when the thickness of the wear surface is below 0.2 mm.

Dismantle the brake kit, remove the dust from the open tracks in the brake block and rotate the bearing in the brake block one turn. This is done to increase the service life of the bearing. If the brake kit bearings have any play, start to stick, or if the rubber seal is damaged, the bearing should be replaced. Reassemble the brake kit according to repair instructions.

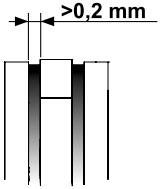


Image 10 Checking worn surfaces on brake block

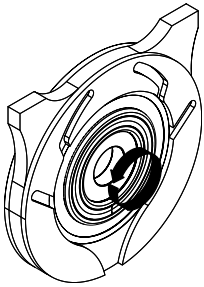


Image 11 Rotation of bearings in brake block

Play

Make sure that there is no abnormal play in the link bearings. A difference of more than 1.5mm needs to be resolved.

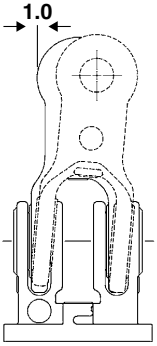


Image 12 Checking play

Sleeves and centre tube

Lubricate the sleeves inside and outside, as well as the outside of the centre tube, with copper paste.

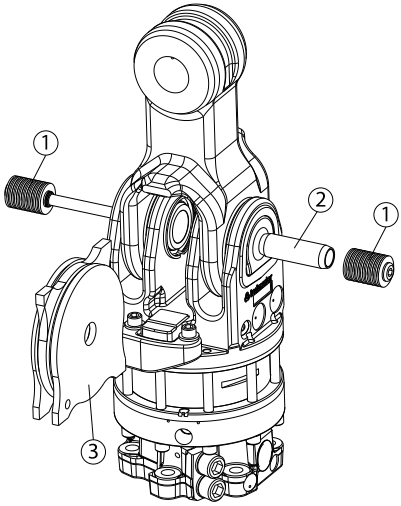


Image 13 Changing the brake kit

1. *Adjustment device*
2. *Centering device*
3. *Brake kit*

Attachment

Check that there are no cracks on the product's upper or lower attachment.

Bushings

By moving the swing damper to the side, make sure that there is no play between the scale's bushings and pins. If there is a play, the bushings must be replaced.

Repair instructions

Attachment

If there is a fracture in the attachment, the link must be replaced. Contact your dealer for more information.

Bushings

1. Disassemble the product.
2. Press out the bushings using a hydraulic press.
3. Press back the new bushing with the lubricating groove.

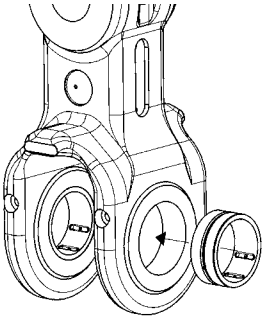


Image 14

Lower brake kit

1. Dismantle the lower brake kit's adjustment device.
2. Dismantle the lower brake kit's centering device.
3. Remove the lower brake kit.
4. Fitting the new brake kit must be done as per the instructions for installing the lower brake kit.

Bearings in brake kit

These have a separate repair kit. Contact your dealer.

Removing product from crane tip and rotator

1. Place the rotator on a flat surface.
2. Tie a rope or similar around the product and fix it up on the machine's point, or other high location, so that the product cannot fall when the crane tip is loosened.

   At swing damper

   - Dismantle the lower brake kit's adjustment device.
   - Dismantle the lower brake kit's centering device.
   - Remove the lower brake kit.
3. Remove the lower distance rings and the lower locking rings.

Caution

Risk of crushing injuries. Check that the product cannot fall before it is loosened from the crane tip.

4. Remove the upper pins so that the product is loosened from the crane tip.
5. Remove the lower pins so that the product is loosened from the rotator.
6. Remove the product.

Technical data

MPB1-80/MPB1-80 BC/MPBT1-80, MPB1–100/MPB1–100 BC/MPBT1–100, MPB1–125, MPB1–184/MPB1–184 BC/G-184

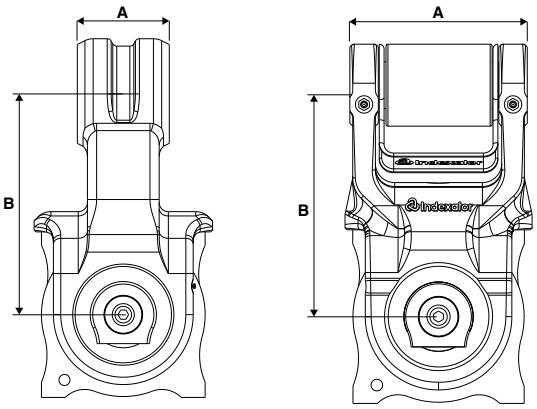


Image 15

	MPB1–80/ MPB1–80 BC/ MPBT1-80	MPB1–100/ MPB1–100 BC/ MPBT1–100	MPB1–125	MPB1–184/ MPB1–184 BC/ G-184
A	80 mm	100 mm	125 mm	184 mm
B	240 mm	240 mm	240 mm	240 mm
Total lower swinging angle	180°	180°	180°	180°
Weight				
Material	Cast steel	Cast steel	Cast steel	Cast steel
Max. load	16 tonnes	16 tonnes	16 tonnes	16 tonnes

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