

Installation Guide



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Compensating Chains

Contents

	Page
Important Notes	1
Transport / Visual Inspection	2
Preparation of Chain Ends	3
Preparation of Installation	4
Installation of DRAKO ecoBalance	
1. Required installation material	5
2. Calculating loop diameter	6
3. Typical DRAKO ecoBalance installation	7
4. Installation of U-bolt at the car	8
5. Installation at counterweight	9
6. Installation of U-bolt at counterweight	10
Installation of DRAKO comfortBalance	
1. Required installation material	11
2. Calculating loop diameter	12
3. Typical DRAKO comfortBalance installation	13
4. Attaching the stainless steel grip	14
5. Installation of U-bolts at the car	15
6. Forming the safety loop	16
7. Installation at counterweight	17
8. Installation of U-bolt at counterweight	18
Installation of Dampening Rollers	19
Multiple Chain Installation	20
Final Inspection	21

Important Notes

DRAKO compensating chains are developed to be used in shafts without any tensioning sheave.

DRAKO compensating chains do not need a dampening roller when used at travel heights < 50 m and/or travel speeds of " 1.2 m/s. Compensating chain DRAKO comfortBalance can be used up to 3 m/s with dampening rollers.

The recommended temperature range for operation is between -15 °C and 60 °C.

This installation guide should assist the user in a safe installation. Make sure to follow these installation instructions, otherwise the product warranty may be void, hazardous conditions may result.

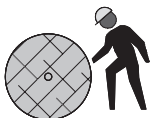
Please call if you have any questions.

PFEIFER DRAKO**Transport / Visual Inspection**

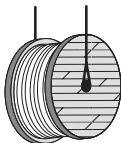
If you move DRAKO compensating chains by a forklift, make sure the weight is not resting on the weeled chain but on the flanges of the reel.



The reel can be rolled on a clean firm surface as well.



When lifting a reel with a crane, you should use a strong rod through the reelhub.



Store the chain at a safe place.
Inspect the chain jacket for outer defects. A cut or gash could reduce the lifetime of the chain.



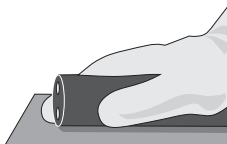
Do not install any damaged chain.
Please call if you have questions
on damaged chains.



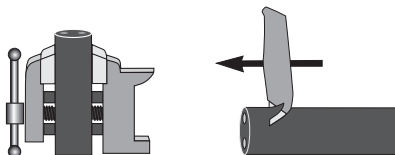
Preparation of Chain Ends

Stripping of the jacket

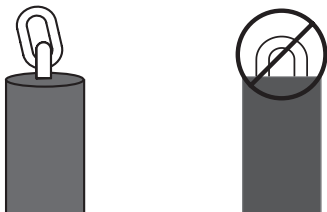
Put the free end of the chain on a firm surface.



If available you can fix the chain in a vice. Make sure not to damage the jacket.



Strip the jacket to get a free link of chain. A sharp knife can be used. Always cut away from yourself to avoid injury.



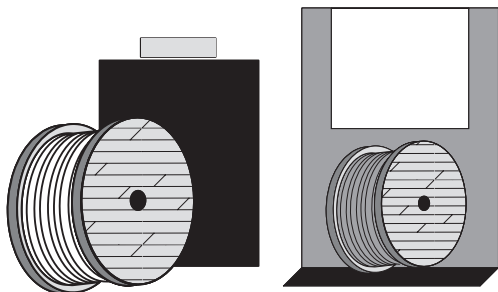
Compensating chain with readily prepared ends can be provided ex stock. Please call to get details and price list.



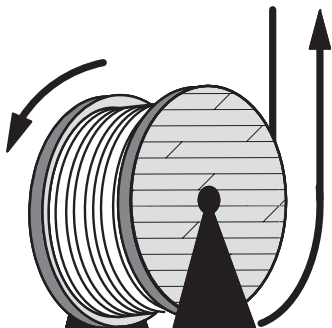
Preparation of Installation

Positioning of the reel before installation

Installation of the chain usually is done in the shaft pit or from the lowest floor.



Make sure that reel position allows the chain to run off underneath the reel.

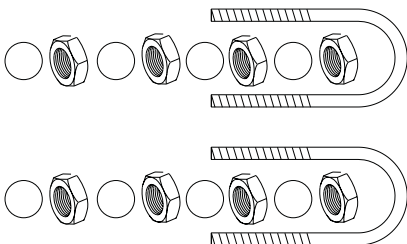


Installation of DRAKO ecoBalance

1. Required installation material

DRAKO installation kits include all installation material.

Installation Kit DRAKO ecoBalance



2 U-Bolts with 4 nuts and 4 washers each.

The use of other than DRAKO installation kits may cause hazardous conditions and will invalidate product warranty.



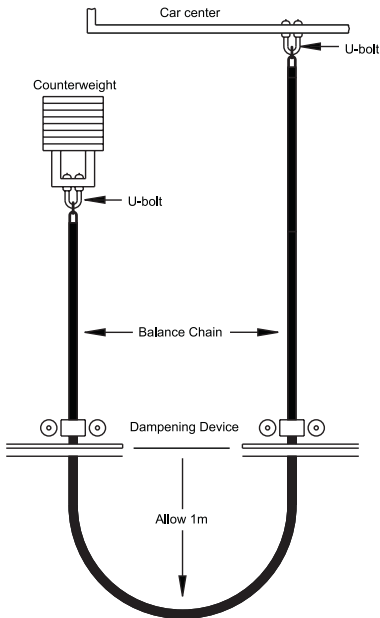
2. Calculating loop diameter

The ecoBalance is to be fixed at a specific distance between the counterweight and the car for optimum performance. This distance is the recommended loop diameter.

Type	Unit Weight kg/m	Max. Hanging Length m	Min Curve Dia. mm
DRAKO EB 090	0.9	180	220
DRAKO EB 130	1.3	185	240
DRAKO EB 150	1.5	190	260
DRAKO EB 200	2.0	190	280
DRAKO EB 240	2.4	230	280
DRAKO EB 300	3.0	240	300
DRAKO EB 330	3.3	240	300
DRAKO EB 380	3.8	240	320

Installation of DRAKO ecoBalance

3. Typical DRAKO ecoBalance installation



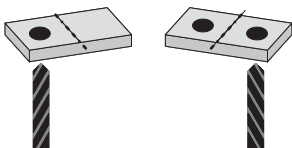
U-bolts should be fixed on the car/counterweight center line.

Mark the locations of the U-bolts at the car frame.

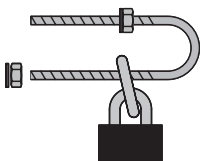
Installation of DRAKO ecoBalance

4. Installation of U-bolt at the car

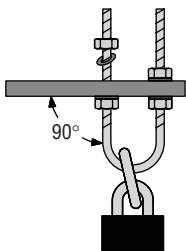
Drill holes at the U-bolt locations.



Attach the chain and two nuts and washers to the U-bolt as per drawing.



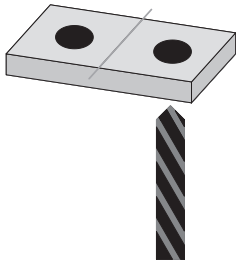
Fix the U-bolt to the car and attach remaining two nuts and washers to the U-bolt. Fasten the nuts so that the U-bolt is in a 90° angle to the plate. Finally add the split pins to the U-bolt holes..



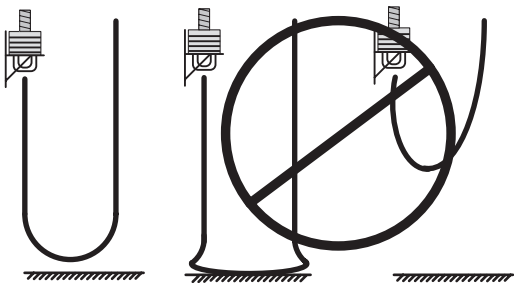
Installation of DRAKO ecoBalance

5. Installation at counterweight

Raise the car to the upper position in the shaft.
Drill holes at the U-bolt locations of the counterweight.

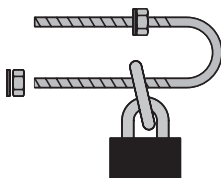


Determine the required chain length considering the loop diameter as mentioned in the table on page 6. Make sure that the chain can hang freely and vertically well above the floor.

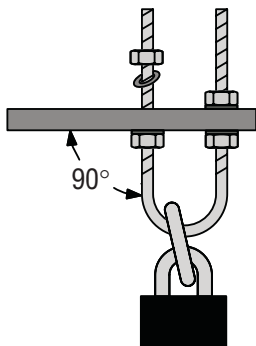


6. Installation of U-bolt at counterweight

Attach the chain and two nuts and washers to the U-bolt as per drawing.



Fix the U-bolt to the the car and attach remaining two nuts and washers to the U-bolt. Fasten the bolts so that the U-bolt is in a 90° angle to the plate. Finally add the split pins to the U-bolt holes.



Installation of DRAKO comfortBalance

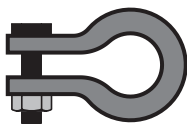
1. Required installation material

DRAKO installation kits include all installation material.

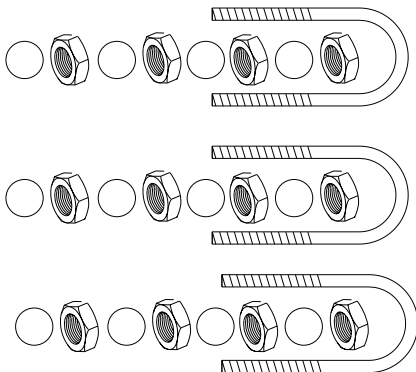
Installation Kit DRAKO comfortBalance



1 Stainless Steel Grip



1 Shackle



3 U-Bolts with 4 nuts and 4 washers each

The use of other than DRAKO installation kits may cause hazardous conditions and will invalidate product warranty.



2. Calculating loop diameter

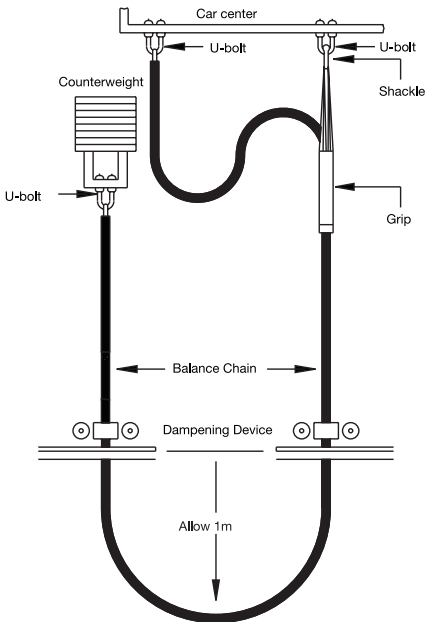
The comfortBalance is to be fixed at a specific distance between the counterweight and the car for optimum performance. This distance is the recommended loop diameter.

Type	Unit Weight kg/m	Max. Hanging Length m	Min Curve Dia. mm
DRAKO CB 110	1.1	110	560
DRAKO CB 150	1.5	170	600
DRAKO CB 220	2.2	180	600
DRAKO CB 300	3.0	185	650
DRAKO CB 370	3.7	185	650
DRAKO CB 450	4.5	185	650
DRAKO CB 520	5.2	185	680
DRAKO CB 600	6.0	185	680

The main U-bolt is to be attached 0.6 m – 1 m distance from the safety U-bolt.

Installation of DRAKO comfortBalance

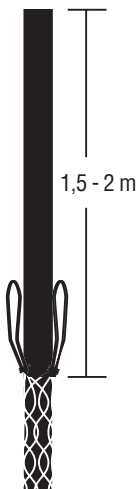
3. Typical DRAKO comfortBalance installation



U-bolts should be fixed in a straight line to the counterweight (U-bolts should be in the same plane). Mark the locations of the main and safety U-bolts at the car frame.

4. Attaching the stainless steel grip

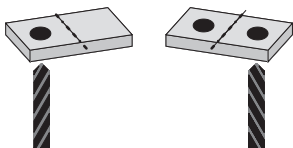
Pull the comfortBalance through the respective stainless steel grip and allow 1.5 – 2 m distance to the chain end.



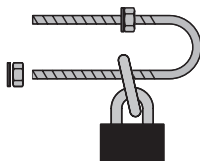
Installation of DRAKO comfortBalance

5. Installation of U-bolts at the car

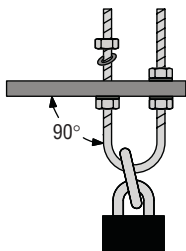
Drill holes at the U-bolt locations.



Attach the chain and two nuts and washers to the U-bolt as per drawing.

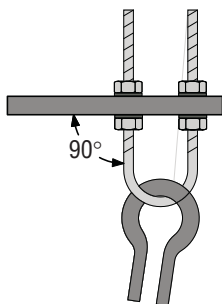


Fix the U-bolt to the car and attach the remaining two nuts and washers to the U-bolts. Fasten the nuts so that the U-bolt is in a 90° angle to the plate. Finally add the split pin to the U-bolt holes.

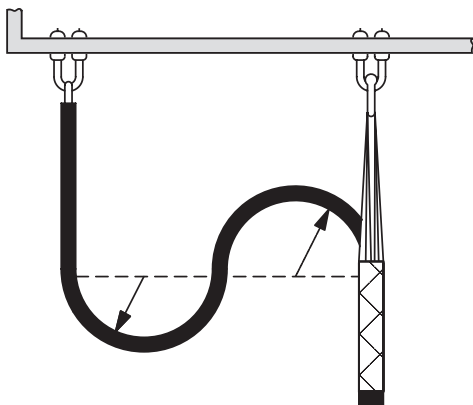


6. Forming the safety loop

Attach the wire mesh grip with a shackle to the U-bolt.



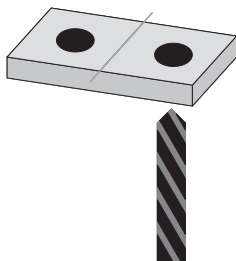
Compress the grip and adjust the chain to form a reverse curve.



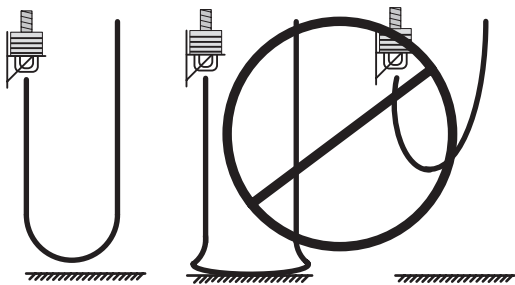
Installation of DRAKO comfortBalance

7. Installation at counterweight

Raise the car to the upper position in the shaft.
Drill holes at the U-bolt locations.



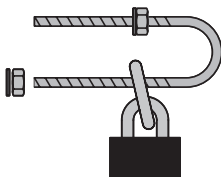
Determine the required chain length considering the loop diameter as mentioned in the table on page 12. Make sure the chain can hang freely and vertically well above the floor. Prepare chain end as described on page 3.



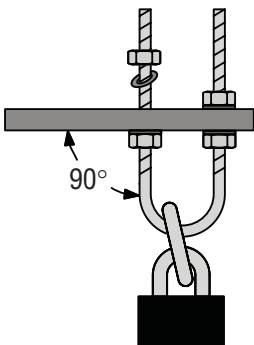
8. Installation of U-bolt at counterweight

In case dampening rollers are required please see remarks on page 19.

Attach the chain and two nuts and washers to the U-bolt as per drawing.



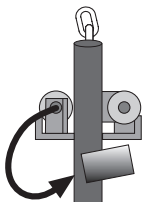
Fix the U-bolt to the car and attach the remaining two nuts and washers to the U-bolt. Fasten the nuts that the U-bolt is in a 90° angle to the plate. Finally add the split pins to the U-bolt holes.



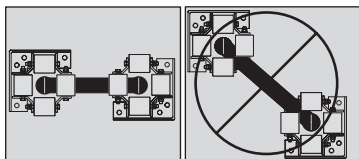
Installation of Dampening Rollers

In case you did not already pull the chain through the dampening roller when mounting to the counterweight, dismantle one of the rollers.

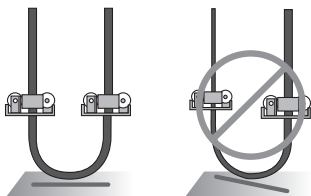
See drawing



Install the dampening rollers with distance of the loop diameter.



For dampening roller installation in the shaft DRAKO offers usefull mounting brackets for DR-H.

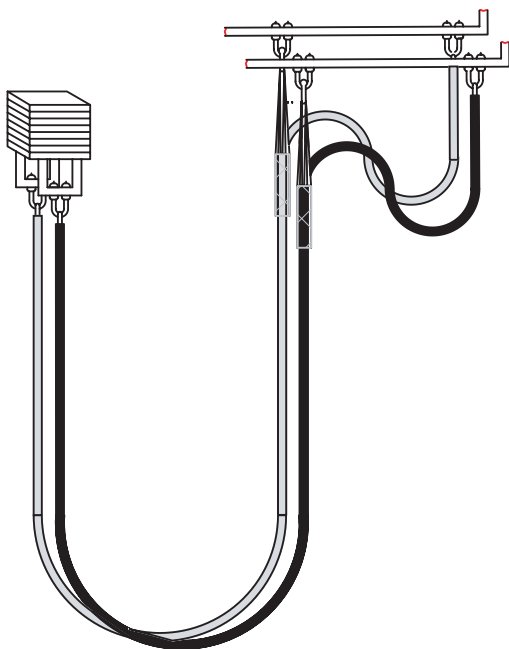


Please make sure that chains and rollers are on the same centre-line. The chain should not touch the rollers during stand still.



Multiple Chain Installation

In case two chains are installed make sure that the U-bolt positions are equidistant to the car / counterweight centre-line.



Final Inspection

Prior to operation check all points. Make sure that...

- chains do not show any damage
- the U-bolts are vertical and fastened tightly
- the chain hangs vertically and does not touch neither wall nor floor
- if dampening rollers are installed, chain does not touch the rollers

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