

CHAIN CONVEYOR KCC 60

Chain Conveyor KCC 60

Operation and Maintenance Manual

CHAIN CONVEYOR KCC 60

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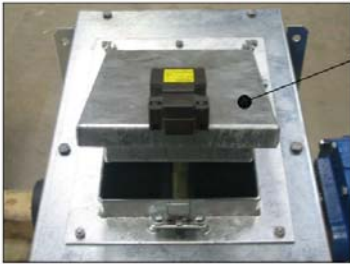
1. Declaration of conformity

EC Declaration of Conformity	CE
Kongskilde Kongskilde Maskinfabrik A/S Skælskørvej 64 DK 4180 Sorø	
This is to declare that the machine CHAIN CONVEYOR KCC 60 has been manufactured in accordance to provisions of the COUNCIL DIRECTIVE on the approximation of the laws of the Member States relating to machinery (98/37/EC, Clause 1).	
The chain conveyor is an appliance designed for horizontal transportation of crop grains, seeds and granulates with the maximum inclination angle of 7°. Maximum capacity of the chain conveyor KCC 60 is 60 tons per hour.	
Moreover, the appliance meets requirements of the following standards and codes: Regulation of the Danish Labour Surveillance Authority No BEK 561 of 24/06/1994 with further amendments in regulations No BEK No 669 of 07/08/1995 and BEK No 831 of 27/11/1998.	
Sorø, 06 th December 2007	

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2. Safety

The chain conveyor is equipped with a protecting cover to prevent the machine from overfilling as well as the safety switch that is tripped when the cover is being opened or is pushed outwards by excess of material conveyed by the appliance.



In addition, the chain conveyor should be equipped with a main power switch locked with a key. This switch is to be used to shutdown the conveyor before dismantling its covers to prevent the machine from unintentional starting up. The safety switch must be placed on the conveyor or within its working area.

ALL THE COVERS AND GUARDS MUST ALWAYS BE IN PLACE WHEN THE MACHINE IS RUNNING.

Protective covers and other guard must be dismantled for repairs. To perform such maintenance and repair operations the conveyor chain must be started from time to time.

Therefore, the operations must be always carried out in witness of authorized and competent staff. When any work inside the conveyor body is in progress, the safety switch must be disconnected and access to it must be secured with a key lock.

It is forbidden to use the electric motor to restart the clogged elevator by short on and off voltage pulses supplied to the motor in short time intervals as such attempts may lead to failure of the motor or the pulling module.

Safety rules:

The assembling team, the plant owner and operators must learn and be familiar with the safety rules included into this manual as well as general safety rules effective at the workplace. All the safety rules must be strictly observed.

Any negligence to these issues may lead to serious occupational accidents whilst incorrect operation is often a reason for downtimes and decrease of the plant performance.

Safety rules must always be obeyed:

Read operation manuals, observe safety decals placed on the machine and follow all the applicable safety rules.

Never remove the safety decals. Replace worn or damaged signs with new ones.

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Learn how to operate the appliance in correct manner and never allow inexperienced persons to run the machine.

In any functionalities of the machine or operation of its parts is not fully clear contact the supplier or an authorized representative of the manufacturer to avoid any mistakes in the machine operation.

Wear always a helmet, safety goggles and protecting shoes during operation of the machine and the maintenance work in accordance to the general safety rules.

Be ready that something wrong may happen at any time:

First-aid kit(s) should be placed in easy accessible, purposefully marked locations, clearly visible and known to anyone involved or staying within the vicinity.

Information board with emergency phone numbers (ambulance service and fire brigades) must be placed at visible locations.

Fire extinguishers should be available at hand.

Information with the list of persons authorized to operate the main power switch along with contact details of them must be placed at central locations.

Rotating parts of machinery pose hazards.

All the safety guards and covers should be always in place to prevent from accidental contacts between rotating parts of machinery and limbs of human bodies or loose clothes as such contacts may lead to heavy injuries.

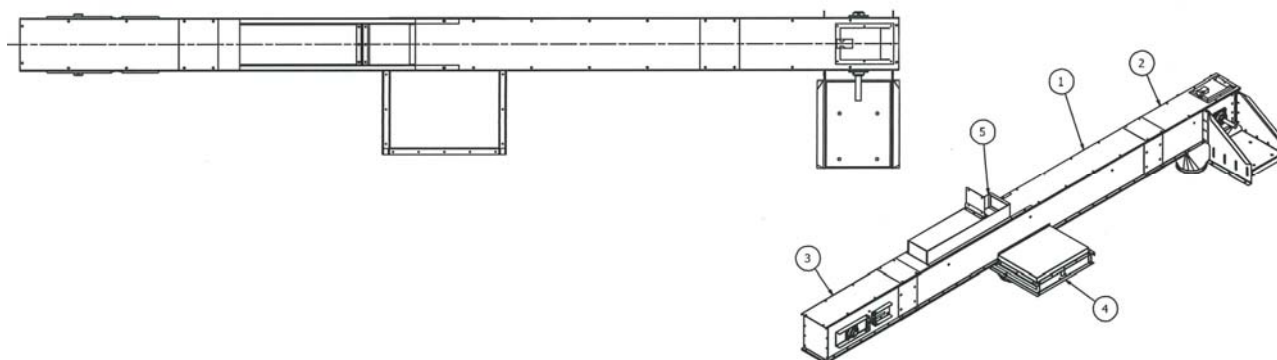
During maintenance work all the electric circuits must be disconnected and reliably secured against accidental or unintentional reclosure by third persons. Switch the electric supply off and disable reclosure at as many levels as possible.

Clothes and overalls that are worn for maintenance work should be snug-fitting to the body.

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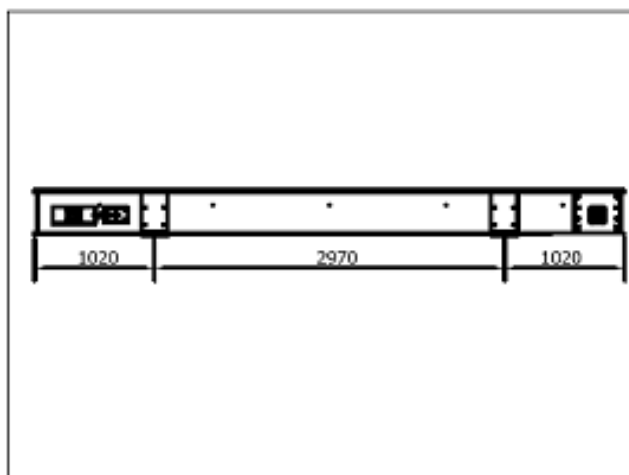
3. Assembly and installation

The chain conveyor is made up of the following components: tensioning unit (2), discharge head (3), extension unit (1), chain and intermediate outlet (4).



The extension unit channel should be adjusted to the required length, where the HDPE board serves as a bottom lining whilst the side walls and upper cover are made of steel. The following bolts are used for assembly of the channel.

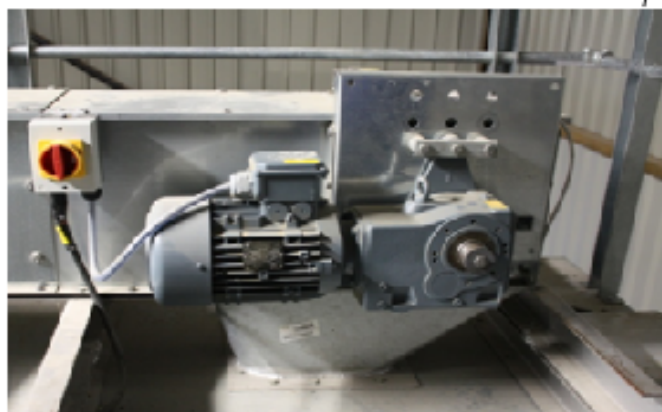
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Typical conveyor

Assembly to the desired length
Discharge head and tensioning unit are preassembled at factory.

The following bolts are used to assembly the conveyor:

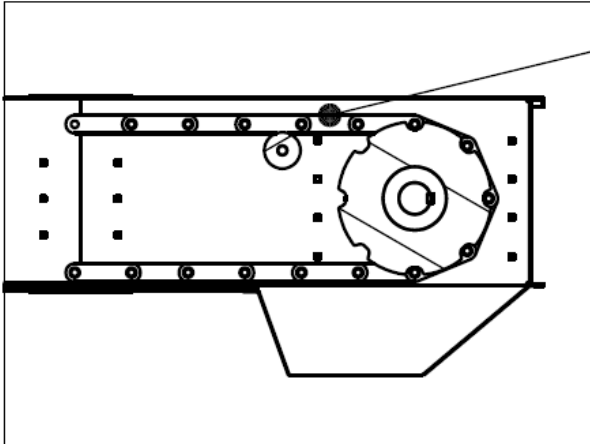


1. KCC 40: 10 x 20 mm
 - KCC 60: 10 x 20 mm
 - KCC 80: 10 x 20 mm
 - KCC 100: 10 x 20 mm
 - KCC 120: 10 x 20 mm
2. KCC 40: 8 x 25 mm
 - KCC 60: 8 x 25 mm
 - KCC 80: 8 x 25 mm
 - KCC 100: 10 x 25 mm
 - KCC 120: 10 x 25 mm
3. KCC 40: 8 x 30 mm
 - KCC 60: 8 x 30 mm
 - KCC 80: 8 x 30 mm
 - KCC 100: 10 x 30 mm
 - KCC 120: 10 x 30 mm
4. KCC 40: 8 x 16 mm
 - KCC 60: 8 x 16 mm
 - KCC 80: 8 x 16 mm
 - KCC 100: 10 x 20 mm
 - KCC 120: 10 x 20 mm

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If more than one outlet (discharging hopper) is needed, the bottom board must be adjusted to the outlet location(s).

The discharge head and the tensioning unit are assembled together with the extension unit.



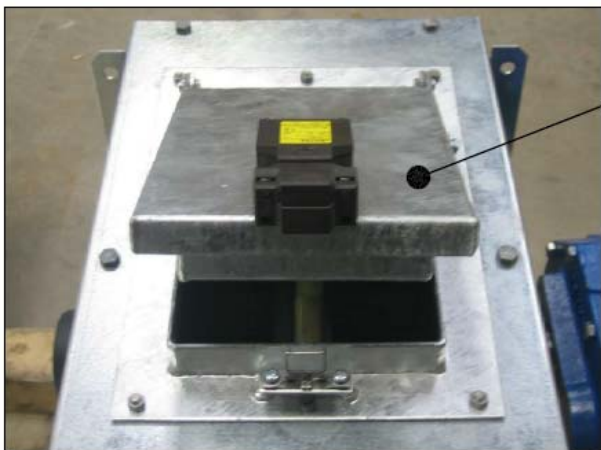
Install the chain and push plates in the following way:

1. Fully release the tensioning unit.
2. Take the chain off, adjust its length and lock the snap link.
3. Tension the chain with use of the tensioning unit.
4. Reinstall all the guards and covers.



Switch the power on.

1. All the covers and guards must be in place.
2. Electric connections must be installed by an authorized electrician.
3. Check direction of conveying



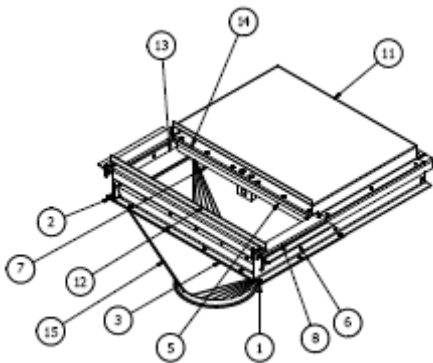
Install the safety switch that is triggered on overfilling, check its operability.

Prior to install that switch make sure that the main power switch, lockable with a key, is in place on the conveyor or within the closest vicinity.

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Intermediate outlets can be mounted down the conveyor track as needed. Intermediate outlets represent gate valves placed in tight boxes. Gate valves at intermediate outlets are equipped with a solenoid actuator and sensor contacts. The sensors make it possible to display status of gate valves on the control panel and to indicate whether the gate is open or closed. Intermediate outlets can be also furnished with electric motors, worm gear and the same control system as in case of the pneumatically-actuated gate valves.

The intermediate outlet can be also go with a hand-operated gate valve.



The intermediate outlet is made up of the frame, the gate valve of the PE board combined with a pneumatic cylinder. To mount the outlet it is necessary to make an opening in the conveyer bottom at the location of the outlet and then attach the outlet frame to the conveyer frame and bottom plate by means of bolts.

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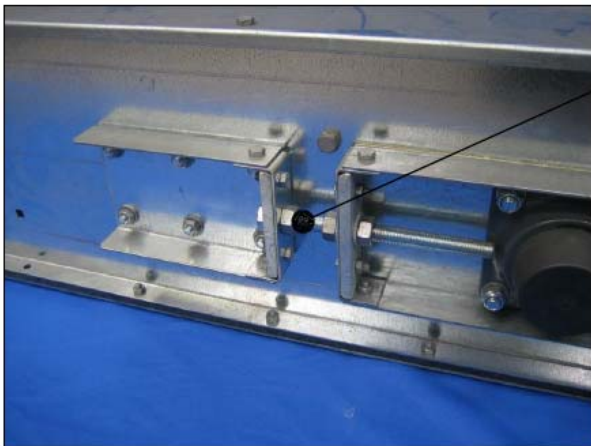
4. Instructions for operation

The machine must be started up prior to open the material supply.

To shut down the conveyer it is first necessary to cut off material supply to the conveyor and then let the machine run until all the supplied material is discharged. Only after having the conveyor emptied its engine can be stopped.

The chain conveyor is operated continuously in collaboration with other components of the line. During everyday operation of the machine the operator should pay attention to any unusual noise that may be heard from the conveyor. The reasons for such a noise can be the following:

- a. Loose driving or reverse pulley sprockets on their shafts that results in runoff of the chain, the chain is misaligned and hits the conveyor enclosure. If so, pulley sprockets must be centred, aligned and screwed tight.
- b. Excessive slack of the chain – the chain must be tensioned.



Regular adjustment of the chain tension is carried out with use of the chain tensioning screw of the conveyor.

- a. Check chain and push-plates for possible damages that may be caused by foreign bodies trapped inside the conveyor. Replace defective parts and check whether the chain can move with no obstacles.
- b. Check for loose or missing components and pay particular attention to push plates, reversing rolls, bearings and bolts that fix all these parts together.
- c. Be vigilant when the motor or the transmission gear is the actual source of noise. Every time, when such components run noisily it may lead to breakdowns thereof.
- d. Monitor the conveyor for mechanical damages, such as blistering, perforations, deformations of panels, side walls or guards.
- e. Inspect all the other equipment of the line, sometimes the conveyor can transfer or amplify noise produced by other components of the plant.
- f.

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For inspection and maintenance operations of the transmission gear and the motor please refer to relevant operation manuals provided by manufacturers of that equipment.

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5. Guarantee

The guarantee covers the manufacturing process and materials of the delivered equipment. The guarantee is applicable provided that the equipment is operated and maintained in accordance to this manual and used for the intended purpose.

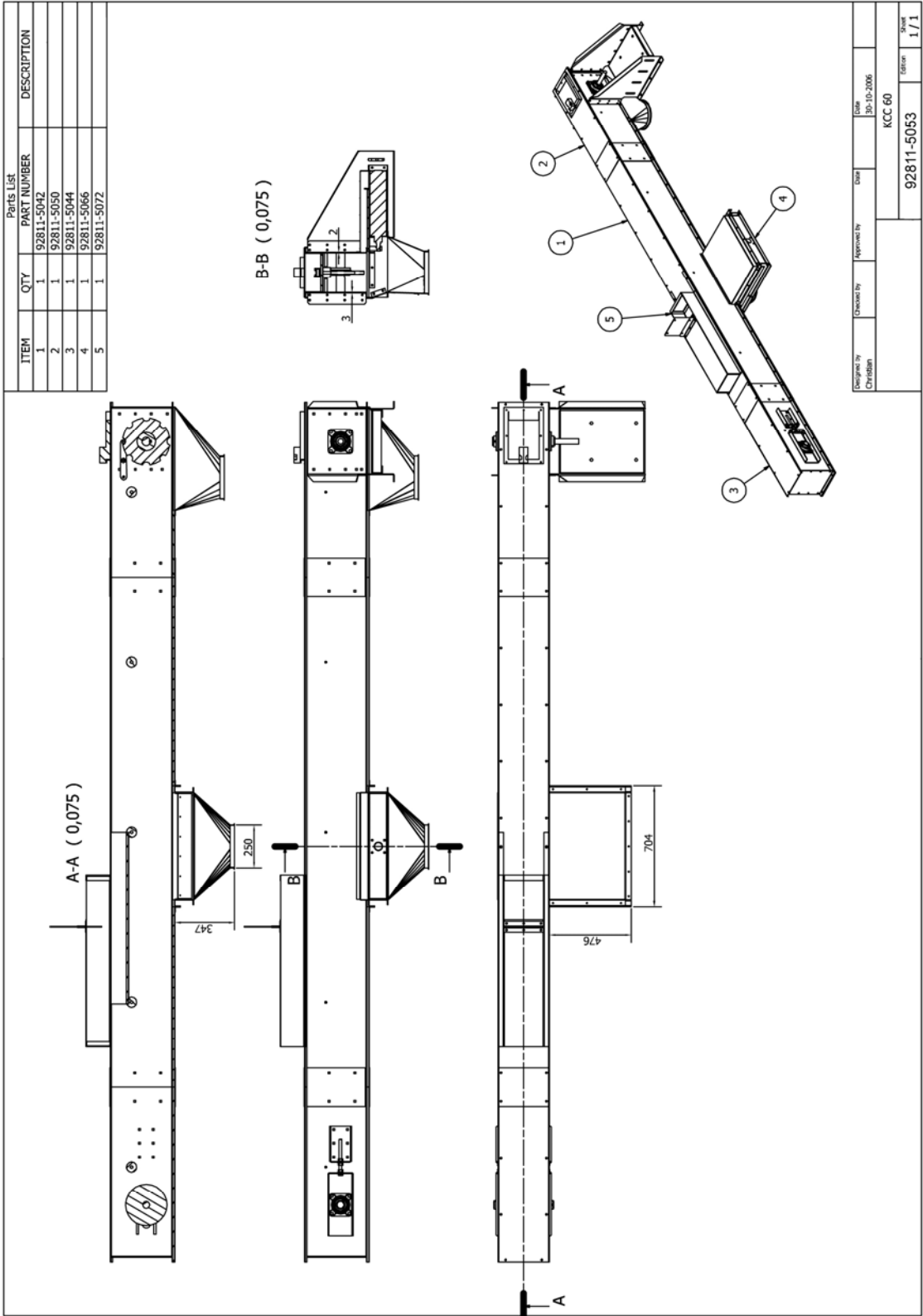
The guarantee terms assume repairs of defects and failures within the delivered equipment but explicitly exclude any implied or consequential loss, if any.

During the guarantee period, all repairs or replacement of defective components can be carried out solely under a preliminary consent and acceptance from the manufacturer.

With regard to the applied motors, terms of guarantees assumed by manufacturers of such motors are effective.

The guarantee period is defined by the relevant regulations in force.

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Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	92810-0001	
2	1	92810-0002	
3	1	92810-0003	
4	1	92810-0005	
5	1	92810-0442	
6	3	92810-5043	
7	2	92811-0044	
8	2	92811-0045	

Technical drawing of a chain conveyor assembly showing three views: a top view with dimensions (230, 238.8, 360, 290, 150, 82.5, 2970, 30, 2, 3, 10, 5), a side view, and a perspective view with numbered callouts (1-8) pointing to specific components.

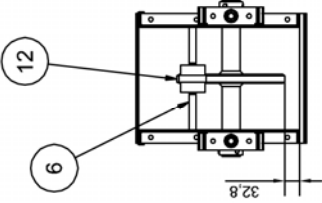
Designed by Christian	Checked by	Approved by - date	Date 29-06-2004
92811-5042		KCC 60	
Edition		Sheet 1 / 1	

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KCC 60			
92810-5043			Edition A
			Sheet 1 / 1

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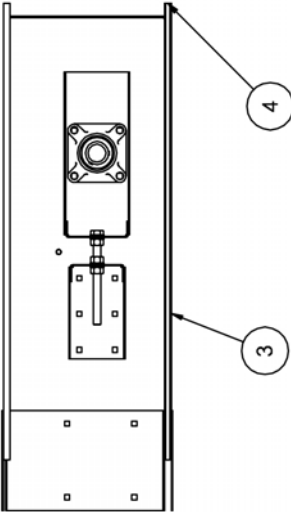
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6



3

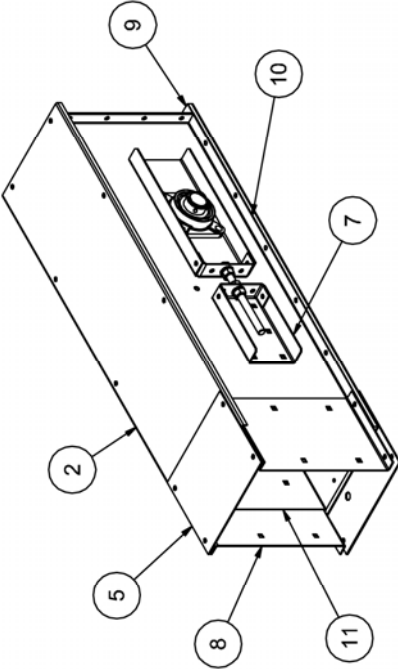
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5

8

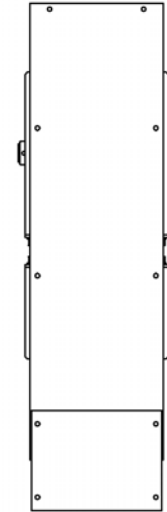
11



9

10

7



ITEM

QTY

PART NUMBER

DESCRIPTION

1

1

92810-0005

2

1

92810-0011

3

1

92810-0025

4

1

92810-0026

5

1

92810-0442

6

1

92810-5043

7

2

92810-5048

8

2

92811-0045

9

1

92811-0050

10

1

92811-0054

11

1

92811-0055

12

1

92811-5045

Designed by
Christian

Checked by

Approved by - date

Date
29-06-2004

KCC 60

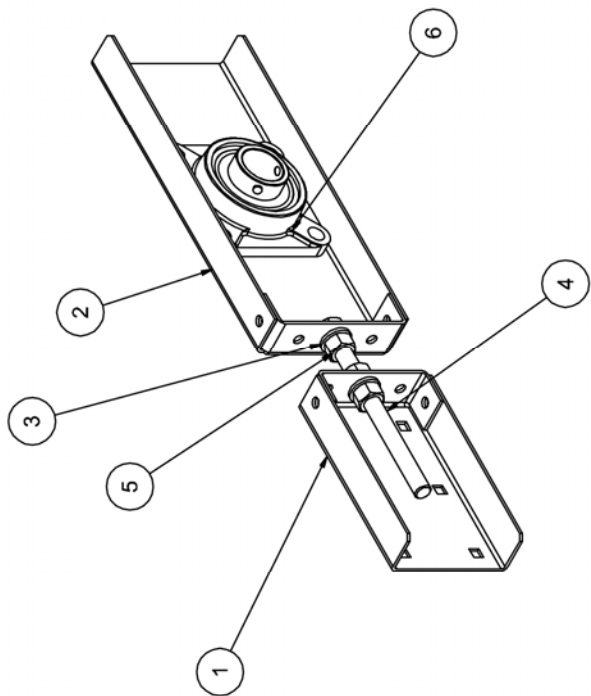
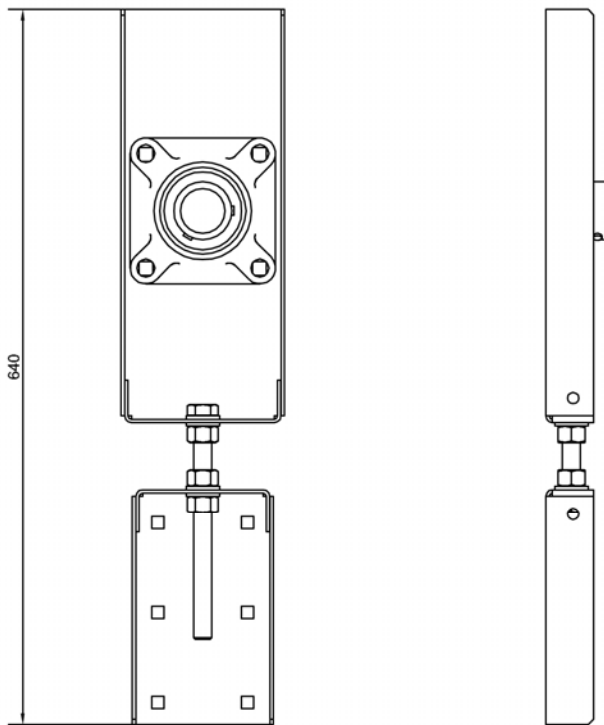
92811-5044

Edition
A

Sheet
1 / 1

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Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	92810-0028	
2	1	92810-0030	
3	4	DIN 125 - A 17	
4	1	ISO 4017 - M16 x 200	
5	3	ISO 4032 - M16	
6	1	UCF generico	



Designed by Christian	Checked by	Approved by - date	Date 26-05-2004	
			KCC 60	
			92810-5048	Sheet 1 / 1

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1

92810-0011

2

92810-0015

3

92810-0016

4

92810-0017

5

92810-5043

6

92810-5061

7

92811-0046

8

92811-0047

9

92811-0050

10

92811-0051

11

92811-5051

12

92811-5054

13

FV90-1

14

FV90-2

15

JSNY5A

16

UCF generico

1

15

10

16

2

12

6

3

4

7

8

A

A

9

11

5

230

360

215

273

260

120

A-A (0,08 : 1)

Designed by
Christian

Checked by

Approved by - date

Date
29-06-2004

KCC 60

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