

FR 100 CHAIN CONVEYER

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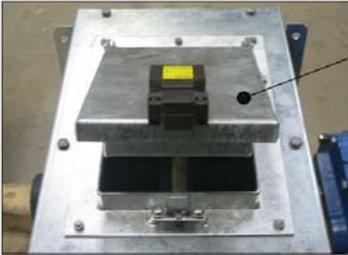
FR 100 CHAIN CONVEYER**1. Declaration of conformity****FREMA**

EU- declaration of conformity	CE
FREMA AUNINGVEJ 91b DK-8961 ALLINGÅBRO	
Hereby declares that FR 100 CHAIN CONVEYER is produced in accordance to the declarations of CONCIL DIRECTIVE on mutual rapprochement on legislation on machines (2006/42/EF, artikel 1) between member states.	
FR 100 chain conveyer is a machine constructed to, horizontally or at max incline of 7 °, transport grain, seed and granulates. FR 100 chain conveyer is built to carry a maximum of 100 tons per hour.	
Furthermore, the product is subject to the following standards and circulars: The Danish Working Environment Authority declaration of lay-out of technical device, BEK nr. 612 af 25. Juni 2008	
Allingåbro, 01.09.2011.  Karsten Kötter Manufacturer	

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2. Safety:

The chain conveyer is equipped with a door that functions as an overfill safety. The door is installed with an emergency stop function which is activated when the door is opened or is pressed open by material going through the conveyer.



Furthermore, the chain conveyer has been equipped with a key locked emergency stop. This emergency stop function is used when the conveyers cover plates are opened, in order to prevent accidental start of the chain conveyer. Emergency stop should be placed on the lift or in the working area of the lift.

SCREENS AND COVER PLATER SHOULD ALWAYS BE INSTALLED.

When replacing or repairing etc. it is necessary to uninstall cover plates and in these circumstances it should be possible to operate the chain conveyer in order to carry out the job. In these cases only authorized personnel are allowed in the area. When working inside the conveyer, the main switch and emergency stop are required to be activated and locked.

Electrical engines are not allowed when cleaning a blocked conveyer – start/stopping the electrical engine in short intervals may damage the electrical engine and the conveyers pull station.

Safety instructions:

It is necessary for installation personnel, owner and operators of the chain conveyer to read, understand, and follow the safety instructions of both this manual and general safety instructions in a work place.

Failure to do so may lead to serious work related accidents and wrongful operation of the chain conveyer leading to a poor work result.

Follow these safety instructions:

Always read manuals and signage on equipment and follow the instructions.

Never remove signage and make sure to replace old and worn out signage with a new corresponding instruction.

Learn the correct way to operate the equipment and never let untrained persons operate the machinery.

If certain functions or parts of the machinery are not fully understood, it is necessary to contact the supplier or Frema in order to minimize misunderstandings.

When operating and servicing, it is required to wear a work helmet, safety glasses, gloves and safety shoes in accordance to general safety regulations.

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Be prepared:

Always have a first aid kit placed in a central location, mark the spot and notify the personnel working in the area of the location.

Place signage with information for the closest hospital and fire department.

Place fire extinguishers in easy to reach spots.

Place electrical main emergency stops in central areas.

Rotating parts are dangerous:

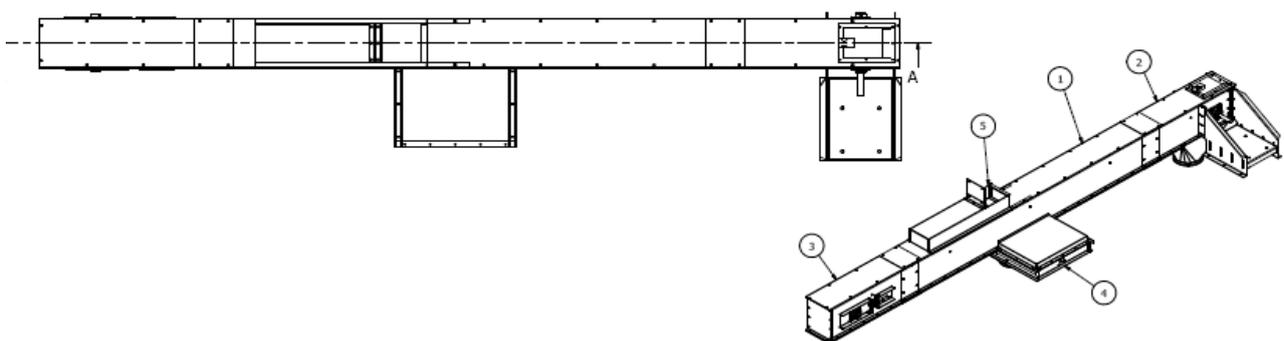
All shields are to be kept in place so rotating parts cannot grab hold of body parts and clothes which can lead to serious personal injuries.

When servicing all electrical functions is to be deactivated in a way so that accidental start by a third person is 100% impossible. Lock the service switch and disconnect the power at all possible levels.

Always wear tight fitted work clothes when servicing and operating the machinery.

3. Installation.

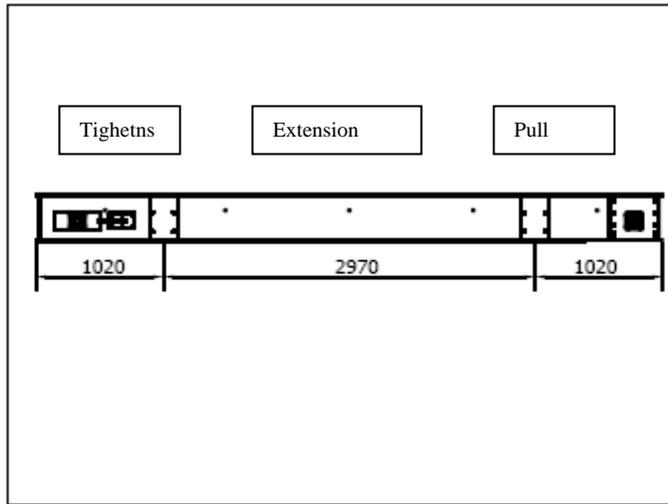
The chain conveyer are delivered with the following components: Tight end (2), pull (3), extension (1) delivery outlet (4) and feeding controller (5)



The extension box is assembled in the length needed. The PEHD slab is the bottom and the sides and top are steel. The following bolts are used when assembling the box:

If more than one outlet is installed it is necessary to adjust the PEHD slab according to the position of the outlets. Pull and tight end is installed with the extension box.

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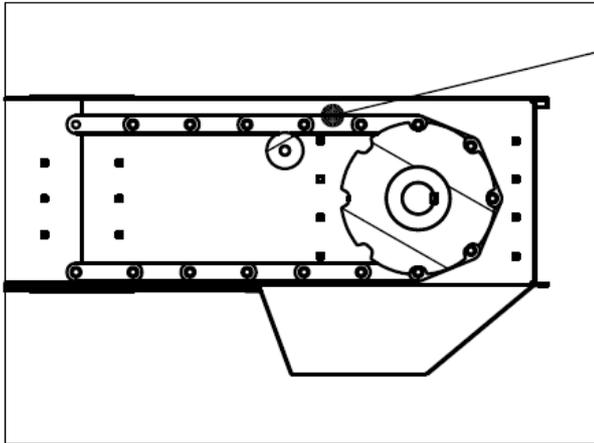


Nomal.Redler.
 Install with the required length.
 Pull and tight end are pre-assembled upon delivery.



1. **Side seam + seam axis:**
 FR 40: 10x20 mm bolt
 FR 60: 10x20 mm. bolt
 FR 80: 10x20 mm. bolt
 FR 100: 10x20 mm. bolt
 FR 150: 10x20 mm. bolt
 FR 180: 10x20 mm. bolt
 FR 200: 10x20 mm. bolt
 FR 250: 10x20 mm.. bolt
 FR 400: 10x25 mm. bolt
2. **Seam bottom + side:**
 FR 40: 8x25 mm. bolt
 FR 60: 8x25 mm. bolt
 FR 80: 8x25 mm. bolt
 FR 100: 10x25 mm. bolt
 FR 150: 10x25 mm. bolt
 FR 180: 10x25 mm. bolt
 FR 200: 10x30 mm. bolt
 FR 250: 10x30 mm. bolt
 FR 400: 10x30 mm. bolt
3. **Seam bottom by seam axis**
 FR 40: 8x30 mm. bolt
 FR 60: 8x30 mm. bolt
 FR 80: 8x30 mm. bolt
 FR 100: 10x30 mm. bolt
 FR 150: 10x30 mm. bolt
 FR 180: 10x30 mm. bolt
 FR 200: 10x35 mm. bolt
 FR 250: 10x35 mm. bolt
 FR 400: 10x35 mm. bolt
4. **Seam top and side:**
 FR 40: 8x16 mm. bolt
 FR 60: 8x16 mm. bolt
 FR 80: 8x16 mm. bolt
 FR 100: 10x20 mm. bolt
 FR 150: 10x20 mm. bolt
 FR 180: 10x20 mm. bolt
 FR 200: 10x20 mm. bolt
 FR 250: 10.x20 mm. bolt
 FR 400: 10x20 mm. bolt

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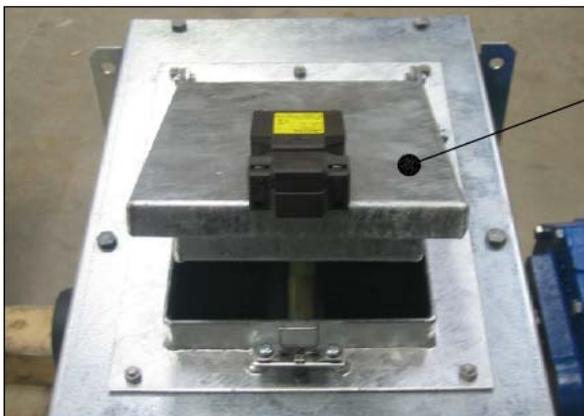
The chain assembled with shovels and afterwards:

1. Tightens section must be completely released.
2. Pull the chain on, adjust to correct length and assemble the chain.
3. Tightened the chain with the tightens section.
4. Install all cover plates and shields.



Connect power.

1. All cover plates must be installed.
2. Power is connected by authorized installer.
3. Direction of rotation shall be checked.



The overfill safety switch shall be installed and checked.

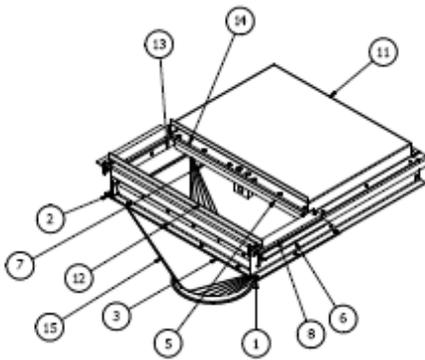
In addition to this safety switch, it is required that a key locked emergency switch is installed on or near the conveyor.

The key locked emergency switch is used when servicing and doing repairs on the conveyor. Intermediate outlet can be installed as needed; this is an open/close damper, performed as a closed dustproof box.

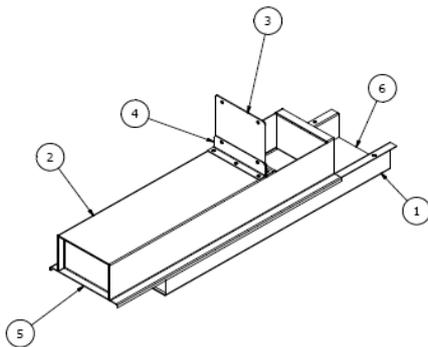
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Damper in the outlet controlled by a solenoid valve and an indicator contact so that the control panel can read on the damper is open or closed. Outlet can also be performed with electric motor and worm gear and the same operating system as the air damper.

Outlet are available as manually operated.



The outlet consists of a frame, a damper made of an PE-plate fitted with a air cylinder. In the conveyor, locate where the outlet must be, then cut into the conveyor base plate, and placed and bolt the outlet to the conveyor frame.



Filling control consists of an inserted base (6), plus a lid (2) with shoots (3) and damper holder (4). Filling control mounted into extension and in the desired position, the chain is passed through the inserted base and the filling control of Chain conveyer can be done by regulating of the shoots.

4. User guide.

When starting the installed system it is required that the conveyer is started before starting inflow of material.

When stopping the installed system, it is required that the inflow of material is stopped and the conveyer is not stopped until completely empty. Then the conveyer can be stopped.

The chain conveyer operates continuously and in cooperation with the rest of the system.

When used daily it is required that the operator is aware of any unusual noise coming from the conveyer. Any unusual noise may be the result of:

- a. Loose drive or back wheels, resulting in a crooked chain hitting the sides of the conveyer. Centralize the wheels and tighten.

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- b. The Chain is slack, tighten chain.



Standard tightening is done in the tight end of the conveyer.

If necessary it is also possible to tighten in the pull end of the conveyer.



- Inspect chain and shovels for any damages caused by any foreign objects in the conveyer. Replace any damaged parts and insure that the chain is able to work freely.
- Inspect for loose or missing parts. Be especially aware of shovels, back coils, bearings plus screws fastening these components.
- Inspect engine and gear for unusual noise. Any increase in noise may indicate problems with these components.
- Inspect the conveyer for any damages such as, dents, holes or bent panels or shields.
- Inspect other parts of the system. In some cases the conveyer may transport the noise for other parts of the system.

Gear and engine should be inspected and serviced in accordance to the suppliers' recommendations.

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5. Warranty.

The warranty issued by the manufacturer includes manufacturing and the material of the delivered equipment. The warranty is valid when the equipment is used as described in this user guide, and when used in the purposed under which the equipment is delivered. The warranty covers repairs of defects and shortcomings of delivered system and not of any possible impacts caused by these. All repairs and replacements of components during warranty cannot be executed without preceding approval and permission by the manufacturer.

On any used engines the same warranty issued by the manufacturer applies.

Warranty period is valid in accordance to existing legislation.

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6. Drawings of spare parts.

The drawing shows the FR 100 chain conveyor spare parts. It includes a main view A-A (1:25) showing the chain and sprockets, a side view showing the chain and sprockets, and a perspective view showing the chain and sprockets. The parts list table is as follows:

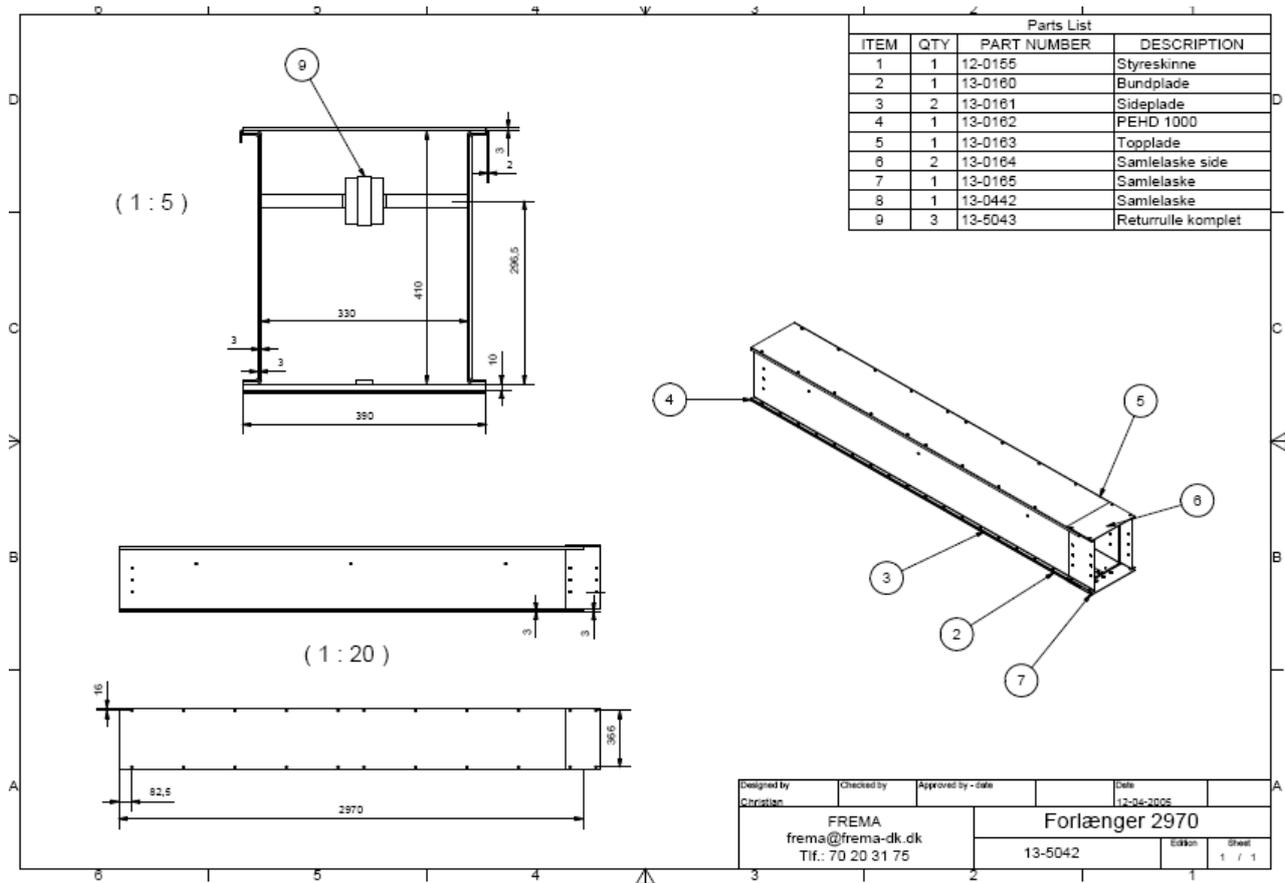
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	13-5042	FR100 - Forl. 2970
2	1	13-5044	FR100 - Stramme
3	1	13-5060	FR100 - Træk
4	1	13-5066	FR100 - Skud

Designed by: Christian
 Checked by:
 Approved by - date:
 Date: 19-06-2005

FREMA
 frema@frema-dk.dk
 Tlf.: 70 20 31 75

FR 100
 13-5053
 Edition: 1 / 1
 Sheet: 1 / 1

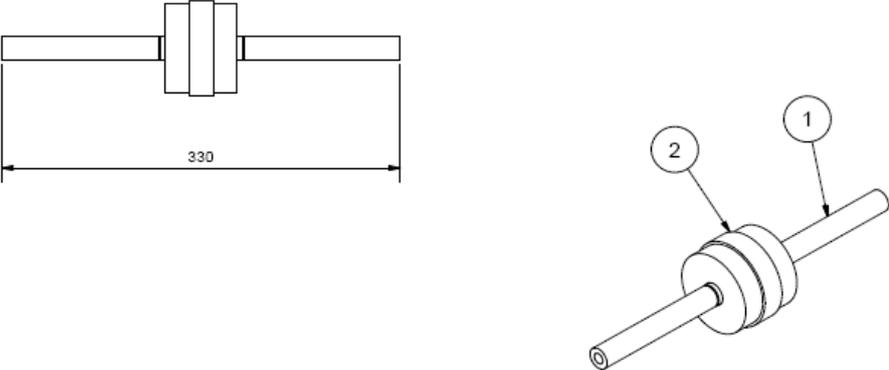
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FREMA frema@frema-dk.dk Tlf.: 70 20 31 75		Forlænger 2970	
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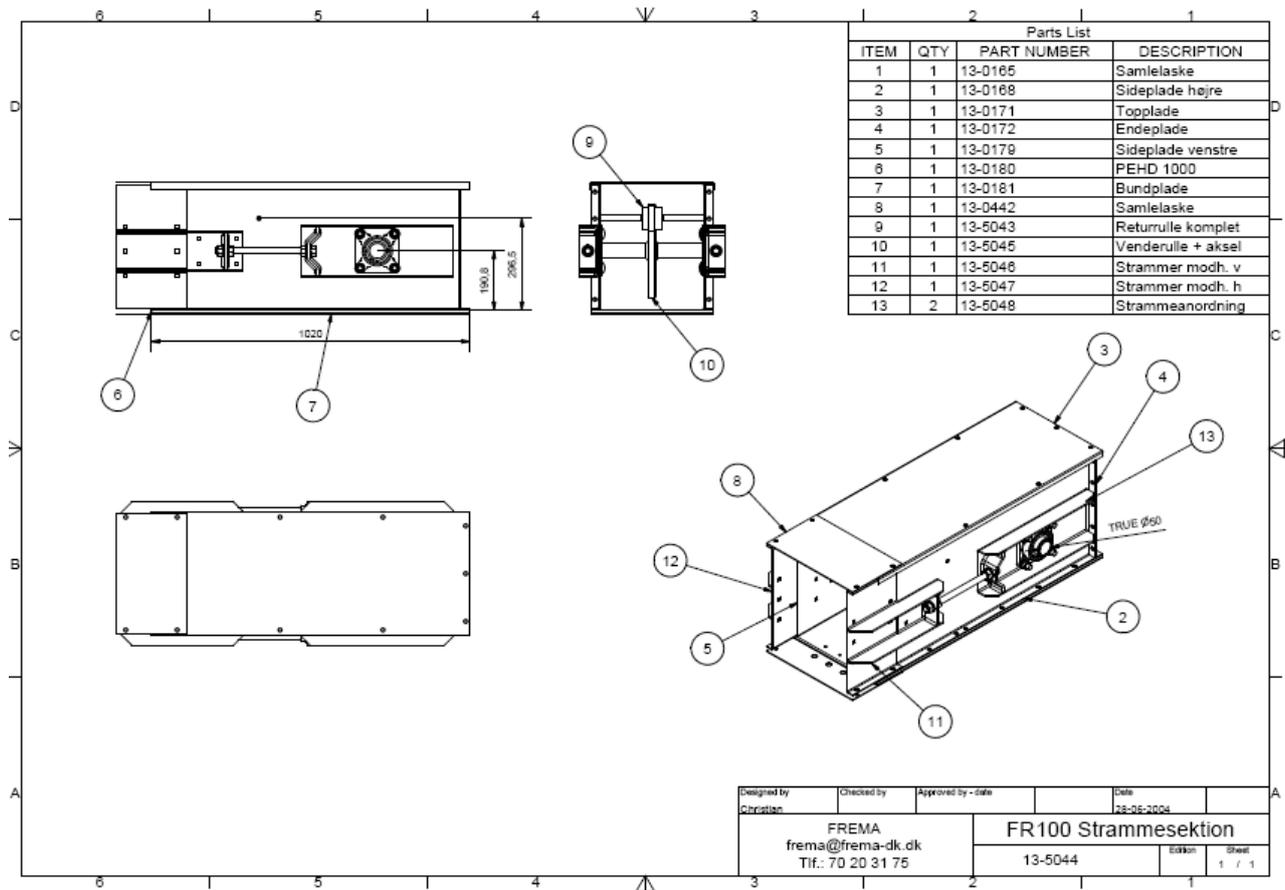
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Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
2	1	12-0136	Returrulle
1	1	13-0166	Aksel



Designed by Christian	Checked by	Approved by - date	Date 19-04-2005
FREMA frema@frema-dk.dk Tlf.: 70 20 31 75		Returrulle komplet	
13-5043		Edition	Sheet 1 / 1

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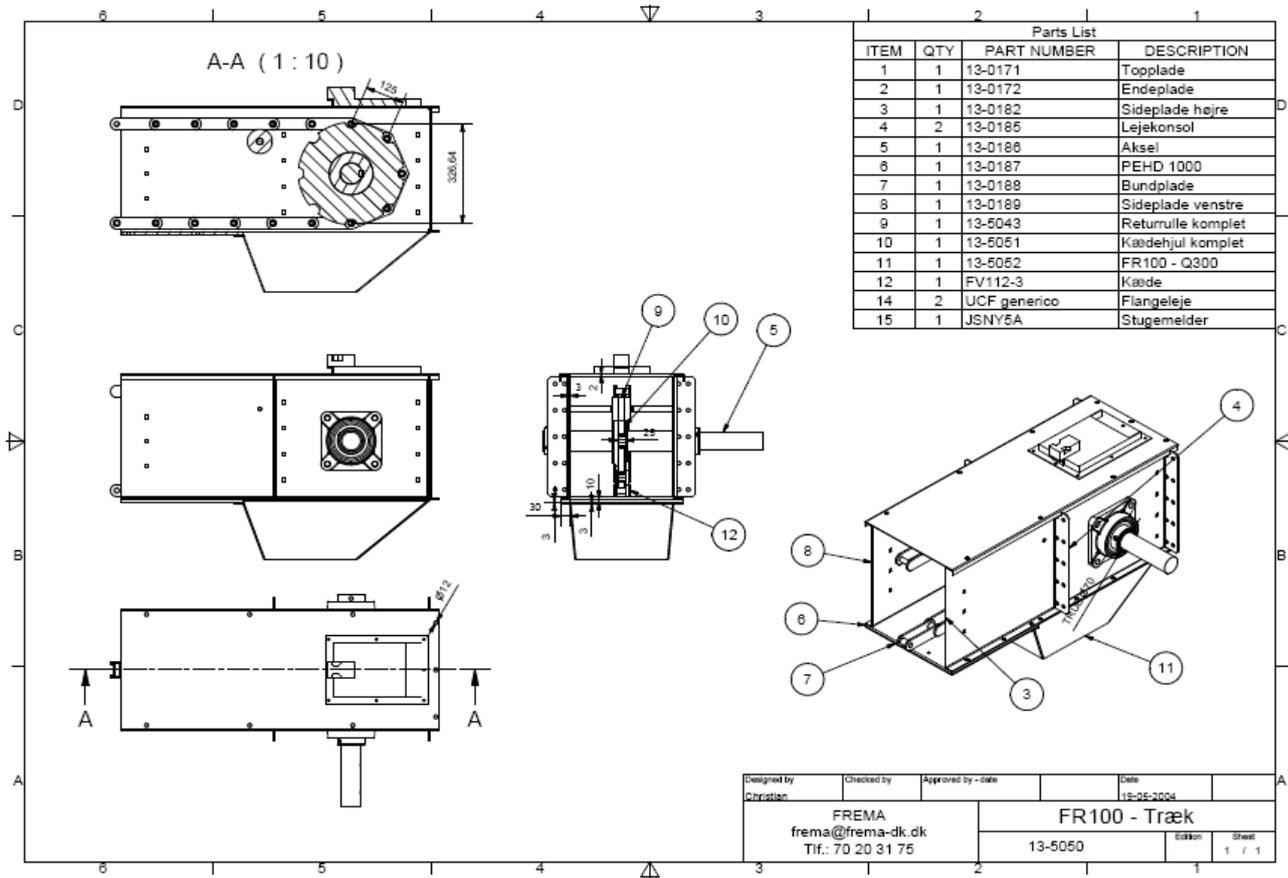
Designed by Christian	Checked by	Approved by - date	Date 28-05-2004
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		Edition	Sheet 1 / 1

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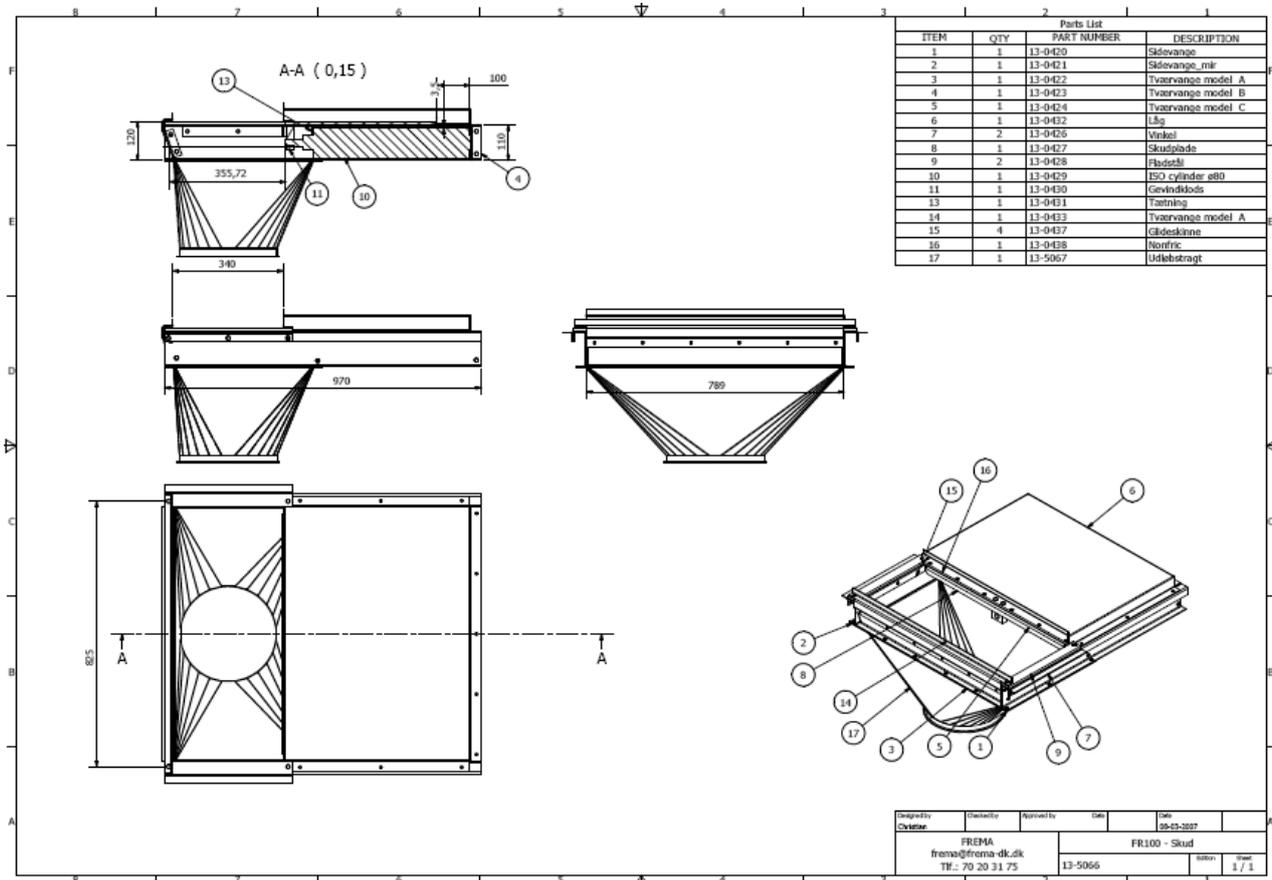
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	13-0177	Plade - modhold
2	1	13-0178	M20 gevindstang
3	1	13-5049	Stramme-1
4	4	Brædeb-M16x60	
5	4	DIN 125 - A 21	Washer
6	4	DIN 125-1 - B 17	Washer
7	4	ISO 4032 - M16	Hex Nut
8	4	ISO 4032 - M20	Hex Nut
9	1	UCF generico	Flangeleje

Designed by Christian	Checked by	Approved by - date	Date 19-04-2005
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		13-5048	Edition Sheet 1 / 1

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