

Coolimat-200

Instruction Manual



Manual No.: 16167001

Date of Release 2016.09.20



Coolimat-200

Instruction Manual

Always state *Serial No* and *Voltage/frequency* if you have technical questions or when ordering spare parts. You will find the Serial No. and Voltage on the type plate of the machine itself. We may also need the *Date* and *Article No* of the manual. This information is found on the front cover.

The following restrictions should be observed, as violation of the restrictions may cause cancellation of Struers legal obligations:

Instruction Manuals: Struers Instruction Manual may only be used in connection with Struers equipment covered by the Instruction Manual.

Service Manuals: Struers Service Manual may only be used by a trained technician authorised by Struers. The Service Manual may only be used in connection with Struers equipment covered by the Service Manual.

Struers assumes no responsibility for errors in the manual text/illustrations. The information in this manual is subject to changes without notice. The manual may mention accessories or parts not included in the present version of the equipment.

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Coolimat-200 Safety Precaution Sheet

To be read carefully before use

1. The unit must be installed in compliance with local safety regulations.
2. To achieve maximum safety and lifetime of the machine, use only original Struers consumables.
3. Observe the current safety regulations for handling, mixing, filling, emptying and disposal of the additive for cooling fluid.
Do not use flammable cooling fluid.
Take care; the cooling water may be hot!
4. The machine must be disconnected from the mains prior to any service.
5. Use of gloves and safety goggles is recommended when filling and cleaning the tank.
6. The recirculation pump must be disconnected from the power supply prior to removal from the cooling unit. Use of safety shoes is recommended when handling the pump.
7. The Band Filter on the tank is heavy and should be handled by 2 persons.
8. All safety functions must be intact and in working order. Damaged or malfunctioning safety functions must be replaced and/ or repaired
9. Keep the area around the tank clean and free from spills.
10. Take care when closing the cover – use the handle.
Do not insert hands through the openings into the water inlet ducts on the cover.
11. If any malfunction or unusual noise is detected, the apparatus should be stopped immediately and technical service called.


The equipment should only be used for its intended purpose and as detailed in the Instruction Manual.

The equipment is designed for use with consumables supplied by Struers. If subjected to misuse, improper installation, alteration, neglect, accident or improper repair, Struers will accept no responsibility for damage(s) to the user or the equipment.

Dismantling of any part of the equipment, during service or repair, should always be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).



Disposal

Equipment marked with a WEEE symbol  contain electrical and electronic components and must not be disposed of as general waste.

Please contact your local authorities for information on the correct method of disposal in accordance with national legislation.

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1. Getting Started

Coolimat-200 Components*

- 1 Cooling unit tank, 200 l
- 1 Waste collection bin
- 1 Plastic liner
- 1 Filter Unit: Band Filter **OR** Static Filter
- 1 Water level indicator

- 1 Control unit (Cooli-2)
- 1 24 V / CAN control cable
- 2 Mains cables
- 1 Cable connection box

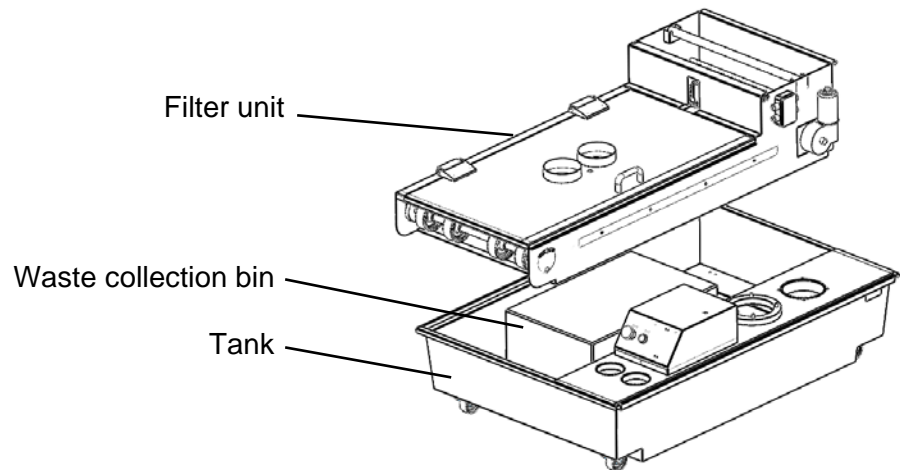
*Recirculation pump is ordered separately

Optional Components (to be mounted on the tank)

- Magnetic filter
- Additional Recirculation pump (Small or Large)
- Connection kit for Additional Recirculation pump (Small or Large)
- Control unit (Cooli-1) for controlling additional pump
- Connection kit for Cooli-1

Unpacking Coolimat-200

- Remove the plastic wrapping.
- Lift off the filter unit and remove the waste collection bin from inside the tank.



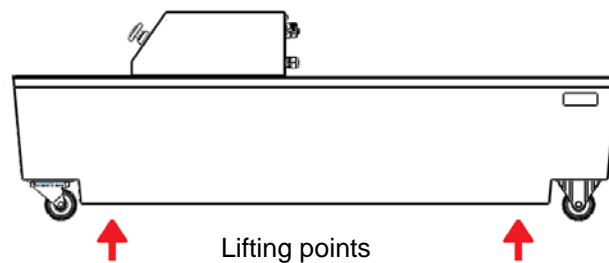
Warning!

Place the filter unit carefully on the floor.
Do not place the filter unit in its side.



Damage to the filter unit as a result of mishandling
will not be covered by the warranty.

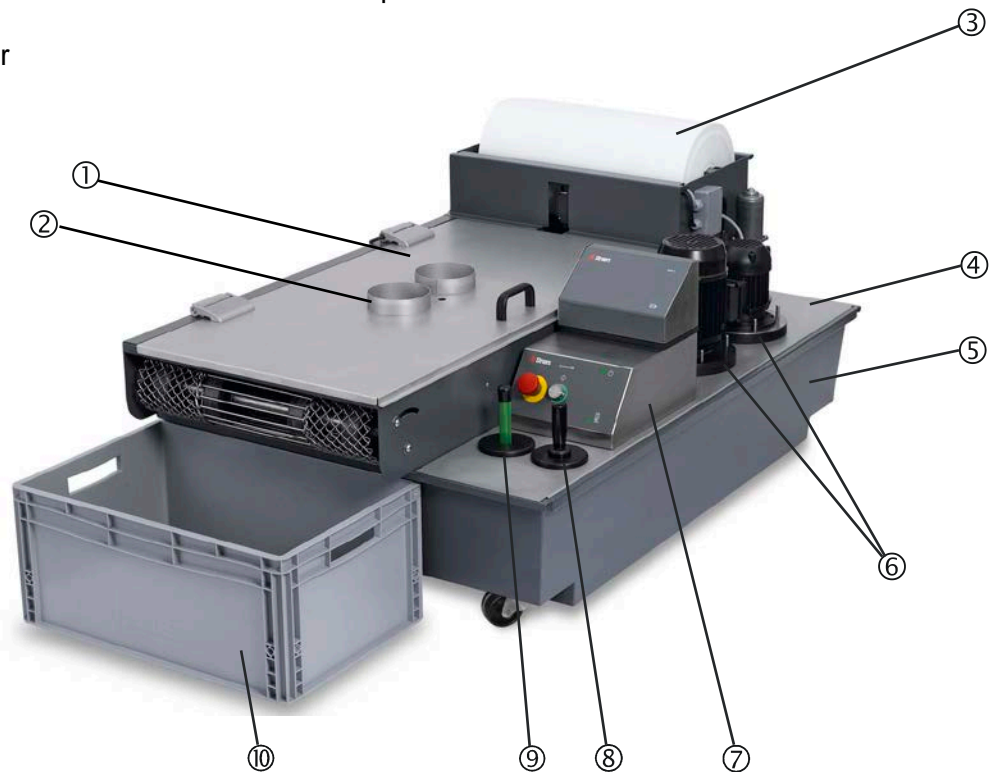
- Lift the tank from the pallet and place on the floor.
 - When using a crane to lift the tank, place the straps parallel to the front and rear of the tank. A lifting bar is recommended, to keep the two straps apart below the lifting point.



Getting Acquainted with Coolimat-200

Coolimat-200 with Band Filter

Take a moment to familiarise yourself with the location and names of the Coolimat-200 components.



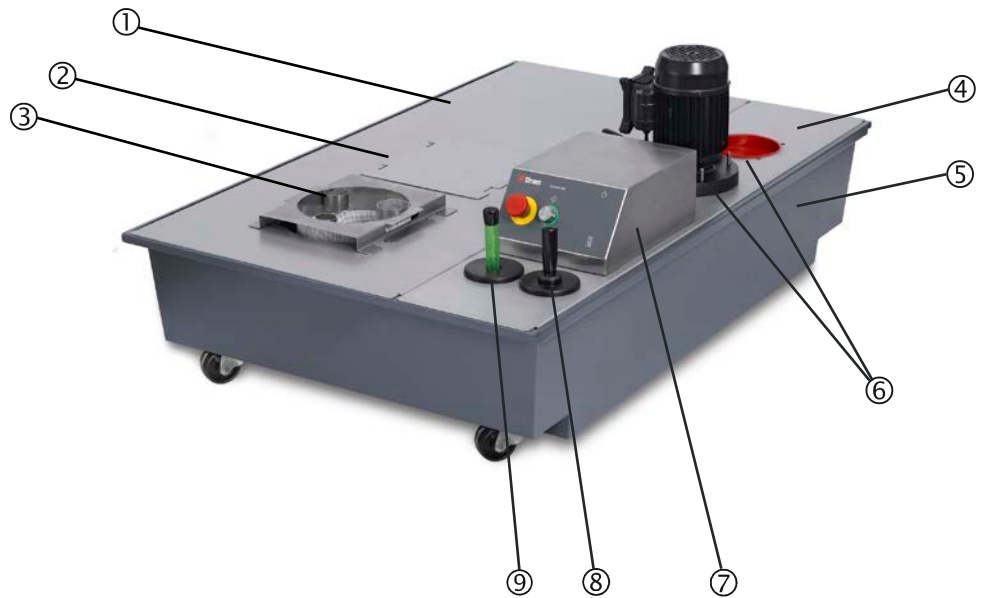
- ① Filter unit cover (with built in safety switch)
- ② Water inlet duct
- ③ Roll of filter paper (consumable)
- ④ Pump Unit
- ⑤ Cooling fluid tank (wheel mounted)
- ⑥ Pump housing
- ⑦ Control unit (Cooli-2 with optional Cooli-1)
with Emergency Stop
- ⑧ Magnetic filter (optional)
- ⑨ Water level indicator
- ⑩ Waste collection bin

Filter Unit Cover - Safety Switch

The filter unit cover contains a switch which disconnects the power to the Coolimat when the cover is opened.
Coolimat-200 must be reset after activation of safety switch.

Coolimat-200
Instruction Manual

Coolimat-200 with Static Filter

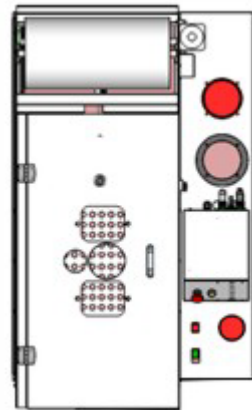


- ① Static Filter plate
- ② Hole for additional Filter bag (option)
- ③ Filter bag with water inlet duct
- ④ Pump Unit
- ⑤ Cooling fluid tank (wheel mounted)
- ⑥ Pump housing
- ⑦ Control unit
with Emergency Stop
- ⑧ Magnetic filter (optional)
- ⑨ Water level indicator

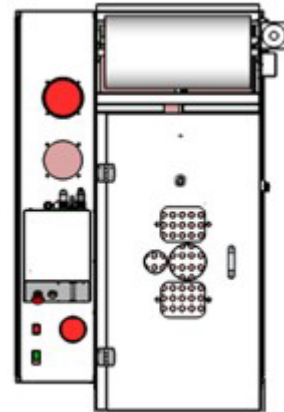
Assembling the Coolimat-200

- Remove the filter unit and the pump unit.
- Insert a tank liner into the cooling fluid tank.
- Replace the pump unit on the right or the left hand side of the tank.
- Mount the filter unit on the opposite side.

Band Filter on left



Band Filter on right



Band Filter

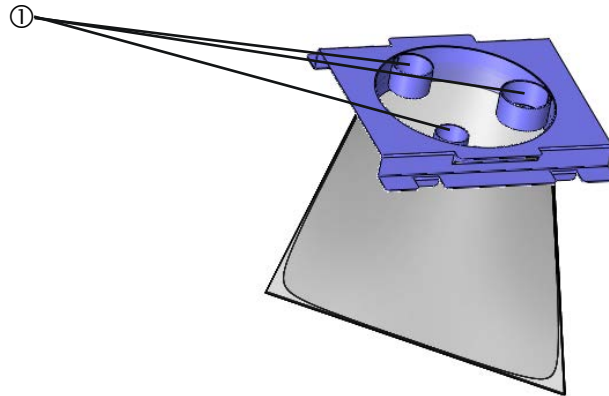
Mounting the Filter Paper Roll

- Mount a roll of filter paper onto the paper roll holder.
- Pull out approximately 1 metre of paper from the roll.
- Guide the loose end down around the guide rail, and lay flat onto the band filter.
- Slot the paper roll into position.

Static Filter
Mounting a Filter Bag

The static filter unit is delivered with one filter bag fitted.

- ① Ducts for outlet hose from connected machine.



- Insert the water outlet hose from the connected machine into the duct with the correct size in the Filter Bag.

Additional Filter Bag (accessory)

An additional Filter Bag can be mounted in the 2nd hole in the static filter plate.

- Place an adapter plate (Cat. no: 05766927) in the filter plate then mount the Filter Bag.

Recirculation Pump

- Mount the recirculation pump in the hole provided.
(Small pump: use the Connection kit for small pump to reduce the hole size).

An additional Pump to control a second cut-off machine can be mounted in the 2nd hole.

- Remove the cover from the hole and position the adapter ring over the hole.
- Mount the recirculation pump.

Water Level Indicator

- Mount the water level indicator in the hole provided.

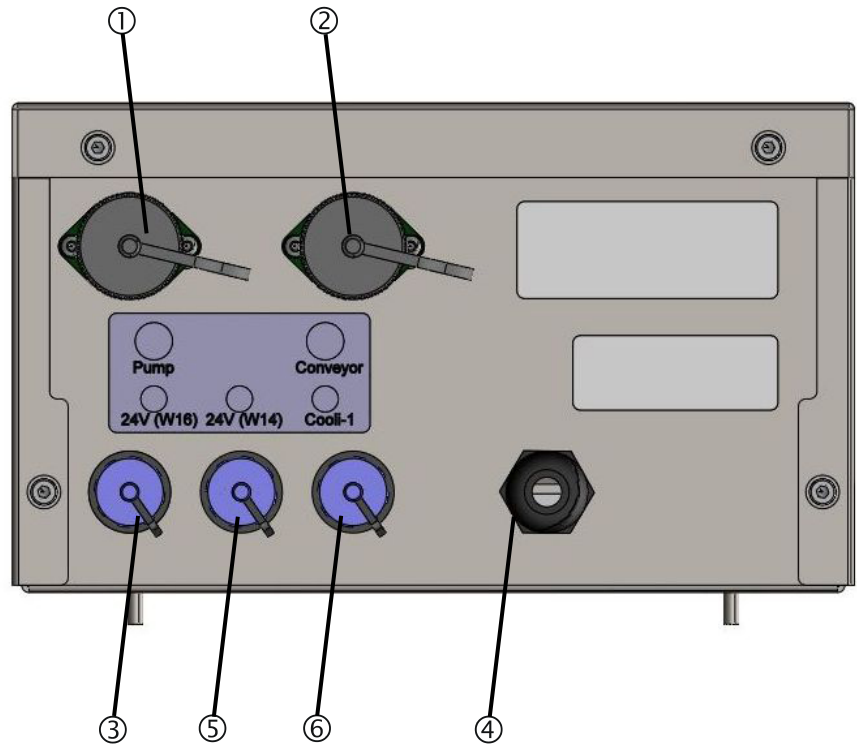
Magnetic Filter

- Mount the magnetic filter in the hole provided.

Connecting the Control Unit

The diagram below shows the rear of the Cooli-2 control unit.

- ① Cooli-2 to pump
- ② Cooli-2 to Band Filter conveyor motor
(for Static Filter, use the dummy connector plug supplied)
- ③ Cooli-2 to cut-off machine 24V/ CAN (W16)
- ④ Power cable



Sockets ⑤ & ⑥ are used with an optional 2nd control unit (Cooli-1).

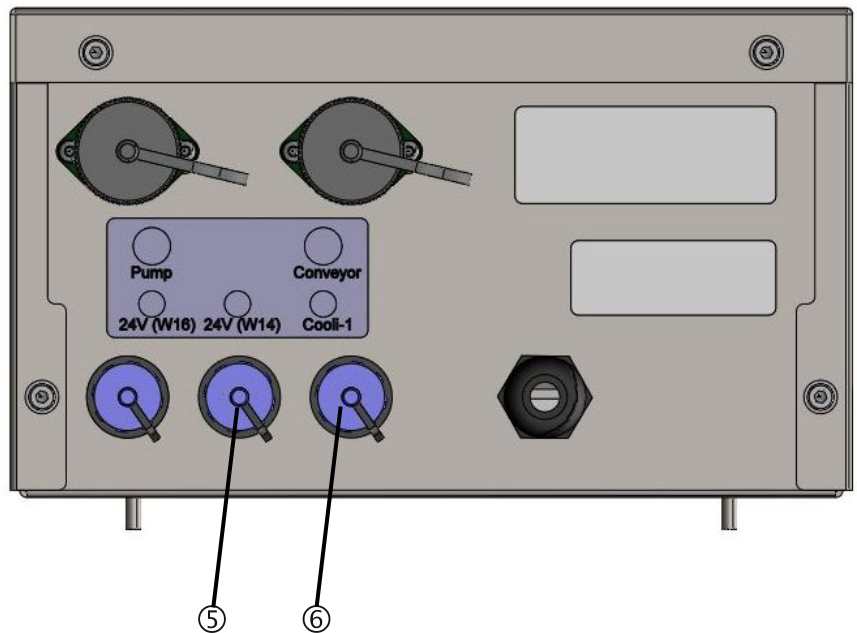
*Cooli-1 Additional Control Unit
(accessory)*

When a 2nd pump is used, an additional control unit (Cooli-1) is mounted on top of the Coolimat control unit (Cooli-2).

- Fit the black connection plate onto the Cooli-1 unit.
- Place the Cooli-1 onto the Cooli-2 and secure in place using the second connection plate.



Connecting a 2nd control unit



- ⑤ Cooli-2 to 2nd cut-off machine 24V/ CAN (W14)
- ⑥ Cooli-2 to Cooli-1

Preparing the Cooling Unit for Use

Filling the Tank

- Insert a clean plastic liner in the tank.

Important!

Ensure that the liner lies flat on the base of the tank so that it will not block the pump.

- Fill the tank with cooling fluid comprised of 192 l water and 8.0 l Corrozip-LF.
Fill the tank through the pump housing hole.
Do not fill the tank by pouring the water into the cutting chamber, as it would be impossible to check the increasing level in the tank.

IMPORTANT!

The cooling unit will be very heavy when full.
Before filling the tank, check that the cooling unit is in position.
If this is not possible, ensure that the tank is directly in front of its final position with the control unit at the front so that it is ready to be pushed into position without being moved to the left or right.

Note:

To avoid corrosion, Struers recommends the use of Struers Additive, Corrozip-LF in the cooling water (percentage stated on the Additive container).
Remember to top up with Struers Additive each time you refill with water.

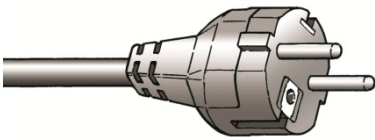
Connecting to the Power Supply

Always remember to switch the power off when installing electrical equipment.

IMPORTANT!

Check that the mains voltage corresponds to the voltage stated on the type plate on the machine

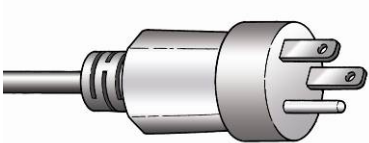
Coolimat-200 is shipped with 2 types of Mains cables:



The 2-pin (European Schuko) plug is for use on single-phase connections.

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows:

Yellow/green: earth
Brown: line (live)
Blue: neutral



The 3-pin (North American NEMA 5-15P) plug is for use on single-phase connections.

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows:

Green: earth
Black: line (live)
White: neutral



- Connect the mains cable to the power cable on the control unit.

IMPORTANT!

Place the cable box around the connection of the two cables. This protects the cables from water (Protection Rating IP44).

WARNING!

The output voltage from this cable is 200 – 240V and not 110V. DO NOT use this cable to connect equipment that uses an 110V power supply. Failure to adhere to this may result in material damage.

Connecting Coolimat-200 to the Cut-off Machine

The recirculation pump is controlled by the cut-off machine. Water is directed from the cut-off machine to Coolimat via the water outlet hose supplied with the cut-off machine.

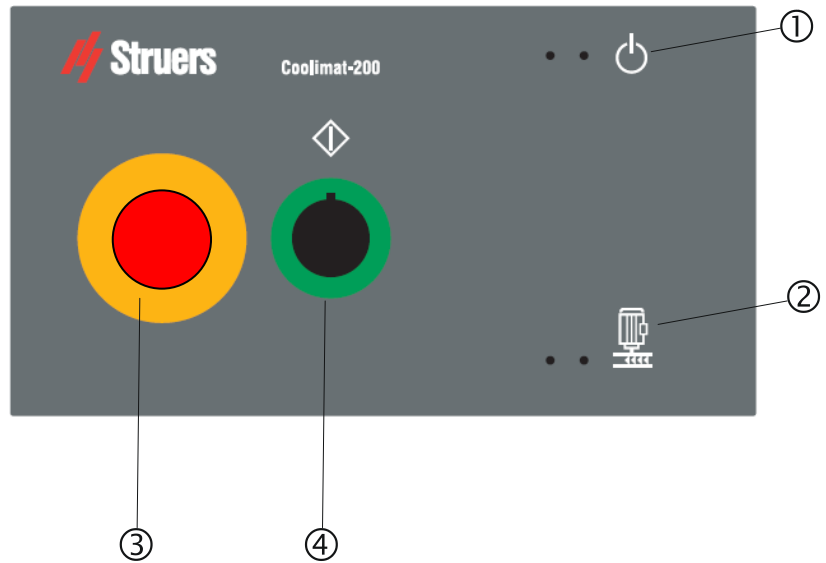
On Struers' large, floor-type cut-off machines the hose is rigid, on the smaller tabletop machines, a flexible hose is used. Both hose types are supplied with a drain angle which fits into the water inlet duct on filter unit cover.

- Connect the 24 V / CAN control cable to the Cooli control unit by plugging one end into the machine's control socket (see machine manual for details) and the other end into the socket on the rear panel of the Cooli control unit.
- Connect one end of the Coolimat-200 water hose to the quick coupling on the pump, and connect the other end to the water inlet of the cut-off machine.
- Mount the drain angle to the water outlet hose from the cut-off machine and insert into water inlet duct on the filter unit cover.





2. Operation

Control Panel

The diagram below illustrates the Coolimat control panel (Cooli-2).



Control Panel Indicators/ Functions

Name	Key	Function	Name	Key	Function
① POWER		Green LED indicator: Power on. Normal operation. Red LED indicator: Coolimat is on Standby.	③ EMERGENCY STOP		The Emergency Stop disconnects the power supply to Coolimat.
② PUMP		Green LED indicator: Normal operation. Red LED indicator: Error. Pump failure (Overload).	④ START		Press START to power on the filter unit (the band filter will start moving when the cooling fluid reaches a set level) Press START to reset the filter unit after the Emergency Stop or safety switch on the cover have been activated.

Water Level Indicator

The water level indicator is a simple float device.

- Top up or refill the tank with cooling fluid when the level is too low.

Starting Coolimat

- Press START to power on the filter unit.
The pump will start circulating cooling fluid when cutting is commenced on the cut-off machine (Band filter:- will automatically feed fresh filter paper when the cooling fluid reaches a set level).
Coolimat-200 will enter Standby mode when cutting is stopped.

Power off

- To disconnect the power supply to Coolimat, press the Emergency Stop button.

Changing the Paper in the Band Filter

- Activate the Emergency Stop button to disconnect the power.
- Remove any remaining paper and clean the surfaces that are in contact with the filter paper.
- Remove the paper roll holder and mount a new roll of paper.
- Press START to reset the Coolimat-200.

Cleaning the Filter Bag of the Static Filter

- Activate the Emergency Stop button to disconnect the power.
- Remove the Filter Bag from the tank and empty into a waste container of suitable size.
- Clean the Filter Bag under running water.
- Replace the Filter Bag on the tank.
- Release the Emergency Stop button.
- Press START to reset the Coolimat-200.

3. System Components and Accessories

Please refer to the [Coolimat brochure](#) for details of the range available.

*The use of Struers consumables is recommended.
Other products (e.g. coolants) may contain aggressive solvents,
which dissolve e.g. rubber seals. The warranty may not cover
damaged machine parts (e.g. seals and tubes), where the damage
can be directly related to the use of non-Struers consumables.*

4. Troubleshooting

Problem Solving

The following table describes the problems that users may potentially experience when using the cooling units and contains advice on how to solve them.

Error	Explanation	Action
Water leaking.	Leak in recirculation water hose.	Check the hose and tighten the hose clamp.
	Water overflow in the recirculation water tank.	Remove the excess water in the tank.
Cooling unit stops and cannot be restarted.	Blown fuse(s)	Replace using appropriate 15 A, slow-blow fuse(s). See illustration, below.
Samples, cooling unit or equipment corroded.	Insufficient additive for cooling fluid.	Add Struers Additive for cooling fluid to the cooling water, using the correct concentration. Check with a refractometer. Follow the instructions in the Maintenance section.
Cooling unit stops.	The cover has been opened during operation and the safety switch has been activated.	Press START again to restart.
The pump has stopped.	Emergency stop on the cut-off machine has been activated. This will stop the pump.	Reset NB!:- Pressing the Emergency stop on Coolimat-200 will not stop the cut-off machine.
Filter paper is not being replaced.	When the filter paper is saturated with swarf, the water level rises, and a float activates the paper feed motor, which automatically feeds fresh filter paper.	Check that the float is functioning correctly.

5. Maintenance

To ensure a longer lifetime for your equipment Struers strongly recommends regular cleaning.

WARNING!

Accumulated dirt and swarf can restrict or cause damage to the water inlet valves.

IMPORTANT!

Activate the Emergency Stop button to disconnect the power before performing any maintenance work.

NB!

Use of gloves and safety goggles is recommended when filling and cleaning the tank.
Use of safety shoes is recommended when handling the pump.

Take care; the cooling water may be hot!

Daily

Checking the Cooling Fluid

- Check and if necessary replace the cooling fluid. (see the section on Replacing the Cooling Fluid for instructions.) Top up with cooling fluid if required; the cooling fluid level should be 25 mm below the upper edge of the tank.

IMPORTANT!

Replace the cooling water immediately if infected by algae or bacteria.

Remember to add Struers Additive Corrozip-LF: One part of Additive for 25 parts of water.

To check the concentration of additive, use a refractometer.

Concentration = 1.9 x Brix value.

The concentration of additive should always be between 3.7 and 4.3 %. Add Corrozip-LF if the concentration is too low.

Note:

Struers Additive Corrozip-LF (Low Foaming) is recommended to minimize foam generation in the cooling fluid.

Filter Bag

- Check and if necessary empty and clean the Filter Bag.
 - Disconnect the power.
 - Remove the Filter Bag from the tank and turn it upside down over a waste container of suitable size.
 - Let the debris fall down into the waste container and clean the Filter Bag.
 - Replace the Filter Bag on the tank.

Band Filter Unit

- Check and if necessary empty the waste collection bin
 - Cut off the paper in the waste collection bin.
 - Empty and clean the waste collection bin.
- Check and if necessary replace the roll of filter paper.

IMPORTANT!

The collection bin is heavy when full and should not be handled without assistance.

NB!

Always ensure that there is sufficient filter paper on the roll.
The band filter unit will continue to operate even if the filter paper has run out.

Magnetic filter

- Check and if necessary clean the Magnetic Filter.
 - Remove the filter from its mounting.
 - Slide the plastic outer tube off the magnet.
 - Use a stiff brush to clean the plastic tube.
 - Refit the plastic tube.
 - Place the filter back in its mounting.

Replacing the Cooling Fluid

Emptying the Cooling Unit Tank

IMPORTANT!

The cooling fluid will contain additive and cutting swarf and may **NOT** be disposed of into a main drain. Cooling fluid must be disposed of in compliance with local safety regulations.

- Empty the cooling unit using the recirculation pump:
 - Disconnect the cooling unit's water outlet hose from the quick coupling on the equipment.
 - Place the open end of the hose in a suitable container.
 - Start the equipment.
This will start the recirculation pump, to pump the cooling fluid out of the tank.
 - Stop the equipment when the tank is empty.

Alternatively, the tank can be emptied using an industrial dredge pump.

- Empty the cooling unit completely, remove the plastic liner and clean out all water and debris from the tank.
- Clean the tank and connected tubes thoroughly.
If the cooling water has been infected with bacteria or algae, flush the tank and tubes with a suitable antibacterial disinfectant, e.g Struers Unitclean.

Refilling the Cooling Unit Tank

Please refer to [Filling the Tank](#) on page 10.

IMPORTANT!

Always maintain the correct concentration of Struers Additive, Corrozip-LF, in the cooling water (percentage stated on the container of the Additive).
Remember to add Struers Additive each time you refill with water.

Weekly

Band Filter Unit

- Clean all the surfaces in contact with the filter paper.

Monthly

- Clean all surfaces with a damp cloth.

6. Technical Data

Subject	Specification		
		Metric/International	US
200 l Tank	Height	292 mm	11.5 "
	Width	850 mm	33.5 "
	Depth	1283 mm	50.5 "
	Volume	200 l	52.8 gallons
Band Filter	Height with filter paper roll without filter paper roll with cover open	709 mm 584 mm 1005 mm	27.9" 23.0" 39.6"
	Width	850 mm	33.5"
	Depth:- (without /with waste bin)	1400 / 1780 mm	55.1 / 70.1"
	Weight	87 kg	192 lbs
	Power	45 W	
	Static Filter	Width	850 mm
Depth		1400 mm	55.1"
Height with cover open		430 mm 1005 mm	16.9" 39.6"
Weight		56 kg	123 lbs
Small Pump	Flow	60 l/min at 1 bar	15.9 gallons/min at 1 bar
	Power	0.16 kW	
Large Pump	Flow	125 l/min at 1 bar	33 gallons/min at 1. bar
	Power	0.7 kW	
EU Directives	Please refer to the Declaration of Conformity		
Operating Environment	Noise Level (with conveyor belt motor running idle and water tank full of water)	Approx. 54 dB(A) running idle, at a distance of 1.0 m / 39.4" from the machine.	
	Surrounding temperature	5-40°C / 41-104°F	
	Humidity, non-condensing	0-95% RH	

English

Declaration of Conformity

Manufacturer

Struers ApS
 Pederstrupvej 84
 DK-2750 Ballerup, Denmark
 Telephone +45 44 600 800

Herewith declares that

<i>Name:</i>	Coolimat-200
<i>Cat. No.:</i>	06161116, 06161216
<i>Function:</i>	Recirculation cooling unit
<i>Type No.:</i>	616

fulfils all the relevant provisions of the:
**Machinery Directive
 2006/42/EC**

according to the following standard(s):
 EN ISO 12100:2010, EN ISO 13849-1:2015,
 EN ISO 13850:2008, EN 60204-1:2006/AC:2010, EN ISO 13857:2008.

and is in conformity with the:
**EMC Directive
 2014/30/EU**

according to the following standard(s):
 EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011.

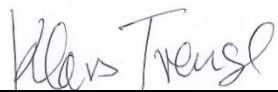
**RoHS Directive
 2011/65/EU**

according to the following standard(s):
 EN 50581:2012.

Supplementary Information

The equipment complies with the following standards:
 UL508, NFPA79:2012. FCC 47 CFR Part 15.

The above has been declared according to the global approach, module A.

Authorized to compile the Technical File:


Klavs Tvenge
 Director of Business Development
 Struers ApS
 Pederstrupvej 84
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Date of Issue: 2017.10.05



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Denmark

Coolimat-200

Spare Parts and Diagrams



Manual No.: 16167001

Date of Release 2016 E U C E



Coolimat-200
Spare Parts and Diagrams

**Always state *Serial No* and *Voltage/frequency*
if you have technical questions or when ordering spare parts.**

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Spare Parts and Diagrams

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Float assembly	16160022D
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Conveyor Belt.....	16160122C
Side Platform assembly	16160030G
Cooli-2 box 110-240V 50-60 Hz	16160035J
Water level indicator, assembly	16160081A

Some of the drawings may contain position numbers
not used in connection with this manual.

Diagrams	Diagram
<i>Wiring diagrams</i>	
Block diagram	16163050A
Coolimat-200, Block diagram Static filter	16163051 A
Coolimat-200, Circuit diagram, 2 pages	16163100E
Circuit diagram Static Filter	16163101F

Coolimat-200
Spare Parts and Diagrams

The following is a list of the spare parts that may need replacement during the lifetime of the equipment.

To check the availability of other replacement parts, please contact your local Struers Service Technician. It may help identify the part by referral to its position number on the assembly drawings included in this manual.

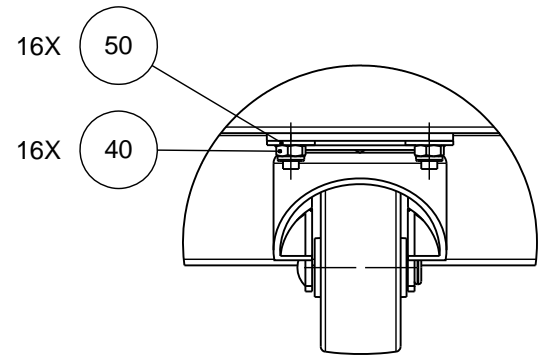
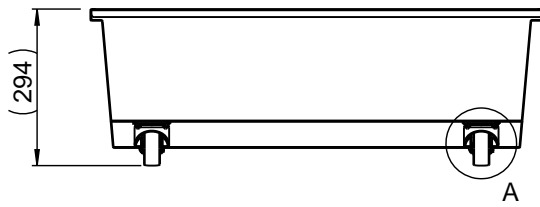
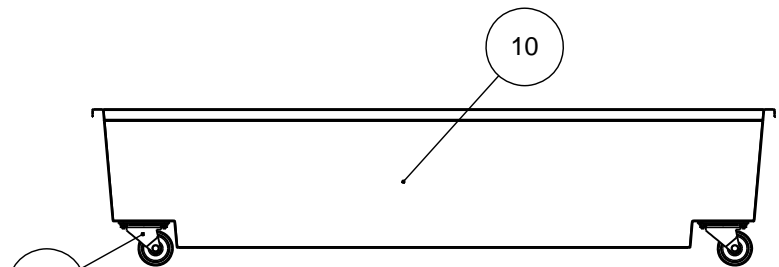
Spare Part list for Coolimat

Drawing	Pos.		Cat no.
16160010		Water Tank, assy	
	10	Water Tank, assy	R6160010
	20	Wheel Swivel Ø65mm, 2 pcs.	RGB00120
	30	Wheel Fixed Ø65mm, 2 pcs.	RGB00130
16160022		Float assembly	
	20	Float assembly	R6160022
16160023		Drive Shaft, complete	
	30	Drive Shaft, complete	R6160023
16160024		Driven Shaft Complete	
	40	Driven Shaft Complete	R6160024
16160027		Frame Cover, asy	
	110	Frame Cover, asy	R6160027
	20	Handle GN 565-20-100-SW	RGH22665
16160122		Conveyor Belt	
	130	Conveyor Belt	R6160122
	50	Safety Switch D4N-4A62	R6163513
	230	Motor 120W/24Vdc 100:1	RMA00009
16160030		Side Platform Asy	
	30	Side Platform Asy	R6160130
16160035		Cooli-2 box	
	10	Cooli-2 box 110-240V 50-60 Hz	R6160035
	70	PCB for Coolimat-200, tested	R6163000
	250	15AT FUSE MDA 6,3x32 250V, 2 pcs.	RFU17550

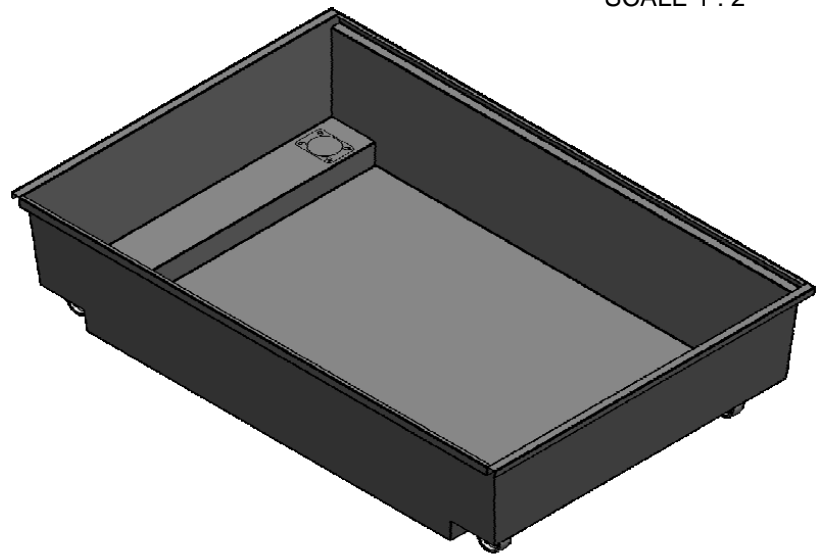
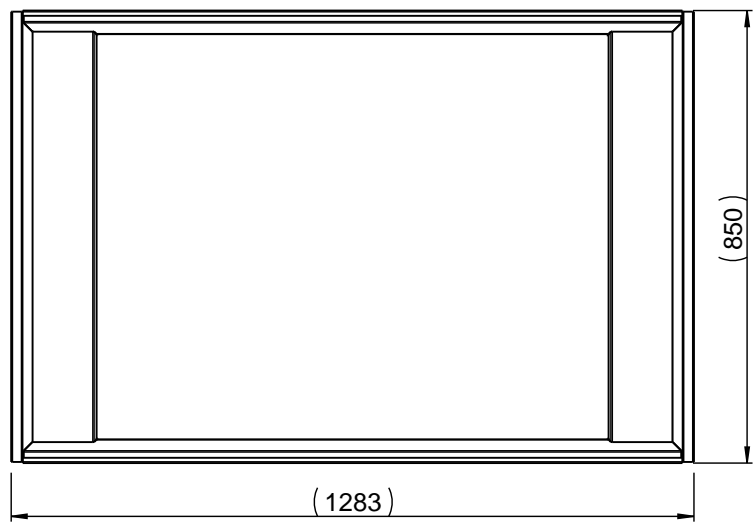
Spare Part list for Coolimat

Drawing
16160081

Pos.		Cat no.
	Water level indicator, assemb.	
	Water level indicator, assemb.	R6160081
	Loose parts for Cooli-2	
	Mains cable. 0.75mm ² . Schuko	2WC04668
	Safe EL-box 780767	2GK95000
	Mains cable. AWG16. Nema 5-15P	2WC02520
	W16 Connect.cable.4 p.fem+male	15763516
	OMRON J7KNA_09_10_24	RKM70910
	Plastic Big Pump Collar	06166905
	Water Tank Base Platform	R6160130
	Loose parts, Coolimat-200	
	Plastic Bin 400x600x270	RGQ79200
	Coolimat-200 Plastic Bag (5pc)	49900057
	Dummy connector plug for static filter	16163550

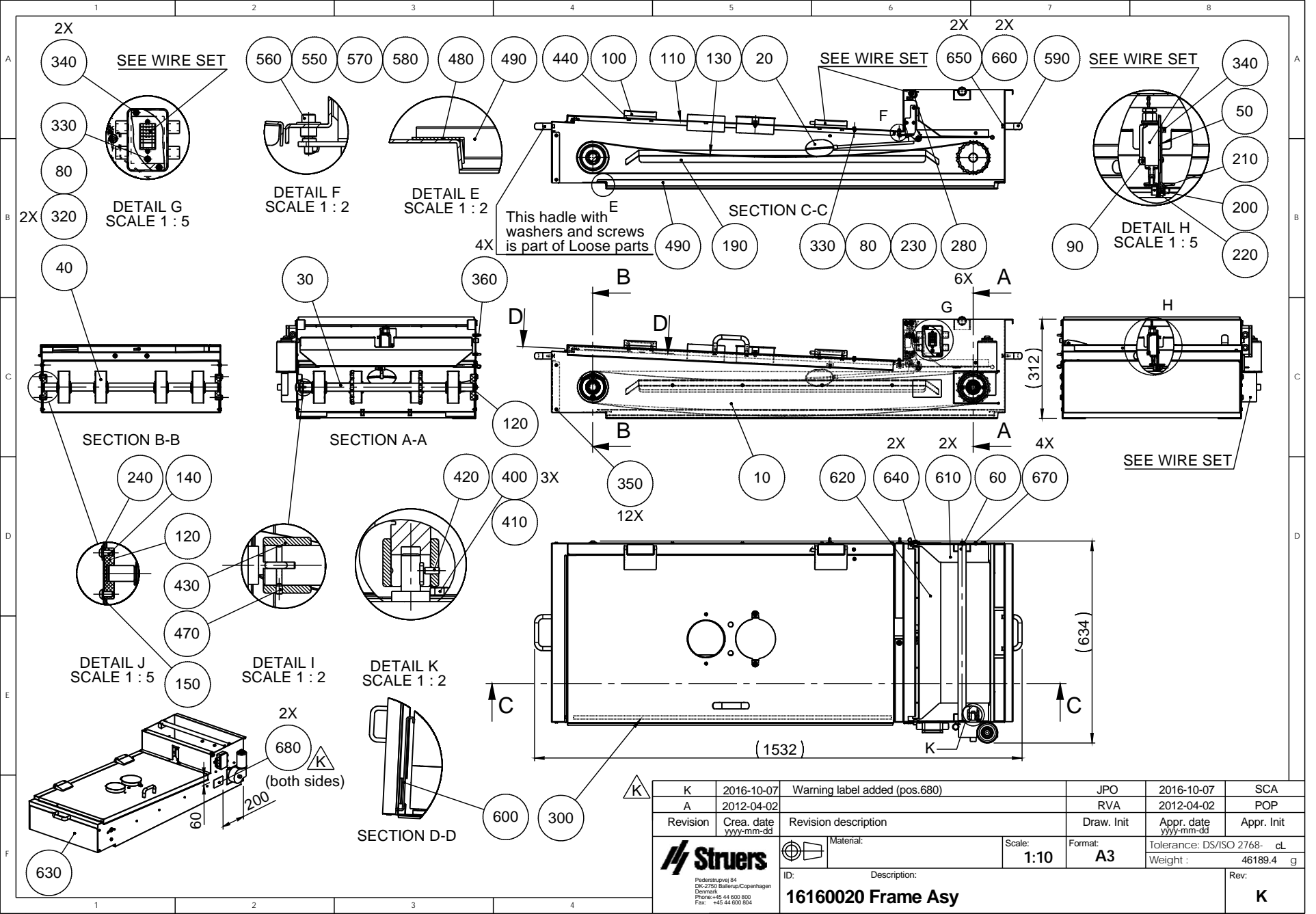


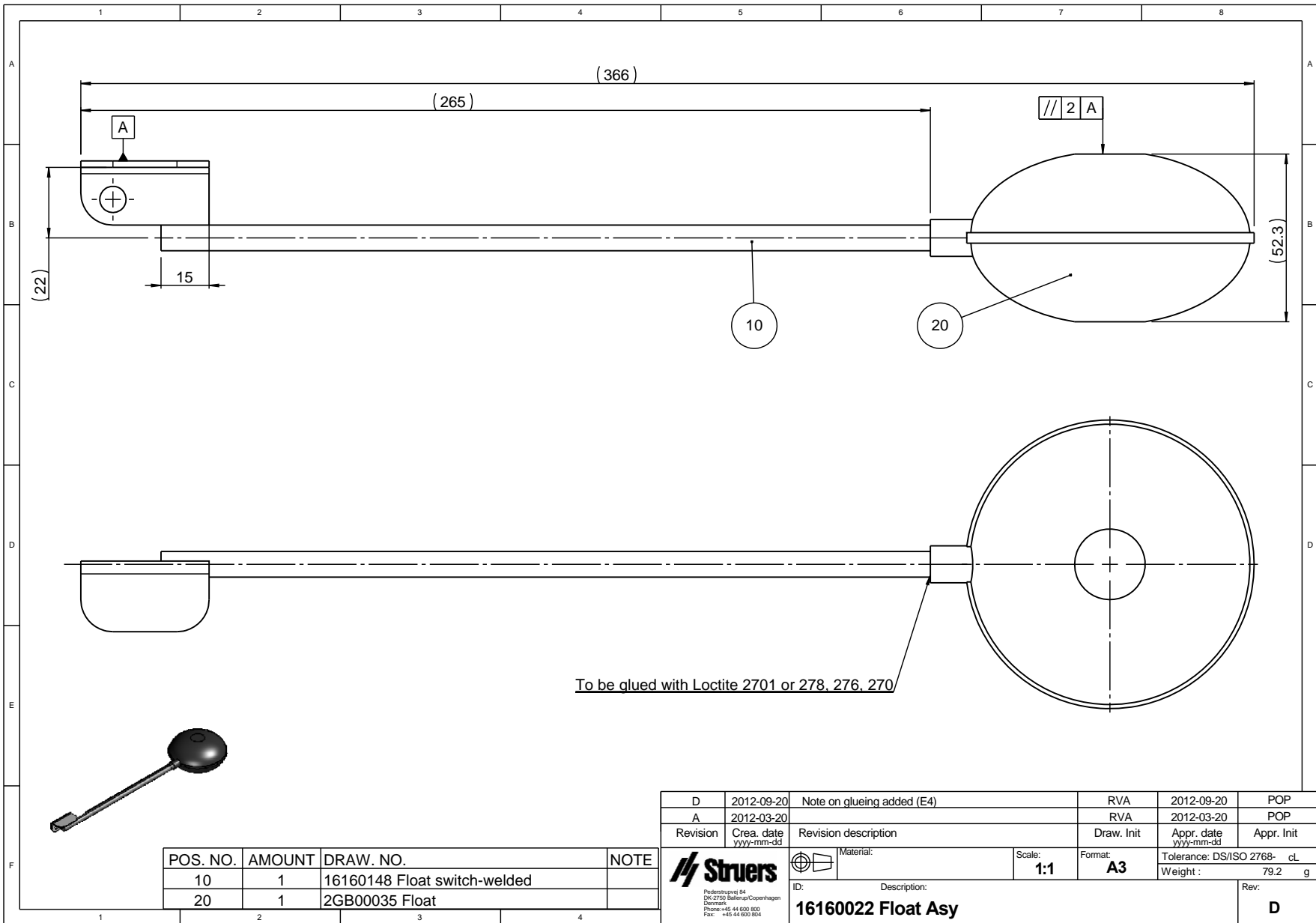
DETAIL A
SCALE 1 : 2



Torque moment to be applied: 5.5+/-0.5 [Nm]

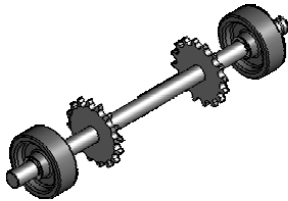
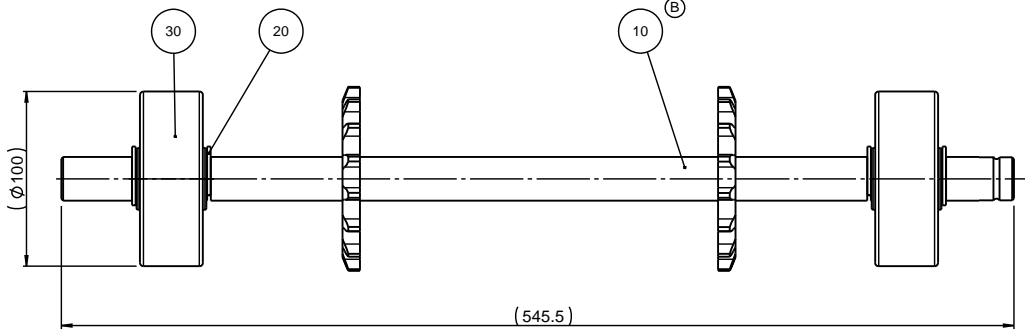
D	2015-06-11	Item 30 removed, Item 20 count increased to 4	RMA	2015-06-11	SCA
A	2012-02-21		RVA	2012-02-21	POP
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init	Appr. date yyyy-mm-dd	Appr. Init
		Material:	Scale: 1:10	Format: A3	Tolerance: DS/ISO 2768- mK
<small>Pederstrupvej 84 DK-2750 Ballerup/Copenhagen Denmark Phone: +45 44 600 800 Fax: +45 44 600 804</small>		ID:	Description: 16160010 Water Tank Assy		Weight : 24721.3 g
					Rev: D





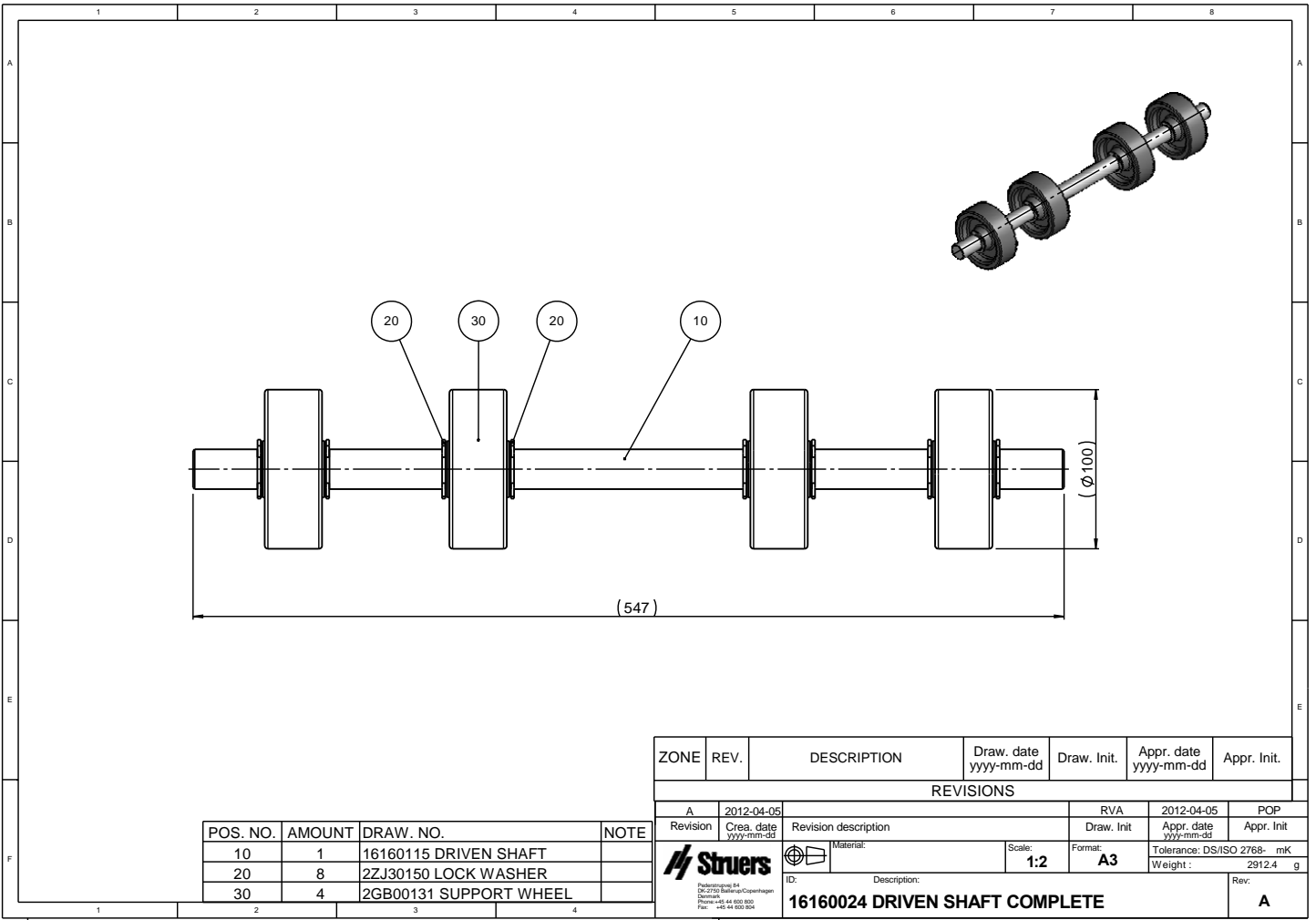
POS. NO.	AMOUNT	DRAW. NO.	NOTE
10	1	16160148 Float switch-welded	
20	1	2GB00035 Float	

D	2012-09-20	Note on glueing added (E4)	RVA	2012-09-20	POP
A	2012-03-20		RVA	2012-03-20	POP
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init	Appr. date yyyy-mm-dd	Appr. Init
Material:		Scale: 1:1	Format: A3	Tolerance: DS/ISO 2768- cL	
				Weight:	79.2 g
		ID:	Description: 16160022 Float Asy		Rev: D
<small>Federstuvvej 84 DK-2750 Ballerup-Copenhagen Denmark Phone: +45 44 600 800 Fax: +45 44 600 804</small>					



POS. NO.	AMOUNT	DRAW. NO.	NOTE
10	1	16160144 Drive shaft welded	
20	4	2ZJ30150 LOCK WASHER	
30	2	2GB00131 SUPPORT WHEEL	

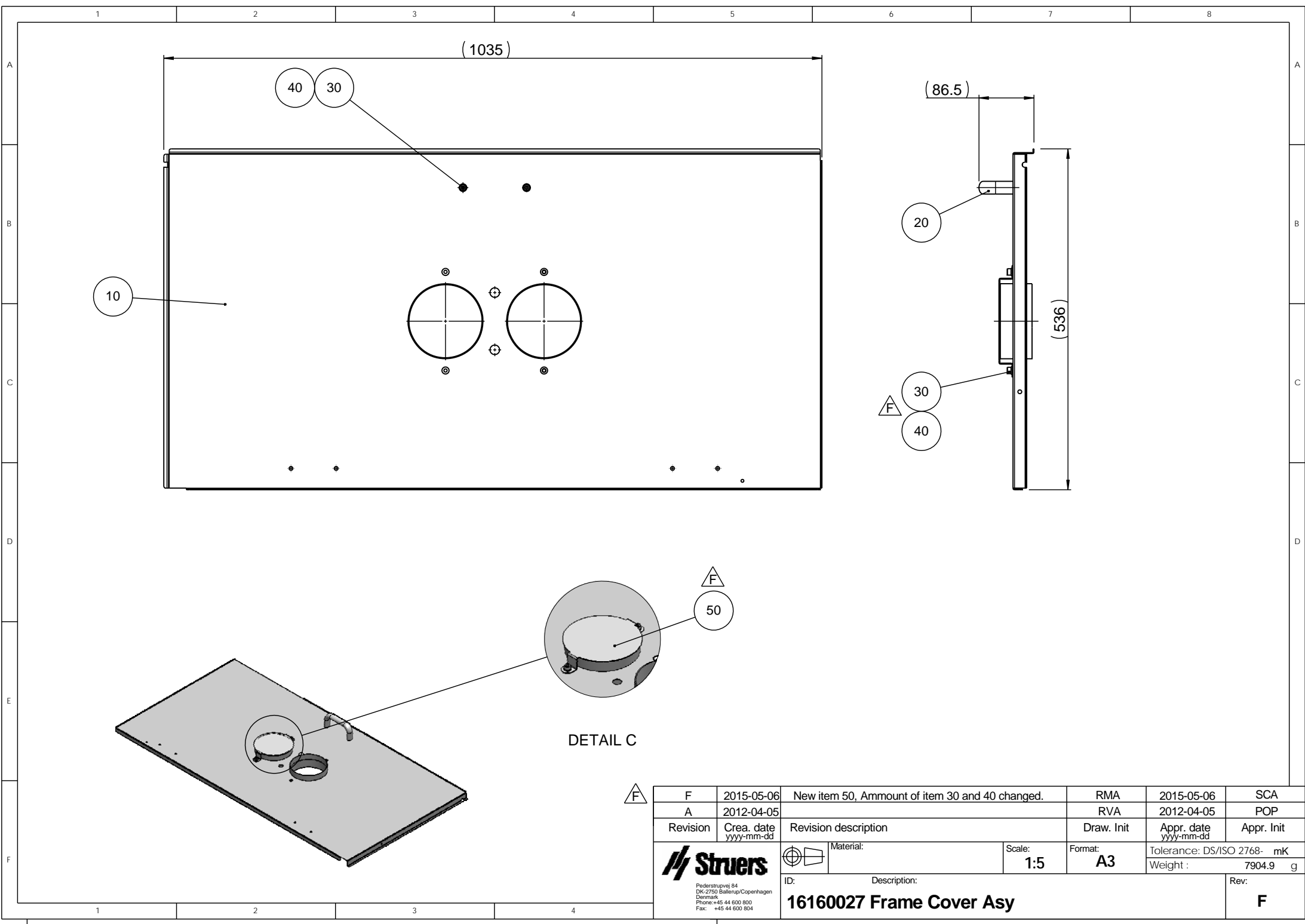
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init.	Appr. date yyyy-mm-dd	Appr. Init.
B	2012-07-25	Part (pos.40) removed, pos.(10) redesigned	SMI	2012-07-25	RVA
REVISIONS					
A	2012-04-05		RVA	2012-04-05	POP
ID:		Description:		Weight : 3483.8 g	
		Material:	Scale: 1:2	Format: A3	Tolerance: DS/ISO 2768- mK
16160023 DRIVE SHAFT COMPLETE					B



POS. NO.	AMOUNT	DRAW. NO.	NOTE
10	1	16160115 DRIVEN SHAFT	
20	8	2ZJ30150 LOCK WASHER	
30	4	2GB00131 SUPPORT WHEEL	

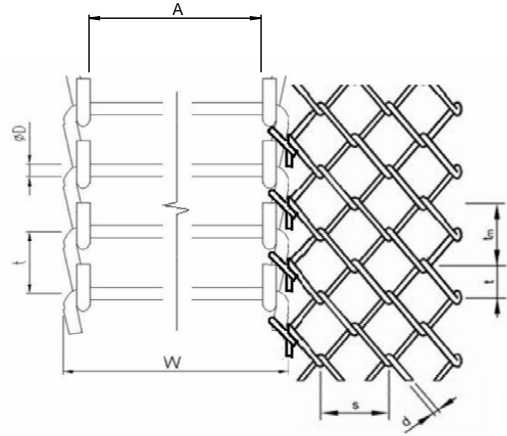
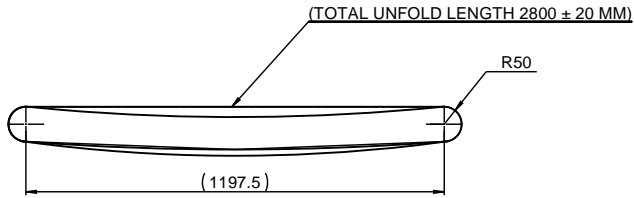
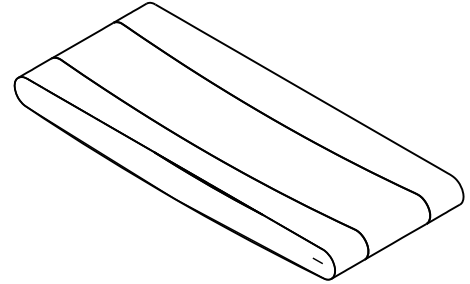
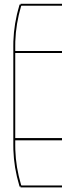
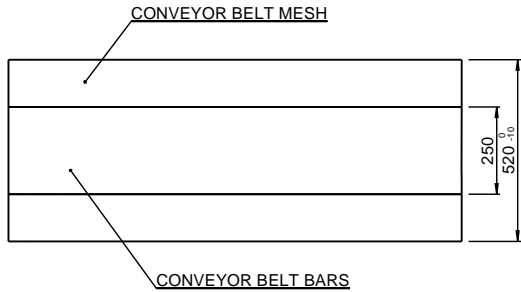
ZONE	REV.	DESCRIPTION	Draw. date yyyy-mm-dd	Draw. Init.	Appr. date yyyy-mm-dd	Appr. Init.
REVISIONS						
A	2012-04-05		RVA	2012-04-05	POP	
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init.	Appr. date yyyy-mm-dd	Appr. Init.	
		Material:	Scale: 1:2	Format: A3	Tolerance: DS/ISO 2768- mK	Weight : 2912.4 g
ID:	Description:					Rev:
16160024 DRIVEN SHAFT COMPLETE						A





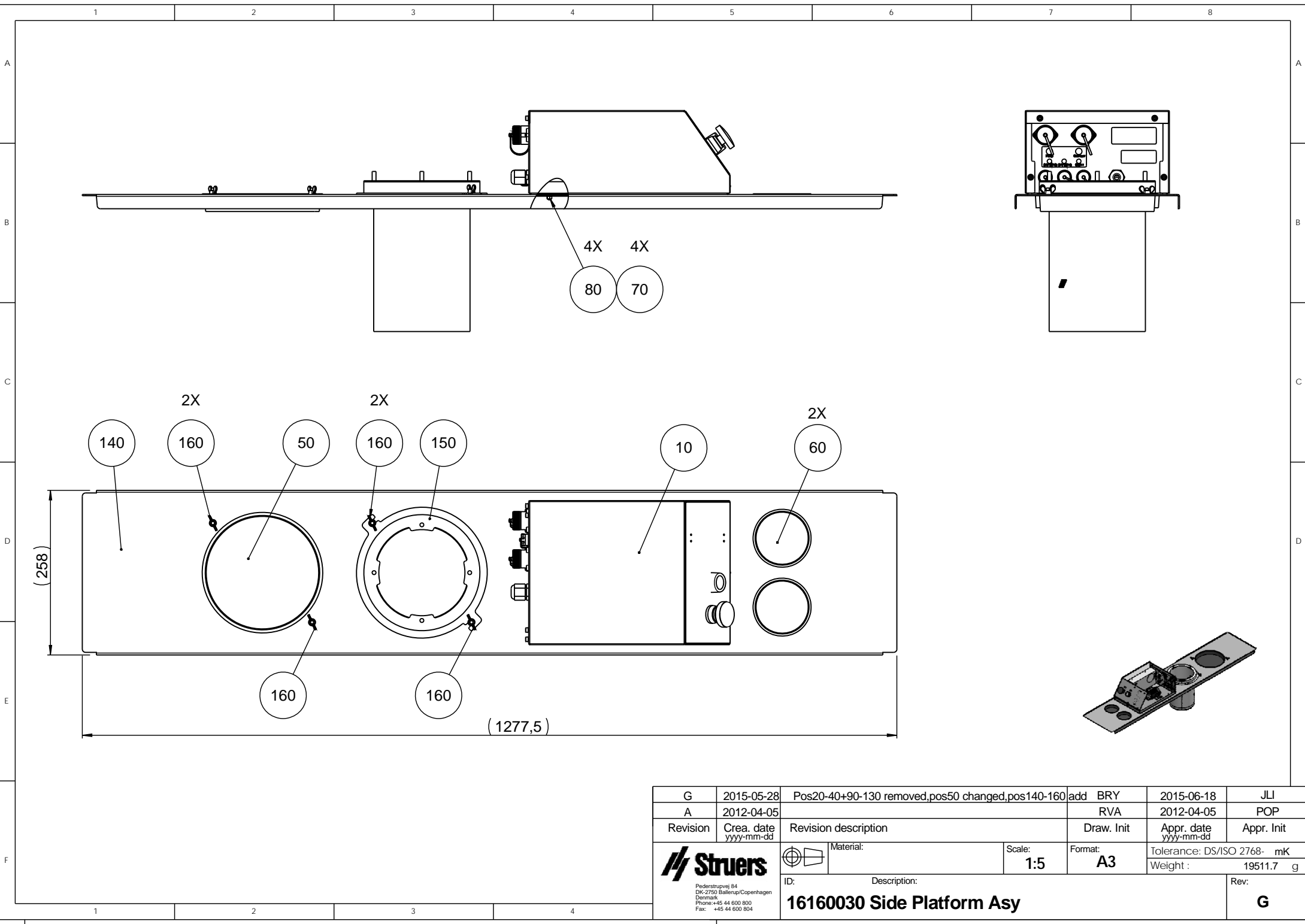
DETAIL C

F	2015-05-06	New item 50, Ammount of item 30 and 40 changed.	RMA	2015-05-06	SCA
	A	2012-04-05		RVA	2012-04-05
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init	Appr. date yyyy-mm-dd	Appr. Init
 <small>Pederstrupvej 84 DK-2750 Ballerup/Copenhagen Denmark Phone:+45 44 600 800 Fax: +45 44 600 804</small>	 Material:	ID: Description: 16160027 Frame Cover Asy	Scale:	Format:	Tolerance: DS/ISO 2768- mK
			1:5	A3	Weight :
					Rev:
					F

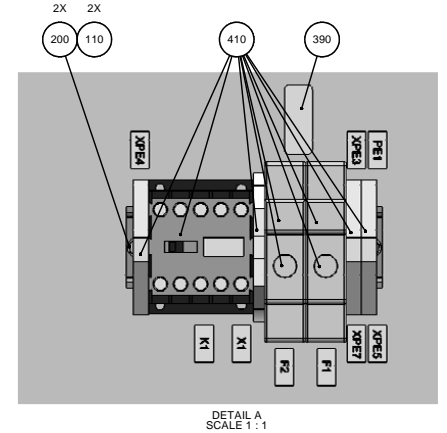
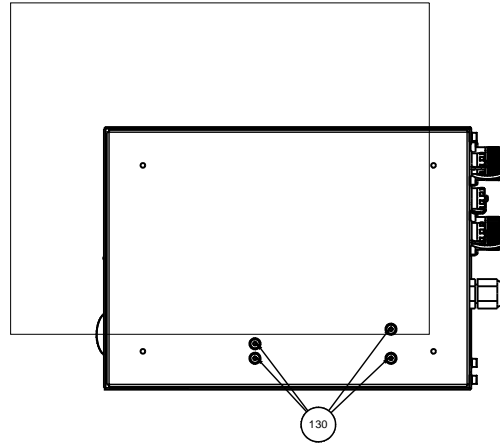
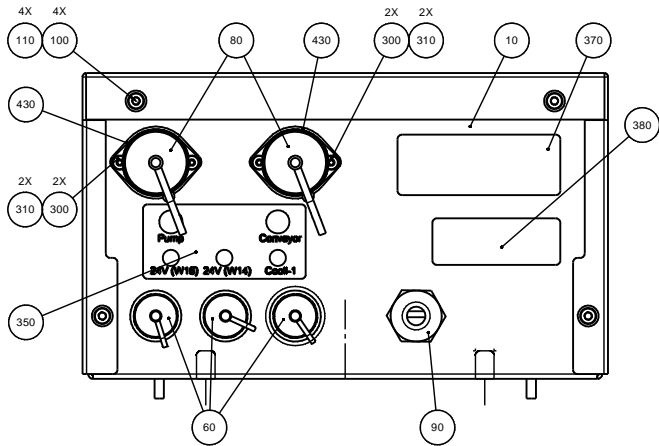
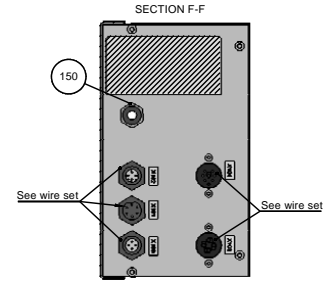
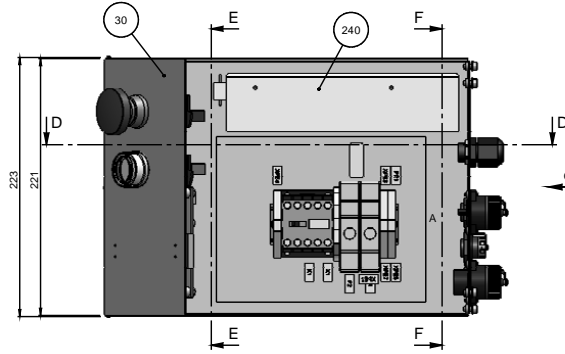
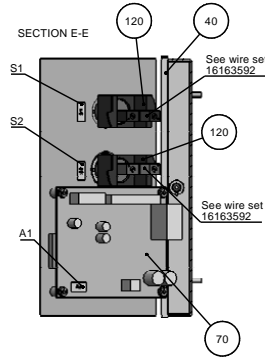
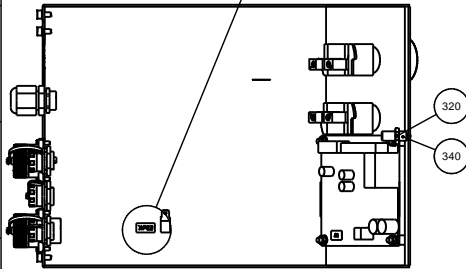
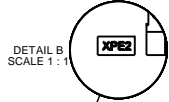
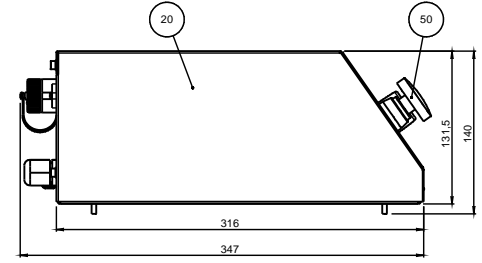
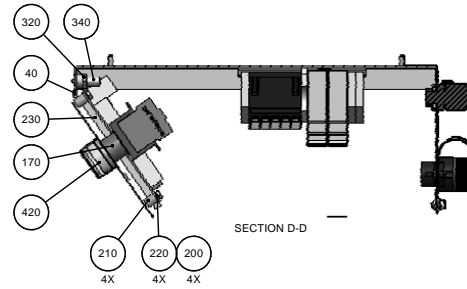
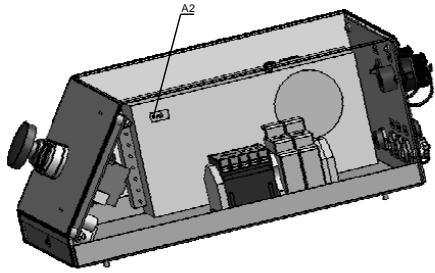


Number of conveyor wire links = 142
 A [mm] = 232 +5/-0
 D [mm] = 4h9
 t [mm] = 19.05
 W [mm] = 250
 d [mm] = 1.8
 mesh size [mm] = 15x15

C	2012-09-17	Number of conveyor wire links defined (E1)	RVA	2012-09-17	POP
A	2012-04-19		RVA	2012-04-19	POP
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init	Appr. date yy/mm-dd	Appr. Init
		Material: X5CrNi18-10 EN10088 (1.4301)	Scale: 1:10	Forma: A3	Tolerance: DS/ISO 2768- mK Weight : 0.0 g
ID:	Description:				Rev:
16160122 CONVEYOR BELT					C

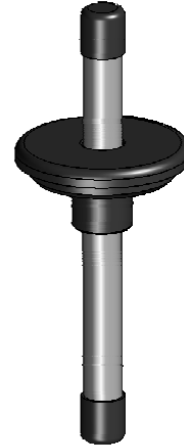
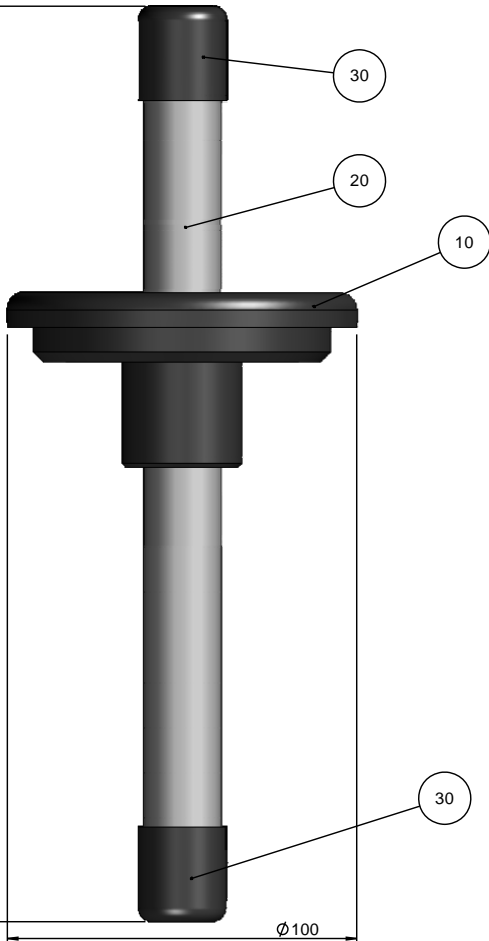


G	2015-05-28	Pos20-40+90-130 removed,pos50 changed,pos140-160	add BRY	2015-06-18	JLI
A	2012-04-05		RVA	2012-04-05	POP
Revision	Crea. date yyyy-mm-dd	Revision description	Draw. Init	Appr. date yyyy-mm-dd	Appr. Init
 <small>Pederstrupvej 84 DK-2750 Ballerup/Copenhagen Denmark Phone:+45 44 600 800 Fax: +45 44 600 804</small>	Material:	ID:	Scale: 1:5	Format: A3	Tolerance: DS/ISO 2768- mK
			Description: 16160030 Side Platform Asy		Weight : 19511.7 g



J	2016-05-23	replaced pos. (220)	ABG	2016-05-24	SCA
A	2012-03-26		RVA	2012-03-20	PCP
Revision	Creo. date	Revision description	Draw. Inst.	Appr. date	Appr. Init.
		Scale: 1:2	Form: A1	License: D5752/7/08	Weight: 12147.8 g
16160035 Cooli2 Asy					Rev: J

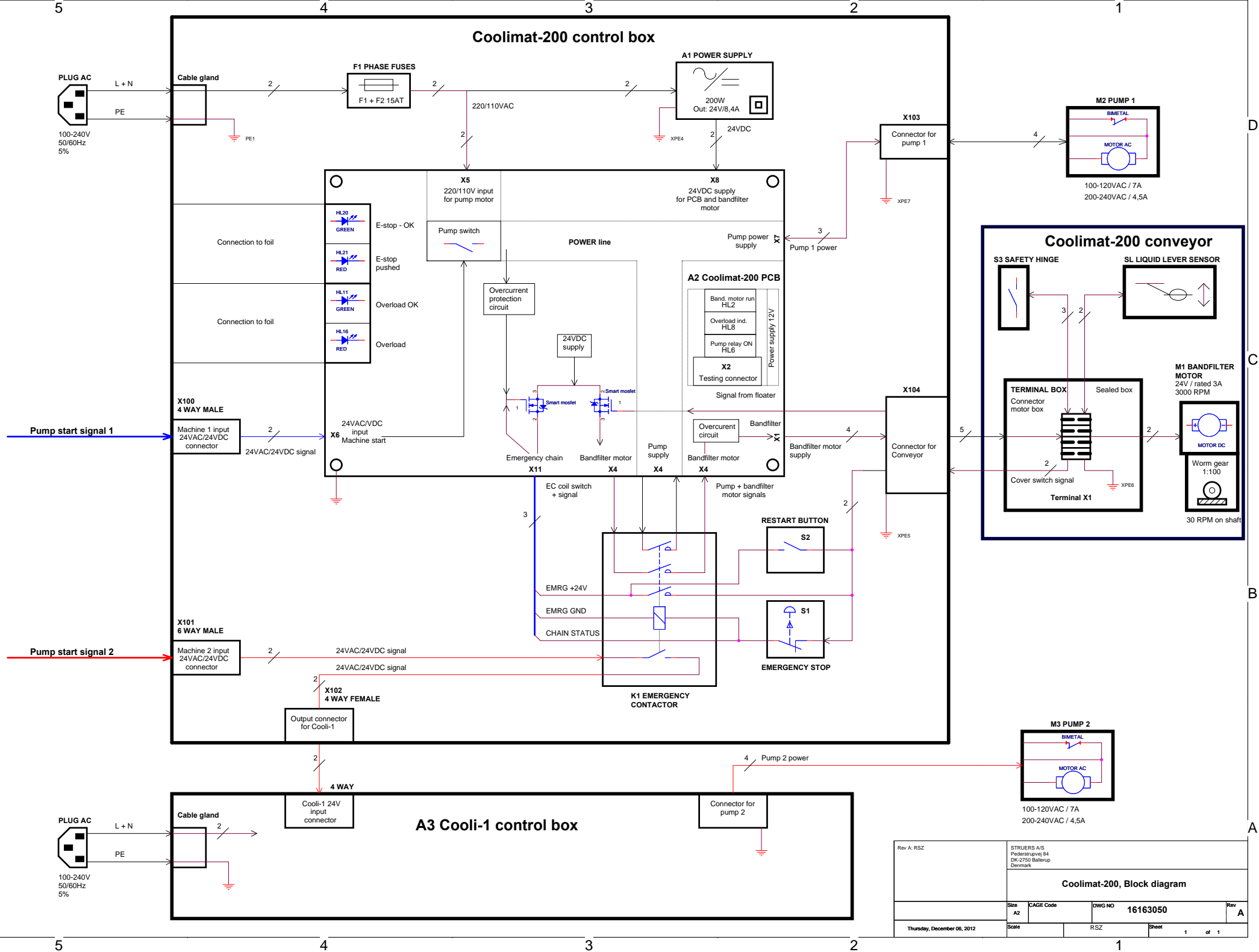
(262)



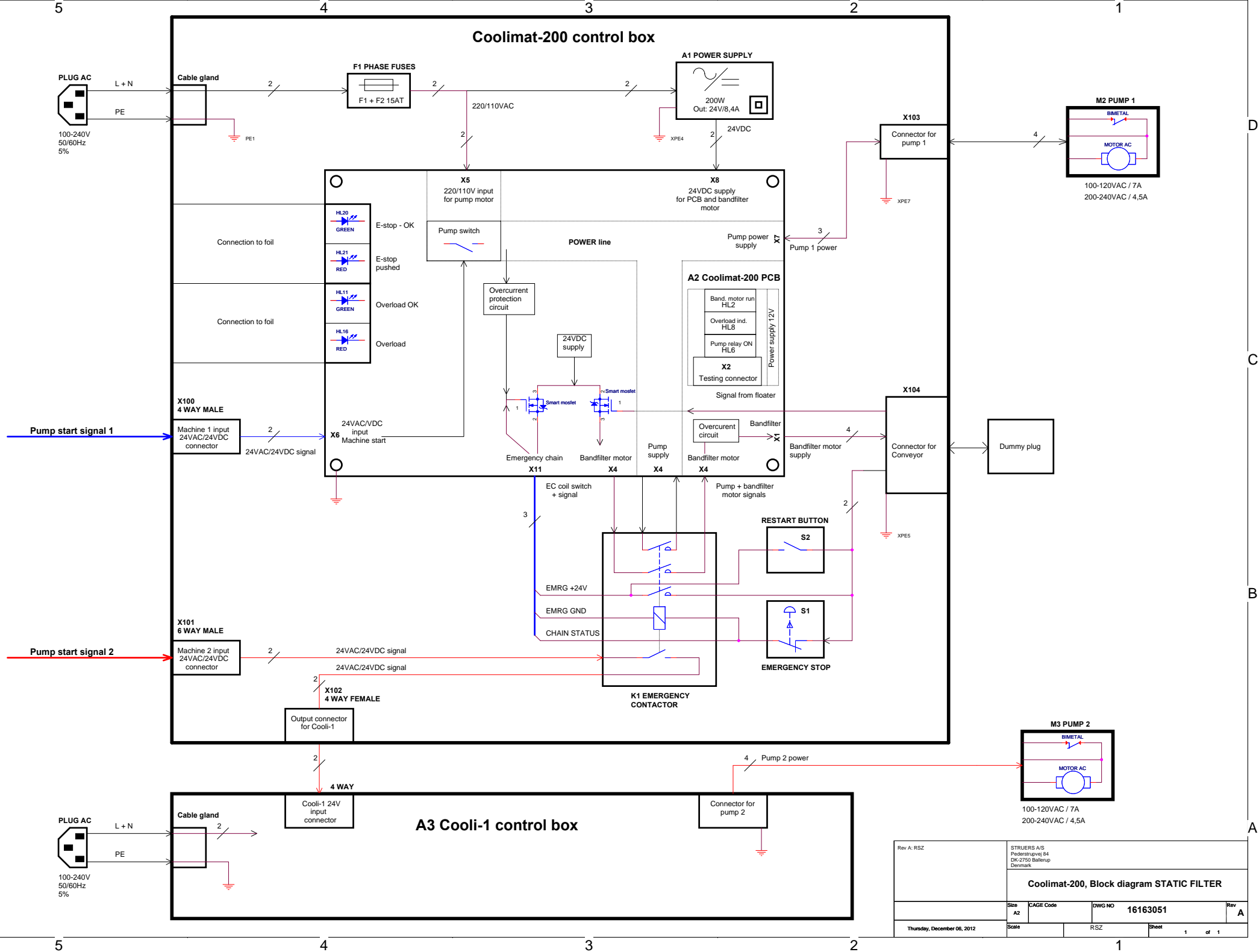
SCALE 1 : 2

A				FPG	2012-08-21	FPG
Revision	Crea. date	Revision description		Draw. Init	Appr. date	Appr. Init
	2012-08-21				2012-08-21	
		Material:	Scale: 1:1	Format: A3	Tolerance: DS/ISO 2768- mK	
ID:	Description:				Weight :	Rev:
	16160081 Water level indicator, assembled				209.7 g	A

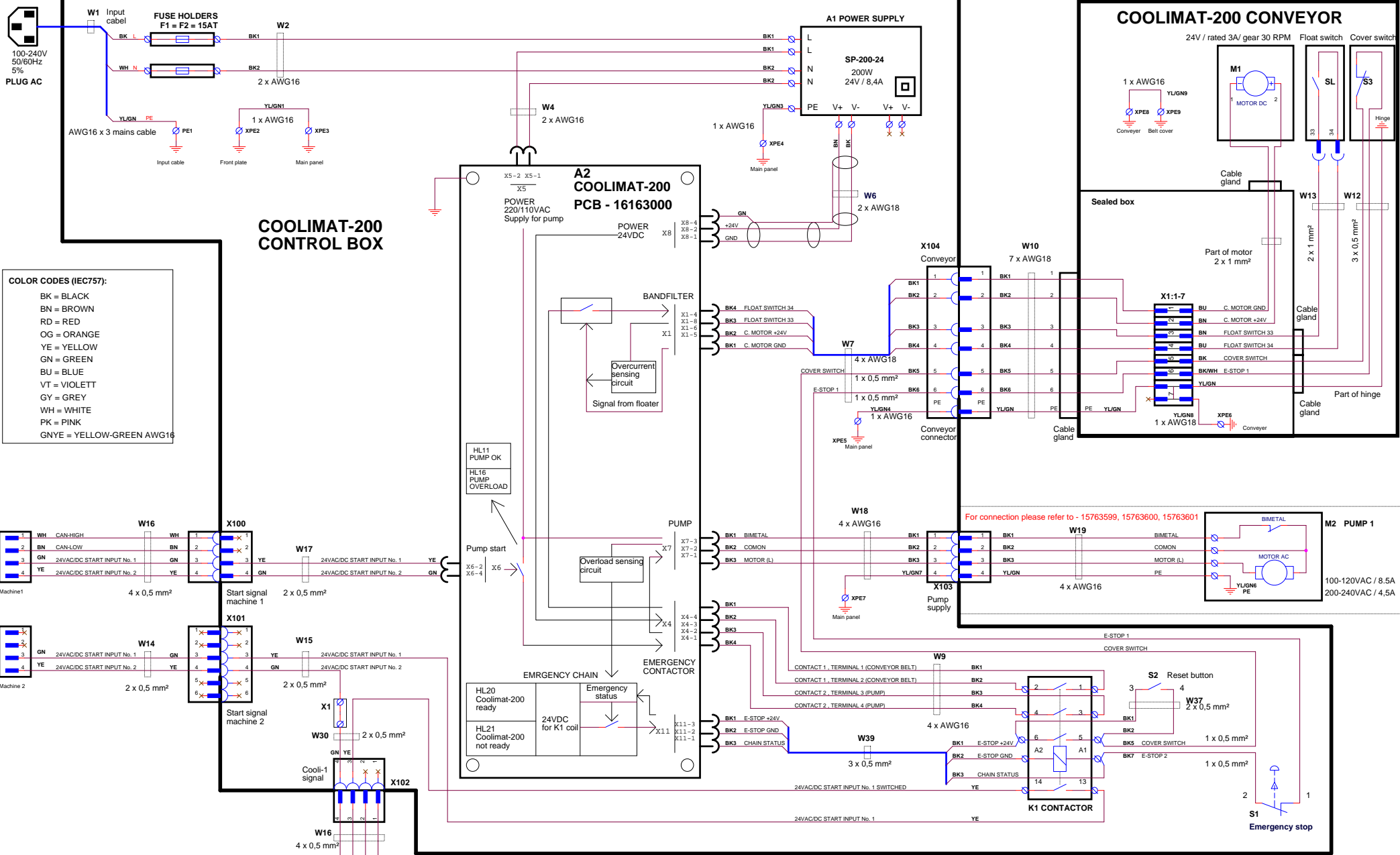
Høveltejstensvej 85
 DK-2750 Ballerup-Centerhagen
 Denmark
 Phone +45 44 600 800
 Fax +45 44 600 904



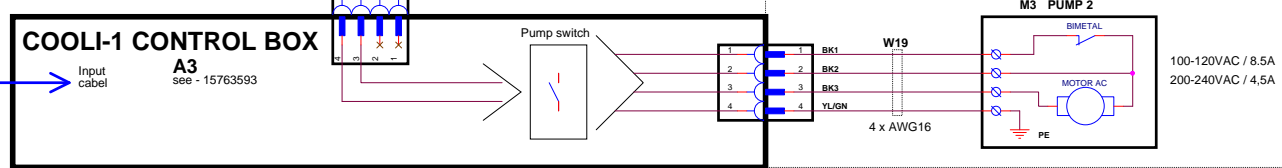
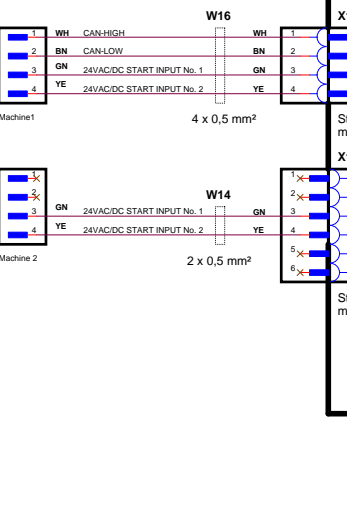
Rev A: RSZ	STRUERS A/S Pederstrupvej 64 DK-2750 Ballerup Denmark		
Coolimat-200, Block diagram			
Size A2	CAGE Code	DWG NO 16163050	Rev A
Thursday, December 06, 2012	Scale	RSZ	Sheet 1 of 1



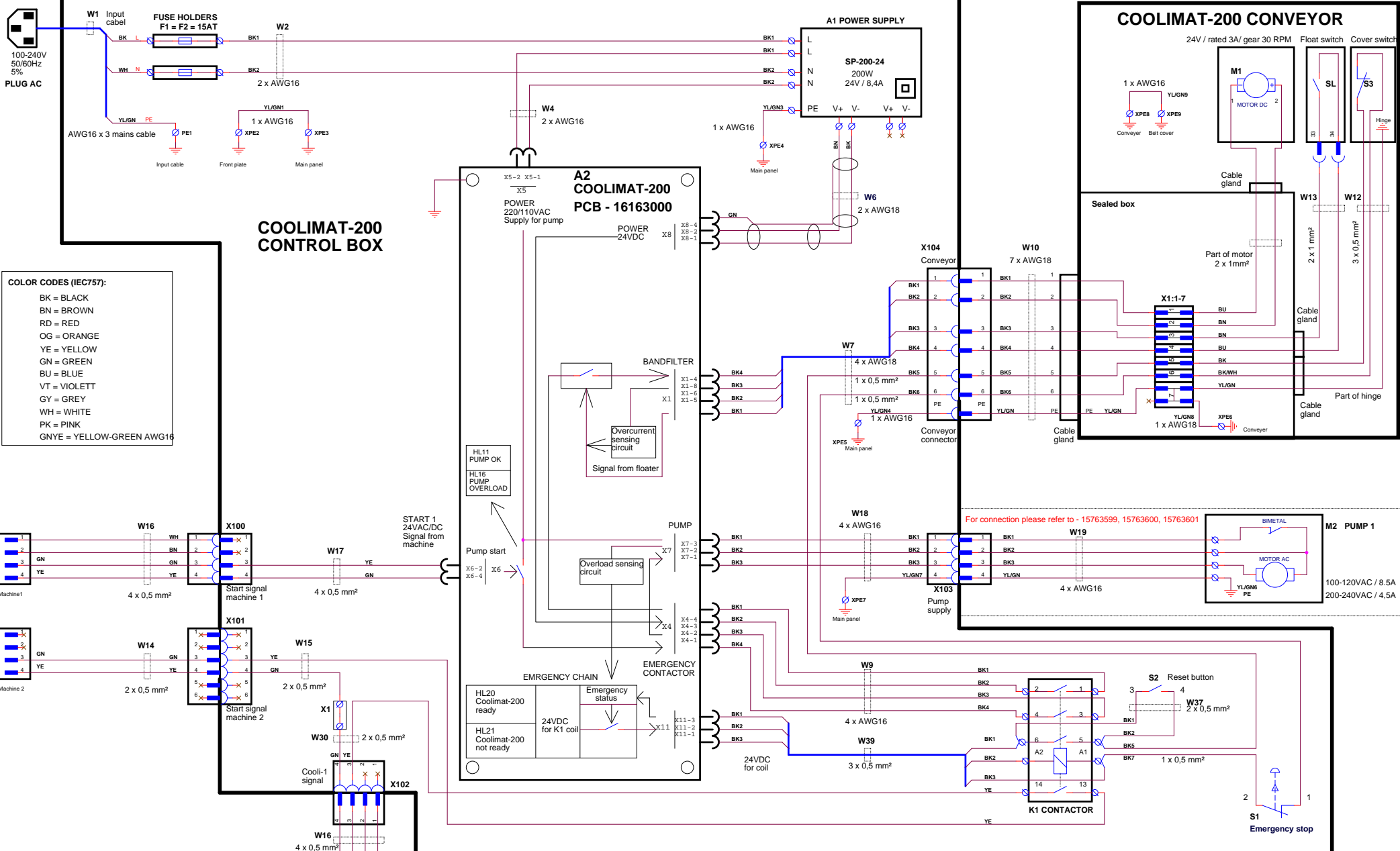
Rev A: RSZ	STRUERS A/S Pederstrupvej 64 DK-2750 Ballerup Denmark		
Coolimat-200, Block diagram STATIC FILTER			
Size A2	CAGE Code	DWG NO 16163051	Rev A
Thursday, December 06, 2012	Scale	RSZ	Sheet 1 of 1



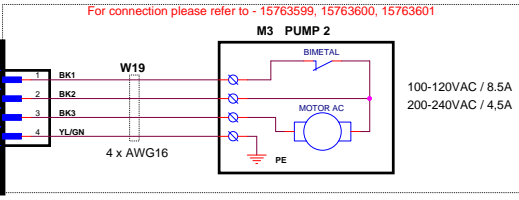
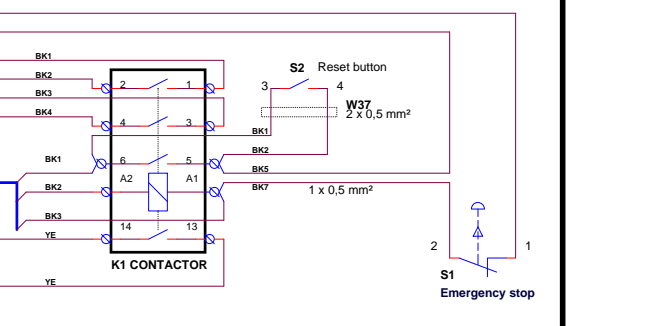
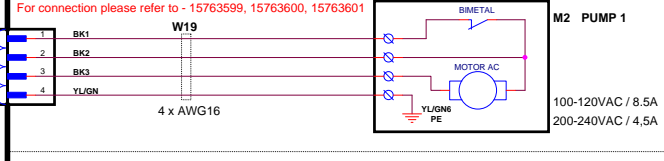
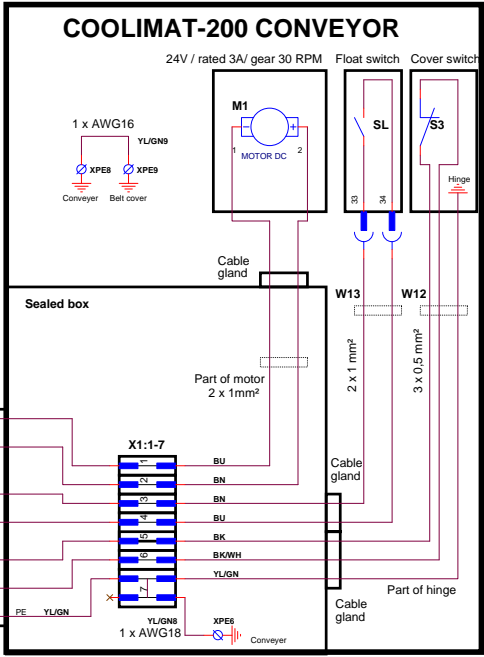
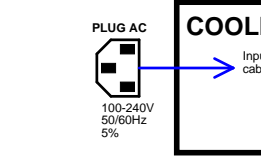
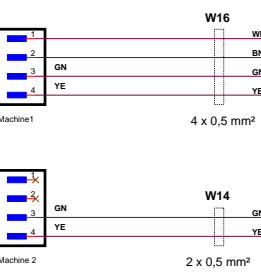
- COLOR CODES (IEC757):**
- BK = BLACK
 - BN = BROWN
 - RD = RED
 - OG = ORANGE
 - YE = YELLOW
 - GN = GREEN
 - BU = BLUE
 - VT = VIOLETT
 - GY = GREY
 - WH = WHITE
 - PK = PINK
 - GNYE = YELLOW-GREEN AWG16



REV B: RSZ (2012/04/04) W6 - changed wires color W16 changed wire color from BU to BN	REV D: RSZ (2014/10/14) Added text description for wires inside control box	REV E: RSZ (2015/08/12) Changed fuse holder connection type
REV B: RSZ (2012/06/11) Wire size W37 0,5mm Swapped connection K1 14/13 terminal X4 repaired name W16 added rest wires inside cable	<p>COOLIMAT - 200, CIRCUIT DIAGRAM</p> <p>Thursday, August 13, 2015</p>	
Size: A2	CAGE Code: <Cage Code>	DWG NO: 16163100
Scale:	RSZ	Sheet 1 of 2



- COLOR CODES (IEC757):**
- BK = BLACK
 - BN = BROWN
 - RD = RED
 - OG = ORANGE
 - YE = YELLOW
 - GN = GREEN
 - BU = BLUE
 - VT = VIOLETT
 - GY = GREY
 - WH = WHITE
 - PK = PINK
 - GNYE = YELLOW-GREEN AWG16



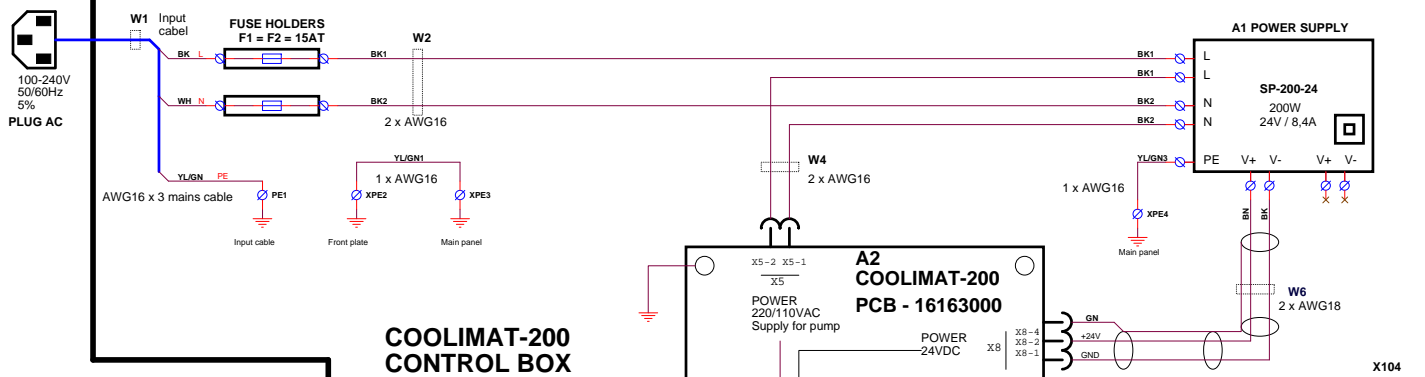
REV C: RSZ (2013/04/04) REV D: RSZ (2014/10/14) REV E: RSZ (2015/08/12)
W6 - changed wires color See page 1 Changed fuse holder connection type
W16 changed wire color from BU to BN

REV B: RSZ (2012/26/11)
Wire size W37 0.5mm
Swapped connection K1 14/13 terminal
X4 repaired name
W16 added rest wires inside cable

Roper Engineering
Technologická 372
Ostrava - Pustkovec
Czech Republic
PHONE: +42096995948

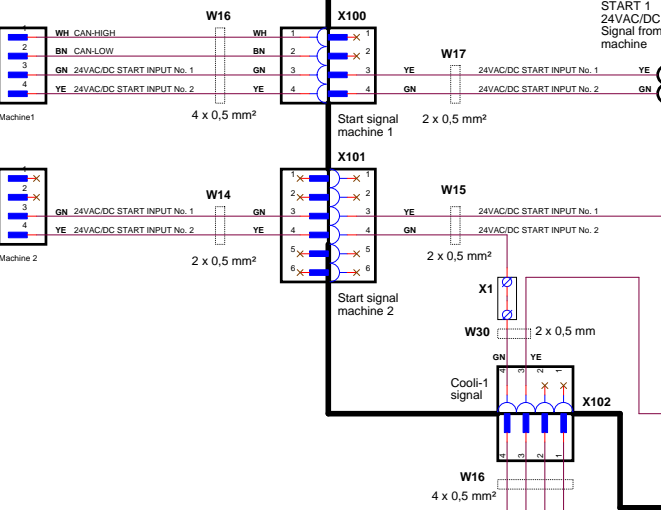
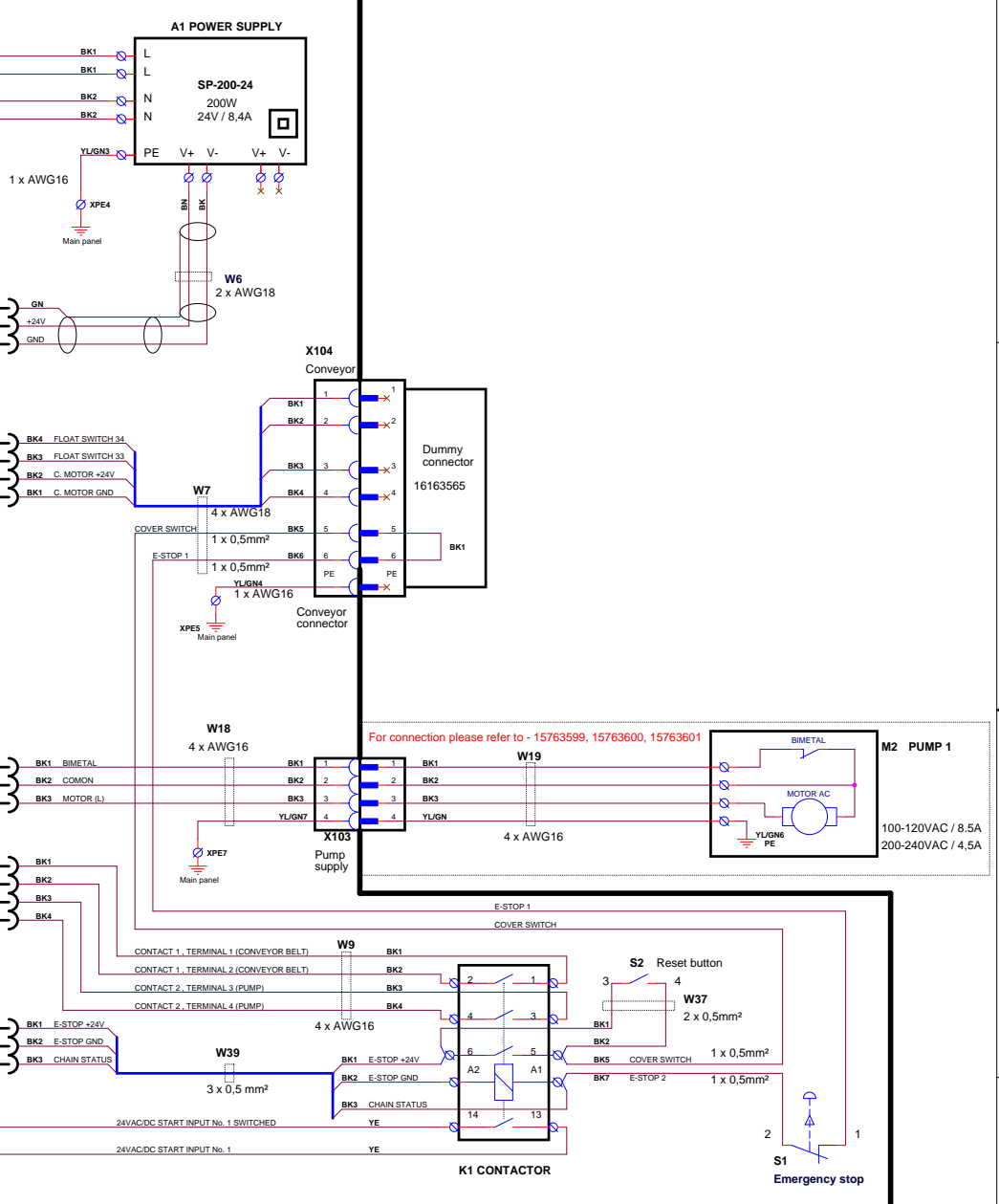
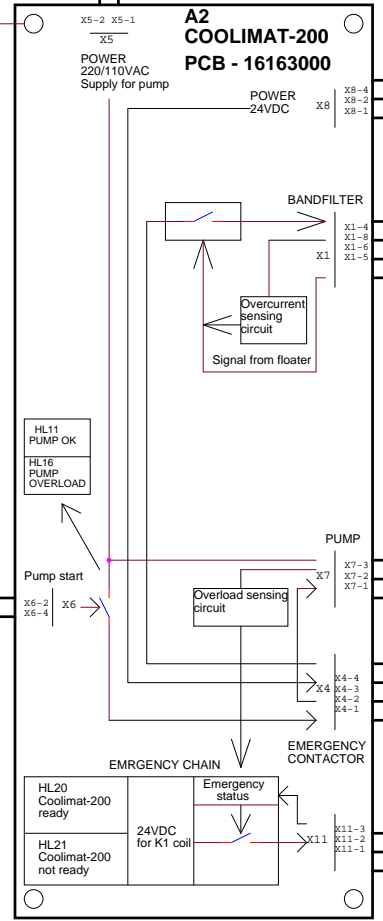
COOLIMAT - 200, SAFETY DIAGRAM

Size A2	CAGE Code <Cage Code>	DWG NO 16163100	Rev E
Thursday, August 13, 2015	Scale	RSZ	Sheet 2 of 2

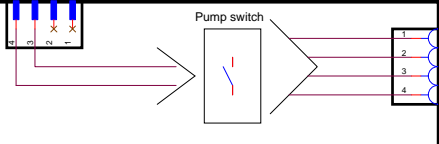
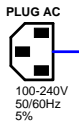


COOLIMAT-200 CONTROL BOX

- COLOR CODES (IEC757):**
- BK = BLACK
 - BN = BROWN
 - RD = RED
 - OG = ORANGE
 - YE = YELLOW
 - GN = GREEN
 - BU = BLUE
 - VT = VIOLETT
 - GY = GREY
 - WH = WHITE
 - PK = PINK
 - GNYE = YELLOW-GREEN AWG16



COOLI-1 CONTROL BOX



REV C: RSZ (2013/1/02) Changed number for dummy connector W6 - colors of wires changed
 REV D: RSZ (2013/04/04) W16 - wire color changed from BU to BN
 REV E: RSZ (2014/10/14) Added signal description
 REV F: RSZ (2015/08/12) Changed fuse holder F1 and F2

REV B: RSZ (2012/26/11) Wire size W37 0.5mm Swapped connection K1 14/13 terminal X4 repaired name W16 added rest wires inside cable Added number for dummy connector

COOLIMAT - 200, CIRCUIT DIAGRAM STATIC FILTER			
Size	A2	DWG NO	16163101
Scale		Sheet	1 of 1
Thursday, August 13, 2015		RSZ	



Pederstrupvej 84
DK-2750 Ballerup
Denmark