C6

Service Manual

C6B–00 00001–

NORDISK
CLEAN SOLUTIONS

Art. no EN20307–

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EC DECLARATION OF CONFORMITY FOR MACHINERY

Original

Directive 2006/42/EC, Annex II 1A

Manufacturer (and where appropriate his authorised representative):

Company:	Nordisk Clean Solutions
Address:	Jägershillsgatan 13, 213 75 Malmö

Hereby declares that

Type of machinery:	Pot washer for commercial kitchens
No. of machinery:	C6

Complies with the requirements of Machinery Directive 2006/42/EC.

Complies with the applicable requirements of the following EC directives:

2014/30/EU, EMC

2011/65/EU, RoHS

2012/19/EU, WEEE

The following harmonized standards have been applied:

EN 60204–1:2018

SS-EN 60335–1:2012

SS-EN 60335–2–58:2019

SS-EN 55014–1:2017

SS-EN IEC 61000–6–1:2019

SS-EN IEC 61000–6–2:2019

SS-EN 61000–6–3:2007

IEC 61000–6–3:2006/AMD1:2010

The following other standards and specifications have been applied:

SS-EN 1717:2000

SS-EN 13077:2018

Authorized to compile the technical file:

Name:	Staffan Stegmark
Address:	Jägershillsgatan 13, 213 75 Malmö

Signature:

Place and date:	Malmö, 26.04.2024
Signature:	
Name:	Mikael Samuelsson
Position:	CEO

1 General Description and Safety

1.1 To the user

C6 is a pot washing machine for commercial kitchens.

Nordisk Clean Solutions recommends that you study the manual thoroughly to be sure that the machine is installed and used correctly and safely.

Ensure that the manual is always available during the whole lifetime of the machine.

Nordisk Clean Solutions accepts no responsibility for damage to the equipment or other damage or injury caused by not following the directions in this manual.

Service manual in original.

1.2 Safety regulations

NOTE

Read the safety notes and operating instructions in this manual carefully. Keep the operating instructions for future reference. Nordisk Clean Solutions does not assume liability or warranty in case of non-adherence to these safety and operating instructions.

Do not make changes, additions or reconstructions in the pot washer without the approval of the manufacturer. Use the pot washer only after you have read and understood the user manual. Allow Nordisk Clean Solutions to provide information about the operation and functioning of the pot washer.

Always operate the machine as described in these operating instructions. Train the operating personnel about handling of the machine and inform them about the safety notes. Repeat the training sessions at regular intervals to prevent accidents.

For your safety, test the local fault current circuit breaker (FI) regularly by pressing the test button.

Close the on-site water shut-off valve after the work is complete. Switch off the local mains disconnector after the work is complete.

WARNING

It is not allowed to sit or stand on the door.

WARNING

The machine uses hot water. Avoid contact with the skin as there is a scalding risk!

WARNING

Do not open the door during a wash cycle! Risk of burn.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

NOTE

Regarding the handling and use of detergent and rinse aid with the product, please see the chemical manufacturer's instructions.

1.3 Disconnecting power

How to disconnect the power safely when performing maintenance.

The machine must be connected to a supply disconnecting device, in accordance with SS-EN 60204-1. This must be in off position. The rinse aid and detergent installation must also be put out of circuit, unless it is supplied from the machine.

It must be possible to lock the supply disconnecting device in the off position.

A sign prohibiting all use of the switch must be posted at the separation point. The sign must be mounted securely so as to remain in place throughout the duration of the work.

Ensure the machine is disconnected by undoing the front cover, the lid to the electrical cabinet and measuring the incoming voltage on Q1. There must not be any voltage between any of the phases or between any of the phases and protective earth. The measurements must be performed on both sides of Q1 , main switch. (Appendix for electrical diagram).

1.4 Technical data C6

GENERAL	
Design	Round rotating stainless steel basket
External dimensions	2079 (± 25) x 1025 x 1317 mm H x W x D (open) For more details, see Installation drawing
Weight	354 kg (filled machine) 238 kg (empty machine)
Tank volume	108 liter
Loading volume	220 litres (Ø 700 mm x H 570 mm)
Rinse water volume	6 litres (Normal program) To achieve 3600 HUE according to NSF/ANSI 3 hygiene guidelines, 6 litres is necessary.
Wash water temperature	65 °C
Rinse water temperature	85 °C
Sound pressure level	< 74 dB (A) ISO 11203
PROGRAMS & CAPACITY	
Wash programs	Short: 3 min, 30 sec (with Steam reduction or EcoExchanger) Normal: 5 min (with Steam reduction or EcoExchanger)
Max. / normal capacity per hour mode (normal capacity incl. handling)	Standard Edition: 162/126 GN 1/1 or similar in other pots FreeFlow Edition: 162/144 GN 1/1 or similar in other pots
Capacity per program	6 GN 1/1 65 mm depth or 3 GN 1/1 up to 200 mm depth and 3 GN 1/1 up to 65 mm depth, or the equivalent utensils.
ELECTRICAL CONNECTION	
Voltage**	3~ 400-415V/50 Hz or 60 Hz + PE
Fuse (at output 11,5 kW)	25 A (400V/415V)

Fuse (at output 16.5 kW)	32 A (400/415V)
Frequency	50 Hz or 60 Hz
Maximum output	11.5 kW (hot fill)
	16.5 kW (cold fill or hot fill)
Wash pump motor	2,2 kW
Rinse pump motor	0,11 kW
Heater wash tank*	9 kW at output 11,5 kW
	14 kW at output 16,5 kW
Heater rinse tank*	9 kW at output 11,5 kW
	14 kW at output 16,5 kW
Enclosure rating	IPX5

WATER CONNECTION

Hardness/Connection	Total hardness: 3-7 °dH, 5-12 °TH, 53-125 PPM
	¾" BSP male (DN20)
	NB! Reverse osmosis water and totally softened water must not be used.
Connection A	11.5 kW unit: 100-600 kPa (1-6 bar), 15 l/min, 55-65 °C (hot fill)
	16.5 kW unit: 100-600 kPa (1-6 bar), 15 l/min, < 20 °C (cold fill or hot fill)
Connection F	11.5 KW/16.5 kW with steam reduction: 300-600 kPa (3-6 bar), 15 l/min, < 20 °C
	16.5 kW with EcoExchanger: 300-600 kPa (3-6 bar), 15 l/min, < 20 °C

VENTILATION & DRAIN

Ventilation without steam reduction	500 m³/h
Ventilation with steam reduction	200 m³/h
Ventilation with EcoExchanger	100 m³/h
Heat emitted to room without steam reduction (total/sensible/latent)	2.4 kW / 0.8 kW / 1.6 kW
Heat emitted to room with steam reduction (total/sensible/latent)	1.7 kW / 0.8 kW / 0.9 kW

Heat emitted to room with EcoExchanger (total/sensible/latent)	1.3 kW / 0.8 kW / 0.5 kW
Drainage pipe	Pipe Ø 32 mm (outer diameter)
Drain	Capacity requirement 50 l/min
	No drain pump, gravity drain
	The machine must not be placed directly over a drain.
DETERGENT & RINSE AID	
Detergent and rinse aid	Required. 230 VAC signal is available from separate box.
	Max load total 0,5 A

* Not in use simultaneously

** For specific data regarding delivered machines, please see the machine rating plate

NOTE

C6 is supplied with a 2 metres long electric cable to be connected to an approved supply disconnecting device on the wall. The supply disconnecting device is not included in the delivery.

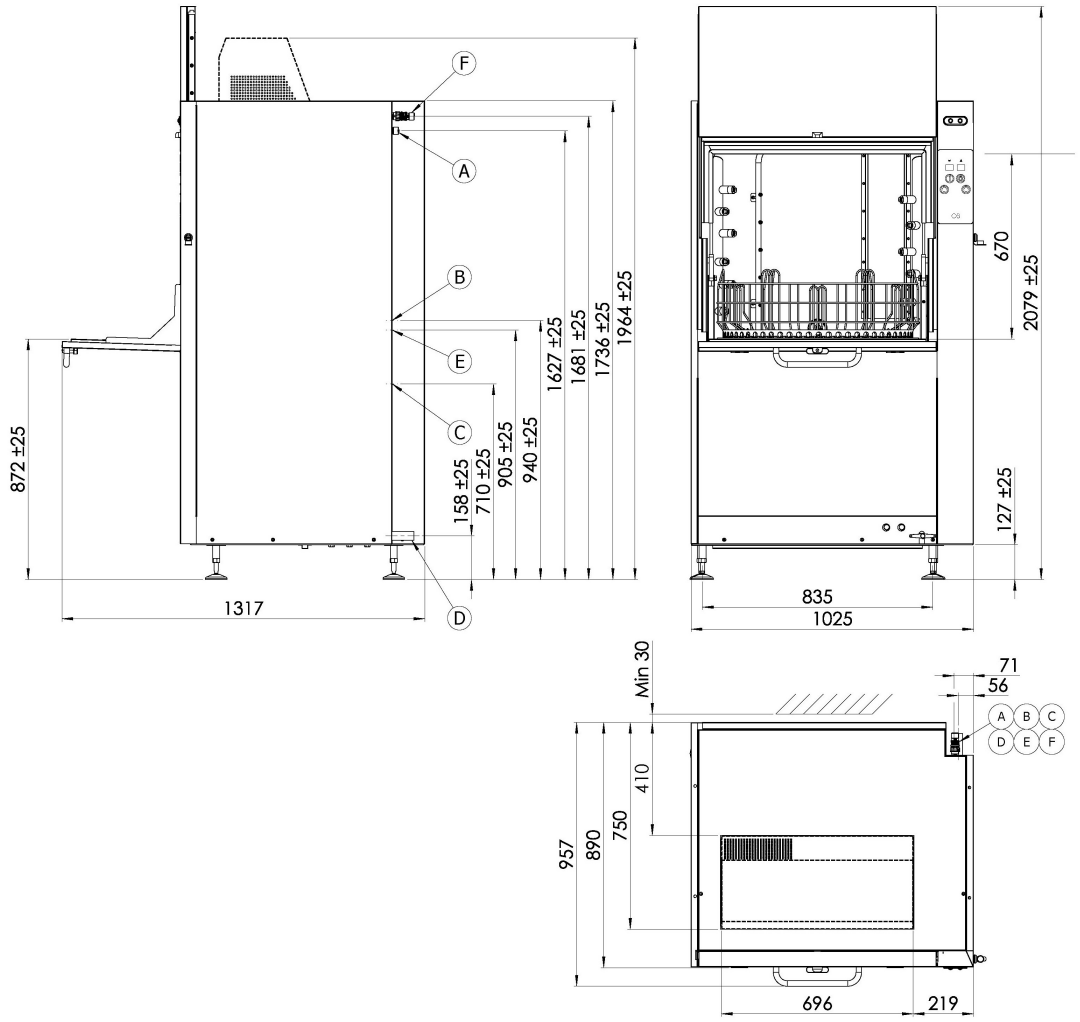


Fig. 1 Installation drawing C6

2 Installation

WARNING

All operations described in this chapter must only be carried out by qualified staff. All electrical components described in this chapter apply to 400 volt machines. Recalculated electrical values apply to other voltages; see section 1.4 Technical data C6, page 11.

2.1 Installation instructions

The C6 is delivered well packaged and placed on a pallet.

1 Remove the packaging so that the machine is left standing on the wooden frame.

2 Check that the machine is undamaged.

3 Undo the six fixing screws on each side, remove the outer beams from the front and the back.

Fig. 2 Fixing screws.

4 Lift the machine from the front or the back using a pallet truck and remove the beams on each side.

5 Fit machine feet (packed outside the machine) and adjust to the approximate final position. Adjust the machine, so it is on the level. Front-Right-Left.

Fig. 3 Leveling front.

Fig. 4 Leveling right side, do the same on the left side.

6 Check that there is enough space between the wall and the machine. The distance should be at least 30 mm.

Check that there is enough space for the upper door to be raised. The total height when the machine is opened is 2079+- 25 mm, depending on the adjustment point of the machine's feet.

WARNING

Never place anything on top of the machine.

Risk of personnel injuries or property damage.

Water connections

NOTE

Reverse osmosis water and totally softened water must not be used.

If softeners are installed, check the manufacturer's softener installation manual.

Connection A:

On an 11.5 kW unit, Connect to the hot water (55-65 °C).

On a 16.5 kW unit, Connect to the hot or cold water (<20 °C).

The connection is located on the back right upper side of the machine – (A Fig. 1 *Installation drawing C6*, page 14). Use a flexible connection hose with a minimum internal diameter of 9 mm. Ensure that there is at least 500 mm of extra hose to make it possible to move the machine forward for service. Incoming water must be at a pressure of 100-600 kPa (1-6 bar) and 15 litres/min when the solenoid valve is open. A pressure relief valve must be installed if the water pressure exceeds 600 kPa (6 bar).

Connection F [steam reduction/EcoExchanger]:

Connect to the cold water (<20 °C). The connection is located on the back right upper side of the machine – (F Fig. 1 *Installation drawing C6*, page 14). Use a flexible connection hose with a minimum internal diameter of 9 mm. Ensure that there is at least 500 mm of extra hose to make it possible to move the machine forward for service. Incoming water must be at a pressure of 300-600 kPa (3-6 bar) and 15 litres/min when the solenoid valve is open. A pressure relief valve must be installed if the water pressure exceeds 600 kPa (6 bar).

Drainage

Connect the drainpipe to the drain at the back on the right (D Fig. 1 *Installation drawing C6*, page 14). The minimum drain capacity should be 50 litres/min. Place the valve in a closed position (shown by symbols on the front panel). Connect a plastic pipe, Ø 32 mm, between the drain pipe (male connection on the machine) and the drain. The machine should not be placed directly over a floor drain since the drain needs to be accessible for cleaning.

Electrical connection

All electrical connections in the electrical cabinet must be tightened before the electrical supply is connected. Connect the electric cable (B Fig. 1 *Installation drawing C6*, page 14) to a supply disconnecting device on the wall. Check that the power supply complies with the Technical Data on the rating plate.

Check rotation on rinse pump

NOTE

The machine will not fill until the motor rotation is verified. The rinse pump is not connected on delivery. The test's purpose is to verify the correct rotation, as the machine can fill regardless of the direction of the rinse pump motor rotation.

1 Switch off the main switch.

2 Remove the front and panel to the right. The panel to the right is removed by first lifting it upwards.

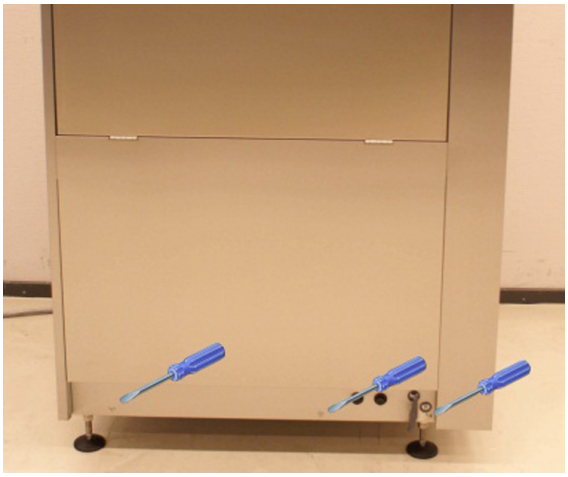


Fig. 5 Removing the front and front right cover plate.

3 Connect the rinse pump.

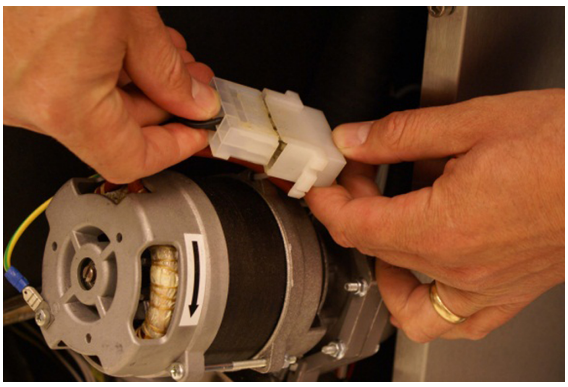


Fig. 6 Connecting the rinse pump.

4 Switch on the main switch and start the filling.

5 Put a cable tie into the motor ventilation grid (Fig. 7 *Verification of rotation direction, using a cable tie*, page 19). If the motor runs against the indicated direction, do the following; see *Changing the direction of rotation of the rinse pump*, page 19.

Changing the direction of rotation of the rinse pump

1 Turn off the main switch.

2 Interchange two phases at the **main supply cable**.

3 Turn on the main switch.

4 Start the filling.

5 Verify rotation.

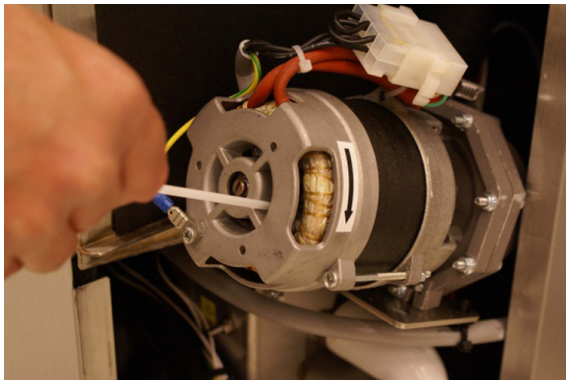


Fig. 7 Verification of rotation direction, using a cable tie

6 Stop the filling.

7 Put the panels back on the machine in reversed order.

Levelling the machine

1 Adjust the feet, use a spirit level to level the machine. Level machine using front, and left, and right side of the tank in the machine's interior.

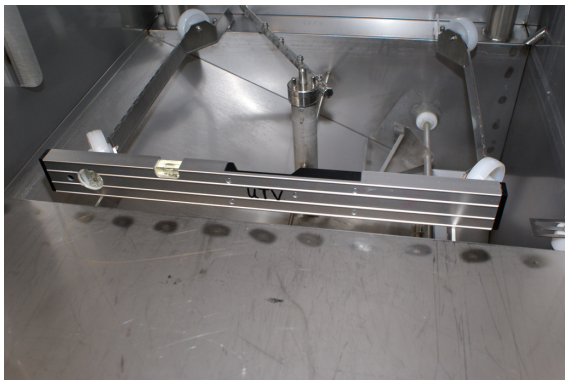


Fig. 8 Levelling of the machine, front.

2 Level machine using left, and right side of the tank in the machine's interior.

Fig. 9 Levelling of the machine, side.

3 Check that the door gaps to the left and right are parallel to the machine cabinet and that the door action is smooth. Make final adjustments using minor adjustments to the front right foot.

Fig. 10 Door gaps, right side.

4 Check the positioning of the door switch for correct operation and adjust if required. When the upper door is lifted 3 mm, the alarm is issued (switching point).

Fig. 11 Door switch.

5 Fill the machine.

6 Check the door gaps to the left and right are parallel to the machine cabinet and that the door action is smooth. Make final adjustments using minor adjustments to the front right foot. Align the door lock.

2.2 Detergent and rinse aid — Dosing pumps

CAUTION

When handling detergents and rinse aid, use protective gloves and appropriate eye protection according to the detergent manufacturer's instructions.

Use detergents and rinse aid exclusively for industrial dishwashers. Do not use regular detergents for washing by hand. Do not use detergent containing chlorine.

CAUTION

Ensure not to mix up the detergent and rinse aid containers when topping them up, as the wrong product in the wrong container could cause malfunction and could damage the machine.

Do not mix different detergents, as this could damage the dispensing device. Detergents for industrial dishwashers can cause severe injuries. Follow the instructions from the detergent supplier.

CAUTION

Use caution to avoid personal injury or damage to the equipment!

The machine has an integrated liquid dosing pump for detergent with a sensor and a volumetric dosing pump for the rinse aid.

The adjustment is made on the dosing pumps; The recommendation is to have the adjustment done by personnel of the detergent suppliers.

Use detergents and rinse aid exclusively for industrial dishwashers. Do not use regular detergents for dishwashing by hand.

NOTE

The dosing equipment is connected to the detergent junction box. Maxim load on detergent/rinse aid connection is 0.5 A 230 VAC, fuse F3. Do not use detergent containing chlorine.

The 230 V AC supply and the control signals for the detergent and rinse aid equipment are located in the junction box. The dosing pump for the detergent is connected to terminals 2 and 3. The dosing pump for the rinse aid is connected to terminals 2 and 4. The terminal blocks are listed

in the junction box; see Fig. 12 *Detergent and rinse aid junction box*, page 22.

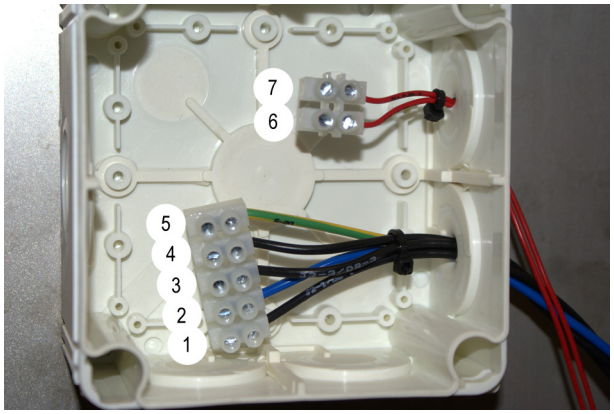


Fig. 12 Detergent and rinse aid junction box

1. Constant 230 VAC J 2–1
2. Neutral 230 VAC J 14–3
3. Detergent connection 230 VAC J 2–3
4. Rinse connection 230 VAC J 2–4
5. Earth PE
6. *Central dosing (filled wash tank) (factory setting)/Ventilation*

   control signal 24 VAC J 12–10
7. Neutral 24 VAC J 16-5

Detergent and rinse aid signals.

On machines with 9 kW, the Rinse aid signal will be active during the filling of the rinse tank, magnetic valve open.

On machines with 14 kW, the Rinse aid signal will be active at the beginning of each wash cycle. The Rinse aid signal will be active for 30 seconds.

Undo the front and right front and the right cover plate.

Suction filter installation

The machine is equipped with a red hose (Plastic tube 4x7 mm) for the detergent inlet and a clear hose for the rinse aid inlet (Plastic tube 4x7 mm). These hoses are located at the back right side of the machine. It is designed for liquid detergent and rinse aid.

Fig. 13 Detergent and rinse aid hoses

Put the external detergent and rinse aid containers in place. Insert the end of the tubing into the ceramic weight so that it exits from the flared end of the weight; insert the filter's barbed fitting in the same end of the tubing. Tighten the tubing by sliding the weight over the barb until it is flush with the filter.

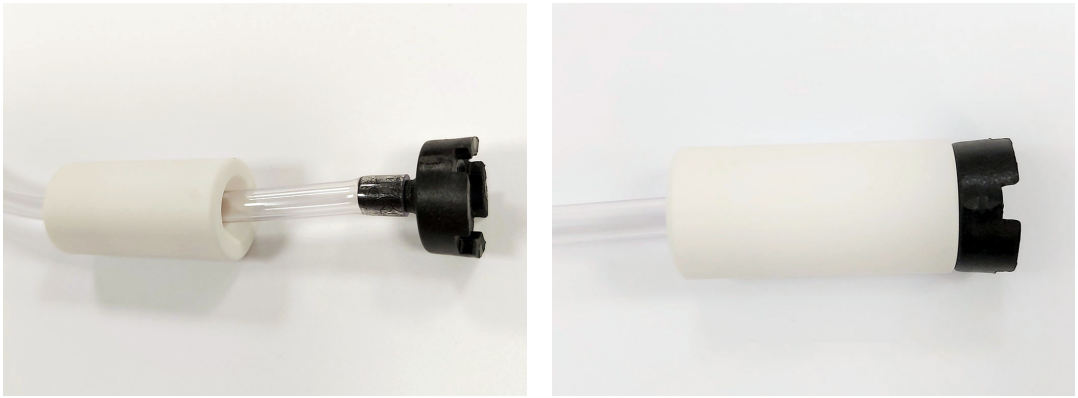


Fig. 14 Insert the hoses with the weights and filters

NOTE

It is strongly recommended to use the suction filter in all situations, assuring that it reaches the bottom of the product container. It should be cleaned periodically to remove product residual or accumulation of debris.

Trimmer setting — product concentration

The dosing pumps are located on the front.

Follow these steps to achieve the desired product concentration:

1. Open the lid on the dosing pump.

2. Start with the trimmer in the fully counterclockwise position.
3. Fill the machine with water and wait until it reaches the recommended wash temperature.
4. Start a program, and the product will automatically dispense into the tank until the setpoint is reached.
5. Adjust trimmer as needed.

Fig. 15 Dosing pumps - Adjusting the trimmer

Detergent sensor - Dosing pump

The probe for the detergent is located on the right-hand side, 100 mm to the right of the detergent junction box and 20 mm below it.

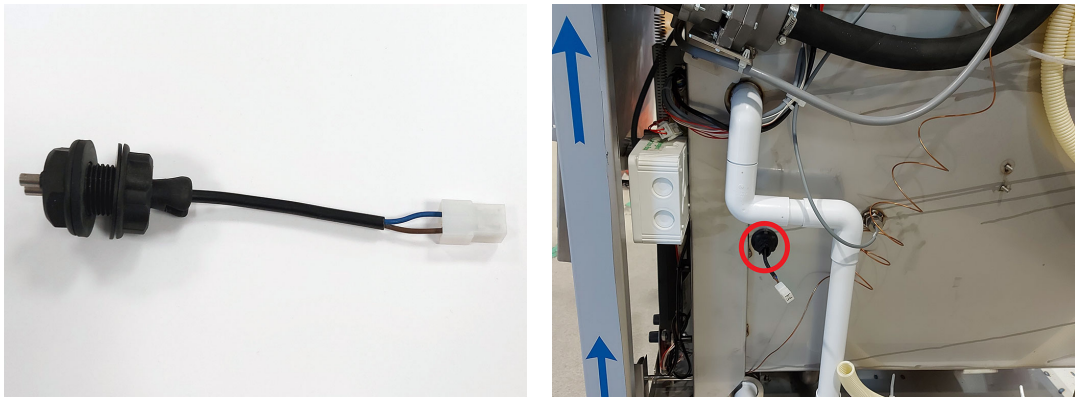


Fig. 16 Detergent sensor

2.3 Detergent and rinse aid — External dosing pumps

CAUTION

When handling detergents and rinse aid, use protective gloves and appropriate eye protection according to the detergent manufacturer's instructions.

Use detergents and rinse aid exclusively for industrial dishwashers. Do not use regular detergents for washing by hand. Do not use detergent containing chlorine.

CAUTION

Ensure not to mix up the detergent and rinse aid containers when topping them up, as the wrong product in the wrong container could cause malfunction and could damage the machine.

Do not mix different detergents, as this could damage the dispensing device. Detergents for industrial dishwashers can cause severe injuries. Follow the instructions from the detergent supplier.

CAUTION

Use caution to avoid personal injury or damage to the equipment!

NOTE

Only the pre-drilled hole and connections must be used for sensor, detergent and rinse aid. The dosing equipment is only to be connected to the detergent connection box. All dosing equipment must be fitted with a main switch. Maximum load on detergent/rinse aid connection is 0.5 A 230 VAC, fuse F3. Do not use detergent containing chlorine.

To obtain the best performance of this Nordisk Clean Solutions pot washer, we strongly recommend installing sensor-controlled detergent dosing equipment and appropriate rinse aid equipment.

The 230 V AC supply and the control signals for the detergent and rinse aid equipment are located in the junction box behind the front cover plate. There are terminal blocks listed in the junction box; see Fig. 18 *Detergent and rinse aid junction box*, page 26.

Fig. 17 Detergent and rinse aid junction box.

The dosing of rinse aid is normally done during the filling of the rinse tank; depending on the rinse aid, this could cause foaming in the rinse tank, causing error 112. To avoid this, the rinse aid dosing equipment could use the detergent signal and the equipment set to dose on time, if possible (fixed volume on positive flank). That means rinse aid dosing is done when the rinse tank is full and the foam is avoided.

NOTE

10–20% of the nominal voltage can be measured when the output is inactive and has no connected load.

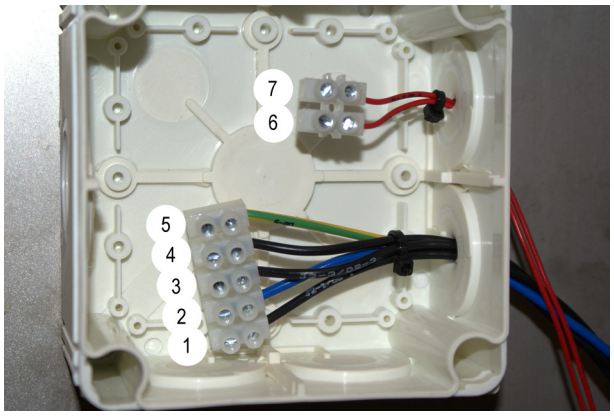


Fig. 18 Detergent and rinse aid junction box

1. Constant 230 VAC J 2–1
2. Neutral 230 VAC J 14–3
3. Detergent connection 230 VAC J 2–3
4. Rinse connection 230 VAC J 2–4

5. Earth PE
6. *Central dosing (filled wash tank) (factory setting)/Ventilation*

   control signal 24 VAC J 12–10
7. Neutral 24 VAC J 16-5

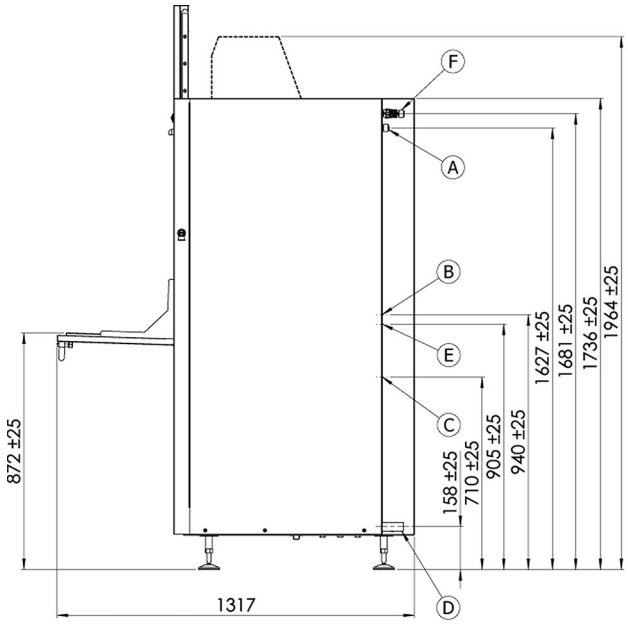


Fig. 19 Detergent and rinse aid connections, point B

Detergent connection

A longer transparent hose needs to be installed so it protrudes from the opening in the back cover to the external detergent dosing equipment; see (Fig. 19 *Detergent and rinse aid connections, point B*, page 27). The transparent hose is designed to take solid-style detergent. When installing liquid detergent, the liquid dosing hose must be pushed into the transparent hose and strapped in position.

Rinse aid connection

A longer 6/4 mm plastic tube must be installed from the rinse tank non-return valve. Protrude the hose from the opening in the back cover to the external rinse aid dosing equipment; see (Fig. 19 *Detergent and rinse aid connections, point B*, page 27).

The pre-drilled sensor hole is found on the right-hand side, 300 mm to the right of the detergent junction box and 100 mm below it. Remove the old sensor and install a new sensor; see (Fig. 20 *Detergent sensor*, page 28).

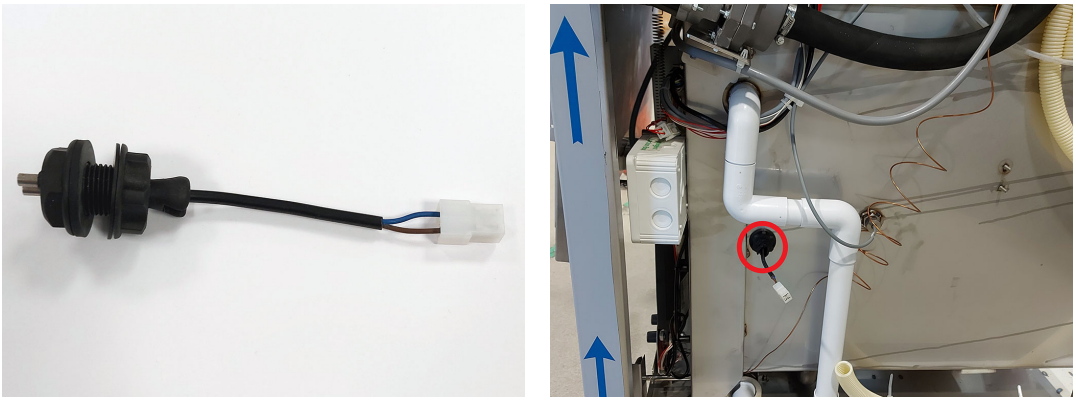


Fig. 20 Detergent sensor

The electrical connection of the detergent dispenser.

All cables outside the machine to the detergent junction box must be led through the white flexible pipe (Fig. 19 *Detergent and rinse aid connections, point B*, page 27) to protect the dosing equipment wires.

The 230 V AC supply and the control signals for the detergent and rinse aid equipment are located in the junction box front to the right and below the wash tank. There are terminal blocks listed in the junction box; see Fig. 18 *Detergent and rinse aid junction box*, page 26.

Detergent and rinse aid signals.

On machines with 9 kW, the Rinse aid signal will be active during the filling of the rinse tank, magnetic valve open.

On machines with 14 kW, the Rinse aid signal will be active at the beginning of each wash cycle. The Rinse aid signal will be active for 30 seconds.

CAUTION

The detergent supplier must use the existing holes to make no unnecessary holes in the machine.

All dosing equipment must be fitted with a main switch.

2.4 Control signals for Ventilation/Central dosing

The signal can be used to give input to the ventilation system of the building. The setting can be done in the user menu or settings menu.

The signal can be found as connection, Ventilation control signal/Central dosing (filled wash tank) 24 VAC J 12–10, in the detergent box.

For the function to be :

1 Factory setting signal is Ventilation; this means that the signal is on 10 minutes after the rinse process is started. If the door/hood is opened (i.e. to reload the machine), the signal is on for two minutes.

The signal will disappear as soon as the door/hood is closed.

The signal will be on for 2 minutes if the door/hood is opened in standby mode, that is, if the door is opened when the machine is filled and heated, waiting to be used.

2 If the setting is changed to Central dosing, the signal will be active when the tank is filled and heated.

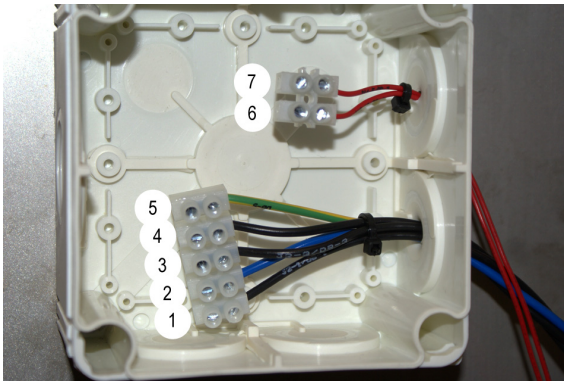


Fig. 21 Detergent and rinse aid junction box.

1. Constant 230 VAC J 2–1
2. Neutral 230 VAC J 14–3
3. Detergent connection 230 VAC J 2–3
4. Rinse connection 230 VAC J 2–4
5. Earth PE
6. *Central dosing (filled wash tank) (factory setting)/Ventilation*

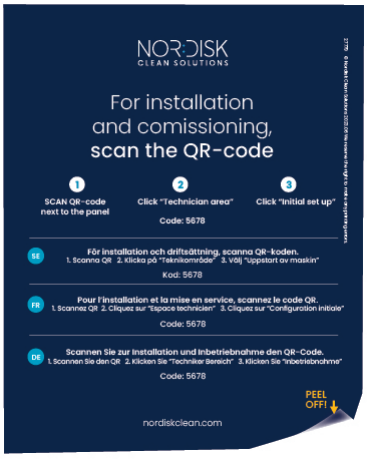
   control signal 24 VAC J 12–10
7. Neutral 24 VAC J 16-5

3 SIMpel™ Function at installation, commissioning and service

At delivery, there is a sticker on the display. The sticker is peeled off after the install/technician has installed the machine.

NOTE

The sticker is peeled off after the install/technician has installed the machine.



To make it easier for the operator/technician to find information about the machine and how to use it, there is a sticker with a QR code on the machine.

1 Scan the QR code on the sticker.

Fig. 22 QR-code on the sticker

2 When you scan the QR code, you enter the following menu.

(Note that the interface may vary depending on the device used).

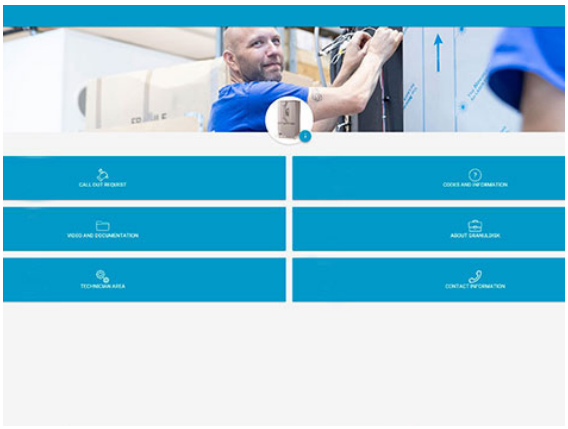
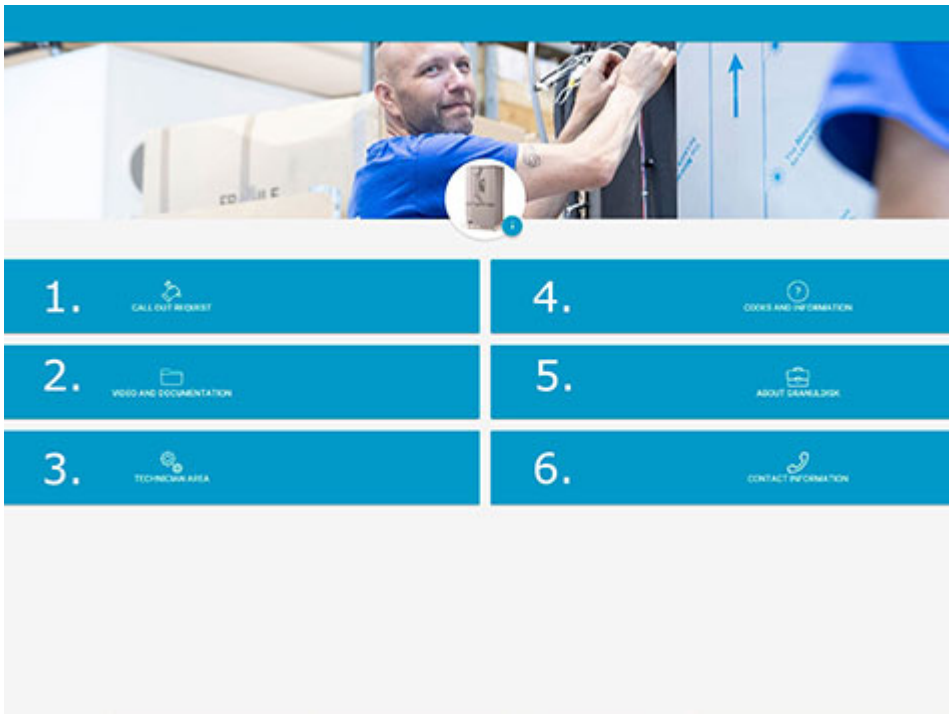


Fig. 23 Menu

3 Select the language in the upper right corner. English is the default language.

NOTE

- The Operator/End User uses this menu.



Explanation of the different boxes:

1. CALL OUT REQUEST	Make a service call on the machine
2. VIDEO AND DOCUMENTATION	User manuals and videos of accessories/ daily cleaning
3. TECHNICIAN AREA	Only for Technicians/Service Partners
4. CODES AND INFORMATION	List of error codes
5. ABOUT NOR:DISK	Link to our website
6. CONTACT INFORMATION	Contact information to a service partner

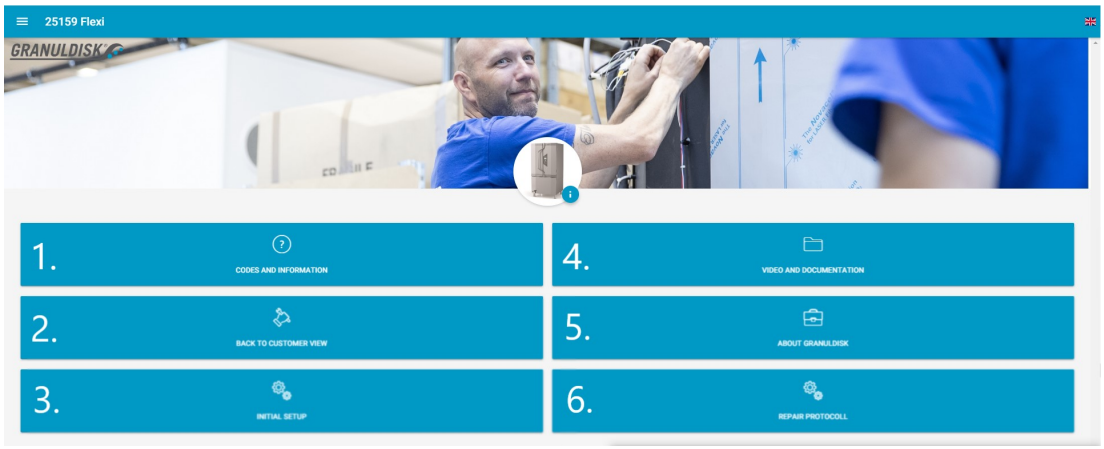
SELECT 3. TECHNICIAN AREA

A submenu is now entered that is for Technicians/Service Partners only:

1 Type 5678 for the pin code.

2 Confirm.

3 The following submenu now opens.



Explanation of the different boxes:

1. ERROR CODES	List of error codes.
2. BACK TO CUSTOMER VIEW	To return to the previous menu.
3. START-UP MACHINE	Used only when installing.
4. VIDEO AND DOCUMENTATION	List of manuals.
5. ABOUT NOR:DISK	Link to our website.
6. ACTION PROTOCOL	Here the technician fills in all maintenance actions that have been performed on the machine.

For the installer only!

When installing - Select 3 - Machine Start-up.

Review all points and upload the installation protocol.

4 Troubleshooting and error codes

NOTE

The checks in this chapter may only be carried out by qualified staff.

4.1 Troubleshooting

FAULT	CHECK
Machine will not fill with water.	1. Water valves for incoming water are open. 2. Rinse pump is rotating in the correct direction, phase order correct. 3. That the door is closing properly, function of the door switch. (Will not respond to button push.) 4. That the solenoid valve is working. 5. That the level sensor is clean and working properly. 6. Solenoid valve water filter is clean. 7. Rinse tank level sensors works.
The display will not light up.	1. Main power is switched on. 2. Main switch Q1 in electrical connection box. 3. Fuse F5 (24 VAC) and circuit breaker F2. 4. Cable connection between PCB and display panel. 5. Continuity of cable between panel and PCB. 6. Supply disconnecting device to the machine (power switch) is in on position.

FAULT	CHECK
Main PCB (I/O board) does not start. (Green LED is not lit).	1. Check the 24 VAC supply is OK, measure at J1–3 –4. 2. ID 0 or all IDs have no connection to the Main PCB (I/O board) (only IDs 1–3 disconnected and will give error 143).
Wash result not satisfactory.	1. The wash nozzles are not blocked. 2. The wash water temperature is approx. 65 °C. 3. The detergent dosing is correct. 4. Basket drive motor broken 230V fuse F4. 5. There is not too much foam in the machine while washing (see **Foam test*, page 37). 6. The wash basket can rotate; no items stick out of the wash basket or basket not skewed. 7. That the pots are placed correctly. 8. The protective grid for the wash pump has not been blocked. 9. The wash pump is rotating in the right direction, according to the arrows on the fan cover and runs correctly. 10. The rinse pump rotation is clock wise seen from front.

FAULT	CHECK
EcoExchanger fan will not run.	1. Check fuse F4. 2. Check in the menu entrance setting that the “Steam reduction equipment menu 8” setting is **Not** set to “0” (0=off); see 5.7 *Menu entrance*, page 53. The preselected value is 60 seconds.
Basket drive motor is not running.	1. Check fuse F4 on main PCB. 2. If it is an EcoExchanger machine: In the menu entrance, change the “Steam reduction equipment menu 8” setting to “0” (0=off); see 5.7 *Menu entrance*, page 53. If the fuse now holds, the problem is in the Fan system.

***Foam test**

1 Run a wash program. The pot wash basket must be in the machine.

2 When separation is done, stop the program.

3 When the pump has stopped, wait five seconds, open the door and check how much foam there is. There will be some foam. The foam must disappear relatively quickly.

No chemical other than the connected detergent and rinse aid must be in the wash tank!

All inside surfaces of the wash tank, including the doors and seals, must only be cleaned with water.

4.2 Error codes

The meaning of the error codes can be read out from the table below.

- User related notices are codes 109, 116, 118, 120 and 132. They appear with a message in the display.
- When an alert is displayed, the program is always interrupted.
- After checking and taking care of the problem, the alert can be reset by pressing the STOP button.

Error code	Meaning	Cause	Remedy
001	Program interrupted by operator.	Someone opened the doors or pressed the STOP button during operation/wash cycle.	This error code is displayed only when operating data is read.
103	Motor protector for rinse pump tripped.	The motor is overloaded, program is interrupted.	Check that the impeller turns freely, reset the motor circuit breaker, start the machine and check the current and voltage of all three phases. Check Ampere setting on the motor protector
104	Overheating protector for rinse tank tripped.	The rinse tank heater has overheated.	Check the functioning of the level sensors, and check that the machine is filling with water. Reset the overheating protector.
105	Overheating protector for wash tank tripped.	The wash tank heater has overheated.	Check the function of the level sensors, clean. Check that the machine is filling with water. Reset the overheating protector.

Error code	Meaning	Cause	Remedy
107	Temperature not reached in wash tank.	Heating takes too long. Heater broken? Lime on the heater.	Check the heater circuit breaker and the contactor in the electrical cabinet. Can also be caused by low temperature of incoming water.
108	Temperature not reached in rinse tank.	Ongoing process interrupted. Heating takes too long. Heater broken? Lime on the heater.	Check the heater circuit breaker and the contactor in the electrical cabinet.
109	Door switch.	The door has accidentally been opened during operation.	Close the door and reset the alarm by pressing the STOP button.
110	Temp sensor rinse tank not working.	The temperature sensor in the rinse tank is broken.	Check the connector at I/0 board, tighten the screws. Replace the temperature sensor in the rinse tank.
111	Temp sensor wash tank not working.	The temperature sensor in the wash tank is broken.	Check the connector at I/0 board, tighten the screws. Replace the temperature sensor in the wash tank.
112	Water level too low in rinse tank.	The level in the rinse tank has fallen incorrectly.	Check the water connections from the rinse tank. Check the condition (value) of the upper and lower level sensor in the rinse tank. Leakage of rinse system. Foam in the rinse tank.

Error code	Meaning	Cause	Remedy
113	Water level too low in wash tank.	The level in the wash tank has fallen incorrectly.	Check the water connections to the wash tank, as well as the drainage pipe and the drain valve. Check level sensor in wash tank.
114	Long wash tank filling time.	Wash tank filling has exceeded its time limit.	Check the water supply to the machine, as well as the rinse pump. Clean the rinse nozzles/ pipe. Check the sensitivity of level sensors. Clean the inlet valve filter.
115	Long rinse tank filling time.	Rinse tank filling has exceeded its time limit.	Check the water supply to the machine, as well as the solenoid valve and the filter (in the inlet to the machine) for rinse tank filling. Check the condition (sensitivity value) of level sensors in the rinse tank. Lime on the rinse nozzles, blocked. Check the rinse pump.
116	Low water level, problem with foam	Foam forming in the machine.	Avoid using detergent designed for washing up by hand. Change the wash water. Contact the detergent supplier if the problems with foam formation still persist. Reset the alarm by pressing the STOP button.

Error code	Meaning	Cause	Remedy
117	Long rinse time.	Too long rinse time. Correct water volume has not been reached in time.	Check rinse pump function. Clean the rinse nozzles, and check if the lower level sensor in rinse tank is emitting a faulty signal. Lime on the rinse nozzles?
118	Drain valve not closed.	The drain valve has opened during an active process in the machine.	Close the drain valve and reset the alarm by pressing the STOP button.
119	Motor protector, wash pump tripped.	The motor is overloaded, program is interrupted.	Check that the impeller turns freely, reset the motor circuit breaker, start the machine and check the current of all three phases.
120	Basket drive device blocked.	Something is preventing the rotation of the basket.	Check that all wash ware is loaded properly in the basket; reload if necessary. Check the magnetic proximity switch and two magnets on the torque arm. The spring on the torque arm is connected. Check fuse F4 on the PCB.
130	I/O circuit board not tested at manufacture.	System error, I/O circuit board out of order from manufacturer.	Exchange I/O circuit board.

Error code	Meaning	Cause	Remedy
132	Clean the wash tank level sensor.	The wash tank level sensor is probably dirty or water is not exchanged after longer shut down period.	Lower the water level and clean the level sensor in the wash tank. Refill the tank. If sensor is already cleaned, reset the error and set the machine in heating mode for continued heating.
133	Short rinse time.	Rinse water was pumped out too fast, causing insufficient rinsing and heating of the pots and pans.	Check all rinse nozzles, no missing nozzles, leaks. Check that nozzles are not too open, worn out.
134	Level detection function in the rinse tank is out of order.	False level signal from one of the level sensors in the rinse tank.	Check function of the level sensors in the rinse tank.
143	ID error	Electrical error, identity outside range.	Check connections to ID resistors.
144	Wrong incoming voltage to I/O circuit board.	Wrong incoming voltage to I/O circuit board.	Continued operation can cause damage to the machine. Check voltage on supply. Check that the correct primary on the transformer is used.

5 Settings

5.1 Preselected values in Service menu

Factory settings in service mode, Program version (SoloWaterProg_ 5_16):

#		**Factory setting C6**	**Unit**
1	Short wash time	120	sec.
2	Normal wash time	210	sec.
3	Time control the rinse pump Pot wash Other	NO	
4	Rinse time	30	sec.
5	Steam reduction equipment	YES	
6	Steam reduction time	60	sec.
7	Wash tank temperature	65	°C
8	Rinse tank temperature	85	°C
9	Temperature block in the wash tank	YES	
10	Temperature block in the rinse tank	YES	
11	Type of rinse aid dosage	Per cycle	
12	External control signal	Tank full	
13	Sensitivity on level sensor wash tank	600	
14	Sensitivity on level sensors rinse tank	600	
15	Pressure reduction (Pre-scavenging) at program start	NO	

16	Impulse time on the pump during prescavenging	200	ms
17	Alarm Low water level	20	sec.
18	Alarm Wash temperature not reached	50	min.
19	Alarm Rinse temperature not reached	15	min.
20	Alarm Long fill time in the wash tank	35	min.
21	Alarm Long fill time in the rinse tank	5	min.
22	Change water after	30	Cycles

5.2 FlashLoader IO 5.1

With this PC program it is possible to:

1. Troubleshoot using the inputs & outputs on the I/O circuit board.
2. Reset Service timer.
3. Change date & time in the machine.

Installation

The program can be supplied on a USB or by e-mail and is installed as follows:

1. The system requirements for external computers connected are Windows 2000, Windows XP, Windows 7, Windows 8 or Windows 10.
2. Create a folder for the program on the hard drive. Use “Windows Explorer”.
3. Save the files in the folder that was just created on the hard drive.

Tip: create a shortcut on the desktop to make it easier to find the program when needed.

Cable connection

1 Put the wash machine in “stop” mode by pressing the STOP button [2].

2 Connect the service cable between the machine serial connector and the computer’s serial port. The cable can be obtained as a spare part (part number 23502). The cable must be connected to J7 on the I/O circuit board.

If the computer does not have a serial port, a USB/serial adapter can be used. The cable can be obtained as a spare part (part number 20774). For information on what is suitable to a particular computer, contact an IT specialist.

3 Connect the cable in the machine’s electrical cabinet to the J7 terminal on the I/O circuit board, the operators panel cable has to be disconnected.

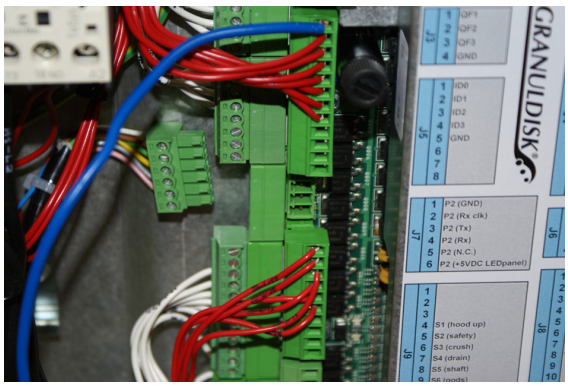


Fig. 24 J7 connection, operators panel disconnected.

How to use the FlashLoader

1 Start the program by double-clicking on the program file FlashLoader Extended 5.1.exe in the folder or by clicking on the short cut icon on the desktop.

2 Select serial port, by clicking on Communication/Ports, and select the port to which the pot washing machine is connected. (FlashLoader remembers this setting next time the program is started.) The port can be checked by using the control panel or "Device manager" menu in Windows.

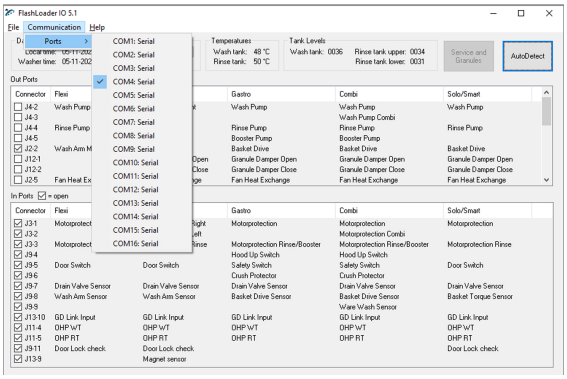


Fig. 25 Setting the correct com port.

3 Click "Auto detect".

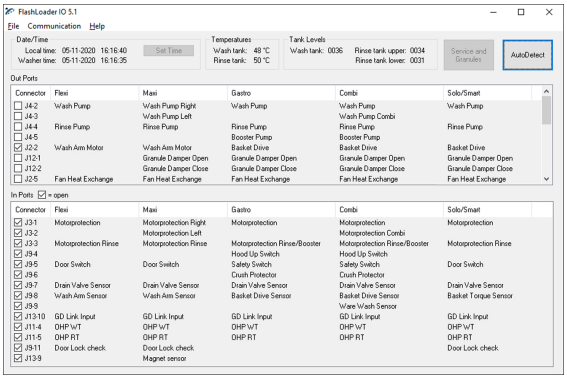


Fig. 26 Making the connection with the machine.

4 The I/O board/machine is now connected.

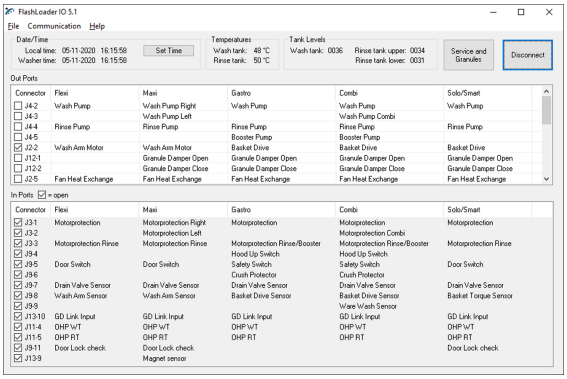


Fig. 27 Running the machine with FlashLoader

5 Update date and time in the PC settings by pressing “Set Time”. See Fig. 27 *Running the machine with FlashLoader*, page 46.

Service

The menu is entered by pressing the “Service and Granules” button. In this menu, the values for GD Memo can be set. The service can be set. The type of service that was last performed.

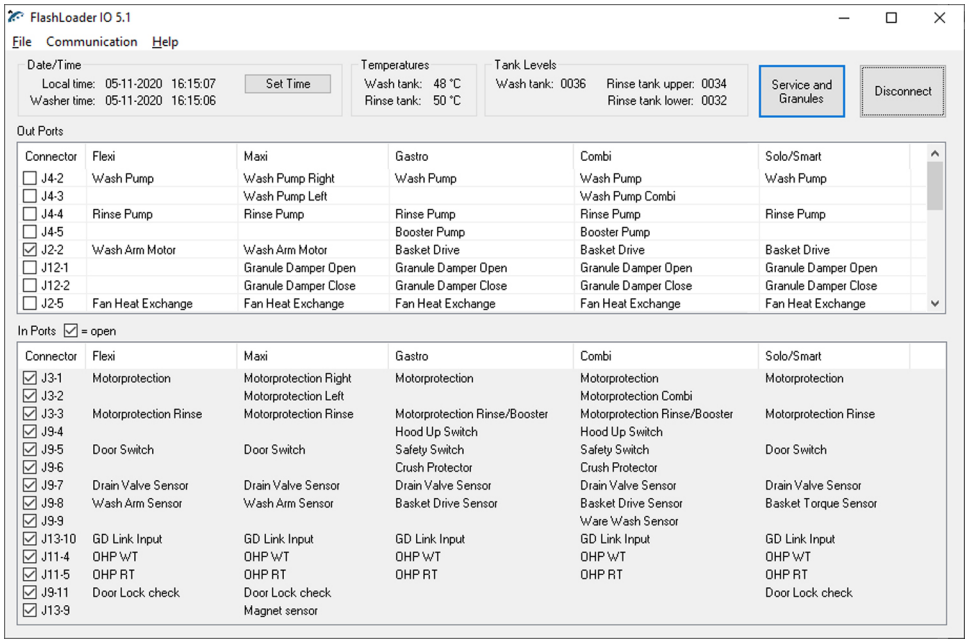


Fig. 28 To enter the menu.

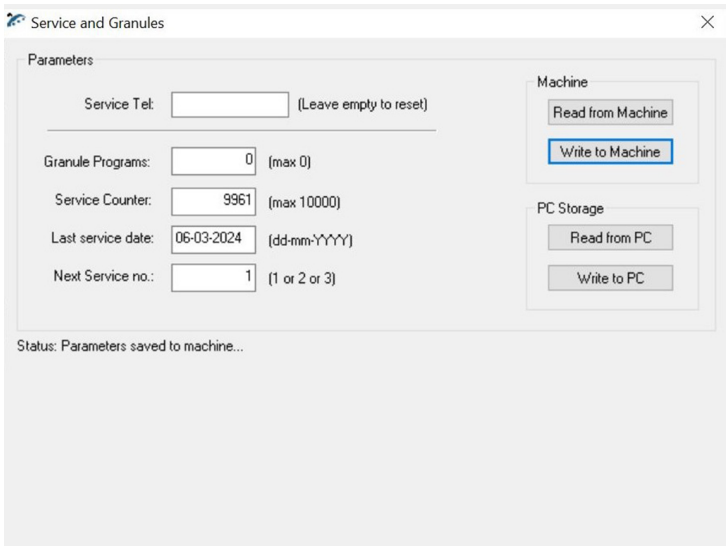


Fig. 29 Menu open

Update by entering the values and click on “Write to Machine”.

FlashLoader for troubleshooting

1 Connect the computer by clicking “Autodetect”. (If not done in previous section).

CAUTION

Only tick one function at a time.

Heaters can be turned on without water.

Pumps will only run if the doors/hood are closed.

2 When the “Out Ports” field is white, the outputs can be forced remotely.

The inputs are displayed in the “InPorts” field.

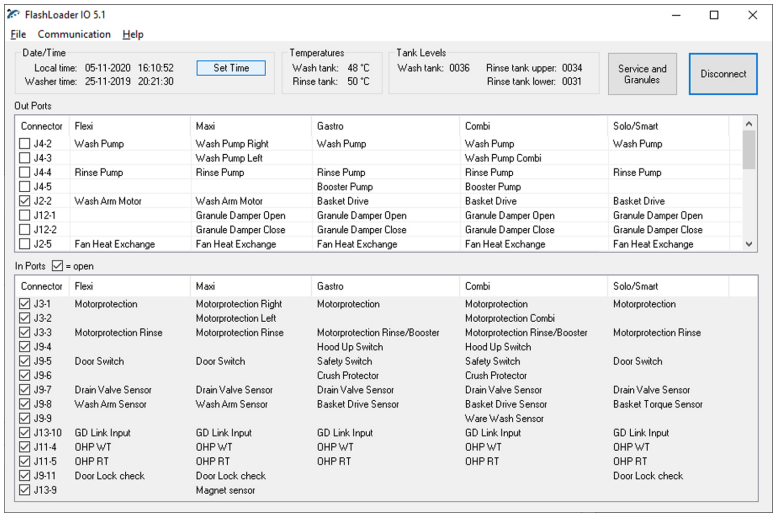


Fig. 30 Example: Basket drive ticked, basket drive out port forced, basket drive motor running

Displayed at the top of the screen is:

- Time
- Temperature values
- Tank levels (No level<000, Level>409.)

Always finish the session by pushing “Disconnect”. Restart the machine and make sure it runs

Tip: When looking at the ticks on “In Ports” always look for changes when the sensor/function is manipulated. (By hand or using the Out Ports).

In this mode no information is shown on the machine’s display.

If the display is reconnected without restarting the machine, press STOP button to start the display.

5.3 Uploading new wash program to the machine

To upload new software, store the new software in the root directory of a USB memory stick. The current version is “SoloWaterProg_5_16.hex”.

1 Turn off the power to the machine.

2 Connect the USB to the external USB connector or the USB connector on the I/O circuit board.

3 Turn on the power to the machine.

4 The green LED on the I/O circuit board will now start to flash and when it has a steady light the uploading is done.

   If the led does not flash, the upload has failed.

5 When the LED has a steady light, the USB stick can be removed.

6 Uploading is now done and the new software is ready to be used.

NOTE

No accumulated values or HACCP data will be erased.

5.4 Reading HACCP data from the machine

- The operating data for the 200 most recent wash programs can be saved on a USB-memory (Saving the Log-file to USB-memory) for further processing.
- Both the external USB connector or the USB connector on I/O circuit board can be used.
- On a computer the file can be viewed by programs that can handle text files, Notepad, Word, Excel etc.

1 Press the button Stop [2], release and wait 3 seconds.

2 Insert a USB stick.

3 Hold the buttons P1 [3] and P2 [4] and unmarked [6] for 2 seconds.

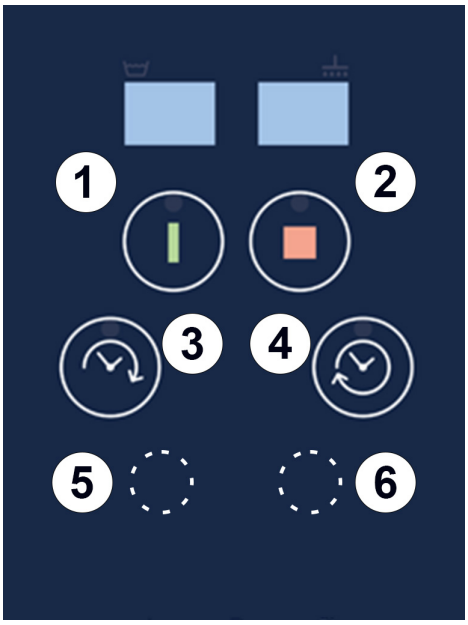


Fig. 31 Save to USB memory by pressing P1 [3], P2 [4] and unmarked [6] to the right for two seconds.

4 After approximately 25 seconds, the function button [1] is lightened up green.

5 The memory stick is ready to be removed when the green light goes out.

5.5 ID-control for the machine

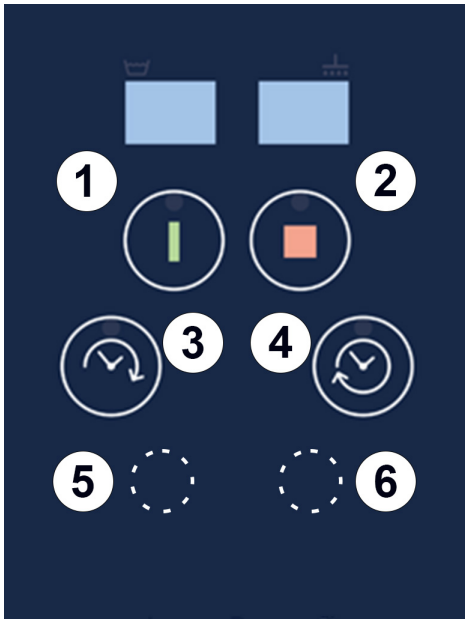
1 Press the button Stop [2], release and wait 3 seconds.

2 Hold the buttons Ok [1] and P1 [3] for 3 seconds.

3 The Id 0, Id 1, Id 2, and Id 3 values are displayed in sequence with 1 second in between.

5.6 GD Memo™

GD Memo is an integrated function which informs the user of the machine's most important maintenance requirements. With GD Memo, it is possible to ensure optimum wash results, avoid breakdowns during peak hours and maintain the lowest possible operating costs. This function is integrated in the control panel and keeps the user informed as follows:



1. **Time to change wash water**

   —to ensure a good washing result. The button unmarked [6] flashes. This information disappears automatically once the water has been changed or can be reset by pressing Stop button [2], releasing it, waiting 3 seconds and then pressing button unmarked [6] five times. OK is shown in the display during 2 seconds after the reset. This reminder appears after every 30 wash cycles in preset. The number of washes may be varied between 15 and 40 washes.

2. **Time for periodical service**

   — to avoid expensive repairs and unnecessary breakdowns. The button STOP [2] flashes. Either "Time for service 1", "Time for service 2" or "Time for service 3" depending on which service is required. Sequence for service calls are: 1, 2, 1, 3, 1, 2, 1, 3... .The reminder can be reset by an authorised service technician, once the service is performed. OK is shown in the display during 2 seconds after the reset. Service message appears every 10.000 programs or once every 20 months, whichever occurs first.

5.7 Menu entrance

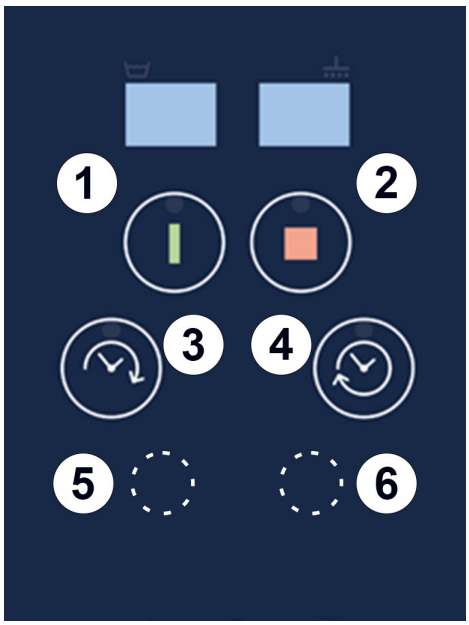
NOTE

All codes are accessible only when button [2] is lit.

To access the parameter menu:

Press the button Stop [2], release and wait 3 seconds.

Press the button P2 [4] five times.



Resetting — Change water

1 Fill the wash tank for more than 3 minutes or:

2 Press the button Stop [2], release and wait 3 seconds.

3 Press the button unmarked [6] five times.

Resetting — Service

1 Press the button Stop [2], release and wait 3 seconds.

2 Press the button combination unmarked [5], unmarked [6], P1 [3] and P2 [4] two times.

Control and settings through the operators panel

1 Press the button Stop [2], release and wait 3 seconds.

2 Press the button P2 [4] five times.

3 The first digit in the display is the number on the menu.

4 Toggle the menus by pressing the buttons P1 [3] or P2 [4].

To change parameter 1, 6, 7 and 8:

1 Press the button unmarked [5]. Changed value will flash.

2 Change value by repeatedly pressing the same button.

3 Save setting by pressing the button OK [1]. Value stops flashing when it is saved.

4 To leave the menu, press the button Stop [2].

Menu	Parameter	Value
1	Type of rinse aid dosage	on = Per liter water (factory setting) oFF = Per cycle
2	Value on wash tank level sensor	409 = Level 000 = No level
3	Value on upper rinse tank level sensor	409 = Level 000 = No level
4	Value on lower rinse tank level sensor	409 = Level 000 = No level
5	Status of the door switch:	on = Door closed oFF = Door open
6	Temperature block in wash tank	on = Temperature block on (factory setting) oFF = Temperature block off
7	Temperature block in rinse tank	on = Temperature block on (factory setting) oFF = Temperature block off
8	Steam reduction / EcoExchanger time	60 sec [0-90/0=off]

6 Routines for long time storage

Routine for storing the C6 when not in daily use.

1. Drain the machine and leave the drain valve open.
2. Perform an extra careful daily cleaning of the machine.
3. Any water remaining at the bottom of the tank should be removed with a sponge or similar absorbent.
4. Lubricate the door seals.
5. Turn off the supply disconnecting device and the inlet water supply.
6. Leave the door open. Ensure that the door is left open so that air can circulate.
7. Service #1 must be carried out if the machine has been stored for over 3 months.

7 Warranty

The following requirements apply for a valid Nordisk Clean Solutions product warranty:

The standard warranty is valid for 12 months from commissioning or at the most 15 months from the date the goods are delivered from Nordisk Clean Solutions in Malmö, Sweden.

The warranty is valid only if the product has been utilized for normal and proper use in a catering kitchen, or similar, and is correctly installed according to instructions and requirements supplied by Nordisk Clean Solutions.

Nordisk Clean Solutions shall remain liable for a period of twelve (12) months (warranty period) for the removal and replacement of any parts of the goods suffering from “Epidemic failure”. The notification of such a defect shall be done by the Distributor prior to the end of the warranty period.

“Epidemic failure” refers to any defect which has appeared in any consecutive 12-month period in 10 % of any parts of the goods of a similar type and nature to each other.

The warranty does not include compensation for personal injury, loss of production, loss of profit or any other indirect losses.

The warranty is valid ONLY if periodic maintenance has been performed by an authorized Service Partner and reported to the local Nor:disk representative. The Nor:disk Product's Operator display reminds users when Service is needed.

Periodic Maintenance and parts needed for this are not covered by the Warranty.

The warranty does not cover wear to metal and consumables such as light bulbs, filters, fuses, gaskets, etc.

Every month, the distributor shall provide Nor:disk with a list of spare parts which have been replaced under the warranty, specifying machine number and information about the defect.

Nordisk Clean Solutions decides which replaced spare parts must be returned for examination at Nor:disk.

Incomplete documentation may result in the warranty being null and void.

The return of parts covered by the warranty must be approved by your local Nor:disk After Sales representative and clearly labelled with machine number and copy of packing slip for replacement part.

The warranty is valid only if Nor:disk spare parts are being used and if a completed and signed Site Survey/Installation Protocol is returned to Nordisk Clean Solutions.

The cost of labour for warranty repairs is not covered by Nordisk Clean Solutions.

The warranty covers faults caused by defects in construction, materials or fabrication.

8 Maintenance and Service

8.1 Wash tank

Adjustment of drain valve sensor

1 Adjust the distance between magnet and sensor to 3-5 mm. **Hand tighten** the lock nuts only, maximum Torque 0.3 Nm.

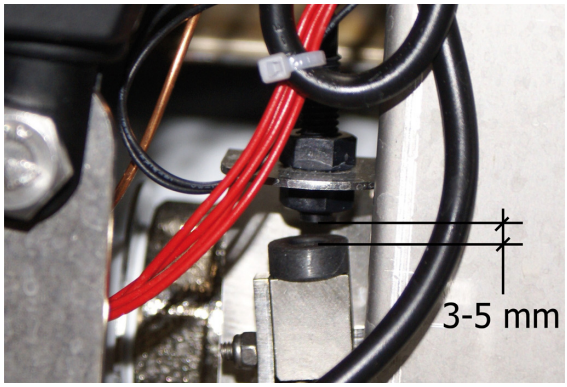


Fig. 32 Distance between sensor and magnet.

Replacing the wash tank overheat protector

1 Turn the electrical supply off.

2 Undo the front cover plate.

Fig. 33 Overheat protectors.

3 Undo the electrical connection.

4 Retract the sensor tube from the heater.

5 Straighten the new sensor tube before it is inserted into the heater.

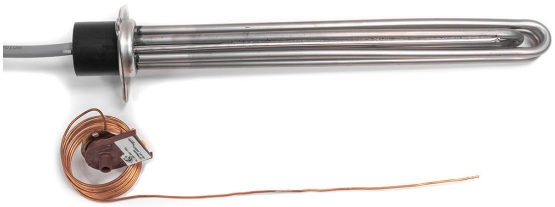


Fig. 34 Sensor tube before insertion.

6 Push the sensor into the tube of the heater. Make sure it is **fully inserted**. When inserting, grip the tube close to the heater and insert it little by little to avoid bending.

Fig. 35 Insertion of the sensor tube.

7 Connect the new overheat protector electrically.

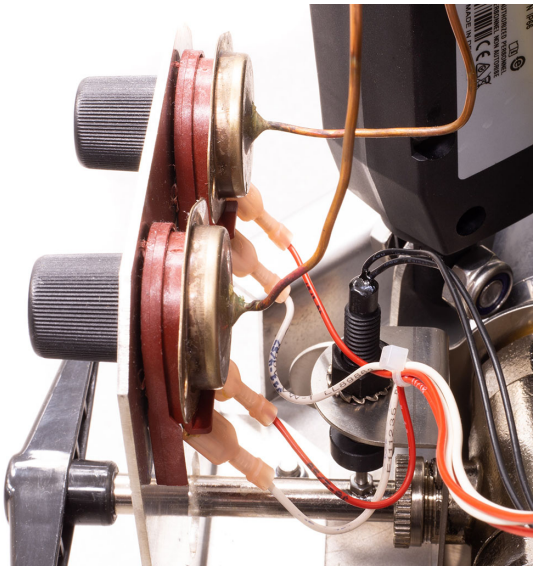


Fig. 36 Connection of overheat protector.

8 Fasten the overheat protector on the plate and mount the cap.

9 Strap the rest of the sensor tube to the heater cable.

Replacing the wash tank temperature sensor

1 Make sure that the wash tank is empty.

2 Turn the electrical supply off.

3 Undo the front, right front and right cover plate.

4 Undo the sensor by undoing the bolt.

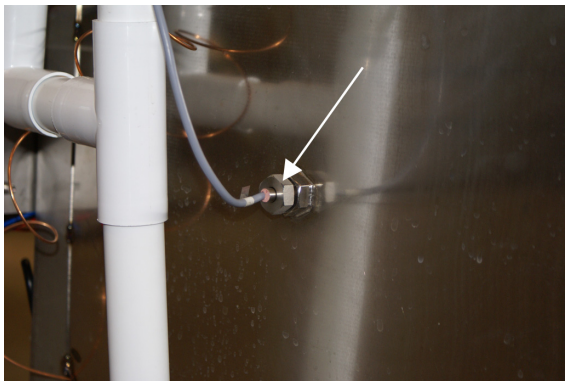


Fig. 37 Bolt for the temperature sensor.

5 Cut the cable into several pieces so it can be retracted from the cable ties.

NOTE

The new sensor's cable must be strapped in the same place as the old cable.

6 Mount the new sensor using a new O-ring.

7 The new sensor is mounted by pressing the sensor body through the rubber conduit in the electrical connection box from within. The cable is then pulled through until only a short piece remains, long enough to reach the PCB connector with some slack.

8 Strap the cable to the harness where the old cable was strapped. The cable must be strapped on the outside of the hoses going into the electrical cabinet.

CAUTION

*Do **NOT** tighten the cable ties too much. The cable should be held in place but not getting its insulation deformed.*

CAUTION

*Do **NOT** strap or bend the cable in a smaller radius than 70 mm. Make sure there is some slack in the corners for the cable.*

WARNING

*Do **NOT** cut the cable to shorten it.*

WARNING

*Do **NOT** strap the sensor cable to the high voltage cables (heaters, pumps).*

9 Turn the machine on. Make sure that the water supply is on and the door is closed. Press the "OK" (black) [1] button.

The machine will now start the filling process; the heating will start in the wash tank when the machine is filled. The sensor will sense the increasing temperature and will be shown in the display.

Replacing the wash tank level sensor

1 Turn off the electrical supply.

2 Undo the front cover plate.

3 Ensure the wash tank's water level is well below the level sensor.

4 Disconnect the cable from the level sensor.

5 Undo the level sensor from the inside of the wash tank.

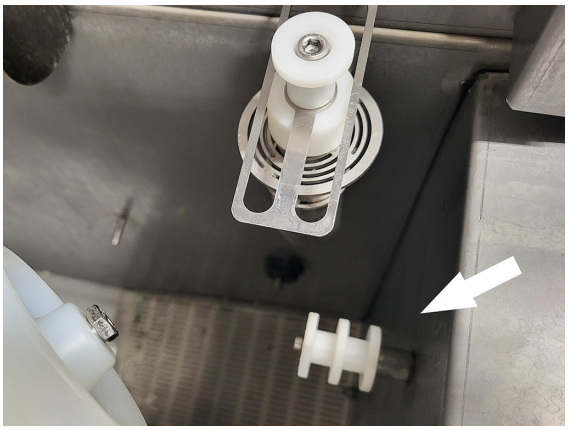


Fig. 38 Wash tank level sensor.

6 Clean the treads if necessary with a thread tap, 1/8" BSP (If thread sealant was used previously).

7 Mount the new sensor with a new O-ring.

8 Connect the cable to the level sensor.

9 Turn the electrical supply on.

10 Start the filling process; the heating will start in the wash tank when the water level reaches the sensor. The sensor will sense the increasing temperature and will be shown in the display.

11 Check value on the level sensor when the level is below the sensor (correct value approx. <000) and with a full tank (correct value 409). Use Flash loader software and computer to check the values, or by using the user menu on the machine, see 5.7 *Menu entrance*, page 53. To enter menu: press “0” [2], release and wait 3 seconds and then press program P2 [4] five times. Now the operator's menu is entered. First digit in the display is number on the menu. Toggle the menus by pressing the buttons P1 [3] or P2 [4]. Menu 2 is the Value on wash tank level sensor. Menu 3 is the Value on rinse tank level sensor. Leave the operators menu by pressing “0” [2] twice.

12 Refit all cover plates.

8.2 Rinse system

Cleaning the rinse system

1 Undo the front, right front and right cover plate.

2 Close the door. Run the pump by pressing the contactor (K4) for the rinse pump, or run the pump using FlashLoader software to empty the rinse tank.

ELECTRICAL

Risk of electric shock. Be careful when working in the electrical cabinet.

3 Turn off the electrical supply.

4 Empty the last water through the drain plug hole. Deflect the water out of the machine.

WARNING

Contents may be hot.

Fig. 39 Drain plug.

5 Clean the tank by rinsing it with a hose from the top.

6 Refit the drain plug.

7 Undo all rinse nozzles and the end plugs from the rinse pipe.

8 Turn the machine on.

9 Fill the machine with water using the normal procedure.

The wash tank is filled through the rinse system.

10 Inspect the rinse nozzles and clean off deposits and dirt. If necessary, replace.

11 Refit the rinse nozzles and the end plug.

CAUTION

All rinse nozzles/end plug(s) must be fitted when washing; if not mounted, the time for rinsing will be wrong.

12 Refit all cover plates.

Replacing the rinse tank overheat protector

1 See *Replacing the wash tank overheat protector*, page 59.

NOTE

The overheat protector must be mounted in the rinse tank heaters.

Replacing the heater on the rinse tank

1 Close the door. Run the pump by pressing the contactor (K4) for the rinse pump, or run the pump using FlashLoader software to empty the rinse tank.

ELECTRICAL

Risk of electric shock. Be careful when working in the electrical cabinet.

2 Turn off the water supply and electrical supply.

3 Empty the last water through the drain plug hole; see pos 3 Fig. 40 *Heater with overheat protector.* Deflect the water out of the machine.

WARNING

Contents may be hot.

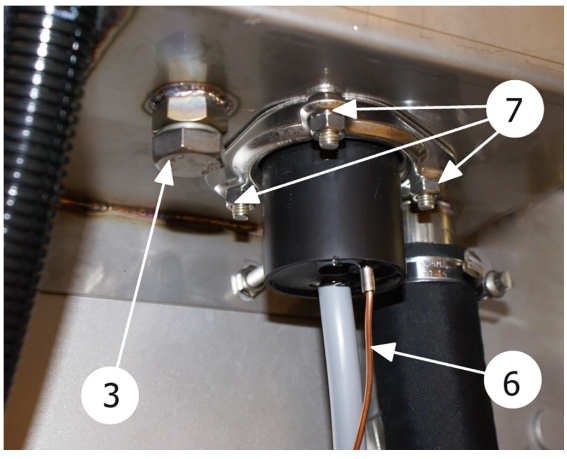


Fig. 40 Heater with overheat protector.

4 Undo the electrical connection in the electrical cabinet.

5 Remove the cable ties necessary to remove the heater cable.

6 Remove the overheat protector from the heater; see pos 6 Fig. 40 *Heater with overheat protector.*

7 Undo the three nuts holding the heater; see pos 7 Fig. 40 *Heater with overheat protector.*

8 Replace the heater with a new O-ring.

9 Tighten the nuts evenly.

10 Mount a new overheat protector and connect it electrically; see *Replacing the wash tank overheat protector*, page 59. Note that the overheat protector must be mounted in the rinse tank heater.

11 Connect the heater to the electrical cabinet. Replace the cable ties.

Replacing the rinse tank temperature sensor

CAUTION

Do not bend the cable in a small radius.

Use only a Voltmeter; Ohm meter could damage the sensor.

1 Undo the front, right front and right cover plate.

2 Close the door. Run the pump by pressing the contactor (K4) for the rinse pump. or Run the pump using FlashLoader software to empty the rinse tank.

ELECTRICAL

Risk of electric shock. Be careful when working in the electrical cabinet.

3 Undo the sensor by undoing the bolt.

WARNING

Contents may be hot.

4 Cut the cable into several pieces so it can be retracted from the cable ties.

5 Mount the new sensor using a new O-ring.

6 The new sensor is mounted by pressing the sensor body through the rubber conduit in the electrical connection box from within. The cable is then pulled through until only a short piece remains, long enough to reach the PCB connector with some slack.

NOTE

The new sensor's cable must be strapped in the same place as the old cable.

7 Strap the cable to the harness where the old cable was strapped. The cable must be strapped on the outside of the hoses going into the electrical cabinet.

CAUTION

*Do **NOT** tighten the cable ties too much. The cable should be held in place but not getting its insulation deformed.*

CAUTION

*Do **NOT** strap or bend the cable in a smaller radius than 70 mm. Ensure there is some slack in the corners for the cable.*

WARNING

*Do **NOT** cut the cable to shorten it.*

WARNING

*Do **NOT** strap the sensor cable to the high voltage cables (heaters, pumps).*

8 If the drain plug was removed earlier, remount it. Turn the machine on. Make sure that the water supply is on and the door is closed. Press “OK”, [1] button.

9 The machine will now start the filling process; the heating will start in the wash tank when the machine is filled. When the heating is done in the wash tank, the heating in the rinse tank starts. The sensor will sense the increasing temperature and will be shown in the display.

10 Refit all cover plates.

Replacing the rinse tank level sensors

1 Undo the front, right front and right cover plate.

2 Run the pump by pressing the contactor (K4) for the rinse pump, or Run the pump using FlashLoader software to empty the rinse tank.

ELECTRICAL

Risk of electric shock. Be careful when working in the electrical cabinet.

3 Turn off the electrical supply.

4 Disconnect the cables from the level sensors.

WARNING

Contents may be hot.

5 Undo the level sensors from outside the wash tank.

6 Clean the treads if necessary with a thread tap, 3/8" BSP (If thread sealant was used previously).

7 Mount the new sensors.

8 Connect the cables on the level sensors. Attach the purple protecting caps on the level sensors.

9 Turn the electrical supply on.

10 The machine will now start the filling process; the heating will start in the wash tank when the machine is filled. When the heating is done in the wash tank, the heating in the rinse tank starts. The sensor will sense the increasing temperature and will be shown in the display.

11 Check value on the level sensor when the level is below the sensor (correct value approx. <000) and with a full tank (correct value 409). Use Flash loader software and computer to check the values, or by using the user menu on the machine, see 5.7 *Menu entrance*, page 53. To enter menu: press "0" [2], release and wait 3 seconds and then press program P2 [4] five times. Now the operator's menu is entered. First digit in the display is number on the menu. Toggle the menus by pressing the buttons P1 [3] or P2 [4]. Menu 2 is the Value on wash tank level sensor. Menu 3 is the Value on rinse tank level sensor. Leave the operators menu by pressing "0" [2] twice.

12 Refit all cover plates.

Replacing the rinse pump

1 Empty the machine by opening the drain valve.

2 If possible, run the rinse pump using Flash loader software to empty the rinse tank.

3 Undo the front, right front and right cover plate.

4 Turn off the water supply and electrical supply.

5 Empty the water through the drain plug hole. Deflect the water out of the machine.

WARNING

Contents may be hot.

Fig. 41 Drain plug.

6 Undo the hose clamps on the pump.

7 Disconnect the motor at the electrical connector.

8 Undo the two screws fastening the pump. Undo the pump.

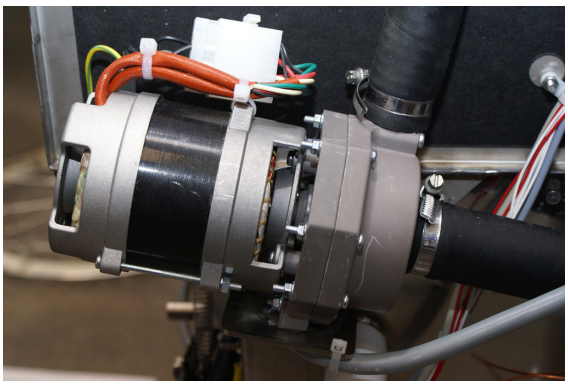


Fig. 42 Rinse pump connection.

9 Fit the new pump and tighten the retaining screws. Fit as tight as possible to the cabin as if it touches the cover plates, it will create noise.

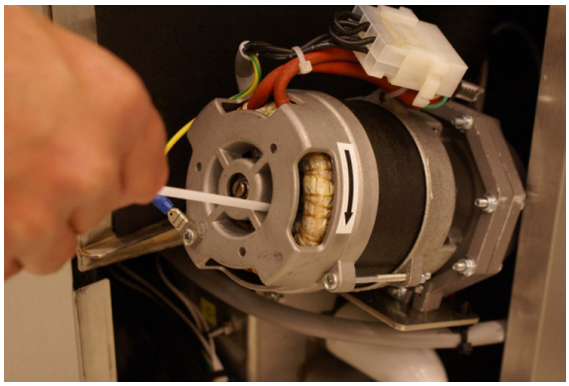
10 Connect the pump to the tubes using new hose clamps and connect the electrical connector.

11 Turn on the electrical supply and water supply.

12 Clean the rinse system. (See section *Cleaning the rinse system*, page 64).

13 Make at least one test run. Check for leaks. Check that no error codes are displayed. Normal rinse time should be 30 seconds. An alarm is given after 50 seconds.

14 Check the direction of the rinse pump according to the arrow. The rinse pump could fill either direction; see *Changing the direction of rotation of the rinse pump*, page 19.



15 If error code 114 is displayed, clean the rinse system. (See section *Cleaning the rinse system*, page 64).

16 Refit all cover plates.

8.3 Foldable door

How to lower the door

To facilitate the cleaning of the machine the door can be lowered.

When the door is lowered, it is easier to reach all parts inside of the machine.

Follow the steps below:

1 Pull the red knob (A) upwards and move it backwards (B) until it reaches (C).

See Fig. 43 *Move the arm backwards*

See Fig. 44 *Secure the arm properly*

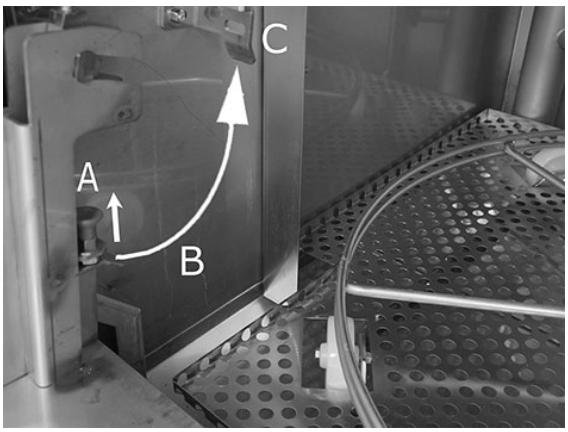


Fig. 43 Move the arm backwards

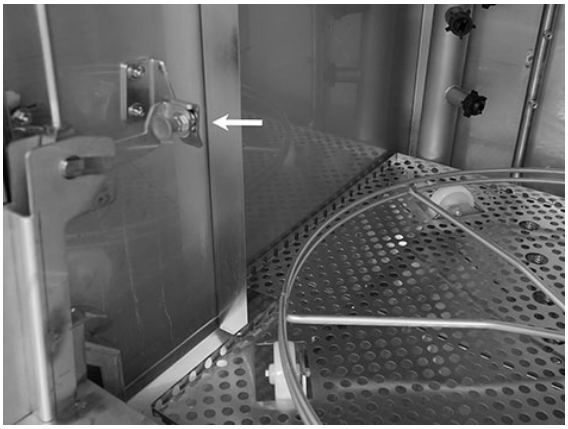


Fig. 44 Secure the arm properly

2 Make sure it secures correctly. You will hear a “click”.

Fig. 45 *Close up — secure the arm properly*

Fig. 45 Close up — secure the arm properly

3 Keep a hand under the door to hold the weight of the door. Repeat the same procedure on the other side.

See Fig. 46 *Keep a hand under the door*

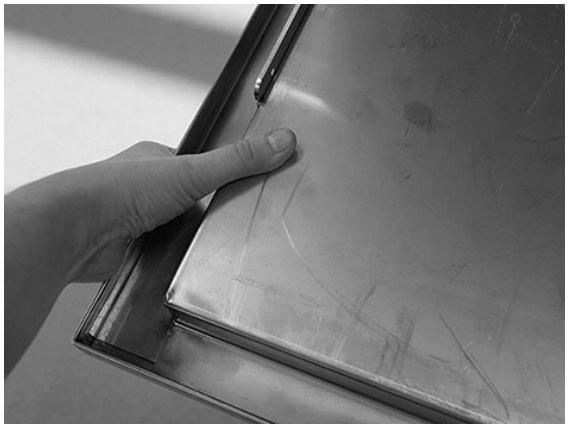


Fig. 46 Keep a hand under the door

4 When both arms are secured the door is released and can be lowered.

See Fig. 47 *Lowered door*

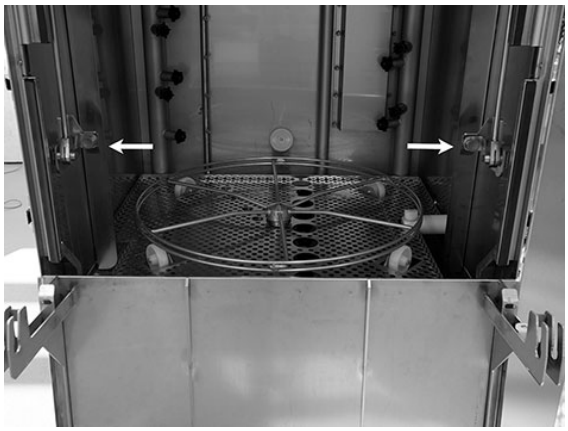


Fig. 47 Lowered door

5 When ready with the daily cleaning the door needs to be put back in place.

Raise the door to it´s upper position.

Do the same procedure but in the opposite direction.

Release the knob (A), pull it down (B) and secure it (C) until you hear a “click”.

The arms must be secured properly on both sides.

See Fig. 48 *Same procedure — opposite direction*

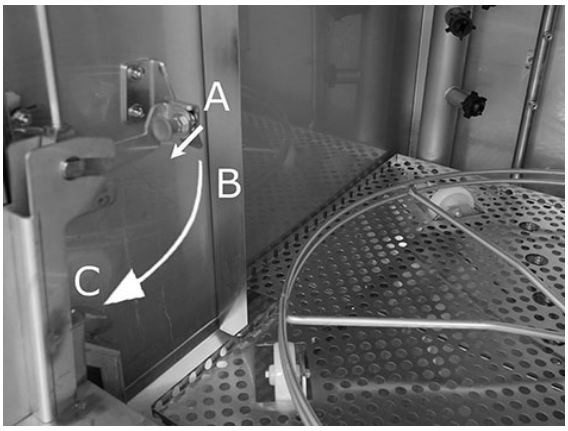


Fig. 48 Same procedure — opposite direction

6 The hatch is now back in position and the machine is ready for use.

How to reset the lower door if the levers are loose

1 If the upper door was drooped by mistake, follow these steps.

Fig. 49 The upper door is loose

2 Lift and hold the upper door with one hand.

Fig. 50 Hold the door with one hand.

3 With the other hand, insert the shaft of the lever into the seat of the housing.

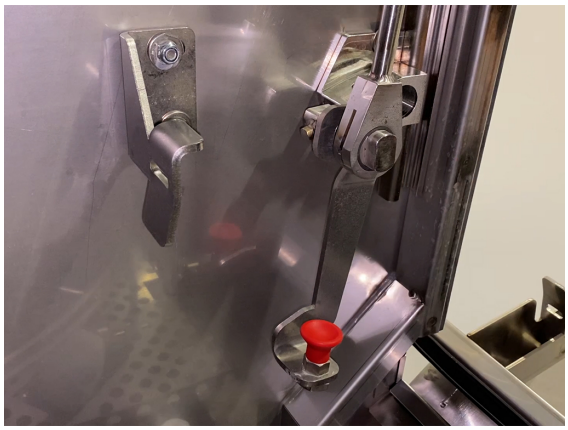


Fig. 51 Lever reaching the housing

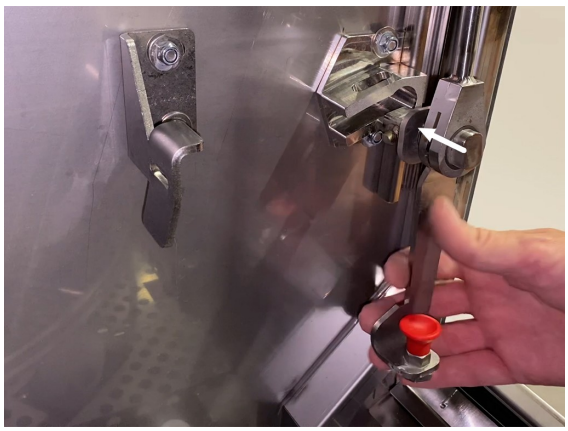


Fig. 52 Insert the shaft in the seat of the housing

4 Secure the lock by moving the locking arm into the “folding position”. For the best result, grab the locking arm as in the pictures.

Fig. 53 Securing the locking arm

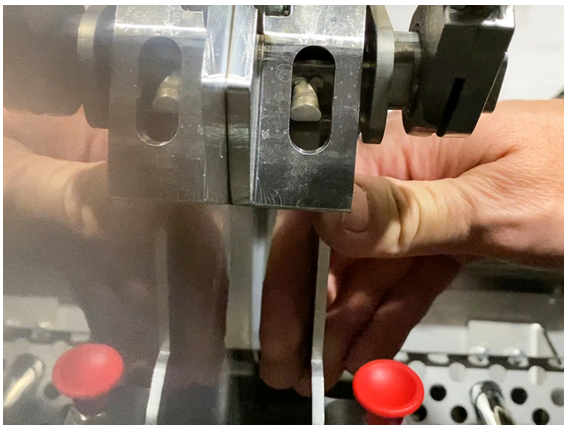


Fig. 54 Close up —Securing the locking arm

5 Turn the lever so that the knob clicks into the "folding position".

Fig. 55 Close up — secure the arm properly

6 Repeat steps 3 to 5 for the second lever as well.

7 Raise the door to its upper position.

Do the same procedure but in the opposite direction.

Release the knob (A), pull it down (B) and secure it (C) until you hear a “click”.

The arms must be secured properly on both sides.

See Fig. 56 *Same procedure — opposite direction*, page 77.

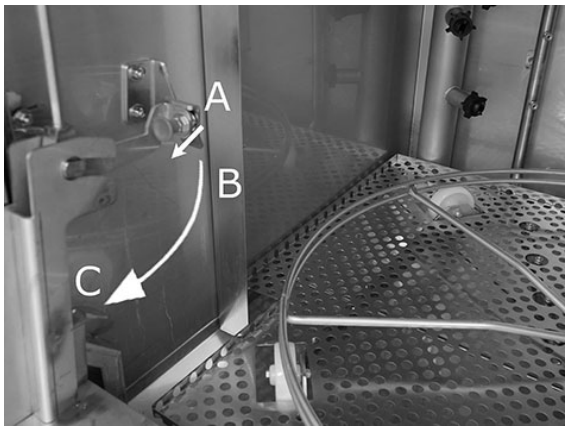


Fig. 56 Same procedure — opposite direction

8.4 Other services

Replacing the basket drive motor

1 Turn the electrical supply off.

2 Drain the machine (it is not necessary to drain the whole machine).

3 Undo the front and left side cover plates.

4 Take off the protective cover in the front.

5 Remove the electrical box to the side for easier access.

6 Disconnect the drive motor electrically.

7 Unhook the spring from the arm.

Fig. 57 Torque arm with spring.

8 Loosen the four upper screws on the coupling and remove the drive motor from the machine.

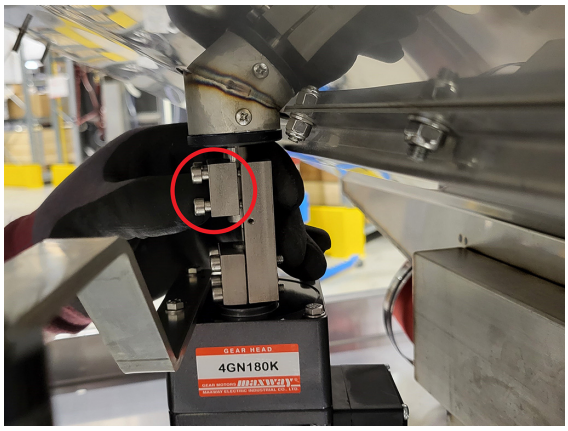


Fig. 58 Loosen the four upper screws

9 Remove the coupling and the torque arm from the old motor.

10 Lubricate the clamp screws for the coupling with some anti-seize paste or similar.

11 Mount the coupling onto the motor shaft with the provided wedge (key) all the way down. Ensure it is in the keyway of the motor shaft. Tighten the four lower screws evenly on the coupling to 9 Nm.

Fig. 59 Mount the coupling onto the new drive motor

12 Mount the torque arm onto the new drive motor. The torque arm must be mounted on the drive unit as shown in the picture; note the position of the electric connection box on the drive unit. Otherwise, there is a risk of collision with the surrounding components.

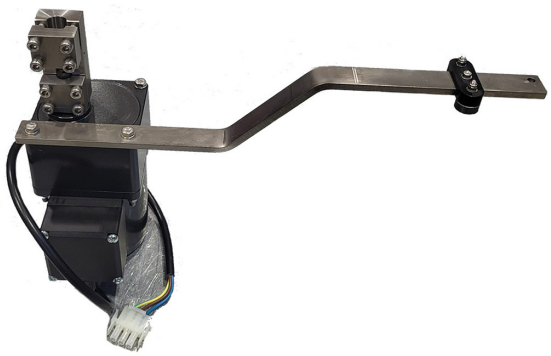


Fig. 60 Torque arm mounted on the drive motor

13 Mount the coupling onto the shaft. Ensure it is in the groove of the shaft and coupling. Tighten the four upper screws evenly on the coupling to 9 Nm.

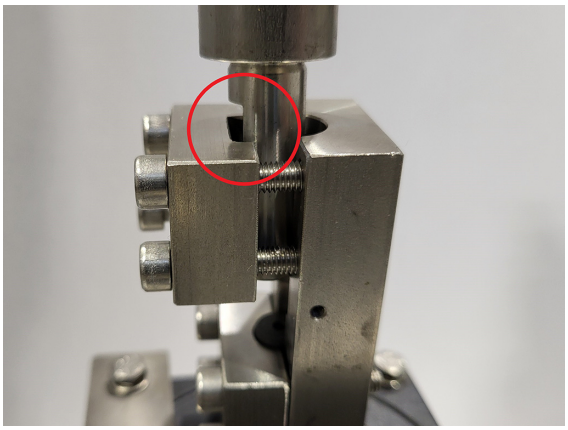


Fig. 61 Ensure the shaft and coupling are in the groove

14 Hook up the spring for the torque arm.

15 Connect the motor electrically.

16 Turn on the electrical supply.

17 Run a test cycle with a pot wash basket and GN containers when filled and heated. See that there are no overload errors, error code 120 or others.

18 Remount the cover plates.

Door gaps

1 Check the door gaps between the cabin and the upper door when the door is closed. Check that the upper and lower doors are aligned. Check that the gap is even; if not, check the machine's levelling.

2 Check the levelling of the machine, front.

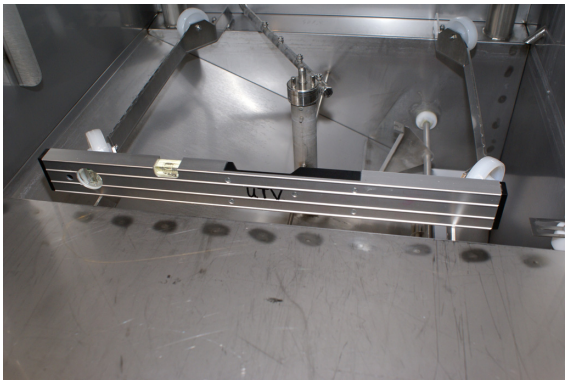


Fig. 62 Levelling of the machine, front.

3 Check the levelling of the machine, side.

Fig. 63 Levelling the machine, side.

4 Adjust the horizontal door gap to 1.2 mm. Adjusting the length is done at the upper joint.

5 Unlock the lock nuts and adjust the length of the rods.

Fig. 64 Rod with lock nut for adjustment.

6 Check that the doors have an even horizontal gap of 1.2 mm using a feeler gauge.

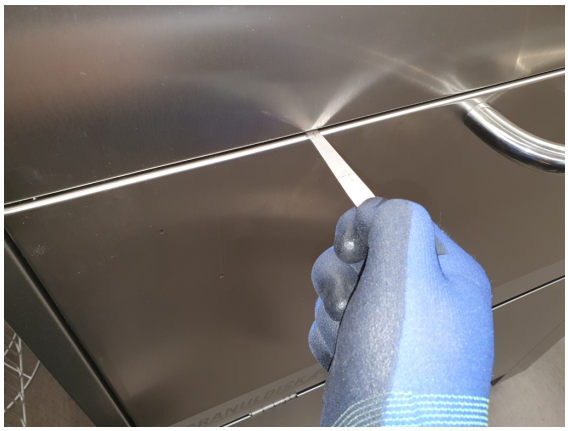


Fig. 65 Check the distance on both sides of the handle (1.2 mm).

7 Check that the load is equal on both rods and the rods are straight.

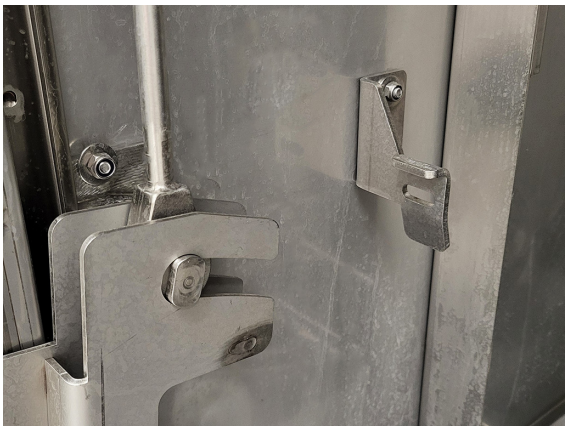


Fig. 66 Check the load on rods

8 Tighten the lock nuts again.

Door switch adjustment

1 Make sure that the wash tank is empty.

2 Start the filling process.

3 Open the door until the upper door has moved 3 mm. When the upper door has moved 3 mm, the filling must stop. The status of the switch can also be checked in the Menu; see section 5.7 *Menu entrance*, page 53. To enter menu: press “0” [2], release and wait 3 seconds and then press program P2 [4] five times. Now the operator's menu is entered. First digit in the display is number on the menu. Toggle the menus by pressing the buttons P1 [3] or P2 [4]. Menu 3 is the status of the door switch: on = Door closed — oFF = Door open.

4 Adjust if necessary. Check the function from point 2.

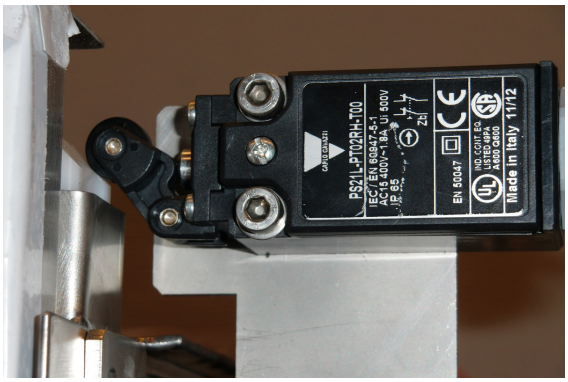


Fig. 67 Door switch.

5 Close the door and restart the filling.

Exchange of tubes on dosing pumps, if factory installed

CAUTION

When handling detergents and rinse aid, use protective gloves and appropriate eye protection according to the detergent manufacturer's instructions.

CAUTION

Use caution to avoid personal injury or damage to the equipment!

1 Turn the electrical supply off.

2 Undo the front and the right front cover plate.

3 Open the dosing pump's lid and position the roller at 6h. Release the hose by pulling the left-hand connector upwards; see Fig. 68 *Pull the left-hand connector upwards*.

Fig. 68 Pull the left-hand connector upwards

4 Turn the roller in the direction of the arrow (clockwise) and simultaneously accompany the hose with the roller; see Fig. 69 *Turn the roller according to the arrow (clockwise)*.

Fig. 69 Turn the roller according to the arrow (clockwise)

5 Completely release the left-hand connector, holding it taut towards the outside, and turn the roller in the direction of the arrow (clockwise) so that the hose is freed up to the right—hand connector; see Fig. 70 *Release the left-hand connector*.

Fig. 70 Release the left-hand connector

6 Position the roller at 7h01, turning it in the direction of the arrow (clockwise). Insert the new tube at left—hand connector into the housing; see Fig. 71 *Position the roller at 7h01*.

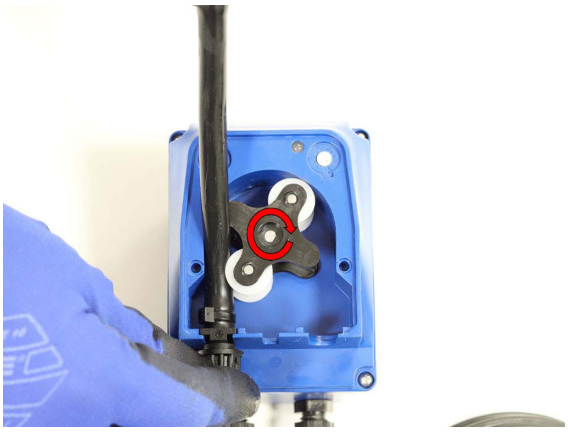


Fig. 71 Position the roller at 7h01

7 Pass the hose under the roller's guide. Turn the roller in the direction of the arrow (clockwise) simultaneously accompany the hose until the right—hand connector is reached.; see Fig. 72 *Left—hand connector inserted*.

Fig. 72 Left—hand connector inserted

8 Insert the new tube at right—hand connector into the housing. Close the pump's lid and see that it is correctly locked into place.

Fig. 73 Close the pump's lid

9 Turn the electrical supply on.

10 Check the function of the dosing pumps; see also 2.2 *Detergent and rinse aid — Dosing pumps*, page 21.

11 Refit the cover plates.

Change wash nozzles on the pot wash arms

1 Change all wash nozzles on the pot wash arms.

2 Undo the clamp nuts.

3 Check tubes for any dirt or debris. Clean out if necessary.

Fig. 74 Mounting new nozzles. Do not overtighten!

4 Fit the clamp nuts with new nozzles. Only hand tighten. Tighten firmly without excess force.

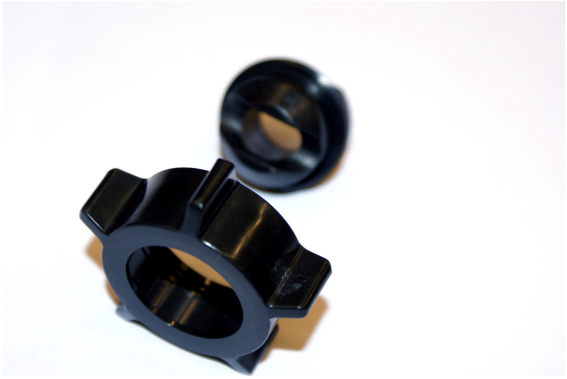


Fig. 75 Wash nozzle with a clamp nut.

8.5 Service instruction service 1

C6 20 months service (10 000 Cycles).

Materials needed:

- Service kit 1 C6 part number **#20302**
- Food machinery approved grease (Incidental food contact) (e.g. Molycote G-0052FG or similar).

Fig. 76 Service kit 1 #20302

1 Check that the machine is drained.

2 Turn off the main power to the machine.

3 Perform checks according to “Service record service 1”; see 9.1 *Service record 1*, page 95.

4 Lift out the wash basket and the basket wheel.

5 Lift out the tank grid.

Replace the tubes on the dosing pumps

1 Replace the detergent and rinse aid tubes on the dosing pumps; see *Exchange of tubes on dosing pumps, if factory installed*, page 83.

Replace the basket drive seals

1 Undo the front and left side cover plates.

2 Take off the protective cover in the front.

3 Remove the electrical box to the side for easier access.

4 Unhook the spring from the arm for the basket drive motor.

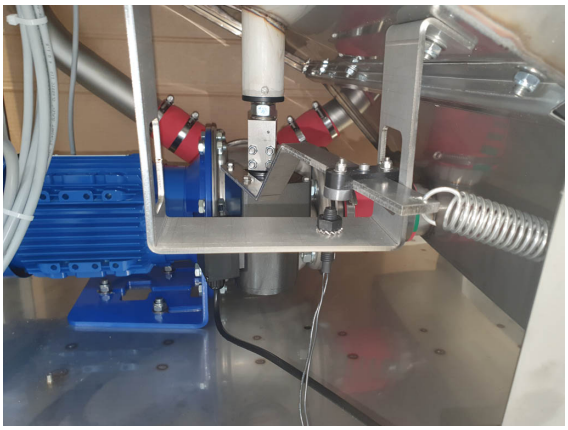


Fig. 77 Torque arm with spring.

5 Loosen the four upper screws on the coupling and place the drive motor on the bottom plate.

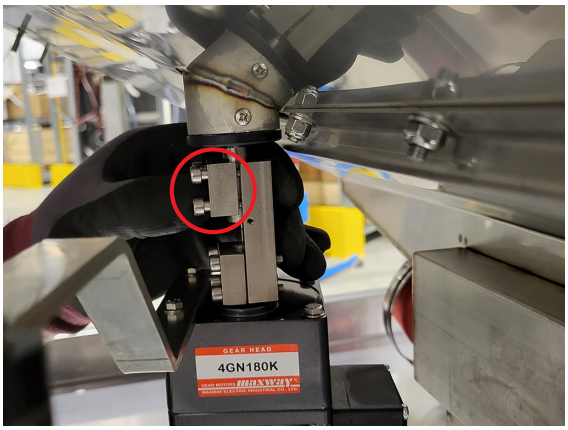


Fig. 78 Loosen the four upper screws

6 Undo the retainer screws for the upper bearing and remove the shaft from the machine.

7 Undo the bearing and replace the bearing O-rings. Apply suitable grease to the O-rings. Gentle remount the bearing.

Fig. 79 Replace the O-rings and apply grease.

8 Attach only one of the screws (the back screw) to the bearing so the air can be pushed out when assembling the shaft during later installation.

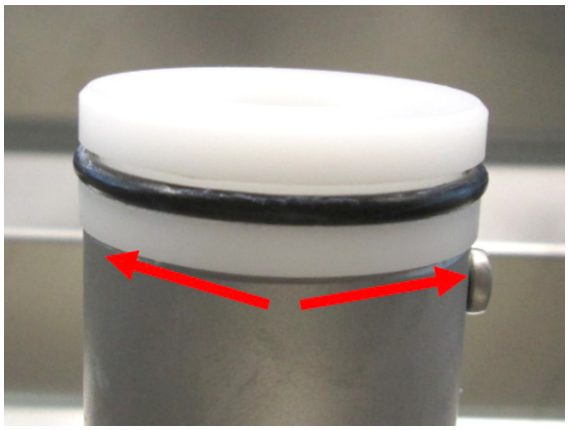


Fig. 80 Attach only one of the screws

9 Replace the O-ring on the shaft and lubricate it with suitable grease.

Fig. 81 Basket drive shaft seal.

10 Remount the shaft. The shaft must be pushed all the way down to its end position. Lift in the basket wheel to weigh it down.

11 Mount the coupling onto the shaft. Ensure it is in the groove of the shaft and coupling. Tighten the four upper screws evenly on the coupling to 9 Nm.

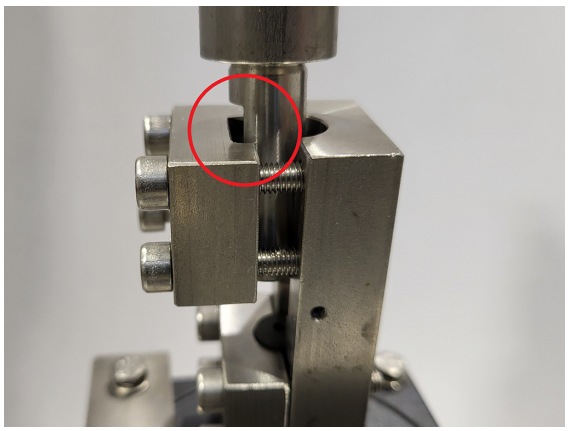


Fig. 82 Ensure the shaft and coupling are in the groove

12 Refit the front retainer screw.

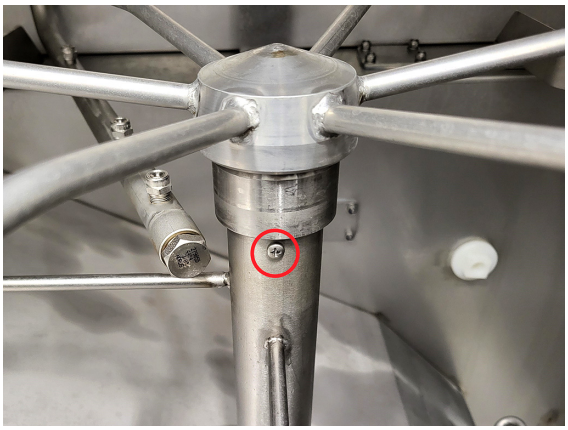


Fig. 83 Retainer screws for bearing, front screw.

13 Hook up the spring for the torque arm.

14 Turn on the electrical supply.

15 Run a test cycle with a pot wash basket and GN containers when filled and heated. See that there are no overload errors, error code 120 or others.

16 Remount the cover plates.

Exchange the door seal on the lower door

1 Lower the door according to “how to lower the door”; see 8.3 *Foldable door*, page 72.

2 Exchange the door seal on the lower door.

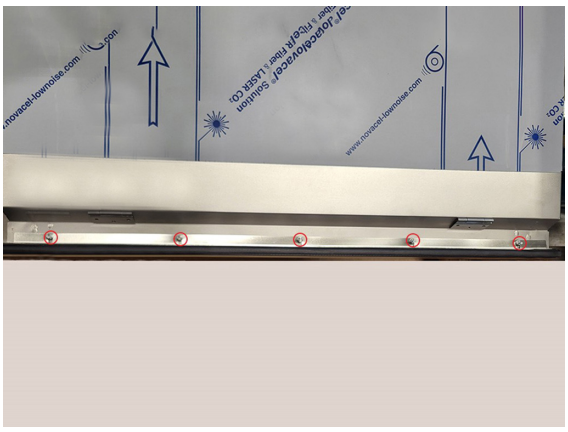


Fig. 84 Door seal with seal holder and nuts.

3 Raise the door to its upper position; see 8.3 *Foldable door*, page 72.

Exchange the vertical seals in the door frame

1 Remove the old seals.

2 Mount the new seals with the thickest part towards the centre of the door. (Right side to the left and on the left side to the right).

Fig. 85 Thickest part against center.

Exchange the seal on the upper door

1 Remove the old seal.

2 Mount the new seal; see picture.

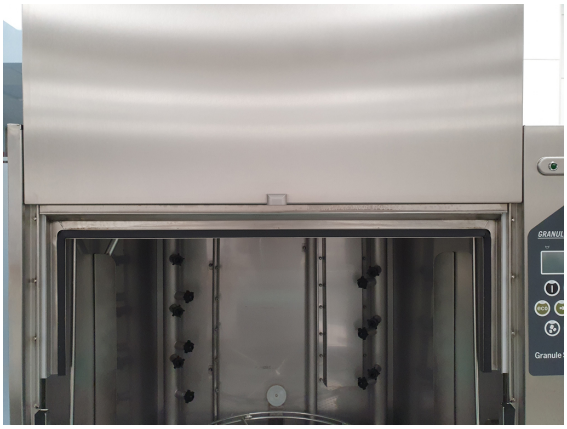


Fig. 86 Upper door seal.

8.6 Service of EcoExchanger system, if installed.

Chemicals to be used, if necessary, a ready to use a solution of the machine detergent.

1 Disconnect power to the machine.

2 Take off the cover hood for the EcoExchanger system.

3 Undo the screws for the roof cover plate and lift off the roof cover plate.

4 Undo the nuts (8 pcs) for the inspection cover of the EcoExchanger.

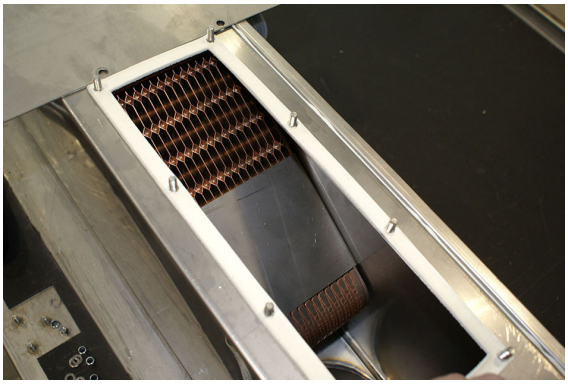


Fig. 87 Inspection cover removed.

5 Clean the EcoExchanger by spraying water with a hose through the core.

6 Undo the fan and motor unit four fastening points (two screws and two nuts) and clean the outlet side of the EcoExchanger.

Fig. 88 Fan removed.

7 Ensure that the drain (tube and hose) from the EcoExchanger unit (small tube under the fan in the right corner) is not clogged.

Fig. 89 Drain from the EcoExchanger unit.

8 Clean the protection grid inside the machine by spraying water with a hose. There must be no food remains or other foreign objects inside the grid; if necessary, they must be dismounted.

Fig. 90 Splash protection.

9 Appendix

9.1 Service record 1

Customer:	
Machine type.	C6
Serial no.	
Service performed by:	
Name.	Company.

Check point	Method Statement & Checks	Compliance	Notes
1. Incoming water	Check operation. Leaks in the pipes, connections, solenoid valve and water filter.	☐ Acceptable ☐ Rework	
2. Tank level	Check level sensor. Clean.	☐ Acceptable ☐ Rework	
3. Rinse tank	Check level sensors. Clean and replace if necessary. Check for leaks in water connections.	☐ Acceptable ☐ Rework	

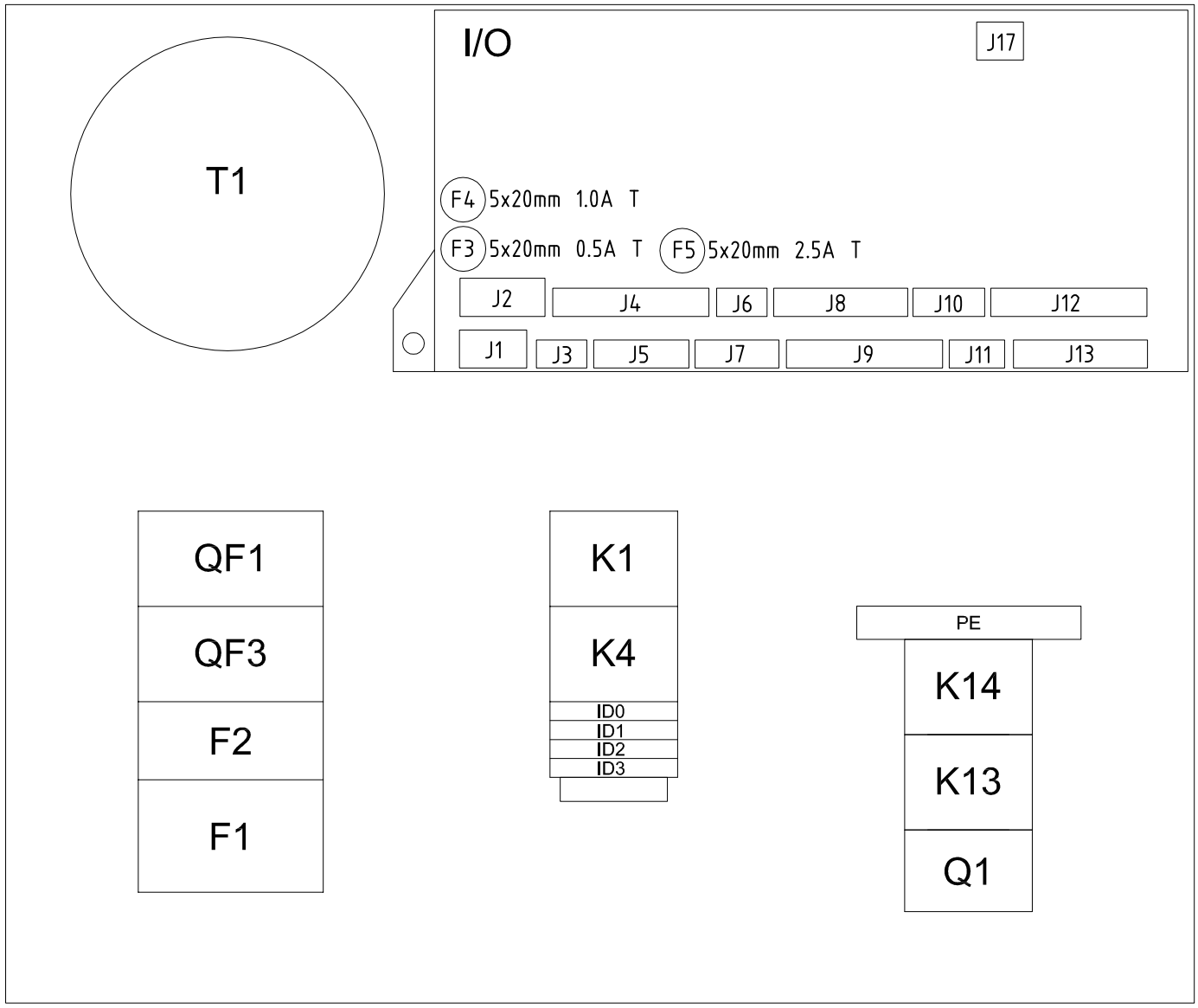
4. Basket drive	Replace the basket drive O-rings. Check movement and any leaks. Check that the retaining wheel is locking the basket. To be tested with the basket lift device folded back.	☐ Acceptable ☐ Rework	
5. Spray pipes and rinse pipe	Check wash and rinse nozzles. Check for damages/blockage.	☐ Acceptable ☐ Rework	
6. Overflow drain/main	Check the self-closing operation. Clean drain pipe.	☐ Acceptable ☐ Rework	
7. Door seal	Replace the seal for the lower door. Replace the seal for the upper door. Replace the vertical door seals.	☐ Acceptable ☐ Rework	
8. Doors	Check guides for door movement. Check the door lock function and horizontal door gap.	☐ Acceptable ☐ Rework	

9. Door sensors	**Check operation 1:** Check in the display the function on the door switches. **Check operation 2:** When the machine is filling, open the door slightly, and the machine should stop filling, and alarm 109 will be displayed. Adjust the door switch if necessary.	☐ Acceptable ☐ Rework	
10. Test run	Fill the machine with water and do a test run.	☐ Acceptable ☐ Rework	
11. Control panel	Check the main cable and panel buttons. Check temperature blocks.	☐ Acceptable ☐ Rework	
12. Heaters, wash tank and rinse tank	Check that the current is the same through all three wires. Measure at the contactor.	☐ Acceptable ☐ Rework	
13. Temperatures	Check temperature sensors for leaks. Check the temperature. Wash temperature = 65 °C Rinse temperature = 85 °C	☐ Acceptable ☐ Rework	Wash tank temperature=_____ Rinse tank temperature=_____
14. Pumps/ distributors/ hoses	Check for unusual sounds, pressure, leaks.	☐ Acceptable ☐ Rework	

15. Other water leakage	Check welds, gaskets etc. Check basket drive for leaks. Check door alignment and for leaks. Check overflow valve. Water flow in the drain during wash cycle indicate that the overflow valve is not closing properly.	☐ Acceptable ☐ Rework	
16. Detergent box	Check cable fittings, presence of damp and visual check of components.	☐ Acceptable ☐ Rework	
17. Detergent and rinse aid dosing	Doses correctly/ does food fat dissolve/is there foam in the wash water?	☐ Acceptable ☐ Rework	
18. User manual/wall chart	Are they available?	☐ Acceptable ☐ Rework	
19. Wash basket and accessories	Check they are not broken and for any wear on the guides.	☐ Acceptable ☐ Rework	
20. Reset GDMemo	Reset Service notification in GDMemo.	☐ Acceptable ☐ Rework	

9.2 Wiring diagrams

No.	Reg no	Revision note	Date	Sign	Check



Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

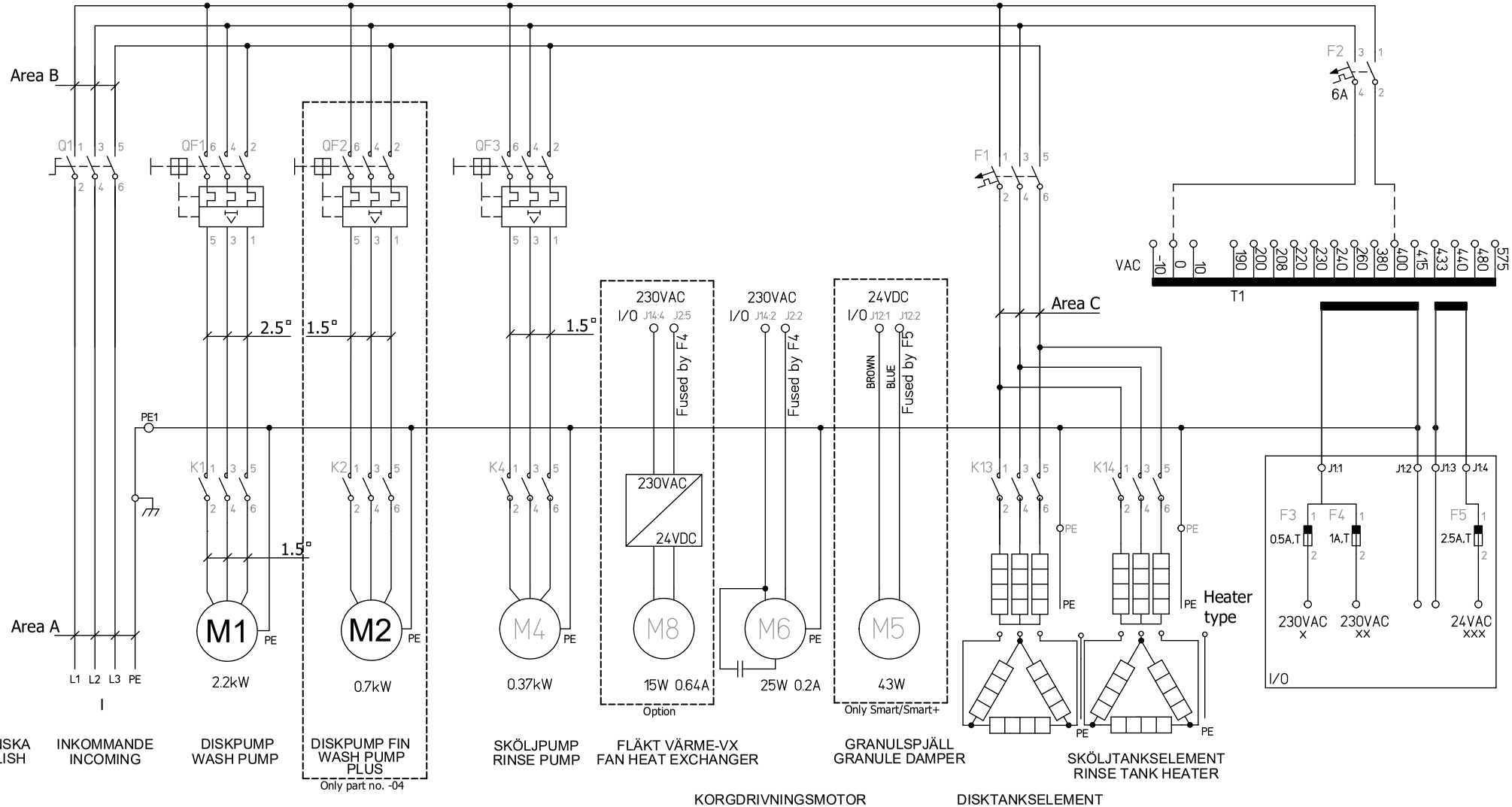
Placement of Components /Flexi Granule Solo/Smart

DWG-file name	Date
23297.dwg	2013.06.18

Drawing number	Edition
23297	00

Part number	Description	I	QF1 preset	QF2 preset	QF3 preset	F1	Area A	Area B	Area C	Heater power	Heater type	Connection T1	
23298-01	Granule Solo/Smart 200/230VAC	40 A	9.0 A	n.a.	1.4 A	25 A	10▫	2x6▫	4▫	9 kW	D	0	200/230
23298-02	Granule Solo/Smart 380/400/415/440/480VAC	25 A	5.7 A	n.a.	1.0 A	16 A	4▫	2x4▫	2,5▫	9 kW	Y	0	380/400/415/440/480
23298-03	Granule Solo/Smart 380/400/415/440/480VAC Cold Water	32 A	5.7 A	n.a.	1.0 A	25 A	6▫	2x6▫	4▫	14 kW	Y	0	380/400/415/440/480
23298-04	Granule Smart+ 380/400/415VAC Cold Water	32 A	5.7 A	1.8 A	1.0 A	25 A	6▫	2x6▫	4▫	14 kW	Y	0	380/400/415

No.	Reg. no.	Revision note	Date	Sign	Check
01	2466	Add M8	2014-05-12	TM	PW
02	4510	part no. -04	2020-02-24	TM	JF
03	4510	new fan	2020-11-16	TM	JF
04	C6	no M5 in Solo Rescue and C6	2024-05-10	TM	--



SVENSKA / ENGLISH

INKOMMANDE / INCOMING

DISKPUMP / WASH PUMP

DISKPUMP FIN / WASH PUMP PLUS
Only part no. -04

SKÖLJPUMP / RINSE PUMP

FLÄKT VÄRME-VX / FAN HEAT EXCHANGER

KORGDRIVNINGSMOTOR / BASKET MOTOR

GRANULSPJÄLL / GRANULE DAMPER

DISKTANKSELEMENT / WASH TANK HEATER

SKÖLJTANKSELEMENT / RINSE TANK HEATER

*, F3 supplies Detergent box (DB).
**, F4 supplies Basket Motor.
***, F5 supplies Linear Actuator, Detergent box and I/O.

Item	Qty	Description	Supplier/Manufacturer	Part no.

Designed by: TM | Checked by: JF | GIS number: XXXX | Sheet: 1/1

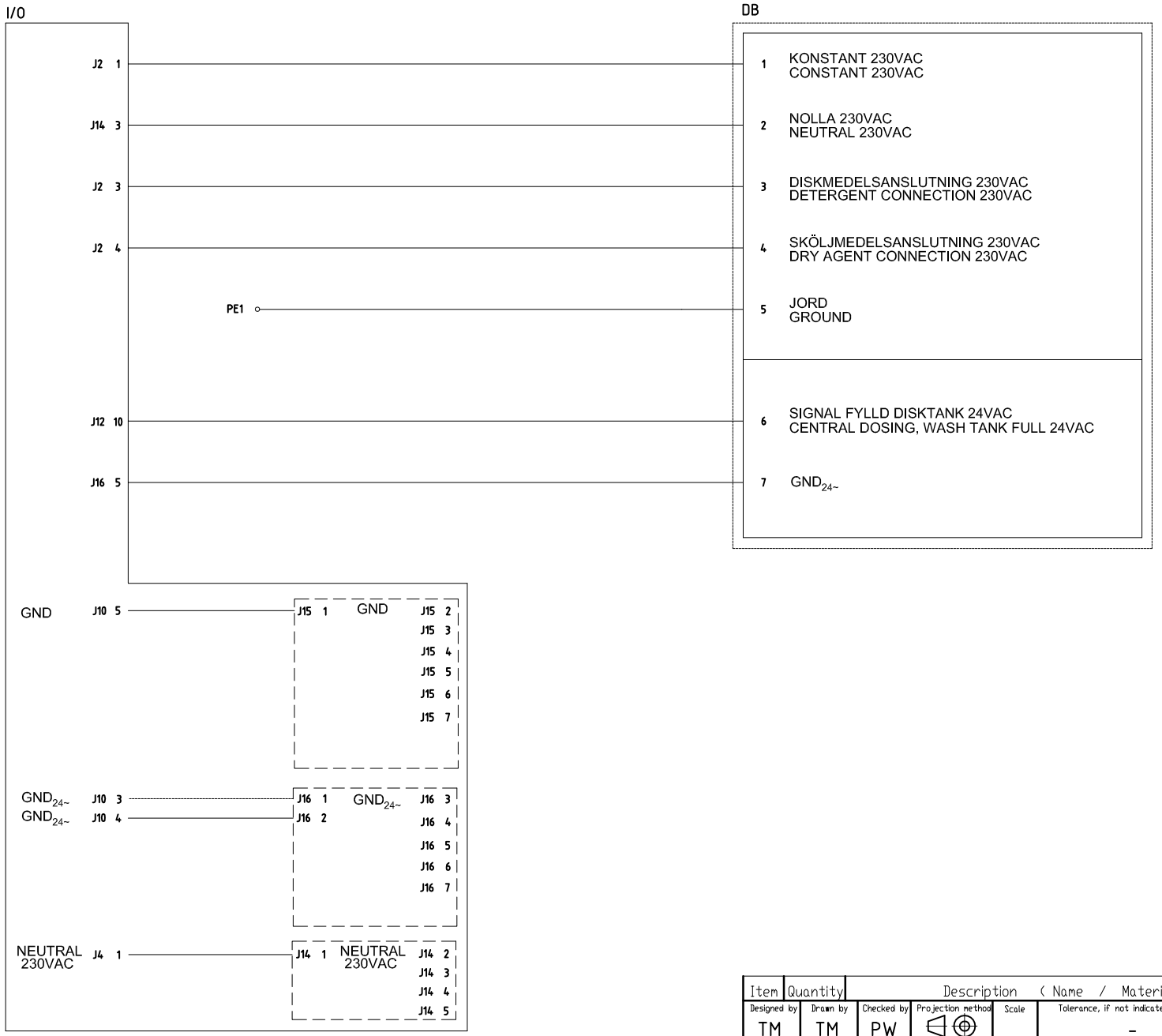
NORDISK CLEAN SOLUTIONS

Main Circuit

Granule Solo/Smart + C6

Date: 2020-11-16
Drawing number: 23298
Edition: 04

No.	Reg no	Revision note	Date	Sign	Check



Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

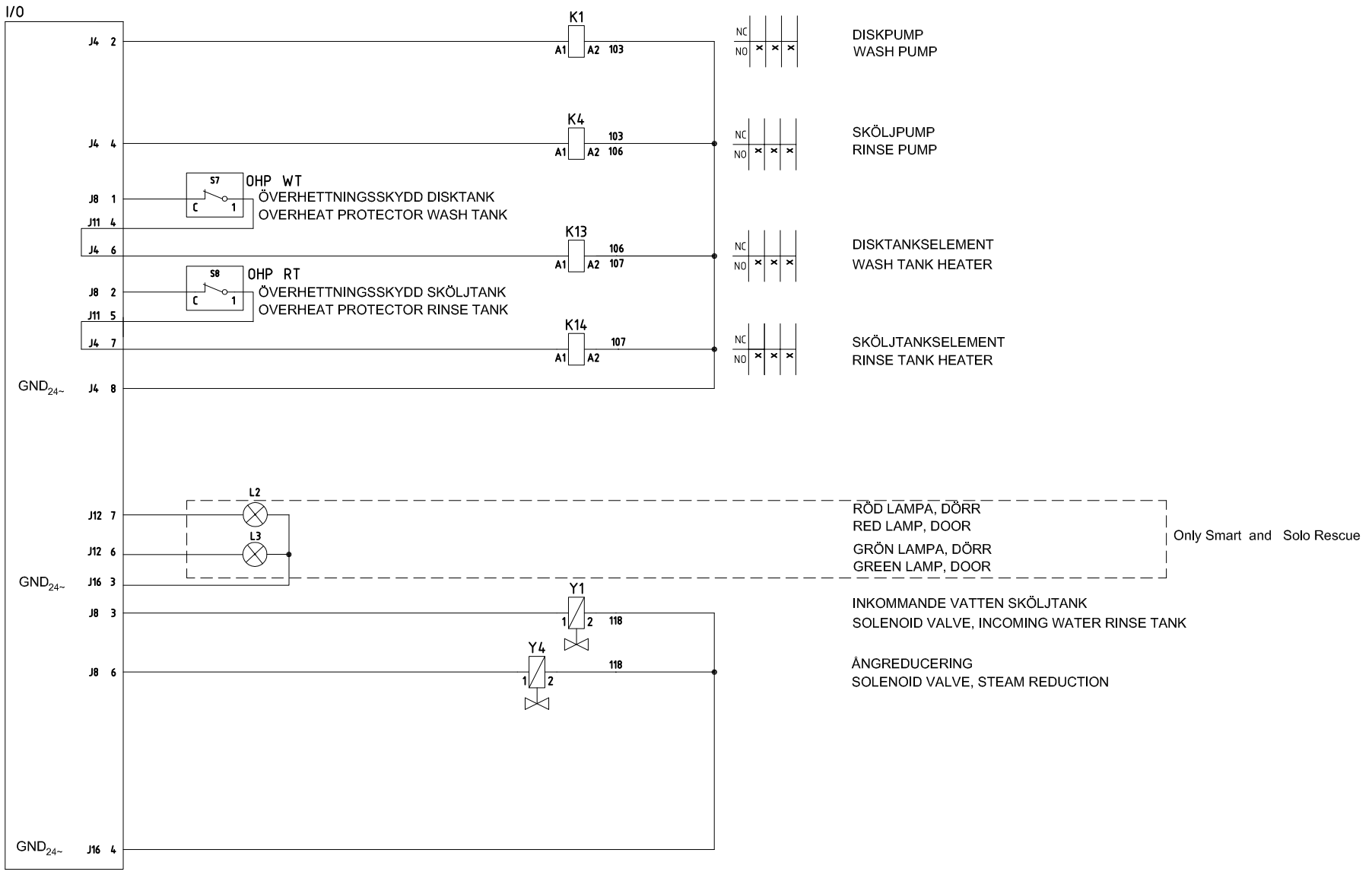
Circuit Diagram

Granule Solo/Smart

DWG-file name	Date
23289.dwg	2013.06.19

Drawing number	Edition
23289	01

No.	Reg no	Revision note	Date	Sign	Check



Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

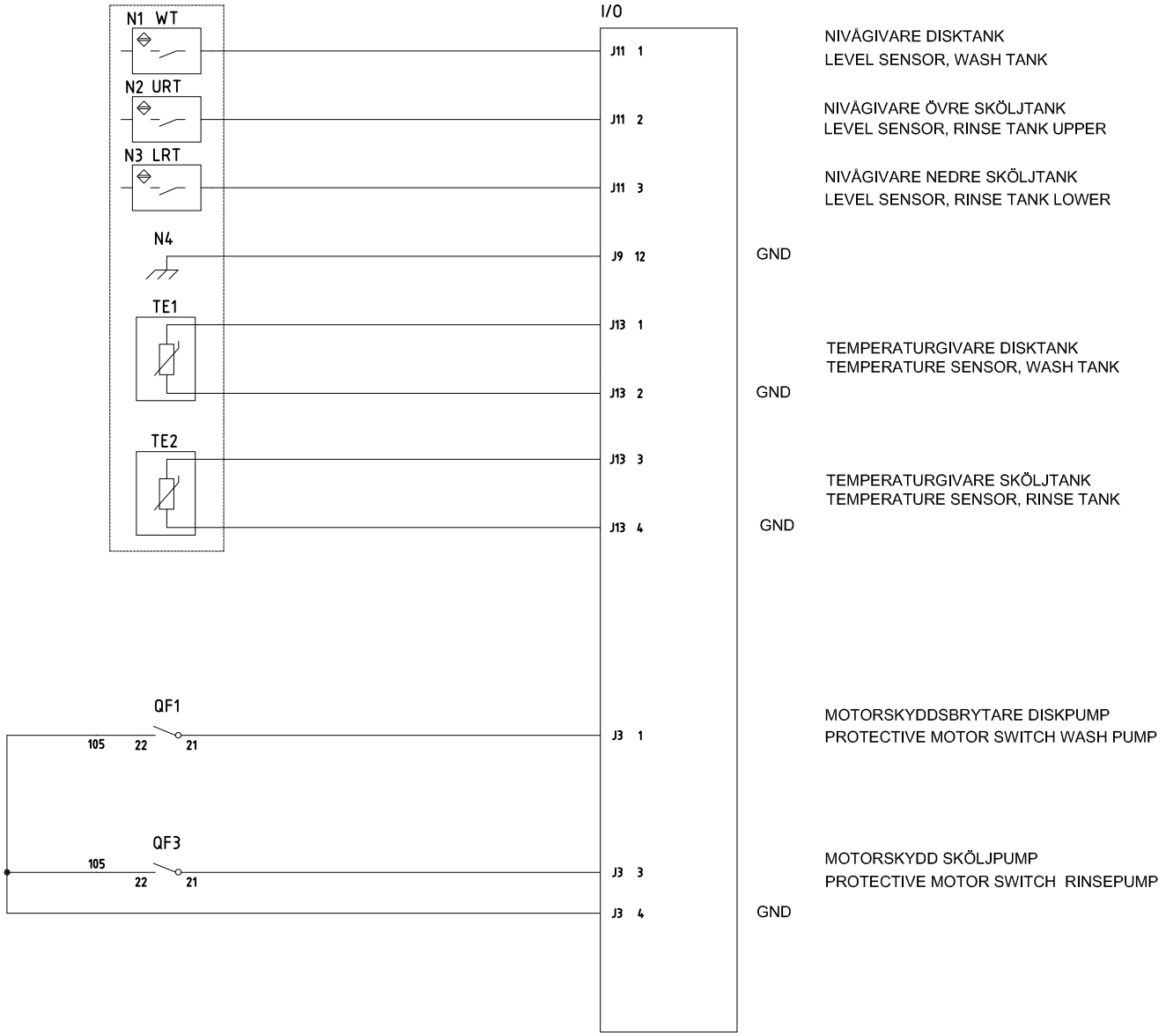
Circuit Diagram

Granule Solo/Smart

DWG-file name	Date
23289.dwg	2014.04.25

Drawing number	Edition
23289	01

No.	Reg no	Revision note	Date	Sign	Check



Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

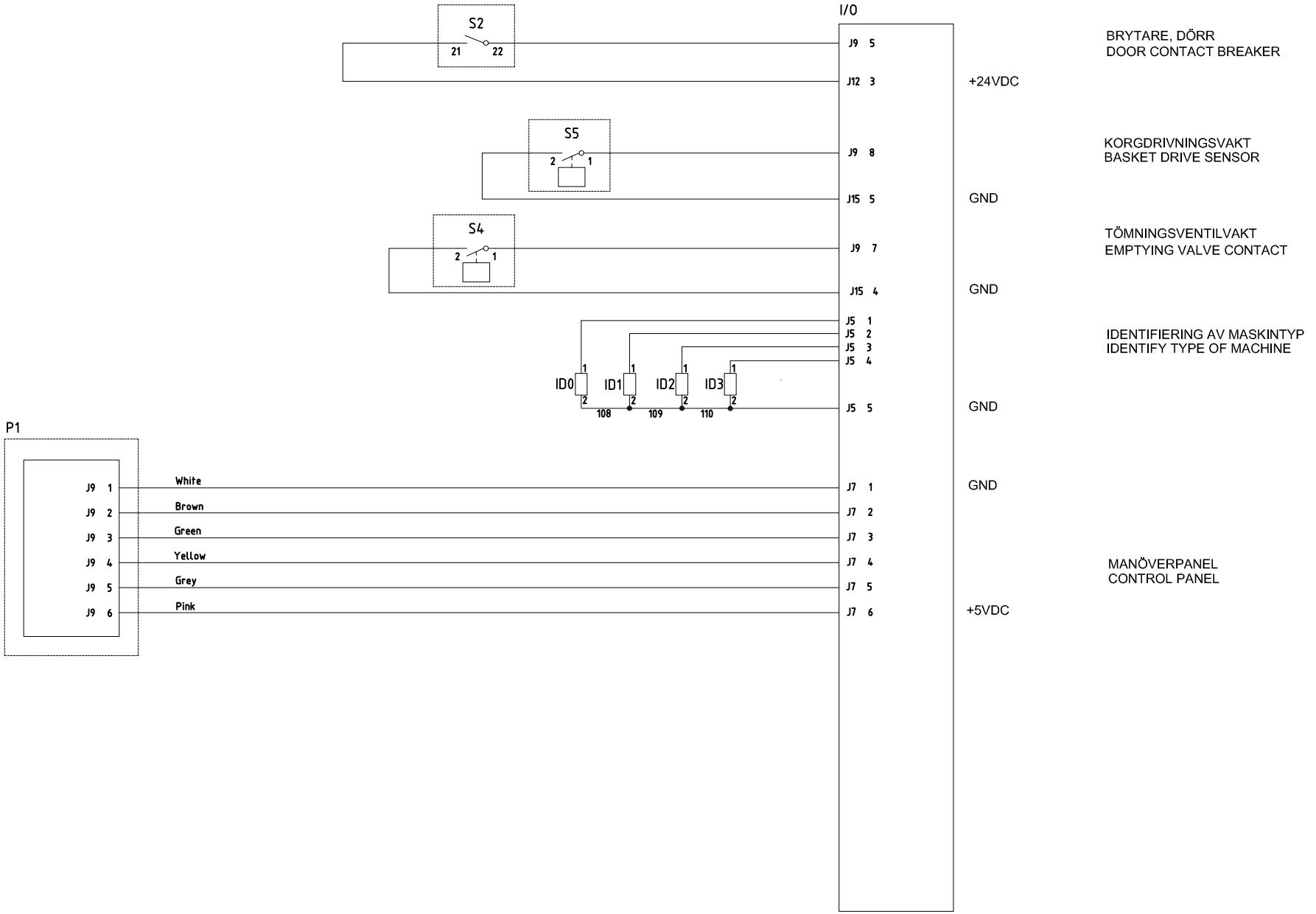
Circuit Diagram

Granule Solo/Smart

DWG-file name	Date
23289.dwg	2014.04.25

Drawing number	Edition
23289	01

No.	Reg no	Revision note	Date	Sign	Check



Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

Circuit Diagram

Granule Solo/Smart

DWG-file name	Date
23289.dwg	2014.04.25

Drawing number	Edition
23289	01

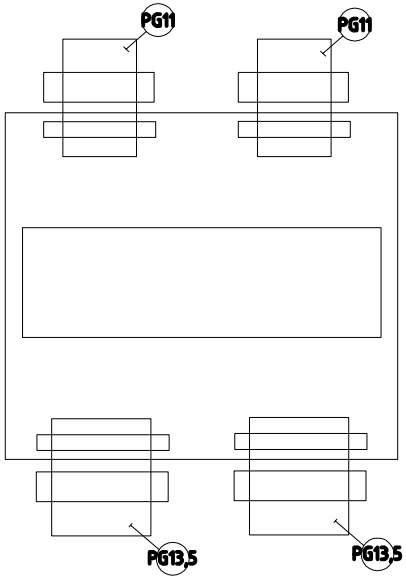
9.3 GD Link diagram

No.	Reg no	Revision note	Date	Sign	Check

Drawing Specification		Page 1
Bill of Materials		Page 2
Placement of Components		Page 3
Circuit Diagram		Page 4-5
Terminal overview	English	Page 6-7
Schematic overview	English	Page 8
Terminal overview	German	Page 9-10
Schematic overview	German	Page 11

Item	Quantity	Description (Name / Material / Note)					Part number / Dimension
Designed by: TM	Drawn by: TM	Checked by: PW	Projection method	Scale	Tolerance, if not indicated, according to: -	Replaces	Replaced by
NORDISK CLEAN SOLUTIONS	Electrcial Drawing GD Link					DWG-file name: 23475.dwg	Date: 2014.08.07
						Drawing number: 23475	Edition: 00

Pos	Antal	Benämning	Art.nr	GRANULDISK art.nr	Typ/Data	Fabrikat
	1	Kapsling	6411908	21501	UL PC 125/75 HT	Fibox
K31,K32	2	Relä, 1-pol m. sockel	45632	20564	IFR-1L-24VAC	Gycom
"1 till 8"	8	Plint	M4/6	11475		Entrelec
	1	Ändstöd				
"1 till 8"	1	Plintmärkning	23300227	19909	RC610 H 1-10	Entrelec
K34	1	Relä 1-pol m. sockel	45633	24089	IFR-1L-230VAC	Gycom
	1	Kabelsats		23493		Molex
	1	DIN-skena		19781	L=120 mm	Cetec
	2	Förskruvning	120692	21497	PG13,5 , 6-12 mm	Miltronic
	2	Kontramutter	120943	21498	PG13,5	Miltronic
	2	Förskruvning	120691	21499	PG11 , 4-10 mm	Miltronic
	2	Kontramutter	120942	21500	PG11	Miltronic
	1	Dekal till lock		20568		Technotrade

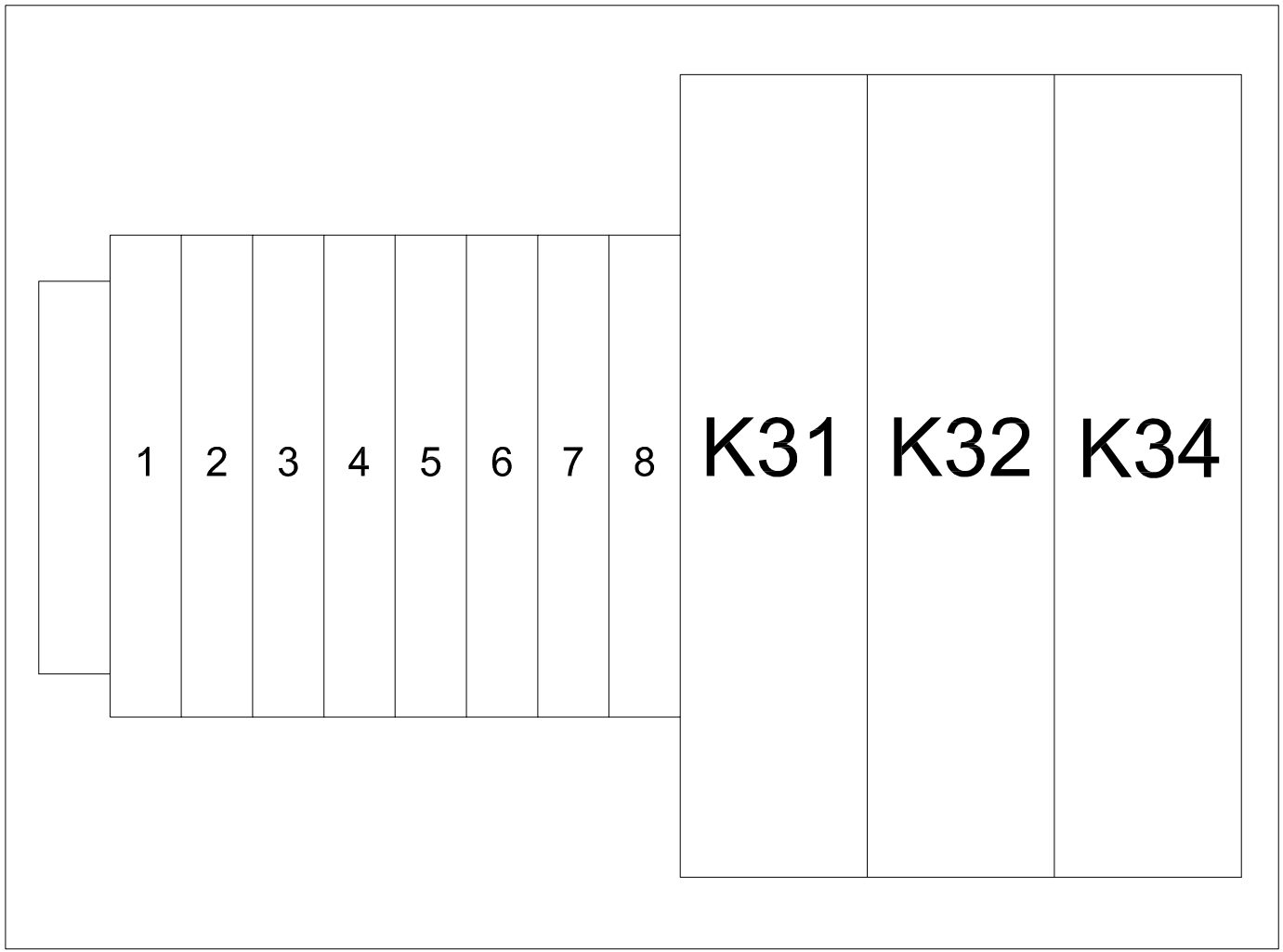


Jumper, Pos 5 in 19906 is assembled as follows:
Between connector
1-2
3-4
5-6

Note:
Jumpers shall be connected on one side
other connections on the opposite side

Item	Quantity	Description (Name / Material / Note)						Part number / Dimension
Designed by: TM	Drawn by: TM	Checked by: PW	Projection method	Scale	Tolerance, if not indicated, according to: -		Replaces	Replaced by
NORDISK CLEAN SOLUTIONS		Parts List: GD Link					DWG-file name: 23475.dwg	Date: 2014.08.07
							Drawing number: 23475	Edition: 00

No.	Reg no	Revision note	Date	Sign	Check



Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

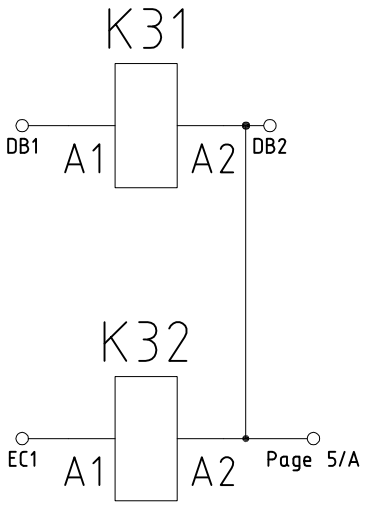
Placement of Components

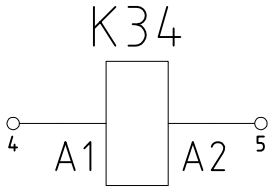
GD Link

DWG-file name	Date
23475.dwg	2014.08.07

Drawing number	Edition
23475	00

No.	Reg no	Revision note	Date	Sign	Check





DB1	Cable between detergent box and GD Optimizer connected to J12-10/DB-6
DB2	Cable between detergent box and GD Optimizer connected to J16-5/DB-7
EC1	Cable between the electrical cabinet and GD Optimizer connected to J12-12

Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

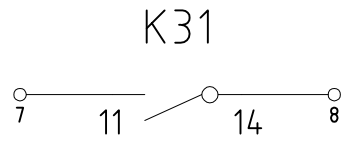
Circuit Diagram

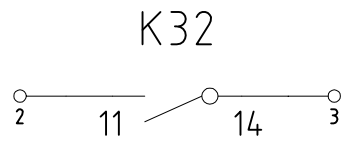
GD Link

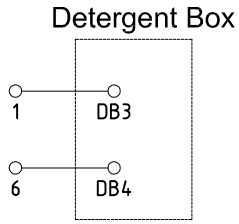
DWG-file name	Date
23475.dwg	2014.08.07

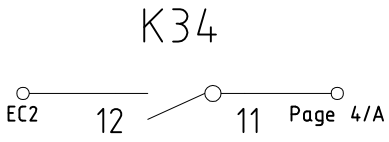
Drawing number	Edition
23475	00

No.	Reg no	Revision note	Date	Sign	Check









DB3	Cable between detergent box and GD Optimizer connected to J2-1/DB-1
DB4	Cable between detergent box and GD Optimizer connected to J14-3/DB-2
EC2	Cable between the electrical cabinet and GD Optimizer connected to J13-10

Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

Circuit Diagram

GD Link

DWG-file name	Date
23475.dwg	2014.08.07

Drawing number	Edition
23475	00

No.	Reg no	Revision note	Date	Sign	Check

1	2	3	4	5	6	7	8
230 VAC	Heating on	Heating on	Relays for Optimizing	Relays for Optimizing	Neutral (230V)		

Terminal

1 and 6	Control voltage 230V from the machine transformer. Note! No connect to outside feed voltage! Can be used as feeding for optimizing module.
2 and 3	Potential free circuit breaker. Heating rinse and wash tank. Closed when machine wants to heat.
4 and 5	Optimizing relays to turn off the 230 V coil for heating.
7 and 8	Potential free circuit breaker. Shows readiness of the machine.

Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

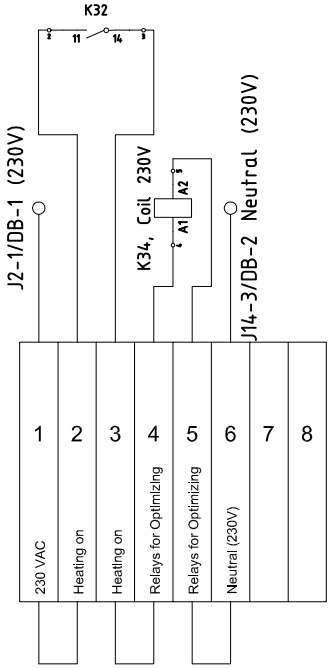
NORDISK CLEAN SOLUTIONS

Terminal overview
English language
GD Link

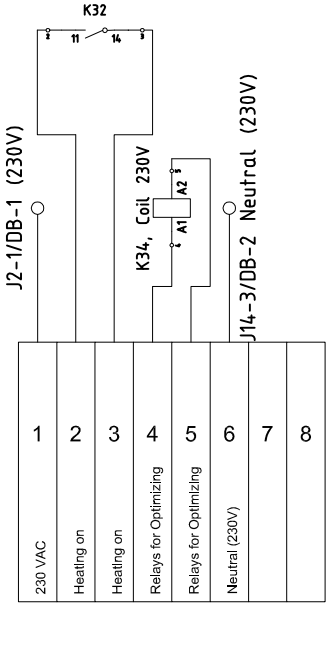
DWG-file name	Date
23475.dwg	2014.08.07

Drawing number	Edition
23475	00

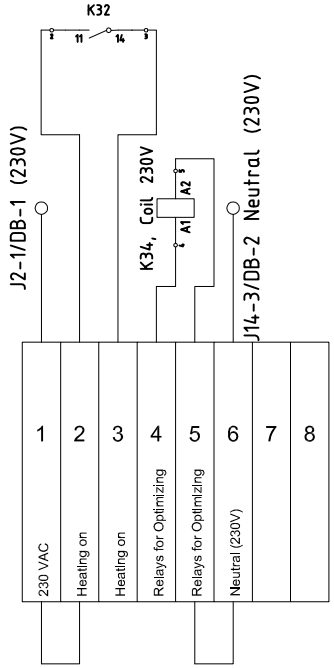
No.	Reg no	Revision note	Date	Sign	Check



No optimizing, bridge terminal 1 to 2, terminal 3 to 4 and terminal 5 to 6.



When all feeding voltages comes from the optimizing equipment must all bridges be removed.



When the feeding voltage comes from the machine, bridge between terminal 1 to 2 and terminal 5 to 6.

Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
TM	TM	PW			-		

NORDISK CLEAN SOLUTIONS

Terminal overview
English language
GD Link

DWG-file name	Date
23475.dwg	2014.08.07

Drawing number	Edition
23475	00

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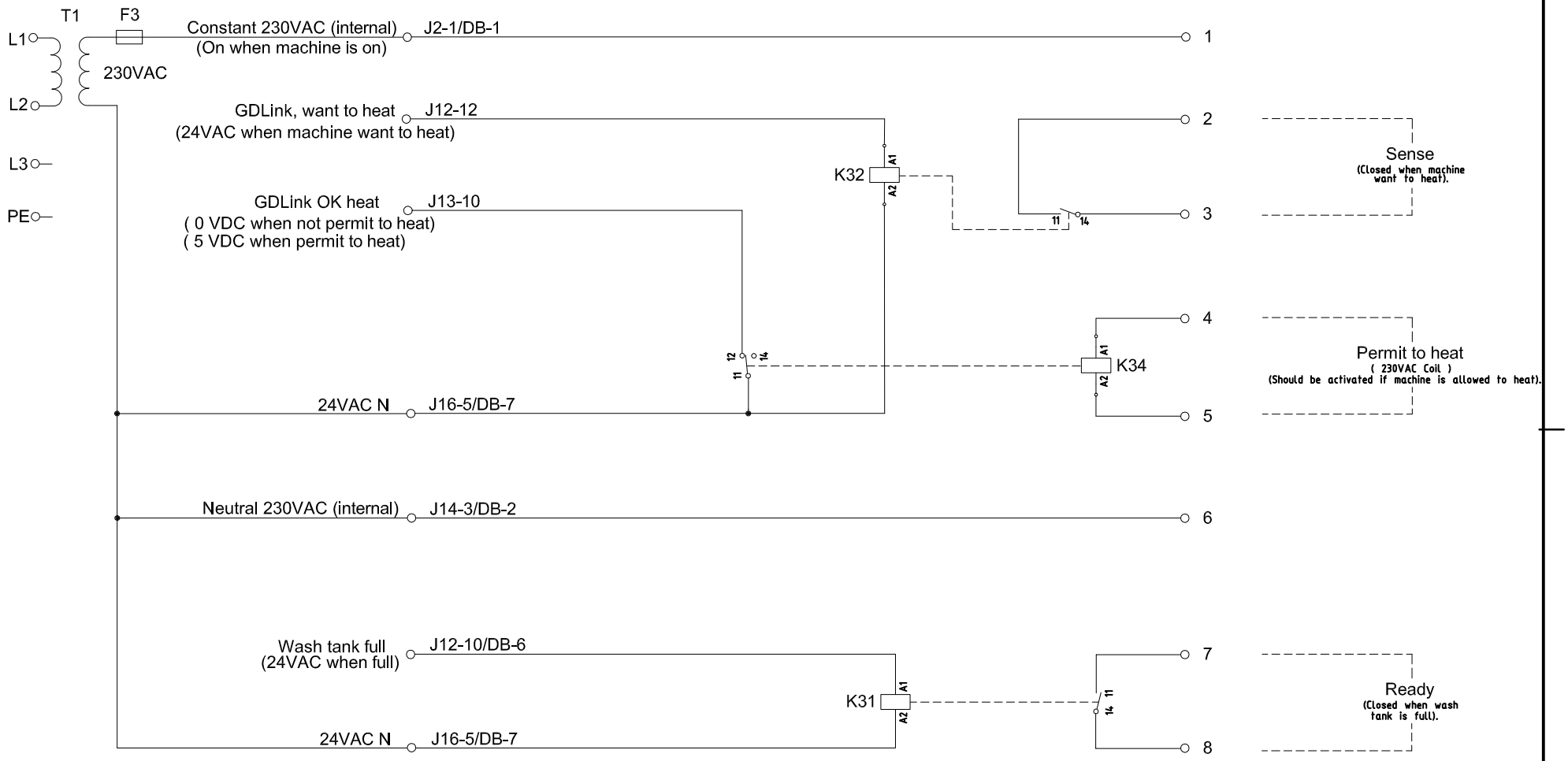

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NORDISK CLEAN SOLUTIONS

Schematic overview
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1	2	3	4	5	6	7	8
230V	Heizung ein	Heizung ein	Relais Optimierung	Relais Optimierung	Neutral (230V)		

Klemme

1 und 6	Steuerspannung 230 Volt a/b vom Trafo der Maschine. Achtung keine Fremdspannung anschließen! Kann zur Einspeisung des bauseitigem Modul genutzt werden.
2 und 3	Potentialfreier Kontakt. Heizung Boiler oder Waschtank ein. Gib die Information wenn die Maschine heizen will.
4 und 5	Optimierungsrelais zum abschalten der Heizungen. 230 Volt- Spule
7 und 8	Potentialfreier Kontakt. Zeigt Betriebsbereitschaft der Maschine.

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GD Link

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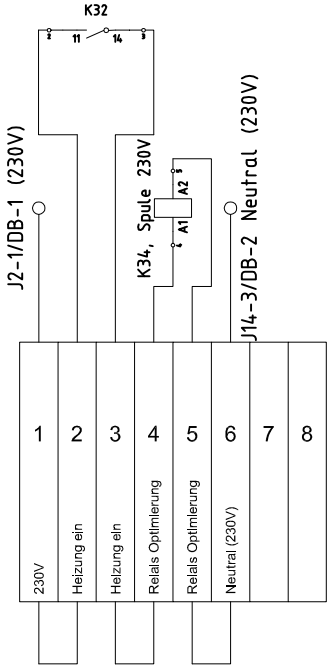
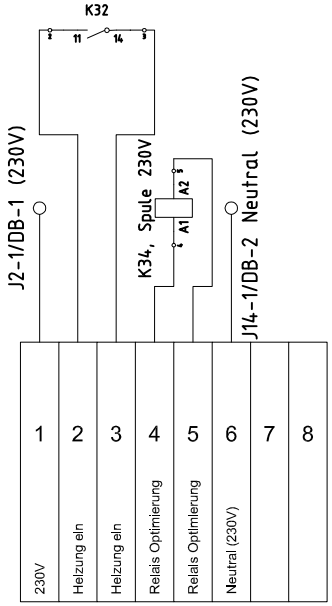
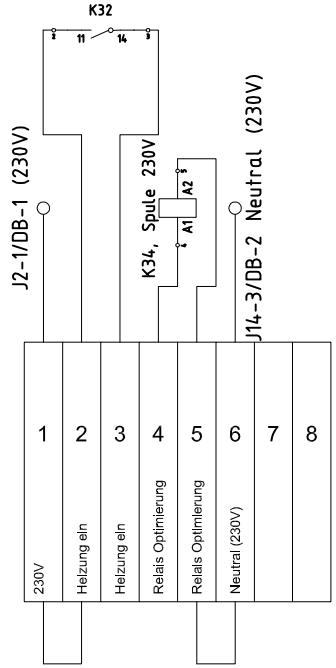


Keine Optimierung Brücke von 1 auf 2, von 3 auf 4 und 5 auf 6 klemmen



Wenn die Spannung von der bauseitigen Optimierung kommt müssen alle Brücken entfernt werden



Wenn die Spannung von Maschine kommt Brücke von 1 auf 2 und von 5 auf 6 klemmen

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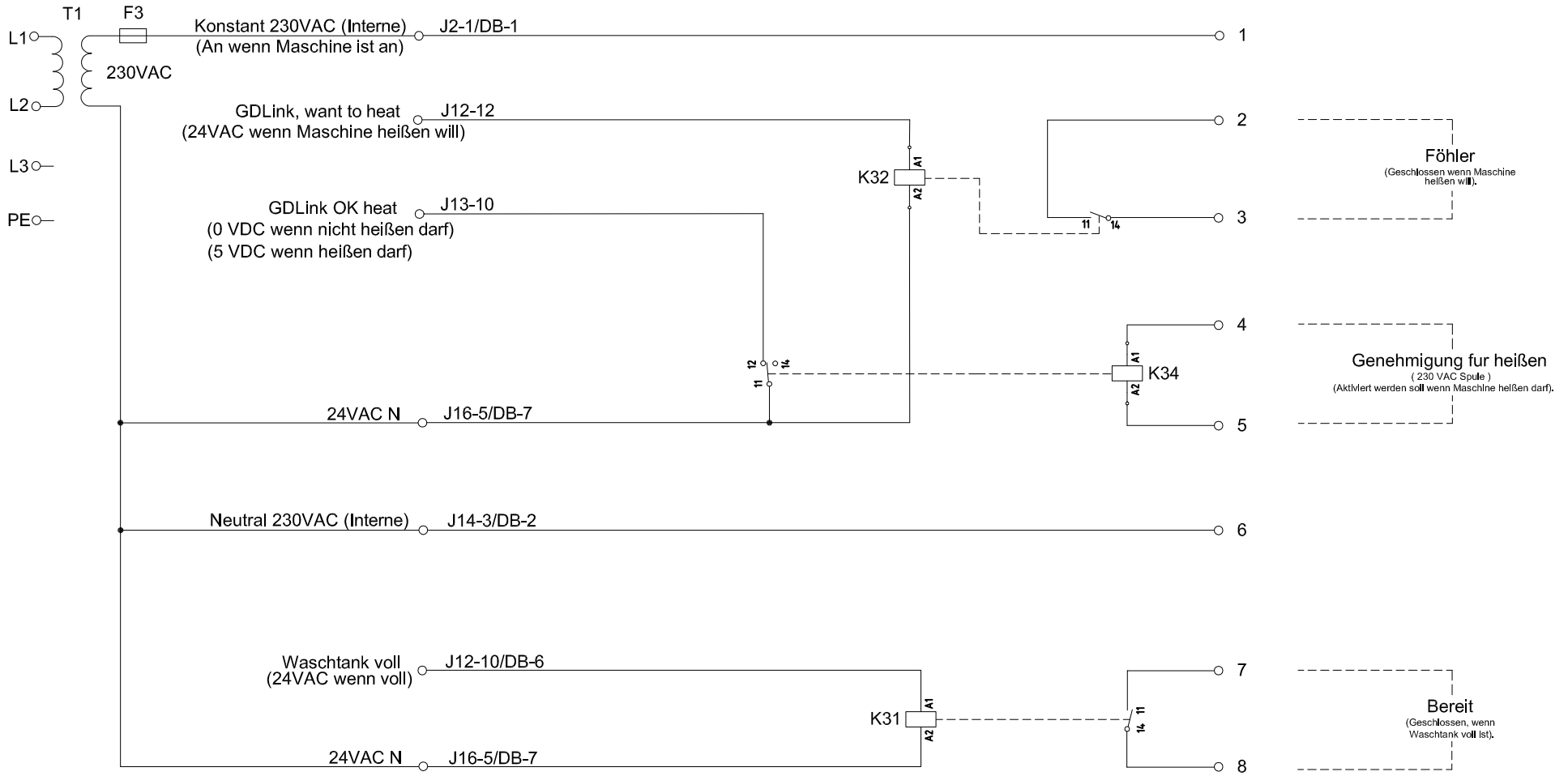

Item	Quantity	Description (Name / Material / Note)	Part number / Dimension

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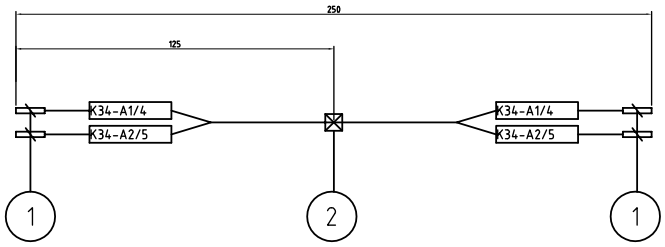
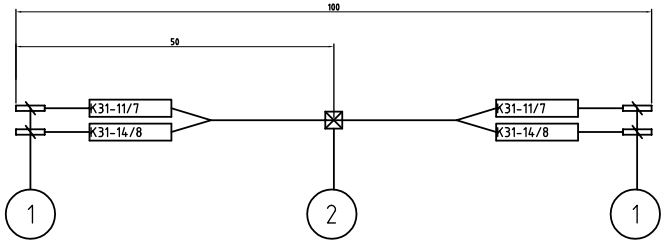
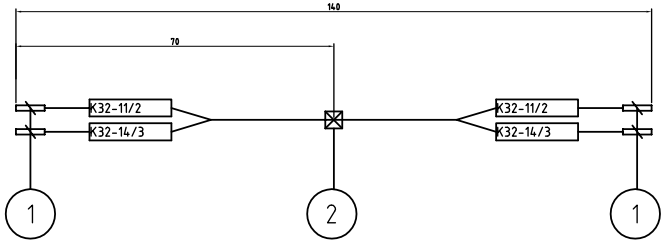
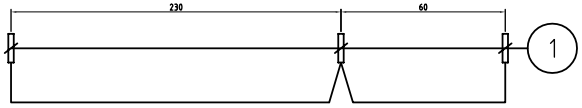




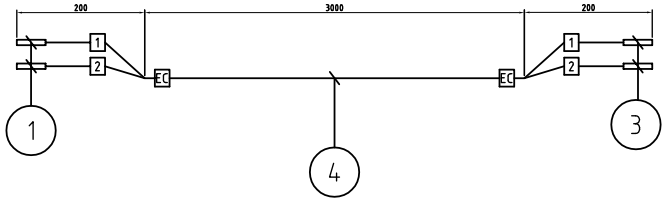


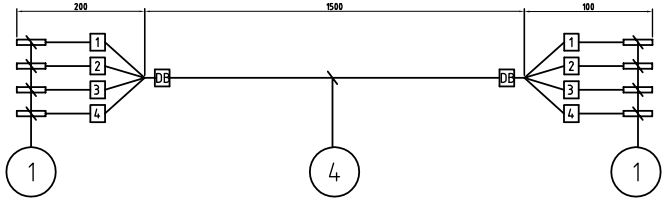


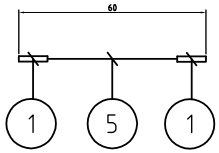
Cable: CSA & UL approved
Diameter: 0.75mm²

Colour: Red
Markning: K31-11/7
Length in mm

All components must be CSA & UL approved







③ Note!

Position 3 must be less than 1.5x2.0 mm wide on the finished crimped bootlace ferrule.

Item	Quantity	Description (Name / Material / Note)	Part number / Dimension
5	3	Jumper	
4	2	Cable, 5G0.75 CSA Miltronic	0015105
3	2	Bootlace Ferrule, Uninsulated, length 6-8mm	
2	3	Cable Tie	
1	25	Bootlace Ferrule, Uninsulated	

Designed by	Drawn by	Checked by	Projection method	Scale	Tolerance, if not indicated, according to	Replaces	Replaced by
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NORDISK CLEAN SOLUTIONS

Cable route, GD Link

All machines

DWG-file name	Date
23493.dwg	2014.08.12

Drawing number	Edition
23493	00