SERVICE MANUAL

TDR auto-clean

MODELS

TDR5s auto clean
TDR8i auto clean
TDR8s auto clean
TDR8+8s auto clean

TDR5s ac TDR8i ac TDR8+8s ac

- NOTICE -

This manual is prepared for the use of trained Service Technicians and should not be used by those not properly qualified. If you have attended a training for this product, you may be qualified to perform all the procedures in this manual.

This manual is not intended to be all encompassing. If you have not attended a training for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained technician.

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Versions		
Version	Issue date dd/mm/yy	Remarks
1711	28/11/2017	First release
1803	07/03/2018	general update
1810	19/10/2018	Unpack instructions changed and minor changes in exploded views
1905	28/05/2019	Extended with TDR8+8 ac dimension drawing and electrical diagram + minor corrections in parts lists
1908	30/08/2019	Extended with TDR5 ac
2008	26-6-2020	Increased power connection. Extended with software S-control. Extended with TDR5ac on counter.
20210308	08-03-2021	Parameters cleaning program adapted
20210625	25-06-2021	Major overall update
20220615	15-06-2022	Updated exploded views and implementation of 2 pumps system

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TDRAC, TECHNICAL DATA

Consult the identification plate to get the proper specifications of the unit. The electrical data may vary from country to country.

European models

Model			TDR 5-AC	TDR 8-AC	TDR 8+8-AC
Dimensions	Width	mm	885	1050	1050
	Depth	mm	760	915	915
	Height	mm	1735	1795	2135
Weight	Gross	kg	250	300	480
	Net	kg	180	250	430
Maximum ambient temperature		°C	35	35	35
Sound pressure		dB (A)	< 70	< 70	< 70
Electrical installation	Voltage	V	3N ~ 400/230	3N ~ 400/230	3N ~ 400/230
	Frequency	Hz	50/60	50/60	50/60
Default units (TDR8-ac Hi Speed)	Required power	kW	6,6	13,6	27,2
	Max. nominal current	A	10	20	40
	Plug, CEE-form	A	16	32	63
Low power units	Required power	kW		10.5	21
	Max. nominal current	A		16	31
	Plug, CEE-form	A		16	32
Cable	Length	m	approx. 2.2	approx. 2.2	approx. 2.2
Water connection	Aerated	inch	¾ (1x)	¾ (1x)	¾ (1x from serial nr. 100099813)
Water	pressure	kPa	200 – 500	200 – 500	200 – 500
	Acidity	pH	7.0 - 8.0	7.0 - 8.0	7.0 - 8.0
	Chlorides	ppm	<30	<30	<30
	Hardness [1]	dH	<4	<4	<4
Drain	Open connection	mm	min. ID 40mm / 1 1/2”	min. ID 40mm / 1 1/2”	min. ID 40mm / 1 1/2”

[1] See chapter “water requirements” for detailed information

American models

Models			TDR 7-AC	TDR 7+7-AC
Dimensions approx.	Width	inch	41	41
	Depth	inch	38½	38½
	Height	inch	70½	84
Weight	Gross	lbs	662	1059
	Net	lbs	552	948
Maximum ambient temperature		°F	95	95
Sound pressure		dB (A)	< 70	< 70
Electrical installation	Voltage	V	3 ~ 208	3 ~ 208
	Frequency	Hz	50/60	50/60
	Required power	kW	12	12 (2x)
	Max. nominal current	A	35.5	35,4 (2x)
Plug	NEMA		15 - 50P	15 - 50P (2x)
	Length	inch	75	75 (2x)
Water connection	Aerated	inch	¾ (1x)	¾ (1x from serial nr. 100099813)
Water	pressure	kPa	200 – 500	200 – 500
	Acidity	pH	7.0 - 8.0	7.0 - 8.0
	Chlorides	ppm	<30	<30
	Hardness [1]	dH	<4	<4
Drain	Open connec-tion	inch	min. 1 5⁄8	min. 1 5⁄8 (2x)

[1] See chapter “water requirements” for detailed information

INTRODUCTION

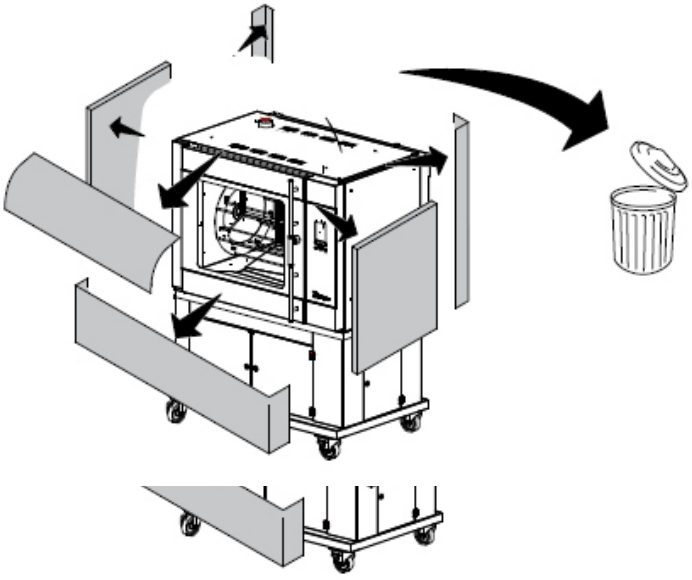
- Unpacking of the unit.
- Remove the pallet under the unit with the help of a fork lift.
- Put the unit on his location.
- Check if there is enough free space around the unit (see installation drawing).
- Check the electrical supply.
- Tethering of the unit.
- Connect the water.
- Connect drain.
- Grease collection.
- Make a test run on 220 °C (425°F).
- Give instructions to the operator.

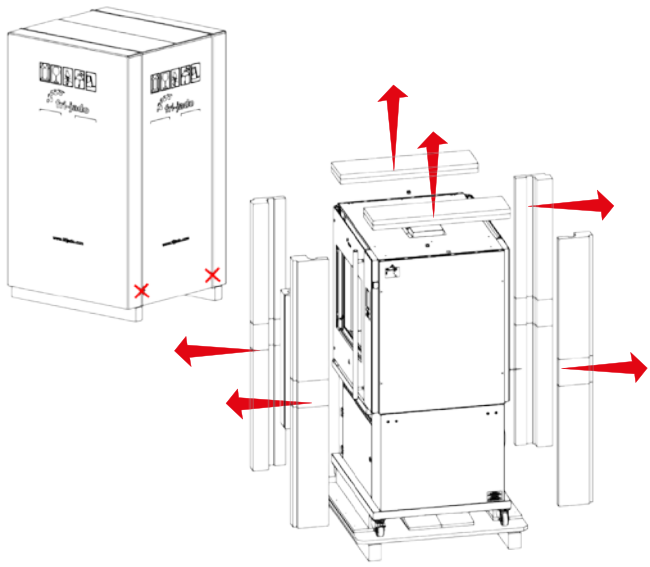
UNPACKING THE UNIT

Immediately after unpacking the oven, check for possible shipping damage. If the oven is found to be damaged, save the packaging material and contact the carrier.
The standard way to remove the oven from a pallet is with a fork lift.

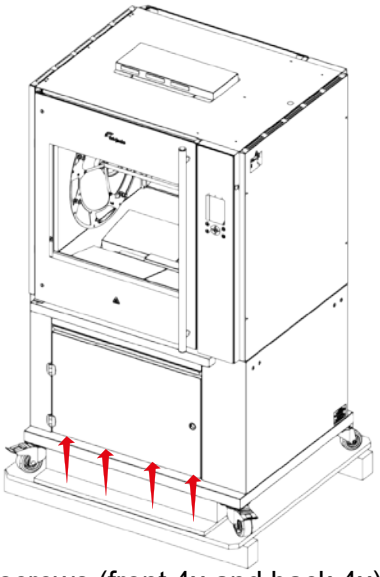
The alternative way is explained on the next page.
Do this with at least 2 people.

Dispose the packagaging according local legislation..

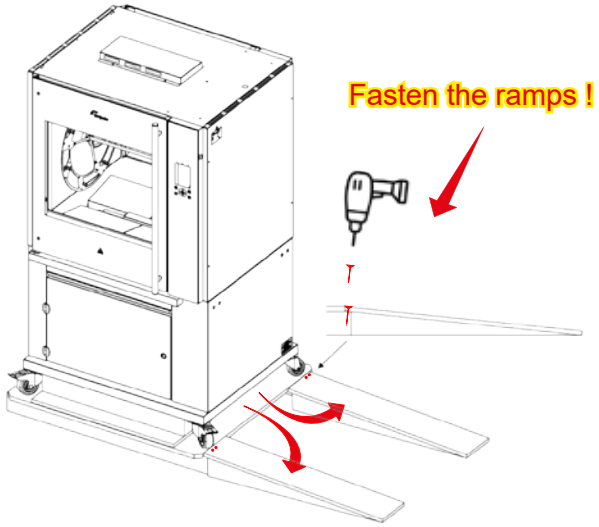




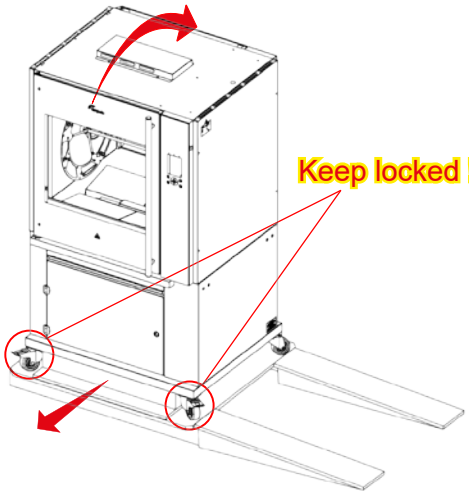
Cut straps, remove box and tempex.



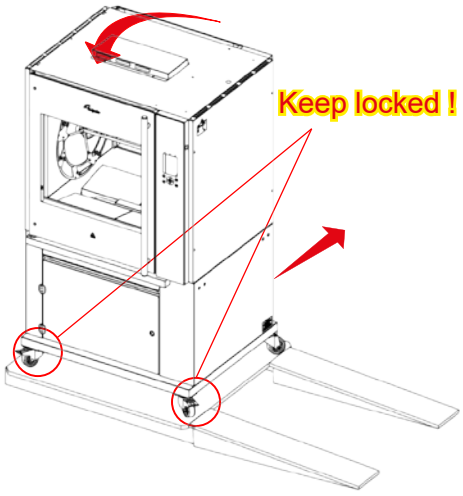
Remove screws (front 4x and back 4x)



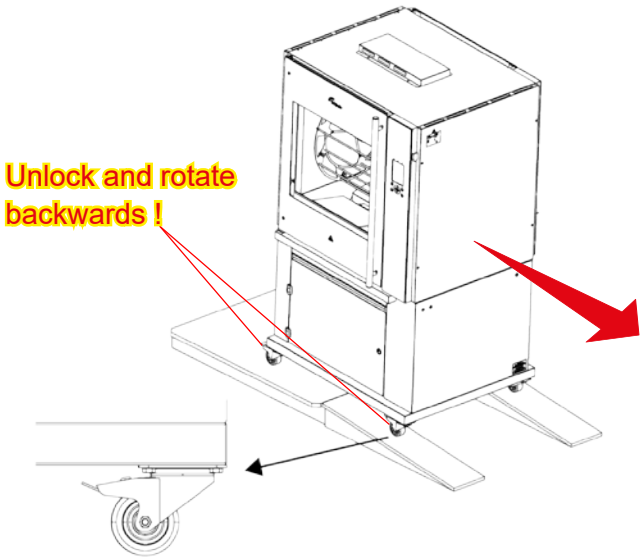
Place the ramps in front of the pallet and fasten them.



Tilt the unit slightly and remove the front beam.



Tilt the unit the other way and remove the beam at the back..



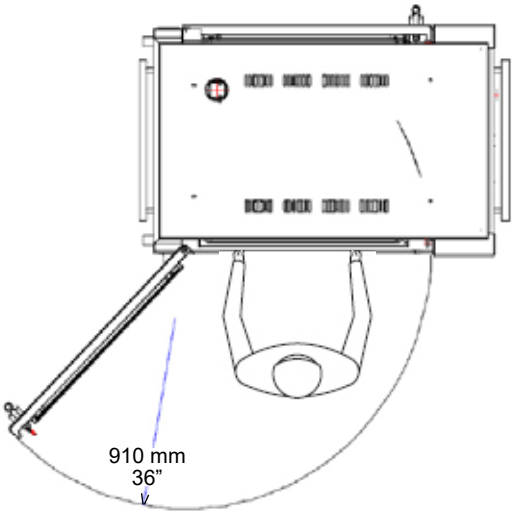
Carefully roll the unit onto the floor.

LOCATION

The oven must be installed on a level surface. The installation location must allow adequate clearances for servicing and proper operation.

The oven must be protected against falling moisture !

IMPORTANT: Make sure you leave sufficient space around the rotisserie to easily remove or insert the rotor. If the base has (rotating) wheels, the floor on which it rests must be level.

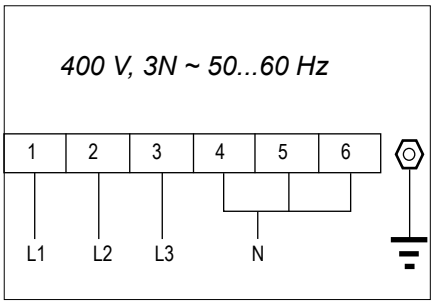


ELECTRICAL SUPPLY

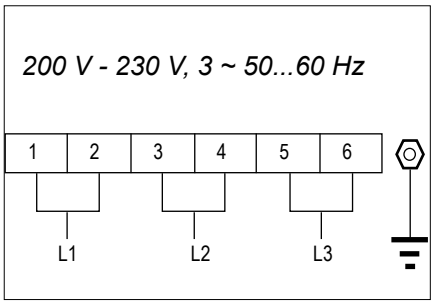
Prior to installation, test the electrical service to assure that it agrees with the specifications on the machine data plate located on the right side panel near the controls. The connecting cable for the unit must be equipped with an approved plug connection. If use is to be made of a permanent connection, the connecting cable must be connected to a manual on/off switch that is installed near the unit in a clear visible manner.

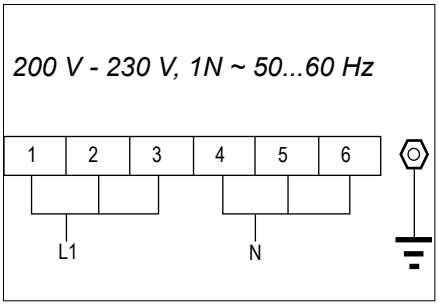
The unit must be connected according to one of the the figures below.

Factory default !
European models



Factory default !
American models





LEGS / CASTORS

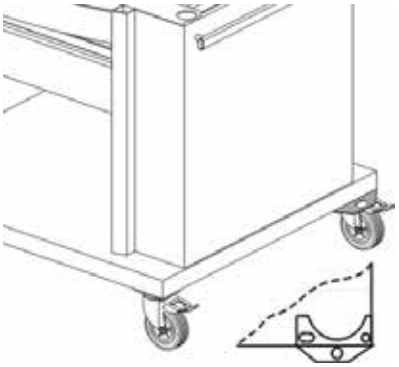
The TDR ac is placed on a stand with 2 swivel and 2 locking swivel castors.

TETHERING OF THE UNIT

Warning: Safety standards require that, when this appliance is properly connected to the electrical power supply using flexible conduit, adequate means be provided to limit movement of the appliance without depending on or transmitting stress to the electrical conduit. This means that, as part of the installation, the base or bottom unit of stacked models must be secured to the building structure (typically either wall or floor) to limit the movement of the appliance and, thus, helping to prevent damage to the conduit during cleaning, maintenance and service operations.

A tether bracket, as shown on the drawing below, is provided with the stand. Based on the routing of the flexible conduit, the bracket must be installed along with the caster to one corner of the base using the hardware provided. The remaining open hole in the center of the tether bracket is to be used to secure one end of the tether (locally supplied chain, cable, etc.). The other end of the tether is to be secured to an anchoring point in the building structure.

Note: *Length of tether must be shorter than the flexible conduit to make sure that during appliance movement, no stress is transmitted to the conduit.*



POWER, WATER AND DRAIN CONNECTIONS TDR5 AC AND TDR7/8 AC

The Power, water and drain connections can be found on the back of the unit.

400 V European models
Power connection
Cee form 16 A (TDR5ac)
Cee form 32 A (TDR8ac)
L= 2,5 mtr (98”)

Note: TDR8ac low power units have a 16A Cee form plug

Water supply hose
G 3/4”, L= 1,1 mtr (43”)

Flush the tap before connecting

Drain hose, Ø 33 x Ø 25, L= 1,2 mtr
(Ø 1 5/16 x Ø 1”, L= 47”)
See chapter “connecting the drain tube” for further information.

POWER, WATER AND DRAIN CONNECTIONS TDR7+7 AC / TDR8+8AC

The Power, water and drain connections can be found at the side of the unit.

400 V European models
Power connection
Cee form 63 A,
L= 2,5 mtr (98”)

Note: TDR8ac low power units have a 32A Cee form plug

1x Water supply hose (from serial nr. 100099813)
G 3/4”, L= 1,1 mtr (43”)

Flush the tap before connecting

2x Drain hose, Ø 33 x ø 25, L= 1,2 mtr
(Ø 1 5/16 x ø 1”, L= 47”)
See chapter “connecting the drain tube” for further information.

WATER REQUIREMENTS

The supplied tap water must have the following conditions:

1. Minimum pressure 200 kPa (2 bar)
2. Maximum pressure 500 kPa (5 bar)
3. Maximum water temperature 40 °C (100 °F)
4. Acidity pH 7.0 - 8.0
5. Chlorides less than 30 ppm
6. Use a sediment pre-filter or a strainer for the reduction of silica and other non-dissolved sediments.

Water hardness and descaling filters.

7. A descaling filter is advised when the hardness of the water is > 4° dH (4 Grains/Gal).
8. A descaling filter is mandatory when the hardness of the water is > 20° dH (20 Grains/Gal).

Note that the cleaning capacity of the cleaning tablets will decrease with harder water.

The by-pass of the descaling filter, if applicable, **needs to be adjusted to zero.**
Refer to the filters manual to determine the filter capacity. This filter capacity needs to be adjusted in the manager parameters.

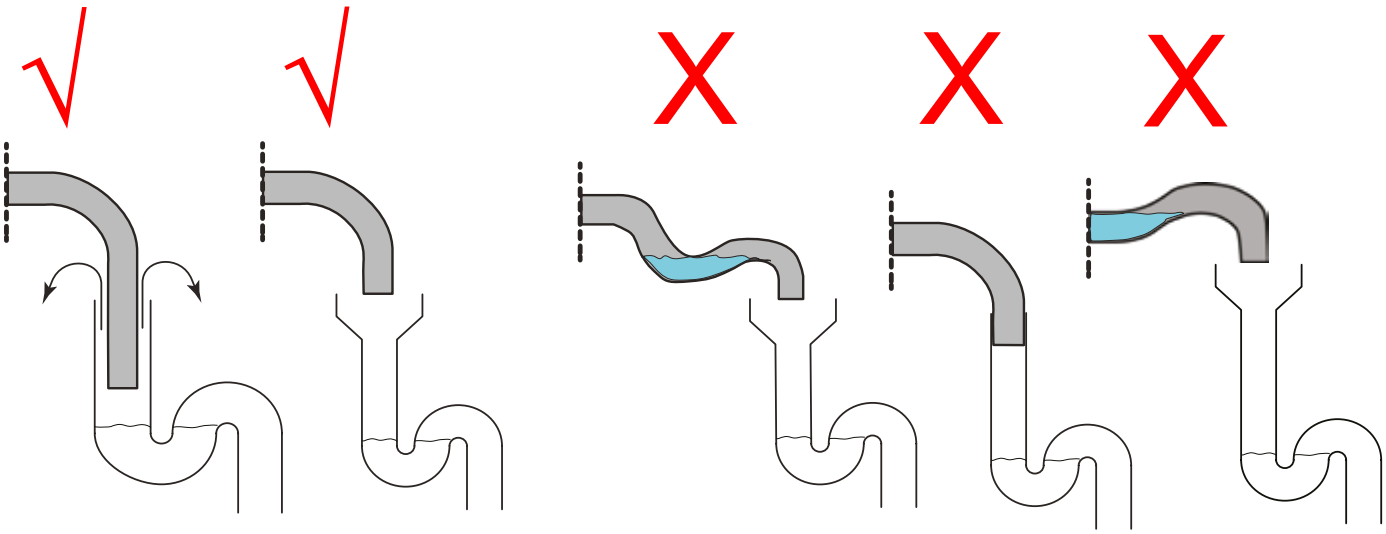
CONNECTING THE DRAIN TUBE

An open draining system with a 110 mm (4 1/2”) funnel is recommended. The drain tube has an outside diameter of 33 mm (1 5/16”).

- It is not allowed to make a closed connection!
- Make sure that the tube is not kinked and is sloping downwards to the drain funnel.
- The minimum inside diameter of the sewer pipe needs to be 40 mm (1 1/2”).
- A siphon in the customers sewer is highly recommended to prevent odors from coming out of the sewer.
- See below examples.

Possible lay outs of drain

Faulty lay outs of drain



EXTRACTION OF THE ROTISSERIE

An extraction hood is prescribed when the unit is NOT delivered with the special Fri-Jado Exhaust Hood mounted on it.
The TDR5 produces about 6 m³ (210 cf) and TDR8 produces about 10 m³ (350 cf) vapour during a cooking cycle. When placing the rotisserie under an extraction hood, the following guide lines have to be considered:

- The minimum capacity of the extraction hood has to be 480 / 800 m³/h (15000 / 25000 cf/h).
- The extraction hood has to extend minimum by 20 cm (8”) on all sides of the rotisserie.
- The extraction hood has to have a free hight, above the rotisserie, of a minimum of 30 cm (12”).
- The rotisserie has to be accessible for service purposes.
- The extraction hood has to have facilities to drain any condensation, down to a drain.

GREASE COLLECTION

For TDR5-ac and TDR7/8-ac:

Place the bucket, which is delivered with the unit, inside the stand under the drain pipe.

It is also possible to put other containers in the underframe to collect the grease.
Note 1: In one run, 5 liters (1.3 gallon) grease can come out.
Note 2: The temperature of the grease can go up to 80 °C (176 °F).
Make sure that the container meets the above requirements.

For TDR7+7-ac / 8+8-ac:

The stacked unit comes with a grease tray underneath.
The grease from both units will be collected in this tray.

TEST RUN

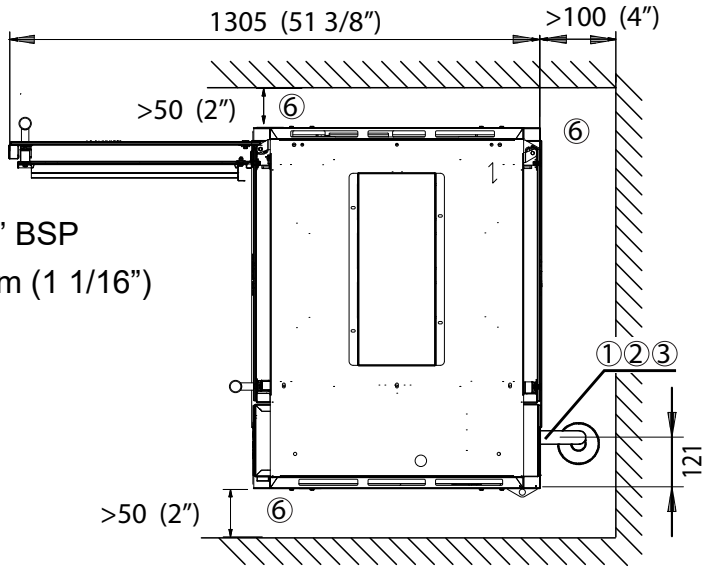
The oven must be burned in to release any odours that might result from heating the new oven surfaces. Operate the oven at maximum temperature setting of 220°C (425°F) for 30 minutes. Smoke with an unpleasant odour will normally be given off during this burn-in period.

INSTRUCTIONS FOR OPERATORS

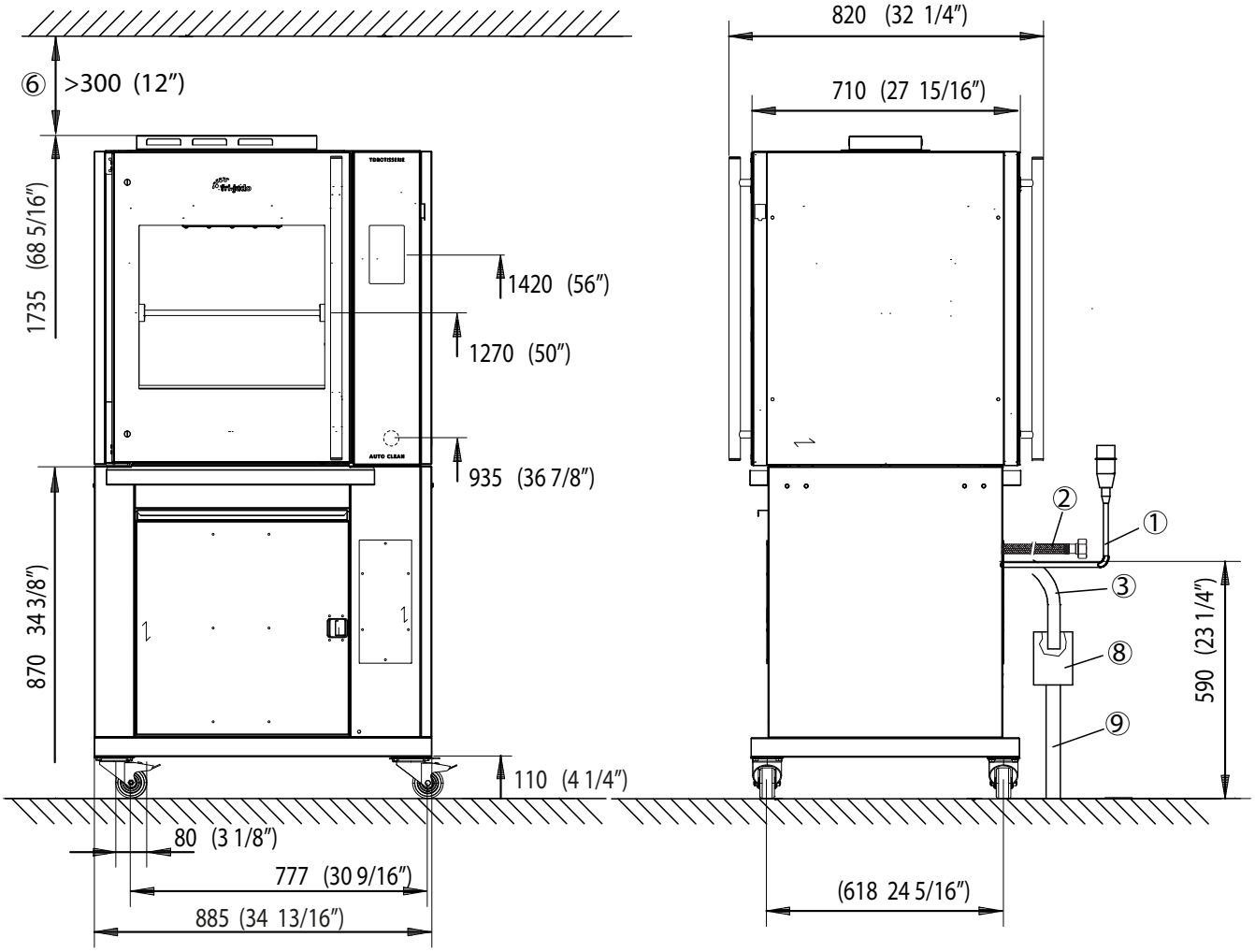
After installation of the rotisserie the operator of the unit has to be instructed.
The instruction has to cover the following subjects:

- Programming and options.
- Working of the unit.
- Free space of unit for cooling of drive motor and blowers.
- Run through the user manual.
- How to run the cleaning program and placing cleaning tablets.
- Cleaning of the tablet dispenser and bottom filters after the cleaning program has finished.
- Periodical maintenance:
  - Cleaning of fan plate every 3 months.
  - Yearly maintenance by service agent.
- How to react for information or service calls.

TDR 5 AC ON STAND

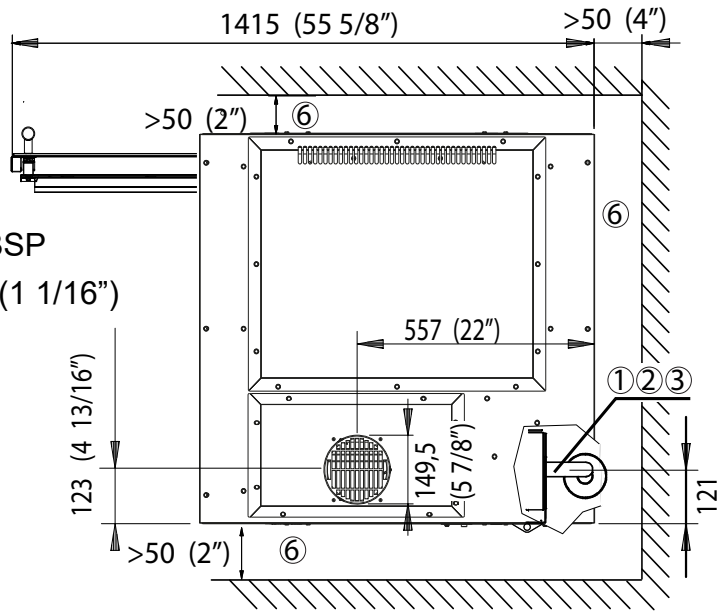


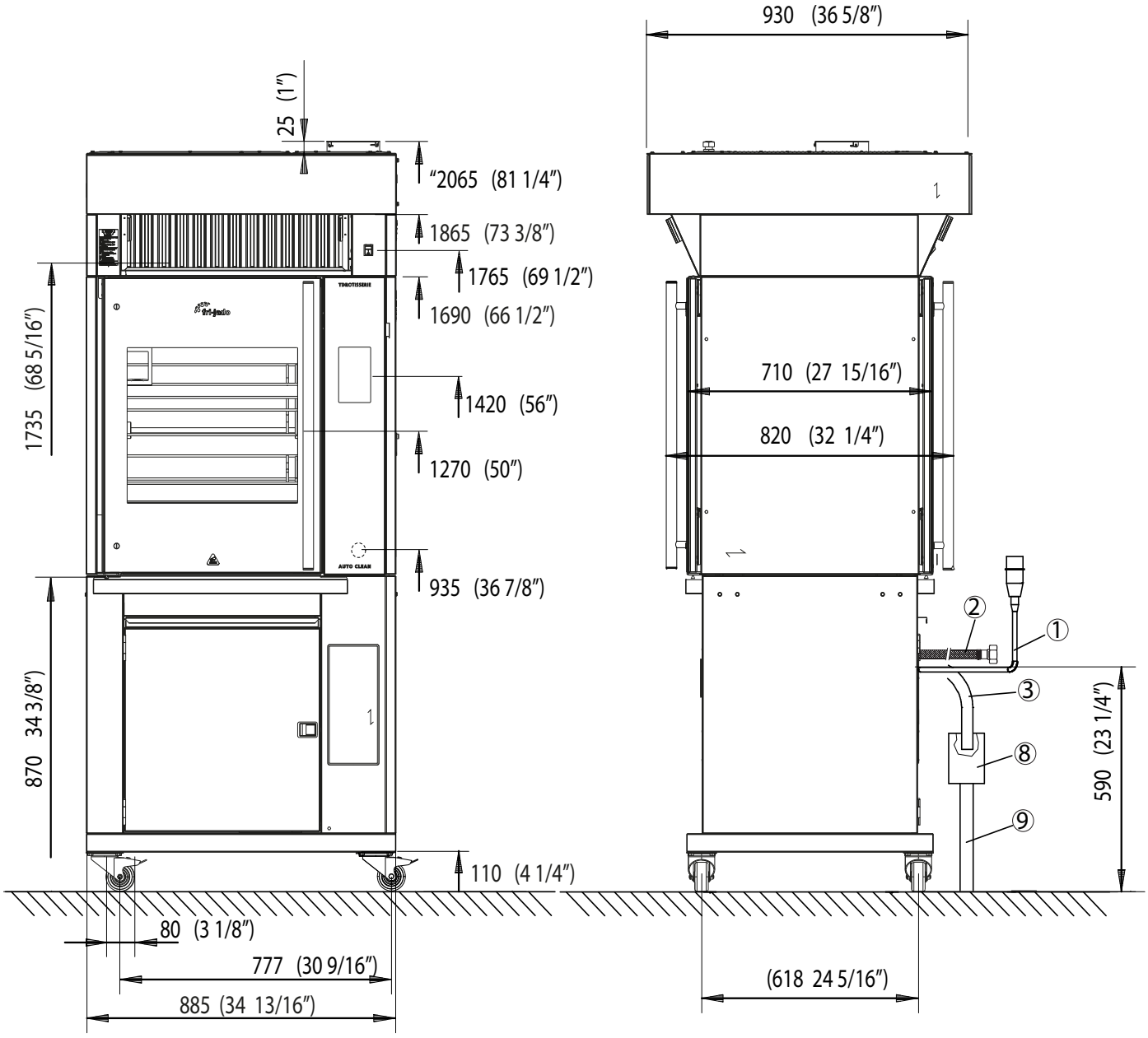
① Location of mains connection
② Location of water connectionG 3/4” BSP
③ Location of drain hose OD Ø 33 mm (1 1/16”)
⑥ Minimum required space
⑧ Example of funnel
⑨ Sewer pipe ID ≥ Ø 40 mm (1 5/8”)



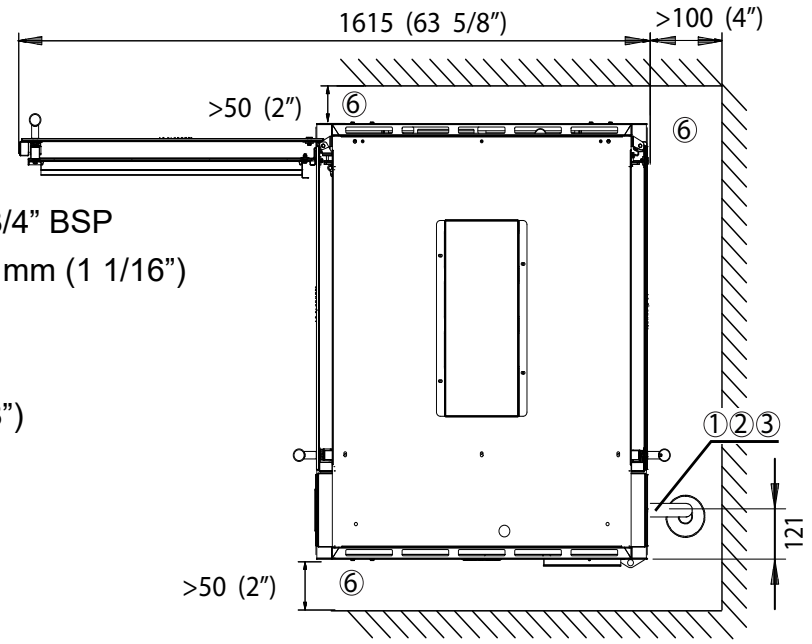
TDR 5 AC WITH HOOD

① Location of mains connection
② Location of water connectionG 3/4” BSP
③ Location of drain hose OD Ø 33 mm (1 1/16”)
⑥ Minimum required space
⑧ Example of funnel
⑨ Sewer pipe ID ≥ Ø 40 mm (1 5/8”)

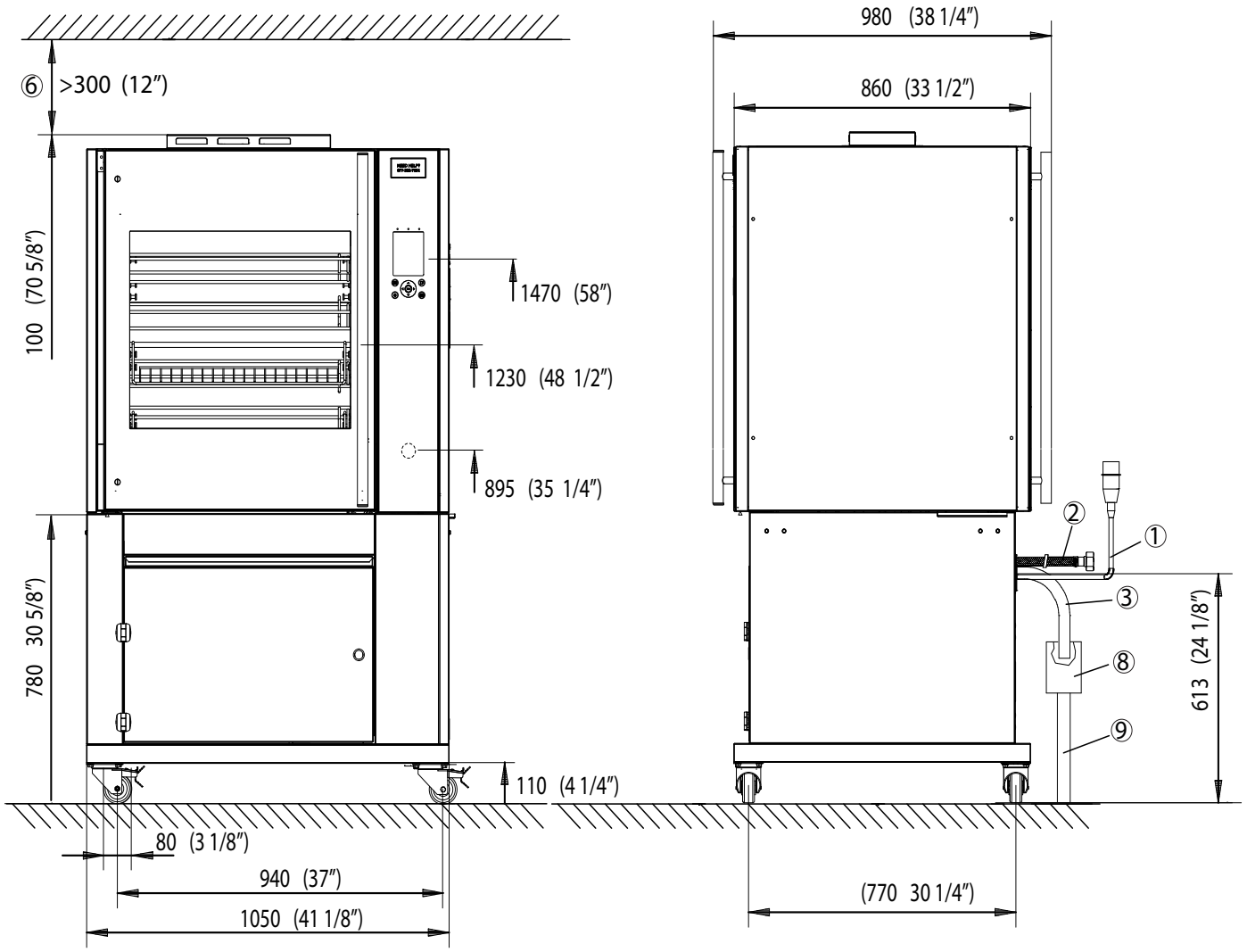




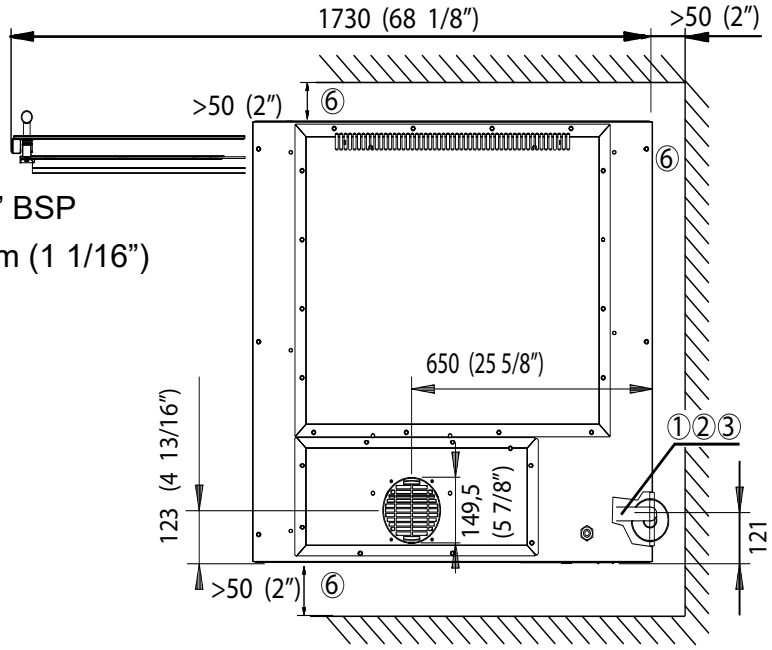
TDR 7/8 AC ON STAND



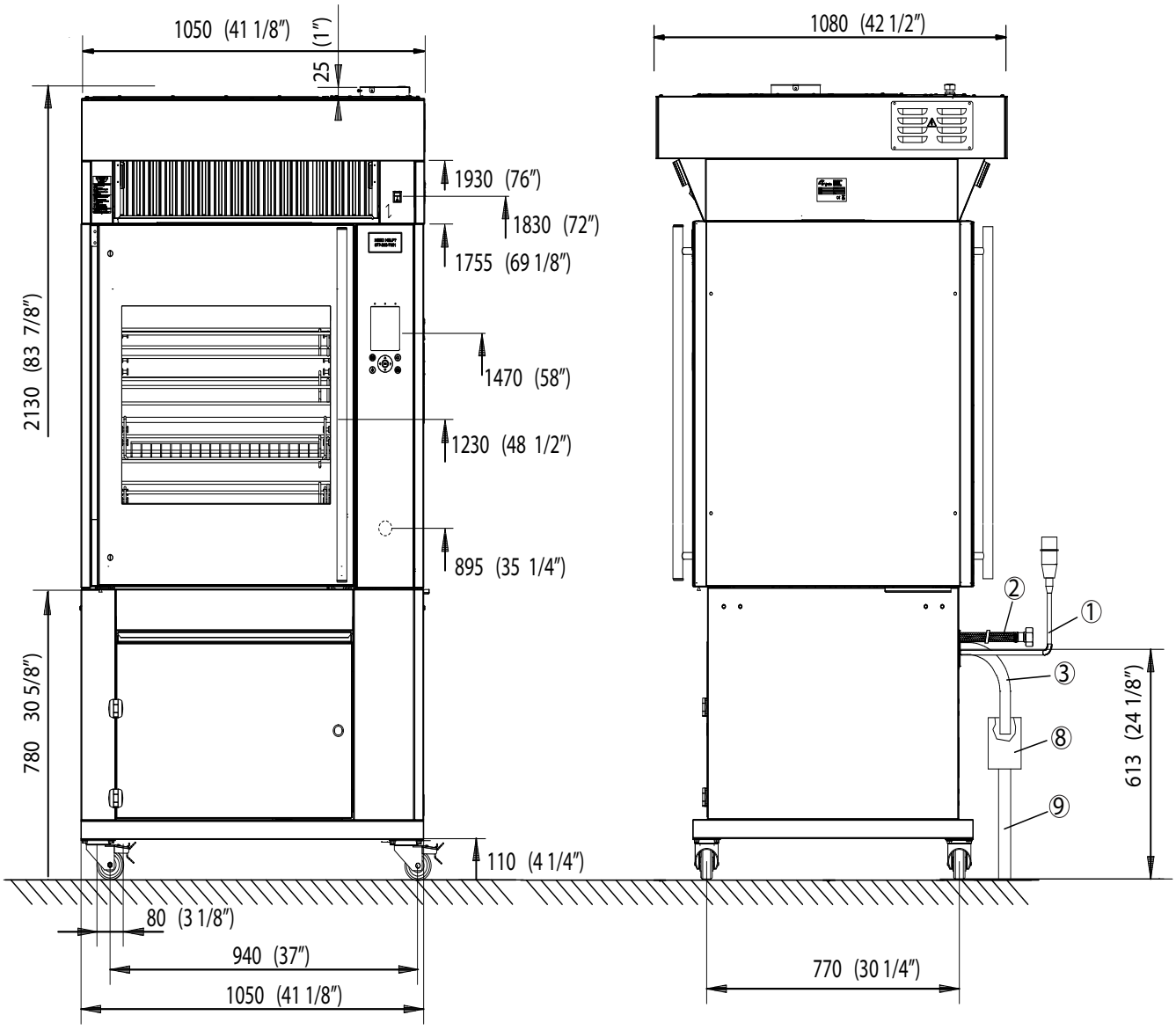
① Location of mains connection
② Location of water connectionG 3/4” BSP
③ Location of drain hose OD Ø 33 mm (1 1/16”)
⑥ Minimum required space
⑧ Example of funnel
⑨ Sewer pipe ID ≥ Ø 40 mm (1 5/8”)



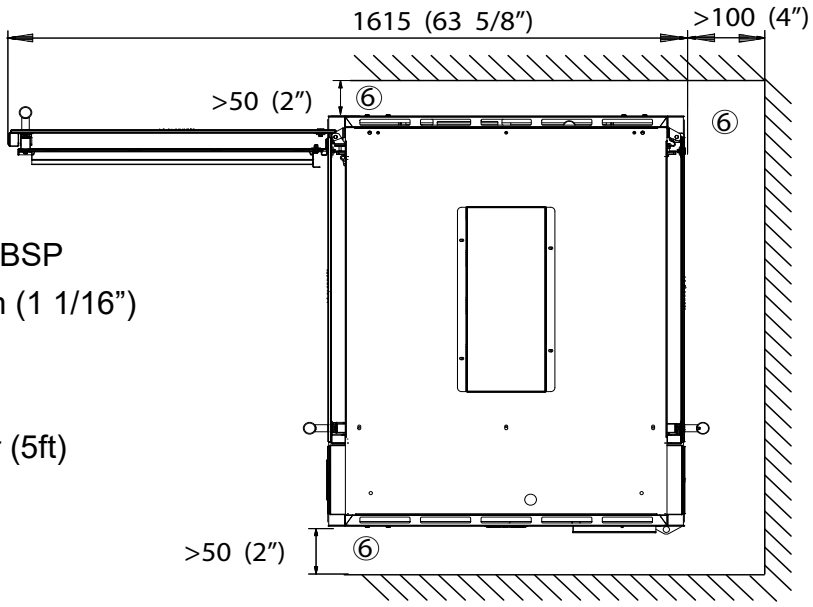
TDR 7/8AC WITH HOOD



① Location of mains connection
② Location of water connectionG 3/4” BSP
③ Location of drain hose OD Ø 33 mm (1 1/16”)
⑥ Minimum required space
⑧ Example of funnel
⑨ Sewer pipe ID ≥ Ø 40 mm (1 5/8”)

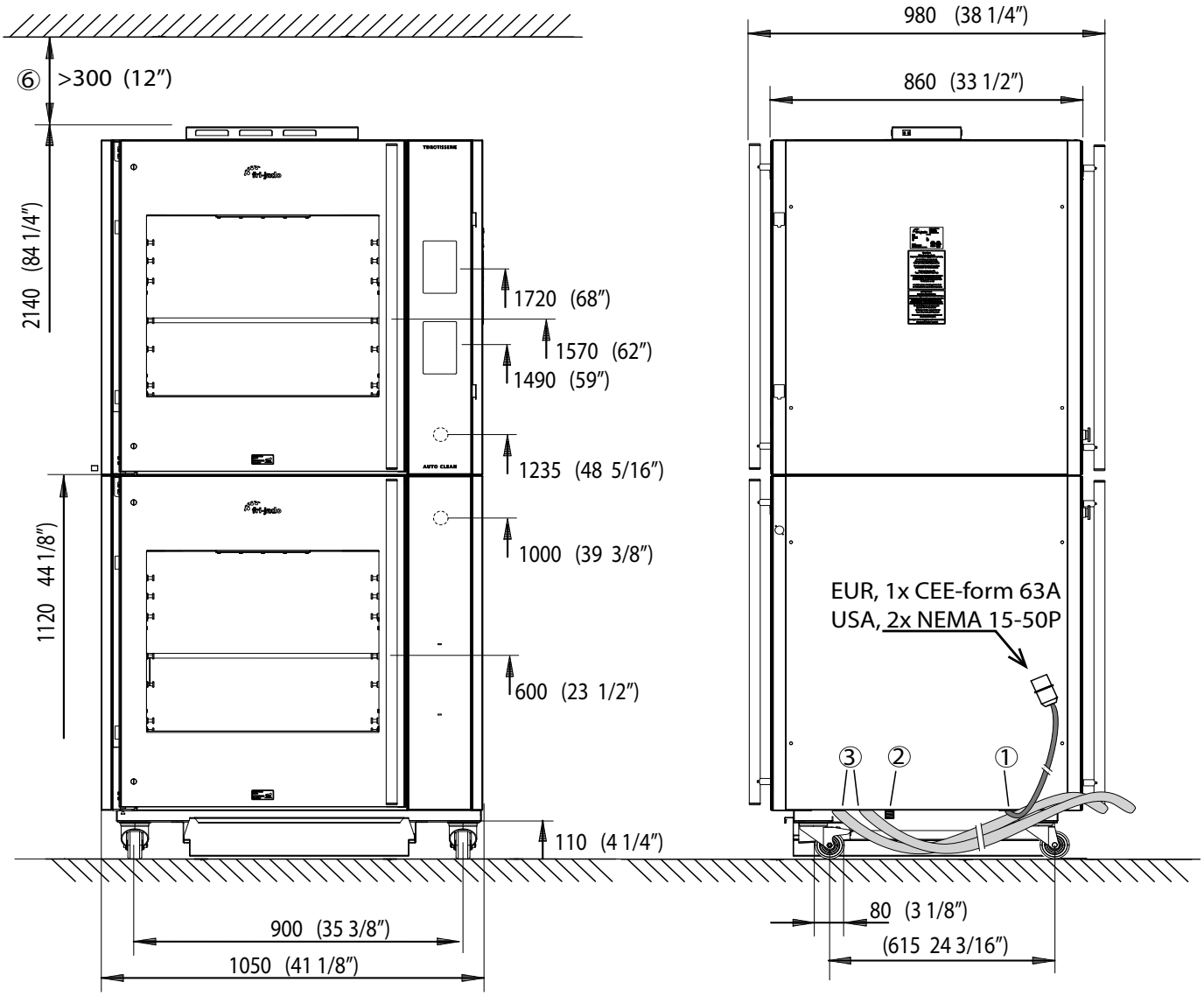


TDR 7+7 AC / 8+8 AC

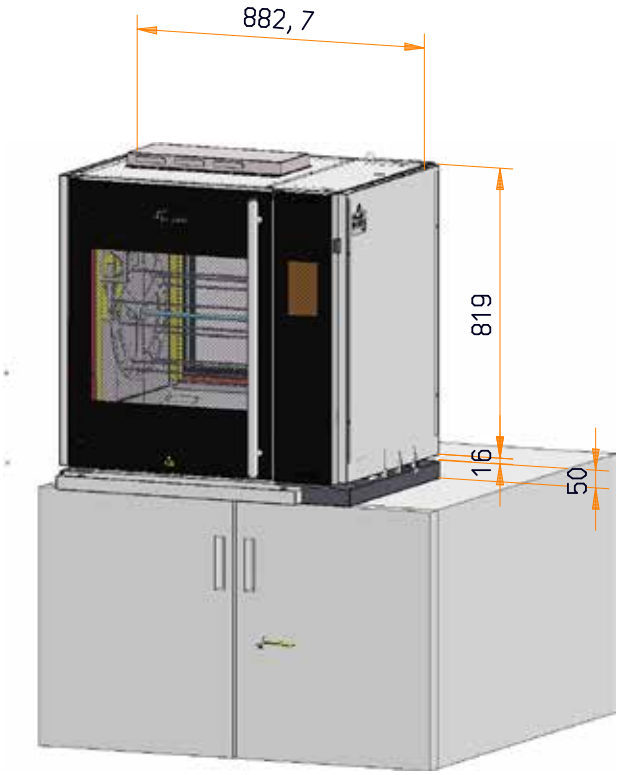


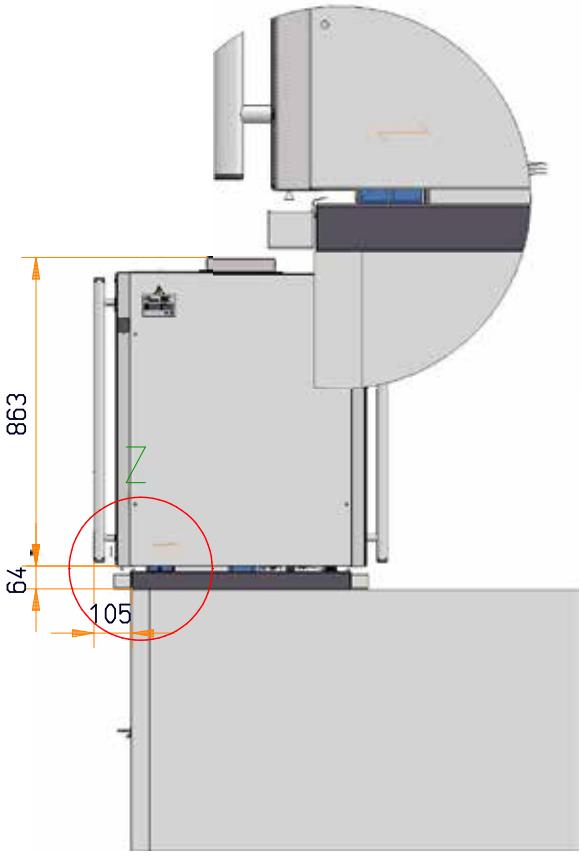
① Location of mains connection
② Location of water connectionG 3/4" BSP
③ Location of drain hose OD Ø 33 mm (1 1/16")
⑥ Minimum required space

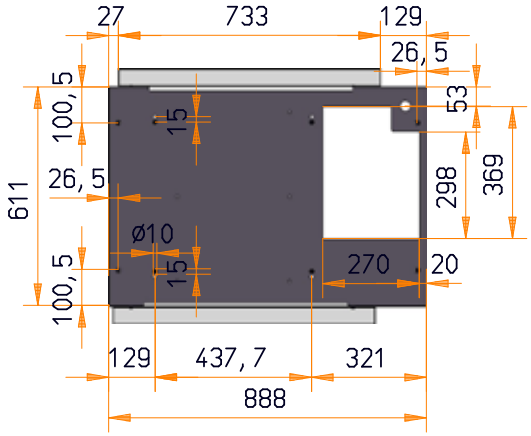
Delivered water hose G3/4", 1,5 mtr (5ft)
Sewer pipe ID ≥ Ø 40 mm (1 5/8")

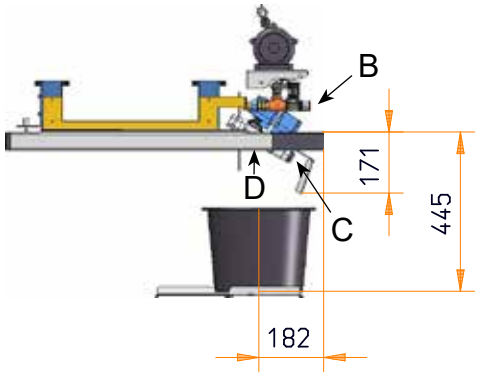


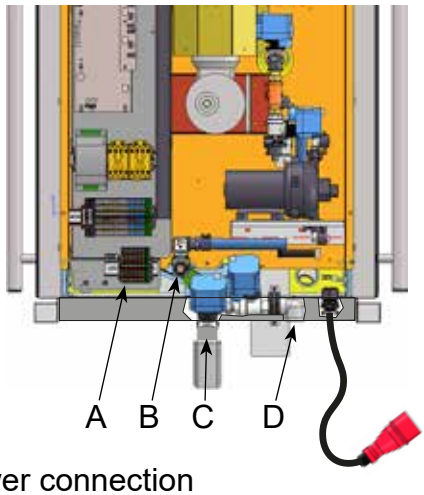
TDR 5AC ON COUNTER





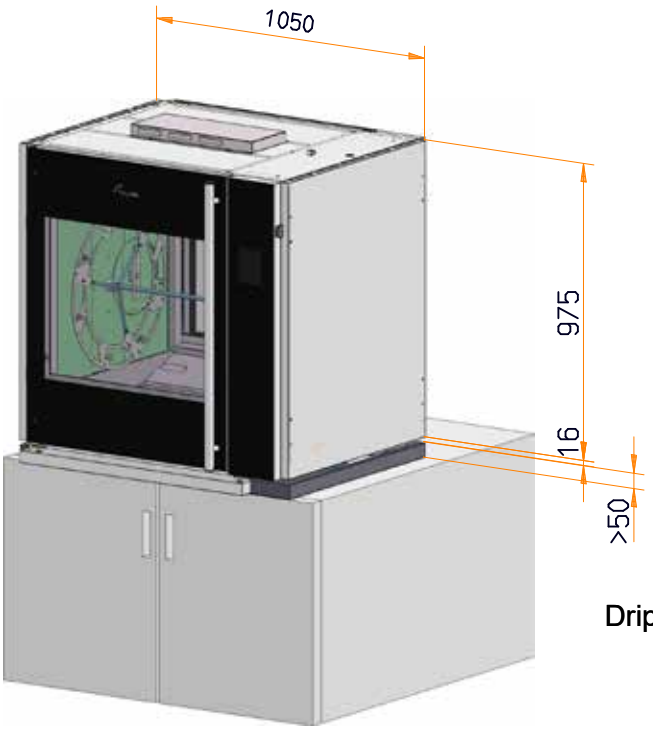


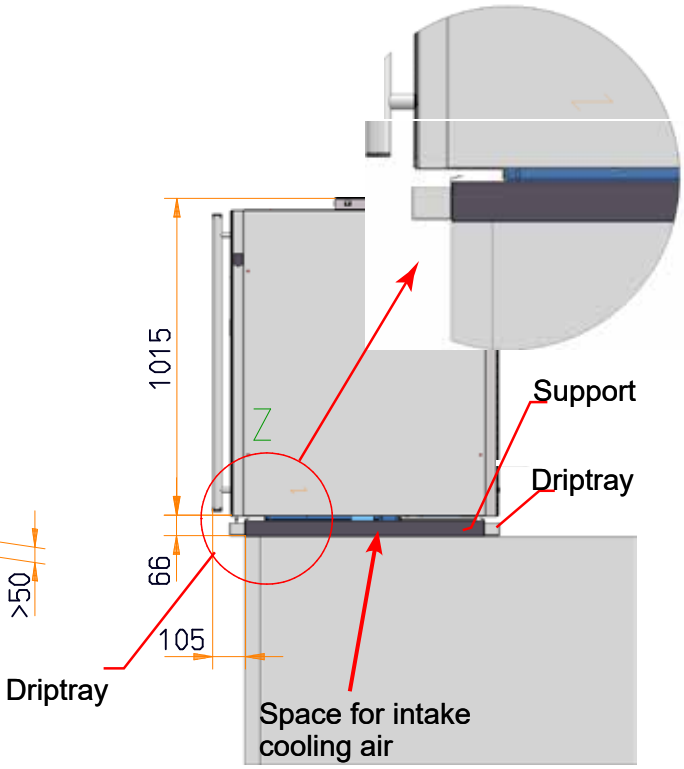




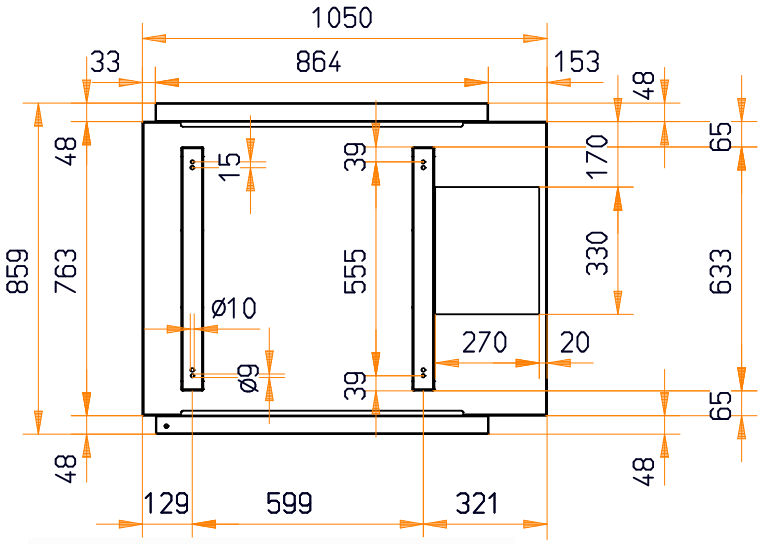
A= Power connection
B= Water connection 3/4”
C= Grease drain
D= Waste water drain hose pillar 3/4”

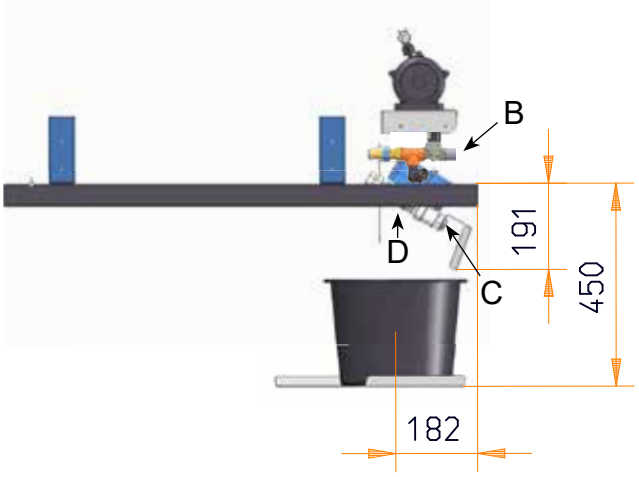
TDR 7/8 AC ON COUNTER

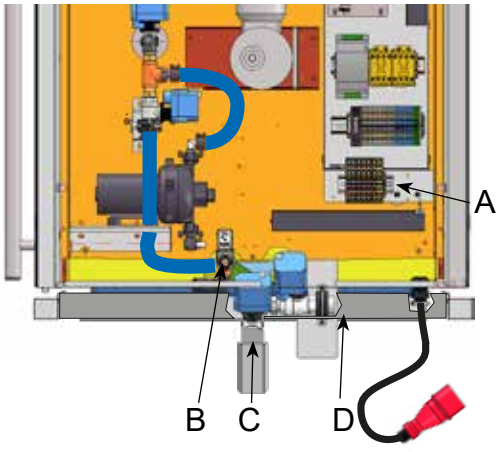




Footprint dimensions, seen from above







A= Power connection
B= Water connection 3/4”
C= Grease drain
D= Waste water drain hose pillar 3/4”

SWITCHING ON

Touch the screen somewhere

Touch the ON / OFF symbol

Home screen

Main functions

- Language
- ON / OFF or stop program
- Recipes menu
- Home screen
- Cleaning program
- Help function
- Settings
- Wipe/clean touch screen (locks screen for 60s.)

Other symbols

- Pause
- Extra time
- Continue
- Create recipe
- Edit recipe
- Confirm
- Step back
- Delete
- Tap screen
- Swipe

MENU OVERVIEW SW VERSION 1.00.17

Recipes menu

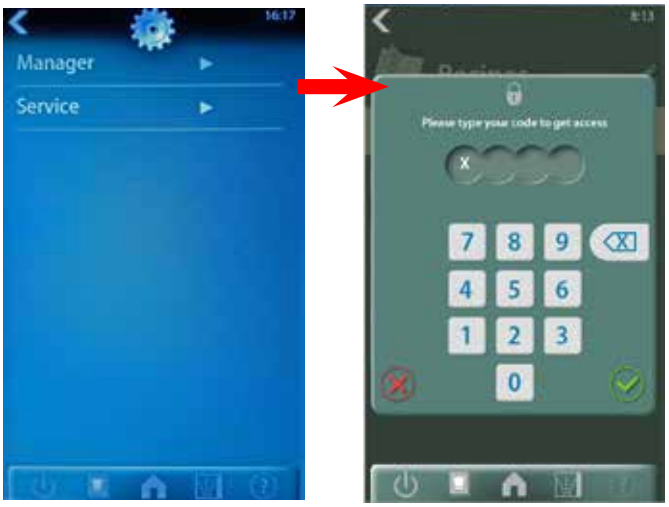
Messages (under construction)

Manager and service settings (see below)

Log & maintenance menu

Help menu (under construction)

Clean screen. Locks the touch screen for 60 seconds.
About. Gives information about soft- and hard-ware.
Screenshot. Only available with a wifi connection.



The manager pin code can be chosen freely.
0000 = free access.
The service pin code is 4878.

Once the service menu is entered, also the manager menu is unlocked.

Once the manager or service menu is opened, it stays unlocked for 30 minutes.

See parameter lists at the end of this chapter.

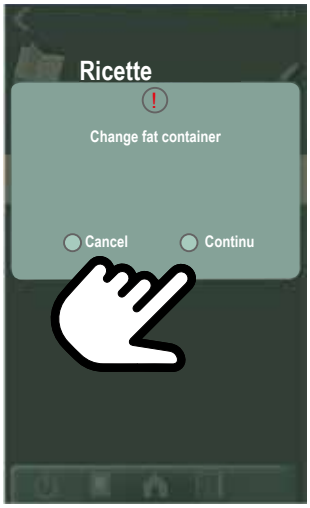
RUNNING A COOKING PROGRAM

Push recipes icon

Choose program

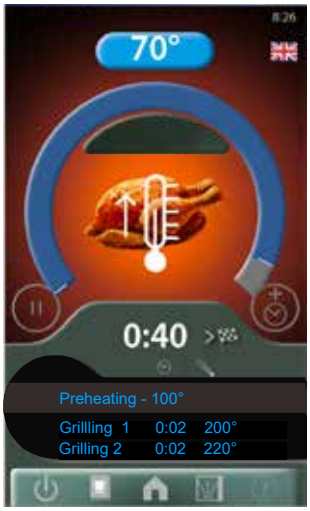
Start program

Check fat container and push “continue”

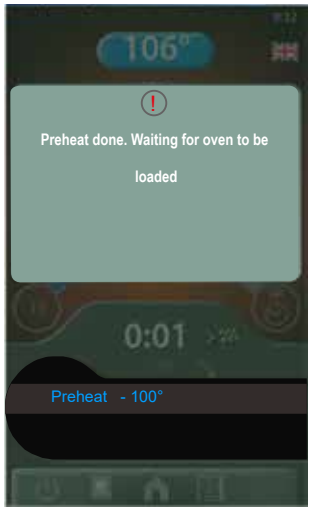


The below 4 steps are only applicable in case the cooking program has a pre-heat step.

Preheat starts.
Actual temperature shown.



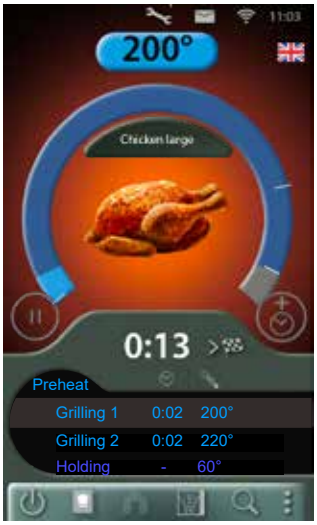
Preheat done, open the door.



Load products and close the door.

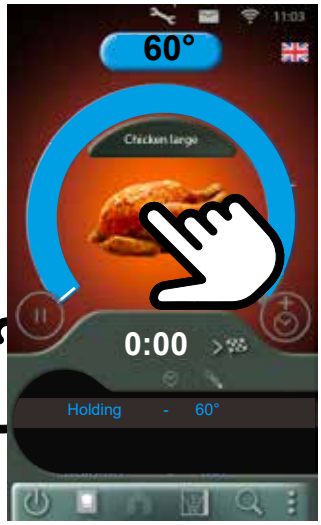
Push ▶

Program running.
Push to see actual temperature.
⏸ = Pause button

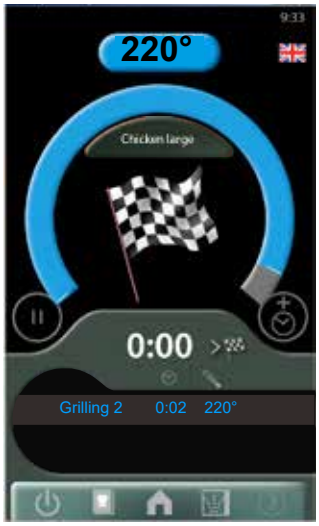


A short sound comes when going into the next step.
Push “boost” icon for extra time, if desired.

Program in holding step, if applicable. Touch the screen to stop the sound



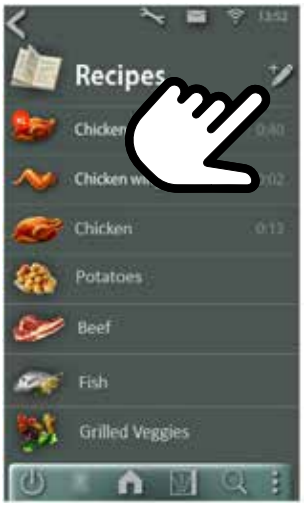
End of program when no holding is programmed.



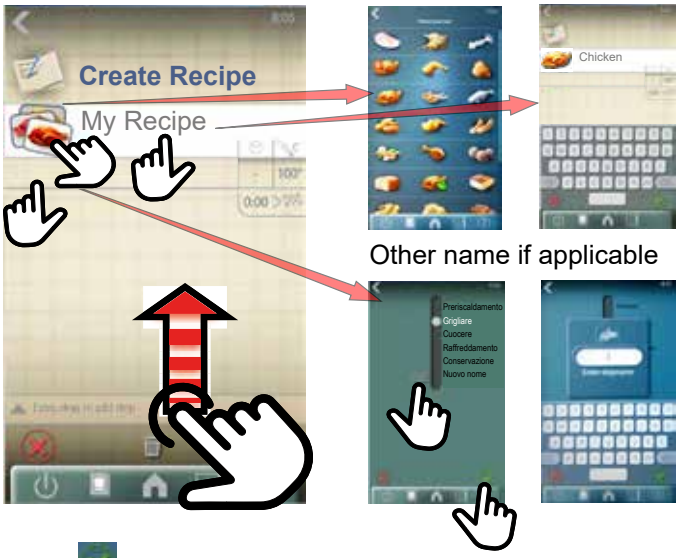
CREATING A COOKING PROGRAM

Push recipes icon

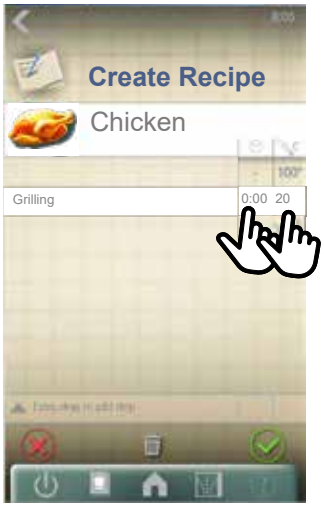
Push  icon



Chose product icon and fill in recipe name.
Chose or change step name if applicable.
Drag up for an extra cooking step.



Push time and temperature and adjust.



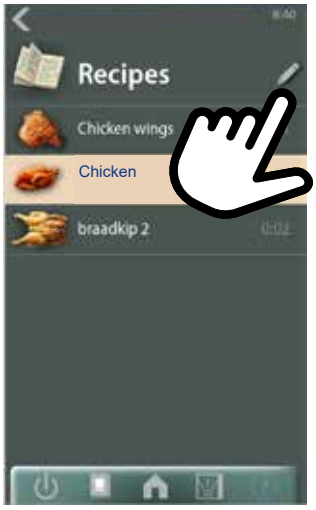
Push  when ready

EDITING A COOKING PROGRAM

Push recipes icon

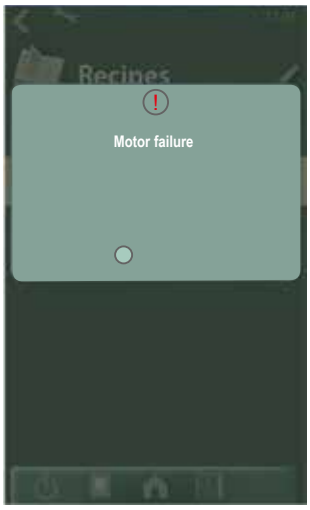
Choose program

Push icon to edit the highlighted recipe. Now follow the steps as described above.



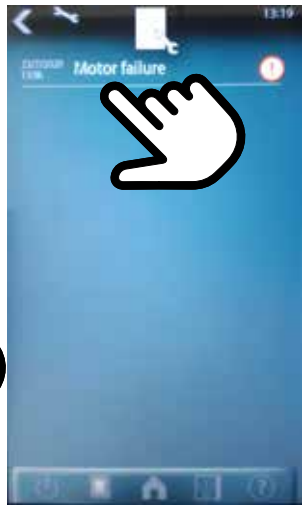
EXAMPLE OF ERROR MESSAGE

Example motor failure during cooking.



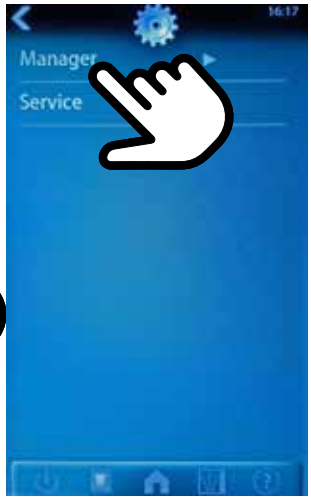
In the “log” menu the error can be found

Select the error

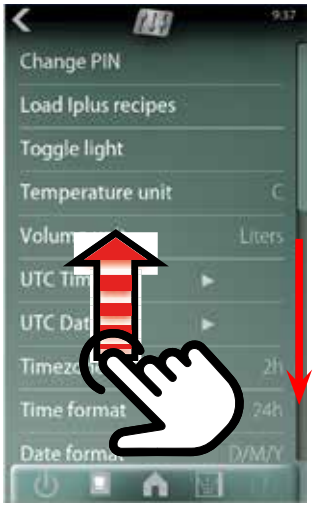


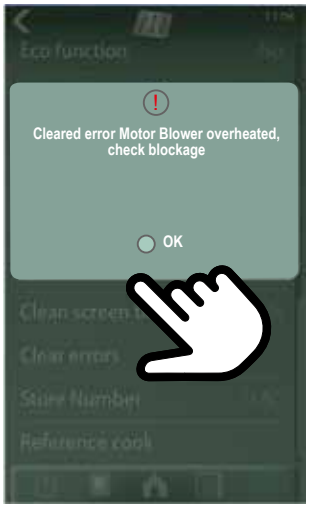
Meta data is shown

Go to the manager menu to clear the error.



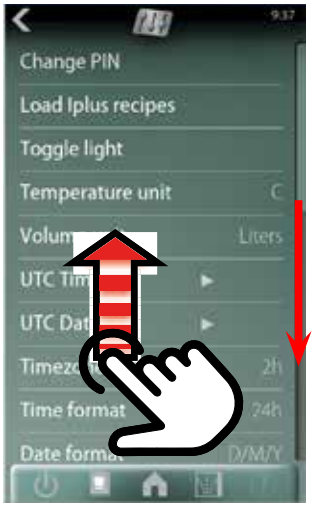
In manager menu:
Scroll to “Clear errors” and push ▶



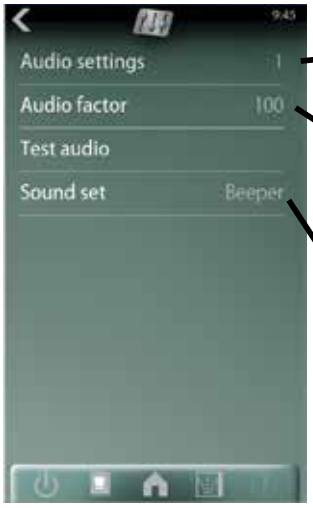


AUDIO VOLUME AND SOUND SETTING

In manager menu:
Scroll to “Audio” and push ▶



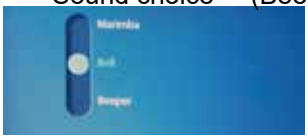
4 options.
With “Test audio” the chosen volume or sound can be checked.



This is no setting. Different sounds can be heard in combination with “Test audio”.

Volume

Sound choice (Beeper has highest volume)



THE CLEANING PROGRAM

Push cleaning icon

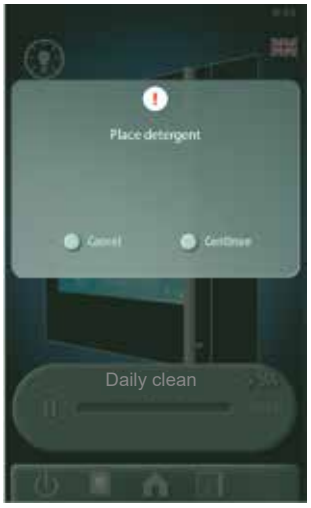
Choose program

If unit is too hot, it will cool down first.

Now it is asked to place the detergent.

Follow the instructions that can be found in the container with detergent.

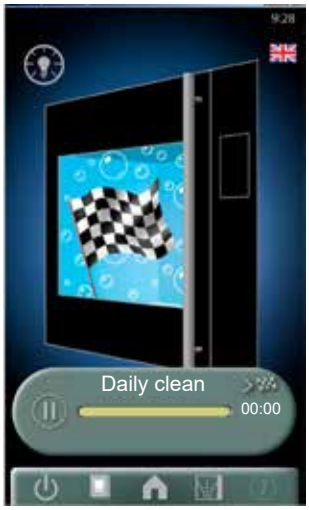
Place the detergent.



Push ⏸ to pause, if applicable.

Push ▶ to continue

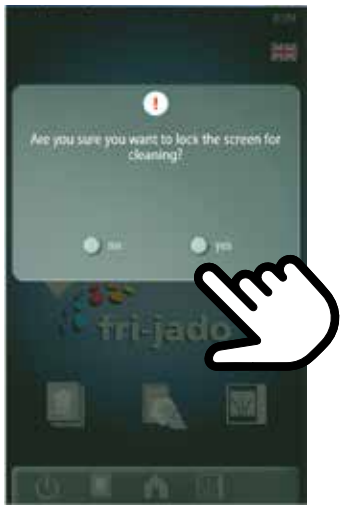
Cleaning program has finished.



CLEANING THE TOUCH SCREEN (WHILE IN OPERATION)

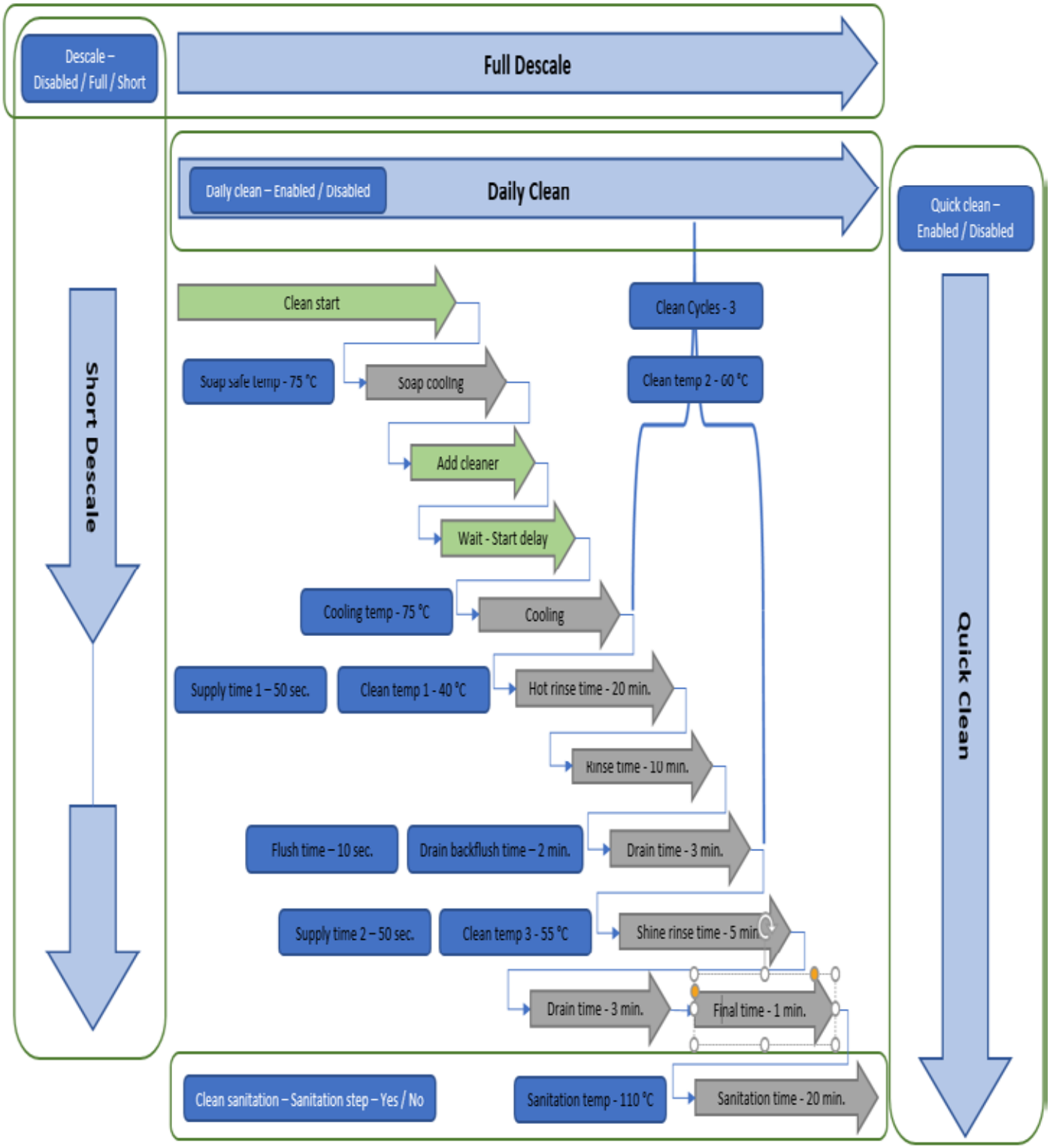
Push  icon

Push “yes”



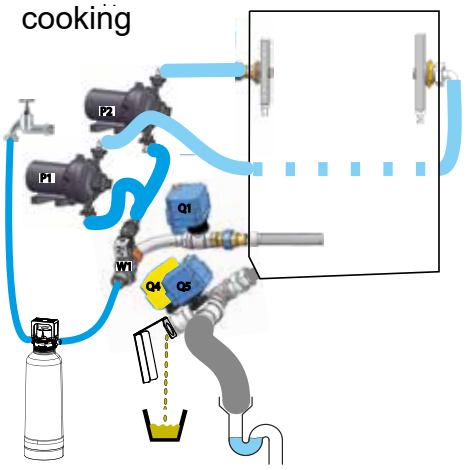
The screen is now locked for 60 seconds and counting down

CLEANING PROCESS TDRAC (3 CYCLES)



2 PUMPS SYSTEM AND VALVES IN ACTION DURING CLEANING

Valve position during cooking

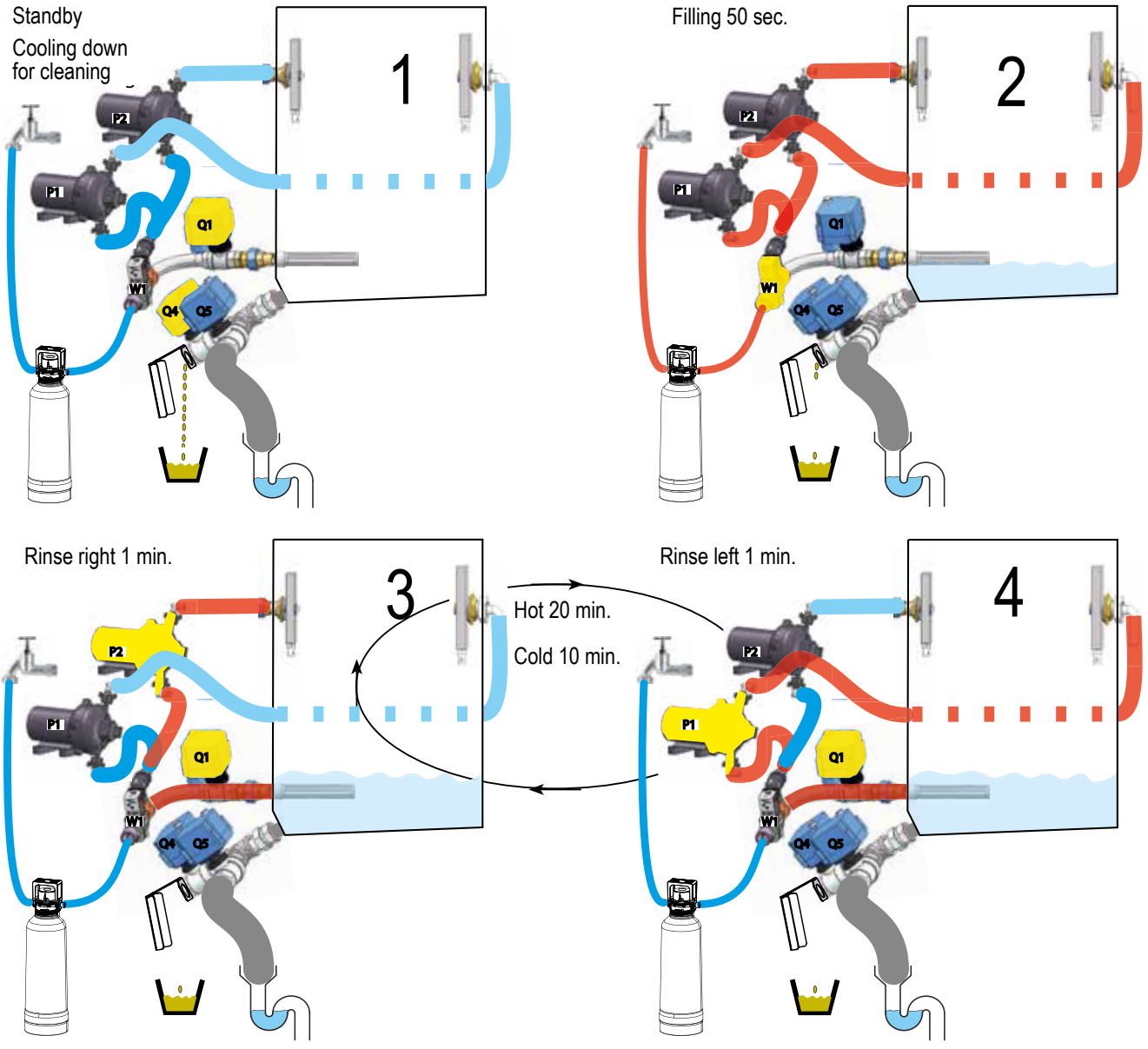


The pictures below show each stage in the cleaning program.

-Tubes in red, are flowing
-Pumps or valves in yellow are active / open.
-Soap has to be added after stage 1

-The first cycle is following stage 1 untill 10.
-The second cycle is following stage 2 untill 10.
-The third cycle is following 2 untill 9 and then 5 as last stage.

The stages 3 and 4 are rehearsing alternately, during 1 minute each, over a period of 20 minutes, with the heating on and after that, during 10 minutes with the heating off.
The third cycle has only heating on.

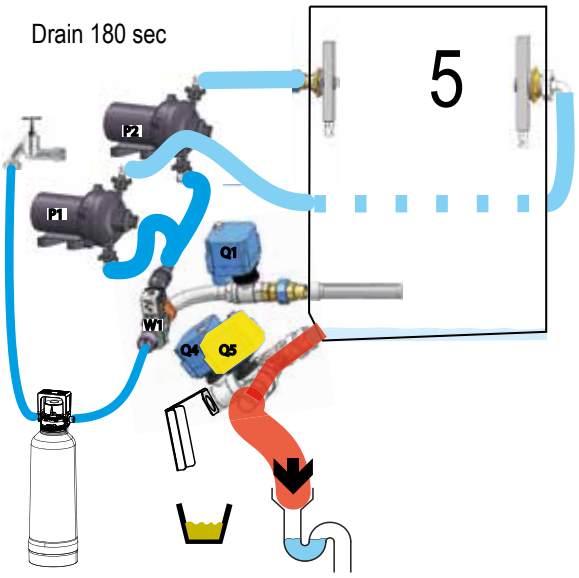


The stage 3 and 4 are rehearsing alternately, during 1 minute each, over a period of 20 minutes, with the heating on and after that, during 10 minutes with the heating off.

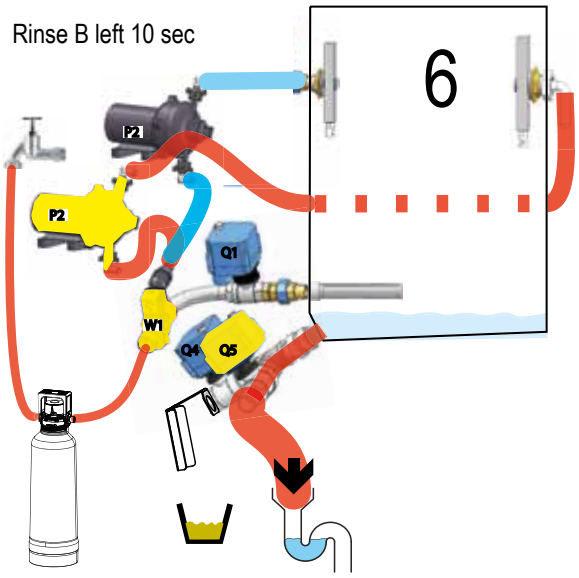
The third cycle has only heating on.

In case of a sanitation step, that will be like stage 10, but then only with the heating on.

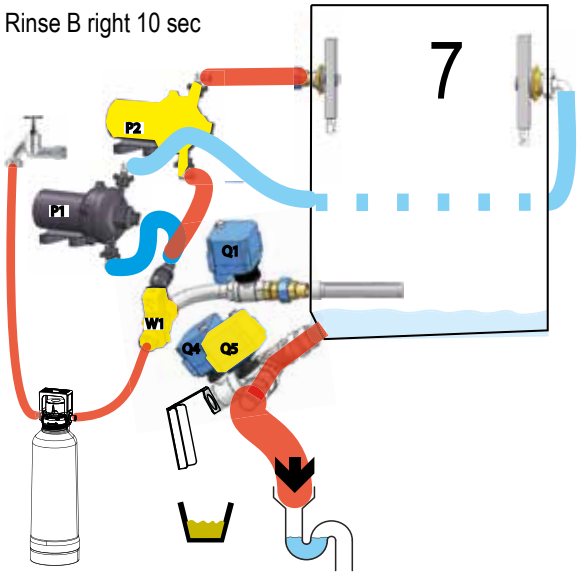
Drain 180 sec



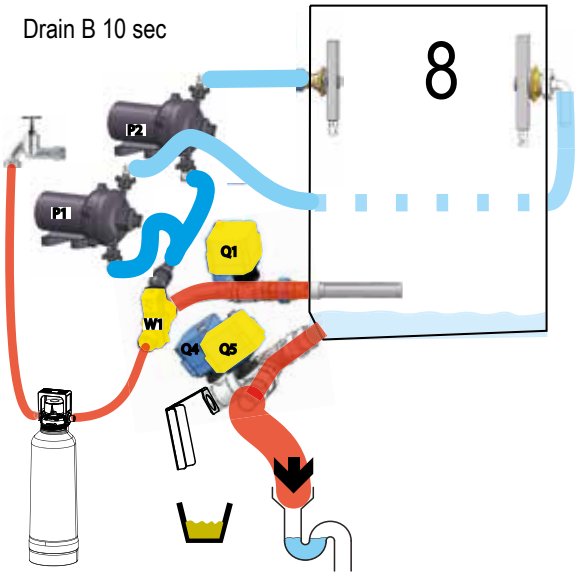
Rinse B left 10 sec



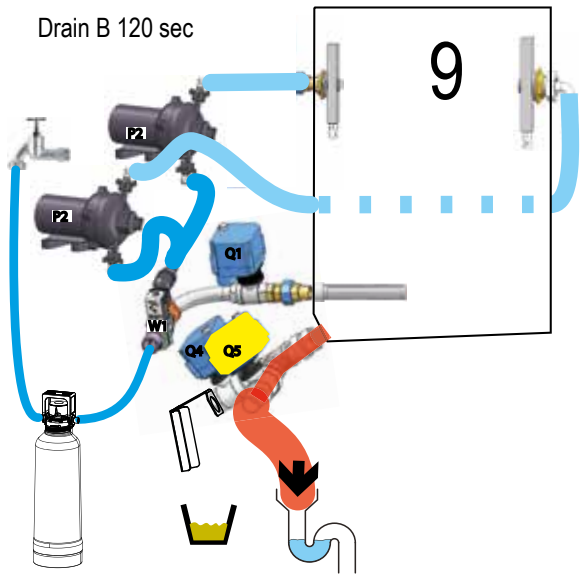
Rinse B right 10 sec



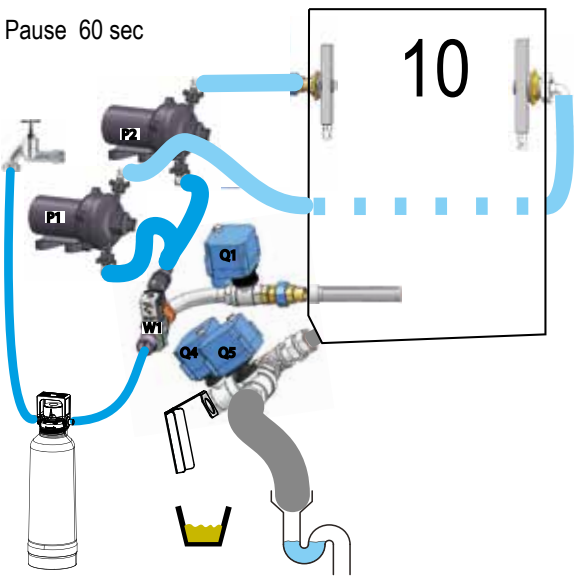
Drain B 10 sec



Drain B 120 sec

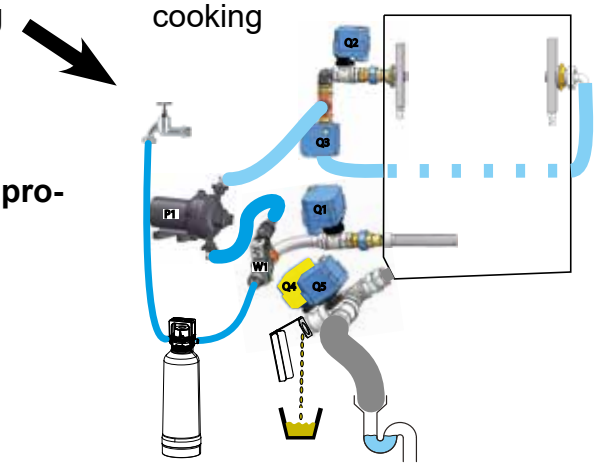


Pause 60 sec



1 PUMP SYSTEM AND VALVES IN ACTION DURING CLEANING

Valve position during cooking



The pictures below show each stage in the cleaning program.

-Tubes in red, are flowing
-Pump or valves in yellow are active / open.
-Soap has to be added after stage 1

-The first cycle is following stage 1 untill 10.
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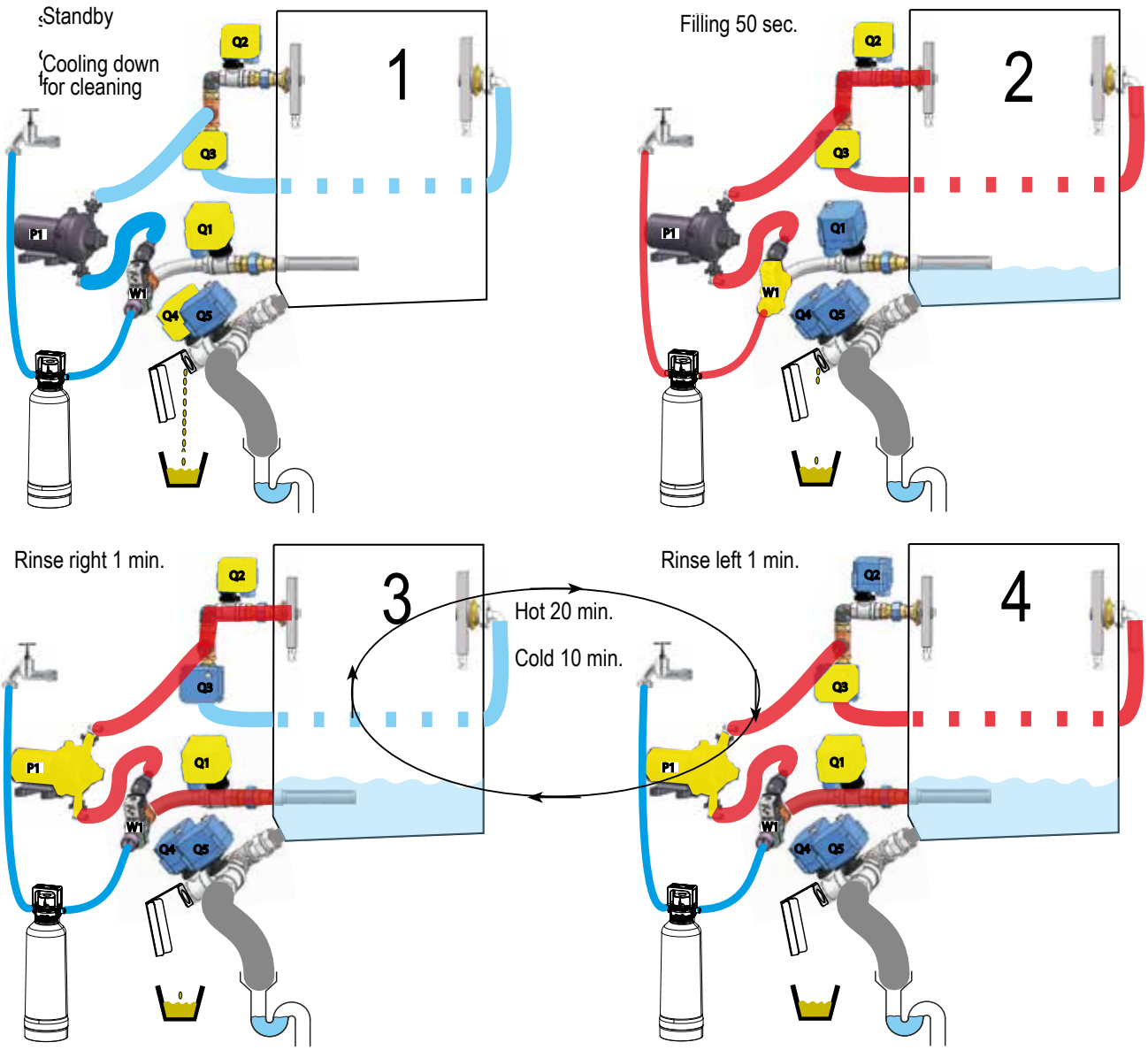
The stages 3 and 4 are rehearsing alternately, during 1 minute each, over a period of 20 minutes, with the heating on and after that, during 10 minutes with the heating off.
The third cycle has only heating on.

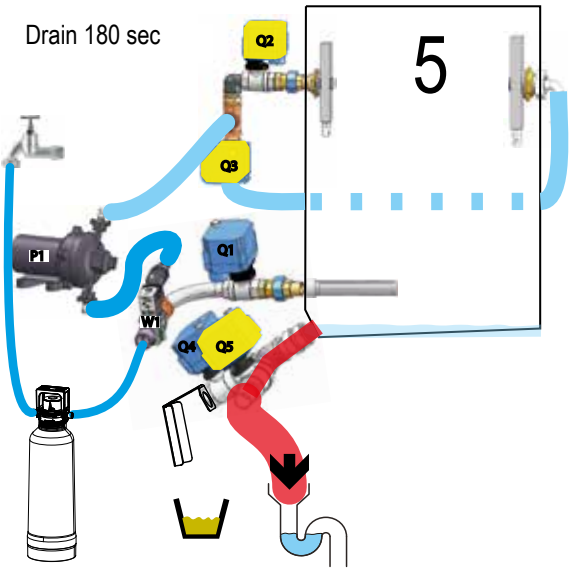


The stage 3 and 4 are rehearsing alternately, during 1 minute each, over a period of 20 minutes, with the heating on and after that, during 10 minutes with the heating off.

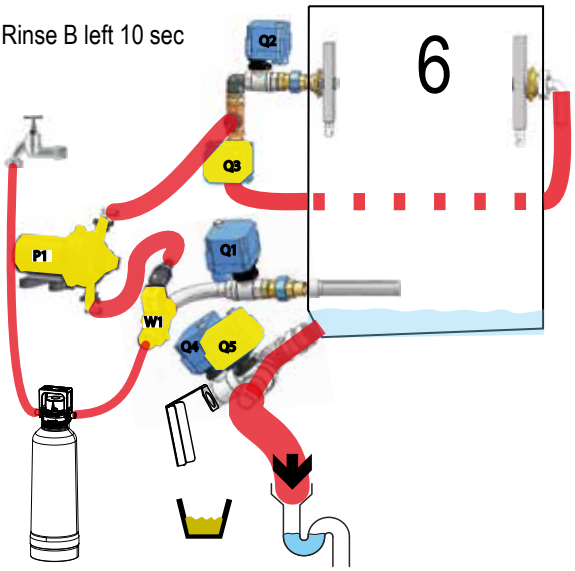
The third cycle has only heating on.

In case of a sanitation step, that will be like stage 10, but then only with the heating on.

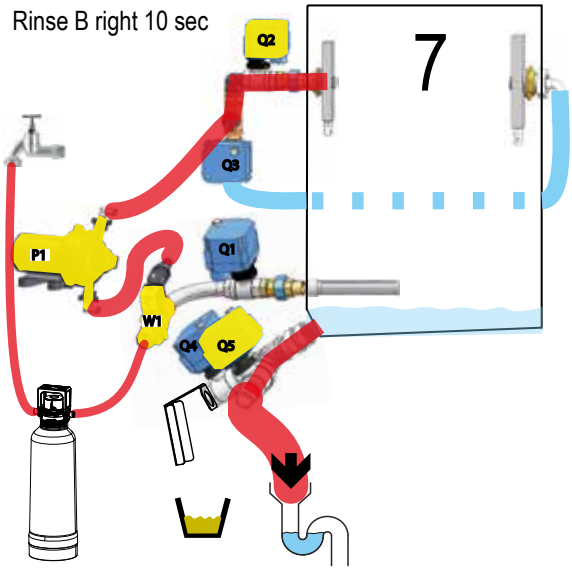
Drain 180 sec



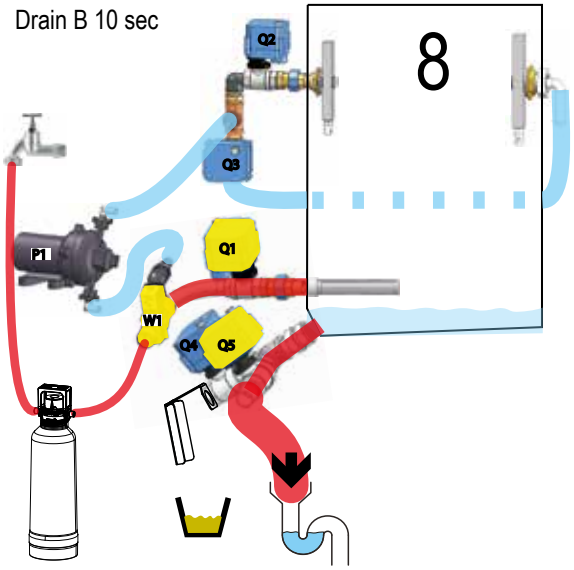
Rinse B left 10 sec



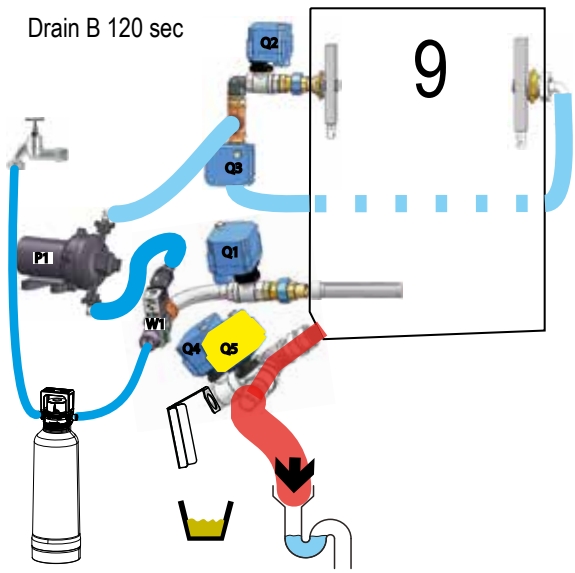
Rinse B right 10 sec



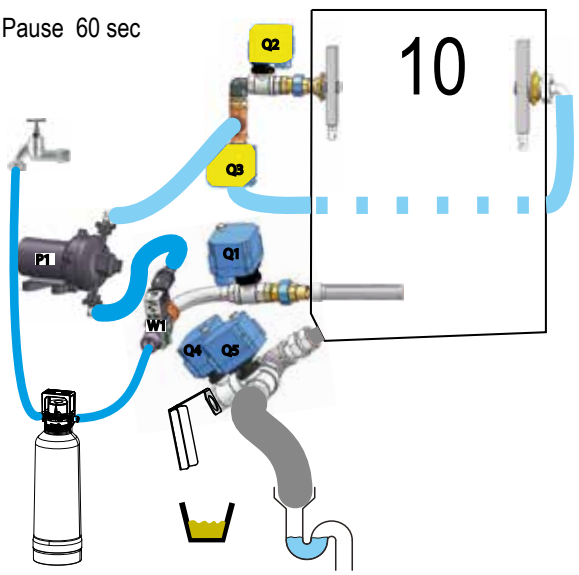
Drain B 10 sec



Drain B 120 sec



Pause 60 sec

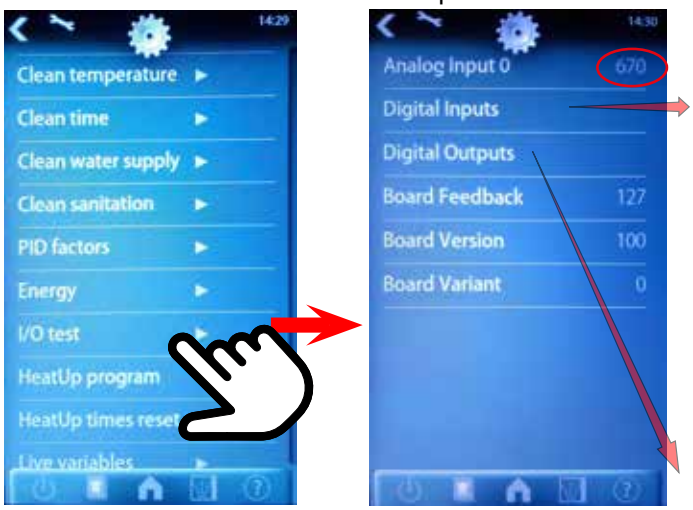


I/O TEST

Gain access to the service menu 4878

Select “I/O test”

“Analog input” shows PT1000 temperature (in 0,1 degrees)
Example below is 67°C



“Digital inputs” is showing the available inputs and also which contacts are closed.

J13 shows that the door is closed.

J14 shows an open thermistor in the blower, causing a blower error.

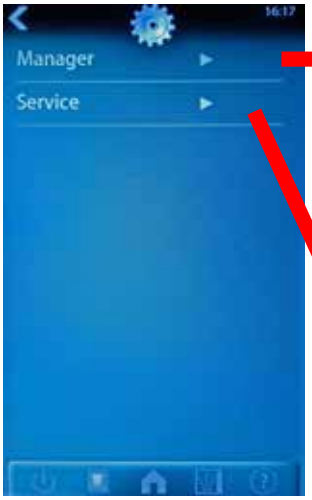
“Digital outputs” is showing the available outputs and also which are activated.

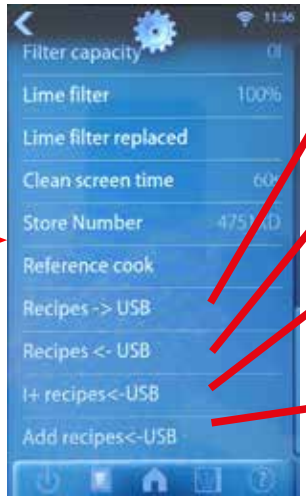
Push the button to activate or disactivate the output of your choice.

See chapter “software i-controller” (I/O test) for a hardware overview of the outputs.

EXCHANGING DATA WITH THE USB DRIVE

The password for service is 4878.
Once the service menu is entered, also the manager menu is unlocked.



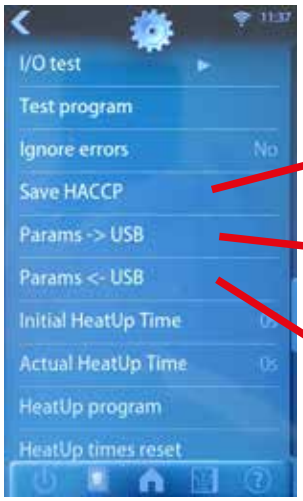


Copies recipes from the controller to the USB drive

Copies recipes from the USB drive to the controller. The existing recipes will be overwritten.

Copies i-control recipes from the USB drive to the controller. The current recipes will be overwritten.

Copies recipes from the USB drive to the controller. The recipes will be added to the current recipes.



Copies HACCP files from the last 3 days to the USB drive.

Copies the parameter list from the controller to the USB drive.

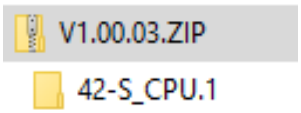
Copies the parameter list from the USB drive to the controller. The current parameters will be overwritten.

UPDATING SOFTWARE TDRAC (S-CONTROL)

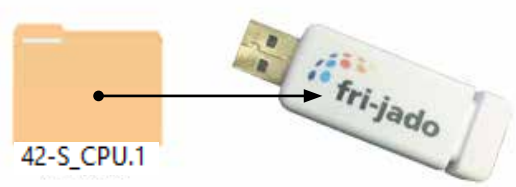
Preparing the software (firmware)

The software comes in a .zip file. The name corresponds with the version of the software. For example: *V1_00_3.zip*.

1. Extract the zip file

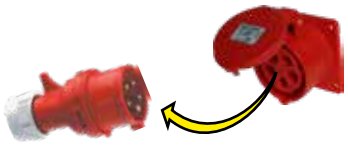


2. Copy or move the folder "*42-S_CPU.1*" to the USB drive.



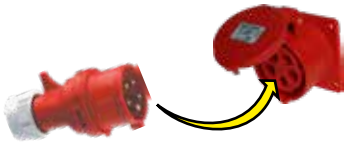
Updating the software (firmware)

1. Disconnect the mains supply



2. Connect the USB drive.

3. Connect the mains supply



4. The following messages appear

Bootloader version V4.03.04
-USB stick found
starting upgrade

-Copying update.tar

-in progress .. %

-USB can be removed

-Removing current application

-Extracting archive .. %

-Please remove USB stick

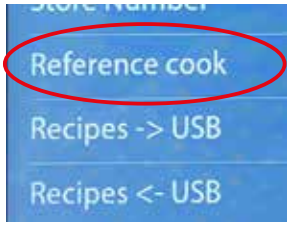
5. Disconnect the USB drive and wait untill the screencomes back.

Important first setting !!
In the service menu, the parameter "commision apply" needs to be set on "yes".
Otherwise, cooking programs will be lost after a power disconnection.

In case a new board has just been put into a unit, it has to be set to the right device type! -> TDRac

AUTOMATIC COOK CORRECTION

The automatic cook correction facility will automaticly add or deduct time to the programmed cooking time in order to have constant cooking quality.
To activate it, the parameter "auto correct" has to be put on "time".



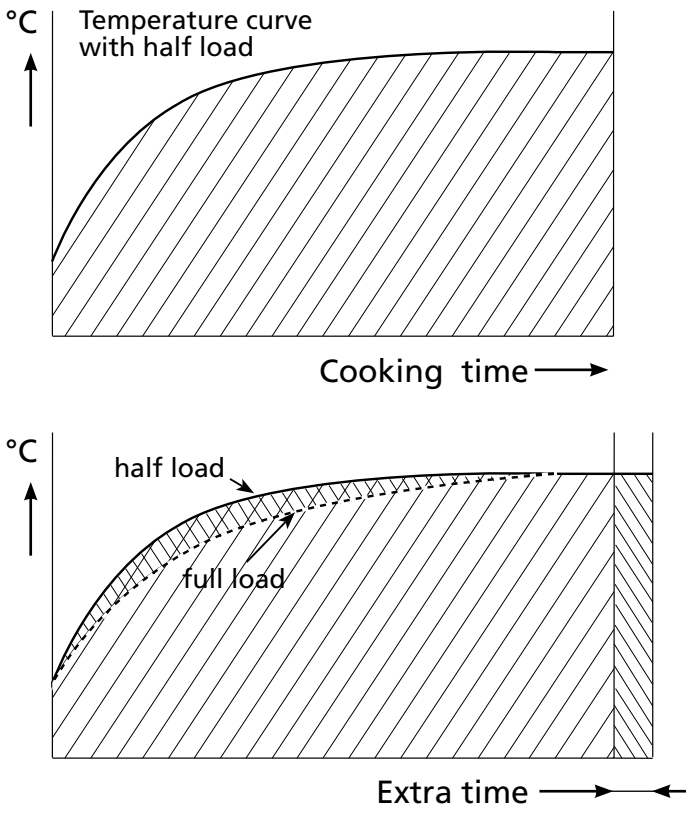
Go to the manager menu --> Reference cook and activate it.
Then select a (new) program.

It is recommended to do that cook with a half to 3/4 load.

The program calculates the surface from the diagram below the curved line. (temperature * time). The result is the so called heat number. This heat number is stored into the cooking program.

All further cooking programs will try to get the same heat number.

The second diagram shows an example with full load. It takes more time for the unit to reach the programmed cooking temperature. See dashed line. The surface above the dashed line represents the missing part of the heat number. The cook correction will put this missing part behind the normal cooking time. Therefore extra time is added in order to reach the desired heat number.
It is also possible that time is deducted in case a smaller load has been put into the oven.



Time will be added in case of:
A bigger load.
A colder load. (straight from the freezer)
A lower mains voltage.
Somebody opened the door.

Time will be deducted in case of:
A smaller load.
A warmer load. (defrosted)
Higher mains voltage.

Note that:
In case the time or temperature will be changed in the cooking program, the heat number will be adapted with this amount.

The heat number is stored in the cooking program. In case such a program is copied, the heat number goes with it.
It is possible that in case the program has changed a lot, the cook correction is not able to perform well anymore. In that case the program has to be deleted and reprogrammed with the good parameters.
It is possible to disable this auto cook correction feature in the service parameters. See "parameter listings" -> "auto correct.

DEFAULT PARAMETERS VERSION 1.00.38 TDRS-AC 230V EUR

About / software version				1.00.34	
Manager					
	Change Pin code			0	0000 - 9999
	Toggle Light			on	on - off
	Temperature unit			°C	°C - °F
	Volume unit filter			liters	liters-gallon
	UTC time			Local time	
	UTC date			Actual date	
	Time zone offset			0h	-12 / 12
	Time format			24 hr	24 hr - AM/PM
	Date format			D/M/Y	D/M/Y - M/D/Y
	Alarm			on	on - off
	End-user recipe editing			no	no - yes
	Ask weight			no	no - yes
	Preheat mode			continue	no - 1x - continue
	Preheat temp default			150	50-150 °C
	Eco function			no	no - yes
	Audio	Audio setting		1	1 -11
		Audio factor		100	1-100
		Test audio			
		Sound set		Marimba	Marimba-Bell-Beeper
	key board beep			on	on - off
	Filter capacity			∞	50 - 30000 or “∞” for infinite
	Lime filter				Remaining capacity of lime filter
	Lime filter replaced				no - yes
	Clean screen time			60	10-60 sec
	Store number				
	Reference cook				
	Recipes -> USB				
	Recipes <- USB				
	Add recipes <- USB				
Service				4878	
	device type			TDR AC	TDR AC, TDR S
	Smart temperature			off	on - off
	auto-correct			off	off - on
	Correction factor			4	1 - 10
	language			english	englisch - deutsch - francais - nederlands - espanol - japanese - danish - italiano - russian
	Eco variable			2	1 - 9
	save errors				save error history on usb
	clear error history				
	RS485 debugging			off	on - off
	demo mode			off	on - off
	demo parameters	Rinse time		5	2-40 min

		Drain time		5	2-40 min
		Supply time 1		40	1-120 sec
	demo clean start			no	no-yes
	auto off time			60 min	no or 10 - 240
	change pin			****	read out of the manager pin code
	Drain duration			40 sec.	10 -40
	Fat drain			open	open - auto
	Clean Cycles			3	
	Clean temperature	temp 1	TDR5	45 °C	25 - 60
		temp 1	TDR8	48 °C	25 - 60
		temp 2		60 °C	25 - 60
		temp 3		55 °C	10 - 70
		Soap safe temp		75 °C	25 - 100
		Cooling temp		75° C	25 - 100
	Clean Times	Hot rinse time	TDR5	15 min	5 - 40
		Hot rinse time	TDR8	40 min	5 - 40
		Rinse time	TDR5	25 min.	5 - 40
		Rinse time	TDR8	10 min.	5 - 40
		Drain time		3 min	1 - 3
		Flush time		10 sec	5 - 60
		Drain backflush time		2 min	1 - 15
		Final time		1 min	1 - 15 min
		Shine rinse time		10 min	1-30 min
	Clean water supply	supply time 1		50 sec	1 - 120
		supply time 2		50 sec	1 - 120
		add water interv.		20 min	1 - 60
		add water time		5 sec	1 - 30
	Clean sanitation	sanitation step		no	no - yes
		sanitation time		20	0 - 30 min
		sanitation temp		110	25-125 °C
	Deep clean warning			0	0-30
	Daily clean warning			0	0-30
	Force cleaning			on	on - off
	Quick clean			enabled	enabled - disabled
	Daily clean			enabled	enabled - disabled
	Descale setting			Full	disabled-full-short
	Delete all programs				no - yes
	Hood			off	on - off
	PID factors	P		100	0 - 100
		I		5	0 - 100
		D		100	0 - 500
		iMax		100	10 - 300
		Relay actions:		80	16 - 160
	Energy	Volts		230	1 - 260
		Machine model			not in use

	I/O test	Analog input			240	
		Digital inputs				read the inputs and set the outputs
		Digital outputs				read the inputs and set the outputs
		Board Feedback				read the inputs and set the outputs
		Board Version				read the inputs and set the outputs
		Board Variant				read the inputs and set the outputs
	Test program					no -yes
	Ignore errors				no	no - yes
	save HACCP					save haccp log on usb
	HACCP days				10	1 - 99
	save params on USB					save parameters on usb
	save params from USB					load parameters from usb
	Initial heat up time				0 sec	
	Actual heat up time				0 sec	
	Heat up program					no - yes
	Heat up time reset					no - yes
	Lights out				Disabled	Disabled - enabled
	Wifi Smartphone				Blocked	Blocked - Alowed
	Wifi smart Cloud				Disabled	Disabled - enabled
	Wifi RSSI					no - yes
	Wifi Auto Restart				60	0 - 240
	Start Config					no - yes
	Reset Wifi Chip					no - yes
	Fact reset settings					no - yes
	Fact reset recipes					no - yes
	Fact reset data					no - yes
	Commision reset					no - yes
	Commission apply					no - yes
	Customer ID				0	0 - 10
	Restart soft					no - yes
	Restart hard					no - yes
	Swipe sensitivity				25	0 - 100

	Live variables	Status Counters	Active total			
			Operational total			
			Preheat total			
			Reset preheat total			no - yes
			Manually added			
			Reset manual total			no - yes

			Cook corrections		
			Reset correction		no - yes
		Output Counters	Heater		
			Reset heater time		no - yes
			Blower		
			Reset blower time		no - yes
			Rotor		
			Reset rotor time		no - yes
			Light		
			Reset light time		no - yes
			Pump		
			Reset Pump time		no - yes
		Start/End Counters	#started recipes		
			#ended recipes		
			#started quick clear		
			#ended quick clean		
			#started daily clean		
			#ended daily clean		
			#started full descale		
			#ended full descale		
			#started short descale		
			#ended short descale		
			Reset Start/Ends		no - yes
		UTC System time			
		Commission time			
		Limefilter time			

EXPLANATION OF PARAMETERS

Level 1	Level 2	Level 3
Change Pin code		Option to change the manager pin code
Toggle Light		Option to switch on or off the interior light.
Temperature unit		Change the temperature units from Fahrenheit to Celcius or from Clecius to Fahrenheit.
Volume unit filter		Change the volulme units from Liters to Gallon or from Gallon to Liters.
UTC time		Set to local time
UTC date		Set to local date
Time zone offset		Option to set a offset to the timezone (12 to +12 hours)
Time format		Option to select the desired time format
Date format		Option to select the desired date format
Alarm		Switch alarms on or off
End-user recipe editing		Enables the end user to change and save recipes
Ask weight		Option to activate or deactivate the question at the start of a recipe for a low/middel of full load.
Preheat mode		Option to deactivate or activate preheat. !x means once at the beginning of the day, continue means at each recipe start.
Preheat temp default		Option to set the desired default preheat temperature
Eco function		Option to enable or deactivate the Eco function. The eco mode saves enery to use latent heat at the end of the recipe. (this will increase the total recipe time)
Audio	Audio setting	Option to set the desired audio sound (tone)
	Audio factor	Option to adjust the audio volume
	Test audio	Function to test the set audio options
	Sound set	Option to set the desired sound/melodie
key board beep		Option to activate or deactivate the beep at the touch of the key board.
Filter capacity		Option to set the actual filter capacity of the used water filter system in relation to the water quality on site. Set "-" if no filter is installed.
Lime filter		Shows the remaining filter capacity of the lime filter.
Lime filter replaced		When the lime filter is replaced set to yes so the counter will be reset to the start filter capacity.
Clean screen time		Option to set the time for cleaning the screen without a response of the controller.
Store number		Here you can enter the store number or other store references
Reference cook		
Recipes -> USB		Copy all recipes from the rotisserie to the USB key.
Recipes <- USB		Copy all recipes from a USB key to the rotisserie.
Add recipes <- USB		Copy selected recipes from a USB key to the rotisserie.
device type		Option te set the correct device type so the oven configuration will be active.
Smart temperature		Do not change
auto-correct		Option to activate or deactivate the auto correct function which adds time if neccasarry (Due to high product load or temperature loss) to the remaining time.
Correction factor		With this setting you can change the effect of the auto-correct.

Level 1	Level 2	Level 3
language		Option to select the desired language
Eco variable		Option to set the influence of the Eco mode
save errors		Option to save the error log/history to a USB key.
clear error history		Option to clear the error log/history
RS485 debugging		Option to activate or deactivate the RS485 debugging
demo mode		Option to activate or deactivate the demo mode of the rotisserie on for instance during a trade show. (no power will be activated to the main high power components)
demo parameters	Rinse time	Option to set the rinse time when demo mode is activated
	Drain time	Option to set the drain time when demo mode is activated
	Supply time 1	Option to set the (water) Supply time when demo mode is activated
demo clean start		Option to start a demo clean cycle
auto off time		Option to swith off the rotisserie automaticly after the set time when not operated. When set to "no" the rotisserie will not be switched off automatically.
change pin		Option to change the manager pin code
Drain duration		Sets the open time for the drain valve and backflush valve
Fat drain		Option to controll the fat drain by the recipe or default open
Clean Cycles		Sets the number of repeated clean cycles during cleaning
Clean temperature	temp 1	Set clean temperature during cycle 1
	temp 2	Set clean temperature during cycle 2
	temp 3	Set clean temperature during cycle 3
	Soap safe temp	Sets the "safe" temperature to cool down to before soap can be added to the oven at the beginning of the cleaning cycle.
	Cooling temp	Set temperature to cool down to before the cleaning starts
Clean Times	Hot rinse time	Set time for hot rinse step in cleaning cycle
	Rinse time	Set time for rinse step in cleaning cycle
	Drain time	Set time for drain open step in cleaning cycle
	Flush time	Set time for flush step in cleaning cycle
	Drain back-flush time	Set time for drain backflush step in cleaning cycle
	Final time	Set time for final step in cleaning cycle
	Shine rinse time	Set time for shine rinse step in cleaning cycle
Clean water supply	supply time 1	Set time 1 for filling the oven with clean water
	supply time 2	Set time 2 for filling the oven with clean water
	add water interv.	Interval time for adding water during cleaning
	add water time	set time for water adding during cleaning
Clean sanitation	sanitation step	Option to able or enable a sanitation step
	sanitation time	Set time for sanitation step in cleaning cycle
	sanitation temp	Set temperature during the sanitation step
Deep clean warn-ing		Number of cook cycles after which you receive a deep clean warning
Daily clean warn-ing		Number of cook cycles after which you receive a daily warning
Force cleaning		Option to enable a forced cleaning
Quick clean		Option to enable a Quick clean cycle
Daily clean		Option to enable a Daily clean cycle
Descale setting		Option to set the Descale cycle in a full / short cycle or to disable the descale cycle
Delete all pro-grams		Option to delete all recipes from the controller

Level 1	Level 2	Level 3
Hood		Option to activate the optional hood
PID factors	P	Temperature regulation setting (P= proportional)
	I	Temperature regulation setting (I= Integrating)
	D	Temperature regulation setting (D= Differentiating)
	iMax	Temperature regulation setting
	Relay actions:	Controlls the amount of relay switches in time
Energy	Volts	Set the actual voltage
	Machine model	
I/O test	Analog input	
	Digital inputs	read the inputs of; door (J13), Clickson Blower (J14), Hood filter placement (J15), Hood filter press diff (J16)
	Digital outputs	Set the ouputs of; Rotor (M1), Blower (M2), Heater (K1), Light (K2), Water supply (W1), Backflush water (W2), Water pump (K6), Drain valve (Q5), Casco (Q1), Spray right (Q2), Spray left (Q3), Fat drain (Q4)
	Board Feedback	Read feedback value
	Board Version	Read board version
	Board Variant	Read board variant
Test program		Yes activates a cleaning cycle
Ignore errors		If set to yes the controller does not show errors
save HACCP		Option to save the HACCP log to a USB key
HACCP days		Option to set the amount of days the HACCP log stores
save params on USB		Copy parameters from the rotisserie to the USB key.
save params from USB		Load parameters from a USB key to the rotisserie.
Initial heat up time		Recorded heat up time during initial cook
Actual heat up time		Recorded heat up time during last cook
Heat up program		Yes activates the heat up program and shows the heatup time in seconds. Note: if the oven is to hot when the heatup is activated it will cool down first
Heat up time reset		Resets the recorded heatup times
Lights out		Option to disable or enable the interiour lights during the cook
Wifi Smartphone		Optin to allow a connection to an Smartphone
Wifi smart Cloud		Option to enable a connection to the Fri-Jado Smart Connect website.
Wifi RSSI		Shows the signal level of the WiFi connection. Values are between -101dBm and -1dBm. In practice values are between -85dBm and -25dBm. A bad connection would give -85dBm, a very good connection would give -25dBm.
Wifi Auto Restart		"If you set a time of >= 5 minutes here, the machine will regularly check whether the WiFi no longer receives messages during the set time interval. In case there was no communication during that time interval, the WiFi communication will be restarted. This is intended to be able to automatically recover any loss of the WiFi connection if there should be long-term problems."
Start Config		"This allows you to force the machine to start a new cloud configuration. The old WiFi access point data will be deleted at that time and after a few seconds a smartphone symbol will appear in the top right corner of the status bar on the screen. From the moment that smartphone symbol appears, the user can set the cloud configuration on the machine via the smartphone."
Reset Wifi Chip		This option resets the wifi chip with an electronic reset signal and restarts the wifi communication in the software.
Fact reset settings		Reset to factory settings
Fact reset recipes		Reset to factory recipes
Fact reset data		Reset of factory data
Commision reset		Reset of set commission date
Commission apply		Option to apply the current date/time for commissioning

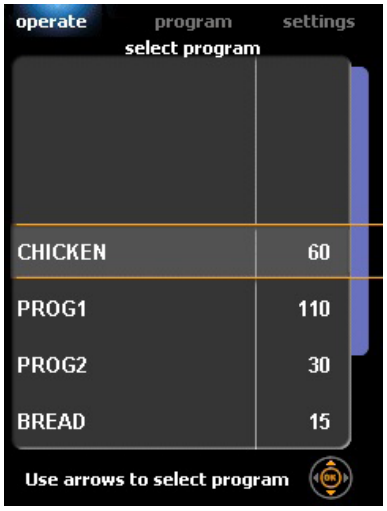
Level 1	Level 2	Level 3
Customer ID		By entering the a maching customer code the correct story boards and explanations are given in the help function
Restart soft		This performs a 'soft' reboot of the entire S control software. This means that the entire software restarts internally without an external electrical reset signal being issued.
Restart hard		This performs a 'hard' (electronic) reboot of the entire S control software, which is similar to turning the machine off and on again.
Swipe sensitivity		This option alows you to adjust the sensitivity of the touch display.
Live variables	Status Counters	Total hours oven was active
		Total hours oven was operational
		Total hours of preheat
		Yes resets the preheat total
		Total hours added time
		Yes resets the manually added total
		Total hours of cook corrections
		Yes resets the cook corrections total
	Output Counters	Shows hours of heater activation
		Resets the heater counter
		Shows hours of blower activation
		Resets the blower counter
		Shows hours of rotor activation
		Resets the rotor counter
		Shows hours of light activation
		Resets the light counter
		Shows hours of pump activation
		Resets the pump counter
	Start/End Counters	Number of started recipes after last counter reset.
		Number of ended recipes after last counter reset.
		Number of started quick cleans after last counter reset.
		Number of ended quick cleans after last counter reset.
		Number of started daily cleans after last counter reset.
		Number of ended daily cleans after last counter reset.
		Number of started full descales after last counter reset.
		Number of ended full descales after last counter reset.
		Number of short descales after last counter reset.
		Number of ended short descales after last counter reset.
		Reset of all starts and ended counters
	UTC System time	Set time and date
	Commission time	Time and date of commissioning
	Limefilter time	Last installation time and date of the water filter

MENU SETTINGS TDRAC

To enter the set up of the TDR AC press the on/off key for 3 seconds. The main screen will show 3 options:

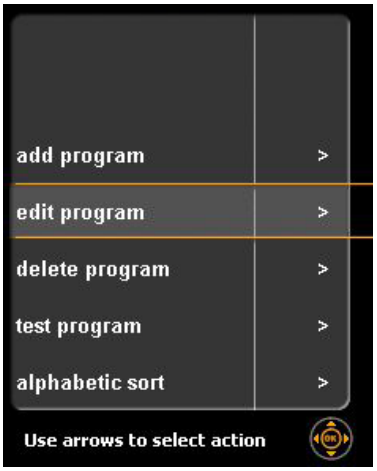
- operate
- program
- settings

Select the program by pushing the corresponding key.



Operate

The operator menu will allow the user to run cooking and cleaning programs

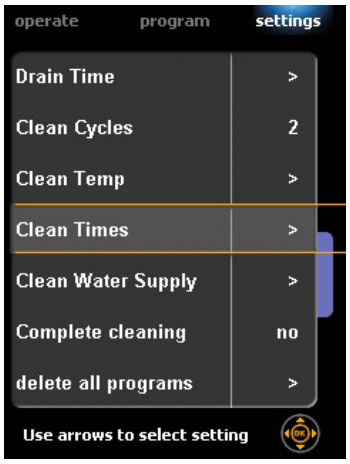


Program

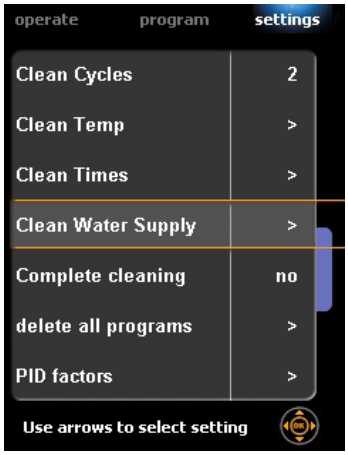
Within the program menu the user can edit or add additional cooking programs.

The cooking programs can be “pin code” protected.

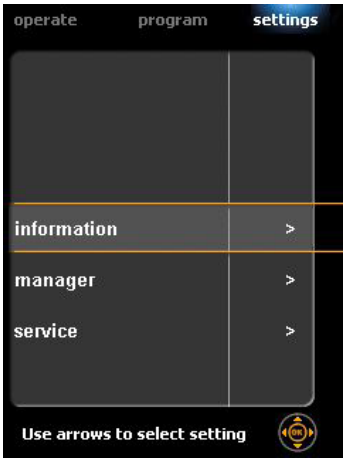
CLEANING PROGRAM TDRAC



An overview of the various steps of the cleaning program.
Go to: Settings->service. The amount of time of the various steps can be adjusted in minutes or seconds.



MENU SETTINGS TDRAC



Settings

Information

The Information screen will display the following information about the rotisserie:

- Device type (TDRi)
- Firmware version of the CPU board (version: 6.01.00)
- Last error
- Firmware version of the I/O board (MFMB:v1.00)

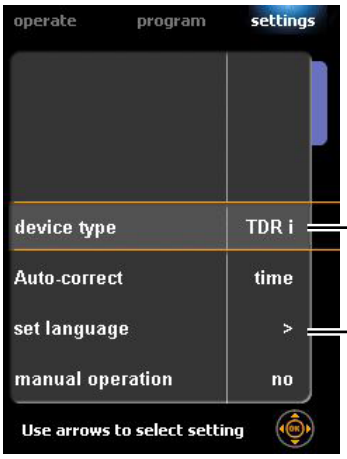
Manager

The manager settings are used to change local settings like temperature, date/time or to load recipes. A complete overview can be found in the TDR ac service manual.

No pin code is required if it is set to the default value “0000”

Service

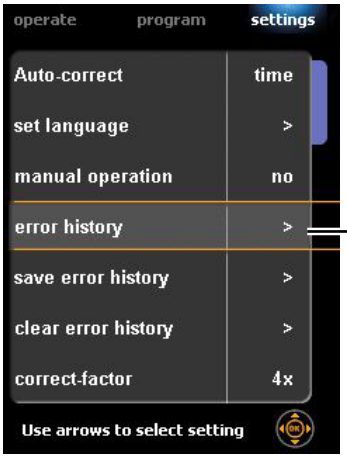
A complete overview of service settings is available in the service manual of the TDR ac. Use pin code 4878 to enter the menu.



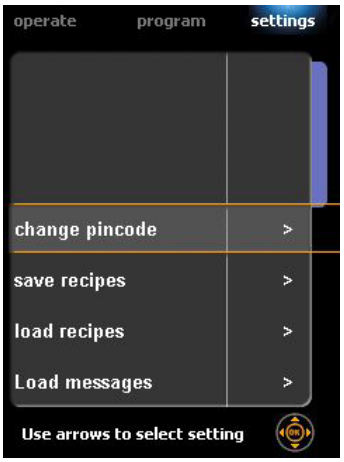
Miscellaneous service settings

device type
After replacing a cpu board the device type needs to be filled in.

set language
The next setting after replacing a board is to set language to local.



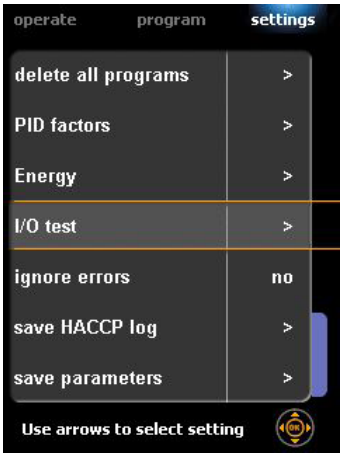
Error history
Read out
Save on USB stick
Clear errors



Pin code program menu

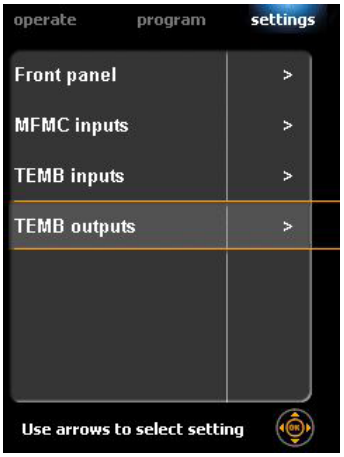
Go to: settings->manager->change pincode to protect the program and manager menu with a pin code.
The system will not ask for a pin code if the default 0000 value is being used.
You can view the program pin code via: settings->service-> pin code

I/O TEST TDRAC (I-CONTROL)

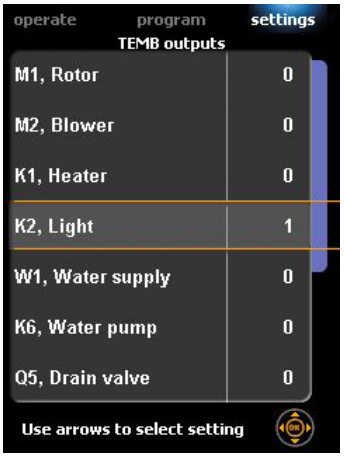


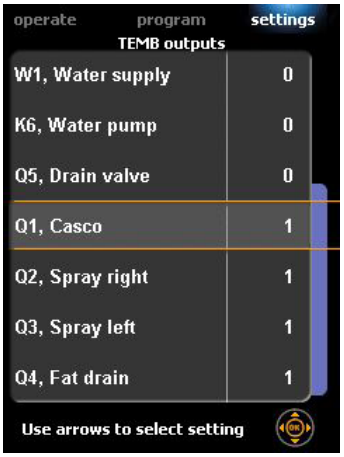
Several I/O test can be executed:

Go to settings -> service -> I/O test.

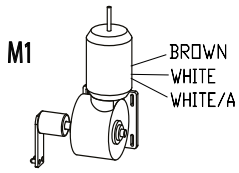


All switched electrical parts can be tested via TEMB outputs.
Go to: settings -> service -> I/O test -> TEMB outputs
See next page for an overview of connectors and relays. Note that a led will illuminate if a relay is switched on.
A corresponding electric diagram can be found on the next page.

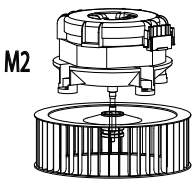




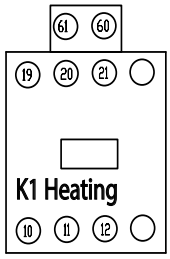
Device	Relay	Connec-tor
M1 Rotor	R1	J2-4
M2 Blower	R3	J2-3
K1 Heater	R2	J2-1
K2 Light	R4	J2-6
W1 Water Supply	R5	J32
W2 Water Supply	R6	J31
K6 Water Pump	R12	J61
Q1 Casco	R9	J42
Q2 Spray Right	R8	J41
Spray Left Q3 or K4	R11	J52
Q4 Fat Drain	R10	J51
Q5 Drain Valve and/or pump	R7	J33



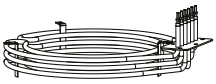
R1 -> J2-4
Rotor motor

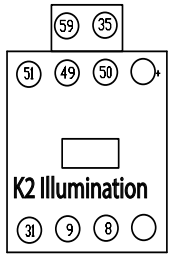


R3 -> J2-3
Blower

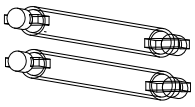


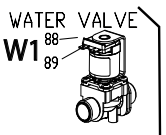
R2 -> J2-1
Heating



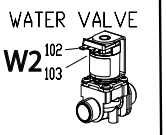


R4 -> J2-6
Illumination

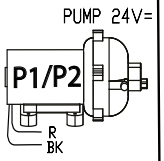




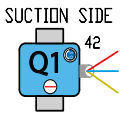
R5 -> J32
Water solenoïd



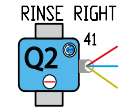
R6 -> J31
Water solenoïd



R12 -> J61
Water pump

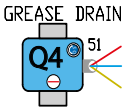


R9 -> J42
Suction side



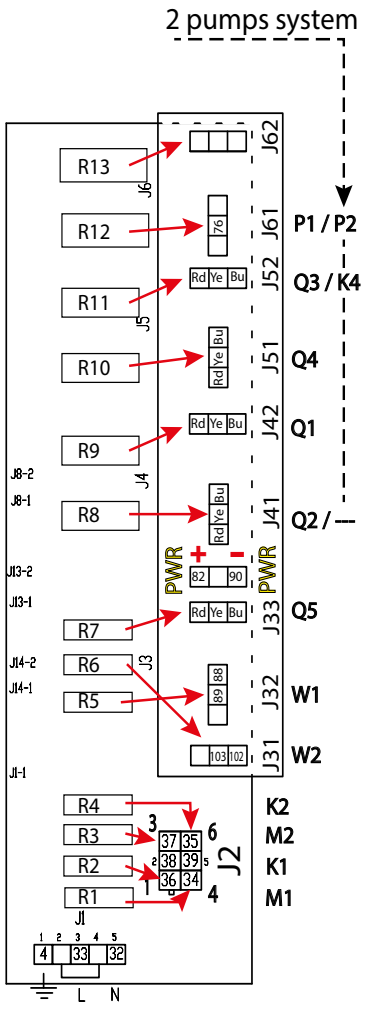
R8 -> J41
Sprinkler right

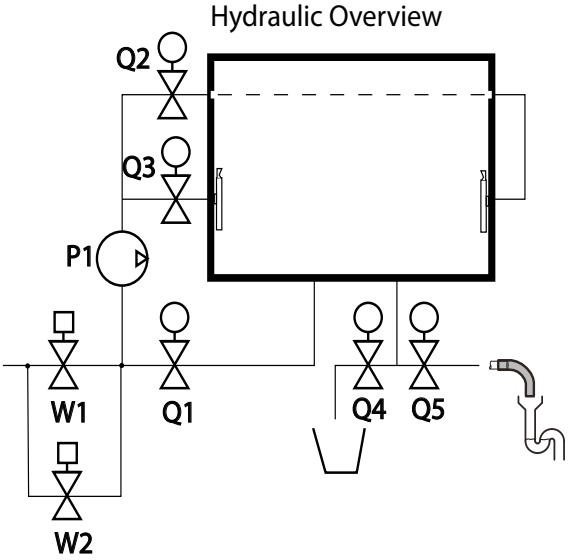
R11 -> J52
Sprinkler left

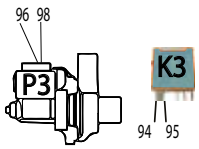


R10 -> J51
Grease drain

R7 -> J33
Water drain Valve and/or pump





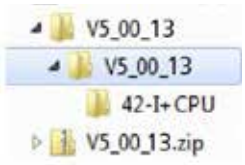


UPDATING SOFTWARE TDRAC (I-CONTROL)

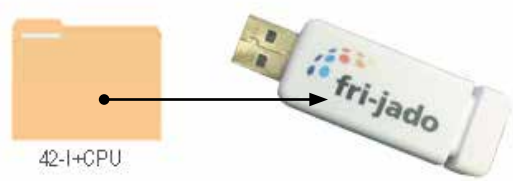
Preparing the software (firmware)

The software comes in a .zip file. The name corresponds with the version of the software. For example: *V5_00_13.zip.*

After extracting



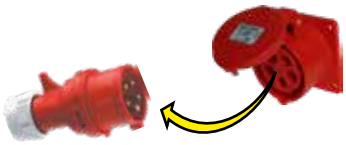
1. Extract the zip file



2. Copy or move the folder "*42-I+CPU*" to the USB drive.

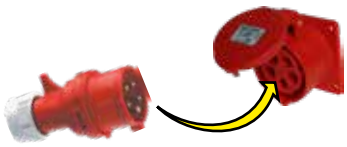
Updating the software (firmware)

1. Disconnect the mains supply



2. Connect the USB drive.

3. Connect the mains supply



4. The following messages appear

Bootloader version V1.02.02
-USB stick found
starting upgrade

-Checking CRC

-Copying file
-Loading application

-Checking CRC

-Please remove USB stick
to start application

5. Disconnect the USB drive.

In case the board has just been put into a unit, it has to be set to the right device type! -> TDRac

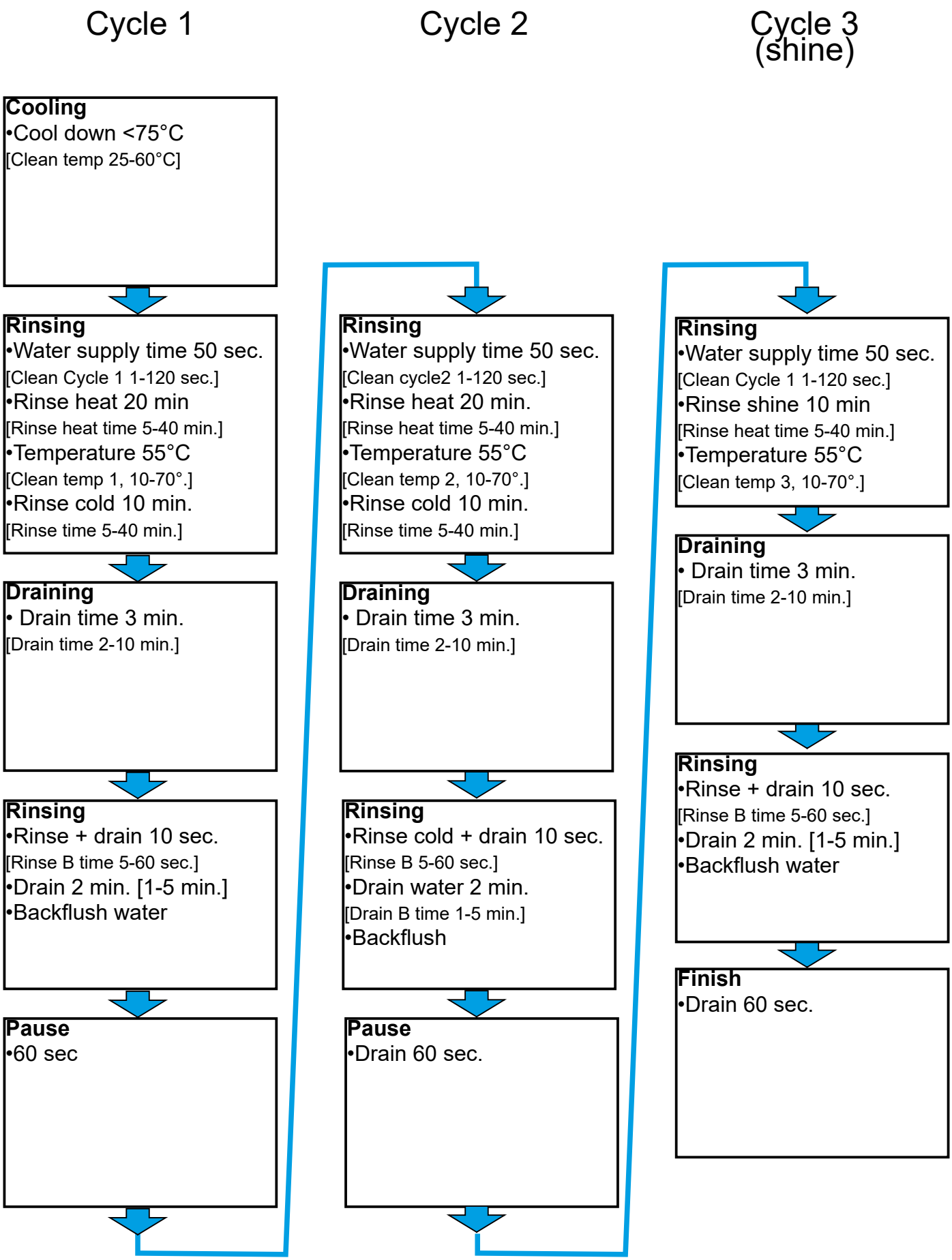
EMPTY PAGE

DEFAULT PARAMETERS VERSION 6.01.25 TDR8I-AC

Level 1	Level 2	Level 3			Default	Possibilities
Information					6.01.25	software version
Manager						
	Change Pin code				0000	0000 - 9999
	Save Recipes					save cookbook to USB
	Load Recipes					load cookbook from USB
	Load messages				on	on - off
	Light				on	on - off
	Temperature				°C	°C - °F
	Volume unit filter				lit	lit-gal
	Set time				Local time	
	Set date				Actual date	
	Time format				24 hr	24 hr - AM/PM
	Date format				DMY	DMY - MDY
	Alarm signal				yes	no - yes
	Preheat mode				yes	no - 1x - yes
	Preheat delta				0	-50°C to + 50°C or -90°F to +90°F
	Auto recipe start				yes	no - yes
	Buzzer set				0	0 - 4
	key beep				yes	no - yes
	water capacity filter				-	50 - 30000 or “-” for infinite
	Lime filter					Remaining capacity of lime filter
	Lime filter replaced				no	no - yes
	Clear error					no - yes
Service					4878	
	device type				TDRac	STGi, Multi, BSi, STOi, TRC, ACR, TDRi, TDRac
	auto-correct				time	no - time
	set language				english	englisch - deutsch - francais - neder-lands - espanol - japanese - danish - italiano - russian
	Manual Operation				no	no - yes
	error history					overview of last 200 errors
	save error history					save error history on usb
	clear error history					
	correct-factor				4x	1x - 10x
	debug rs232				no	no - yes
	demo mode				no	no - yes
	Demo parameters	Rinse time			5	2-40 min
		Drain time			5	2-40 min
		Supply time 1			40	1-120 sec
	auto off				60 min	no or 10 - 240
	pin code				****	read out of the manager pin code
	Sensor offset				0 °C	-5°C - 5°C

Level 1	Level 2	Level 3			Default	Possibilities
	Fat drain				open	open - programmed
	Drain time				40 sec.	10 - 40
	Clean Cycles				3	2 - 4
	Clean temp	Clean temp 1	TDR5		45 °C	25 - 60
			TDR8		48 °C	25 - 60
		Clean temp 2			60 °C	25-60 °C
		Clean temp 3			55 °C	10-70 °C
		Cool tempera-ture			75° C	25 - 100 °C
	Clean Times	Rinse heat time	TDR5		15 min	5 - 40
			TDR8		40 min	5 - 40
		Rinse time	TDR5		25 min.	5 - 40
			TDR8		10 min.	5 - 40
		Drain time			3 min	2 - 10
		Rinse B time			10 sec	5 - 60
		Drain B time			2 min	1 - 5
		Final time			1 min	1 - 15
		Clean rinse time			10 min	
	Clean water supply	supply time 1			50 sec	1 - 120
		supply time 2			50 sec	1 - 120
		add water interv.			20 min	1-60
		add water time			7 sec	1-30
	Clean sanitation	sanitation step			no	
		sanitation time			20	0-30 min
		sanitation temp			110	25-125 °C
	Complete cleaning	-			yes	no - yes
	Daily clean warning				0	0-30
	Delete all programs					no - yes
	Hood				no	no-yes
	PID factors	P			100	0 - 100
		I			5	0 - 100
		D			100	0 - 500
		iMax			100	10 - 300
		Relay actions:			80	16 - 160
	Energy	Volts			230	1 - 260
		Model			TDR	TDR
	I/O test					read the inputs and set the outputs
	Test program					
	Ignore errors				no	no - yes
	save HACCP log					save haccp log on usb
	save parameters					save parameters on usb
	load parameters					load parameters from usb

CLEANING PROCESS TDRAC (3 STEPS) (PARAMETER "CLEANING CYCLES)



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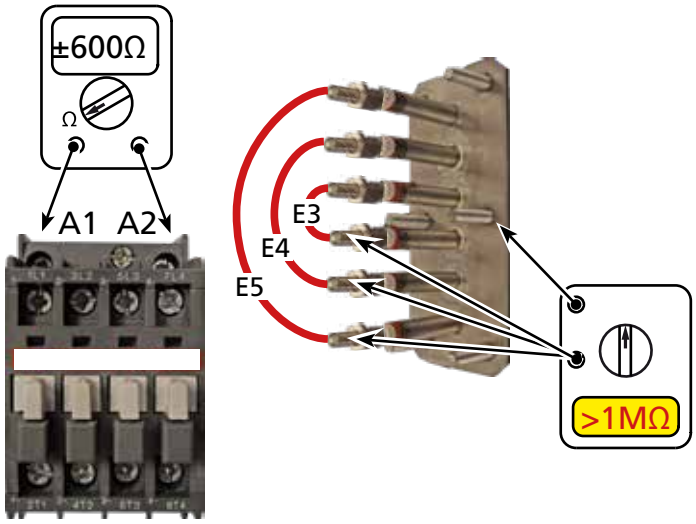
WARNING: Disconnect the electrical power to the machine at the main circuit box. Place a tag on the circuit box indicating the circuit is being serviced.

MEASURING THE HEATING ELEMENTS



230V Heating element TDR 5

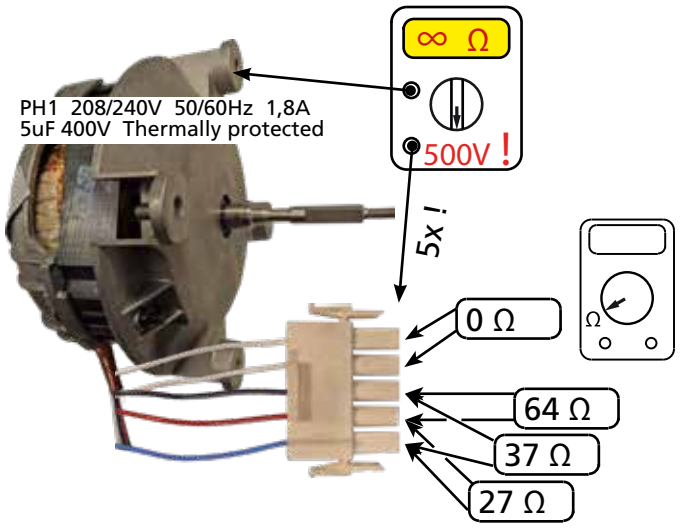
E3	1800W 29 Ω 7,8A
E4	1800W 29 Ω 7,8A
E5	1800W 29 Ω 7,8A

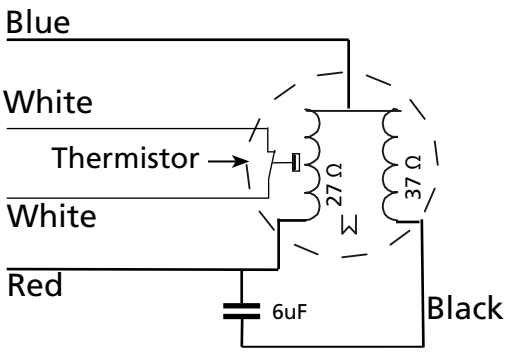
230V Heating element TDR 8

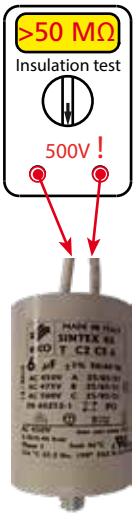
	In 20A / 13,6kW or stacked 40A / 27,2kW units
E3	4000W 13,1 Ω
E4	4000W 13,1 Ω
E5	4400W 12 Ω
	In 16A / 10,5kW or stacked 31A / 10,5 kW units
E3	3000W 17,5 Ω
E4	3000W 17,5 Ω
E5	3300W 16 Ω

If heaters have been stored for a longer period, Moist can go in and the insulation resistance can go down. Therefore it is good to measure this insulation resistance before mounting it.
In case this Insulation resistance is too low, it could be considered to dry the heater in an oven for 24 hours on 130°C (266°F). The longer the better.
Advise:
- *Keep stock limited.*
- *Store in conditioned space (for example in a box with silica gel)*

Blower of rotisserie

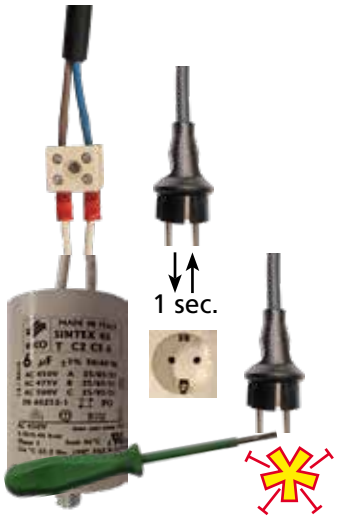


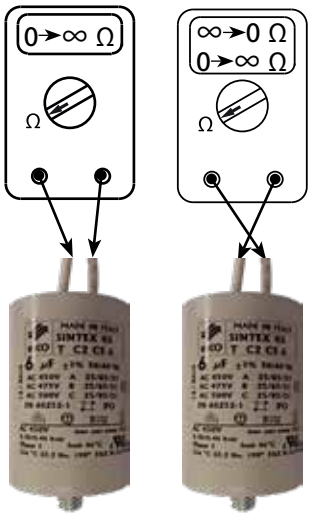




Charging with a test cable

Checking with Ω meter





<u>The 6µF capacitor</u>

General

Even with a capacitance meter it is impossible to determine for sure if the capacitor is ok or not, because it can be leaking when it is connected to mains power.

A quick optical check often tells more. Search for leaking oil and / or bulges (lumps).

Measuring with an insulation tester in 500V position.

Work under safe conditions according local legislation!

The value will not reach ∞ Ω, but will go up and down a little. When it is above 50MΩ it wil be ok. Disconnect the test leads while the value is at the highest position. The capacitor is now charged with ± 500VDC!!

Leave it for a few seconds and then put the wires together. A loud spark must arise. If not, the capacitor is leaking (loosing its charge).

It is also possible to charge the capacitor by shortly con necting it to the mains supply (208V~). The same spark must arise. Do this a few times. The capacitor will not be charged when the leads are disconnected during the "zero crossing" of the mains sinus. It is ok when a spark arises once.

Measuring with an Ω meter.

Be sure that the capacitor is empty!

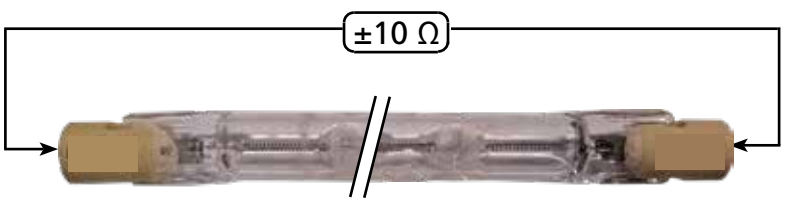
The value will go up until ∞ Ω is reached.

Exchange the test leads. The value will go down, through "0" and up again.

If not, the capacitor is broken.

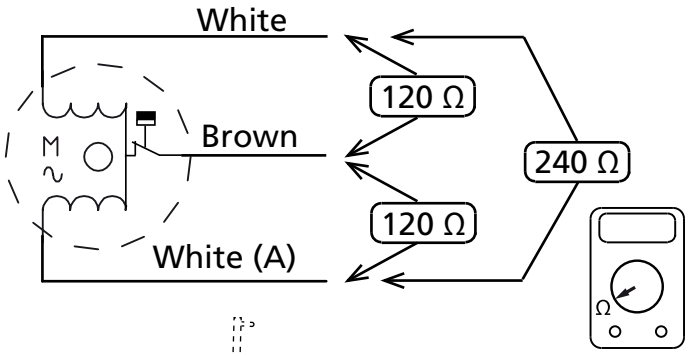
If ok, it is still not sure if the capacitor is ok. It might leak when it is connected to the mains power!

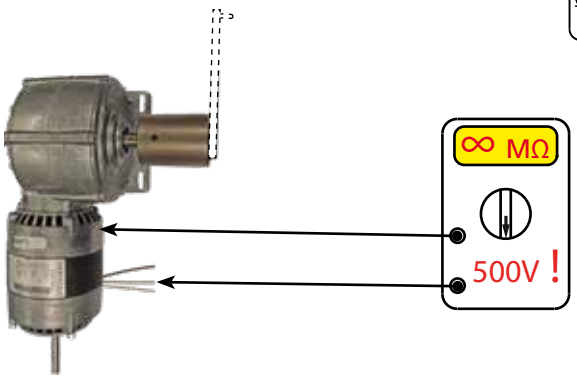
MEASURING THE 500W LAMP



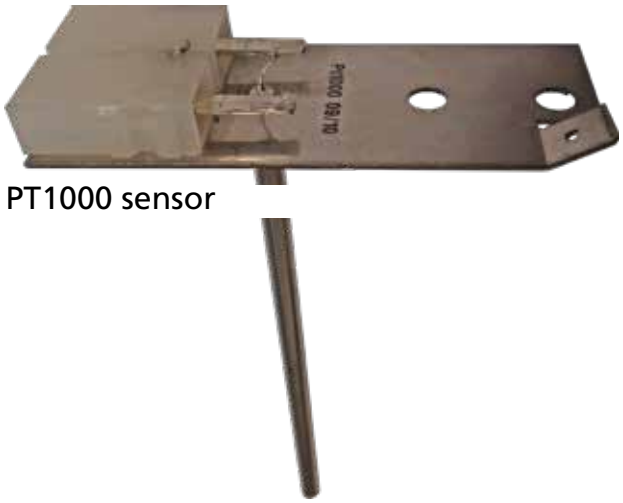
230V 500Watt

MEASURING THE ROTOR (DRIVE) MOTOR





MEASURING THE PT1000 SENSOR



PT1000 sensor

The oven temperature is controlled by a PT1000 sensor, mounted in the top at the side.

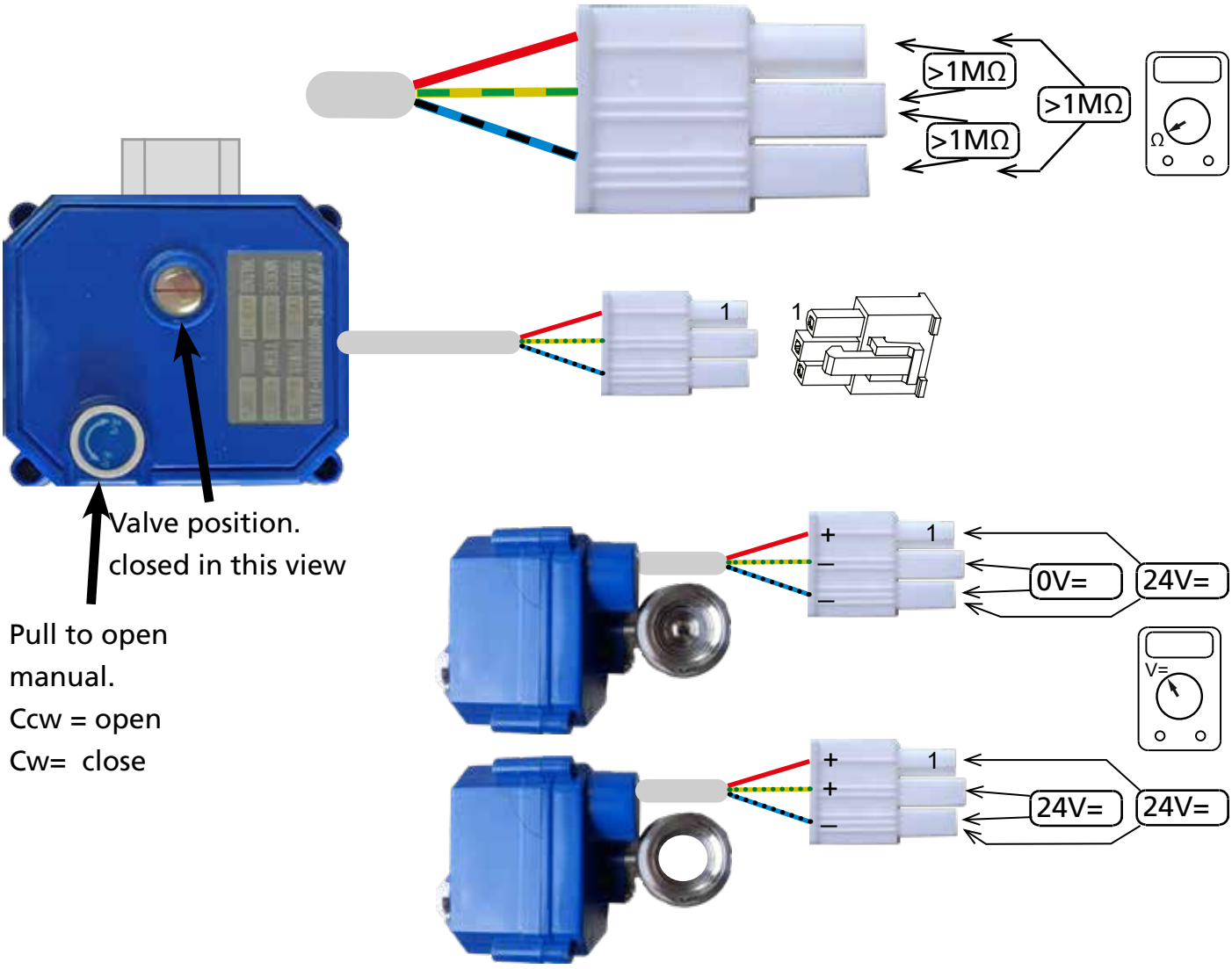
See the resistance overview for the PT1000 sensors.

°C	PT1000
-20	921,60
-10	960,90
0	1000,00
10	1039,00
20	1077,90
25	1097,40
30	1116,70

°C	PT1000
40	1155,40
50	1194,00
60	1232,40
70	1270,00
80	1308,90
90	1347,00
100	1385,00
110	1422,00

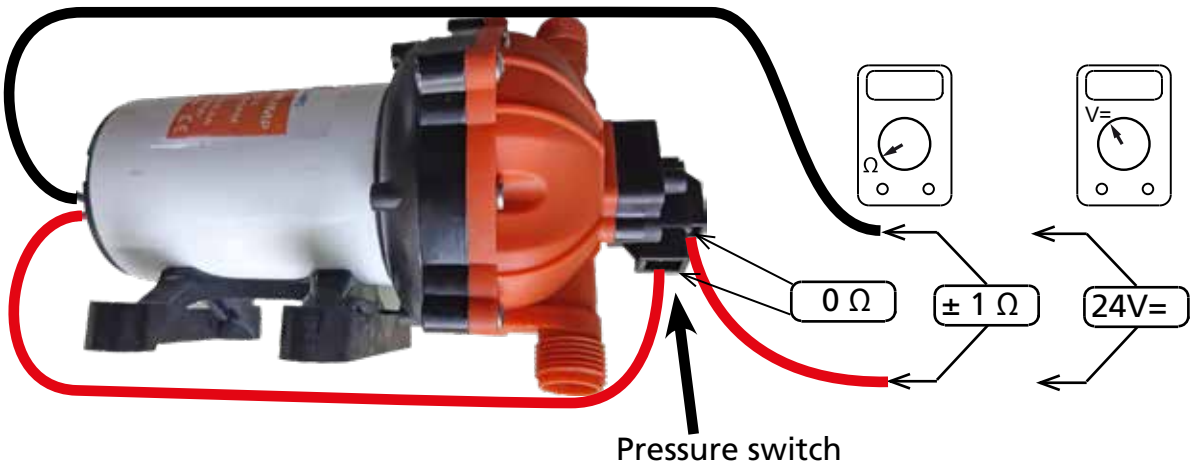
°C	PT1000
120	1460,60
130	1498,20
140	1535,80
150	1573,10
200	1758,43
250	1940,81
300	2120,30

MEASURING THE MOTOR VALVE



MEASURING THE PUMP

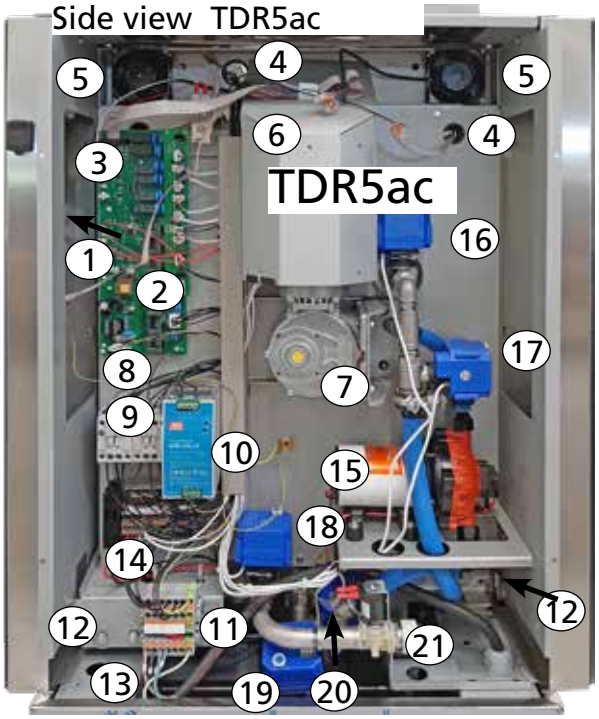
2 Amp. at free run
5-6 Amp. at full load



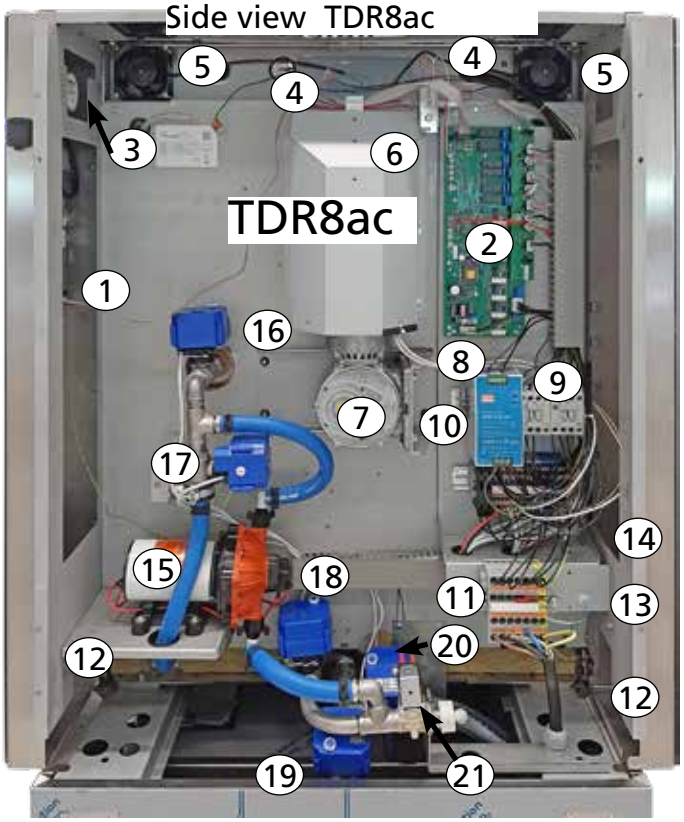
WARNING: Disconnect the electrical power to the machine at the main circuit box. Place a tag on the circuit box indicating the circuit is being serviced.

ACCESS TO SERVICE PARTS TDR-AC

Side view TDR5ac



Side view TDR8ac

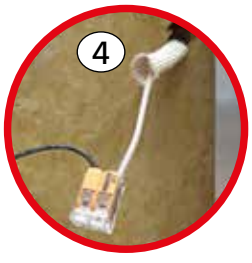


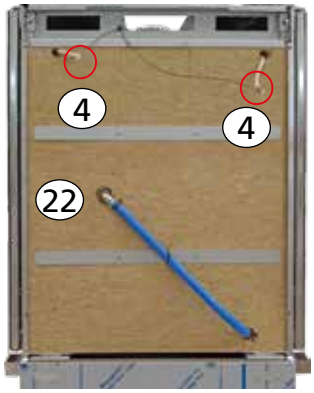
Unscrew 4 screws and open the panel from the electric compartment .
The same for the panel on the oposite side to reach the wiring from the light and also to "unlock" the top panel.
Remove the top panel and the blower panel on the inside, to reach the blower motor and the heating element.

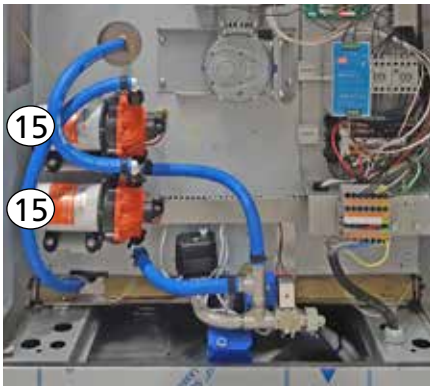
1. CPU & LCD board and key board
2. Power & I/O board.
3. Speaker
4. Lamp connection
5. Cooling fans
6. PT 1000 temperature sensor.
7. Rotor drive motor
8. Fuse on board (1A 5x20 slow acting).
9. Contactors (left = heating, right = light)
10. Power supply 24V 10A (short circuit protected)
11. Mains connection block
12. Door switch
13. Capacitors
14. Hi Limit thermostat
15. Rinse pump
16. Motor valve, rinse right
17. Motor valve, rinse left
18. Motor valve, suction side
19. Motor valve, grease drain
20. Motor valve, waste water (sewer) drain
21. Solenoïd valve, water inlet (10 ltr/min)
22. Elbow connection left rinse arm

Later models have 2 pumps #15 and the valves #16 and #17 are removed

view opposite side TDR8

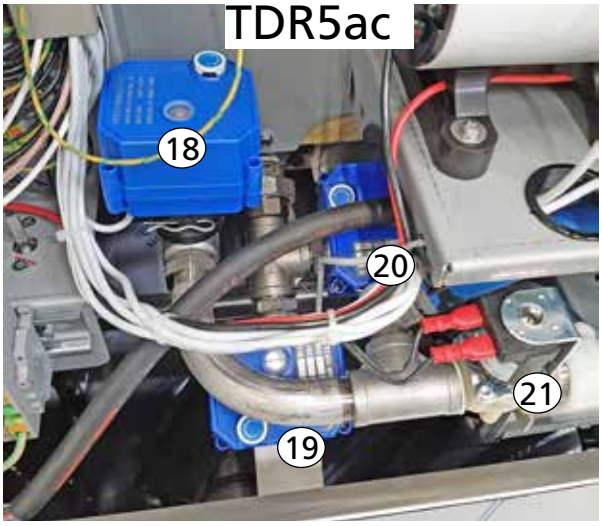




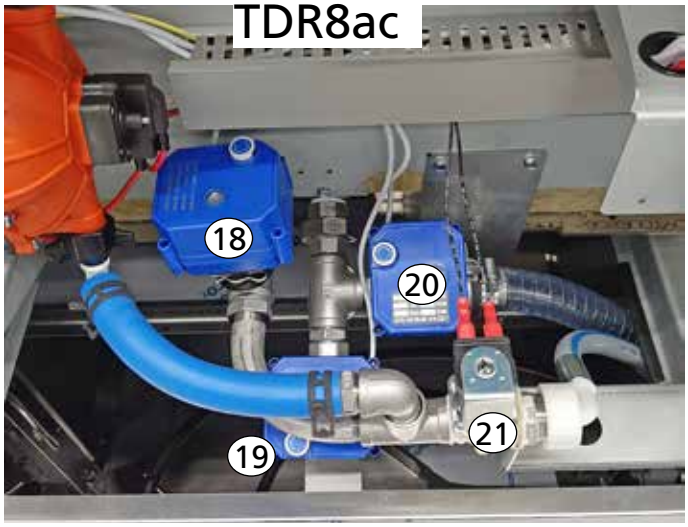


Close up view of water inlet valves and drain valves

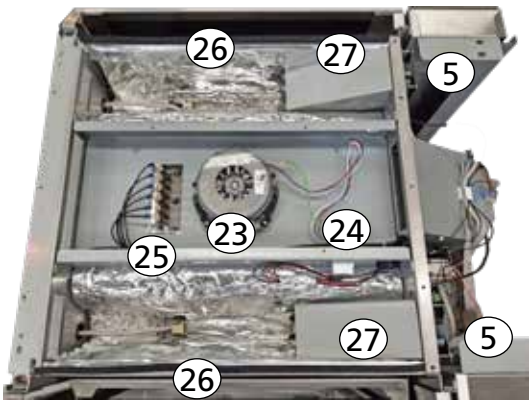
TDR5ac

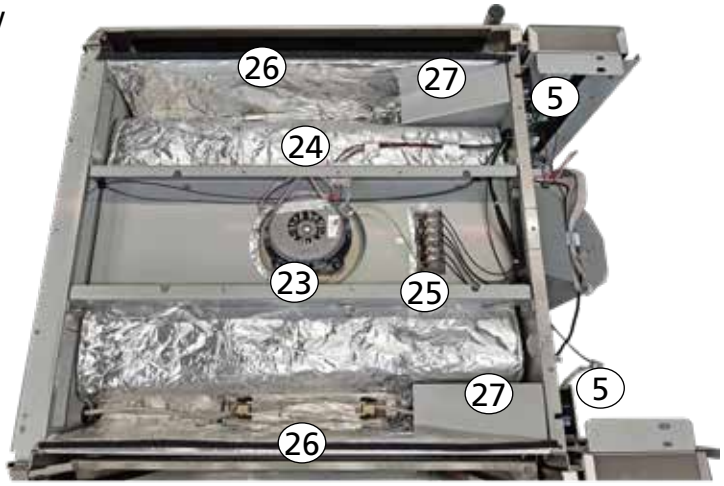


TDR8ac



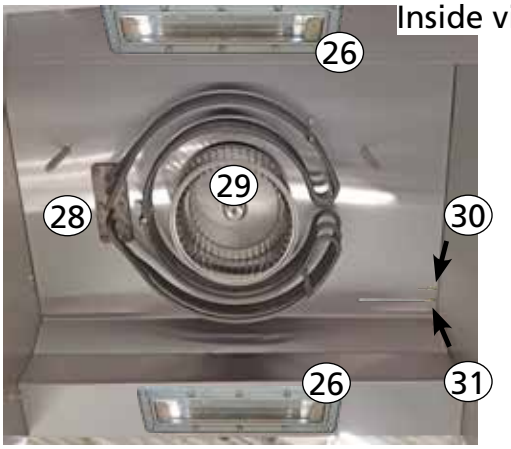
Top view

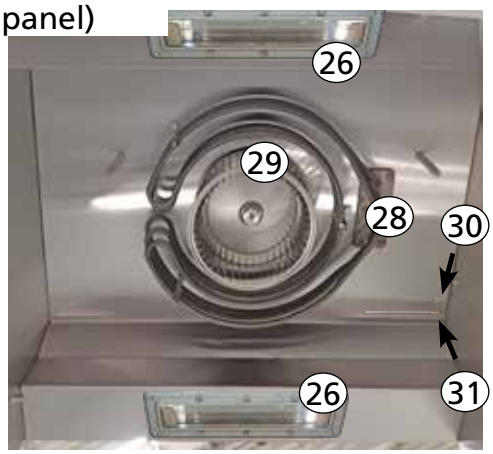




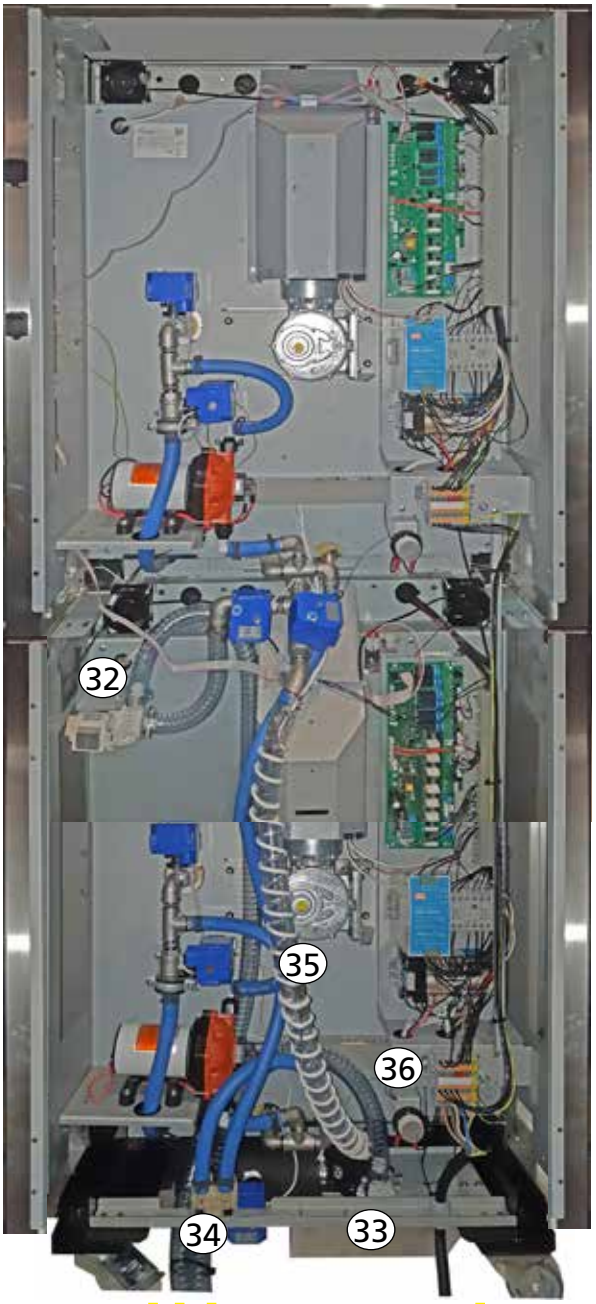
23. Blower motor
24. 5 pole socket / plug connection of blower
25. Connections of heating element.
26. Illumination
27. Air funnel lamp cooling
28. Heating element
29. Turbine
30. PT1000 sensor
31. Sensor, hi limit thermostat.

Inside view (with removed blower panel)





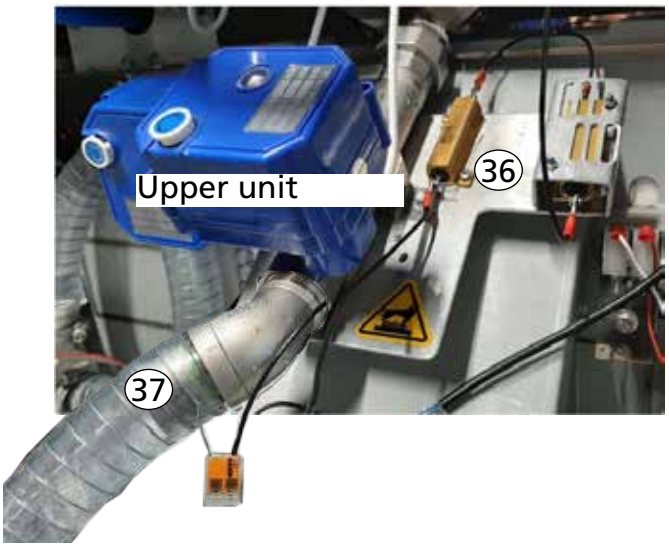
ACCESS TO SERVICE PARTS STACKED UNITS

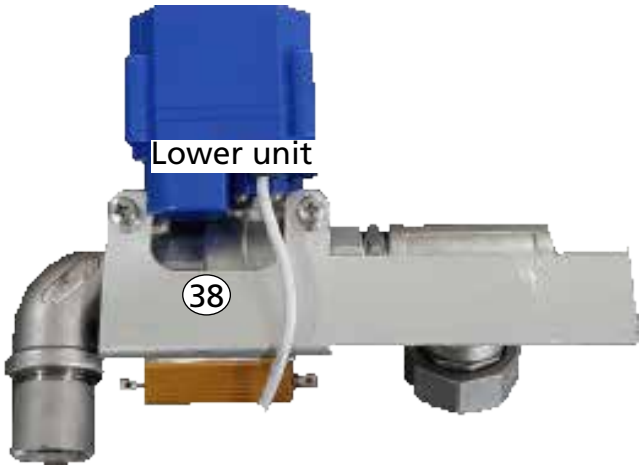


32. Waste water pump upper unit
33. Waste water pump lower unit
34. Double solenoïd valve, water inlet.
35. Heated grease drain hose.
36. Thermostat for heated drain hose
36. Drain heating upper unit
37. Heated hose
38. Drain heating lower unit

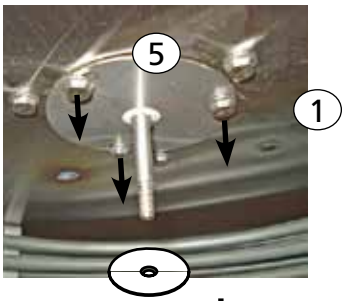
Later models have 2 pumps each.

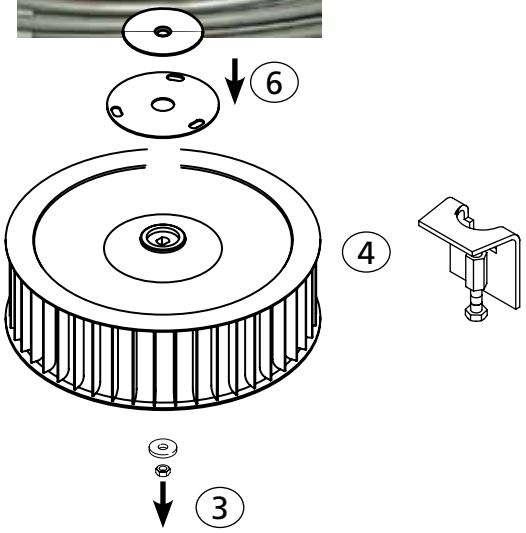
Drain heating from serial nr. 100104167

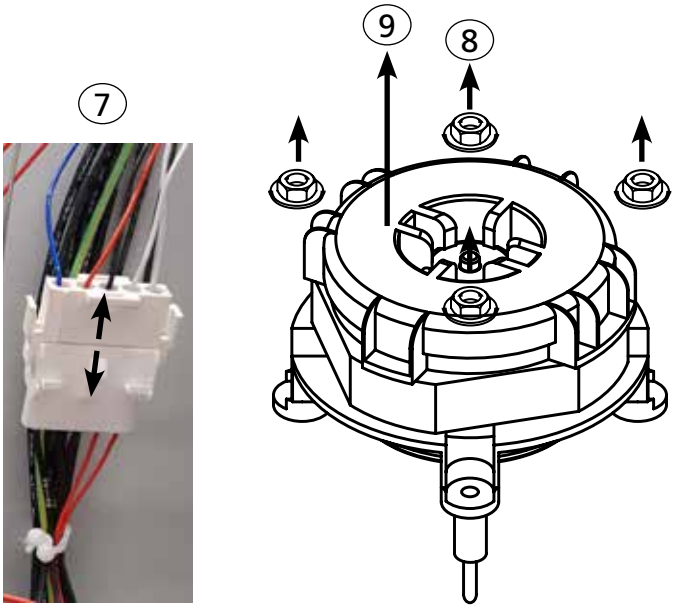




BLOWER MOTOR







Dismounting the blower assembly in the TDR5ac, TDR8ac and top unit of the TDR8+8ac

1. Remove both side panels and the top panel
2. Remove the blower panel
3. Remove the M5 nut and washer from the motor shaft
4. Pull the turbine from the shaft. A puller is delivered with the new blower kit.
5. Unscrew 3 screws.
6. Pull off the shaft seal with pressure plate.
7. Disconnect the blower wiring.
8. Unscrew 4 nuts.
9. Take out the motor.

Mounting the blower assembly.

This has to be done in reversed order from disassembling.

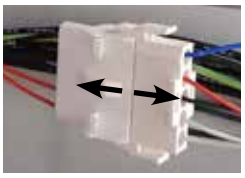
Very important!

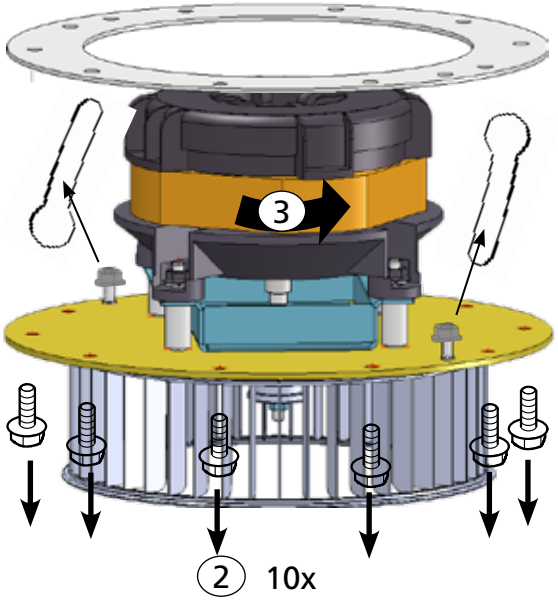
- First mount the motor and tighten the 4 nuts thorougly.
- Then mount the shaft seal.
- Never loosen or tighten, the 4 nuts from the motor afterwards.
- If this is necessary, then first loosen the shaft seal.
- Check the rotation direction.

BLOWER MOTOR IN LOWER UNIT OF TDR8+8AC

Dismounting the blower assembly in the lower unit of the TDR8+8ac

1. Remove the blower panel.
2. Unscrew 10 screws arond the turbine. The assembly will come down a little. If not, the seal is sticking. Loosen the mounting disc from the ceiling.
3. Turn the assembly a little to the right, hold it steady and let it come down.
4. Disconnect the 5 pole plug.





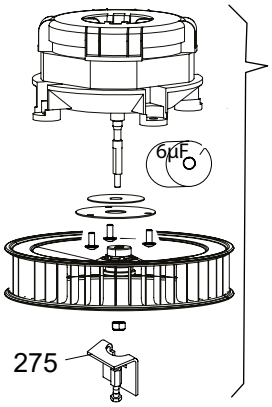
Mounting the blower assembly.

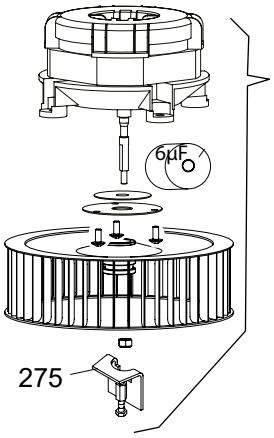
This has to be done in reversed order from disassembling.

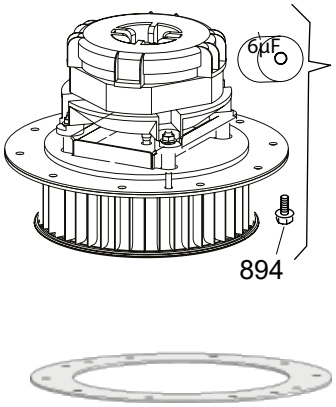
Very important!
- Clean the remainigs of the gasket.
- Apply the new delivered gasket.

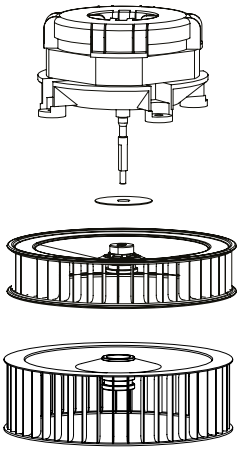
The below parts are available for service (drawings from exploded views)

TDR5ac
TDR8ac
TDR8+8 top unit
TDR8+8 lower unit seal
Loose motor
Turbines

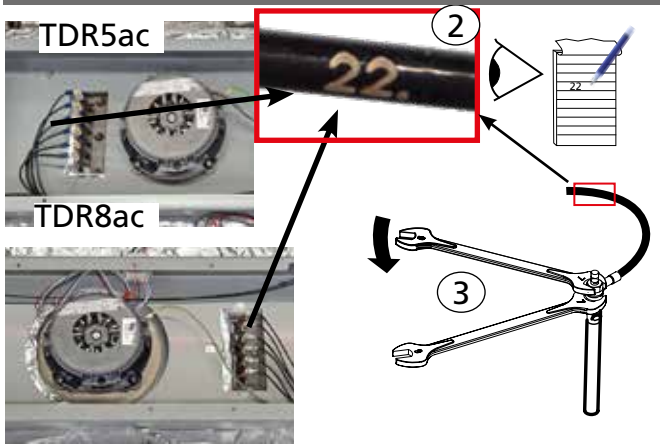


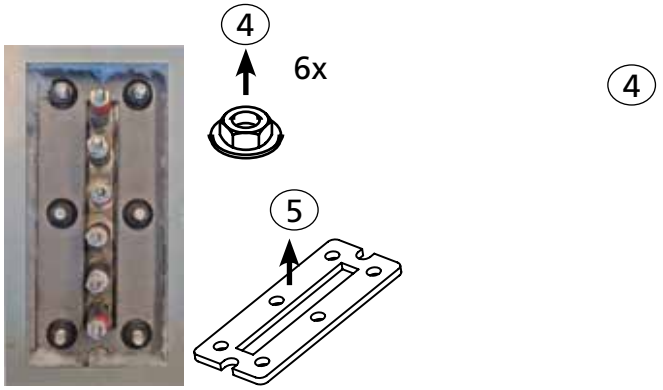


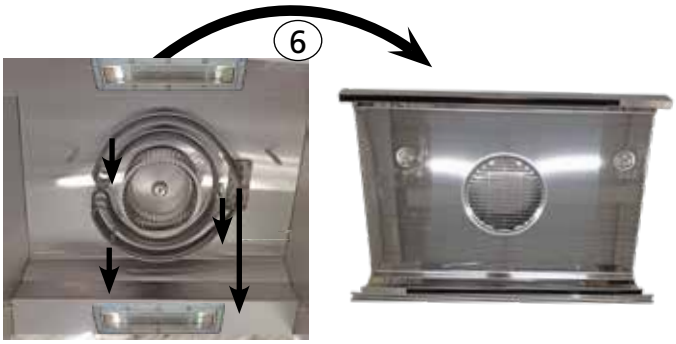


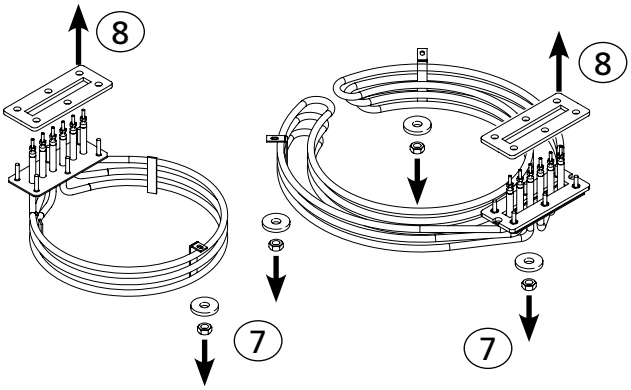


HEATING ELEMENT TDR5AC AND (TDR8AC UNTILL SERIAL NR. 100099039)









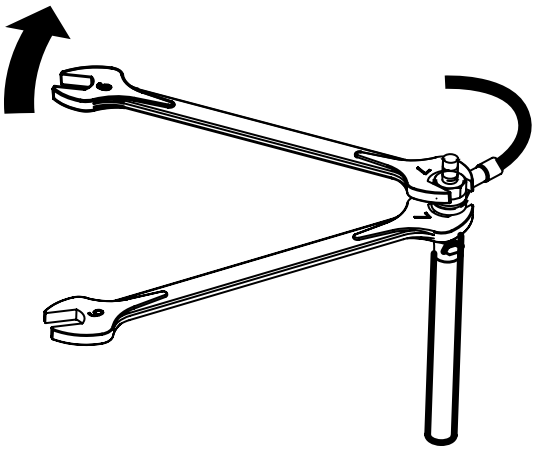
Dismounting the heating element.

1. Remove both side panels and the top panel.
2. Note the wiring number and write down if necessary.
3. Disconnect the wiring. Note! Hold the rear nut with an open end spanner!
4. Unscrew 6 nuts M6.
5. Take out the pressure plate.
6. Remove the blower panel.
7. Unscrew the M4 nuts that secure the heating element to the ceiling. This is one in a TDR5 and 3 in a TDR7/8.
8. Remove the graphite gasket from heating element. Also clean the ceiling from residu's.

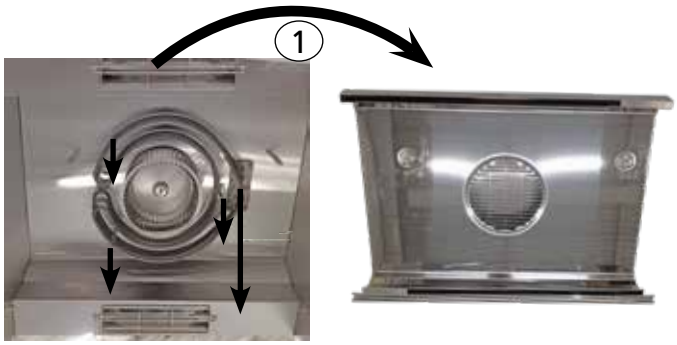
Mounting the heating element.

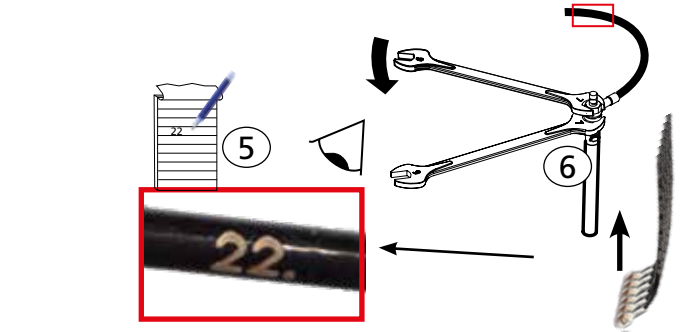
This has to be done in reversed order from disassembling.

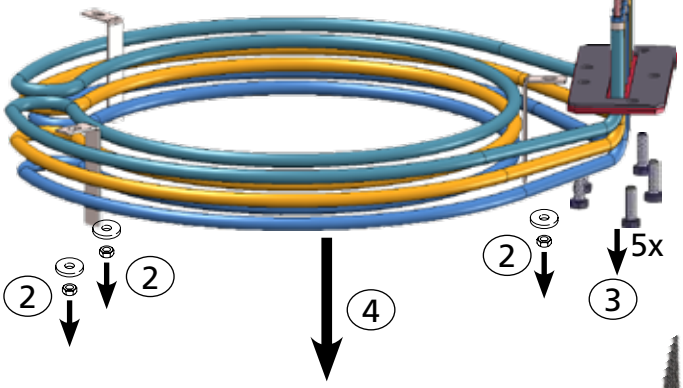
Very important!
-Take a new gasket.
-Do not forget to hold the rear nut with an open end spanner when connecting the wiring and tightening the nuts.

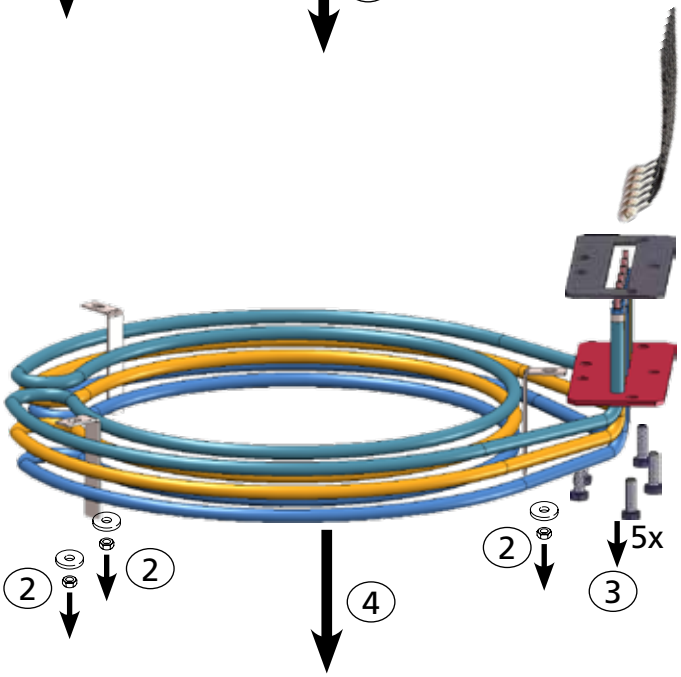


HEATING ELEMENT TDR8AC (FROM SERIAL NR. 100099040) AND 8+8AC









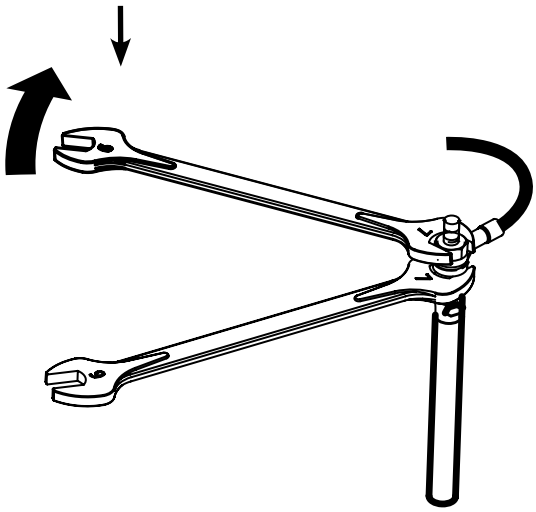
Dismounting the heating element.

1. Remove the blower panel.
2. Unscrew the three M4 nuts that secure the heating element to the ceiling.
3. Unscrew the 5 screws from the mounting plate.
4. Hold the heating element or pull it down when the gasket sticks.
5. Note the wiring number and write down if necessary.
6. Disconnect the wiring. Note! Hold the rear nut with an open end spanner!
7. Clean the ceiling from residu's.

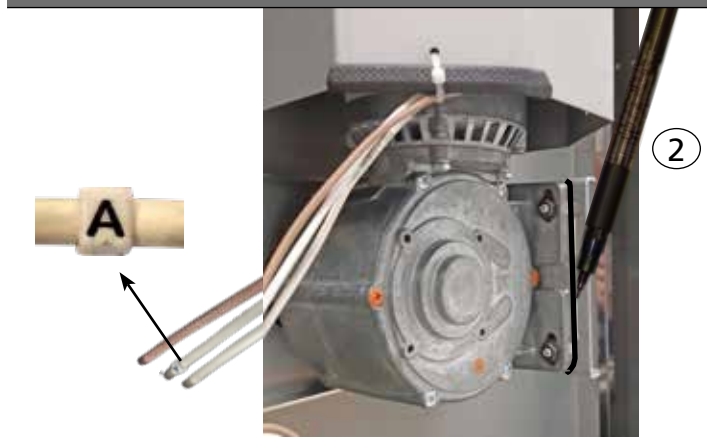
Mounting the heating element.

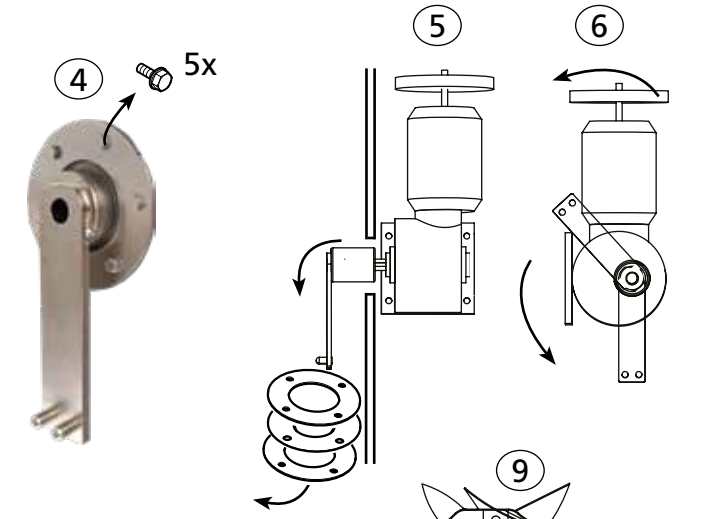
This has to be done in reversed order from disassembling.

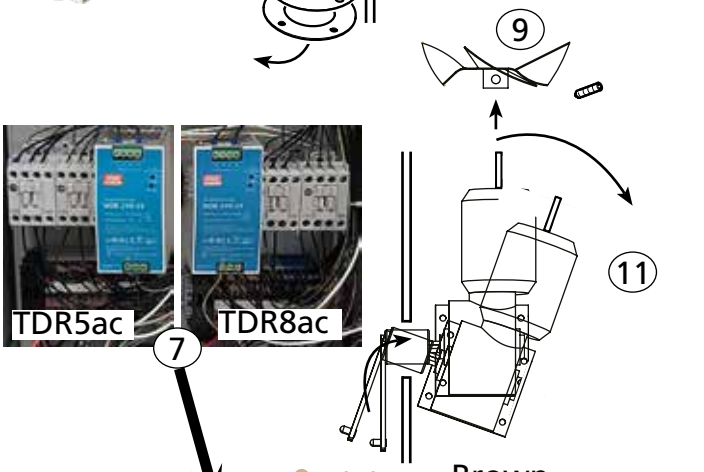
Very important!
- Take a new gasket.
- Firts place the gasket, then connect the wiring
- Do not forget to hold the rear nut with an open end spanner when connecting the wiring and tightening the nuts.

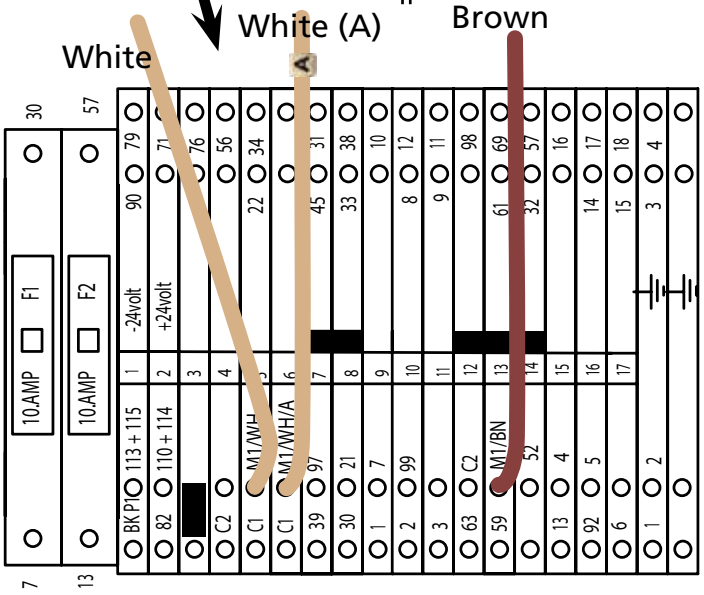


ROTOR DRIVE MOTOR







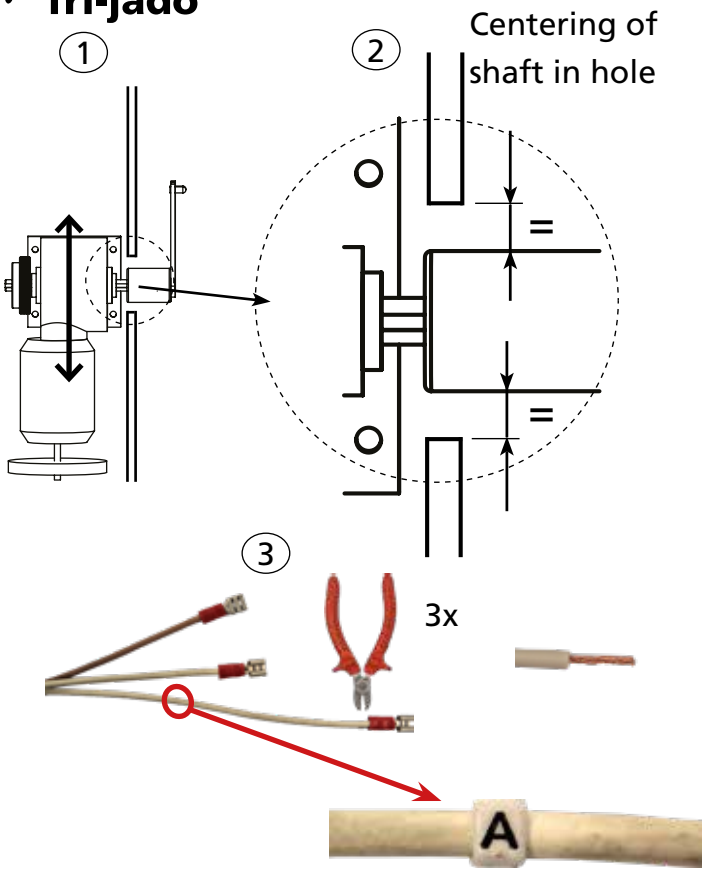


TB 2

Dismounting the rotor motor:

Note, #4 and #5 are applicable from serial number 100075954.

1. Remove the side panel at the operator-panel side.
2. Mark the position of the motor on the bracket.
3. Take the rotor shaft out of the cooking cavity.
4. Unscrew the 5 bolts from the shaft seal mounting plate.
5. Slide the mounting plate and lip-seal from the drive arm.
6. Put the drive arm (If applicable)in the position as shown. This can be done manually, if necessary, by turning the fan blade on the motor.
7. Disconnect the wiring of the motor.
8. Unscrew 4 screws and put the air guide aside.
9. Remove the (cooling) fan blade.
10. Unscrew 4 screws with nuts.
11. Take out the motor as shown.

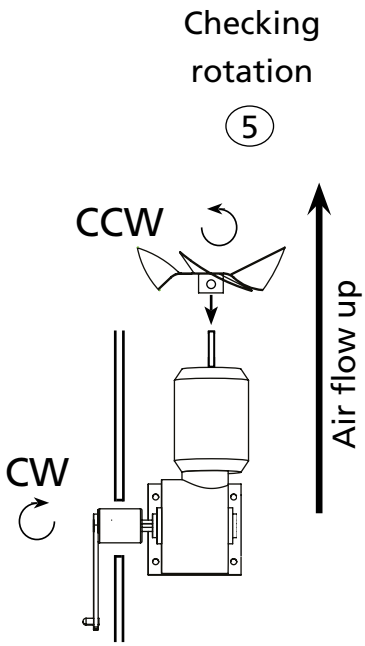


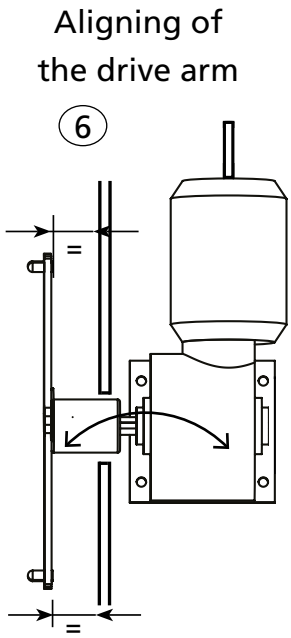
Mounting the rotor motor

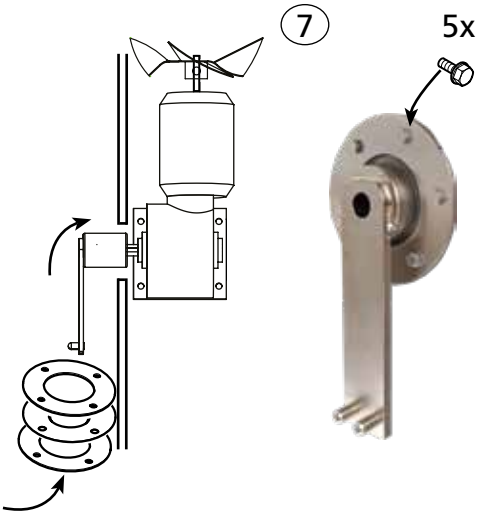
1. Mount the motor on the bracket using the previous made mark (see #2 from disassembling).
2. The motor shaft should come through the center of the hole!!
3. Connect the wiring of the (new) motor. See previous page for position of wires.

In case the wires have receptacles mounted, then these have to be cut off and the wires stripped.
Note that the white wire, marked "A" is longer

4. Hook in the rotor and check the axial play. This should be 2,5 -3mm (3/32-4/32)
5. Put power on the unit and test the rotation of the rotor. Interchange the two white wires if wrong. The air flow should go up!
6. Check if the drive arm in top position has the same distance to the side wall as in bottom position.
7. Mount the shaft seal when the position of the motor is ok and the screws are mounted tight.







OVERVIEW OF ERROR CODES TDRAC.

Error message	Description	Possible causes
Top sensor open (i) Sensor overflow (s)	The temperature sensor input reads higher than 320°C (600°F). In resistance, this is higher than 2200Ω.	Wiring loose Broken sensor Broken I/O board
Top sensor shorted (i) Sensor underflow (s)	The temperature sensor input reads lower than 0°C (32°F). In resistance, this is lower than 1000Ω.	Wiring shorted Broken sensor Broken I/O board
Communication failure	Communication problem between the I/O board and the CPU board	Broken I/O board
		Broken I/O extension board. (Multisserie only)
		Broken Fan board. (Bake Star only)
		Connection problem in ribbon cable.
Motor failure	Blower motor overheated	Cooling air blocked Broken capacitor Broken motor
“Door open” picture	De doorswitch signal is not detected	The door is open
		Malfunction of doorswitch.
Lime filter full	The lime filter needs to be replaced and in the manager menu, the parameter “lime filter replaced” needs to be put on “yes”	The maximum amount of water has been used and a new filter cartridge needs to be placed.
		The water hardness setting in the service menu is wrong.
		No filter is connected. The water hardness setting has to be set to”-” in the service menu.
Please clean first	The cleaning program did not finish. Detergent remainings could be in the oven cavity. Start the cleaning program (in rinse)	The cleaning program has been stopped by the operator.
		The cleaning program has been interrupted by a power supply failure, or the power supply has been switched off during the cleaning program (at night).
The below messages are only possible when the USA hood is connected		
Hood: not active (USA hood only)		The ventless hood has not been switched on Power is disconnected
Activate hood (USA hood only)	Tells to switch on the Hood	
Hood: filter misplaced (USA hood only)		One or more filters are not placed correct
		One or more switches defect or disconnected
Hood: filter saturated (USA hood only)		Filters need to be replaced
		Malfunction of pressure switch

TROUBLE SHOOTING BY SYMPTOM.

Symptom	Possible cause	Caused by
Unit will not switch on.	Power disconnected	Power plug disconnected
		Mains switch in OFF position.
	Mains breaker open	Short circuit or insulation problem
	Fuse(s) blown	Power surge Check fuse(s) on the electric panel
	Wiring problem	Wiring loose of plugs or sockets inside and outside of unit.
		Ribbon cable loose between CPU and I/O board
	Control boards malfunction	Mains power surge. (fuse blown on I/O board)
	Keypad malfunction	Moist (condens)on the keypad
Unit does not heat up.	Contactor does not switch on	Defective contactor. Defective temperature sensor. Wiring problem. Unit is put in “DEMO Mode” (check parameters) Wrong cooking program.
	Hi Limit thermostat triggered	Hi limit thermostat triggered due to transport (hi vibrations).
		Defective hi-limit thermostat.
		Defective temperature sensor. (temp. too high)
Bad cooking results, uneven cooking	Air circulation problem	Fanblade loose
		Blower defect (coil or bearing) or thermistor open (140°C)
		Capacitor of blower defect
		Suction grid of ventilator plate blocked
	Too much heat	Contactor hangs
		PT1000 sensor malfunction , value too low
		PT1000 Sensor to far out of cooking chamber
	Rotor motor stops	Cooling air flow blocked
		Wrong rotation direction
Product not cooked, cooking takes more time	Short of heat	Heating element defect
		Lost phase
		Contactor defect
		PT1000 sensor malfunction , value too high
		PT1000 sensor too far into cooking chamber
		Wire loose
		High limit thermostat open
		Suction grid of ventilator plate blocked
	Cooking program wrong	Wrong programming
		Wrong product
	Missing inner door	Broken door
Beep functions missing	Buzzer / speaker not functioning	Loose connection
		Broken buzzer / speaker
		Parameter “key beep” switch off

Symptom	Possible cause	Caused by
Mains fuse or breaker switched off	Short circuit or insulation problem	Mains plug burned, or wet
		Heating element broken
		Wiring shorted or wet
Rotor drive motor does not stop	Power stays on the motor	Rotor switch, if applicable in pass through units, pushed in. (unit is placed with the back to the wall.)
		Malfunction of I/O board
Less or no lighting	One or more lamps defect	Lamp defect
	No power on the lamps	Contactor malfunction
		Wiring loose
		Lighting switched off in manager menu
		Contactor malfunction
Door does not close well.	Door not right adjusted	Unit not placed level, uneven floor. Abuse by transport / operator. Hinge loose
Leakage of steam at the door	Door not right adjusted	
Light does not switch off	Power stays on the lamps	Contactor malfunction, contacts sticking.
Oven cavity fills up with grease	Drain grid clogged	Cleaning instructions neglected.
	Grease drain blocked	Unit is cooking porc meat and in cold environment. The grease gets solid, drain heating required.
	Drain valve malfunction	Wiring loose
		Broken valve
Controls malfunction	Leakage of steam through rotor shaft.	Worn out shaft seal.
	Excessive leakage of steam at door.	Wrong adjustment of door
	Controller overheated.	Cooling air flow blocked
	Fuses blown	Power surge
Water on the floor	Sewage clogged Water stays in the unit during cleaning and when the cleaning program has finished, the grease drain opens and the water falls in the grease container.	Sewer drain hose not installed properly
		Sewer drain hose clogged
		Malfunction of Sewer drain valve.
	Too much water in unit	Water inlet valve (W1) broken
		Water inlet valve (W1) polluted
	Pump defect	Pump is leaking

Symptom	Possible cause	Caused by
Bad cleaning result. Check parameter settings!	Water issue	Water tap closed
		Descale filter saturated
		No descaling filter applied while the water hardness is high
	Detergent issue	Cleaning cartridge not placed on the right place
		Wrong (amount) detergent
	Drain issue	Sewer drain malfunction (Q5)
		Drain hose not installed properly
		Grease drain malfunction (Q4) (cleaning proces started while unit is still loaded with oil)
	Rinse issue	Suction filter blocked
		Malfunction of rinse valves (Q2, Q3)
		Malfunction of pump
		Malfunction of valve at suction side (Q1)
Black/ brown spots on the bottom / filter screens	Detergent not dissolved fast enough	Instructions not followed. Detergent and cartridge placed before the unit has cooled down. See storyboard.

TROUBLE SHOOTING BY PART / FUNCTION.

Description of part / function	Symptoms	Possible cause	Action
Inside door	Broken glass	Slamming of door.	Give instruction to operator.
		Fastening bolts and nuts are loose.	Tighten all fastenings.
		No PTFE ring between steel and glass.	Mount new door.
	Door does not properly open / close	Door not well adjusted.	Adjust outside and inside door
Outside door	Broken glass	Slamming of door.	Give instruction to operator.
		Fastening bolts and nuts are loose.	Tighten all fastenings.
	Door adjustment	Door not well adjusted.	Adjust outside and inside door
Heating element	Rotisserie doesn't reach adjusted temperature	Wiring.	Check the wiring. Check the power on the element.
		Contactor	Check the contactor
		Element malfunction.	Check the current with AC current tester.
	Duration of grilling time is too long	Wiring.	Check the wiring.
		Element malfunction.	Check the current with AC current tester.
Safety thermostat	Contactor does not switch on after starting of program	Wiring. Thermostat malfunction.	Check the wiring. Check if the thermostat is making contact.
	Contactor switches off before reaching the adjusted temperature in program	Thermostat malfunction.	Check if the thermostat is turned fully clockwise (contact closed).
		Thermostat probe not in right position.	Check the position of the thermostat probe.
Contactor	Contactor doesn't switch on	Wiring.	Check the wiring.
		Coil malfunction.	Check resistance of the coil. This should be ± 600Ω.
	Contactor switches on, but no power on lamp or heating element.	Contact burned.	Check the wiring. Check the power on al contacts. Check the contacts of the contactor.
Capacitor	Drive motor or blower don't work	Wiring. Capacitor malfunction.	Check the wiring. Check function after connecting a new capacitor. *Checking of capacitor:* *See chapter "electrical tests"*

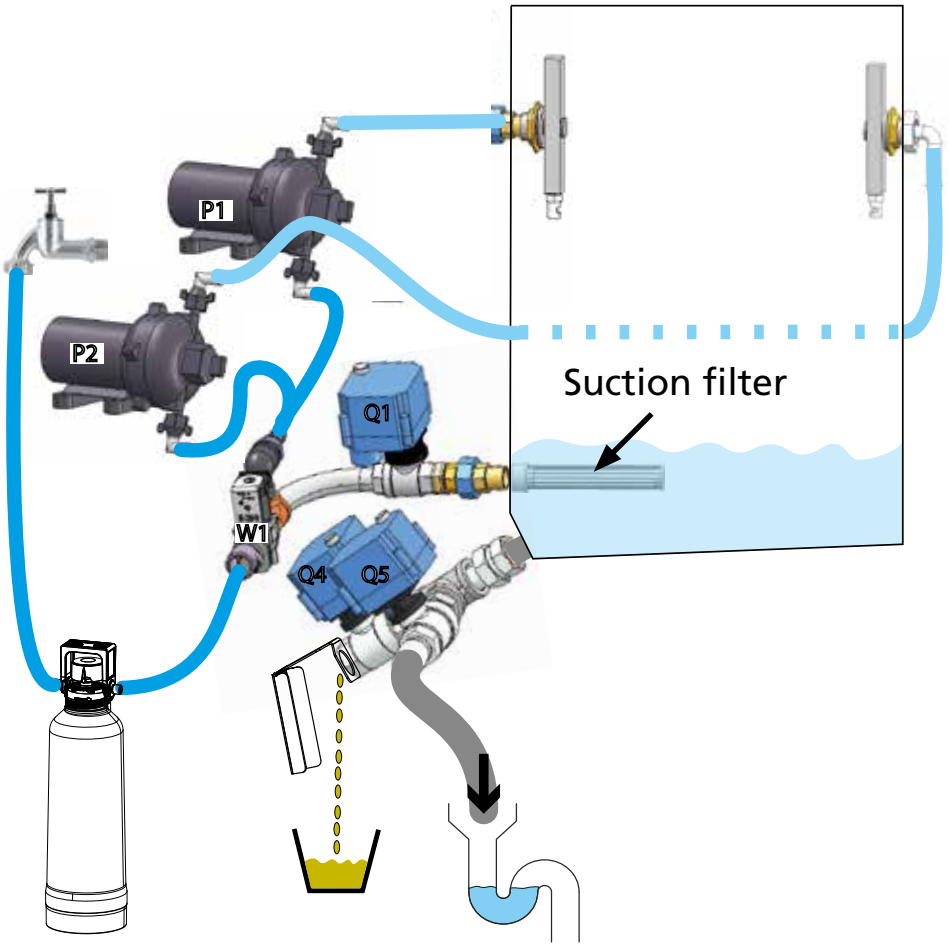
Description of part / function	Symptoms	Possible cause	Action
Drive motor	Motor doesn't run and / or main fuse burned	Wiring.	Check the wiring. Check the power to the motor.
		Coil malfunction.	Check insulation value of coil with Megger on 500V. Minimum value is 0.5 MΩ. Check resistance of the coils. See chapter Electrical tests. Between whiteA and white wire 234Ω. Between whiteA and brown wire 117Ω. Between white and brown wire 117Ω.
		Gearbox.	Check if gearbox is blocked.
	Motor runs after starting it up by hand	Capacitor malfunction.	Check capacitor (see chapter electrical tests)
	Motor stops during process and comes in again after a period of time	Coil overheated, thermistor switches off (105°C – 221°F).	Check rotation direction. Air should be flowing upwards over the motor. Check cooling circuit of motor. Check if rotisserie is close to another heat source. Measure temperature motor during process.
		Broken capacitor	Check / repace capacitor
Seal of drive motor shaft	Grease leaking	Seal deteriorated	Replace seal. Be sure that the motor shaft comes through the center of the hole,properly alligned and thorougly fastened. **After that,** mount the seal. Refer to chapter "service procedures".
		Seal not properly mounted	
Blower .	Blower doesn't run and / or Main fuse burned	Wiring.	Check the wiring. Check the power on the blower.
		Coil malfunction.	Check insulation value of coil with a Megger on 500V. Minimum value is 0.5 MΩ. Check resistance of the coils. *See chapter Electrical tests.* Replace motor if not ok
	Blower runs after starting it up by hand	Capacitor malfunction.	Check capacitor (see capacitor) or connect new capacitor.
	Blower stops during process and comes in again after a period of time	Coil overheated, thermistor switches off (140°C – 284°F).	Check cooling circuit of blower. Check rotation direction of rotor motor Check if rotisserie is close to another heat source. Measure temperature blower during process.
	Temperature indication on display runs up very fast (180°C - 355°F after 5 minutes)	Blower doesn't rotate and heat stays in top of cavity.	See above.

Description of part / function	Symptoms	Possible cause	Action
PT-sensor	Temperature inside rotisserie higher than set temperature	Resistance of sensor lower, caused by moist inside	Replace sensor
		Short circuit in sensor.	Replace sensor
		Sensor not in right position. Too far out the cooking chamber	Check / adjust position of sensor
	Rotisserie does not reach adjusted temperature	Resistance of sensor too high	Replace sensor
		Sensor not in right position. Too far into the cooking chamber	Check / adjust position of sensor
	Error message -PT1000 underflow -Sensor shorted	PT sensor, or wiring shorted	Check in I/O test Temperature 0°C / 32°F This is lower than 1000Ω
	Error message -PT1000 overflow -Sensor open	PT sensor, or wiring disconnected	Check in I/O test. Temperature 317°C / 603°F This is higher than 2200Ω
Keypad(s) / touch screen do not react	No possibility to make a program	One or more keys don't function.	Check flat cable connection between CPU board and keypad / touch screen
			Do a hard reset
			Replace key pad or CPU board
Keypad / touchscreen has bad reaction	Difficult to operate	Wrong parameter setting	Check parameter setting in Service menu
Keypad(s) / touch screen-react strange / automatic	Automatic stopping of program.	Moist on / or running over the keypad	1. Check for condensation. When the unit is cold and the environment is heating up, condensation can be expected. 2. Check for water, dripping on the top of the unit and running down.
Display/CPU on operation panel and power I/O board	No illumination on display	Wiring.	Check the wiring.
			Check the power on the CPU board by the 2 flashing red LED's just near the flatcable on the power and I/O board.
		Fuse burned.	Check the fuse on the power I/O board.
			Check other fuses.
		Flat cable.	Check grey flat cable connection.
		Display/CPU malfunction.	Replace the CPU board with display.
		Power board malfunction.	Replace the power I/O board.
	Display shows strange things.	Parameters not on right settings.	Check parameters.
		Wrong software or loss of data.	Check software version or upload latest software.

Description of part / function	Symptoms	Possible cause	Action
Pump See below overview P1 / P2	Not pumping	Suction valve Q1 (9311008s) malfunctioning	Check the valve if it is closed while the waterinlet valve is opened and the unit is being filled.
		Suction filter clogged	Check / clean the filter
		Suction filter clogged	Check / clean the filter
		Wiring problem	Check function of pump in I/O test Check the connection on the pressure switch on the pump and other wiring
		Voltage dropped	Check the 24V power supply
	Leaking	swivel coupling loose, broken	Check / replace
		Pump membrane broken	Replace pump
Water inlet (solenoíd) valve See below overview W1	Too much water in unit	Valve polluted by dirty water	Clean valve
		Broken valve	Replace valve
		Missing reducer (10 ltr/min)	Replace valve by the right one
	No Water	Wiring loose	Check wiring
		Broken valve	Replace wiring
Motor valve suction side Q1	Not rinsing during cleaning	Valve does not close during filling of water	Check function of valve in I/O test Check wiring and plugs / sockets on the I/O board
		Valve does not open durng rinsing	
Motor valves left and right rinse See below overview Q2 / Q3	No water comes out of the sprayers	Both valves stay closed	Check function of valve in I/O test Check wiring and plugs / sockets on the I/O board
	Water comes out of both sprayers all the time	Both valves stay open	Check function of valve in I/O test Check wiring and plugs / sockets on the I/O board
	Water alternately flows from both nozzles for 1 minute and at full pressure from 1 nozzle for the other minute..	One of the valves stays open	Check function of valve in I/O test Check wiring and plugs / sockets on the I/O board
Motor valve grease drain See below overview Q4	Oil stays on the bottom.	Valve does not open	Check function of valve in I/O test Check wiring and plugs / sockets on the I/O board
	Water comes in the grease container (bucket) and probably on the floor	Valve does not close	
Motor valve sewer drain See below overview Q5	Water comes in the grease container (bucket) and probably on the floor	Valve does not open	Check function of valve in I/O test Check wiring and plugs / sockets on the I/O board
	Soap and grease still in unit after cleaning program	Valve does not close and water goes straight out, into the sewer	

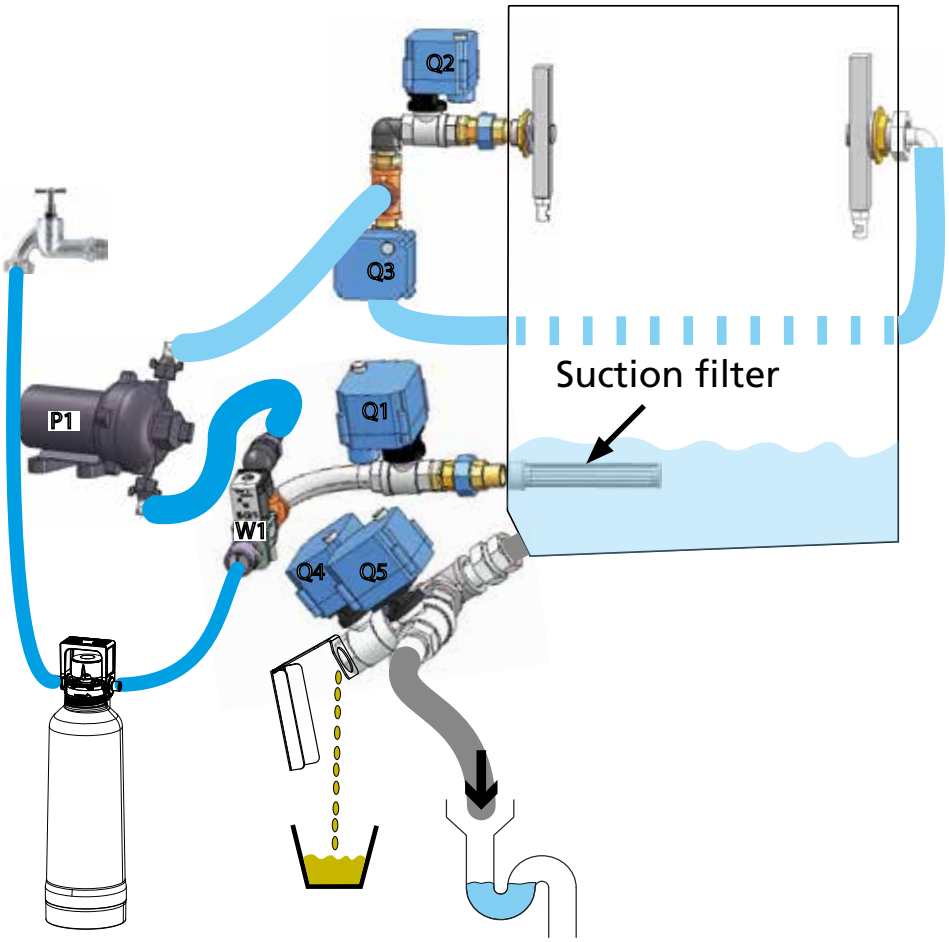
HYDRAULIC OVERVIEW

2 pumps system



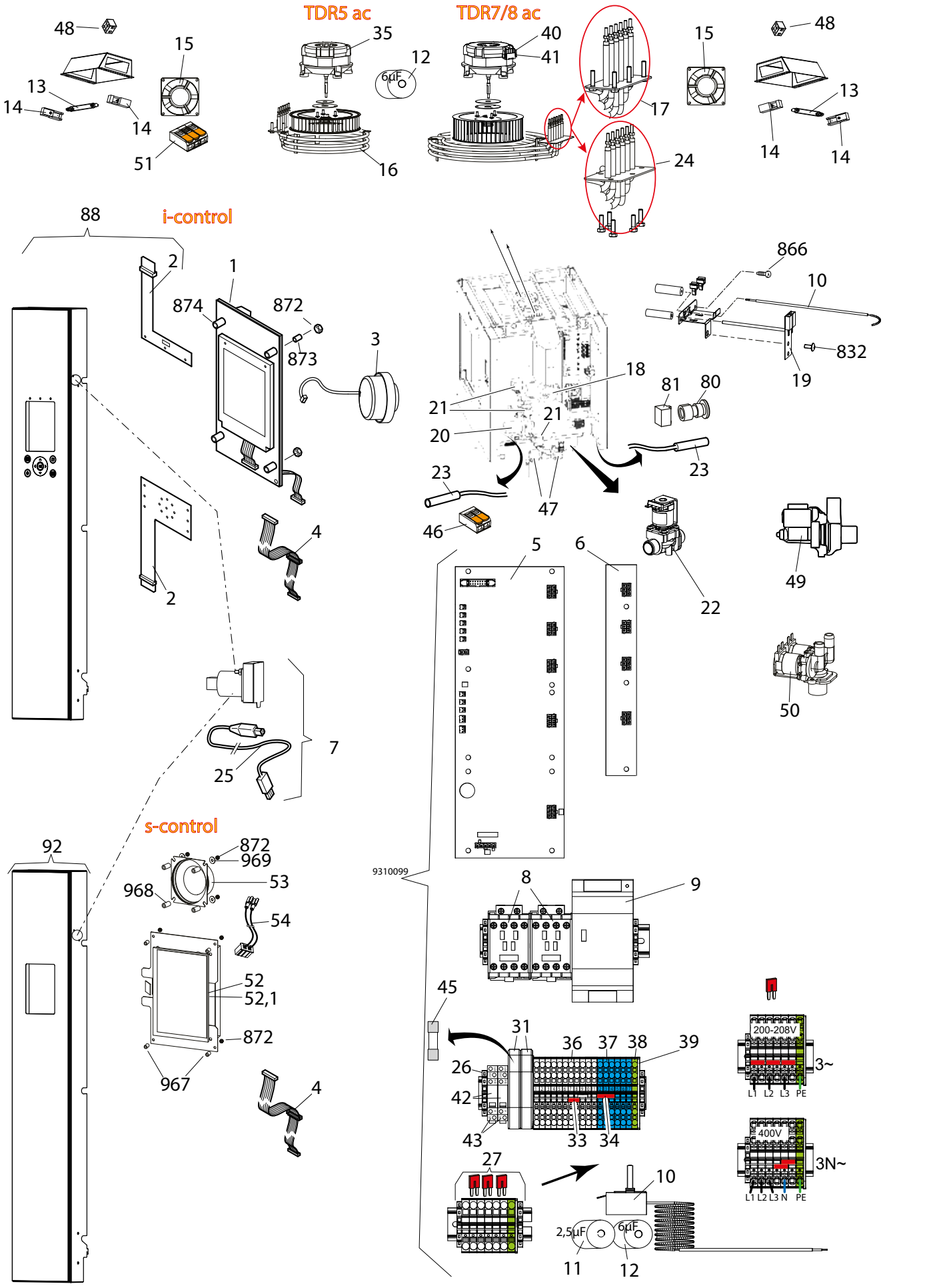
Descaling filter
By-pass on zero!!

1 pump system



Descaling filter
By-pass on zero!!

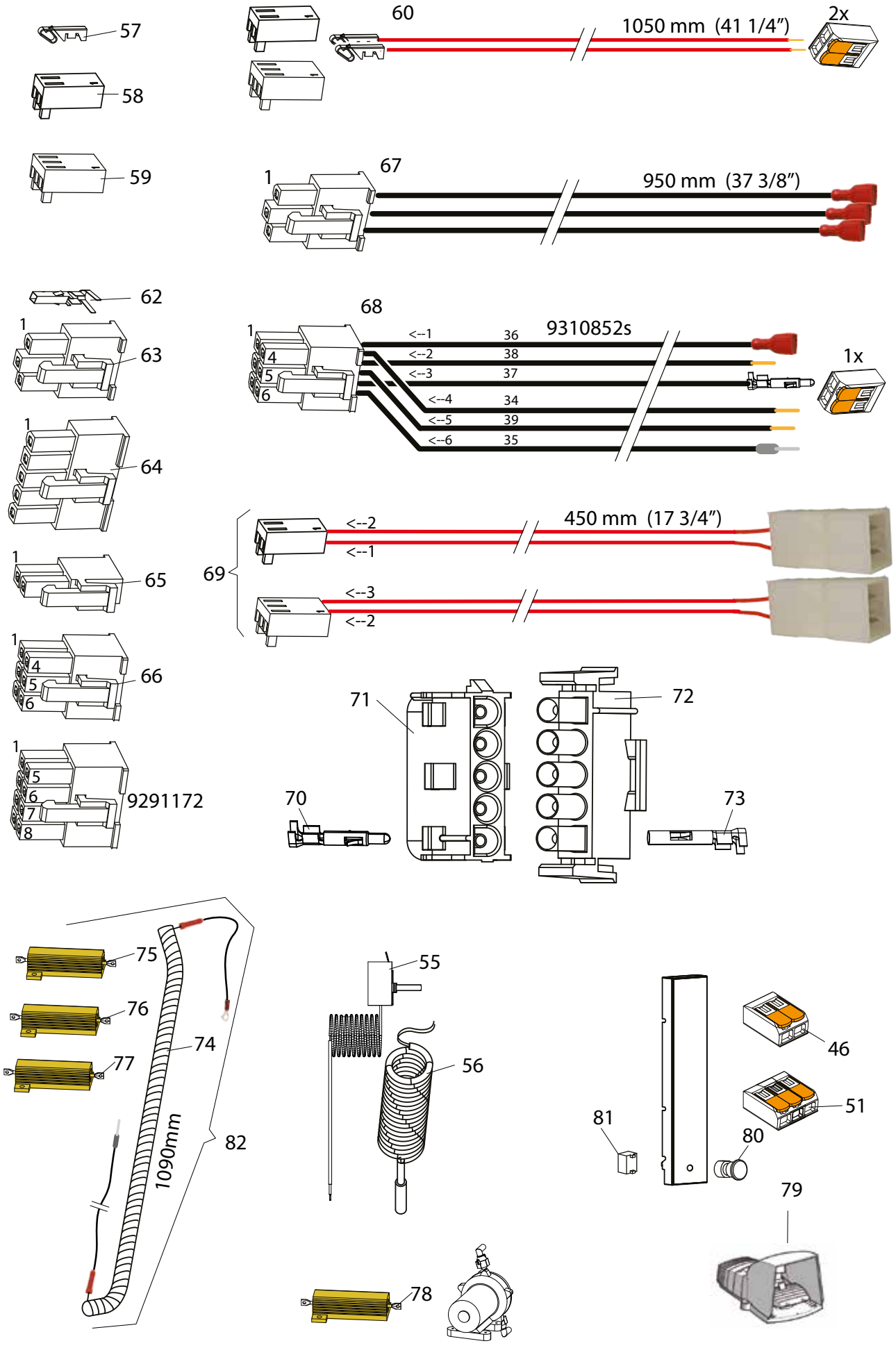
TDRAC, ELECTRICAL PARTS



TDRAC, PARTSLIST ELECTRICAL PARTS

Pos	Part nr.	Description	Qty	Pri	Comment
1	9172552s	CPU + LCD board i-control	1	1	Untill the end of 2019
2	9172329	Keypad, set of 2	1	2	
3	9172362	Buzzer 12V	1	2	
4	9172314	Ribbon cable 14p	1	2	
5	9192400s	Power & I/O board	1	1	from ser nr 10008518
6	9192401s	Interface board	1	1	from ser nr 10008518
7	9310161s	USB socket, ass.	1		
8	3500069	Contactor	2	2	
9	9311016 s	Power Supply 24V 10A	1	1	
10	9040970	Thermostat 50-320°	1	2	
11	3701228	Capacitor 2,5µF	1	2	for rotor motor
12	9192034	Capacitor 6µF	1	2	for blower
13	9291001s	Lamp 500W	2	1	see 9312055s, lamp replacement kit
14	9311015	Lamp holder R7s ceramic	4	2	
15	8091005	Fan	2	1	
16	9292019s	Heating element 230 V, 5.4 KW	1	2	
17	9312058s	Heating element 12,4kW 230V	1	2	For 20A / 13,6kW or stacked 40A / 27,2kW units
17,1	9292018s	Heating element 9300 W 230V	1	2	For 16A / 10,5kW or stacked 31A / 10,5 kW units
18	9310070s	Gearmotor, complete with drive head	1	1	
19	9172310s	Temperature sensor PT 1000	1	1	
20	9311006s	Pump	1	1	
21	9311008s	Motor valve -2/2 1/2"	3	1	from ser nr 100085818
22	9311007s	Solenoïd valve E 2/2 - 1/2" (reduced 9 ltr/min)	1	1	
23	3500020	Reed switch	2	2	
24	9312059s	Heating element 12,4kW 230V	2	2	For 20A / 13,6kW or 40A / 27,2kW units
24,1	9312080s	Heating element 9,3kW 230V	1	2	For 16A / 10,5kW or stacked 31A / 10,5 kW units
25	9291012	USB cable	0		
26	9191222	End Clamp Clipfix 35-5 PHX	10		
27	9310156s	Mains terminal block PT10	1		
31	9191218	Fuse holder Euro ABB	2		
33	9191238	Plug-in bridge FBS 2-6 PHX	3		
34	9191237	Plug-in bridge FBS 3-6 PHX	1		
35	9298550s	Blower, ass. TDR5	1	2	
36	9191240	Terminal PT 4 (GY) 4 qmm PHX	13		
37	9191241	Terminal PT 4 (BU) 4 qmm PHX	7		
38	9191239	Terminal PT 4 PE (GN/YE) 4 qmm PHX	1		
39	9191223	End Cover D-PT 4 PHX	1		
40	9298551s	Blower, ass. TDR8ac	1	2	
41	9310154s	Blower, ass. TDR8ac (lower unit)	1	2	Untill ser. nr. 100092266, the service kit 9311054s is necessary to mount this assembly.
42	9311044	Relay, 24V Allen Bradley (blue)	1	2	
43	9291141	Socket, relay Allen Bradley	3		
45	9191197	Fuse 10A, ceramic 32x6,3	2	1	
46	9291122	Connector, 2 pole	4		
47	9311013s	Motor valve -2/2 3/4"	2	1	
48	9171110	Connector, 2 pole ceramic	2		
49	9312083s	Drain pump	1	1	
50	9312085	Solenoïd double valve 1/2" (reduced 9 ltr/min)	1	1	
51	9291123	Connector, 3 pole	2		
52	9292280s	CPU + LCD board s-control	1	1	From May 2019
52,1	9292282s	CPU + LCD board s-control, no WIFI	1	1	
53	9311046s	Speaker	1	2	
54	9311047	Cable, speaker s-control	1		
53	9311046s	Speaker			
54	9311047	Cable, speaker s-control			

TDRAC, ELECTRICAL PARTS

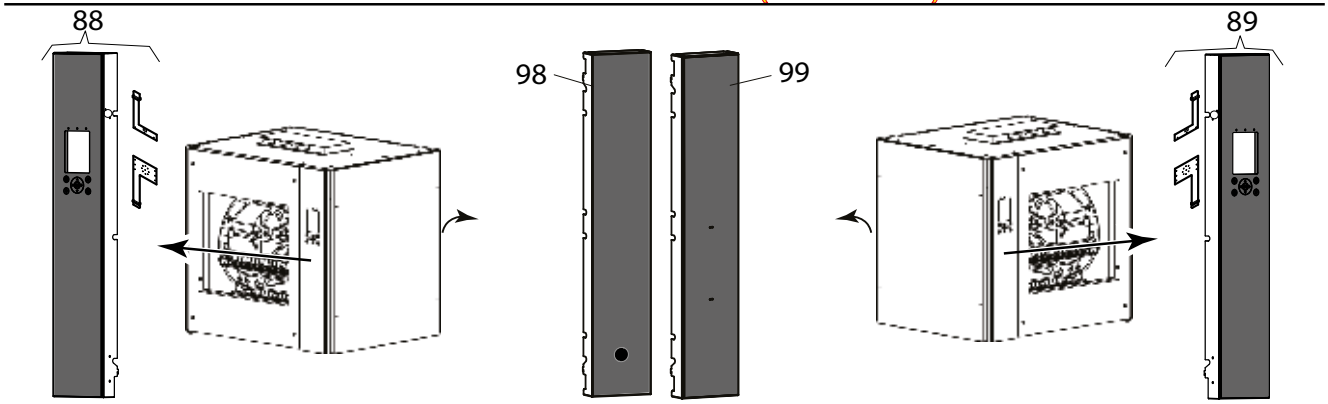


TDRAC, PARTSLIST ELECTRICAL PARTS

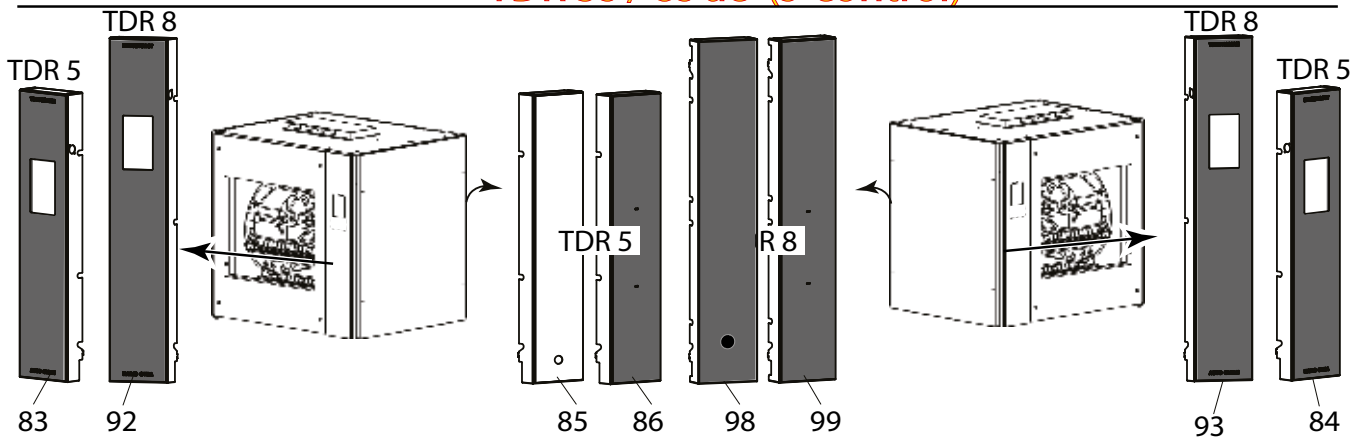
Pos	Part nr.	Description	Qty	Priority	Comment
46	9291122	Connector, 2 pole	4		
51	9291123	Connector, 3 pole	2		
55	9272016	Thermostat 30-110°			
56	9311031	Heat tracing			
57	9291176	Crimp contact, inputs			
58	9291175	Socket, 2 p, inputs			
59	9291177	Socket, 3 p, inputs			
60	9310850s	Wire repair set inputs		2	
62	3701231	Crimp contact, outputs			
63	9291179	Plug, 3p, outputs			
64	9291170	Plug, 5p, power			
65	9291174	Plug, 2p, output			
66	9291173	Plug, 6p, outputs			
67	9310851s	Wire repair set 24V outputs		2	
68	9310852s	Wire repair set 230V outputs		2	
69	9310816s	Connection set TDR hood			
70	0601466	Crimp contact male, M-N-L			
71	9291014	Socket, 5p, Mate-N-Lock			
72	3701272	Plug, 5p, Mate-N-Lock			
73	0601458	Crimp contact female, M-N-L			
74	9313055s	Heated hose	1		
75	9311061	Resistor 2 Ω 50Watt	1		
76	9311063	Resistor 4 Ω 50Watt	1		
77	9311064	Resistor 39 Ω 50Watt	1		
78	9311075	Resistor 0,5 Ω 50Watt	1	2	
79	9311054s	Pedal switch			
80	9291002	Pedestal button			
81	9291003	Switch block			
82	9310224s	Heated drain kit for 8+8			

TDRAC, CONTROL PANELS

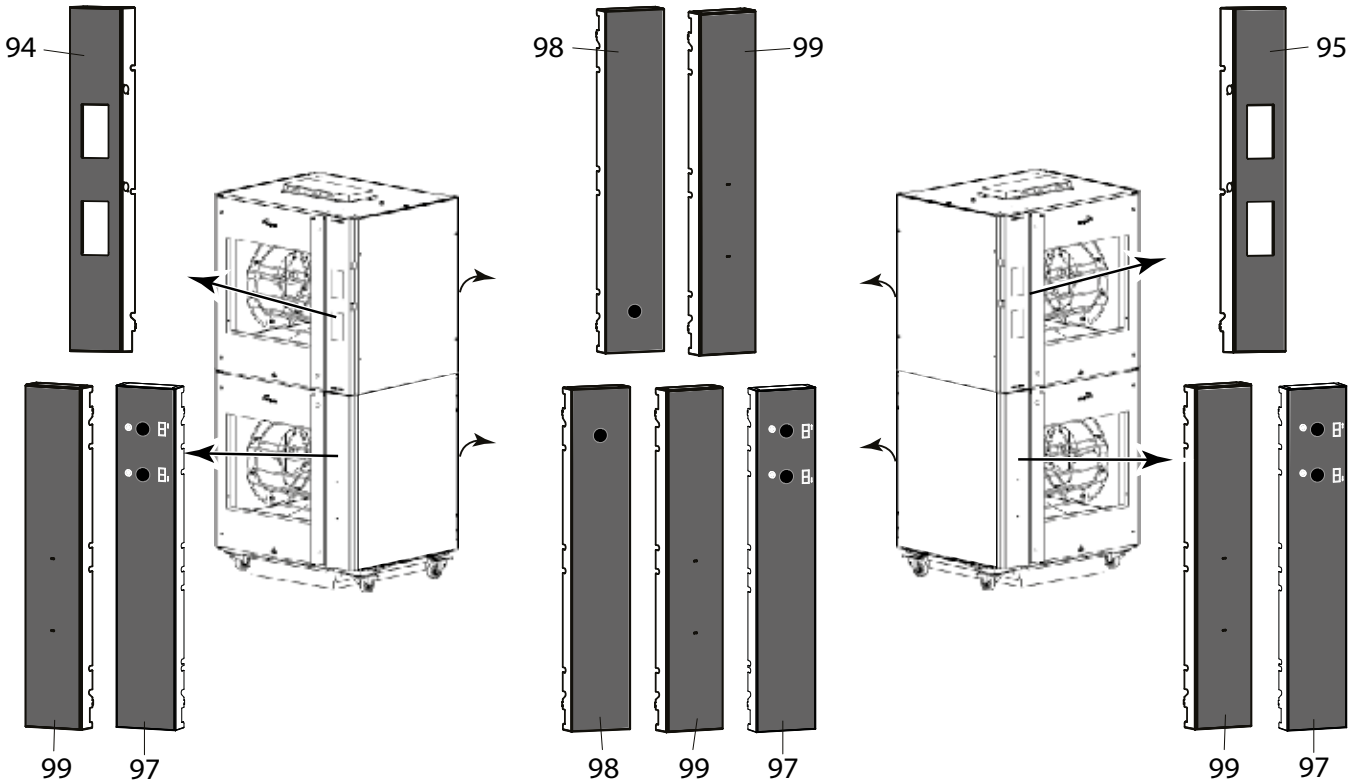
TDR 8i ac (i-control)



TDR 5s / 8s ac (s-control)



TDR 8+8s ac (s-control)



TDR5S AC, PARTSLIST CONTROL PANELS

Pos	Part nr.	Description	Qty	Priority	Comment
83	9318523s	Operator panel, ass.TDR5-s, Right-contr.	1	2	
84	9318524s	Operator panel, ass.TDR5-s, Left -contr.	1	2	
85	9314727s	Panel, customer side L+R, ass. TDR5, for rotor button	1		
85,1	9310302s	Conversion kit Pass through (5), incl door handle			
86	9318525s	Panel, customer side L+R, ass. TDR5	1		

TDR8I AC, PARTSLIST CONTROL PANELS

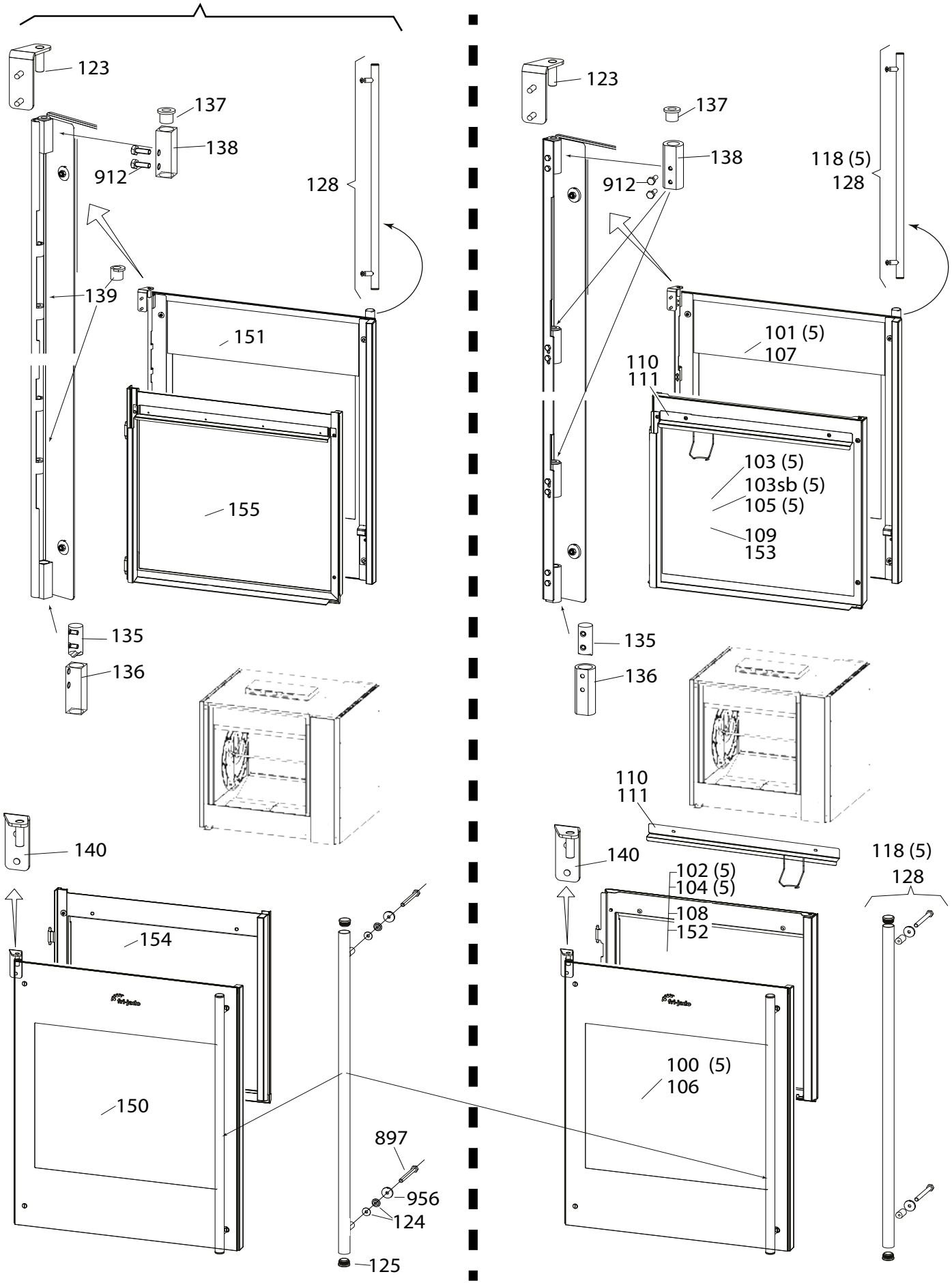
88	9318520s	Operator panel, ass.TDR8-i Right-contr	1	2	
89	9318521s	Operator panel, ass.TDR8-i, Left-contr	1	2	
98	9310150s	Panel, customer side L+R, ass. TDR8, with rotor button	1		
99	9318522s	Panel, customer side L+R, ass. TDR8	1		

TDR8S AC, PARTSLIST CONTROL PANELS

92	9318534s	Operator panel, ass.TDR8-s Right-contr	1	2	
93	9318535s	Operator panel, ass.TDR8-s, Left-contr	1	2	
94	9318536s	Operator panel, ass. 8+8-s, Right-contr	1	2	
95	9318533s	Operator panel, ass. 8+8 -s, Left-contr	1	2	
97	9318526s	Operator panel, ass. 8+8 with 2 rotor buttons		2	
98	9310150s	Panel, customer side L+R, ass. TDR8, with rotor button and door handle	1		
99	9318522s	Panel, customer side L+R, ass. TDR8	1		

TDRAC, DOORS

TDR7/8 ac untill serial number 100095331



TDR5 AC, DOORS

Pos	Part number	Description	Qty	Priority	Comment
		Outer doors TDR5 ac			
100	9318550s	Ass. Outer door Left turning TDR5ac from 100094859	1	2	
101	9318551s	Ass. Outer door Right turning TDR5ac from 100094859	1	2	
		Inner doors TDR5 ac from 100103281			
102	9318555s	Ass. Inner door Left turning TDR5ac from 100103281	1	2	
103	9318556s	Ass. Inner door Right turning TDR5ac from 100103281	1	2	
103sb	9318557s	Ass. Inner door Right turning TDR5ac SB from 100103281			
		Inner doors TDR5 ac untill 100103280			
104	9318552s	Ass. Inner door Left turning TDR5ac untill 100103280	1	2	
105	9318554s	Ass. Inner door Right turning TDR5ac untill 100103280	1	2	

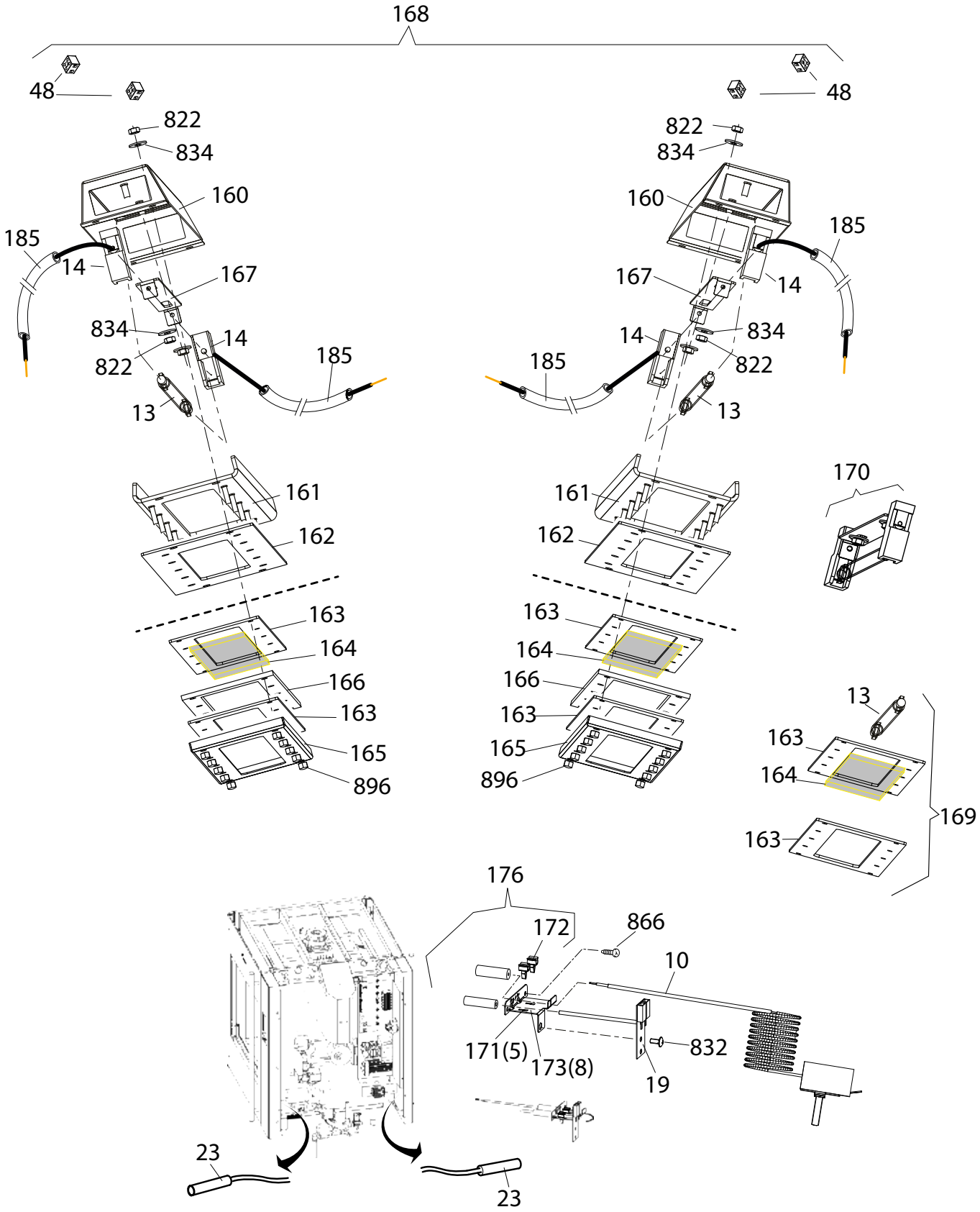
TDR8(+8)AC, OUTER DOORS

		Outer doors TDR8(+8) ac from serial number 100095332			
106	9318515s	Ass. Outer door Left turning TDR8ac from 100095332	1	2	
107	9318516s	Ass. Outer door Right turning TDR8ac from 100095332	1	2	
		Outer doors TDR8(+8) ac untill serial number 100095331			
150	9318510s	Ass. Outer door Left turning TDR8ac untill 100095331	1	2	
151	9318513s	Ass. Outer door Right turning TDR8ac untill 100095331	1	2	

TDR8(+8)AC, INNER DOORS

		Inner doors TDR8(+8) ac from 100104167			
108	9318547s	Ass. Inner door Left turning TDR8ac from 100104167	1	2	
109	9318549s	Ass. Inner door Right turning TDR8ac from 100104167	1	2	
		Inner doors TDR8(+8) ac from 100095332 untill 100104166			
152	9318517s	Ass. Inner door Left turning TDR8ac from 100095332 untill 100104166	1	2	
153	9318519s	Ass. Inner door Right turning TDR8ac from 100095332 untill 100104166	1	2	
		Inner doors TDR8(+8) ac untill 100095331			
154	9318527s	Ass. Inner door Left turning TDR8ac untill 100095331	1	2	
155	9318529s	Ass. Inner door Right turning TDR8ac untill 100095331	1	2	
		Associated door parts			
110	9312183	Cover with soap holder TDR5ac	2	0	
111	9312182	Cover with soap holder TDR8ac	2	0	
118	9298100s	Doorhandle set TDR5			
123	9310411	Hinge, top right	1		
124	3702342	Collar bush 10x5x3,5	16		
125	2103209	Plug Ø 30mm	4		
128	9298101s	Doorhandle set TDR8			
135	9312014	Positioning pin, door hinge	2		
136	9312112	Bearing bush, lower hinge	2		
137	9172054	Collar bearing, bronze	2		
138	9312111	Bearing block, upper hinge	2		
139	9172122	Collar bearing, modified, bronze	4		
140	9310410	Hinge, top left	1		

TDRAC, LIGHTING AND SENSORS

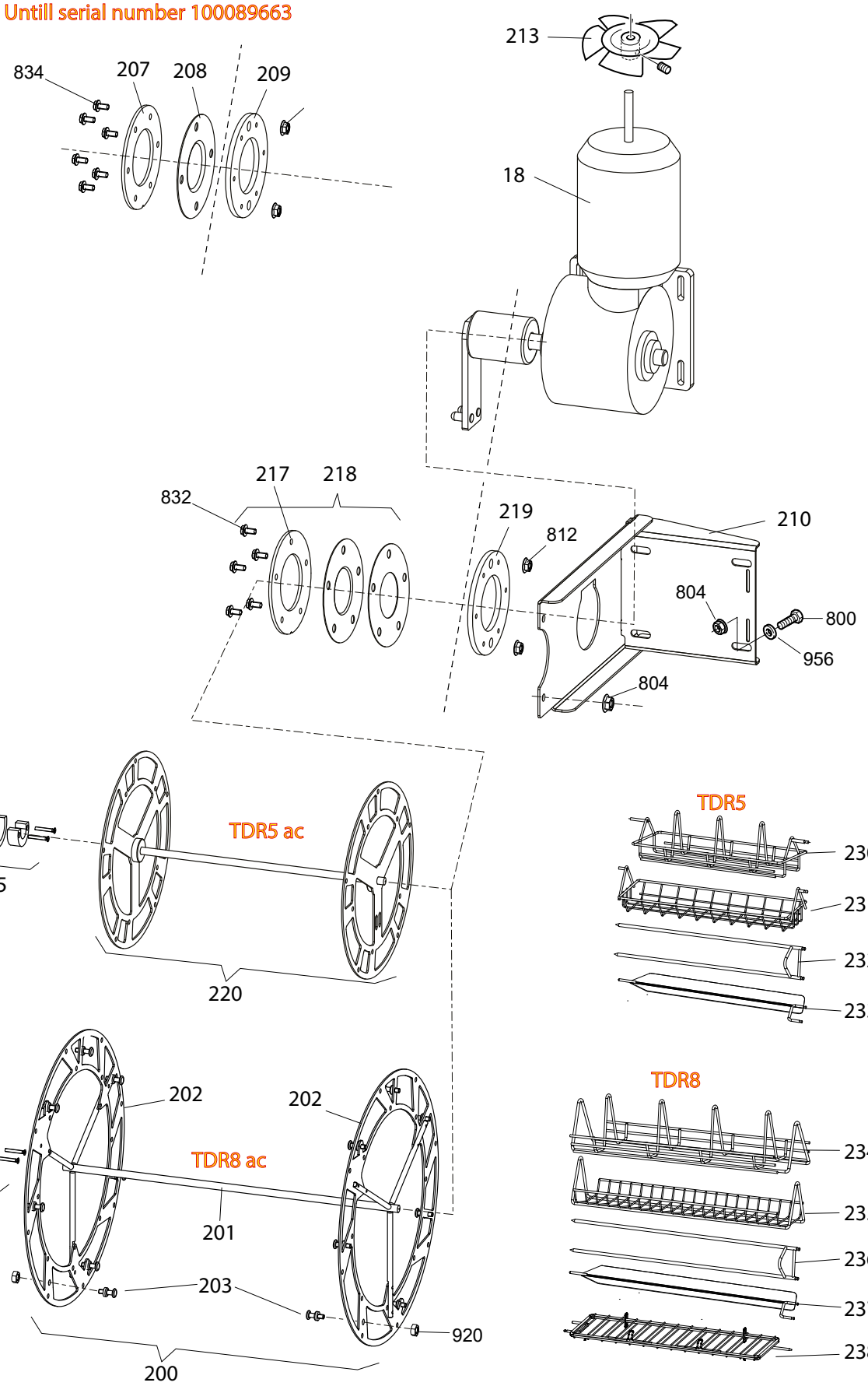


TDRAC, LIGHTING AND SENSORS

Pos	Part nr.	Description	Qty	Priority	Comment
10	9040970	Thermostat 50-320°	1	2	
13	9291001s	Lamp 500W	2	1	see 9312055s, lamp replacement kit
14	9311015	Lamp holder R7s ceramic	4	2	
19	9172310s	Temperature sensor PT 1000	1	1	
23	3500020	Reed switch	2	2	
48	9171110	Connector, 2 pole ceramic	2		
160	9314113	Cover, lamp	2		
161	9314114	Mounting bracket, lamp fixture.	2		
162	9312054	Seal, top	2		
163	9312055	Seal, light (for lamp 500W)	2	1	
164	9312020	Glass, oven illumination	2	1	
165	9314330	Cover profile, oven illumination	2		
166	9314331	Spacer plate	2		
167	9314334	Bracket, lamp holder.	2		
168	9310071s	Service kit, 2 lamp fixtures		0	
169	9312055s	Lamp replacement kit		1	
170	9311029s	Lamp holder kit			
171	9314785s	Bracket, sensors TDR5ac	1		
172	9110072	Clamp	2		
173	9294069s	Bracket, sensors TDR8ac	1		
176	9313022s	Probe seal kit.		2	
185	4310067	Glass sleeve	2 Mtr	0	0

TDRAC, ROTOR

Untill serial number 100089663



TDRAC, PARTSLIST ROTOR

Pos	Part nr.	Description	Qty	Priority	Comment
18	9310070s	Gearmotor, complete with drive head	1	1	
200	9310108s	Ass. Rotor TDR8 ac	1		
201	9070272	Rotor shaft	1		
202	9314220	Rotor disk	2		
203	9302027	Support pin, meat baskets	16		
205	9310310s	Bearing ass., rotor TDR5ac	1	2	
206	9310180s	Bearing ass., rotor TDR8ac	1	2	
207	9294649	Pressure ring, 6 holes	1		untill ser nr 100089663
208	9292244	Shaft seal, 6 holes	1		untill ser nr 100089663
209	9294650	Reinforcement ring, 6 holes	1		untill ser nr 100089663
210	9290444	Suspension plate, rotor motor	1		
213	9172078	fan blade 150mm	1		
216	9312019	Seal	3	2	
217	9314126	Pressure ring, 5 holes	1		
218	9312002s	Shaft seal, 5 holes	1	2	
219	9314125	Reinforcement ring, 5 holes	1		
220	9310258s	Ass. Rotor TDR5 ac	1		
230	9172112	3 Chicken rack			
231	9010387	Meat basket			
232	9010549	Meat fork			
233	9112472	V-spit			
234	9172136	4 Chicken rack			
235	9172134	Meat basket			
236	9172153	Meat fork			
237	9112480	V-spit			
238	9312090	Butterfly, 3 chicken rack			
239	9292031	Meat basket wide TDR8			
240	9170496	Insert for basket 9172134 (TDR8)			
241	9170497	Insert for basket 9010387 (TDR5)			

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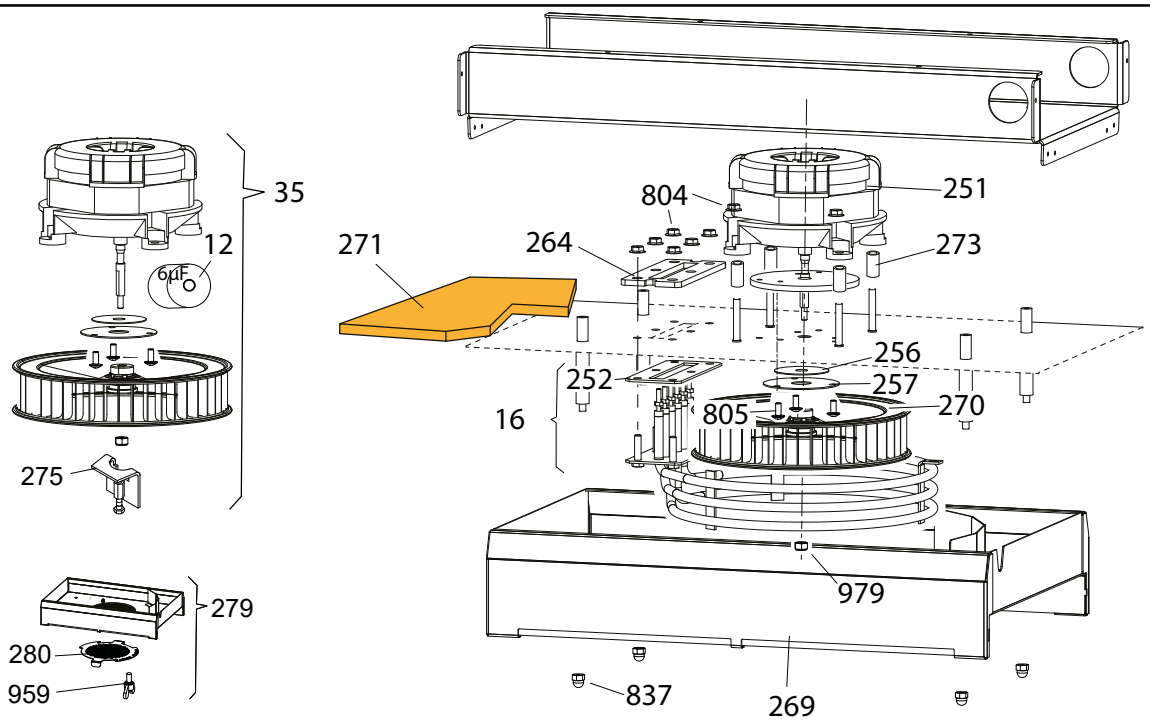
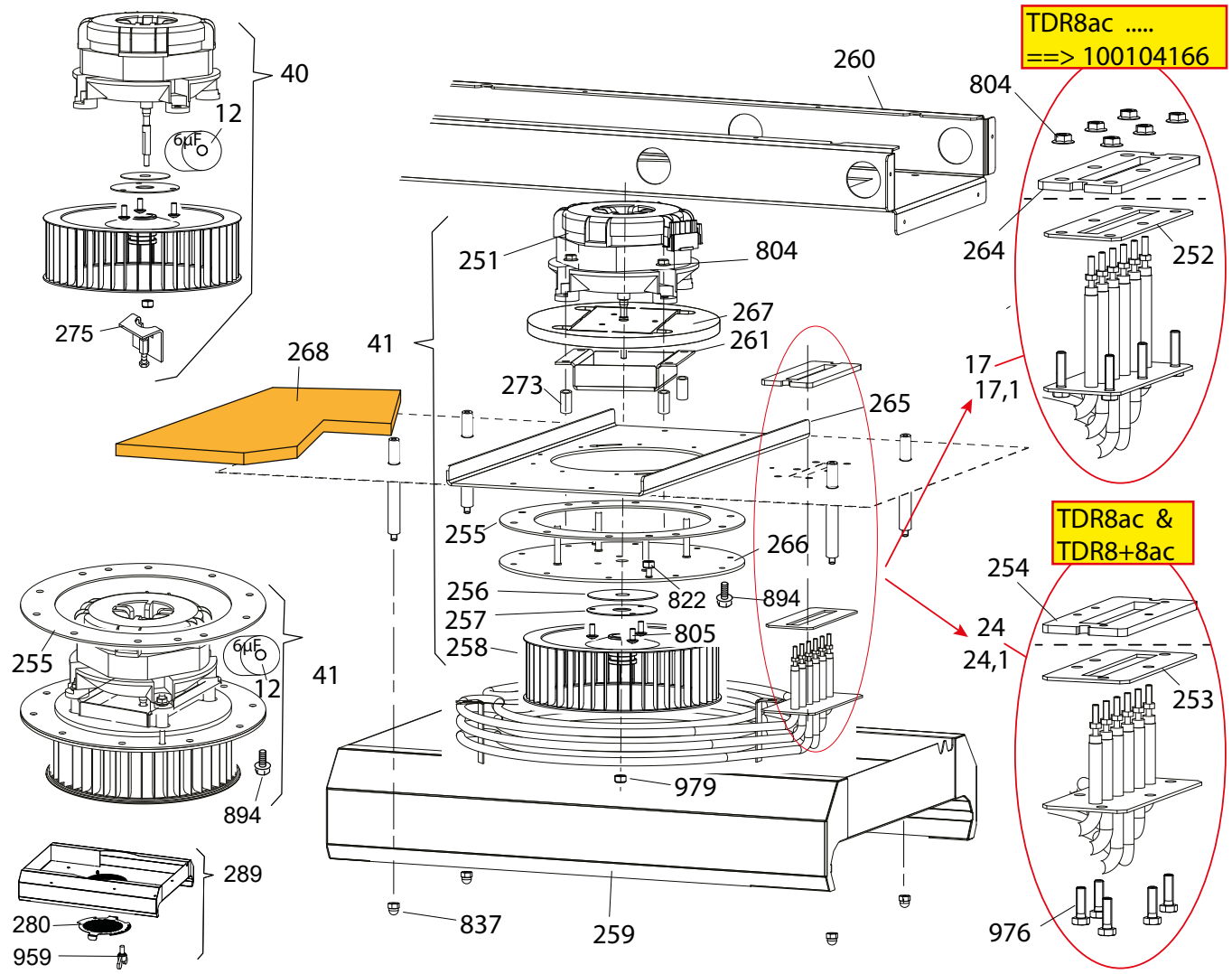
TDRAC, BLOWER & HEATING

TDR 5ac



TDR 8 ac / TDR 8+8 ac



TDR5AC, PARTSLIST BLOWER & HEATING

Pos	Part nr.	Description	Qty	Priority	Comment
12	9192034	Capacitor 6µF	1	2	
16	9292019s	Heating element 230 V, 5.4 KW	1	2	
35	9298550s	Blower, ass. TDR5	1	2	
251	9293020s	Blower motor, with conversion cable			

TDR8AC, PARTSLIST BLOWER & HEATING UNTILL SERIAL NR. 100104166

12	9192034	Capacitor 6µF	1	2	
17	9312058s	Heating element 12,4kW 230V	1	2	For 20A / 13,6kW or stacked 40A / 27,2kW units
17,1	9292018s	Heating element 9300 W 230V	1	2	For 16A / 10,5kW or stacked 31A / 10,5 kW units
40	9298551s	Blower, ass. TDR8ac	1	2	
251	9293020s	Blower motor, with conversion cable			

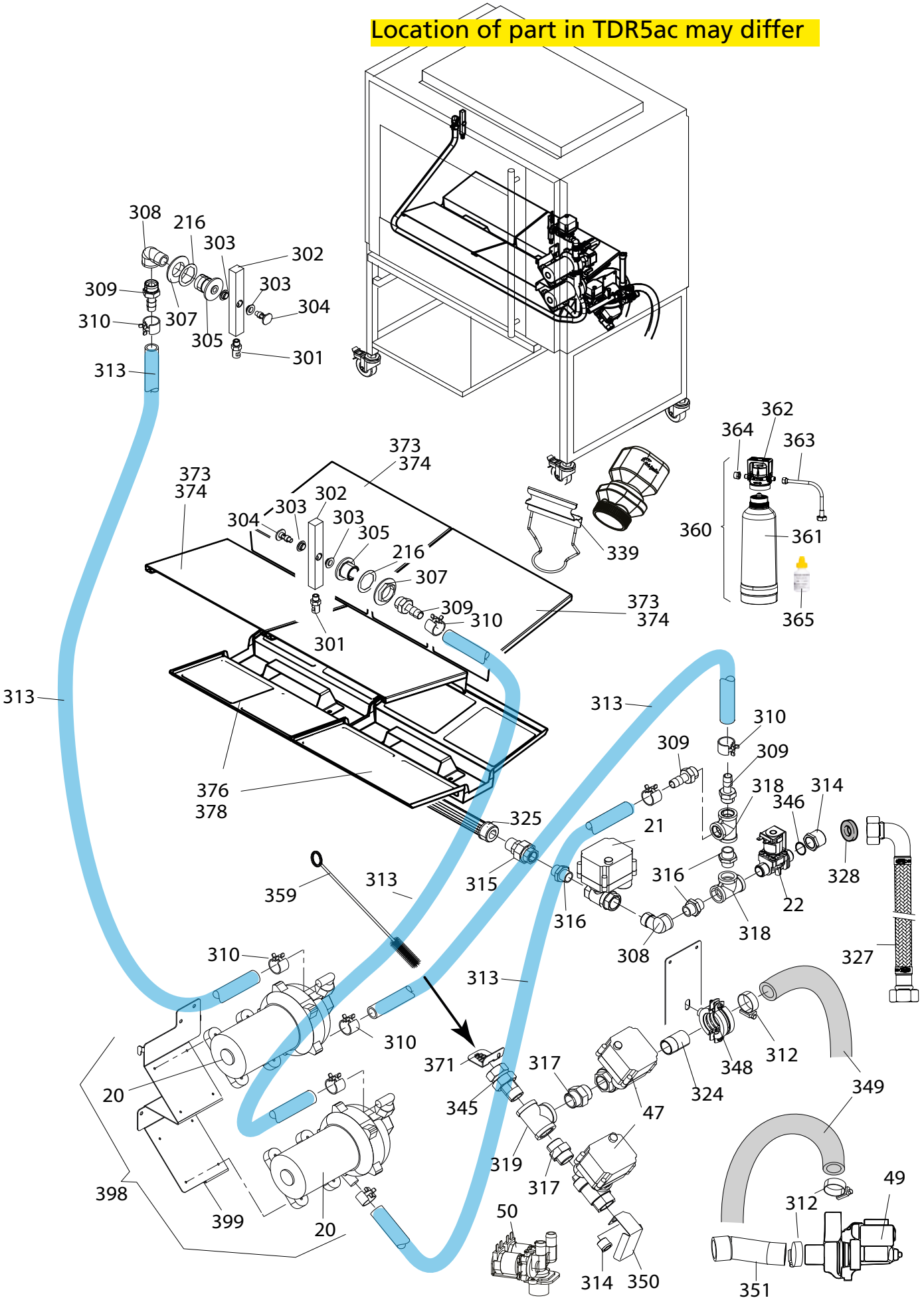
TDR8AC FROM 100104167 AND TDR8+8AC, BLOWER & HEATING

12	9192034	Capacitor 6µF	1	2	
24	9312059s	Heating element 12,4kW 230V	2	2	For 20A / 13,6kW or 40A / 27,2kW units
24,1	9312080s	Heating element 9,3kW 230V	1	2	For 16A / 10,5kW or stacked 31A / 10,5 kW units
40	9298551s	Blower, ass. TDR8ac	1	2	
41	9310154s	Blower, ass. TDR8ac (lower unit)	1	2	Untill ser. nr. 100092266, the service kit 9311054s is necessary to mount this assembly.
251	9293020s	Blower motor, with conversion cable			

TDRAC, ASSOCIATED PARTS BLOWER & HEATING

252	9194489	Gasket heating element, 6 holes	1	2	
253	9312082	Gasket heating element, 5 holes	1	2	
254	9314528	Pressure plate, heating element	1		
255	9312018	Seal, Fan suspension	1	1	
256	3702325	Shaft seal	1	1	
257	9294007	Pressure ring	1		
258	3701273	Turbine, forward inclined Ø200x61	1		
259	9310419	Blower panel TDR8ac	1		
260	9314139	Reinforcement plate, blower panel	1		
261	9314137	Mounting bracket, blower motor	1		
264	9294168	Pressure plate, heating element	1		
265	9314138	Suspension plate, blower motor	1		
266	9314136	Mounting plate, blower motor	1		
267	9313018	Insulation, blower motor	1		
268	9313011	Insulation top TDR8ac	1		
269	9310257	Blower panel TDR5ac	1		
270	3701218	Turbine, Ø200x43	1		
271	931pk02	Insulation top TDR5ac	1		
273	9312075	Spacer 20,5 mm	4		
279	9310313s	Blower panel TDR5ac with lose grid			
280	9314205	Grid			
289	9310055s	Blower panel TDR8ac with lose grid			

TDRAC, CLEANING SYSTEM FROM SERIAL NUMBER 100108720



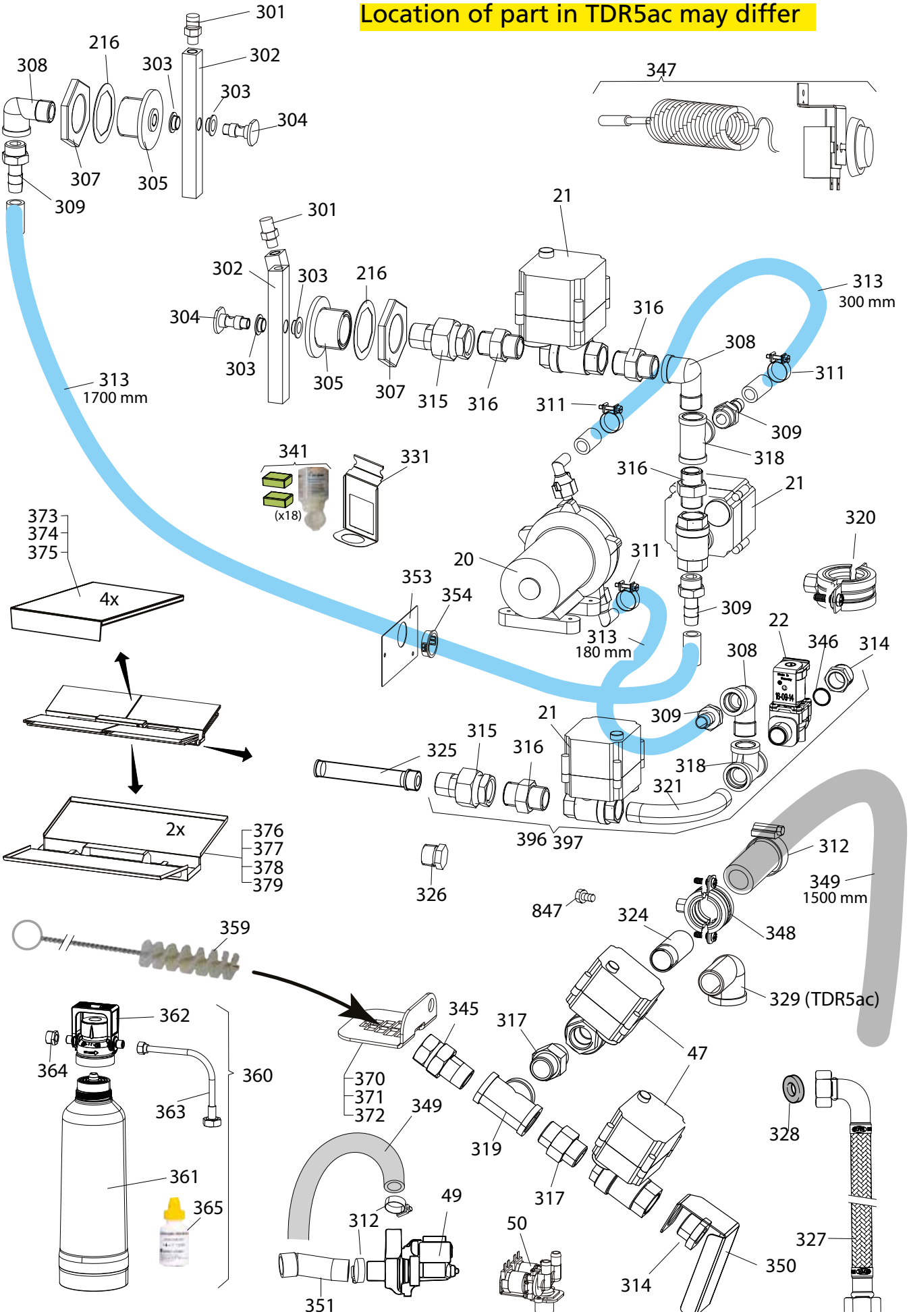
TDRAC, PARTSLIST CLEANING SYSTEM FROM SERIAL NR 100108720

Pos	Part nr.	Description	Qty	Priority
20	9311006s	Pump	1	1
21	9311008s	Motor valve -2/2 1/2"	3	1
22	9311007s	Solenoïd valve E 2/2 - 1/2" (reduced 9 ltr/min)	1	1
47	9311013s	Motor valve -2/2 3/4"	2	1
49	9312083s	Drain pump	1	1
50	9312085	Solenoïd double valve 1/2" (reduced 9 ltr/min)	1	1
216	9312019	Seal	3	2
301	9301007	Nozzle, spoon shape	2	
302	9312117	Spray arm TDR5ac and 8ac	2	
303	9311014	Collar bearing, Ø12xø10	4	1
304	9312012	Shaft , spray arm	2	2
305	9312011	Adapter, spray arm	2	
307	9311021	Nut, 3/4"	2	
308	3721050	Elbow threaded 1/2" (F-M) BSP	4	
309	9311011	Hose Pillar 1/2" (M) SS	4	
310	9311038	Hose clamp, 19-23 mm	6	
311	9311018	Hose clamp, 19-21 mm	6	
312	6000032	Hose clamp, 26-38 mm	2	
313	9301108	Hose 13x23	2,2 m	
314	9311028	Reducing bushing 3/4"x1/2", SS	1	
315	9311009	Union conicle 1/2" (M-F) SS	3	
316	3721047	Hexagon nipple threaded 1/2" (M-M) BSP	7	
317	3721029	Hexagon nipple threaded 3/4" (M-M) BSP	2	
318	3721046	Tee threaded 1/2" (F-F-F) BSP	3	
319	9301028	Tee threaded 3/4" (F-F-F) BSP	1	
320	2650194	Clamp, suspension, 26-30	1	
321	9311010	Bend 90° threaded 1/2" (M-M) SS	1	
324	9301006	Welding nipple, 3/4"	1	
325	9310401s	Suction filter	1	2
326	9313026	Plug 1/2"		
327	9191203	Water supply hose	1	
328	9191227	Gasket Ø24xø16x2	1	1
329	9301031	Elbow threaded 3/4" (F-M) BSP	1	
331	9314435	Deep-clean cartridge holder	1	1
339	9312163	Cartridge holder	1	2
341	9312078	Cleaning Tabs, box 36 Pcs + 18 DC Cartridge		
345	9301027	Union, conicle 3/4" (M-F) SS	1	

Pos	Part nr.	Description	Qty	Priority
346	9311033	O-ring	1	
347	9310157s	Heat tracing kit		
348	2650217	Clamp, suspension, 32-38	1	
349	9301059	Hose, ø25xØ33	1,5mtr	
350	9314070	Splash guard	1	
351	9311053	Preformed hose	1	
353	9314130	Suspension, Hose	1	
354	9171015	Grommet Ø 33 mm	3	
359	9191136	Pipe brush	1	
360	9308010	Water filtration system		1
361	9301073	Replacement filter cartridge		1
362	9301070	Filter head		
363	9301071	Hose 3/8"x 3/4" x 1,5 Mtr		
364	9301061	Reducing ring 3/4" x 3/8”		
365	9301074	Carbonate hardness test kit		
370	9314764	Grid, drain TDR5	1	
371	9314542	Grid, drain TDRac	1	
372	9314195	Grid, drain TDR8 untill 100104166	1	
373	9314765	Grease cover TDR5ac	4	
374	9314529	Grease cover TDR8+8ac and TD-R8ac from 100104167	4	
375	9314184	Grease cover TDR8ac untill 100104166	4	
376	9310328s	Filter screen TD-R5ac from serial nr 100103281	2	
377	9310272s	Filter screen TDR5ac, untill 100103280	2	
378	9310208s	Filter screen TDR8+8ac and TD-R8ac from 100104167	2	
379	9310405s	Filter screen TDR8ac untill 100104166	2	
396	9310277s	Water supply assembly, TDR5ac		
397	9310087s	Water supply assembly, TDR8ac		
398	9310098s	2 Pumps conversion kit with wiring		
399	9314117	Bracket for 2 pumps	1	

TDRAC, CLEANING SYSTEM UNTILL SERIAL NUMBER 100199999

Location of part in TDR5ac may differ

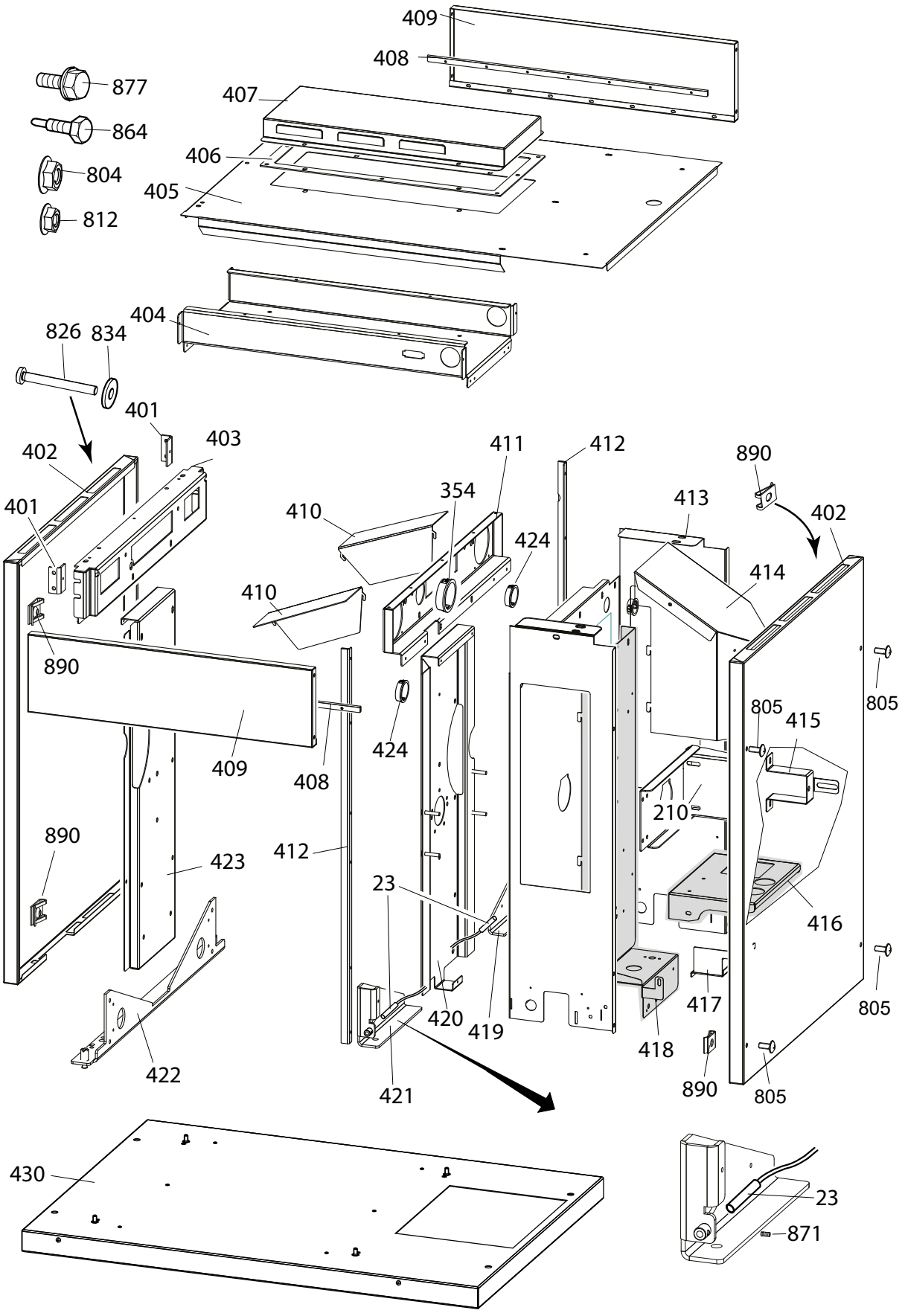


TDRAC, PARTSLIST CLEANING SYSTEM

Pos	Part nr.	Description	Qty	Priority
20	9311006s	Pump	1	1
21	9311008s	Motor valve -2/2 1/2"	3	1
22	9311007s	Solenoïd valve E 2/2 - 1/2" (reduced 9 ltr/min)	1	1
47	9311013s	Motor valve -2/2 3/4"	2	1
49	9312083s	Drain pump	1	1
50	9312085	Solenoïd double valve 1/2" (reduced 9 ltr/min)	1	1
216	9312019	Seal	3	2
301	9301007	Nozzle, spoon shape	2	
302	9312117	Spray arm TDR5ac and 8ac	2	
303	9311014	Collar bearing, Ø12xø10	4	1
304	9312012	Shaft , spray arm	2	2
305	9312011	Adapter, spray arm	2	
307	9311021	Nut, 3/4"	2	
308	3721050	Elbow threaded 1/2" (F-M) BSP	4	
309	9311011	Hose Pillar 1/2" (M) SS	4	
310	9311038	Hose clamp, 19-23 mm	6	
311	9311018	Hose clamp, 19-21 mm	6	
312	6000032	Hose clamp, 26-38 mm	2	
313	9301108	Hose 13x23	2,2 m	
314	9311028	Reducing bushing 3/4"x1/2", SS	1	
315	9311009	Union conicle 1/2" (M-F) SS	3	
316	3721047	Hexagon nipple threaded 1/2" (M-M) BSP	7	
317	3721029	Hexagon nipple threaded 3/4" (M-M) BSP	2	
318	3721046	Tee threaded 1/2" (F-F-F) BSP	3	
319	9301028	Tee threaded 3/4" (F-F-F) BSP	1	
320	2650194	Clamp, suspension, 26-30	1	
321	9311010	Bend 90° threaded 1/2" (M-M) SS	1	
324	9301006	Welding nipple, 3/4"	1	
325	9310401s	Suction filter	1	2
326	9313026	Plug 1/2"		
327	9191203	Water supply hose	1	
328	9191227	Gasket Ø24xø16x2	1	1
329	9301031	Elbow threaded 3/4" (F-M) BSP	1	
331	9314435	Deep-clean cartridge holder	1	1
341	9312078	Cleaning Tabs, box 36 Pcs + 18 DC Cartridge		
345	9301027	Union, conicle 3/4" (M-F) SS	1	
346	9311033	O-ring	1	

Pos	Part nr.	Description	Qty	Priority
347	9310157s	Heat tracing kit		
348	2650217	Clamp, suspension, 32-38	1	
349	9301059	Hose, ø25xØ33	1,5mtr	
350	9314070	Splash guard	1	
351	9311053	Preformed hose	1	
353	9314130	Suspension, Hose	1	
354	9171015	Grommet Ø 33 mm	3	
359	9191136	Pipe brush	1	
360	9308010	Water filtration system		1
361	9301073	Replacement filter cartridge		1
362	9301070	Filter head		
363	9301071	Hose 3/8"x 3/4" x 1,5 Mtr		
364	9301061	Reducing ring 3/4" x 3/8”		
365	9301074	Carbonate hardness test kit		
370	9314764	Grid, drain TDR5	1	
371	9314542	Grid, drain TDRac	1	
372	9314195	Grid, drain TDR8 untill 100104166	1	
373	9314765	Grease cover TDR5ac	4	
374	9314529	Grease cover TDR8+8ac and TD-R8ac from 100104167	4	
375	9314184	Grease cover TDR8ac untill 100104166	4	
376	9310328s	Filter screen TD-R5ac from serial nr 100103281	2	
377	9310272s	Filter screen TDR5ac, untill 100103280	2	
378	9310208s	Filter screen TDR8+8ac and TD-R8ac from 100104167	2	
396	9310277s	Water supply assembly, TDR5ac		
397	9310087s	Water supply assembly, TDR8ac		
379	9310405s	Filter screen TDR8ac untill 100104166	2	

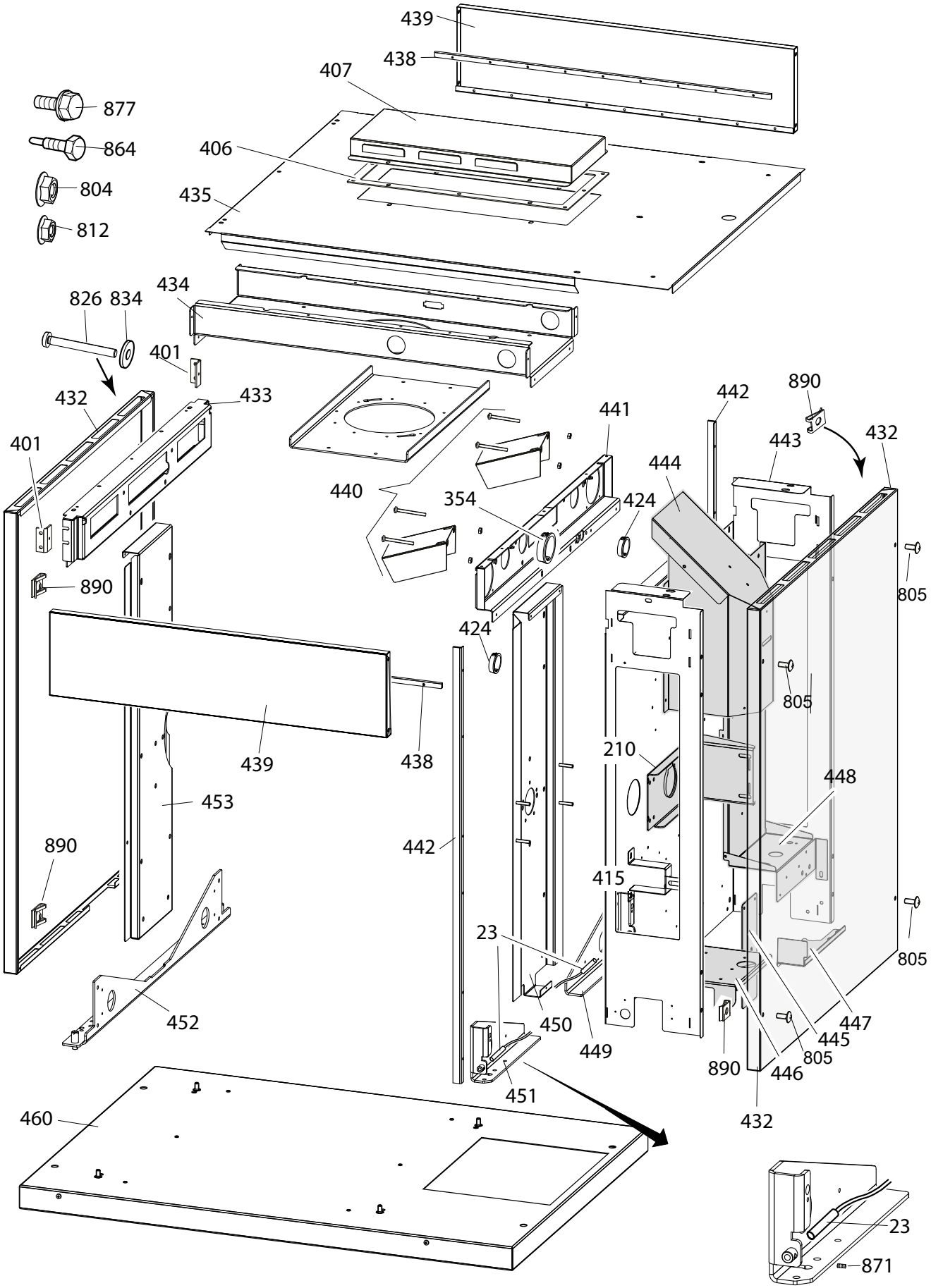
TDR5AC, SHEET METAL



TDR5AC, PARTSLIST SHEET METAL

Pos	Part nr.	Description	Qty	Priority	Comment
23	3500020	Reed switch	2		
210	9290444	Suspension plate, rotor motor	1		
354	9171015	Grommet Ø 33 mm	3		
401	9314318	Bracket door adjustment	2		
402	9314833	Side panel L/R, TDR5ac	2		
403	9314851	Reinforcement beam L top, TDR5ac	1		
404	9314850	Reinforcement beam top, TDR5ac	1		
405	9314834	Top panel, TDR5ac	1		
406	9292082	Seal top	1		
407	9294160	Top cover	1		
408	9314845	Mounting strip, TDR5ac	2		
409	9314846	Front / back panel, TDR5ac	2		
410	9314060	Cooling air guide	2		
411	9314853	Reinforcement beam R top, TDR5ac	1		
412	9310329	Magnet strip, TDR5ac	2		
413	9314714	Electric compartment, TDR5ac	1		
414	9314858	Air guide of fan, rotor motor, TDR5ac	1		
415	9314766	Support, sprinkler valves	1		
416	9310276	Support, pump, TDR5ac	1		
417	9314728	Support, waterinlet valve, TDR5ac	1		
418	9314726	Support, Electric parts, TDR5ac	1		
419	9310521	Support, oven R back, TDR5ac	1		
420	9314854	Reinforcement beam R, TDR5ac	1		
421	9310520	Support, oven R front, TDR5ac	1		
422	9314857	Support, oven / doors, TDR5ac	1		
423	9314852	Reinforcement beam L, TDR5ac	1		
424	9070840	Grommet Ø 23 mm	6		
430	9310287s	Sub frame for TDR5ac on counter	1		

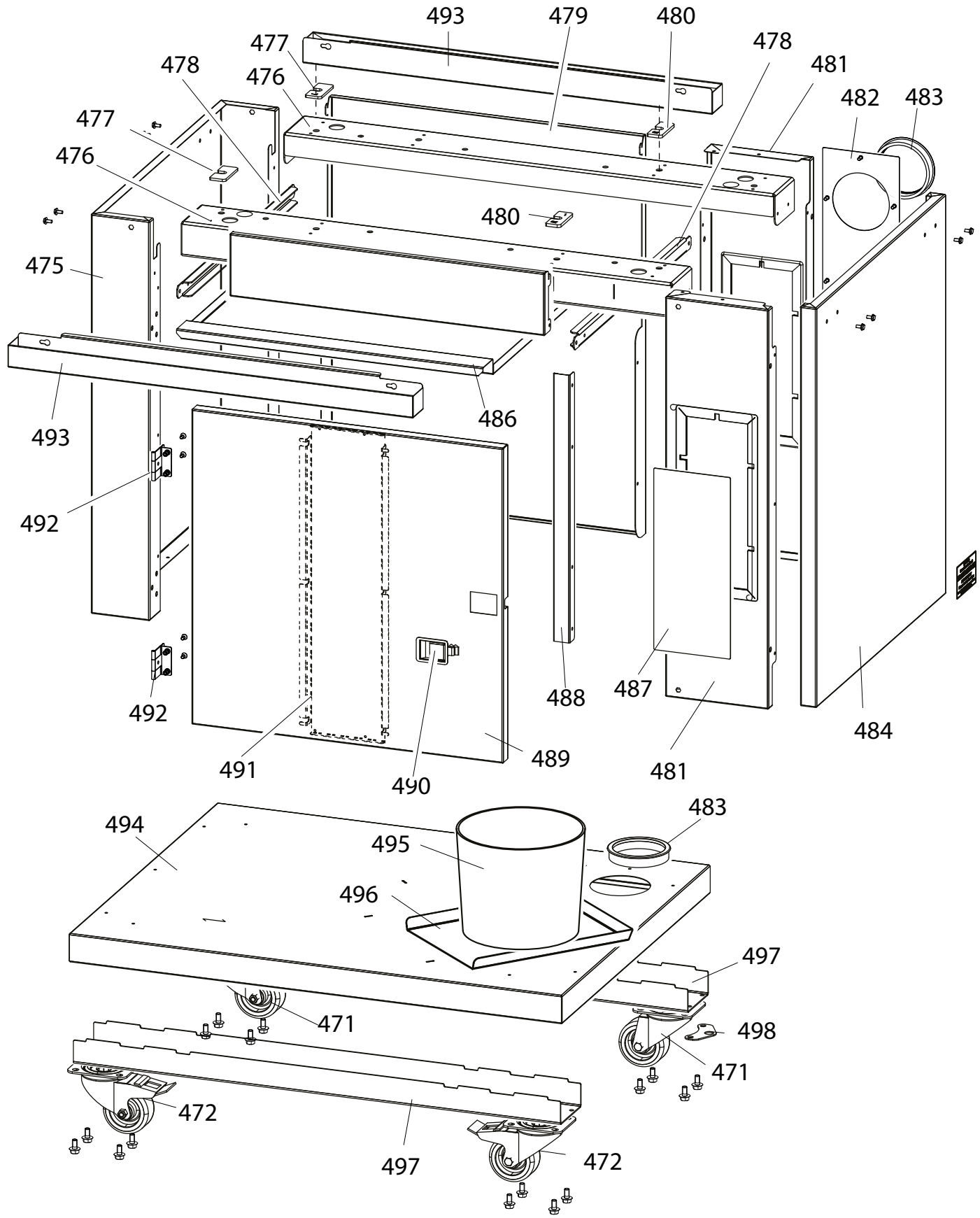
TDR8AC, SHEET METAL



TDR8 AC, PARTSLIST SHEET METAL

Pos	Part nr.	Description	Qty	Priority	Comment
23	3500020	Reed switch	2		
210	9290444	Suspension plate, rotor motor	1		
354	9171015	Grommet Ø 33 mm	3		
415	9314766	Support, sprinkler valves	1		
401	9314318	Bracket door adjustment	2		
406	9292082	Seal top	1		
407	9294160	Top cover	1		
424	9070840	Grommet Ø 23 mm	6		
432	9314454	Side panel L/R, TDR8ac	2		
433	9314481	Reinforcement beam L top, TDR8ac	1		
434	9314485	Reinforcement beam top, TDR8ac	1		
435	9314455	Top panel, TDR8ac	1		
438	9314402	Mounting strip, TDR8ac	2		
439	9314403	Front / back panel, TDR8ac	2		
440	9314060s	Cooling air guide, ass, TDR8ac	1		
441	9314482	Reinforcement beam R top, TDR8ac	1		
442	9310485	Magnet strip, TDR8ac	2		
443	9314100	Electric compartment, TDR8ac	1		
444	9314486	Air guide of fan, rotor motor, TDR8ac	1		
445	9314069	Support, sewer valve, TDR8ac	1		
446	9314066	Support, pump, TDR8ac	1		
447	9314169	Bracket, valve	1		
448	9314420	Support, Electric parts, TDR8ac	1		
449	9314406	Support, oven R back, TDR8ac	1		
450	9314484	Reinforcement beam R, TDR8ac	1		
451	9314405	Support, oven R front, TDR8ac	1		
452	9310443	Support, oven / doors, TDR8ac	1		
453	9314483	Reinforcement beam L, TDR8ac	1		
460	9310185s	Sub frame for TDR8ac on counter			

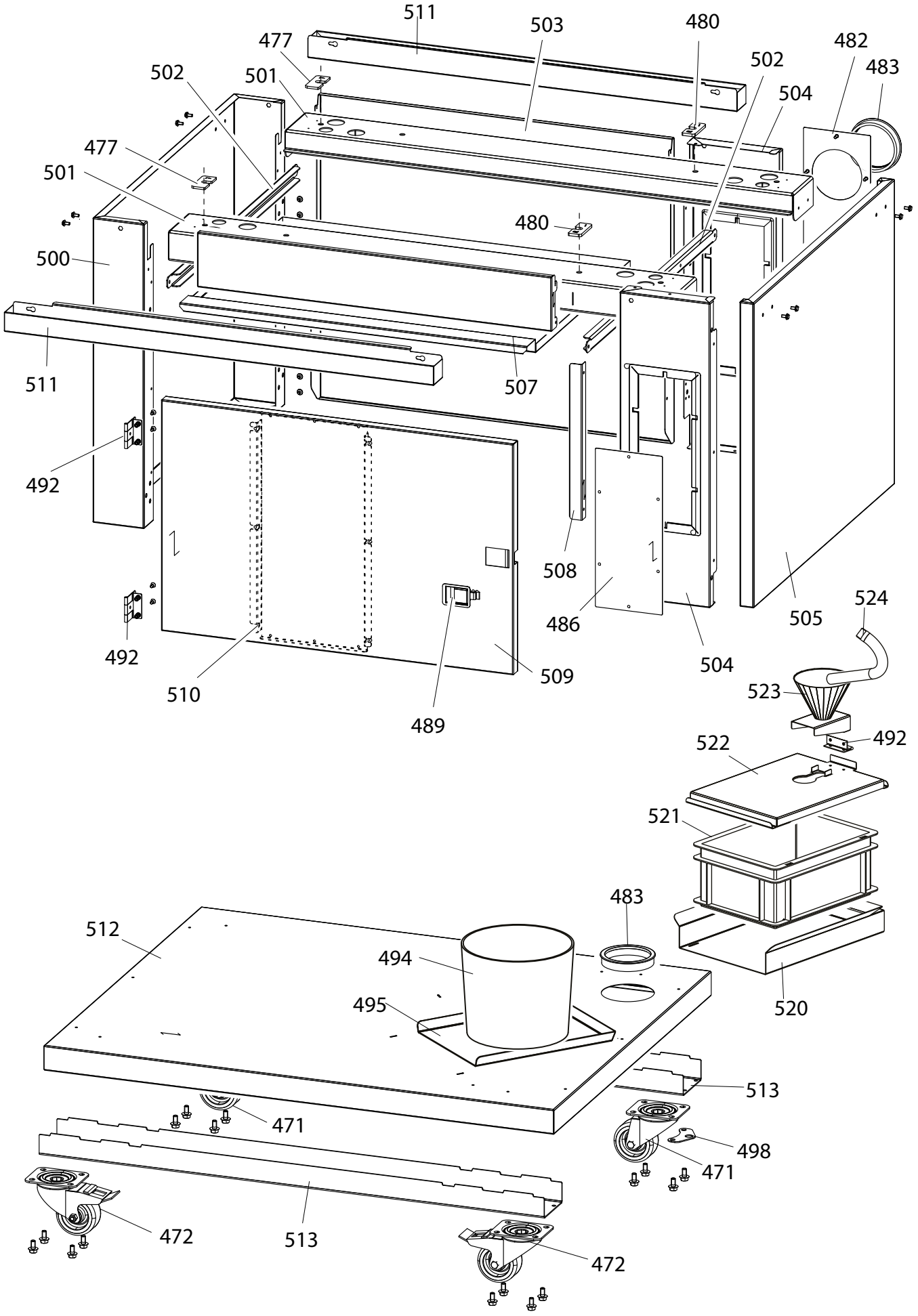
TDR5 AC, UNDERFRAME



TDR5 AC, PARTSLIST UNDERFRAME

Pos	Part nr.	Description	Qty	Priority	Comment
475	9314831	Side panel L	1		
476	9314773	Construction beam	2		
477	9314557	Shim L	2		
478	9314774	Drawer support	2		
479	9314835	Back panel	1		
480	9314556	Shim R	2		
481	9314777	Panel small	2		
482	9314329	Cover, with transit	1		
483	9171141	Grommet, 88.4mm	1		
484	9314830	Side panel R	1		
486	9314775	Drawer	1		
487	9314328	Cover, operator side	1		
488	9314782	Locking profile	1		
489	9314832s	Door	1		
490	9191107	Lock	1		
491	9314778	Reinforcement profile, door	1		
492	9311025	Hinge	2		
493	9314772	Drip tray	2		
494	9314781	Bottom plate	1		
495	9191099	Bucket, plastic 11.3 ltr	1		
496	9314313	Guide, bucket	1		
497	9314780	Construction beam	2		
498	9294298	Tether bracket	1		

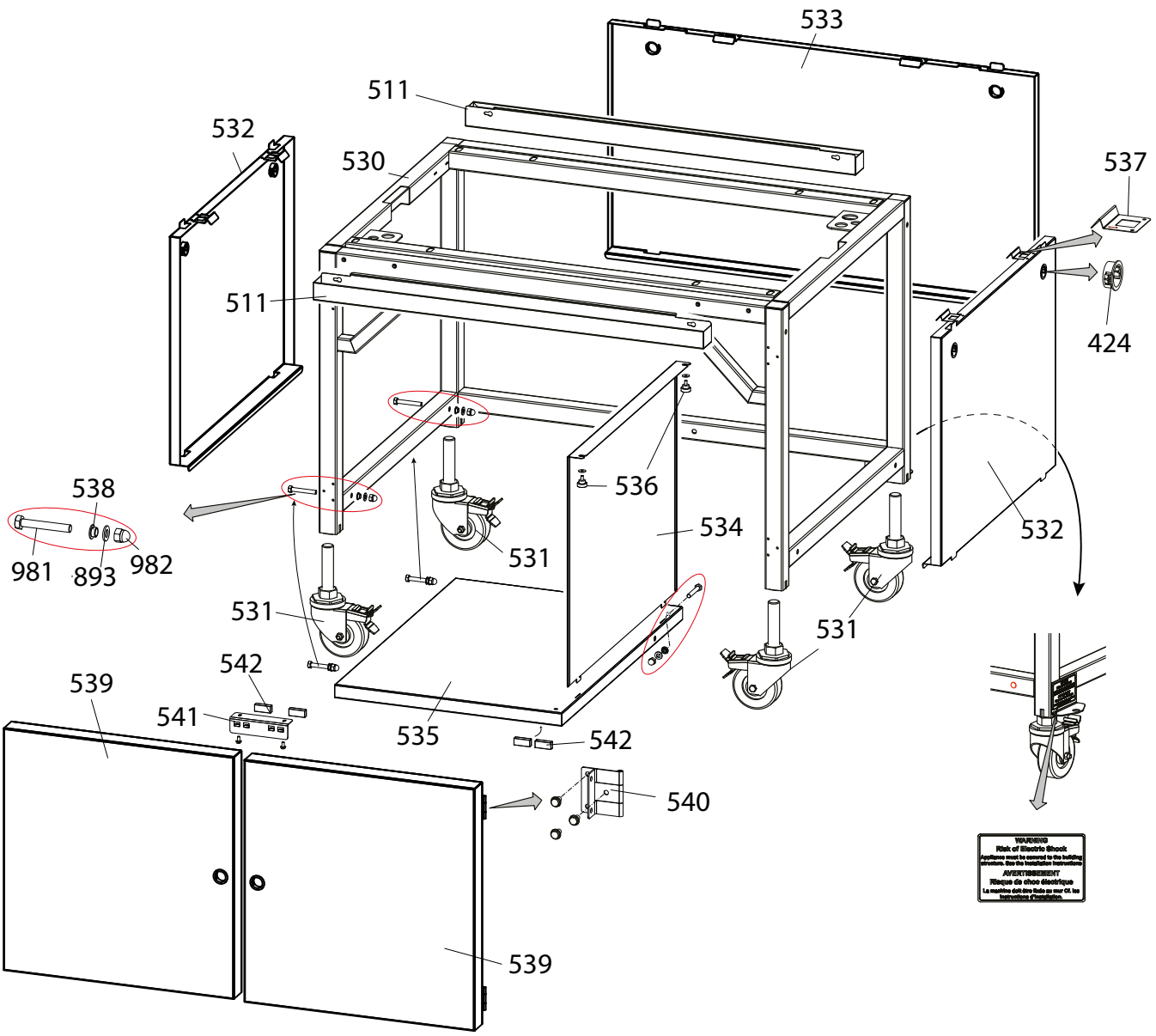
TDR8 AC, UNDER FRAME



TDR8 AC, PARTSLIST UNDER FRAME

Pos	Part nr.	Description	Qty	Priority	Comment
471	9172065	Swivel castor	2		
472	9172066	Swivel castor with brake	2		
477	9314557	Shim L	2		
480	9314556	Shim R	2		
483	9171141	Grommet, 88.4mm	1		
486	9314775	Drawer	1		
489	9314832s	Door	1		
492	9311025	Hinge	2		
494	9314781	Bottom plate	1		
495	9191099	Bucket, plastic 11.3 ltr	1		
498	9294298	Tether bracket	1		
500	9314002	Side panel L	1		
501	9314009	Construction beam	2		
502	9314300	Drawer support	2		
503	9314008	Back panel	1		
504	9314327	Panel small	2		
505	9314004	Side panel R	1		
507	9314301	Drawer	1		
508	9314011	Locking profile	1		
509	9314420s	Door	1		
510	9314409	Reinforcement profile, door	1		
511	9314320	Drip tray	2		
512	9314001	Bottom plate	1		
513	9314302	Construction beam	2		
520	9304323	Guide, grease box	1		Only in grease collection system
521	9191149	Grease box	1		Only in grease collection system
522	9300465	Cover, grease box	1		Only in grease collection system
523	9300466	Funnel	1		Only in grease collection system
524	9312047	Bend 3/4" 150°	1		Only in grease collection system

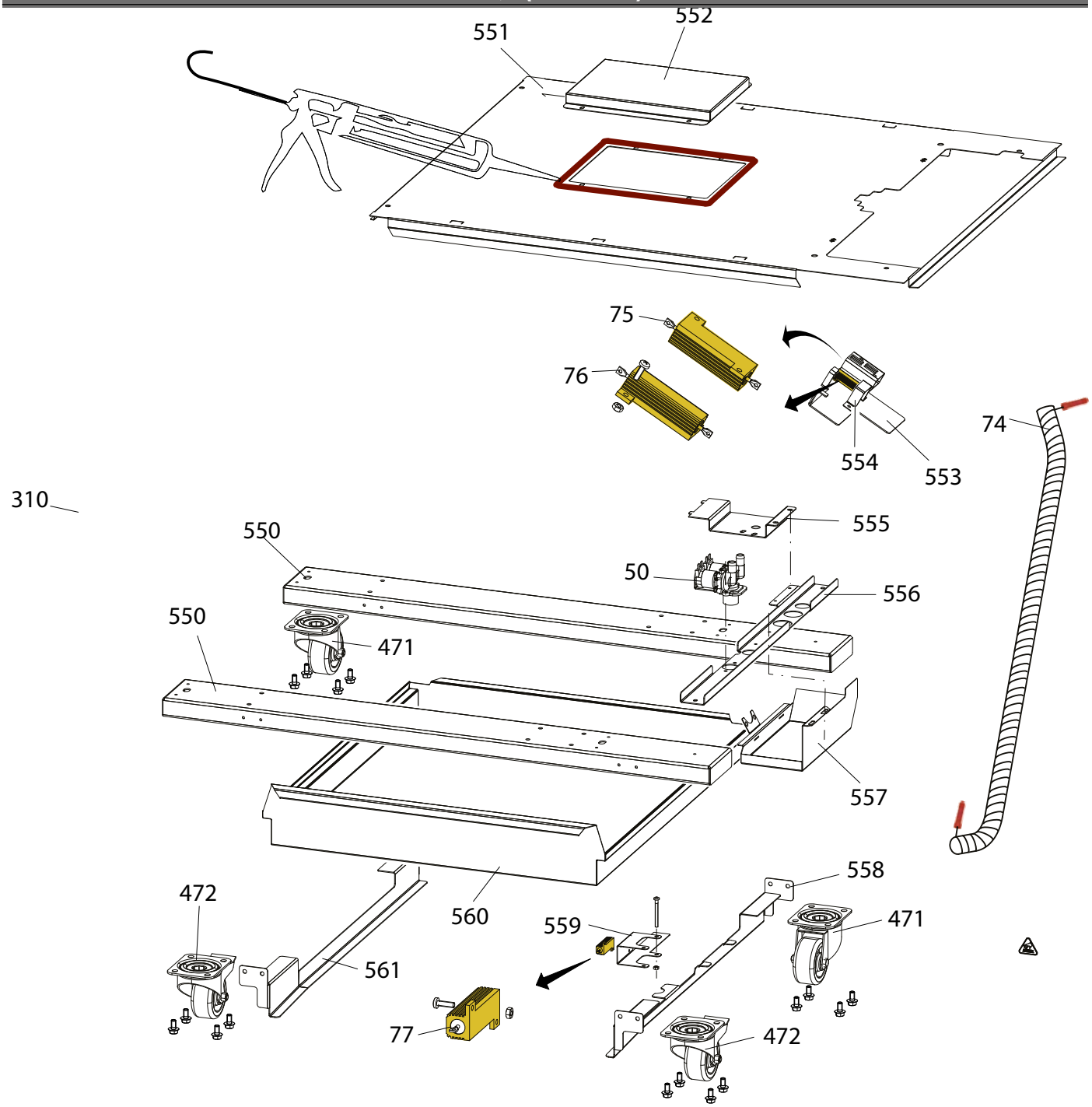
TDR8 AC, OPEN UNDERFRAME



TDR8 AC, PARTSLIST OPEN UNDERFRAME

Pos	Part nr.	Description	Qty	Priority	Comment
424	9070840	Grommet Ø 23 mm	6		
511	9314320	Drip tray	2		
530	9310488	Welded frame	1		
531	9190177	Castor ass.	4		
532	9314603	Side panel L/R ass.	2		
533	9314610	Rear Panel ass.	1		
534	9344117	Center panel	1		
535	9314611	Bottom	1		
536	9191176	Knurled knob	2		
537	9314604	Spring	6		
538	9191102	Collar bearing	3		
539	9314614	Door ass.	2		
540	9312152	Hinge	4		
541	9314615	Door stop	1		
542	9191182	Magnet neodymium	4		

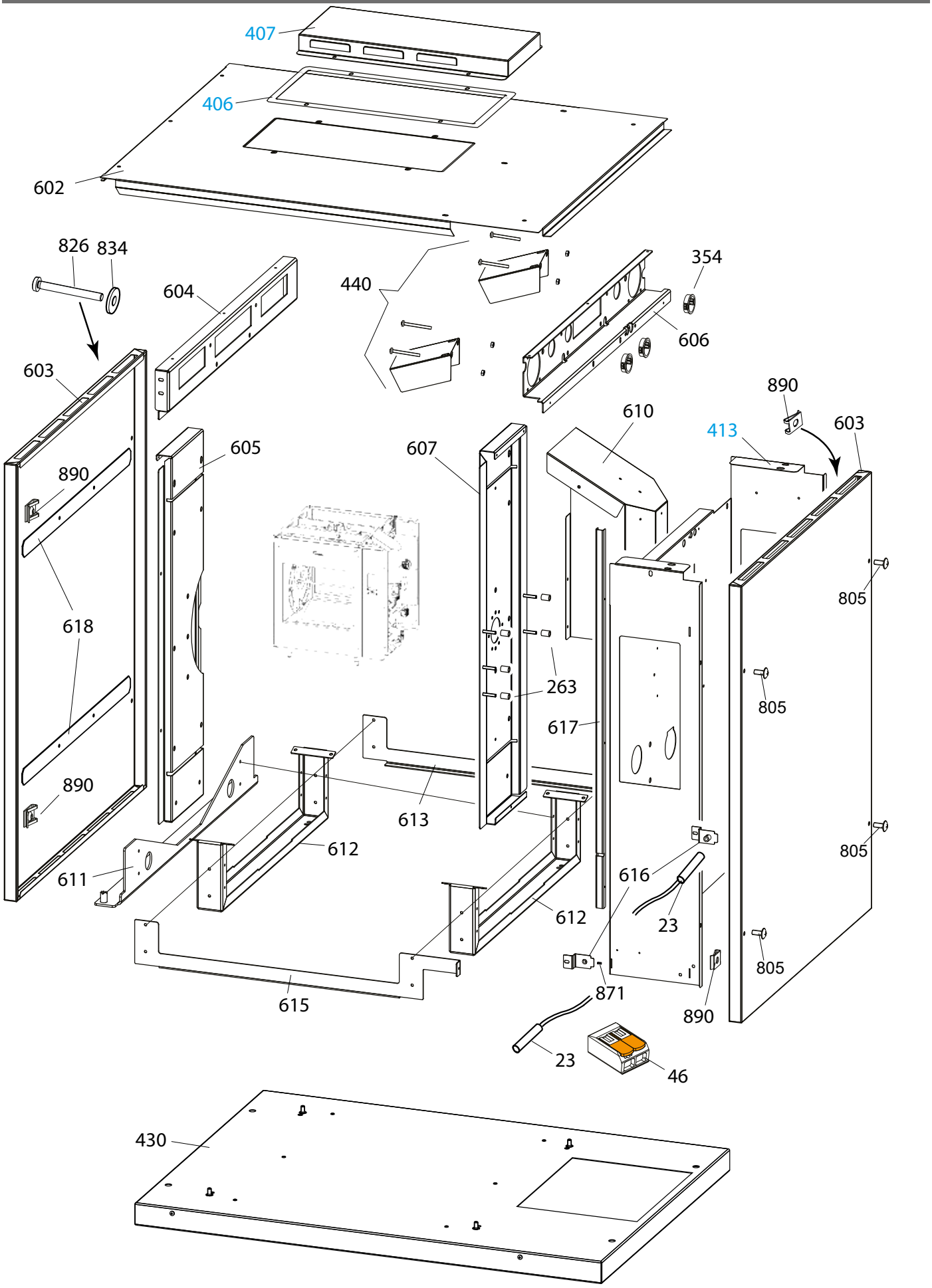
TDR8+8 AC, (EXTRA) PARTS



TDR8+8 AC, PARTSLIST (EXTRA) PARTS

Pos	Part nr.	Description	Qty	Priority	Comment
50	9312085	Solenoïd double valve 1/2" (reduced 9 ltr/ min)	1	1	
74	9313055s	Heated hose	1		
75	9311061	Resistor 2 ohm 50Watt	1		
76	9311063	Resistor 4 ohm 50Watt	1		
77	9311064	Resistor 39 ohm 50Watt	1		
471	9172065	Swivel castor	2		
472	9172066	Swivel castor with brake	2		
550	9314465	Construction beam	2		
551	9314456	Top plate stacked lower unit	1		
552	9314459	Top cover stacked lower unit	1		
553	9314562	Heating plate upper stacked unit	1		
554	9314561	Bracket	1		
555	9314464	Support, sewer pump lower unit	1		
556	9314467	Connection support	1		
557	9314479	Spark guard	1		
558	9314469	Tray guide R	1		
559	9314563	Heating plate lower stacked unit	1		
560	9314517	Grease tray	1		
561	931468	Tray guide L	1		

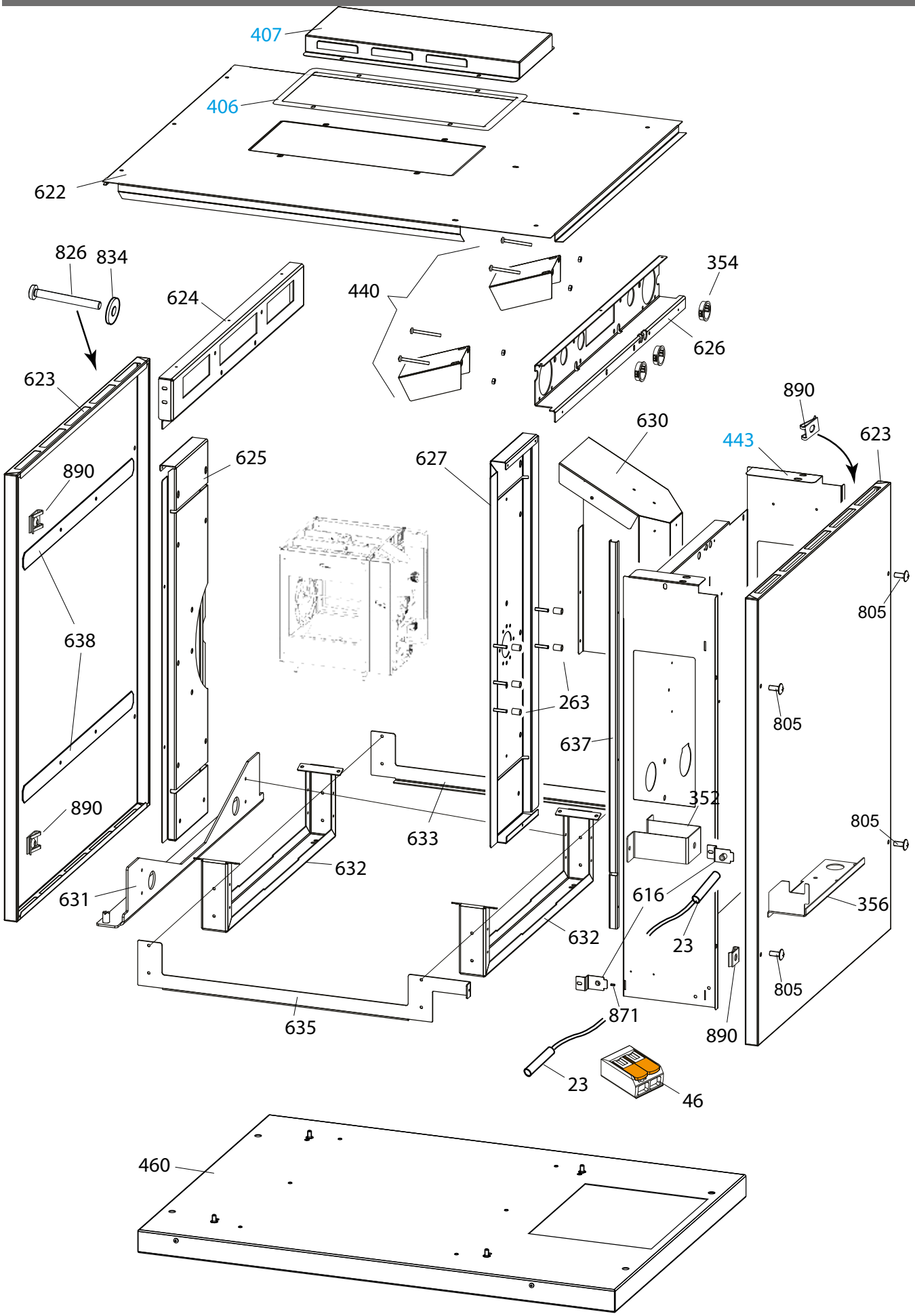
TDR 5 AC SHEET METAL UNTILL 100103281



TDR 5 AC PARTS LIST SHEET METAL UNTILL 100103281

Pos	Part nr.	Description	Qty	Priority	Comment
23	3500020	Reed switch	2	2	
46	9291122	Connector, 2 pole			
263	9293004	Spacer. 12 mm	9		
354	9171015	Grommet Ø 33 mm	3		
406	9292082	Seal top	1		
407	9294160	Top cover	1		
413	9314714	Electric compartment, TDR5ac	1		
430	9310287s	Sub frame for TDR5ac on counter	1		
440	9314060s	Cooling air guide, ass, TDR8ac	1		
602	9314723	Top panel, TDR5ac	1		
603	9314724	Side panel, TDR5ac	2		
604	9314715	Reinforcement bracket, top left, TDR5ac	1		
605	9314718	Reinforcement bracket, left, TDR5ac	1		
606	9314716	Reinforcement bracket, top right, TDR5ac	1		
607	9314717	Reinforcement bracket, right, TDR5ac	1		
610	9314712	Air guide of fan, rotor motor TDR5 ac	1		
611	9310252	Door hinge suspension., TDR5ac	1		
612	9314708	Oven suspension, TDR5ac	2		
613	9314709	Support, oven suspension, back, TDR5ac	1		
615	9314707	Support, oven suspension, front, TDR5ac	1		
616	9310421	Bracket, reed switch	2		
617	9314720	Magnetic bracket, TDR5ac	2		
618	9314784	Strip, insulation mounting, TDR5ac	2		

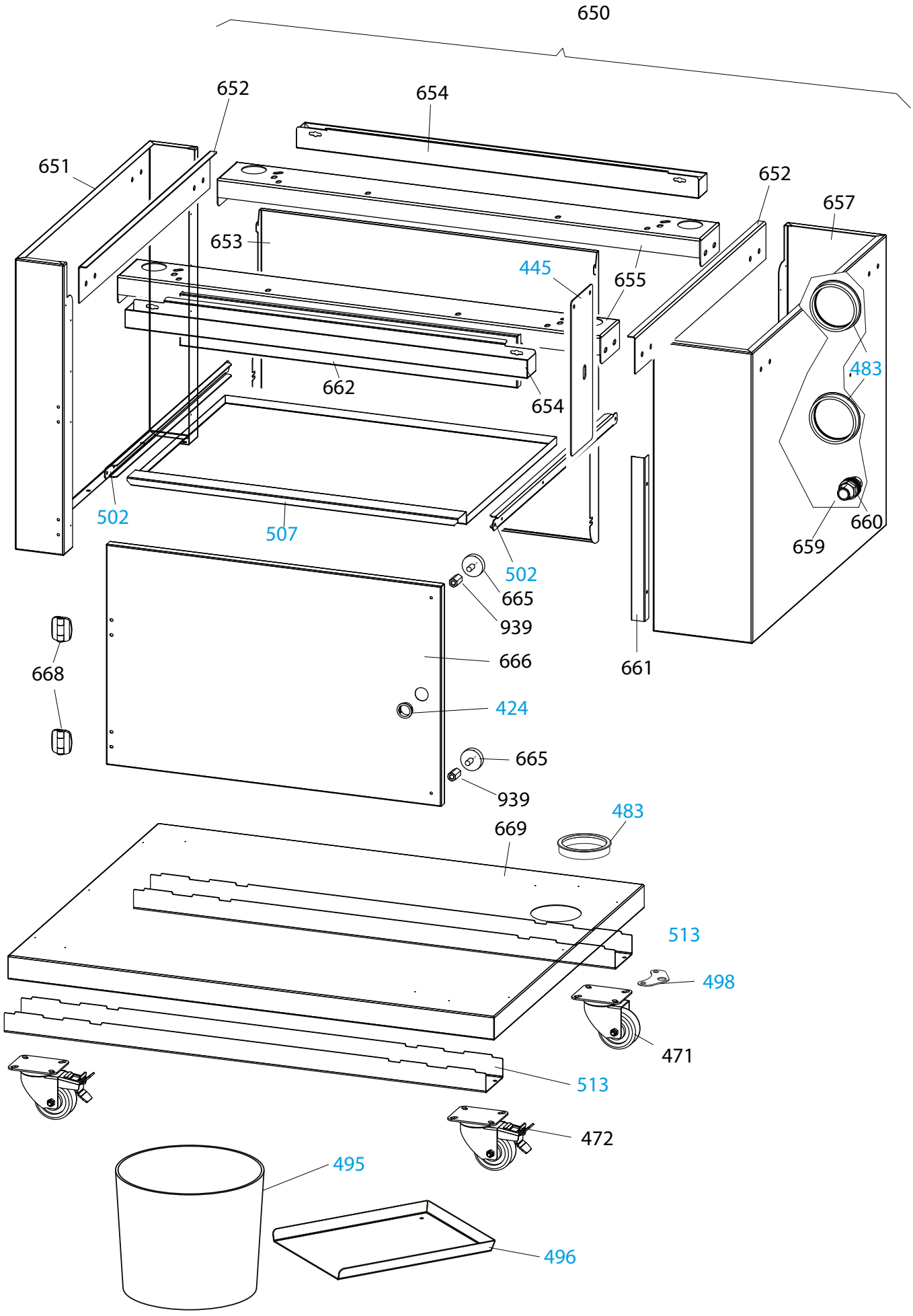
TDR8 AC SHEET METAL UNTILL 100104166



TDR8 AC PARTS LIST SHEET METAL UNTILL 100104166

Pos	Part nr.	Description	Qty	Priority	Comment
23	3500020	Reed switch	2	2	
46	9291122	Connector, 2 pole			
263	9293004	Spacer. 12 mm	9		
354	9171015	Grommet Ø 33 mm	3		
443	9314100	Electric compartment, TDR8ac	1		
460	9310185	Sub frame for TDR8ac on counter			
616	9310421	Bracket, reed switch	2		
622	9314063	Top panel, TDR8ac	1		
623	9314062	Side panel, TDR8ac	2		
624	9314133	Reinforcement bracket, top left, TDR8ac	1		
625	9314132	Reinforcement bracket, left, TDR8ac	1		
626	9314135	Reinforcement bracket, top right, TDR8ac	1		
627	9314134	Reinforcement bracket, right, TDR8ac	1		
630	9314173	Air guide of fan rotor motor TDR8 ac	1		
631	9310414	Door hinge suspension., TDR8ac	1		
632	9314120	Oven suspension, TDR8ac	2		
633	9314122	Support, oven suspension, back, TDR8ac	1		
635	9314121	Support, oven suspension, front, TDR8ac	1		
637	9310422	Magnetic bracket, TDR8ac	2		
638	9314188	Strip, insulation mounting, TDR8ac	2		

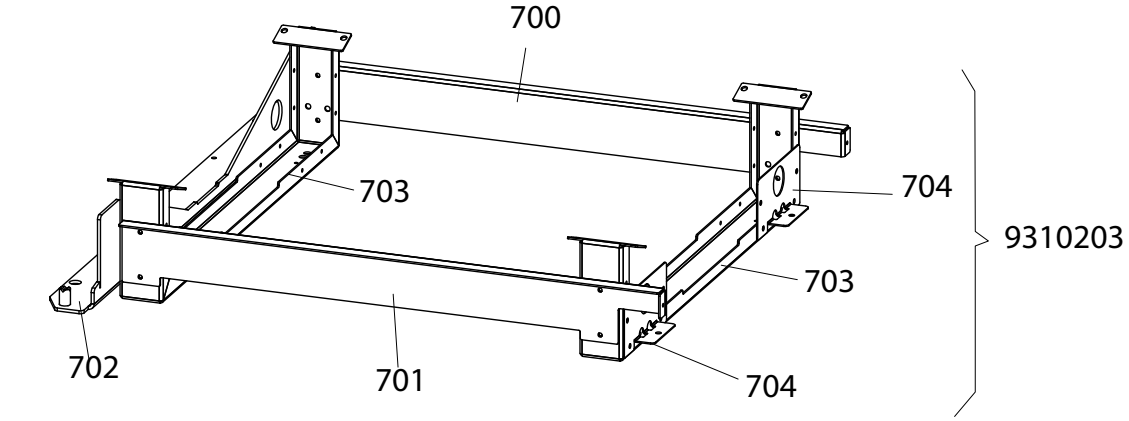
TDR8 AC UNDERFRAME UNTILL 100104166

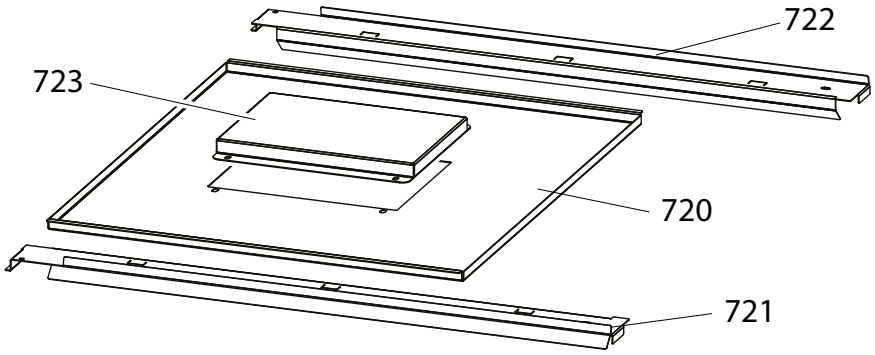


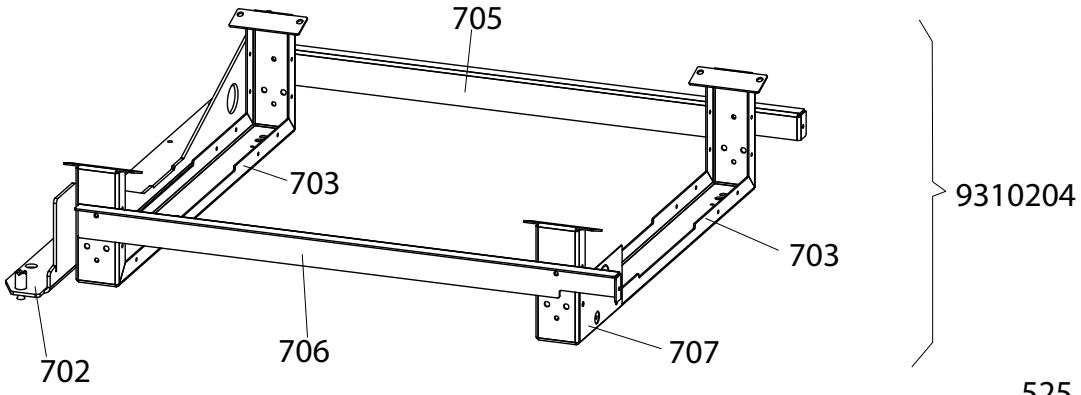
TDR8 AC PARTS LIST UNDERFRAME UNTILL 100104166

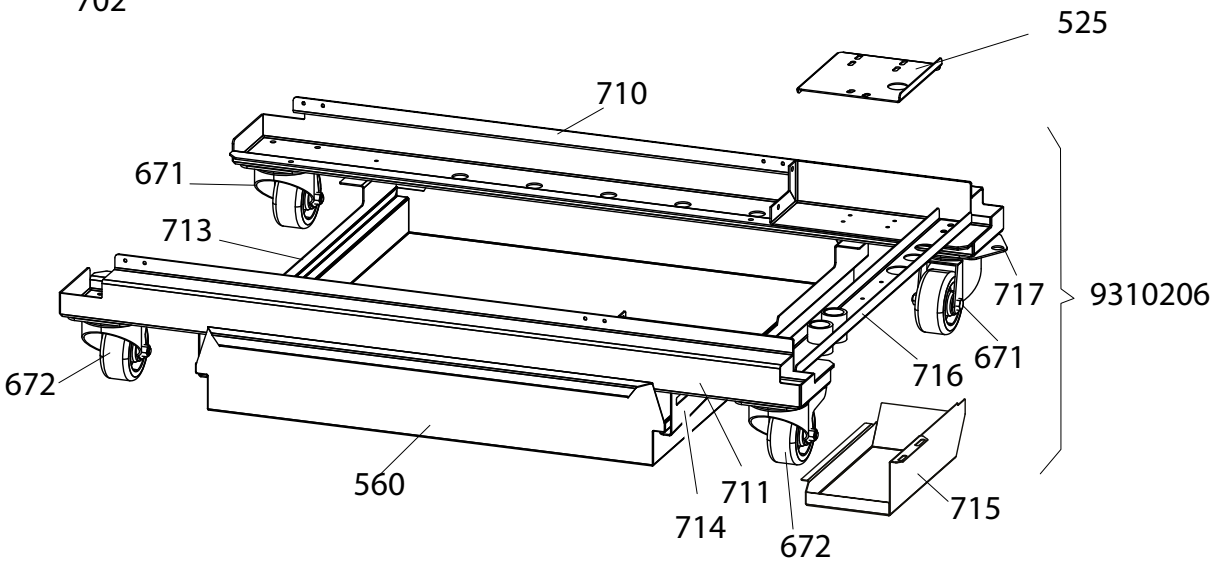
Pos	Part nr.	Description	Qty	Priority	Comment
413	9314714	Electric compartment, TDR5ac	1		
424	9070840	Grommet Ø 23 mm	6		
445	9314069	Support, sewer valve, TDR8ac	1		
471	9172065	Swivel castor	2		
472	9172066	Swivel castor with brake	2		
483	9171141	Grommet, 88.4mm	1		
495	9191099	Bucket, plastic 11.3 ltr	1		
496	9314313	Guide, bucket	1		
502	9314300	Drawer support	2		
507	9314301	Drawer	1		
651	9314305	Side panel, left, underframe	1		
652	9314315	Bracket, underframe	2		
653	9314308	Back panel, underframe	1		
654	9314311	Gutter, drip water	2		
655	9314310	Construction profile	1		
657	9314304	Side panel, right, underframe	1		
659	9303028	Nipple, 3/4” BSP (30mm), SS	1		
660	9194457	Nut, 3/4"	1		
661	9314314	Magnetic strip	1		
662	9314307	Front panel, underframe	1		
665	9084077	Magnet, Ø22mm	2		
666	9314316	Door	1		
668	9191106	Hinge	2		
669	9314306	Bottom plate, underframe	1		

TDR8+8 AC, (EXTRA) PARTS UNTILL 100104166





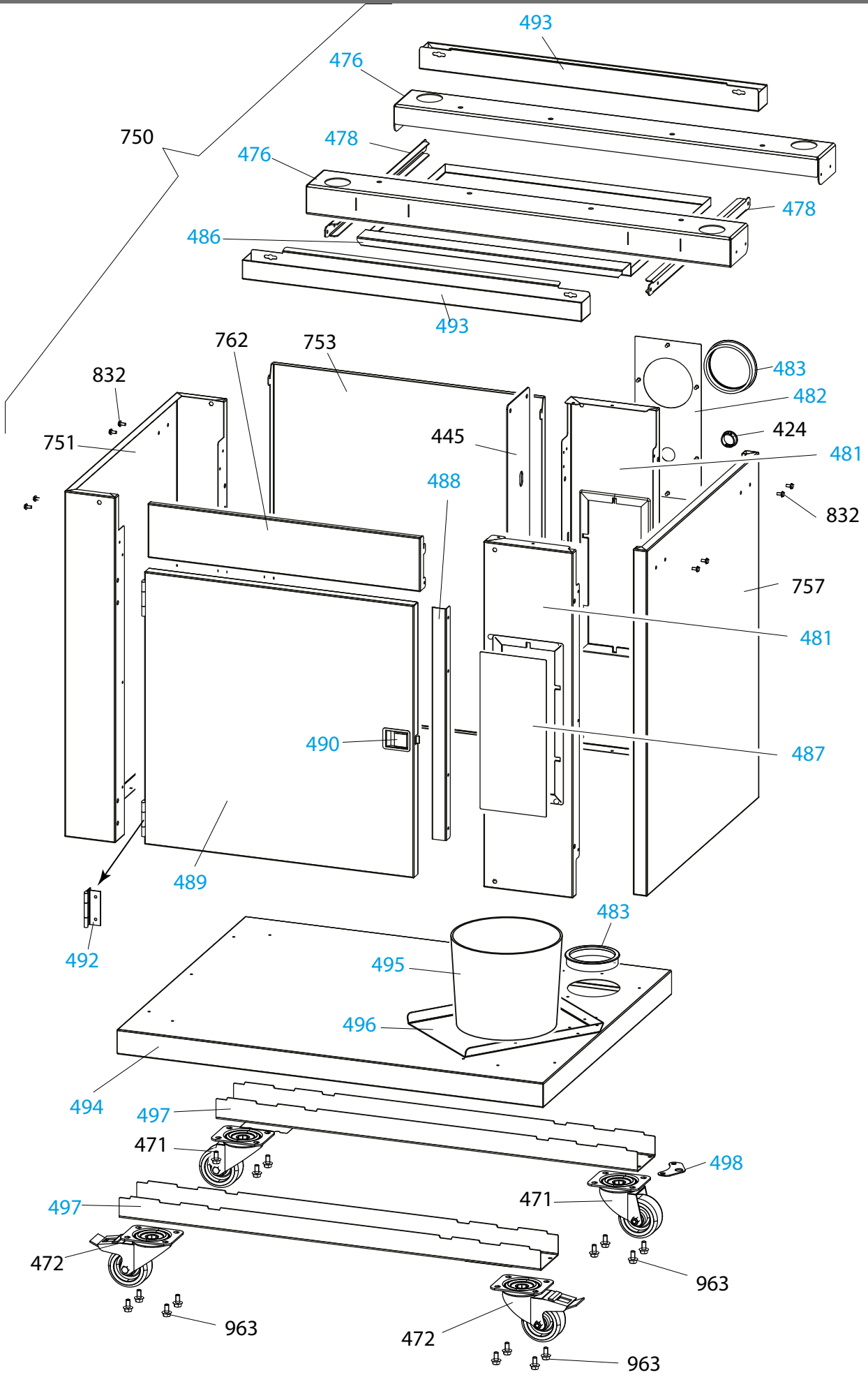




TDR8+8 AC, PARTSLIST (EXTRA) PARTS UNTILL 100104166

Pos	Part nr.	Description	Qty	Priority	Comment
700	9314510	Upper back, frame	1		
701	9314509	Upper front, frame	1		
702	9310461	Ass. frame hinge	1		
703	9314505	Oven suspension	2		
704	9314511	Fixation bracket	2		
705	9314506	Lower back, frame	1		
706	9314507	Lower front, frame	1		
707	9314538	Position plate, hose	1		
710	9310462	Rear beam, underframe	1		
711	9310463	Front beam, underframe	1		
713	9314522	Tray guide left	1		
714	9314519	Tray guide right	1		
715	9314536	Spark catcher	1		
716	9310465	Connection profile	1		
717	9314539	Tether bracket	1		
720	9314512	Top, lower unit	1		
721	9314513	Front, top lower unit	1		
722	9314514	Back , top lower unit	1		
723	9314515	Cover, lower blower	1		

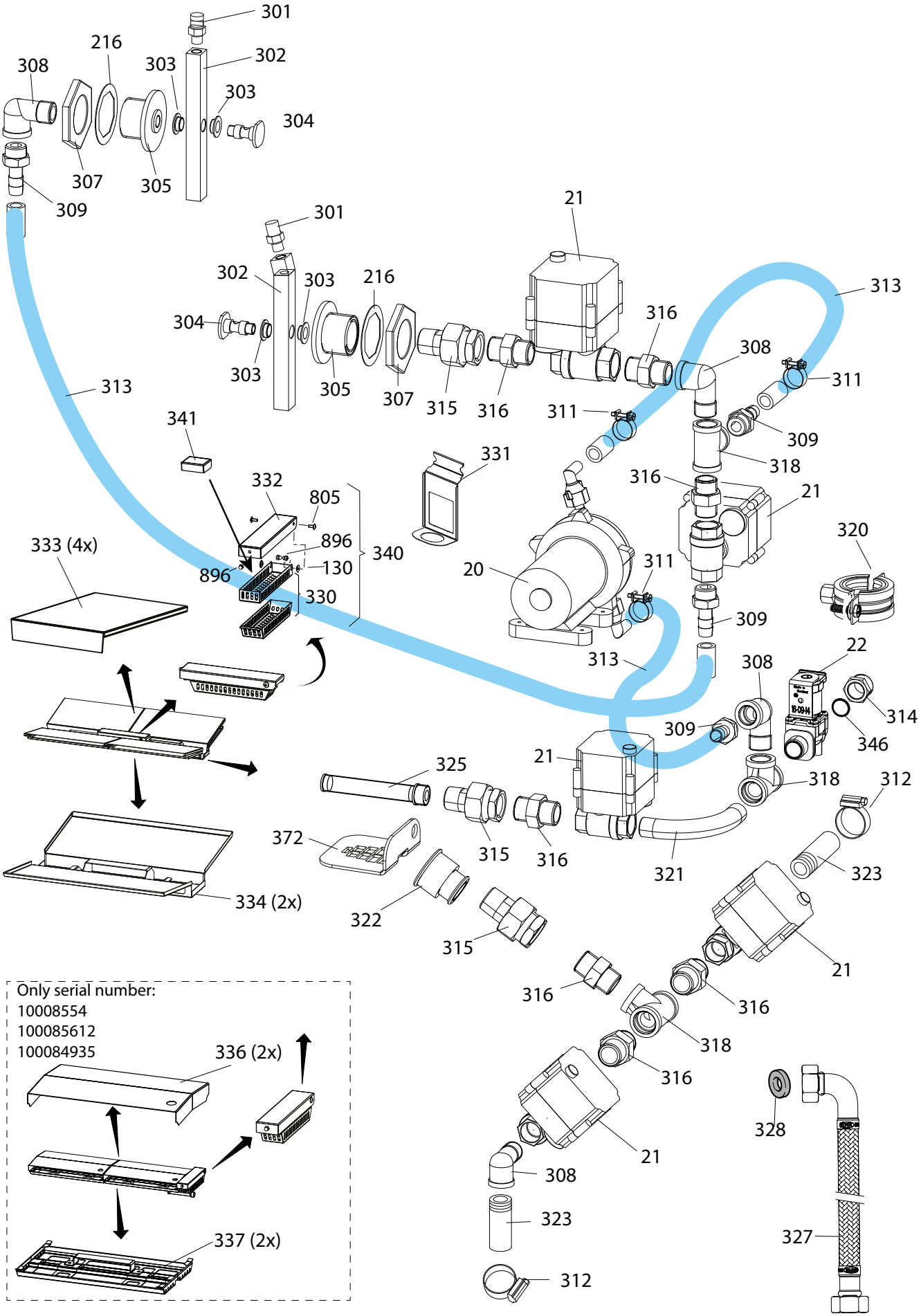
TDR5 AC UNDERFRAME UNTILL 100103281



TDR5 AC PARTS LIST UNDERFRAME UNTILL 100103281

Pos	Part nr.	Description	Qty	Priority	Comment
424	9070840	Grommet Ø 23 mm	6		
445	9314069	Support, sewer valve, TDR8ac	1		
471	9172065	Swivel castor	2		
472	9172066	Swivel castor with brake	2		
476	9314773	Construction beam	2		
478	9314774	Drawer support	2		
481	9314777	Panel small	2		
482	9314329	Cover, with transit	1		
483	9171141	Grommet, 88.4mm	1		
486	9314775	Drawer	1		
487	9314328	Cover, operator side	1		
488	9314782	Locking profile	1		
489	9314832s	Door	1		
490	9191107	Lock	1		
492	9311025	Hinge	2		
492	9311025	Hinge	2		
493	9314772	Drip tray	2		
494	9314781	Bottom plate	1		
495	9191099	Bucket, plastic 11.3 ltr	1		
496	9314313	Guide, bucket	1		
497	9314780	Construction beam	2		
498	9294298	Tether bracket	1		
750	9318030	Ass underframe TDR5 ac			
751	9314770	Side panel left	1		
753	9314779	Back panel	1		
757	9314771	Side panel right	1		
762	9314776	Front panel	1		

TDRAC, CLEANING SYSTEM, UNTILL SER NR 100087797



Only serial number:
10008554
100085612
100084935

TDRAC, PARTSLIST CLEANING SYSTEM, UNTILL SER NR 100087797

Pos	Part number	Description	Qty	Priority	Comment
20	9311006s	Pump	1	1	
21	9311008s	Motor valve -2/2 1/2" CR03		1	from ser nr 100085818
22	9311007s	Solenoïd valve E 2/2 - 1/2" (reduced 9 ltr/min)	1	1	
216	9312019	Seal	3	2	
301	9301007	Nozzle, spoon shape	2		
302	9312117	Spray arm TDR5ac and 8ac	2		
303	9311014	Collar bearing, Ø12xø10	4	1	
304	9312012	Shaft , spray arm	2	2	
305	9312011	Adapter, spray arm	2		
307	9311021	Nut, 3/4"	2		
308	3721050	Elbow threaded 1/2" (F-M) BSP	4		
309	9311011	Hose Pillar 1/2" (M) SS	4		
311	9311018	Hose clamp, 19-21 mm	6		
312	6000032	Hose clamp, 26-38 mm	2		
313	9301108	Hose 13x23	2,2 m		
314	9311028	Reducing bushing 3/4"x1/2", SS			
315	9311009	Union conicle 1/2" (M-F) SS	3		
316	3721047	Hexagon nipple threaded 1/2" (M-M) BSP	7		
318	3721046	Tee threaded 1/2" (F-F-F) BSP	3		
320	2650194	Clamp, suspension, 26-30	1		
321	9311010	Bend 90° threaded 1/2" (M-M) SS	1		
322	9191228	Socket adapter, 3/4"x 1/2"	1		
323	9311019	Welding nipple, 1/2"	2		
325	9310401	Suction filter	1	2	
327	9191203	Water supply hose	1		
328	9191227	Gasket Ø24xø16x2	1	1	
330	9310426	Tablet tray	1		
332	9314187	Cover, tray	1		
340	9310152s	Ass. soap dispencer			
341	9312078	Cleaning Tabs, box 36 Pcs + 18 DC Cartridge			
346	9311033	O-ring	1		
372	9314195	Grid, drain TDR8	1		
375	9314184	Grease cover TDR8ac	4		
379	9310405s	Filter screen TDR8ac untill 100104166	2		

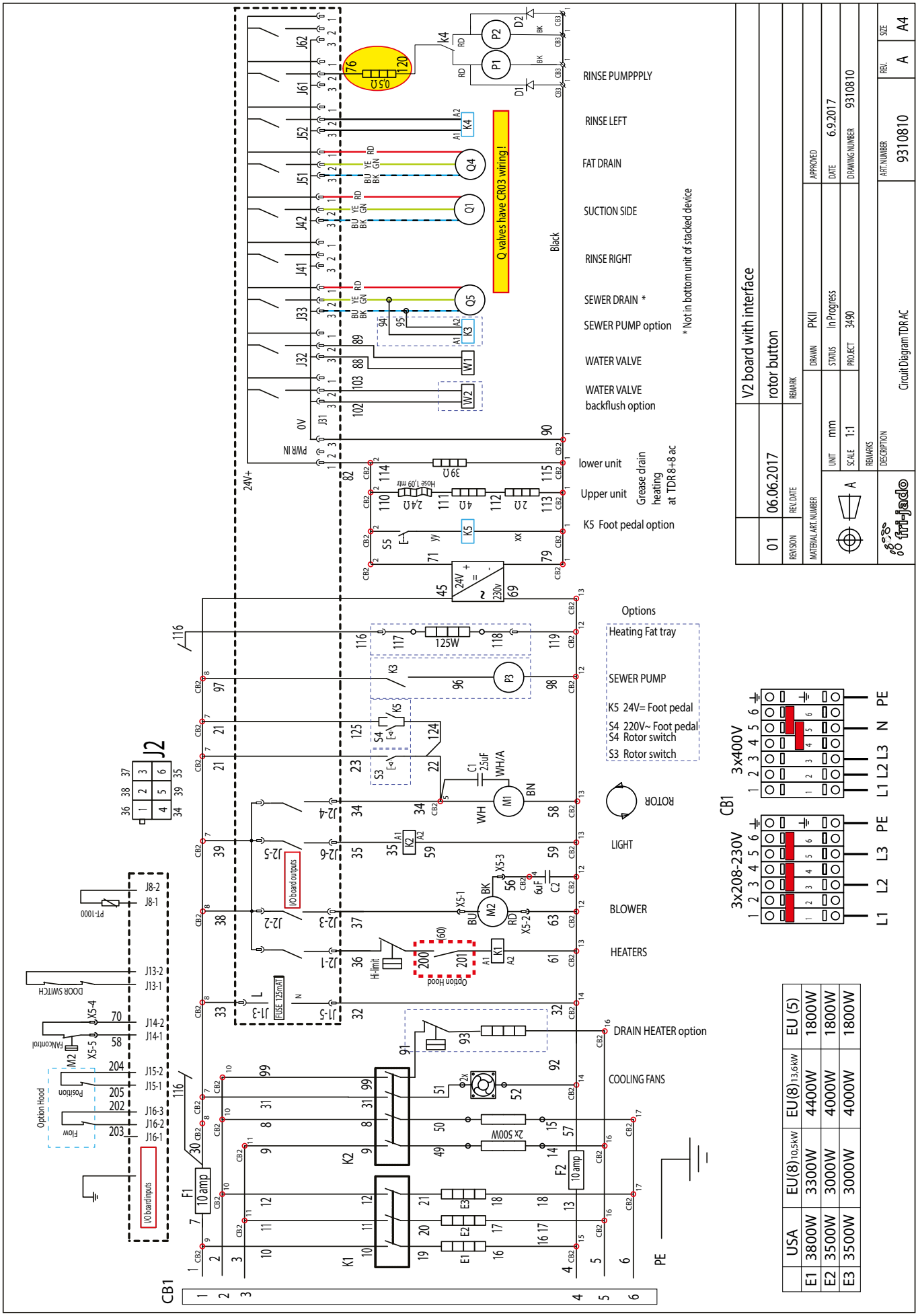
FASTENERS

Pos	Part nr	Description
800	4280107	Bolt M6x20 ZP
801	4289559	Lockwasher M6, serrated ZP
802	4288321	Screw M5x16, SS socket button head.
804	4285092	Nut M6, black serrated
805	4288232	Screw M5x12, SS cross recess, wide button head
806	4286713	Bolt M6x16, ZP threadforming
810	4288325	Screw M5x12, SS socket, wide button head
812	9087570	Nut M5, black serrated
814	4289787	Bolt M6x30 ZP
817	4287549	Washer M8, ZP
819	0196673	Bolt M8x25, ZP
820	0141149	Screw M5x16, SS Cross recess pan head
822	0142315	Nut M5, SS hexagonal
824	9191050	Bolt, SS M5x18
825	0142103	Washer M5, SS
826	4280218	Screw M5x45, SS Cross recess pan head
827	4280208	Screw M4x8, SS Cross recess pan head
828	4280215	Screw M5x8, SS Cross recess pan head
829	4280558	Screw M5x16, SS Slotted wide head
830	9192065	Capnut M4, ZP
831	0142129	Washer M4, SS
832	4288231	Bolt M5x10, SS serrated
833	0142307	Nut M4, SS
834	4311110	Washer M5, SS ø5xØ15
835	0142111	Washer M6, SS
836	4285035	Nut M6, Brass
837	0195910	Capnut M6, BNP
838	4285076	Bolt M8x16, SS
841	0147017	Screw M2,5x16, SS Slotted pan head
842	0142293	Nut M2,5, SS hexagonal
843	9191130	starlock washer, 3mm black
845	0141081	Screw pan head, Philips M5x35, A2
846	4288323	Screw M5x20 mushroom head, with flange, 10 pcs
847	9070688	Bolt M8x12, SS
848	9008518	Lockwasher, M8 SS serrated
849	0142292	Nut M3
853	0141050	Screw M3x10, SS Cross recess pan head
854	0141076	Screw M3x20, SS Cross recess pan head
855	0141078	Screw M3x30, SS Cross recess pan head
856	0141035	Screw M3x5, SS Cross recess pan head
858	0141075	Screw M3x16, SS Cross recess pan head
859	4312810	Socket set screw M3x6, SS
861	4285151	starlock washer, 6mm
862	9191041	Circlips, E type for 6mm shaft
863	4287540	Screw M4x10, BNP
864	4285319	Screw 4,8x13, ZP Self drilling and tapping.
866	4287620	Screw 4,2x12, NP self tapping
868	4285078	Nut 1/4" bsw ZP
871	9191049	Set screw M5x5, black

Pos	Part nr	Description
872	4285010	Nut M3, ZP with lockwasher
873	3701248	Spacer 7mm, Ø3,2x6 NP
874	0149296	Spacer 10mm, Ø4,2x8 Nylon
875	9057347	Spacer 10mm, Ø5,2x10 Nylon
876	0141165	Screw M5x25, SS Cross recess pan head
877	4285135	Bolt M5x10, ZP thread forming
878	0137344	Screw M5x30, SS Cross recess pan head
879	4287610	Screw, ZP selftapping 3,5x13
880	9008178	Bolt M5x8, SS
881	0141246	Bolt M6x12, SS
882	0141117	Screw M4x45, SS Cross recess pan head
883	0142365	Locknut M6, ZP
885	4288324	Screw M4x8, SS Cross recess pan head
888	6962153	Washer M6, ZP ø6xØ25
889	6802013	Rivet nut, M5, ZP
890	9172053	Nut M5, for sheet metal
891	4288058	Bolt M5x20, ZP
892	0141521	Nut M6, SS
893	0146987	Washer M8, SS
894	0211520	Bolt M5x12, SS
895	0144359	Locknut M5, SS
896	4285408	Capnut M5, BNP
897	4288320	Screw M5x50, SS hexagonal
898	9073987	Washer M8, SS ø8xØ25
900	9008869	Bolt M8x50, ZP
902	4288319	Screw 6x20, ZP CR threadforming
903	4289402	Lockwasher M8, ZP
904	3701280	Lockwasher, starlock for 10mm shaft
905	0141393	Screw M4x10, SS countersunk
906	0141084	Screw M4x10, SS Cross recess pan head
907	4288327	Screw M5x25, SS Socket pan head
908	9006930	Lockwasher M4, countersunk SS serrated
909	0141092	Screw M4x12, SS Cross recess pan head
910	4287520	Washer M4, Brass
911	4285020	Nut M4, Brass
912	4280128	Bolt M4x12, SS
914	0144347	Locknut M4, ZP
915	8047381	Washer M6, SS ø6xØ25
920	0141547	Nut M8, SS
922	2800066	Connection nut M8x24, ZP
923	4285051	Connection nut M10x30, ZP
925	0195596	Bolt M8x10, ZP Socket head
926	9070793	Connection nut M6x18, ZP
929	0197378	Washer M12, Zp
930	9008056	Nut M12, ZP
931	0142056	Lockwasher M8, SS
933	9077004	Socket set screw M4x6, SS
934	9301049	Circlips external ø25

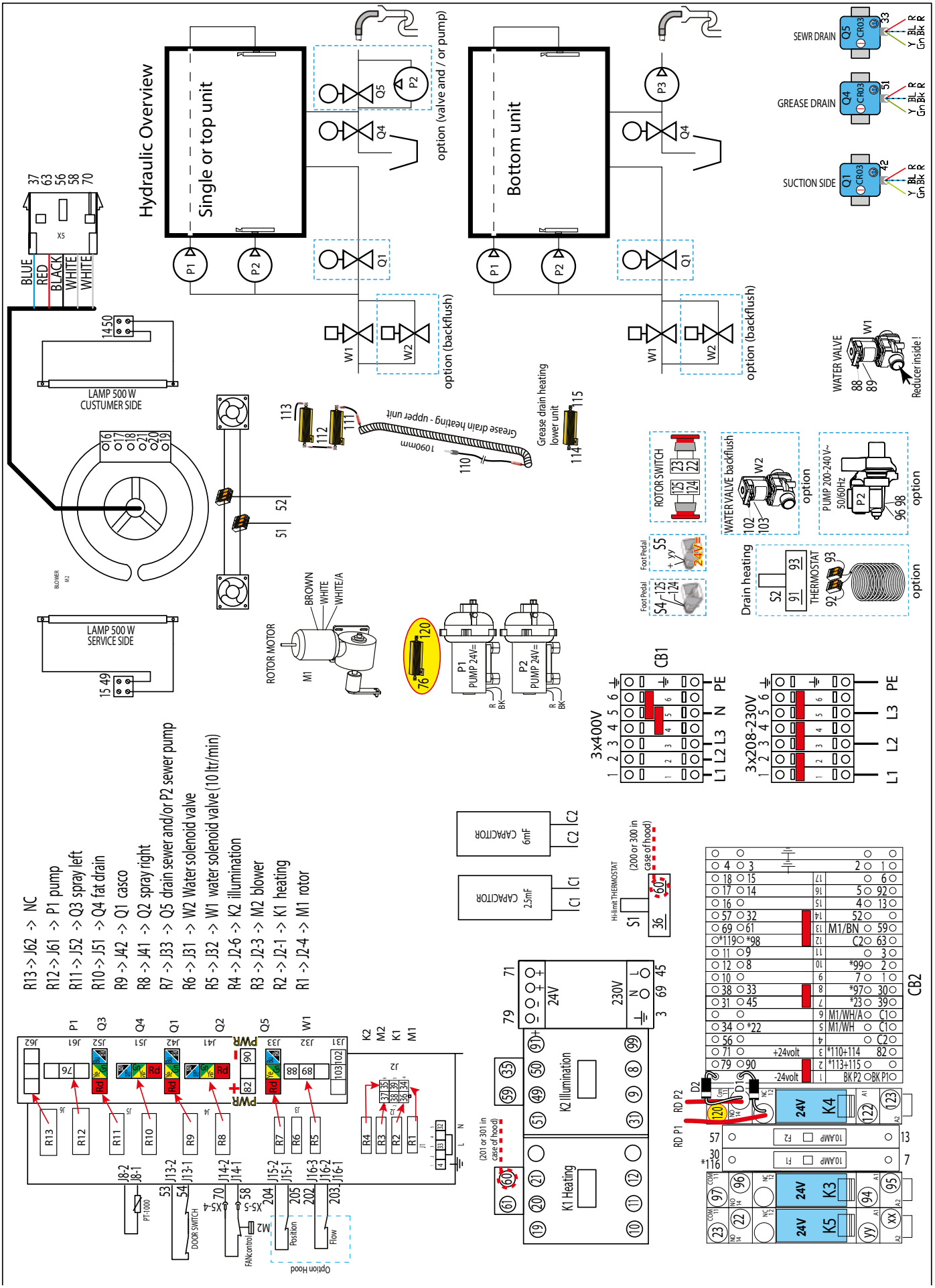
Pos	Part nr	Description
935	4287557	Washer M10
936	9073149	Wingnut M6, SS
937	2800082	Wingnut M6, Brass Nickle plated
939	4312027	Connection nut M5x15, ZP
940	4280540	Screw M5x6, SS countersunk
941	4311215	Screw , socket head M6 x 30
942	0141123	Screw pan head, Philips M5x10, SS
943	0149299	Spacer, Ø8xø4,2, H15, black
944	0139142	Screw hexagon head M6x40, SS
945	4285410	Capnut M12 SS low profile
946	4286728	Set screw M8x40, socket
947	4280239	Screw M12x20, hexagon ZP
948	0197380	Washer M12, SS
949	0142975	Screw socket head cap M6x20, A2
950	4285120	Screw M4x20, thread rolling
951	8071043	Nut M4, serrated ZP
952	6962187	Washer M8x1,5 ø8xØ30 ZP
953	0197807	Screw M4x30, slotted ZP
954	4285084	Screw 4,8x19, ZP Self drilling and tapping.
955	9008217	Blind rivet 4x8,6
956	9174680	Washer ø5,2xØ20x2mm
957	4285047	nut M8 hexagon, thin DIN 439B
958	0195783	Screw M10x30 sock button head
959	9191108	Wing screw M6x10 SS
960	0141204	Screw M4x16, Pan head SS
961	0149210	Screw M5x6, Pan head
962	0141539	Screw M5x10, SS countersunk
963	4288233	Screw M8x16, ZP serrated
965	4288330	Screw M8x12, SS button head, wide flange
966	4285414	Capnut, M4 ss
967	0149298	Spacer 10mm, Ø3,4x6 Nylon
968	0149299	Spacer 15mm, Ø4,2x8 Nylon
969	0251473	Washer M4, ZP ø4xØ16
970	9087575	Nut M5 hexagon, tensilock A4
971	4280555	Screw M6x16, Brass nickel plated
972	6390168	Rivet nut, M6 ss
973	9261029	Wing screw M5x10 SS
974	0141131	M5x12 kruiskop
975	9008543	Nut M12, SS
976	4280110	Bolt M6x20, SS hexagon head
977	4286723	Hex. screw M8x20 flange thread forming
978	0211521	Screw M5x16, SS hex. Head
979	4285041	Lock nut M5, SS
980	4280181	Screw M8x60, hexagon
981	4280187	Screw M8x55, hexagon, ss
982	4285045	Capnut, M8 ss

CIRCUIT DIAGRAM TDRAC FROM SERIAL NUMBER 100108720

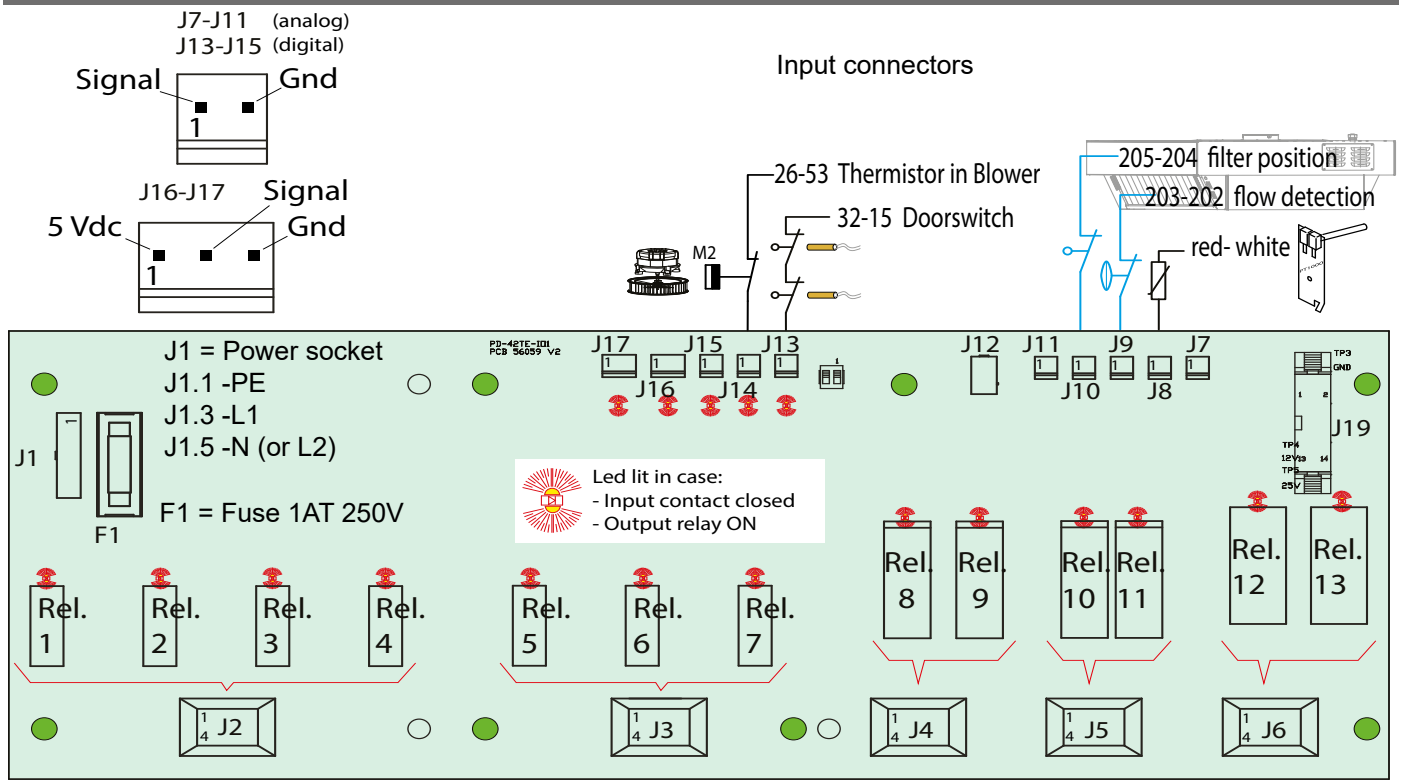


	USA	EU(8)10,5kW	EU(8)13,6kW	EU (5)
E1	3800W	3300W	4400W	1800W
E2	3500W	3000W	4000W	1800W
E3	3500W	3000W	4000W	1800W

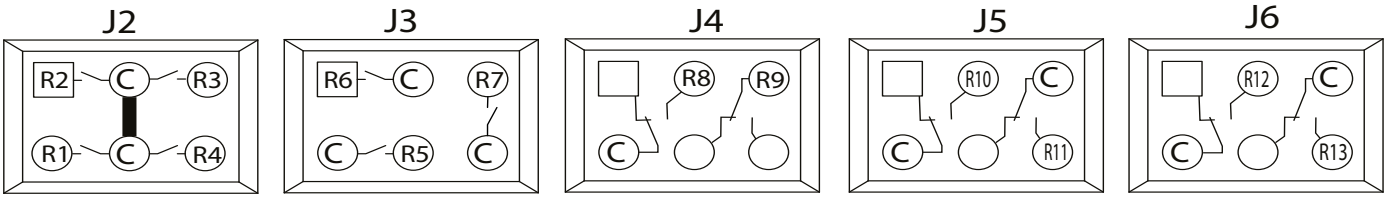
WIRING DIAGRAM TDRAC FROM SERIAL NUMBER 100108720



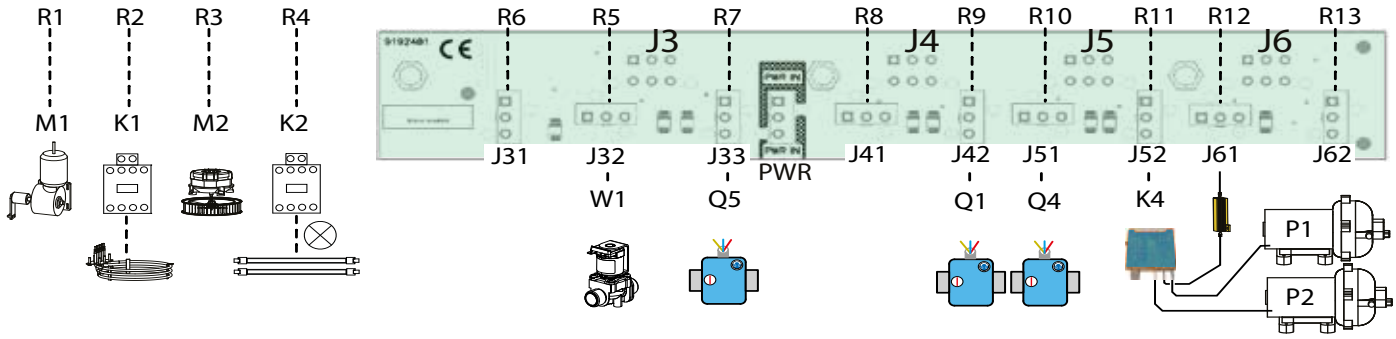
OVERVIEW OF I/O BOARD WITH INTERFACE BOARD (2 PUMPS)

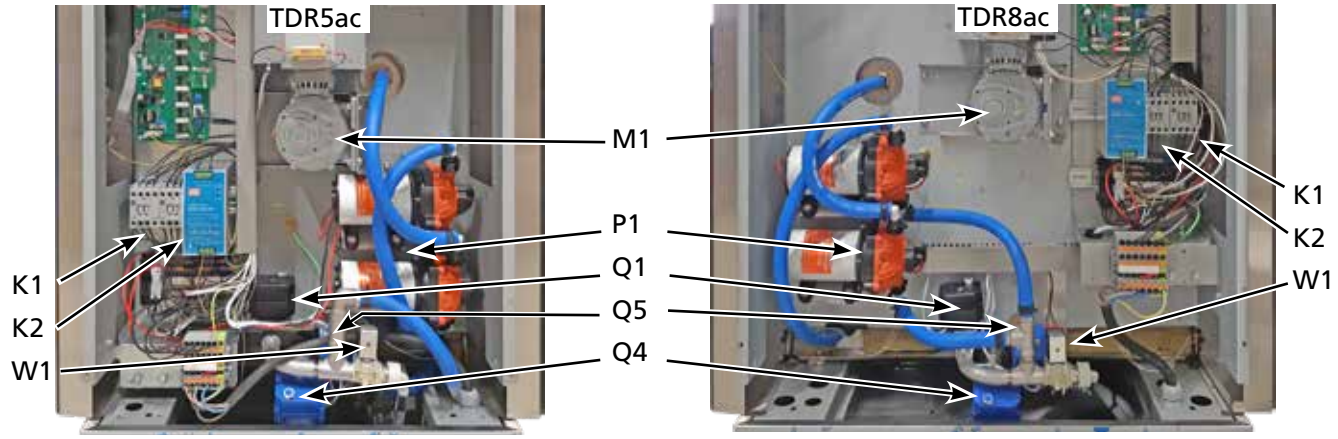


Output connectors

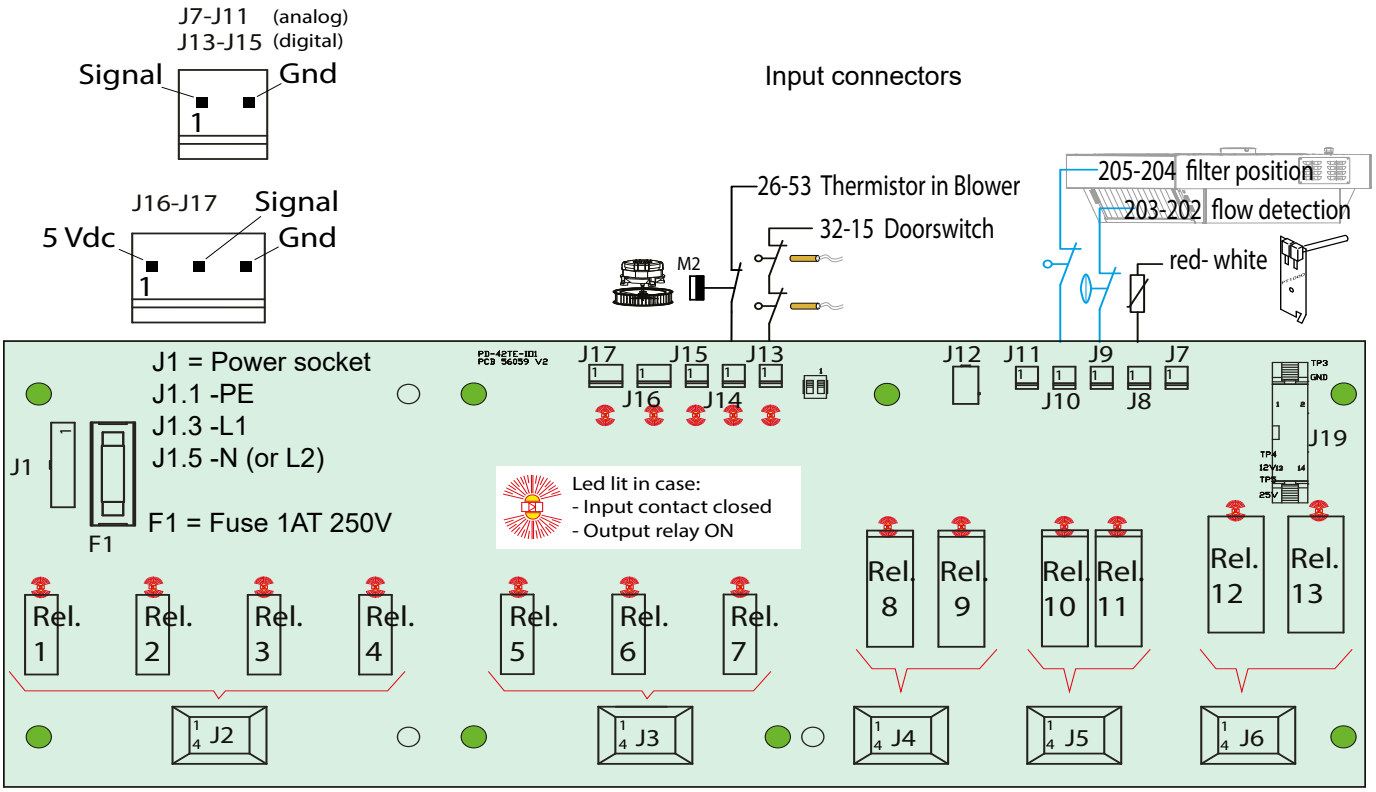


Overview of interface board (Jx to Jxx sockets)

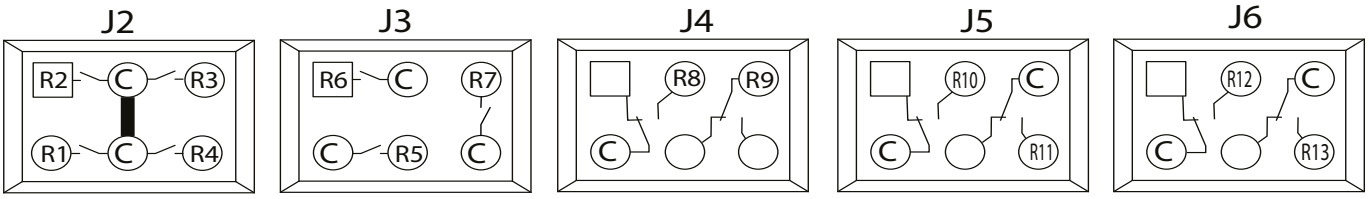




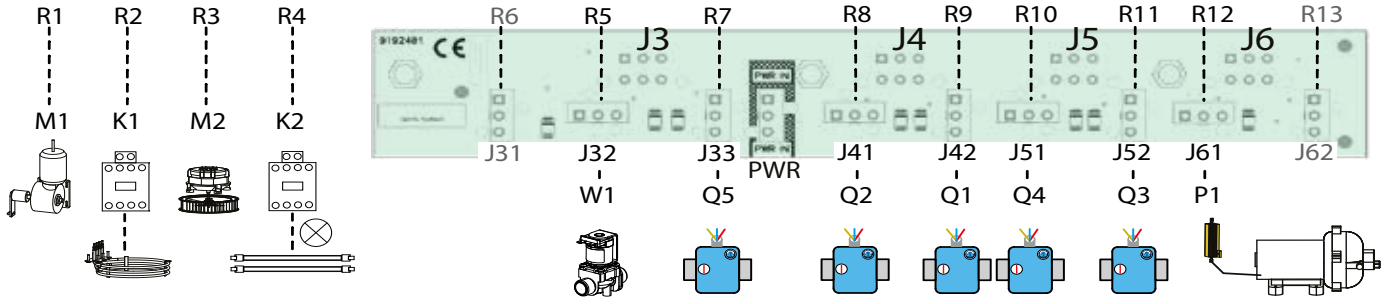
OVERVIEW OF I/O BOARD WITH INTERFACE BOARD (1 PUMP)

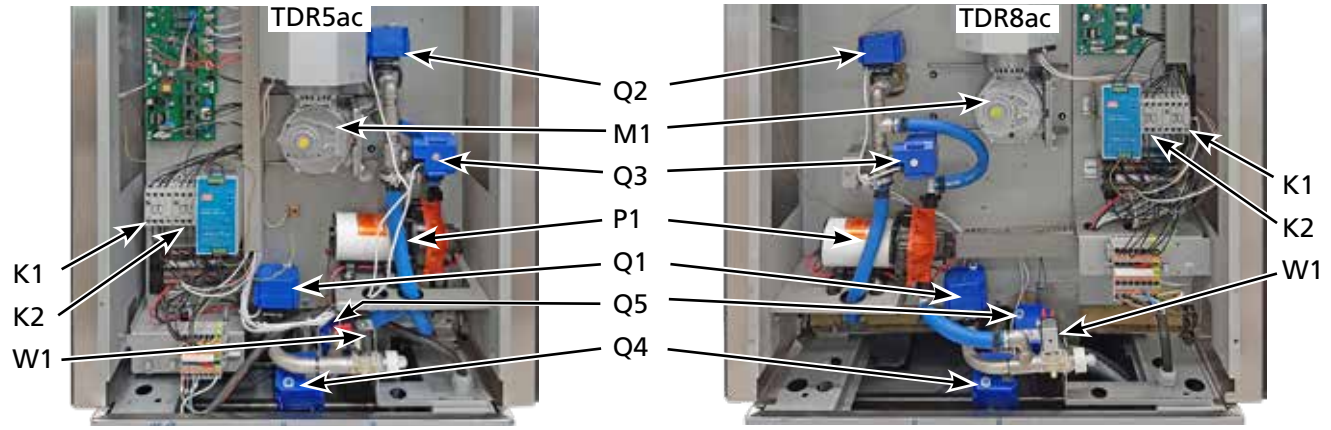


Output connectors

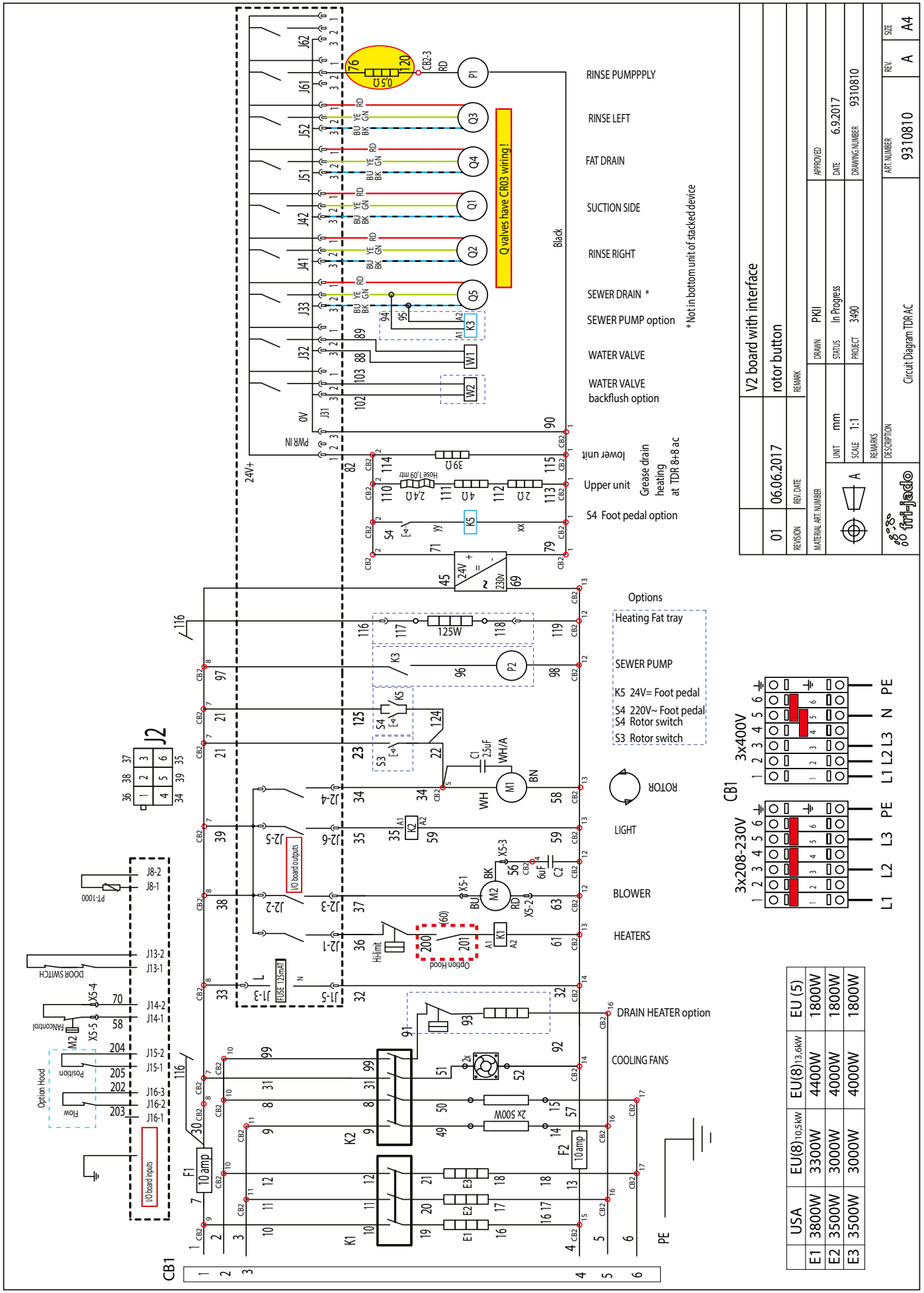


Overview of interface board (Jx to Jxx sockets)



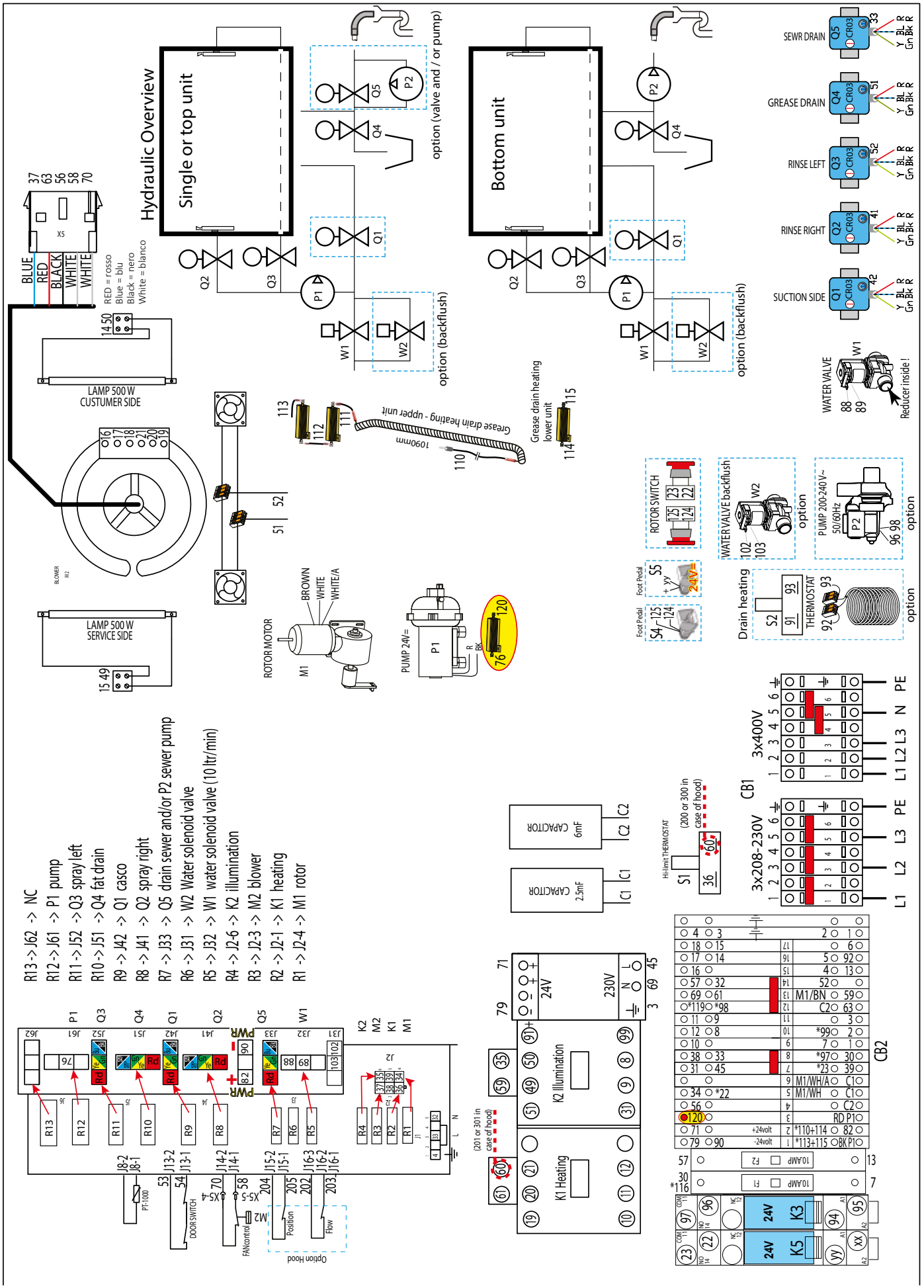


CIRCUIT DIAGRAM TDRAC (1 PUMP AND PUMP RESISTOR)

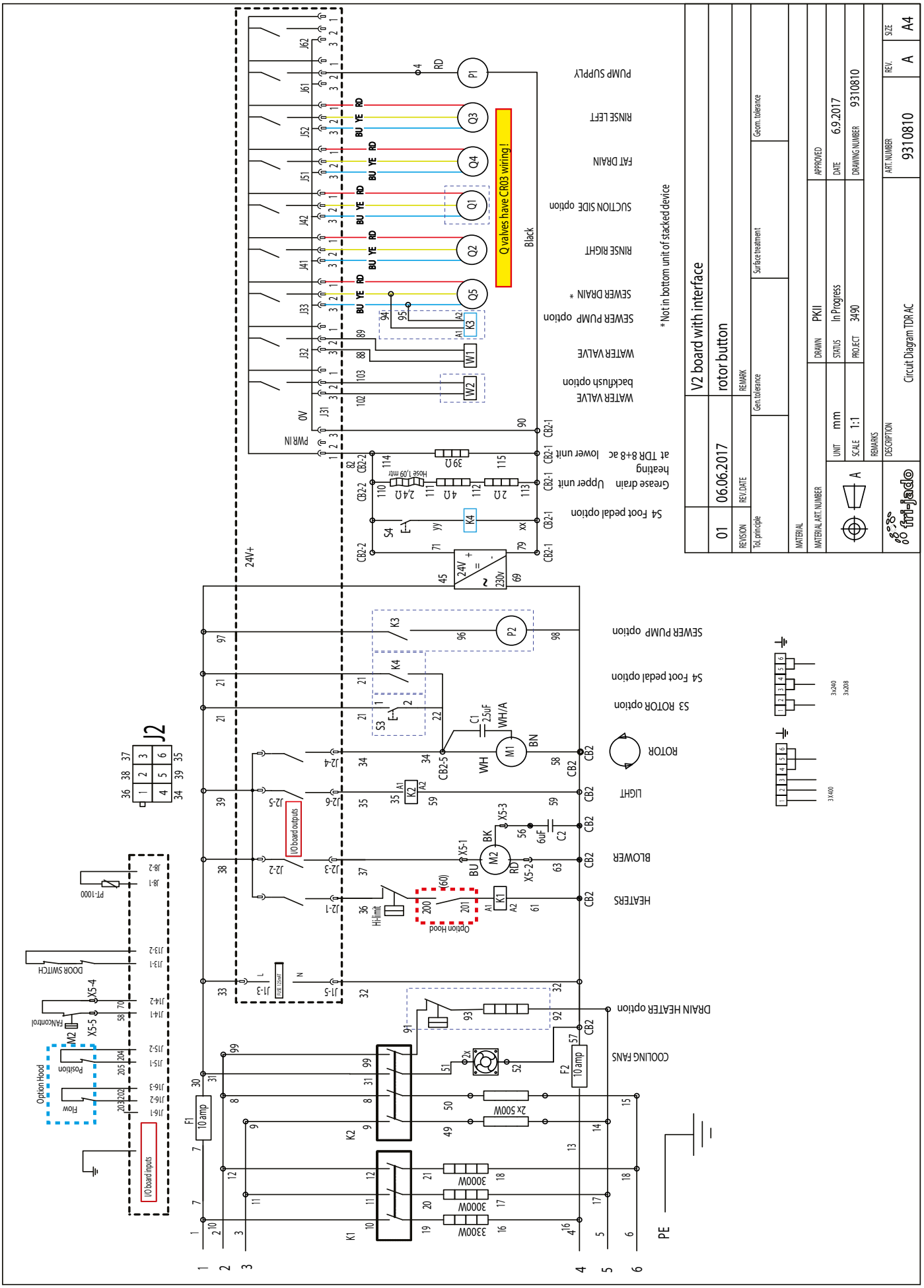


	USA	EU(8)10,5kW	EU(8)13,6kW	EU (5)
E1	3800W	3300W	4400W	1800W
E2	3500W	3000W	4000W	1800W
E3	3500W	3000W	4000W	1800W

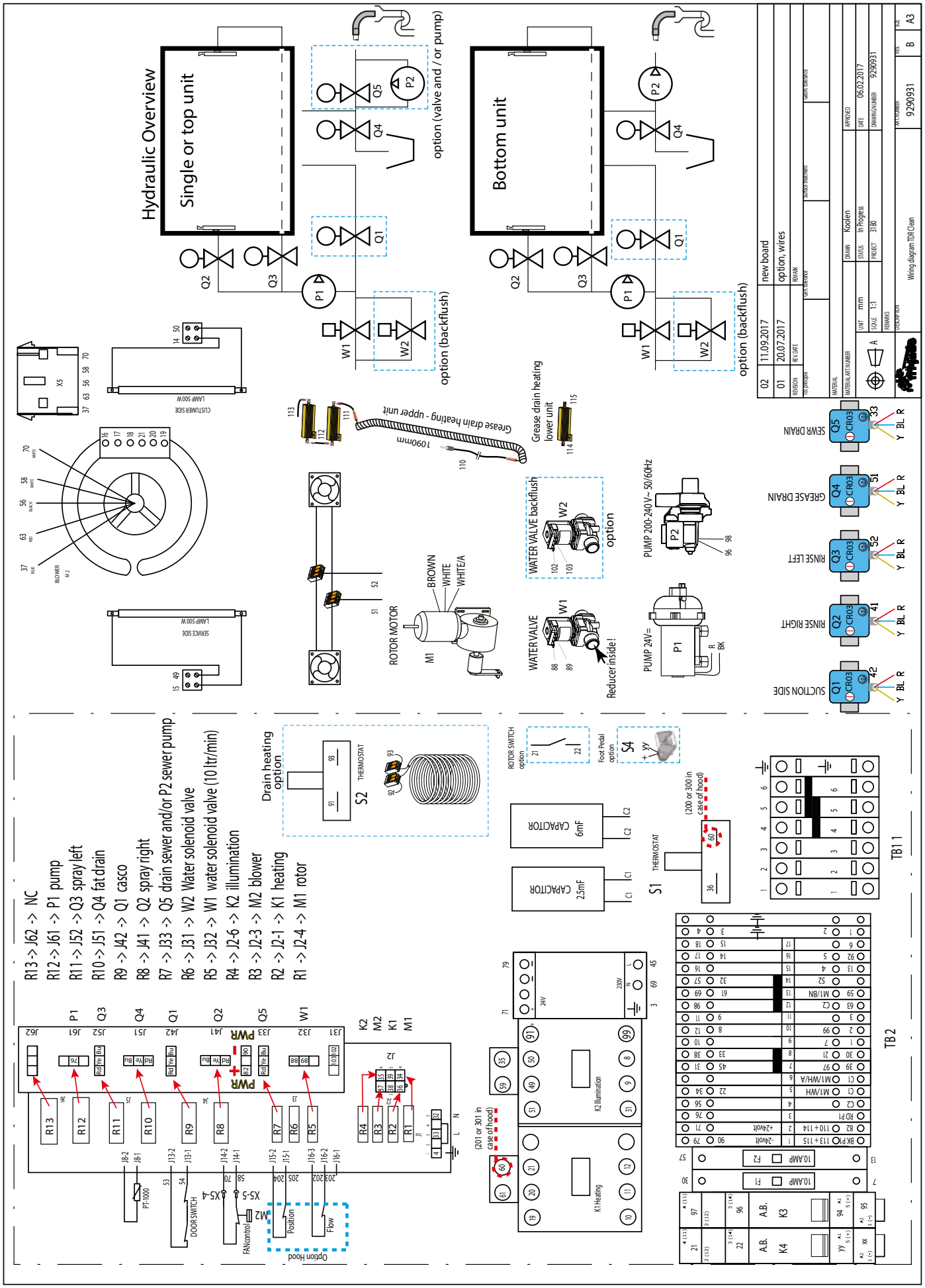
WIRING DIAGRAM TDRAC (1 PUMP AND PUMP RESITOR)



CIRCUIT DIAGRAM TDRAC UNTILL SERIAL NR. 100108719



WIRING DIAGRAM TDRAC UNTILL SERIAL NR. 100108719



fri-jado