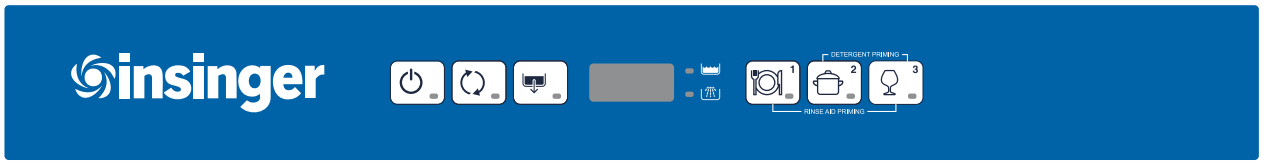
insinger

CADET

Service Manual

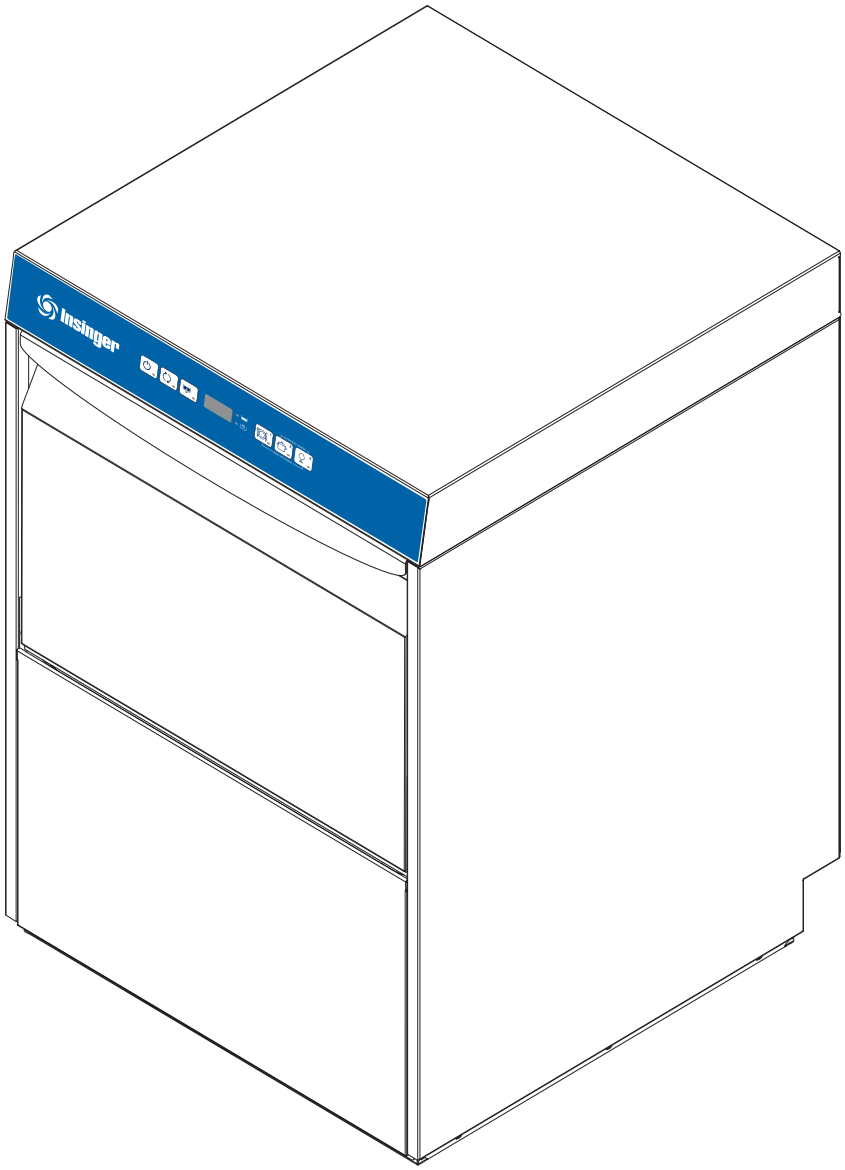
CDT-1

SERVICE MANUAL



CONTENTS:

This document contains the instructions to set electronic board parameters via user interface for following dishwashers:



EDITION: **05.2025**

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1 KEYBOARDS

1.1 UNDERCOUNTER Style

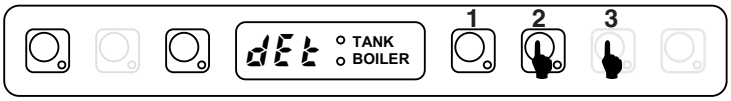


Fig. 1 Detergent dispenser Manual Activation

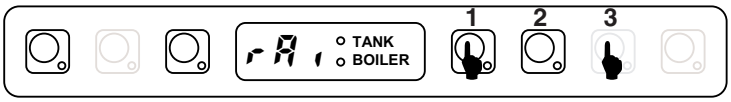


Fig. 2 Rinse Aid Dispenser Manual Activation

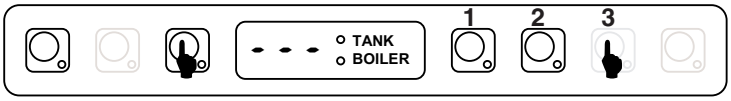


Fig. 3 Rinse Pump Manual Activation (used to EMPTY BOILER)

SETTING MODES:

To enter into one setting mode (Figure 4), (Figure 5) the appliance should be in stand-by: switch on the appliance, no cycles selected. Is useful keep door open to avoid start cycle in case of not simultaneously pressure of the two keys.

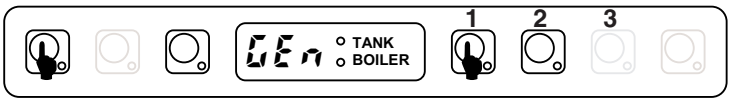


Fig. 4 Enter into General Parameters (Hold down buttons for at least five seconds).

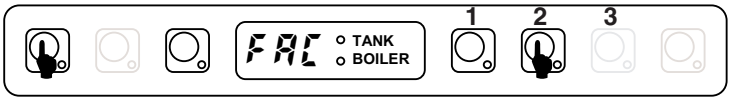


Fig. 5 Enter into Factory Parameters (Hold down buttons for at least five seconds).

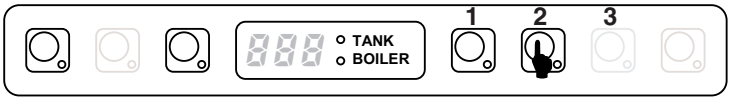


Fig. 6 Next Parameter Family OR Increase Parameter Value (in setting mode only)

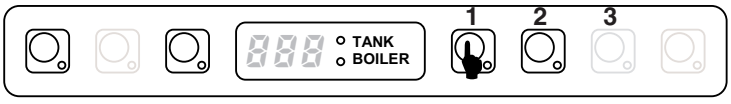


Fig. 7 Decrease Parameter Value (In setting mode only)

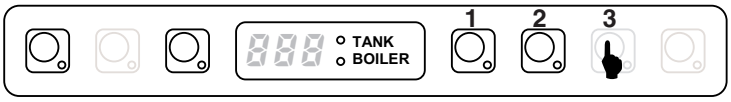
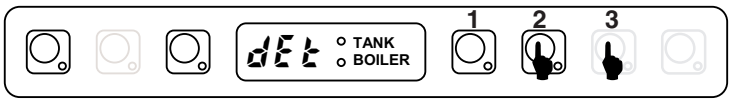


Fig. 8 Confirm Value and go to next Parameter (in setting mode only).

2 MANUAL ACTIVATION OF DETERGENT AND RINSE AID DISPENSERS

When replacing detergents may be necessary activate the dispensers to fill hoses.

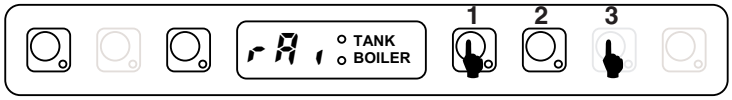
2.1 Detergent Dispenser Activation



Switch on the dishwasher.

Press and hold down BUTTON_2 and BUTTON_3 keys, after two 'beep' the detergent dispenser starts work for 20 sec.

2.2 Rinse Aid Dispenser Activation

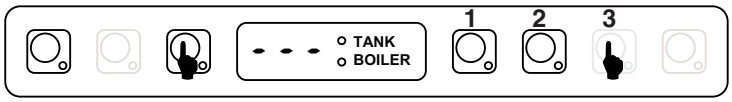


Switch on the dishwasher.

Press and hold down BUTTON_1 and BUTTON_3 keys, after two 'beep' the rinse aid dispenser starts work for 40 sec.

3 RINSE PUMP MANUAL ACTIVATION

Use this function to empty the boiler (if the dishwasher is not to be used for a long time, for maintenance operation: ex. before replacing main board).



Switch on the dishwasher.

Close the door and press and hold down DRAIN and BUTTON_3 keys. A buzzer signal indicates the rinse pump activation and the display shows three blinking lines. Three beeps indicate the cycle end.

4 DETERGENT AND RINSE AID DOSAGE

In this paragraph is explained how to set the working time for the detergent and rinse aid dispensers.
For each dispenser there are two parameters: the initial time and the time during cycle execution.

4.1 GEn General Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default
d In	Initial Detergent Dosage (during filling tank)	[s]	0	240	90
r In	Initial Rinse Aid Dosage (starts when tank filled)	[s]	0	180	10
dEt	Detergent Dosage During Cycle Execution (during wash phase)	[s]	0	182 (*)	8
rA1	Rinse Aid Dosage During Cycle Execution (when refilling boiler)	[s]	0	62 (*)	4

How change the duration:

- Switch OFF and switch ON the dishwasher;
- Enter into the USER SETTING mode by pressing and hold down ON/OFF and BUTTON_1 keys for at least **five seconds** the display shows GEn (Figure 9);
- Press BUTTON_3. The display shows alternatively the symbol d In and the duration in seconds (Figure 10) and (Figure 11);
- Use BUTTON_1 key to decrease the duration and BUTTON_2 key to increase (Figure 11);
- After settled the duration press BUTTON_3 key to **store value**. The display shows the next parameter (Figure 12) and the corresponding value (Figure 13);
- In the same way is possible to change the other duration; when finished switch OFF and switch ON.

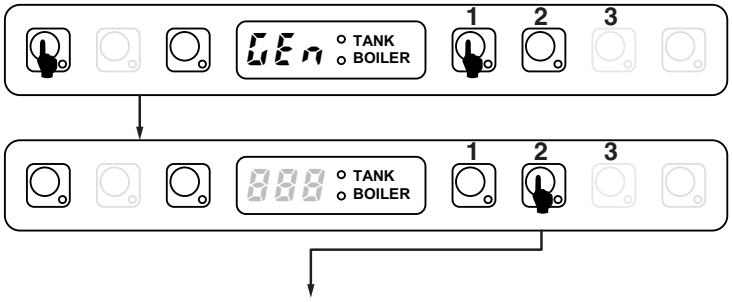


Fig. 9 Enter into User Mode (press for 5 sec).

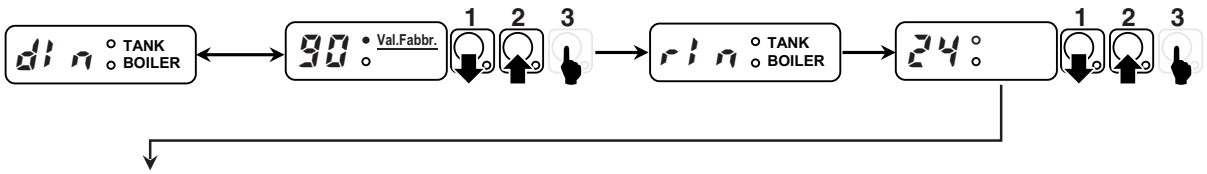


Fig. 10 Initial detergent dosage.

Fig. 11 Change duration. (Tank LED indicates default).

Fig. 12 Initial rinse aid dosage

Fig. 13 Change duration

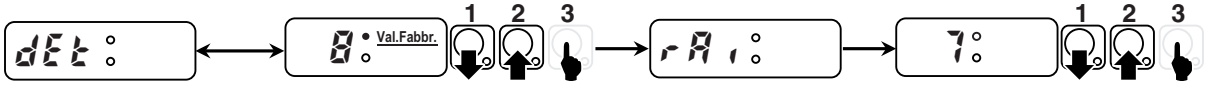


Fig. 14 Cycle detergent dosage.

Fig. 15 Change time activation (Tank LED indicates default)

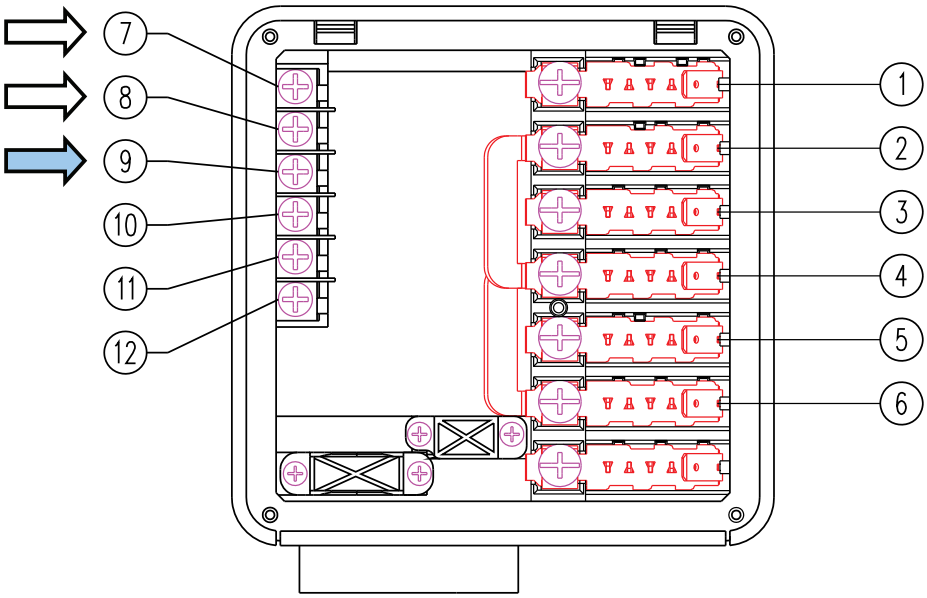
Fig. 16 Cycle rinse aid dosage.

Fig. 17 Change time activation.

(*) Note for external dispensers:

- if dEt: 181 the **detergent dispenser** works when **WASHING PUMP** is being activated; at the same time voltage is supplied between connectors $L1_7$–$L1_9$ (main terminal box);
- if dEt: 182 the **detergent dispenser** works when **LOADING EV** is being activated to re-fill boiler level; at the same time voltage is supplied between connectors $L1_7$–$L1_9$ (main terminal box);
- if rA: 61 the rinse aid dispenser works when **LOADING EV** is being activated to re-fill boiler level; at the same time voltage is supplied between connectors $L1_8$–$L1_9$ (main terminal box);
- if rA: 62 the **rinse aid dispenser** works when **WASHING PUMP** is being activated; at the same time voltage is supplied between connectors $L1_8$–$L1_9$ (main terminal box);

- For electrical connections refer to electric diagram -



Example

Suppose there is connected an **external detergent dispenser** with a probe into the tank. A typical setting could be:

dIn: 0 the dispenser is not activated during filling tank;

dEt: 181 the dispenser is supplied during washing phase and the probe automatically dose the right detergent amount.

5 COUNTERS

This Parameter Family collects cycle counters and water consumption counters.
For water consumption counters a flow meter must be installed. See PPL (calibration parameter) into dPA section (8 OTHER PARAMETERS).

5.1 Cnt Counters

Sym.	Parameter Description	Unit	Min	Max	Factory Default
CYC	Cycles performed counter. CYC symbol and two numbers blink consecutively. The cycle number is obtained by joining the two numbers. Ex. CYC → 10 → 042 means 10042 cycles executed.	-			
cYc	Cycle counter (resettable). This counter is similar to CYC but is resettable by user (see rSt parameter below).	-			
nnc	Water Consumption (only for dishwashers with incorporated continuous water softener). Counts m^3 of water consumption.	[m^3]			
L	Water Consumption (only for dishwashers with incorporated continuous water softener). Counts litres of water consumption. The total consumption is given by adding nnc [m^3] and L [l] values.	[l]			
L rt	Water Consumption: resettable counter. [present up to software version 3.12] Counts the litres of water and is resettable by user (see rSt parameter below).	[l]			
rSt	Reset resettable counters: cYc and L rt To reset put 1 this parameter, switch off and then on again: cYc and L rt will show zero. Note that cYc is used to count cycles for CAll message (see next parameter, nCY).	-			
nCY	Store thousand of cycles after that CAll message appears on display. Ex. If this parameter is settled to 20, CAll message appears when cYc reach 20.000 cycles.	-			
drn	Drain/Cleaning cycles performed. Similar to CYC but counts Cleaning Cycles.	-			
rCY	Numbers of cycles that can be made after a regeneration cycle (only for dishwashers with non-continuous water softener) [See paragraph 9.1 DETERGENT AND RINSE AID LEVEL SENSORS ACTIVATION.].	-			20
nrE	Regeneration cycle counter (only for water softener dishwasher) [See paragraph 9.2 DISHWASHERS WITH WASH TANK WATER CHANGE FREQUENCY CONTROL]. nrE only counts efficient regeneration cycles, i.e. those carried out with salt in the special container (only for dishwashers with incorporated continuous water softener)	-			
rES	Counter of regeneration cycles done without salt in the special container. (only for dishwashers with incorporated continuous water softener) [See paragraph 9.2 DISHWASHERS WITH WASH TANK WATER CHANGE FREQUENCY CONTROL].	-			

Fig.18

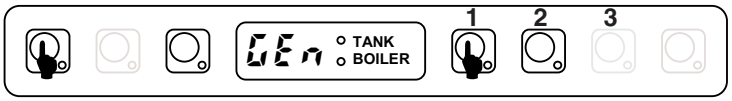


Fig.19

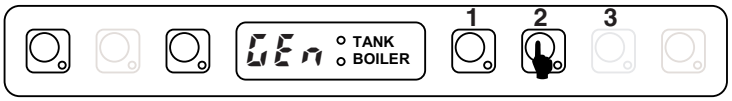


Fig.20

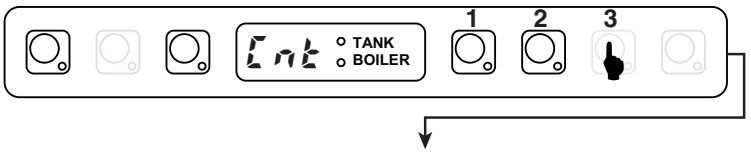


Fig. 18 USER setting mode (press for 5s).

Fig. 19 Next Family

Fig. 20 Counters Fam.: ENTER

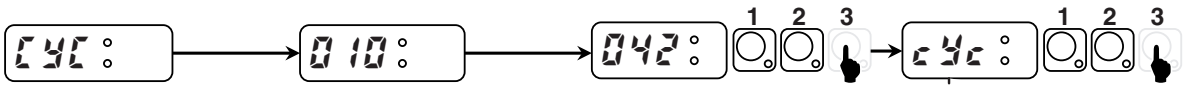


Fig. 21 CYCLES

Fig. 22 Thousand.

Fig. 23 Units.

Fig. 24 Next counter.

6 TEMPERATURE SETTING

In this paragraph is explained how to change temperature thresholds and all parameters related to boiler and tank.

6.1 FAC Factory Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default
btC	Boiler Temperature: THRESHOLD. When boiler temperature reaches this value, heaters switch off.	[°F]	113	203	172
btH	Boiler Temperature HISTERESIS, (represent dead band). Heater switch on if boiler temperature is below: btC - btH	[°F]	35	50	35
bH,	Boiler Temperature: HIGH LIMIT. When boiler temperature reaches this value E 2 alarm appears. Put 0 to disable E 2 alarm.	[°F]	32	208	204
bLo	Boiler Temperature: LOW LIMIT. During boiler warm-up, temperature must increase at least bLo °C otherwise E 3 warning appears. Put 0 to disable E 3 warning.	[°F]	32	50	34
bFL	Boiler Filling Timeout. If filling time is longer than bFL, A 1 alarm appears. Put 0 to disable A 1 alarm.	[min]	0	42	5
bAJ	Boiler Temperature Adjust.	[°F]	32	44	39
bP	Boiler Priority (enable boiler wait function) 0=disabled 1=enabled	-	0	1	1
bSt	Booster Function Overheat gap over Boiler Temperature Threshold	[°F]	32	59	35
btd	Boiler temperature negative differential: when the dishwasher is in standby, boiler threshold becomes: btC - btd (Used to save energy during machine inactivity by keeping boiler water at a lower temperature).	[°F]	32	68	32
ttC	Tub Temperature: THRESHOLD When tank temperature reaches this value, heater switch off.	[°F]	104	185	145
ttH	Tub Temperature: HISTERESIS, (represent dead band). Heater switch on if tank temperature is below: ttC - ttH	[°F]	35	86	41
tH,	Tank Temperature: HIGH LIMIT. When tank temperature reaches this value E 3 alarm appears. Put 0 to disable E 3 alarm.	[°F]	32	203	167
tLo	Tank Temperature: LOW LIMIT. During tank warm-up, temperature must increase at least tLo °C otherwise E 2 warning appears. Put 0 to disable E 2 warning.	[°F]	32	50	34
tFL	Tank Filling Timeout. If filling time is longer than tFL, A 1 alarm appears. Put 0 to disable A 1 alarm.	[min]	0	42	20

To modify thresholds do the following:

- Switch OFF and switch ON the dishwasher;
- Enter into the FACTORY SETTING mode by pressing and hold down ON/OFF and BUTTON_2 keys for at least five seconds (Figure 25);
- Press BUTTON_3. The display shows alternatively the symbol bLT (Figure 26) and the corresponding value 76 (Figure 27);
- Use BUTTON_1 key to decrease the value and BUTTON_2 key to increase (Figure 27);
- Press BUTTON_3 key to confirm. The display shows the next parameter (Figure 28) and the corresponding value (Figure 29);
- In the same way is possible to change the other parameters; when finished switch OFF and switch ON.

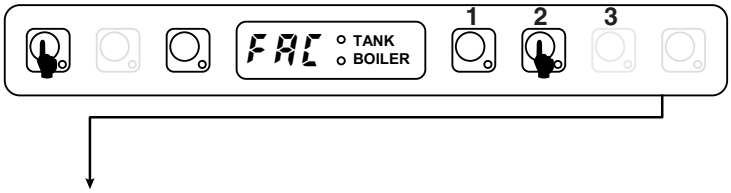


Fig. 25 Factory setting mode.

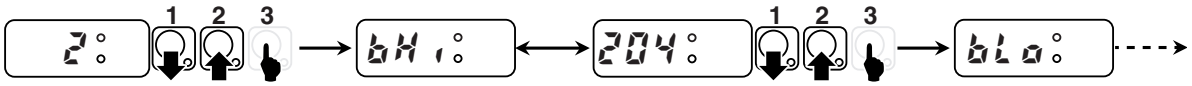


Fig. 26 Boiler temp. threshold

Fig. 27 Change value & Store

Fig. 28 Boiler Temp Hysteresis

Fig. 29 Change value & Store

Fig. 30 Tank temp. High limit.

Fig. 31 Change value & Store.

7 CYCLE SETTING

IIn this paragraph is explained how to change cycle phases duration (see paragraph 7.1 CYCLE DIAGRAM).

- Switch on the dishwasher;
- Enter into the FACTORY SETTING mode: press and hold down ON/OFF and BUTTON_2 keys for at least **5 seconds** (Figure 32);
- Press BUTTON_2 key to select cycle 1 parameters.
- Press BUTTON_3. The display shows alternatively the symbol Ln1 (Figure 35) and the corresponding value 0 (Figure 36);
- Use BUTTON_1 key to increase the value and BUTTON_2 key to decrease (Figure 36);
- Press BUTTON_3 key to confirm. The display shows the next parameter (Figure 37) and the corresponding value (Figure 38);
- In the same way is possible to change the other parameters;.

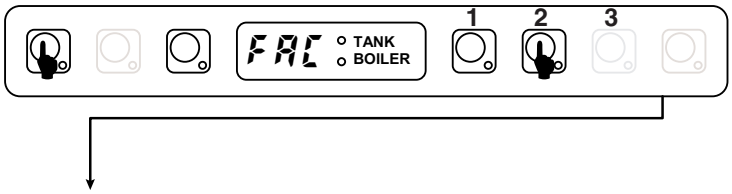


Fig. 32 Factory setting mode.

Fig. 33 Select next class.

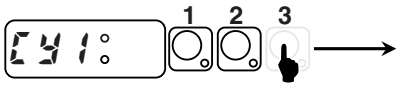


Fig. 34 Cycle 1 Family: ENTER.

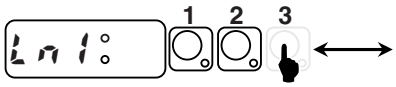


Fig. 35 Wash duration [min].

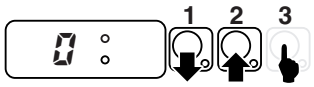


Fig. 36 Change value & Store

Fig. 37 Wash duration [sec].

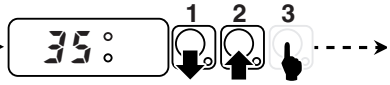


Fig. 38 Wash duration [min]..

After settled all parameters referring Cycle 1, by pressing BUTTON_2 key is possible to change the Cycle 2 parameters (Figure 39), (Figure 40) and so on.

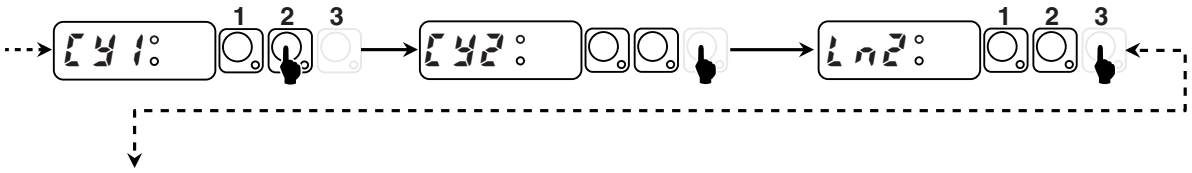


Fig. 39 Cycle 1 Parameters.

Fig. 40 Cycle 2 Parameters: ENTER.

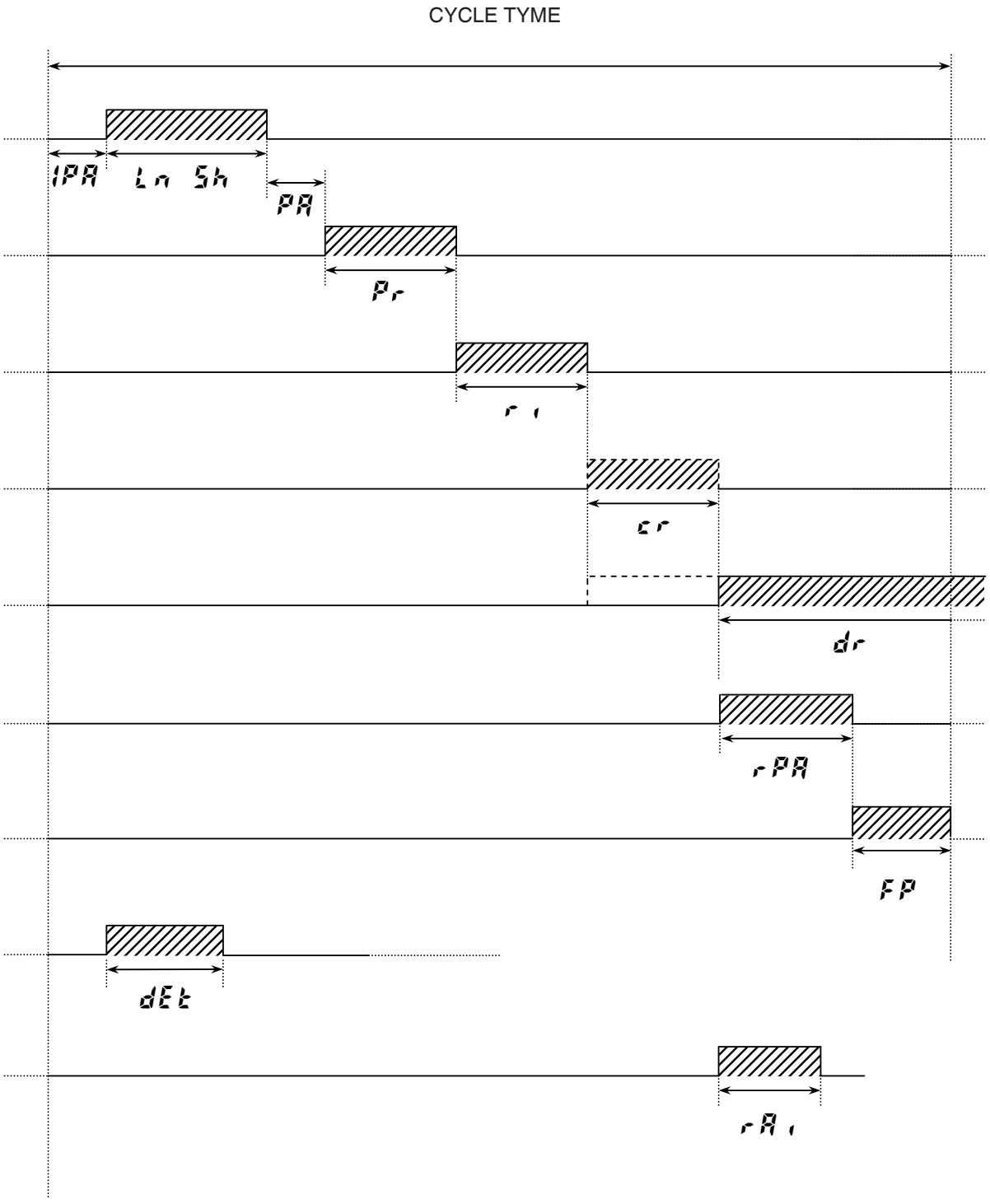
Fig. 41 Wash duration [min].

Fig. 42 Cycle 2 Parameters: next Family

Fig. 43 Cycle 3 Parameters: ENTER

Fig. 44 Wash duration [min].

7.1 CYCLE DIAGRAM



LEGENDA:

- Ln Sh = wash
- Pr = pre rinse
- r 1 = rinse
- cr = cold rinse
- dr = drain
- rPA = rinse pause
- FP = final pause
- dEt = detergent
- rA1 = rinse aid

7.2 CY1 Cycle 1 Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default(*)
Ln1	Wash Phase Long	[min]	0	20	**0**
Sh1	Wash Phase Short	[s]	1	60	**35**
PA1	Pause	[s]	0	20	**4**
Pr1	Pre-rinse Duration	[s]	0	30	**0**
r.1	Rinse Phase Duration	[s]	10	45	**16**
cr1	Cold Rinse Phase Duration	[s]	0	50	**0**
dr1	Drain	[s]	0	40	**16**
FP1	Final Pause at End of Cycle	[s]	0	60	**0**
tL1	Long wash time in mode Thermal Label	[min]	0	60	**0**
tS1	Short wash time in mode Thermal Label	[s]	0	60	**59**

(*) These parameters are the manufacturer default values.

7.3 CY2 Cycle 2 Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default(*)
Ln2	Wash Phase Long	[min]	0	20	**0**
Sh2	Wash Phase Short	[s]	1	60	**40**
PA2	Pause	[s]	0	20	**4**
Pr2	Pre-rinse Duration	[s]	0	30	**0**
r.2	Rinse Phase Duration	[s]	10	45	**16**
cr2	Cold Rinse Phase Duration	[s]	0	50	**0**
dr2	Drain	[s]	0	40	**16**
FP2	Final Pause at End of Cycle	[s]	0	60	**0**
tL2	Long wash time in mode Thermal Label	[min]	0	60	**2**
tS2	Short wash time in mode Thermal Label	[s]	0	60	**12**

(*) These parameters are the manufacturer default values.

7.4 CY2 Cycle 3 Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default(*)
Ln3	Wash Phase Long	[min]	0	20	**1**
Sh3	Wash Phase Short	[s]	1	60	**40**
PA3	Pause	[s]	0	20	**4**
Pr3	Pre-rinse Duration	[s]	0	30	**0**
r.3	Rinse Phase Duration	[s]	10	45	**16**
cr3	Cold Rinse Phase Duration	[s]	0	50	**0**
dr3	Drain	[s]	0	40	**16**
FP3	Final Pause at End of Cycle	[s]	0	60	**0**
tL3	Long wash time in mode Thermal Label	[min]	0	60	**2**
tS3	Short wash time in mode Thermal Label	[s]	0	60	**12**

bt3	Boiler Temperature Threshold: only for Cycle 3. This parameter allows having a different rinsing temperature for the third cycle. Only values above 45°C are allowed.	[°C]	0	95	**32**

(*) These parameters are the manufacturer default values.

7.5 drn Drain/Cleaning Cycle Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default
tdr	Initial Drain Phase Duration	[s]	0	240	**40**
Fdr	Final Drain Phase Duration	[s]	0	240	**80**
drt	Drain without cleaning cycle	-	0	1	**0**
Cbd	Number of wash cycles possible between one drain cycle and the next	[wash cycles]	0	200	**0**
dto	Indicates the maximum permissible delay between drain cycle start and the reaching of a tank level below the work level. If the set delay is exceeded, alarm B1 occurs.	[s] x 10	0	100	**18**

8 OTHER PARAMETERS

8.1 dPA Dishwashing Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default
tPA	Initial Pause before start washing (for ALL cycles)	[s]	0	10	**0**
dLy	Delay for the 2nd wash pump (PW only)	[s]	0	10	**3**
Pdr	Active a drain phase at the end of washing phase.	[s]	0	40	**0**
rPA	Duration of pause after rinse cycle (valid for dishwashers with door/hood lock device) [See par. 9.1 DETERGENT AND RINSE AID LEVEL SENSORS ACTIVATION].	[s]	0	60	**0**
C F	Celsius/Fahrenheit selection 0 = Celsius 1 = Fahrenheit	-	0	1	**1**
r it	Rinse Temperature Display. Enable rinse temperature probe (if installed). 0 = during rinse phase the display shows boiler temperature; 1 = during rinse phase the display shows rinse temperature;	-	0	1	**0**
PPL	Pulse Per Litre. This parameter must be settled in according to flow meter installed [present up to software version 3.12].	[p/l]	0	255	**0**
CdE	Number of wash cycles performable without detergent (only for dishwashers with external detergent level sensor – par. 9.1 DETERGENT AND RINSE AID LEVEL SENSORS ACTIVATION) [LES: 1]	-	0	5	**5**
tLE	Enable mode Thermal Label: if set to 1 it enables the mode and disables the "endless cycle" button	-	0	1	**0**
btL	Boiler temperature in mode Thermal Label.	[°F]	113	206	**186**
ttL	Tank temperature in mode Thermal Label.	[°F]	104	194	**167**
tHt	Tank temperature hysteresis in mode Thermal Label.	[°F]	32	86	**35**
dLE	Delime enabled. dLE = 1	-	0	1	**1**

8.2 rOn Read Only Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default
rEL	Main Board Firmware Release	-	-	-	-
rLS	Water softener board software version. (only for dishwashers with incorporated continuous water softener).	-	-	-	-
ACC	Active column: indicates through which of the two continuous water softener columns boiler filling is being carried out: 0 = column A and 1 = column B (only for dishwashers with incorporated continuous water softener).	-	-	-	-
CAI1	When CAI1 message appears, the parameter value becomes 3. After maintenance, to clear CAI1 message, insert 0.	-	-	-	-
C 8	When C 8 alarm appears, the machine is frozen and this parameter is 3. After maintenance (see alarm codes document), insert 0 to enable the machine.	-	-	-	-
F21	This alarm appears in case of malfunctioning in the continuous water softener. To facilitate fault-finding, see par. In the case of a shorted probe error (C 5, C 7 e C11), the displayed temperature is 210°F..	-	-	-	-

8.3 HCP Communication and HACCP Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default
SEr	Serial Device 0 = 8N1 1 = PC connection (DAAS 8E1) 7 = HACCP network (ECAP 8E1+LK485) (LK485 board is necessary) 9 = Dishwashers with incorporated continuous water softener 16 = HACCP printer (8N1) 32 = MODEM GSM (DAAS 8N1) 33 = MODEM GSM (DAAS 8E1) 48 = Hyper Terminal (8N1)	-	0	63	**1**
Adr	Address. This parameter specifies the address of the appliance into the 'HACCP_network'. Works only if 'HACCP network' is selected (see above parameter).	-	0	255	**1**
Prn	Print parameter table.	-	0	1	**1**
bt	HACCP 'Basic' (printer) Boiler temperature: high limit.	[°F]	113	203	**194**
bH	HACCP 'Basic' (printer) Boiler temperature: gap below high limit.	[°F]	32	68	**50**
tt	HACCP 'Basic' (printer) Tank temperature: high limit.	[°F]	95	167	**154**
tH	HACCP 'Basic' (printer) Tank temperature: gap below high limit.	[°F]	32	68	**50**

8.4 CFG Configuration Parameters

Sym.	Parameter Description	Unit	Min	Max	Factory Default
typ	Dishwasher Model: 0 = UNDERCOUNTER 1 = POT WASHER 2 = AUTOMATIC POT WASHER 3 = MEDICAL LINE DISHWASHER WITH LOCK DOOR/HOOD DEVICE	-	0	3	**0**
boi	Boiler type: 0 = ATMOSPHERIC BOILER 1 = PRESSURE BOILER 2 = EXTERNAL BOILER	-	0	2	**0**
doo	Door type: 0 = AUTOMATIC HOOD 1 = MANUAL HOOD 2 = FRONT LOADING 3 = POT WASHER		0	3	**2**
dFL	Default model (see Default tables): 1 = HOOD TYPE 2 = POT WASHER 3 = UNDERCOUNTER	-	0	3	**-**
trc	Solid State Relay (TRIAC). 0 = not enabled; 1 = **SOFT START** enabled; 3 = **SLOW SOFT START** enabled (works only on boards with Solid State Relay).	-	0	3	**1**
b_t	Boiler/Tank heating swap: 0 = boiler heaters and tank heater can work simultaneously; 1 = swap enabled: tank heating starts only boiler temperature is reached; 2 = The booster heating elements and the wash pump have priority. The tank heating element is activated only when the booster has reached the set temperature and the wash pump is not working. (Note: disabling this function changes the global electrical power of appliance; before enabling this function check available power, supply cable section, fuses in according to User Manual).	-	0	2	**1**
btF	Tank Filling Mode Enable filling tank by means of rinsing cycles. Ex: btF = 167 means that boiler water is heated at 167°F, then follows a rinse phase and so on until tank is full. If btF = 32 the tank is filled by solenoid valve in the traditional way (On machines with incorporated continuous water softener, even if btF is set to 32, filling occurs through subsequent rinses).	[°F]	32	185	**167**
LES	Detergent Level Switches 0 = level switches not enabled; 1 = enable detergent level switches;	-	0	1	**0**
UI	USER INTERFACE MODEL 8 = under counter See parameter rEL (family ron) to check the software version installed in the board.	-	0	27	**8**

Sym.	Parameter Description	Unit	Min	Max	Factory Default
rE	Delime enabled. rE = 1	-	0	1	**1**
ALr	ALARMS ENABLE 0 = alarms disabled (to disable also warnings see bLo and tLo); 1 = alarms enabled; If this function is disabled, faults can be detected so display do not shows any alarm code.	-	0	1	**1**
AAG	Air gap with float level sensor normally closed (the level sensor is closed when the boiler is empty). E.g. the boiler level sensor for machines with incorporated continuous water softener.	-	0	1	**0**
FrG	Forced start of a resin regeneration cycle (only for dishwashers with incorporated continuous water softener). [See paragraph 9.2 DISHWASHERS WITH WASH TANK WATER CHANGE FREQUENCY CONTROL].	-	0	2	**0**
SrW	Max. rinse water hardness (only for dishwashers with incorporated continuous water softener). After modifying, disconnect and reconnect the machine's main power supply by means of the main switch. [See paragraph 9.2 DISHWASHERS WITH WASH TANK WATER CHANGE FREQUENCY CONTROL].	°fH	4	14	**10**
bPo	Boiler heating control. Defines the max. permissible temperature difference during boiler heating in a time interval of 2 minutes and 30 seconds.	°F	77	176	**122**

8.5 dbG Parameters for automatic hood type dishwashers

Sym.	Parameter Description	Unit	Min	Max	Factory Default
t 1	DELAY_K1 Time (during hood lifting) within which S3" must return to the rest position.	0.1 s	0.0 s.	20.0 s	**15**
t 2	HOOD_TOUT TIMEOUT – max. time allowed for complete hood opening/closing.	0.1 s	0.0 s	20.0 s	**200**
t 3	DELAY_K1_S3 During hood lowering, firstly S3" must cut in and then after a time t 3 .the bottom limit switch S3.	0.1 s	0.0 s.	20.0 s	**15**
t 4	DELAY_K Time within which K and K' must be both closed or both open.	0.1 s	0.0 s.	20.0 s	**10**
t 5	DELAY_S3 Time during hood lifting within which the bottom limit switch must return to the rest position..	0.1 s	0.0 s.	20.0 s	**20**
t 6	DELAY_S5 Time during hood lowering within which the top limit switch must return to the rest position.	0.1 s	0.0 s.	20.0 s	**20**
AL_	Displays the last alarm code relative to automatic hood type dishwashers.	-	-	-	**0**
Ith	Parameter only valid for hood type models. Hood lifting motor absorption threshold. (50 units correspond to a current of approx. 1 ampere).	-	0	250	**100**

9 SPECIAL FEATURES

9.1 DETERGENT AND RINSE AID LEVEL SENSORS ACTIVATION

By setting the parameter LES (in the CFG family) to 1, management of the level sensors located inside the external detergent and rinse aid tanks is enabled. During the rinse phase, when the rinse aid inside the tank has finished, the message rA 0 appears on the display.

When the detergent inside the tank is finished, the message dEt 0 is displayed and after a number of wash cycles equal to CdE (in the dPA family) the dishwasher inhibits the activation of other wash cycles. Therefore the detergent level in the tank must be restored.

9.2 DISHWASHERS WITH WASH TANK WATER CHANGE FREQUENCY CONTROL

WARNING:

Function included starting from firmware version 5.00.

If the parameter Cbd (Cycles before drain) of the family drn is set to a value higher than 0, a wash tank water change frequency control is enabled. The purpose of this function is to display a message telling the customer when a tank water drain cycle is required. In this way, if the customer does what the machine suggests, washes will be done with sufficiently clean water.

The value set in the parameter Cbd (Cycles before drain) indicates the number of wash cycles possible between one tank water drain cycle and the next. When the number of wash cycles done since the last tank water change reaches the value contained in the parameter Cbd (Cycles before drain), the display shows the message "drn" at the start of a wash cycle and the message "drn End" at the end of the same cycle. When these messages appear on the display at the start and end of the wash cycle, a tank water drain cycle must be done to ensure washes with sufficiently clean water.

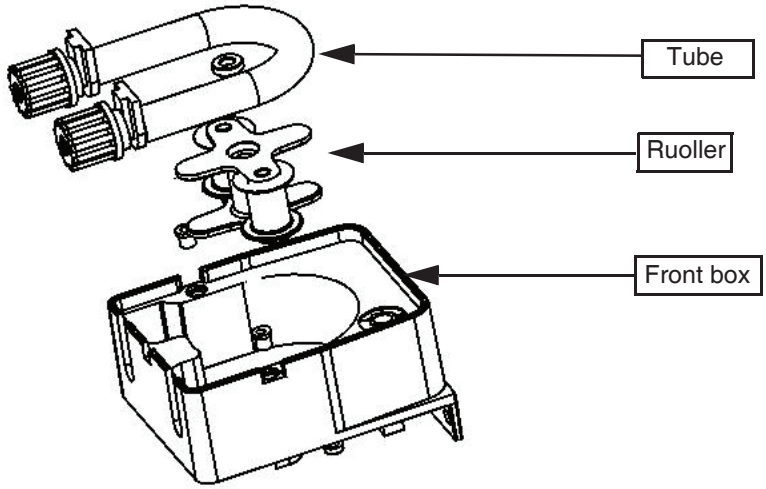
WARNING:

If the tank drain cycle is not done, the machine does not shut down, but will continue to do wash cycles, showing the messages drn and drn End at the start and end of the wash cycle respectively.

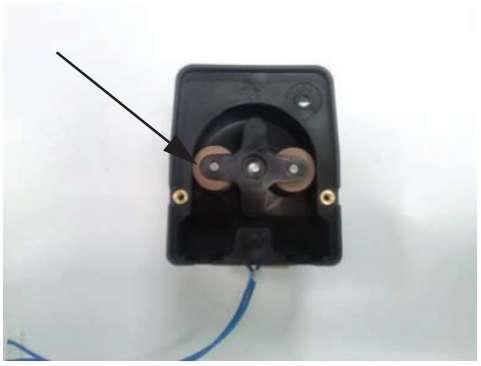
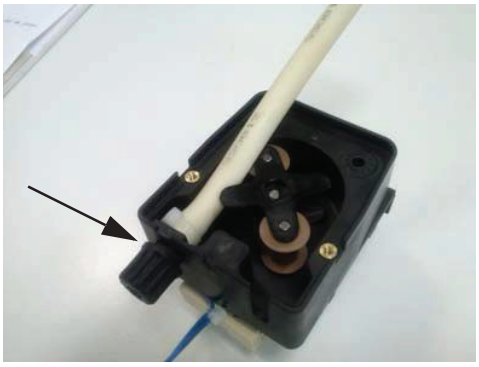
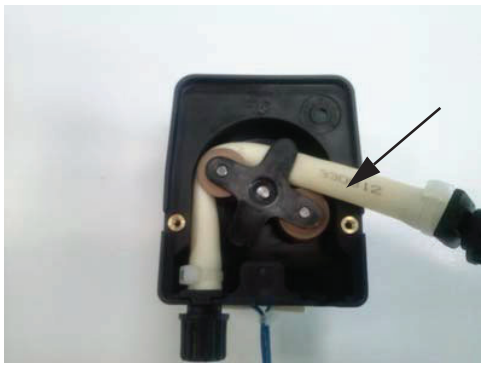
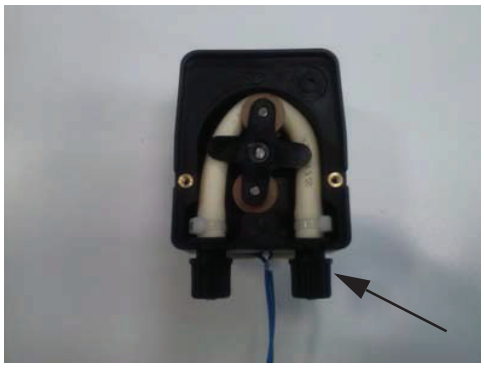
9.3 PERISTALTIC TUBE FITTING AND REPLACEMENT INSTRUCTIONS

Described below is the procedure for inserting and removing the tubes from the peristaltic pumps, in case of tube replacement.

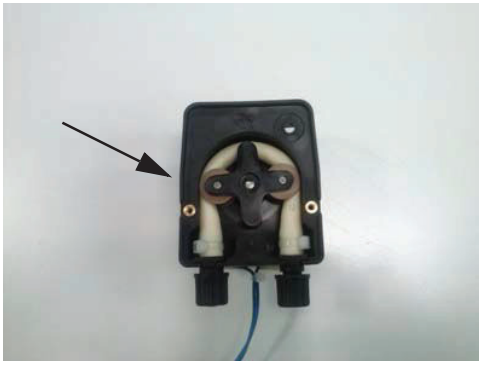
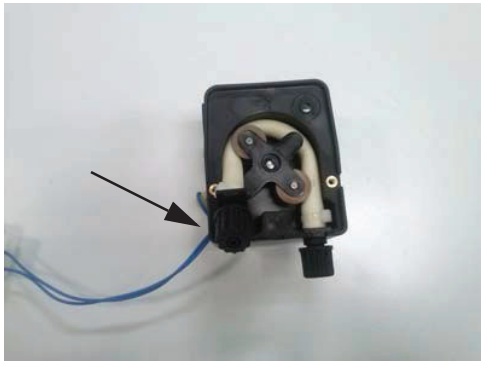
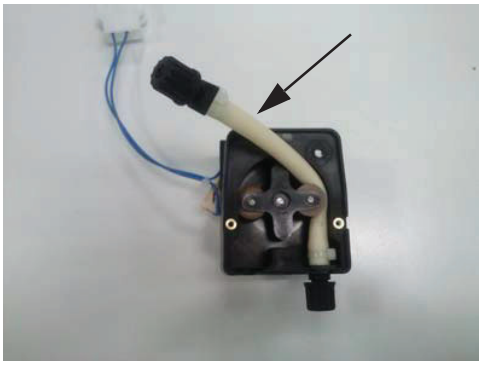
An exploded view of the parts involved in the tube fitting and removal operations is given below.



STEP 1 - FITTING THE TUBE

1. Position the roller.	2. Insert the tube of the suction part, turning the roller clockwise.
	
3. Keep the tube in the seat in the housing and continue turning the roller clockwise, being careful not to damage the tube.	4. Keep the tube in the seat in the housing and continue turning the roller clockwise.
	
5. Turn the roller a full 360°.	6. Make sure to fit the union in the special seat (delivery).
	

STEP 2 - REMOVING THE TUBE

1. Position the roller as shown in the figure.	2. Lift the tube at the suction part and turn the roller at the same time. Guide the tube, keeping it raised, and turn the roller.
	
3. Remove the tube.	
	

10 MAIN BOARD CONFIGURATION

When receiving an electronic board (spare part) may be necessary to configure it in according to the machine where has to be replaced

4. With the machine **CODE** enter into the following table and read the corresponding **Prog.** number
5. Follow the instructions reported into the corresponding **Prog.XXX** sheet (next pages).
6. With the machine **CODE** find the **Layout** number in Par. 12.2 CONNECTORS LAYOUT.

10.1 CODE -> Prog. TABLE

MODEL	CODE	Prog.	Layout
CADET CDT-1	**502354**	**175**	**09**

10.2 PROGRAMMING SHEETS

CADET CDT-1			PROG 175
1.	Switch OFF and then switch ON the machine.		
2.	CFG	Enter into CFG parameter family and set the following parameters.	
	typ	0	Undercounter.
	boi	0	Atmospheric boiler.
	doo	2	Front loading door type.
	dFL	3	Default values for Undercounter models.
	trc	1	SOFT START ENABLED.
	b_t	1	Tank heater works only if boiler temperature reached.
	btF	167	Enable filling tank by means of rinsing cycles.
	LES	0	Detergent level switches not enabled.
	UI	8	Select user interface under counter model.
	rE	1	Regeneration cycle enabled. Delime option enabled.
	ALr	1	ALARMS ENABLED.
3.	Switch OFF and then switch ON the machine.		
4.	Modify Factory parameters:		
	FAC	Enter into FAC parameter family.	
	btC	172	Boiler Temperature Threshold.
	bAJ	39	Boiler Temperature Adjust.
	btd	32	During stand-by boiler is kept at lower temperature than Temperature Threshold.
	ttC	145	Tank Temperature Threshold.
	ttH	41	HISTERESIS of Tank Temperature.
5.	Modify the cycle parameters:		
	CY1	Cycle 1 parameters family.	
	Ln1	1	Long Wash Phase [min]
	Sh1	38	Short Wash Phase [s]
	PA1	4	Pause [s]
	ri1	12	Rinse Phase Duration [s]
	FP1	6	Final Pause [s]
	CY2	Cycle 2 parameters family..	
	Ln2	3	Long Wash Phase [min]
	Sh2	38	Short Wash Phase [s]
	PA2	4	Pause [s]
	ri2	12	Rinse Phase Duration [s]
	FP2	6	Final Pause [s]
	CY3	Cycle 3 parameters family.	
	Ln3	1	Long Wash Phase [min]
	Sh3	38	Short Wash Phase [s]
	PA3	10	Pause [s]
	ri3	16	Rinse Phase Duration [s]
	FP3	6	Final Pause [s]
	dPA	Set other parameters.	
	dLE	1	Delime enabled
6.	Switch OFF and then switch ON the machine.		
7.	Modify Detergent dosage:		
	GEn	Enter into GEn parameter family.	
	dEt	6	Detergent Dosage During Cycle Execution (during wash phase)
	rAi	3	Rinse Aid Dosage During Cycle Execution (when refilling boiler)
8.	Switch OFF and then switch ON the machine.		

WARNING:

To set the board parameters, carefully follow the order given in this programming file, from point 1 to point 7.

11 DEFAULT VALUES FOR CADET CDT-1

GEn → General Parameters	CnE Counters	FAC → Factory Parameters	CY1 → Cycle 1 Parameters	CY2 → Cycle 2 Parameters	CY3 → Cycle 3 Parameters	drn → Drain/Cleaning Cycle Parameters	dPA → Dishwashing Parameters	ron → Read Only Parameters	HCP → HACCP Parameters	CFG → Configuration Parameters	dbG →
d In: 50 Initial Detergent Dosage	CYC Cycles performed counter	bEC: 172 Boiler Temperature	Ln1: 1 Wash Phase Long	Ln2: 3 Wash Phase Long	Ln3: 1 Wash Phase Long	Idr: 30 Initial Drain Phase Duration	IPA: 0 Initial Pause before start washing	rEL Main Board Firmware Release	SEr: 1 Serial Device	tYP: 0 Dishwasher Model	t 1: 15
r In: 10 Initial Rinse Aid Dosage	cYc Cycle counter	btH: 35 Boiler Temperature HISTERESIS	Sh1: 38 Wash Phase Short	Sh2: 38 Wash Phase Short	Sh3: 38 Wash Phase Short	Fdr: 80 Final Drain Phase Duration	dLY: 3	rLS	Adr: 1 Address	bo.t: 0 Boiler type	t 2: 200
dEt: 6 Detergent Dosage During Cycle Execution	rSt Reset counters	bH.t: 204 Boiler Temperature: HIGH LIMIT	PA1: 4 Pause	PA2: 4 Pause	PA3: 10 Pause	drt: 0 Drain without cleaning cycle	Pdr: 0 Active a drain phase at the end of washing phase	ACC	Prn: 1 Print parameter table	doo: 2 Door type	t 3: 15
rA.t: 3 Rinse Aid Dosage During Cycle Execution	nCY thousand of cycles before CAI1 message	bLo: 34 Boiler Temperature: LOW LIMIT	Pr1: 0 Pre-rinse Duration	Pr2: 0 Pre-rinse Duration	Pr3: 0 Pre-rinse Duration	Cbd: 0 Number of wash cycles possible between one drain cycle and the next	rPA: 0	CAI1 Maintenance message	bt : 194 Boiler temperature: high limit	dFL: - Restore the manufacturer parameters.	t 4: 10
	drn Drain/Cleaning cycles performed	bFL: 5 Boiler Filling Timeout	r.1: 12 Rinse Phase Duration	r.2: 12 Rinse Phase Duration	r.3: 16 Rinse Phase Duration	dto: 18 Indicates the maximum permissible delay between drain cycle start and the reaching of a tank level below the work level	C F: 1 Celsius/ Fahrenheit selection	C 0 Alarm message	bH : 50 Boiler temperature: gap below high limit	trc: 1 Solid State Relay	t 5: 20
	rCY	bAd: 39 Boiler Temperature Adjust	cr1: 0 Cold Rinse Phase Duration	cr2: 0 Cold Rinse Phase Duration	cr3: 0 Cold Rinse Phase Duration		r.t: 0 Rinse Temperature Display	F21	tt : 154 Tank temperature: high limit	b_t: 1 Boiler/Tank heating swap	t 6: 20
	nrE	bP : 1 Boiler Priority (enable boiler wait function)	dr1: 30 Drain	dr2: 30 Drain	dr3: 30 Drain		PPL: 0 Pulse Per Litre		tH : 50 Tank temperature: gap below high limit	btF: 75 Tank Filling Mode	AL.: 0

GEn → General Parameters	CnE Counters	FAC → Factory Parameters	CY1 → Cycle 1 Parameters	CY2 → Cycle 2 Parameters	CY3 → Cycle 3 Parameters	drn → Drain/Cleaning Cycle Parameters	dPA → Dishwashing Parameters	ron → Read Only Parameters	HCP → HACCP Parameters	CFG → Configuration Parameters	dbG →
	rES	bSt: 35 Booster Function	FP1: 6 Final Pause at End of Cycle	FP2: 6 Final Pause at End of Cycle	FP3: 6 Final Pause at End of Cycle		CdE: 5 Number of wash cycles performable without detergent			LES: 0	tEn: 100
		btd: 32 Boiler temperature negative differential	tL1: 0 Long wash time in mode Thermal Label	tL2: 1 Long wash time in mode Thermal Label	tL3: 2 Long wash time in mode Thermal Label		tLE: 0 Enable mode Thermal Label			U1: 0 USER INTERFACE MODEL	
		ttC: 145 Tub Temperature: THRESHOLD	tS1: 59 Short wash time in mode Thermal Label	tS2: 12 Short wash time in mode Thermal Label	tS3: 12 Short wash time in mode Thermal Label		btL: 186 Boiler temperature in mode Thermal Label			rE: 1 Delime enabled	
		ttH: 41 Tub Temperature: HISTERESIS			bt3: 32		ttL: 167 Tank temperature in mode Thermal Label			ALr: 1 ALARMS ENABLE	
		tH1: 167 Tank Temperature: HIGH LIMIT					tHt: 35 Tank temperature hysteresis in mode Thermal Label			AAG: 0	
		tLo: 34 Tank Temperature: LOW LIMIT					dLE: 1 Delime enabled			FrG: 0	
		tFL: 20 Tank Filling Time-out								SrU: 10	
										bPo: 122 Boiler heating control	

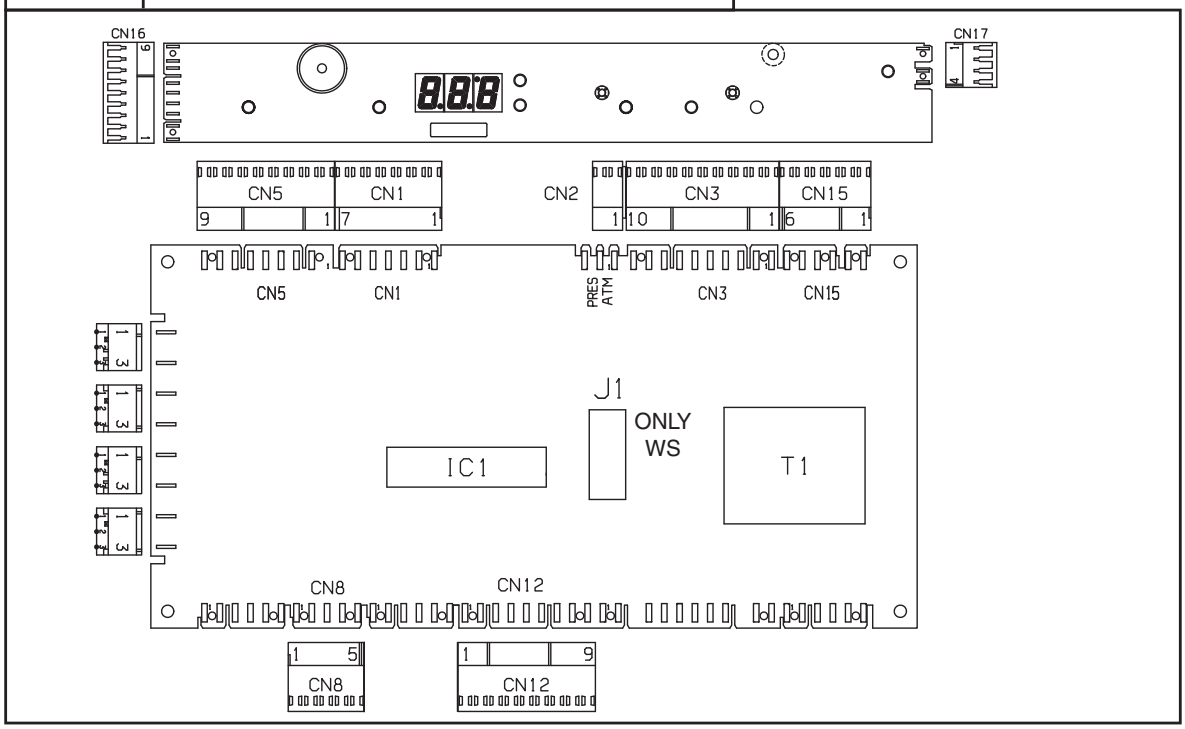
12 USER INTERFACE AND MAIN BOARD CONNECTORS

12.1 MAIN MALFUNCTIONS NOT DUE TO THE MAIN BOARD

The display shows CLOSE with door/hood closed	Check door/hood micro/sensor
No cycle starts	Check the user interface buttons (have they remained pressed? etc.)
A cycle fails to start	Is a user interface button extension missing?
After replacing the main board only the 3rd cycle starts	The main board is still configured for LS5/WT4.
Cycle time longer than that foreseen	Does the boiler work? Is the feed water at 50°C?
Noisy wash pump (only on HT and PP versions)	Check the current for single phase during operation.

12.2 CONNECTORS LAYOUT

LAYOUT 9 VDU30



KEY

CN1 Rinse pump/wash pump/solenoid valve outputs
CN2 Pressure/atmospheric dishwasher solenoid valve connection
CN3 ECOTEMP transformer and detergent/rinse aid dispenser outputs
CN5 Tank/boiler temperature sensor inputs
CN8 Energy peak controller input
CN12 User interface inputs/outputs
CN15 Overflow/tank level/board feed input
CN16 User interface inputs/outputs and hood/door sensor input
CN17 Door microswitch connection

13 ALARM MESSAGES AND TROUBLESHOOTING

13.1 ALARMS THAT STOP THE DISHWASHER

A 1	No water in the system
	Is the water tap open? Does the water load solenoid valve work? Is the water feed flow a min. of 5 l/min? **13.2** Is the water inlet filter clean? **KEY** **CN1** Rinse pump/wash pump/solenoid valve outputs

C 8	Rinsing is not done regularly for 2 consecutive cycles
	Are the rinse arms clogged? Does the rinse pump work correctly? Is there water in the level sensor tube? Is there scale in the boiler? Does the boiler level sensor work properly?
	ONLY FOR MACHINES WITH CONTINUOUS WATER SOFTENER: Does the boiler level sensor located inside the water softener work properly? Does the float of the boiler level sensor, located inside the water softener, work properly? Is it free to move upwards and downwards and vice versa? Is the connection from the boiler level sensor to the main board efficient?
	WARNING: RESETTING THIS ALARM WITHOUT FIRST ELIMINATING THE CAUSE IS DANGEROUS; THE BOILER HEATING ELEMENTS COULD WORK WITHOUT WATER, FURTHER DAMAGING THE INTERNAL PARTS OF THE DISHWASHER. **WARNING**: C 8 IT MUST BE MANUALLY RESET AFTER ELIMINATING THE CAUSE OF THE MALFUNCTION.

14.2 ALARMS THAT DON'T STOP THE DISHWASHER

b 1	Drain out not efficient
	Has the overflow been removed? Is the water drain blocked? Is the drain pump blocked? Are the air trap and tank pressure switch clean? Is there a constriction in the drain tube? Is the pump breather pipe returning to the tank clogged or constricted? Does the tank pressure switch work properly? Is there a hole in the drain tube (only for versions with drain pump)?
b 2	Overflow alarm
	Is the water drain blocked? Are the air trap and tank pressure switch clean? Does the tank pressure switch work properly? Is the load solenoid valve blocked? (E1 - LOAD_EV) Is the load solenoid valve relay stuck? (RL8 - LOAD_EV)

E 1	Boiler temperature rise too fast
	Does the boiler level sensor work properly? The boiler could be empty. Are non-original power resistances installed?
E 2	Boiler temperature too high
	Has the boiler temperature been changed (bEE - increased above 194°F)? Has the software alarm value been modified (bH 1)? Does the boiler level sensor work properly? Is the boiler relay stuck (see RL2, RL3, RL4)?
E 3	Tank temperature too high
	Is the feed water above 140°F? Has the software alarm value been modified (tH 1)? Is the rinse water temperature too high? Is the tank relay stuck (RL5 - TUB_HEAT)?
E 4	Tank temperature sensor out of order
	Is the temperature sensor broken or disconnected (NT1)? Is the temperature sensor connector correctly inserted?
E 5	Tank temperature sensor out of order
	Is the temperature sensor short-circuited (NT1)?
E 6	Boiler temperature sensor out of order
	Is the temperature sensor broken or disconnected (NT2)? Is the temperature sensor connector correctly inserted?
E 7	Boiler temperature sensor out of order
	Is the temperature sensor short-circuited (NT2)?

C 10	Rinse temperature sensor out of order (only on machines with temperature sensor on the rinse circuit)
	Is the temperature sensor broken or disconnected? Is the temperature sensor connector correctly inserted?
C 11	Rinse temperature sensor out of order (only on machines with temperature sensor on the rinse circuit)
	Is the temperature sensor short-circuited?

WARNING:

Alarms C 2, C 6 and C 7 lock the boiler temperature control.

Alarms C 3, C 4 and C 5 lock the tank temperature control.

In the case of alarms C 6 and C 7, the boiler waiting phase is not executed (the rinse may be performed with cold water) and, during the initial warm-up and subsequent rinses (btF > 0), the boiler heating phase is not executed.

In the case of an open probe error (C 4, C 6 e C 10), the displayed temperature is 50°F

In the case of a shorted probe error (C 5, C 7 e C 11), the displayed temperature is 210°F.

E 1	Communication error
	Is the connection between main board and control panel correct? Are the connectors correctly connected? Are connector contacts clean?
E 2	Low tank temperature
	Does the tank heating element work properly? Are the connectors correctly connected? Are the dishwasher feed voltage and current correct? Is the relay RL5 on the board disconnected or faulty?
E 3	Low boiler temperature
	Does/do the boiler heating element/s work properly? Are the connectors correctly connected? Does the possible remote control switch connected to the heating element work correctly? Is there power at the remote control switch input terminals? Does relay RL2 on the board work properly? CAUTION: IF THERE IS A MALFUNCTION ON RELAY RL2 AND THE BOILER HEATING ELEMENTS ARE FED BY MEANS OF A REMOTE CONTROL SWITCH, THE BOARD DOES NOT HAVE TO BE REPLACED; JUST MOVE THE BOILER HEATING ELEMENT CONNECTOR TO ONE OF THE TWO FREE POSITIONS ON THE BOARD. CAUTION: WHEN ONE BRANCH OF THE HEATING ELEMENT DOES NOT WORK AND THE OTHER TWO CONTINUE TO FUNCTION, ON REACHING THE SET TEMPERATURE VALUE, ALARM 3 DISAPPEARS AND REAPPEARS IN THE SUBSEQUENT RINSE PHASE. THIS ALSO OCCURS WHEN A PHASE IS MISSING.

15 LIST OF PARAMETERS FOR SUBSEQUENT VERSIONS

The parameters listed below, even if present inside the software, cannot be used in appliances currently in production.

Family GEn:

- parameter ACd
- value dEt : 183

Family Str

Family CFG - alarm F8

- parameter AAG, the maximum value it can be set to is 3, but actually the only significant values are 0 and 1. By setting AAG to 3, alarm F8 may appear, also implemented by the firmware, but not used in any current application.

16 SERVICING THE APPLIANCE

16.1 LIST OF NEEDED TOOLS

Please, refer to the Electrolux Professional Universal Spare Parts Catalogue [USP].

16.1.1 Ordinary tools

The following tools take part of the Kit of assorted tools [USP #0S1288] contained in the Tool trolley case [USP #0S1980]:

- Phillips and Flat screwdriver.
- Ratchet wrench M7 or Socket wrenches M7.
- Ratchet wrench M8 or Socket wrenches M8.
- Ratchet wrench M10 or Socket wrenches M10.
- Ratchet wrench M13 or Socket wrenches M13.

16.1.2 Special tools

In addition to the normal instrumentation, to do the maintenance of this unit the following tools are raccomanded:

- Digital multimeter [USP #0S1282].
- Current clamp [USP #0S1456].
- Digital thermometer [USP #0S0838] + water immersion-penetration probe [usp #0S1158].
- Water pressure gauge [USP #0S0478].
- Water analysis case [USP #0S0483].

16.2 COMPONENTS REPLACEMENT

WARNING:

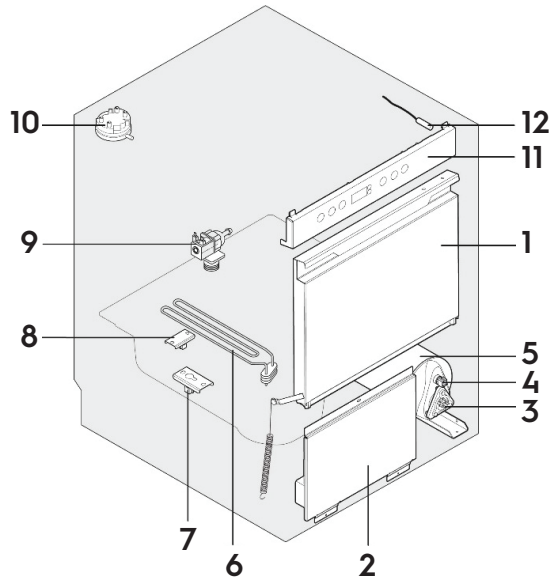
Before doing any work on the equipment ALWAYS unplug it from the power supply (danger of fatal electric shock!).

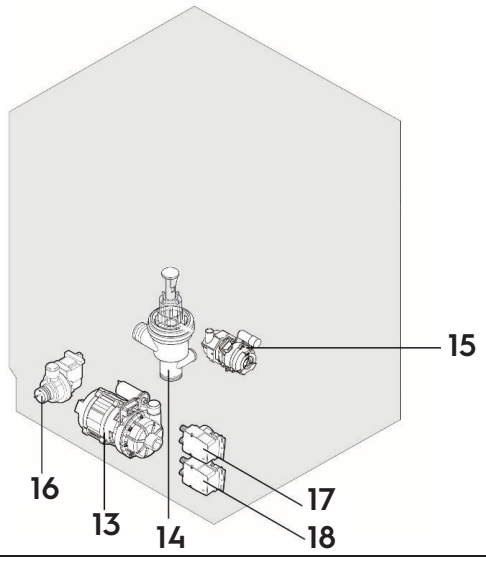
This chapter explains how to remove various parts of the equipment to access its functional components: please always refer to this guide to access various parts.

To reinstall a part, follow the instructions in reverse order to those described below.

16.2.1 Components layout

Pos	Component
1	Door
2	Main-board
3	Boiler heating element
4	Boiler temperature sensor
5	Boiler
6	Tank heating element
7	Tank temperature sensor
8	Clixson tank heating element
9	Water load solenoid valve
10	Tank pressure switch
11	User interface
12	Door micro switch
13	Wash pump
14	Drain manifold tank
15	Rinse pump
16	Drain pump
17	Detergent dispenser pump
18	Rinse aid dispenser pump





16.2.2 Door replacement

1. Open the door
2. Remove left and right panel (Fig.1).
3. Remove left and right spring from support arms (Fig.2).
4. Unscrews left and right hinges bolts (Fig.3).
5. Components, as pins, hinges and seger must be all removed.
6. Pull out the door (Fig.4).
7. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

Fig. 1

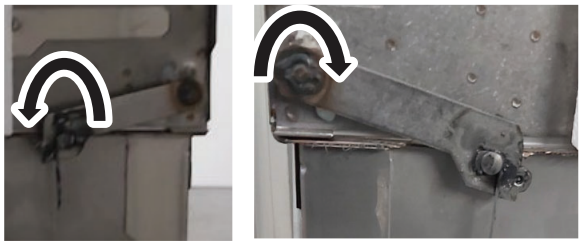


Fig. 2

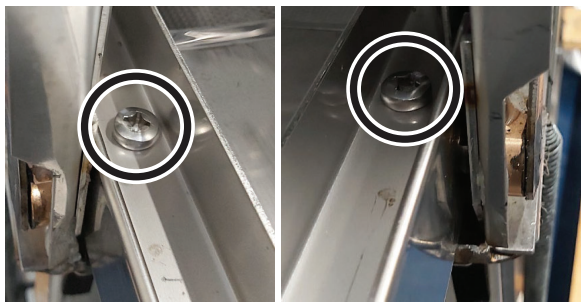


Fig. 3

Fig. 4

16.2.3 Access to front components

1. Remove the front screws from the bottom front panel (Fig.1).
2. To remove the bottom front panel lift up and down on it (Fig.2).
3. All front components will be access now (Fig.3).
4. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

Fig. 1

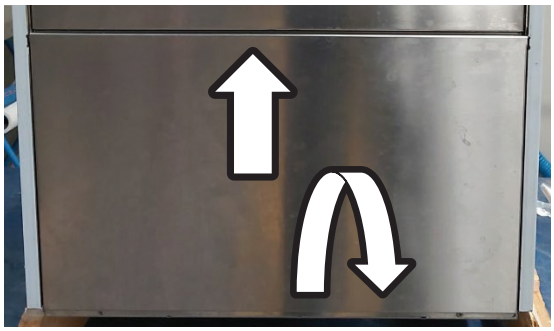


Fig. 2

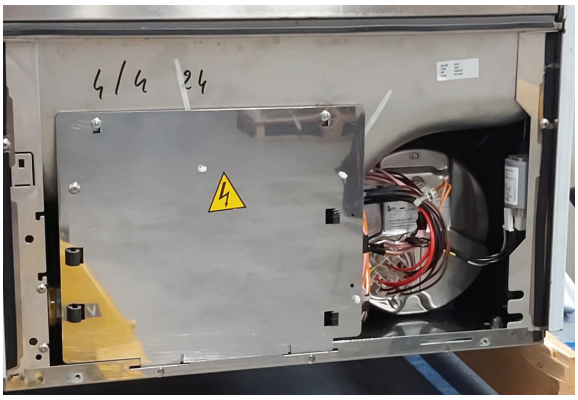


Fig. 3

16.2.4 Main-board replacement

1. Following the instruction paragraph (*16.2.3 Access to front components*).
2. Remove two bolt of the main board support (Fig.1)
3. Pull down the main board support (Fig.1 and 2).
4. Remove the connectors of main board (Fig.3).
5. Press the two pins in the left position of main board and pull up all main board (Fig.4).
6. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

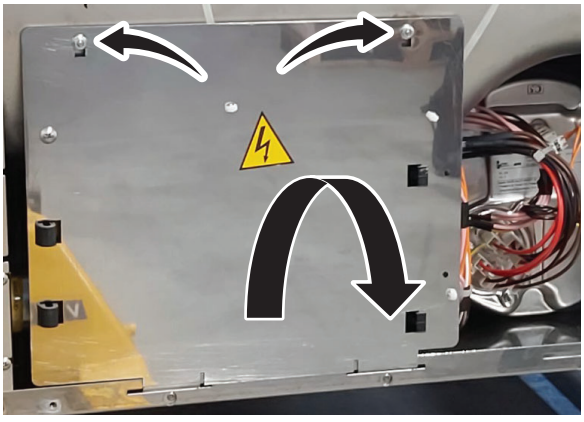


Fig. 1

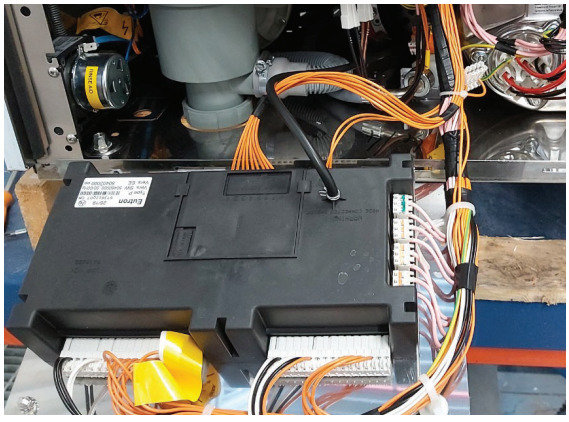


Fig. 2

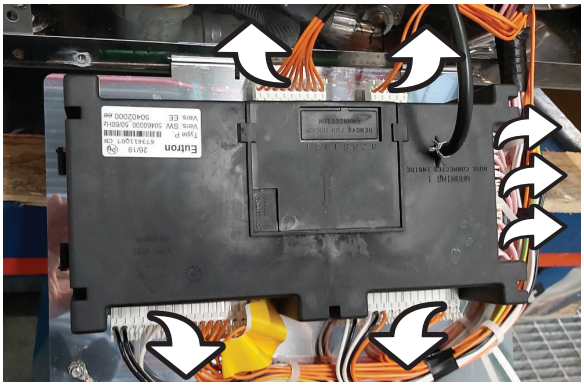


Fig. 3

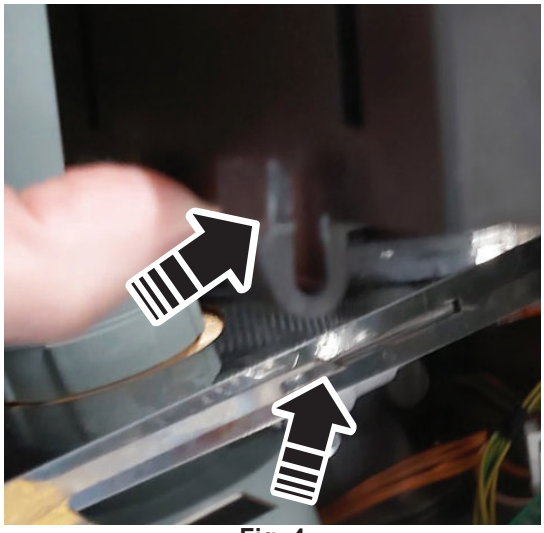


Fig. 4

16.2.5 Booster heating element replacement

1. Make sure to empty the booster.
2. Following the instruction paragraph (*16.2.3 Access to front components*) (Fig.1).
3. Remove all the wiring connector present from the heating element (Fig.2).
4. Remove the three bolts that fix the booster heating element (Fig.3).

WARNING:

The booster could be not completely empty! Residual water can damage other nearby components in case of direct contact.

5. Pull out the booster heating element.
6. Make sure that the O-ring is present in the heating element (Fig.4).
7. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

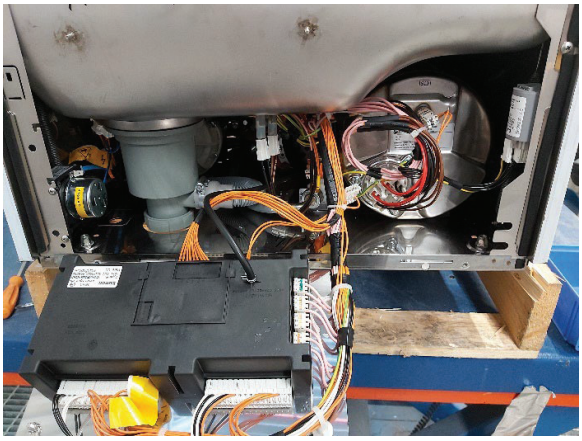


Fig. 1

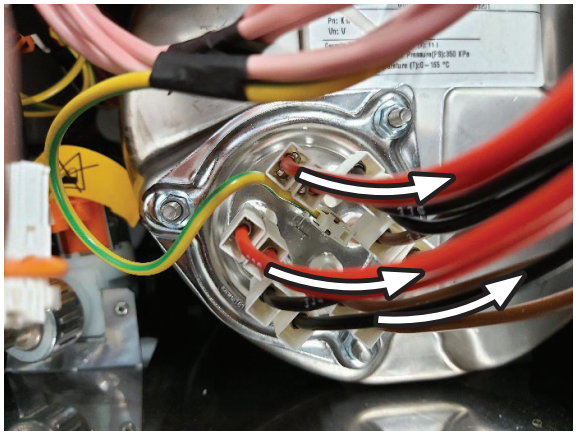


Fig. 2

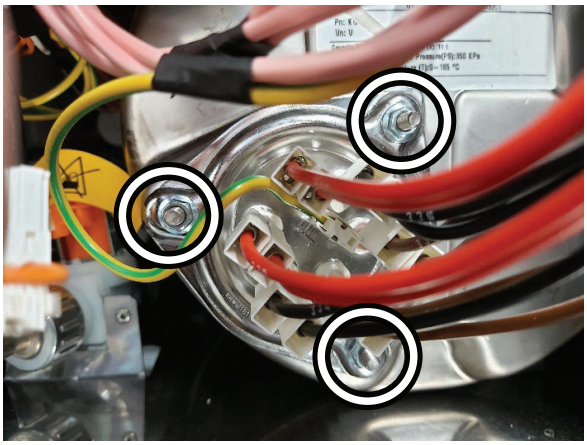


Fig. 3

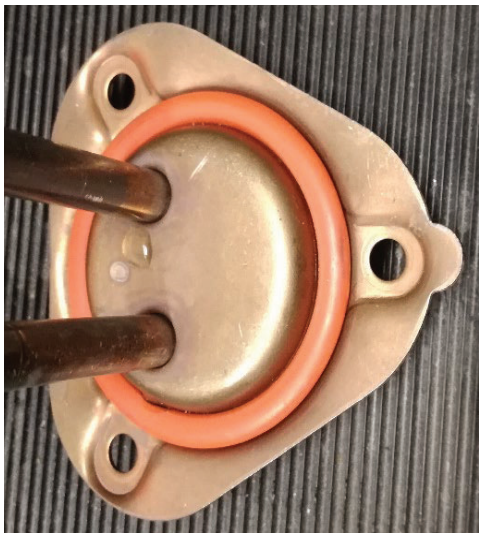


Fig. 4

16.2.6 Booster temperature sensor replacement

1. Make sure to empty the booster.
2. Following the instruction paragraph (*16.2.3 Access to front components*).
3. Remove the wiring connector from the booster temperature sensor (Fig.1)
4. Unscrew the booster temperature sensor using the right wrench (Fig.2).
5. Pull out the temperature sensor from the booster (Fig.3).
6. Make sure that the O-ring is present in the booster sensor (Fig.4).
7. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

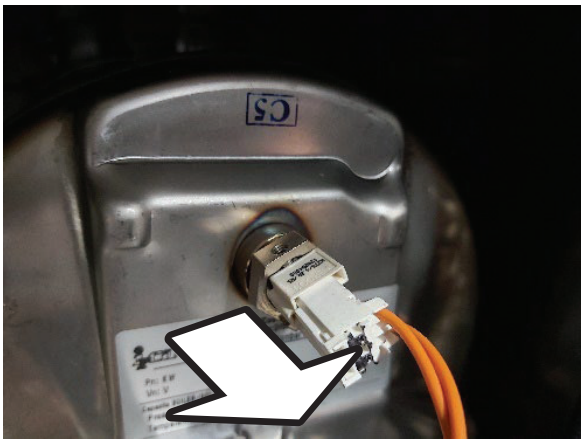


Fig. 1

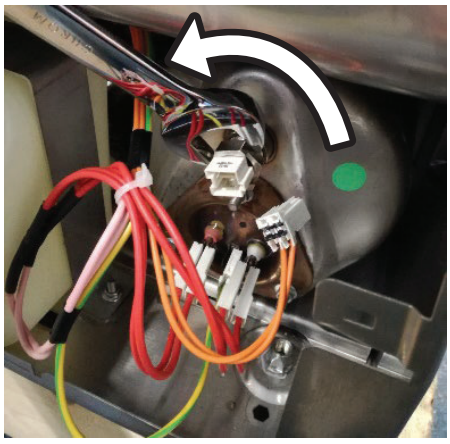


Fig. 2

Fig. 3

Fig. 4

16.2.7 Tank heating element replacement

1. Make sure to drain out tank water.
2. Following the instruction paragraph (*16.2.3 Access to front components*).
3. Open the door and remove the basket inside (Fig.1).
4. Remove the wiring connector in the tank heating element (Fig.2).
5. Remove the nut that fix the Ground wiring (Fig.3).
6. Remove the rubber protection present in the tank heating element (Fig.4).
7. Remove the nut and bottom stopper that fix the tank heating element (Fig.5).
8. Remove the stopper inside of cavity that fix the tank heating element (Fig.6).
9. Pull out the tank heating element (Fig.7).
10. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

Fig. 1

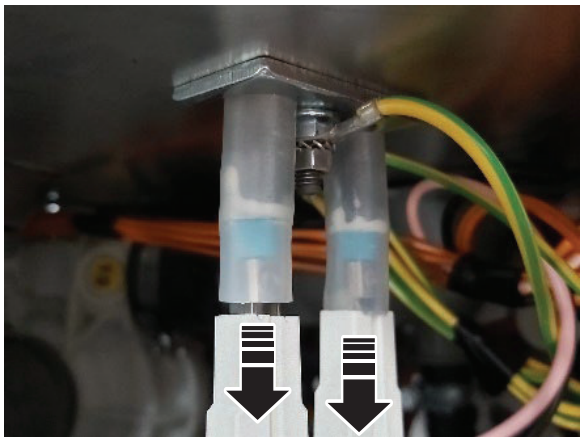


Fig. 2

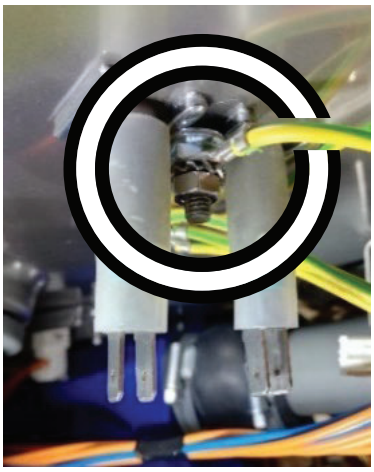


Fig. 3

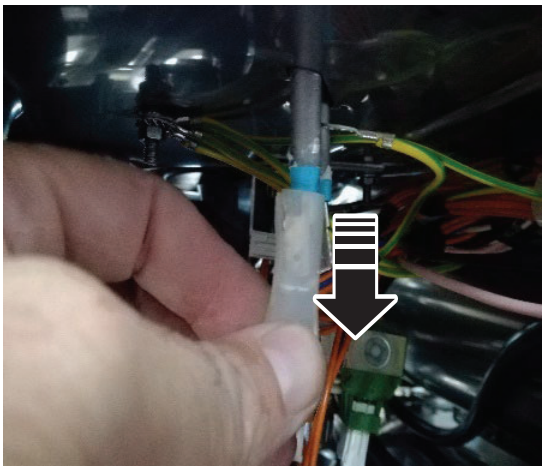


Fig. 4

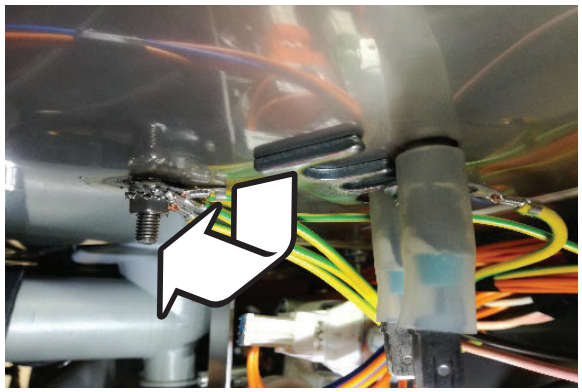


Fig. 5

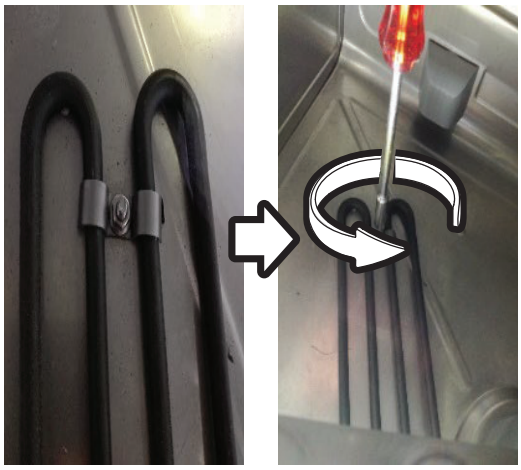


Fig. 6

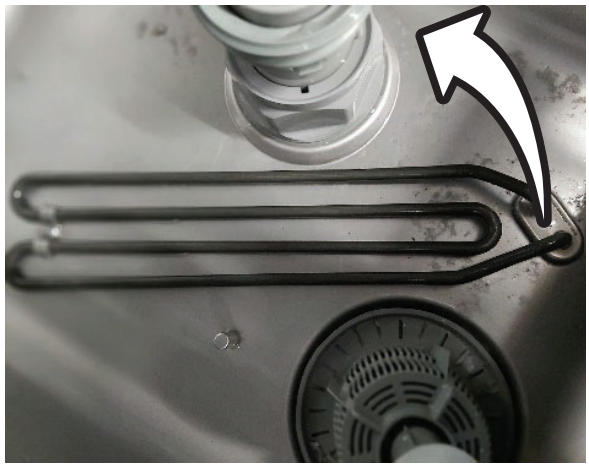


Fig. 7

16.2.8 Access to back components

1. In the back part of the appliance, remove all connections as: pipes, and electrical power if connected.
2. Unscrews 9 screws that fix the back panel (Fig.2).
3. Remove the wiring ground cable (Fig.3).
4. Open the back panel protections, and disconnect the connectors from the terminal box (Fig.4).
5. Take out the back panel.
6. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

Fig. 1

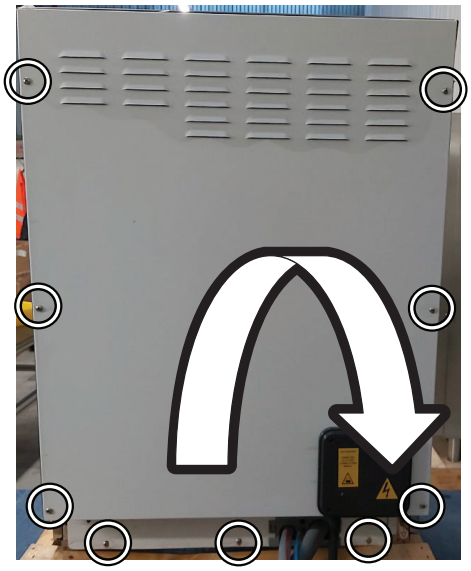


Fig. 2

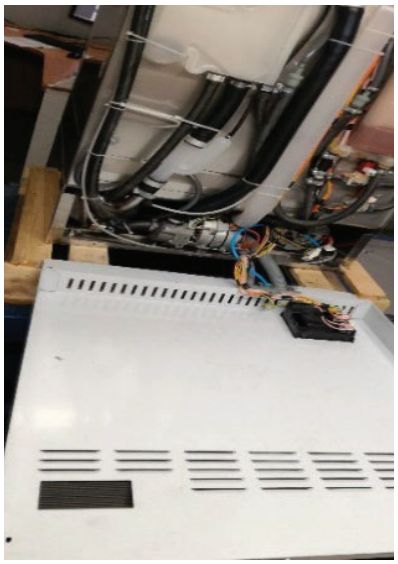


Fig. 3

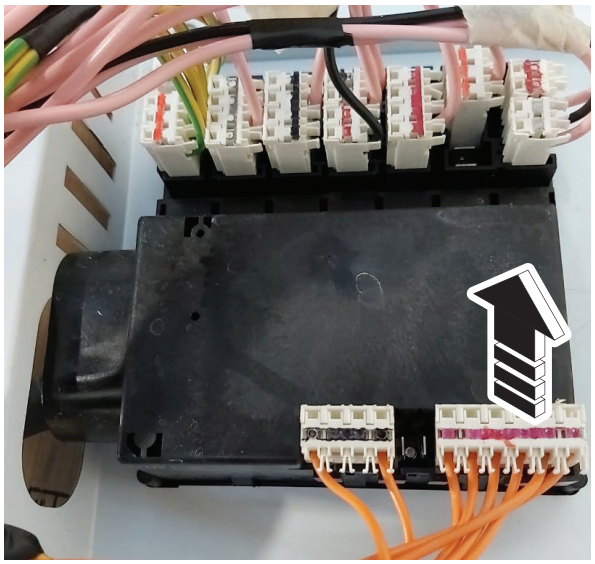


Fig. 4

16.2.9 Booster replacement

1. Make sure to empty the booster.
2. Following the instruction paragraph (*16.2.3 Access to front components*).
3. Remove the wiring connectors present in the booster heating element (Fig.1).
4. Following the instruction paragraph (*16.2.8 Access to back components*).
5. Remove the metallic strip that fix the rubber pipe to the booster (Fig.2).
6. Remove the rubber pipe from the booster (Fig.2).
7. Loose the metal clamp open it and extract the boiler from the side (Fig.3).

WARNING:

The booster could be not completely empty! Residual water can damage other nearby components in case of direct contact.

8. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

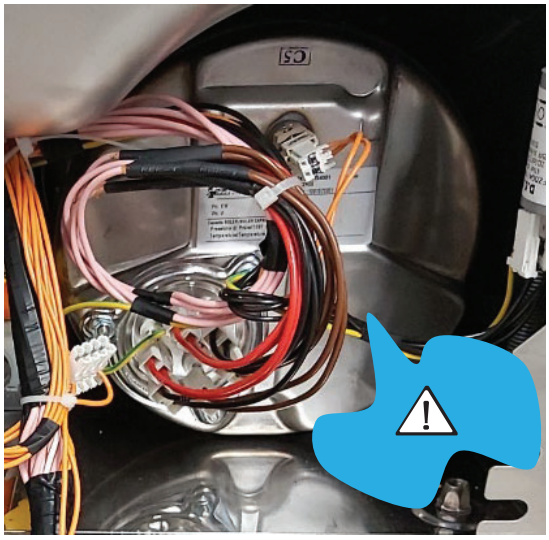


Fig. 1

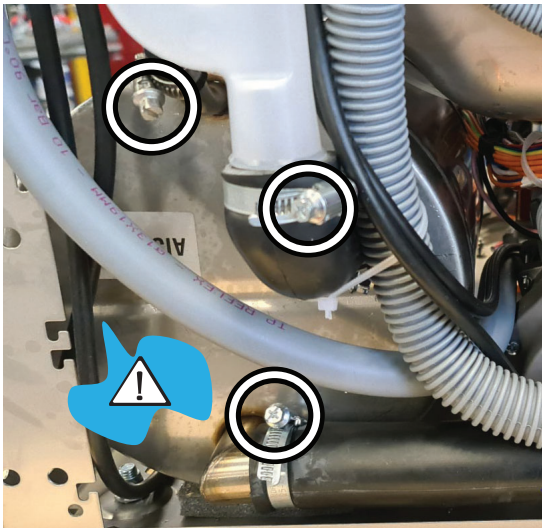


Fig. 2

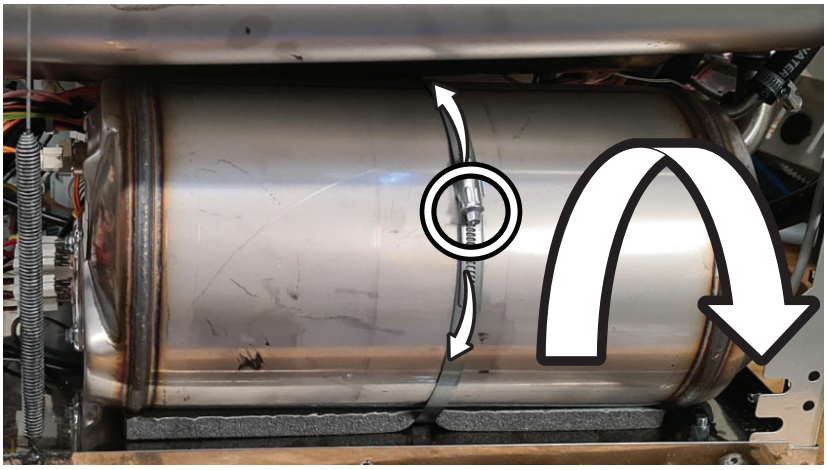


Fig. 3

16.2.10 Tank temperature sensor replacement

1. Make sure to drain out tank water.
2. Unscrews the left side panel.
3. Identify the position of tank sensor in the bottom of the tank (Fig.1).
4. Disconnect the wiring cable (Fig.2).
5. Remove two nut that fix the tank sensor plate (Fig.3).
6. Gently pull out the sensor (Fig.4).
7. Every change need a new gasket (Fig.5)
8. Make sure that the O-ring is present in the tank temperature sensor (Fig.5).
9. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

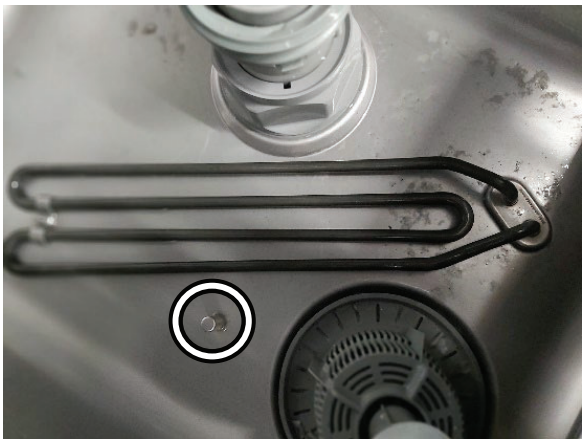


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

16.2.11 Clixson tank heating element

1. Following the instruction paragraph (*16.2.3 Access to front components*).
2. Following the instruction paragraph (*16.2.8 Access to back components*).
3. Unscrew two screws of the left panel and from its front pull towards the right (Fig.1).
4. Identify the position of the clixson in the bottom part of the appliance (Fig.2).
5. Disconnect the wiring cable (Fig.3 detail **A**).
6. Remove one of the nuts that fix the tank sensor support (Fig.3 detail **B**).
7. Unscrew the second nut that fix the tank sensor support, without remove it completely (Fig.3 detail **B**).
8. Turn to right the support and remove the sensor (Fig.4)
9. Pull out the clixson from the support (Fig.5).
10. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

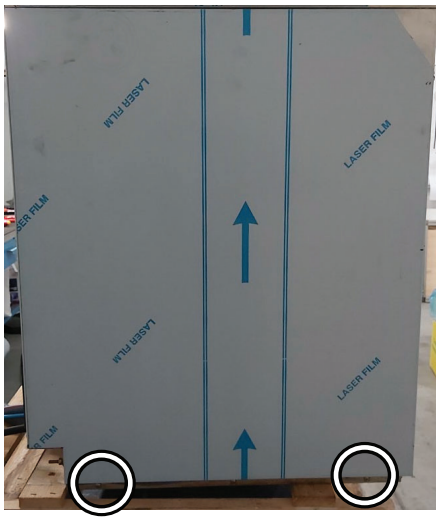


Fig. 1

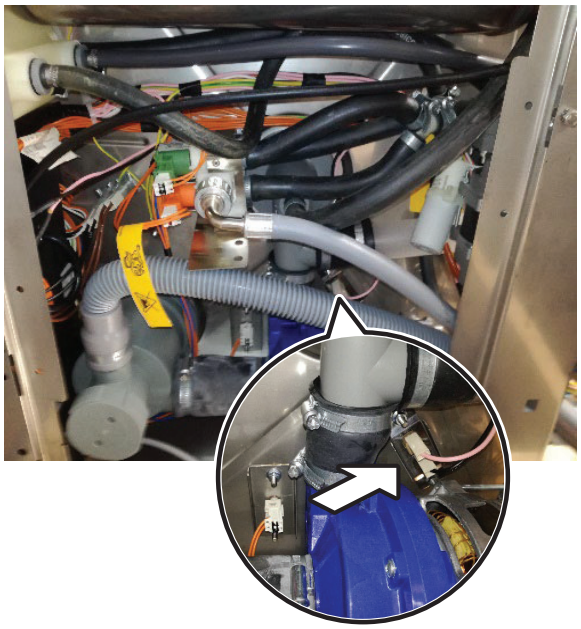


Fig. 2

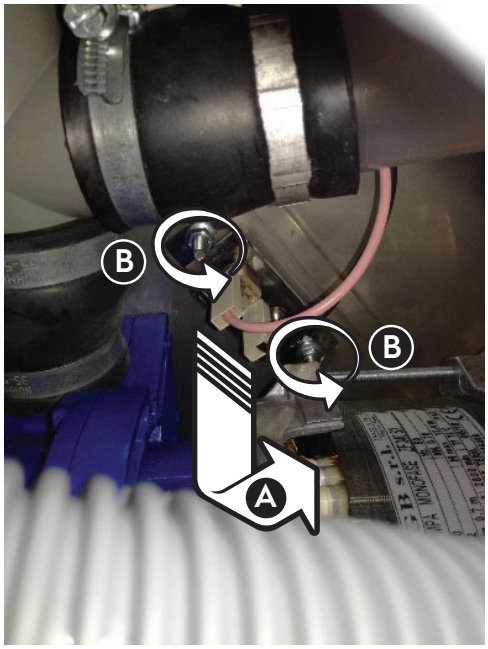


Fig. 3

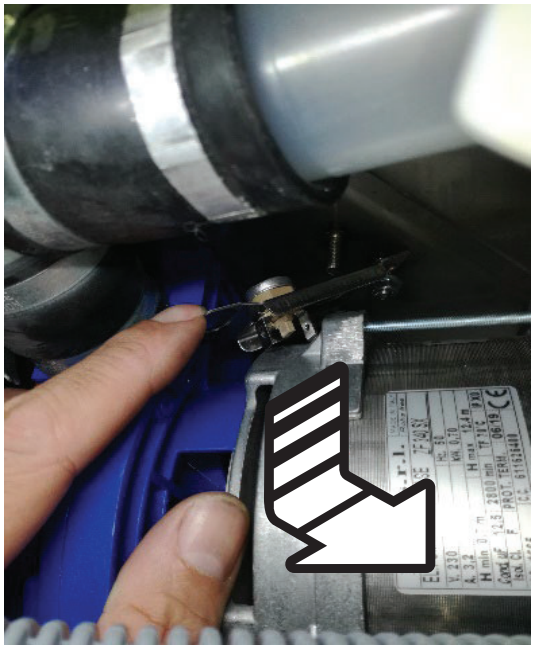


Fig. 4

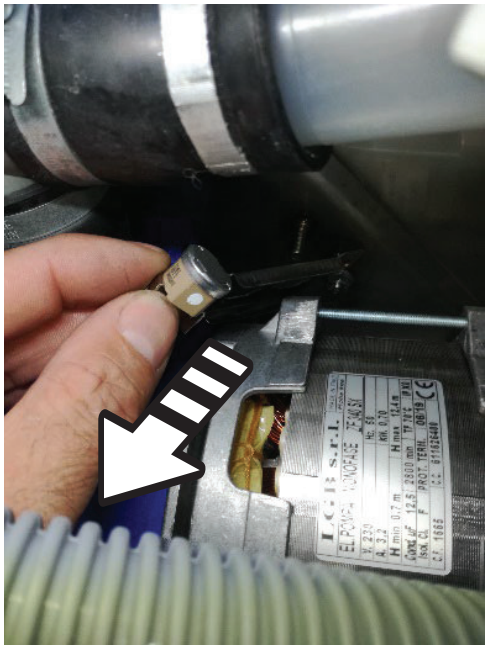


Fig. 5

16.2.12 Wash pump replacement

1. Following the instruction paragraph (*16.2.8 Access to back components*).
2. Remove the left side panel unscrewing the two bottom screws and pulling it on the right (Fig.1).
3. Identify the position of the washing pump located in the bottom part of the appliance (Fig.2).
4. Unscrew all the fixing clamps that fix the rubber fittings (horizontal and vertical) to the washing pump (Fig.2 and 3).
5. Move the clamp towards the centre of the rubber fitting (Fig.2 and 3).
6. Disconnect the electrical connector from the wash pump (Fig.4)
7. Remove the screws that secure the pump bracket support on the bottom (Fig.5).
8. Remove two screws securing the pump wash bracket.
9. Remove the wash pump bracket.
10. Move the wash pump to the right and remove the rubber hose (Fig.2 and 3).
11. Turn the wash pump to the left and pull it out from the appliance.

12. Before reinstalling a new pump, it is recommended to use new rubber hose fittings and to facilitate insertion use Vaseline oil for insertion or unscrewing.
13. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

Fig. 1

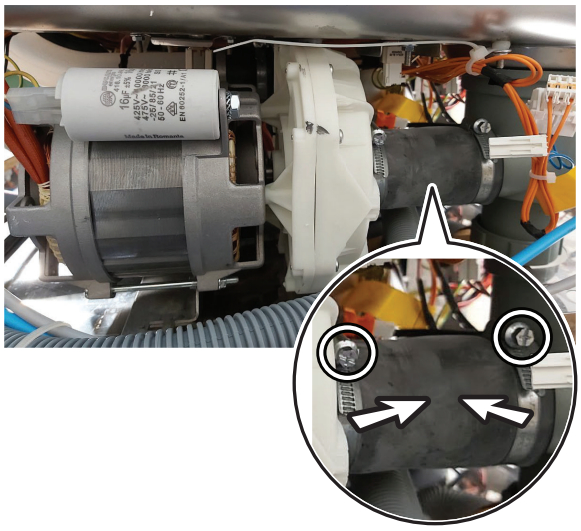


Fig. 2

Fig. 3

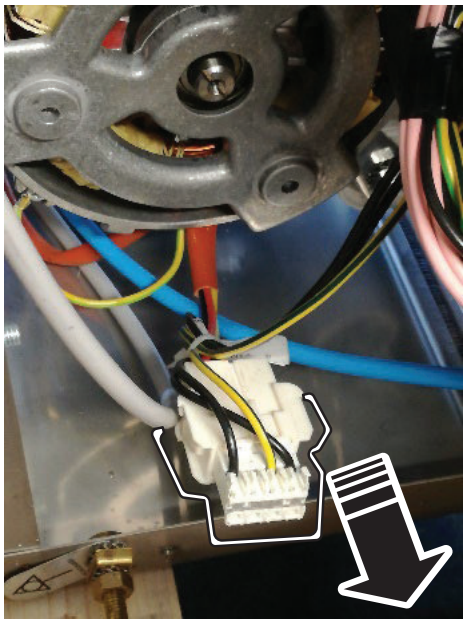


Fig. 4

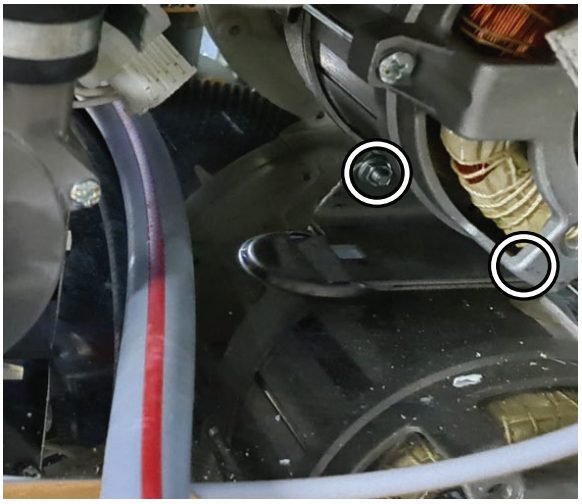


Fig. 5

16.2.13 Drain manifold tank replacement

1. Following the instruction paragraph (*16.2.3 Access to front components*).
2. Following the instruction paragraph (*16.2.8 Access to back components*).
3. Remove the components inside of tank as filters, cover, wash and rinse arms (Fig.1-2).
4. Tilt or lean the appliance to the left to reach the bottom panel.
5. Unscrew the two screws in the bottom panel and pull it to the right.
6. Identify the position of the drain manifold in the bottom of the appliance.
7. Unscrew the fixing clamps that fix the rubber plumb fittings (horizontal and vertical) in the washing pump and in the discharge cover filter(Fig.3, 4, 5, 6).
8. Turn to the left the drain manifold. Use an appropriate tools to make easier the operation. Unscrew it until removing the plastic nut that fix the drain manifold to the wash tank (Fig.7 details A, B and C).
9. Remove the drain collector from the bottom (Fig.8).

WARNING:

Make sure that the O-ring is present in the drain manifold (Fig.9).

10. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

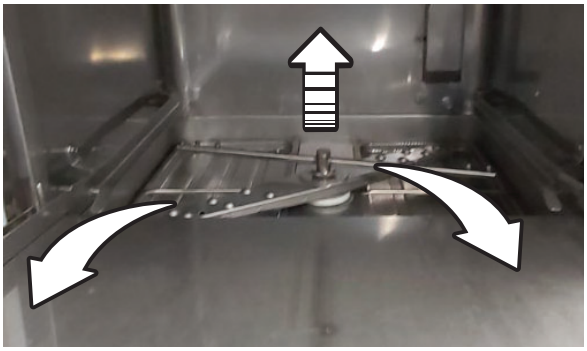


Fig. 1

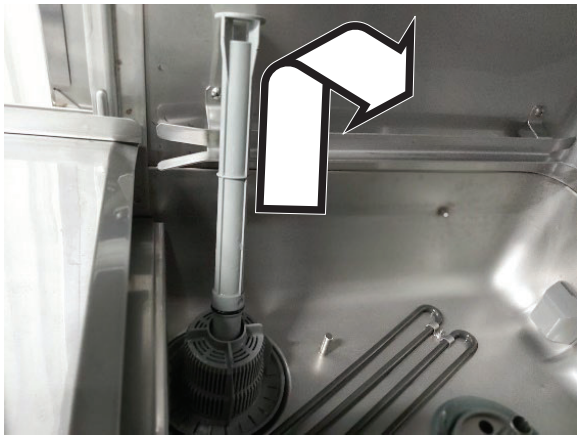


Fig. 2

Fig. 3

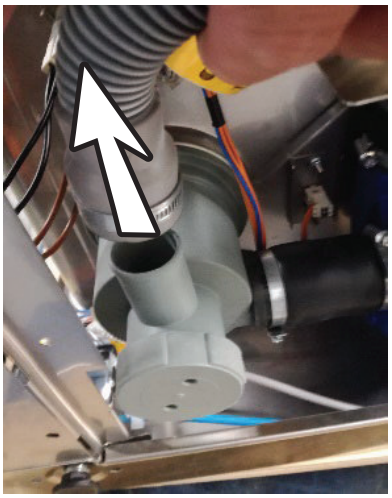


Fig. 4

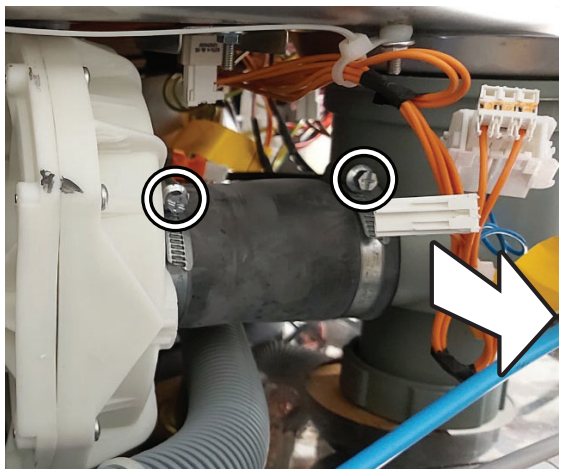


Fig. 5

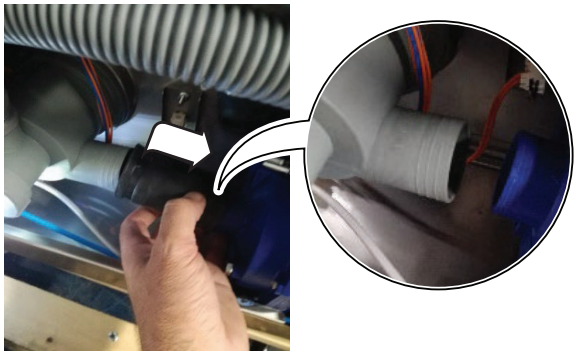


Fig. 6

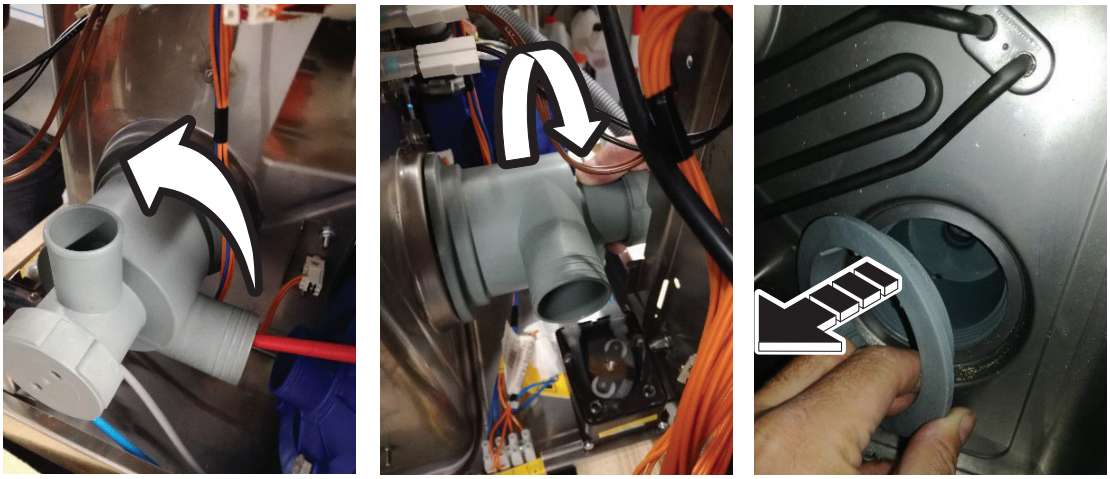


Fig. 7

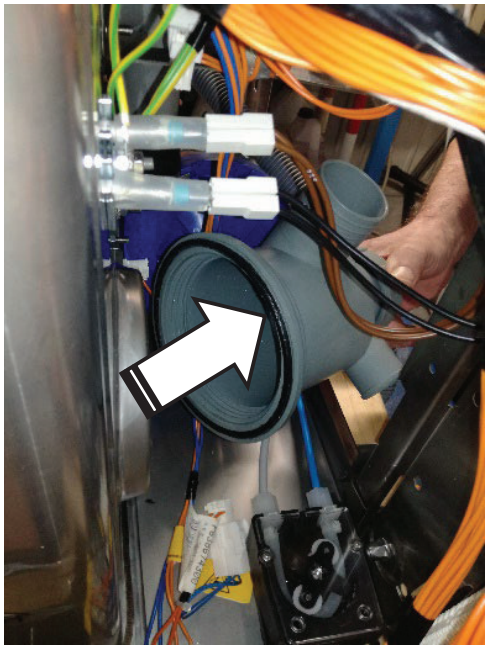


Fig. 8

Fig. 9

16.2.14 Rinse pump replacement

1. Following the instruction paragraph (*16.2.3 Access to front components*).
2. Remove the clamps, and remove the hoses (Fig.1).
3. Disconnect the wiring connector (Fig.2).
4. Remove the bolt from bellow the machine (Fig.3).
5. Reinstall all components using the reverse procedure.

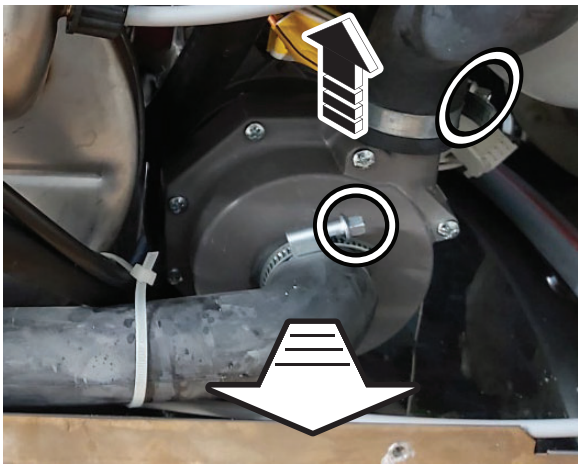


Fig. 1

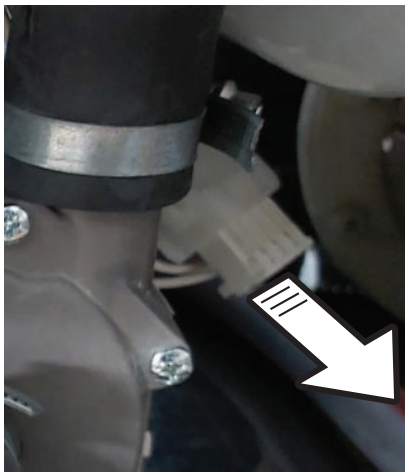


Fig. 2

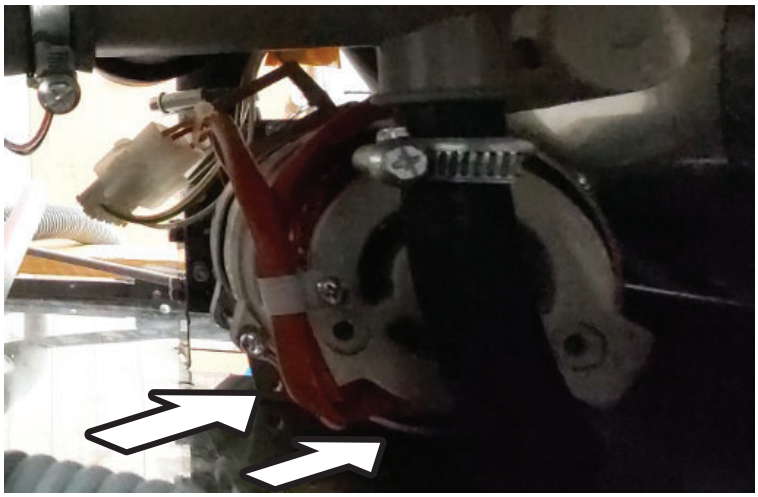


Fig. 3

16.2.15 Water load solenoid valve replacement

1. Following the instruction paragraph (16.2.8 Access to back components).
2. Remove the wiring connector (Fig.1, detail A)
3. Remove the water inlet hose (Fig.1, detail B)
4. Loose the clamp and remove the water connection hose (Fig.2)
5. Unscrew the screws behind the support and remove the solenoid valve (Fig.3)
6. Reinstall all components using the reverse procedure.

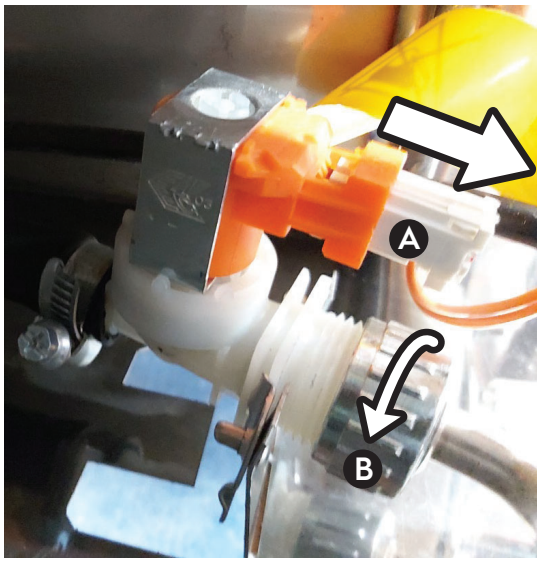


Fig. 1

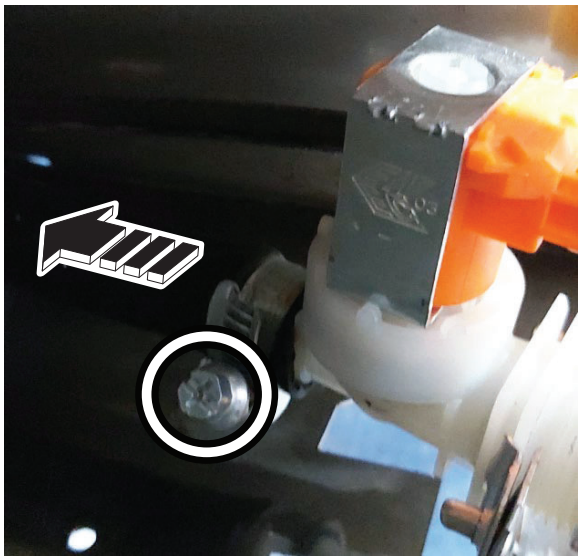


Fig. 2

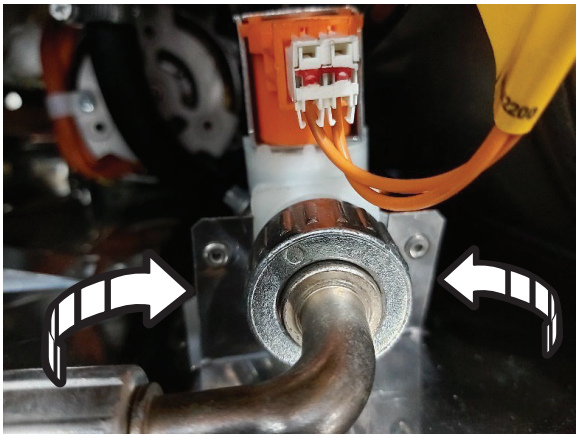


Fig. 3

16.2.16 Drain pump replacement

1. On the back of the appliance, disconnect current connections as:
   - detergent and rinse-aid hoses;
   - electrical power.
2. Following the instruction paragraph (*16.2.8 Access to back components*), remove the back panel.
3. Remove the wiring ground cable.
4. Locate the drain pump, remove the pump wiring connector, loose the clamps and remove all hoses (Fig.1).
5. Unscrew the two screws from the pump bracket and remove the pump (Fig.2).
6. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

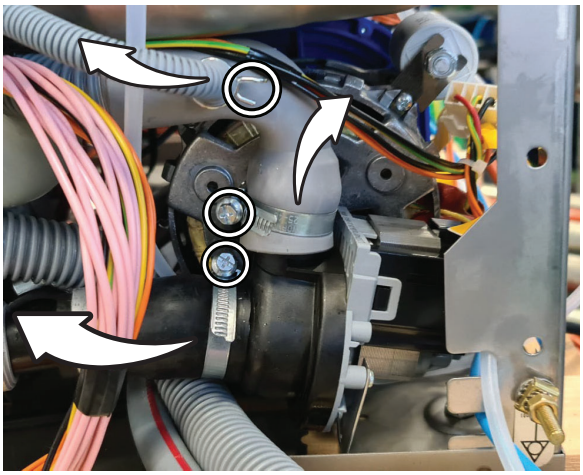


Fig. 1

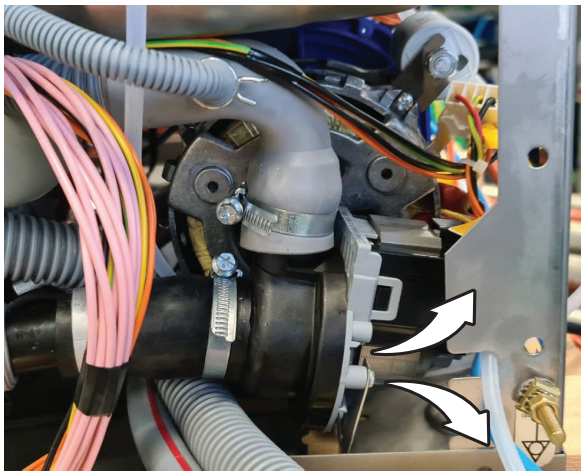


Fig. 2

16.2.17 Detergent pump and rinse aid pump replacement

1. Following the instruction paragraph (*16.2.3 Access to front components*).
2. Following the instructions of points 2 and 3 in the paragraph (*16.2.4 Main-board replacement*).
3. Disconnect the wiring connector of the dispenser pump (Fig.1).
4. Remove the pipes connection of the dispenser (Fig.2).
5. Unscrew the corresponding screws to remove the pump (Fig.3).
6. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

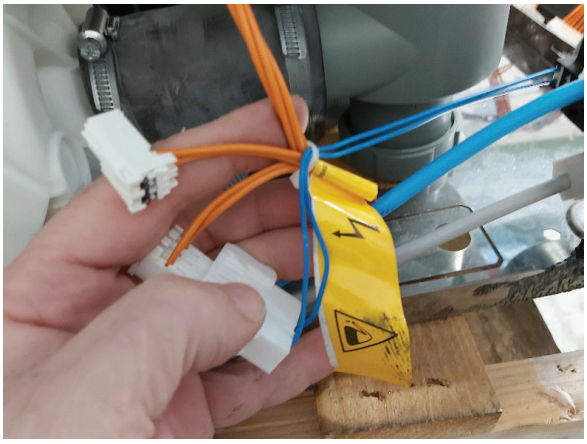


Fig. 1

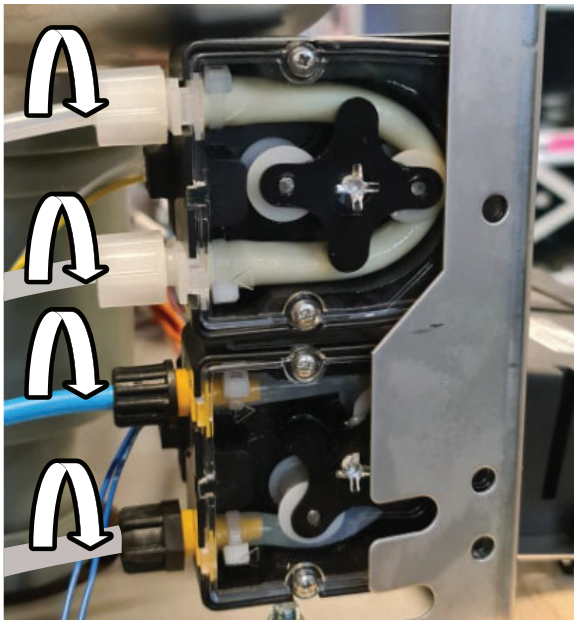


Fig. 2

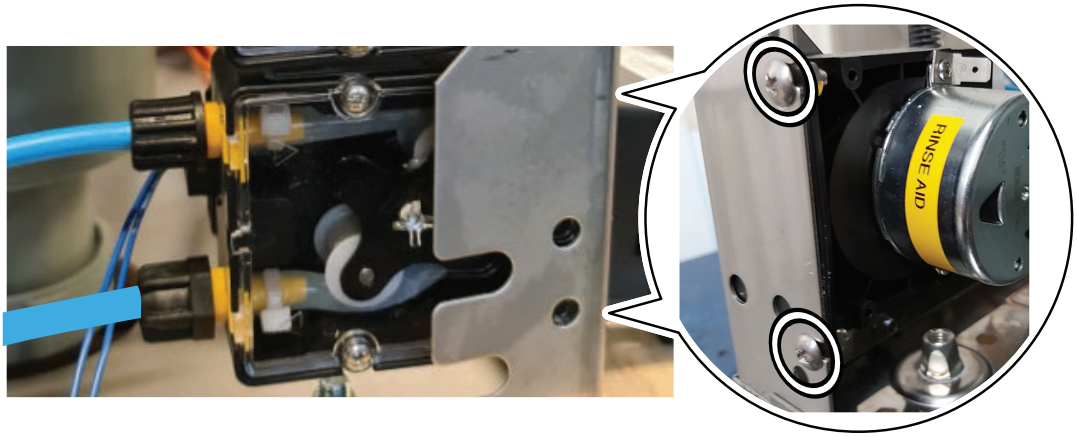


Fig. 3

16.2.18 Tank Pressure switch replacement

1. Following the instruction paragraph (*16.2.8 Access to back components*).
2. Remove the wiring connector in the tank pressure switch (Fig.1).
3. Remove the hose (Fig.2).
4. Pull out the tank pressure switch (Fig.3).
5. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.

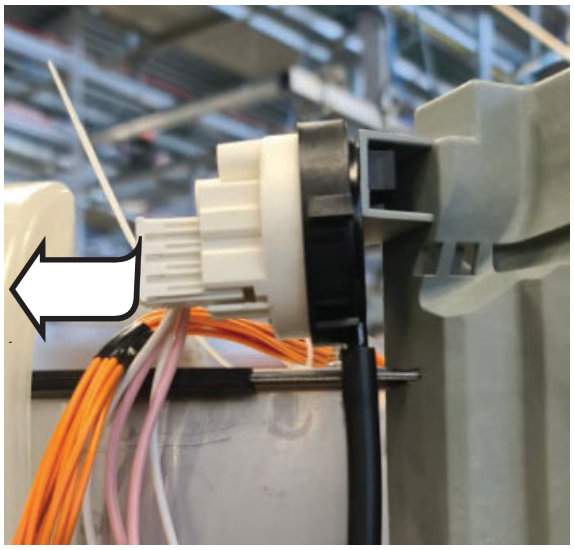


Fig. 1

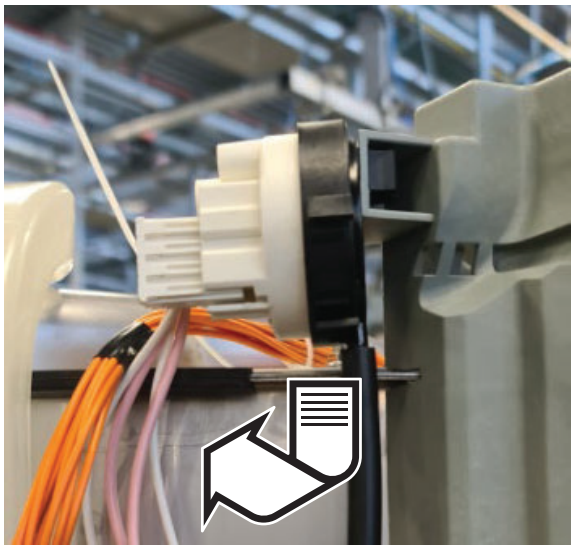


Fig. 2

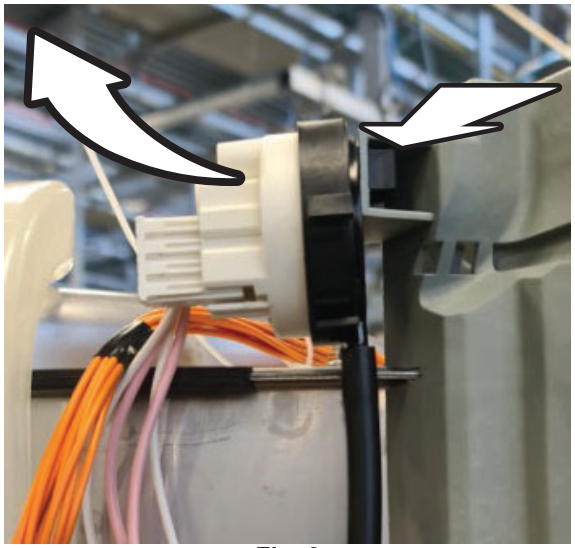


Fig. 3

16.2.19 User interface replacement

1. Open the door and unscrew the two screws below the control panel and pull the top panel out (Fig.1-2).
2. Remove the wiring connectors to the user interface and unscrew all the screws which fix the user interface cover to the top panel (Fig. 3).
3. Open the housing of the using interface (Fig.4).
4. Pull out the using interface from the plastic housing (Fig.5).
5. Reinstall all components using the reverse procedure, and use an appropriate tightening torque.
6. Set the proper configuration parameters of the appliance according to the model and/or PNC.

Fig. 1

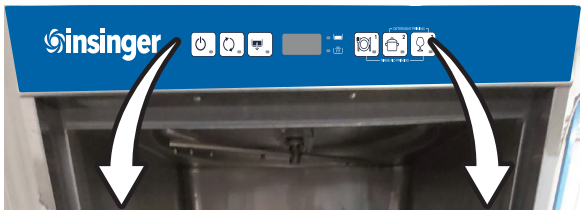


Fig. 2

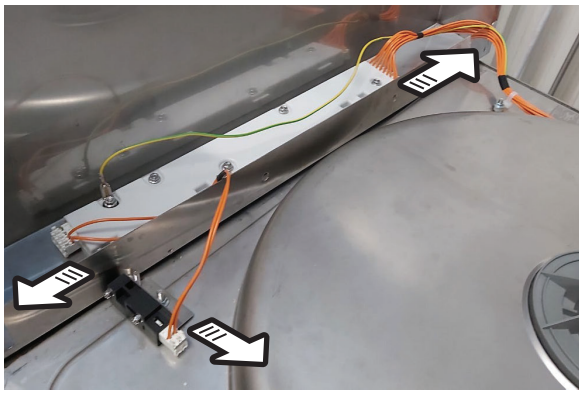


Fig. 3

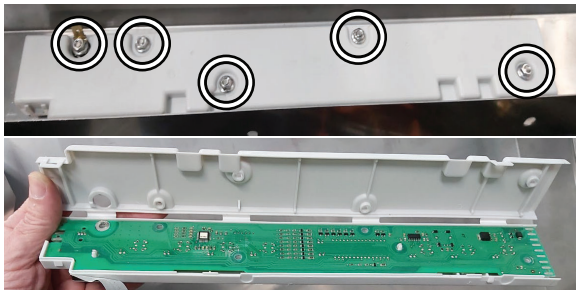


Fig. 4

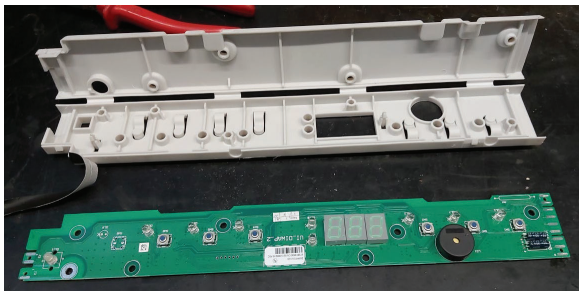


Fig. 5

16.2.20 Door Switch replacement

1. Following the instructions of points 1 and 2 in the paragraph (*16.2.19 User interface replacement*).
2. Remove the wiring connector (Fig.1).
3. Remove the sensor support nut (Fig.2).
4. Reinstall all components using the reverse procedure.

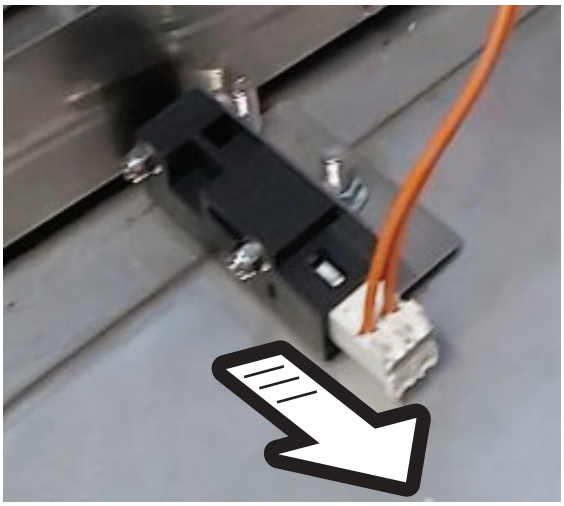


Fig. 1

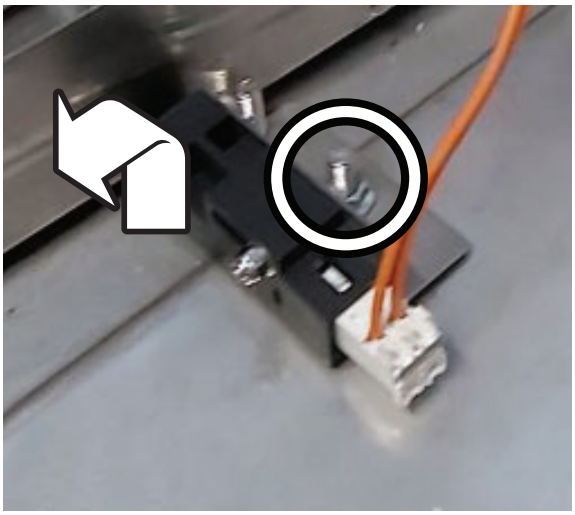


Fig. 2

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