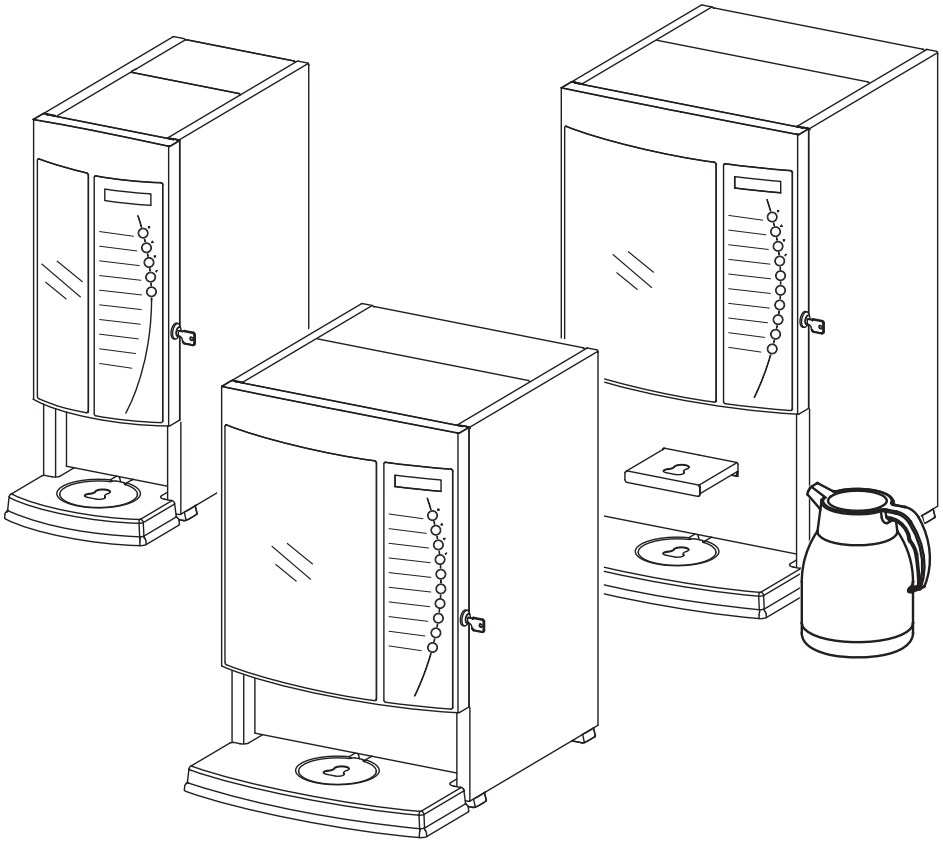
Animo®

OPTIVEND Model 2009



(NL) Service boek

(GB) Service book

(D) Servicehandbuch

(F) Manuel de service / maintenance

CONTENT

PREFACE

Purpose of this document
This document provides directions for use and serves as a service document for **trained, authorised service staff** to safety install, programme and maintain this device.

- Trained, authorised service staff are considered to be those who install, programme and maintain the device, and are able to carry out repairs.

The majority of settings, including product settings, are protected by a PIN code. This PIN code ensures that users do not gain access to the service menu. **It is recommended not to leave this document with the user after installation and to change the standard factory PIN code.**

All sections and paragraphs are numbered. The various figures referred to in the text can be found in the figures section at the beginning of the manual or with the corresponding subjects.

Pictograms and symbols.

CAUTION
General indication for: IMPORTANT, CAUTION or REMARK.

WARNING
Warning for possible damage to the device, surroundings or environment.

DANGER
Danger of possible severe damage to the device or physical injury.

DANGER
Danger of electricity and voltage.

DANGER
Danger of electrostatic discharge (ESD) in electronics.

1. BASIC FUNCTIONING

1. Instant canister(s)
2. Gear motor canister
3. Dispensing valves
4. Water reservoir
5. Evaporation extractor filter cassette
6. Drink outlet (instant) / Hot Cold water outlet
7. Evaporation extractor ring
8. Mixer housing
9. Mixer impellor
10. Mixer motor
11. Mixer water connection
12. Ventilator
13. Inlet valve

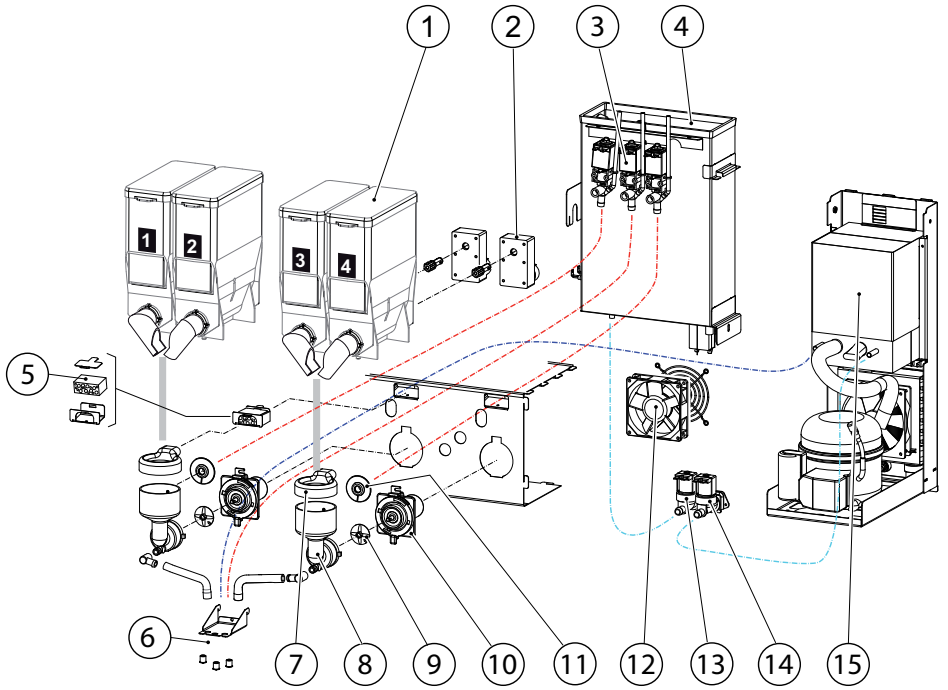


Fig. 1

Cold water (optional)

14. Inlet valve
15. Cooling unit (base cabinet)

1.1 Boiler System

Turn on the device using the ON/OFF switch. The display will light up.

The magnetic valve (fig. 1-13) will open and the hot water reservoir (fig. 1-4) will be filled to the maximum electrode. The heating element will be switched on. The display shows [*boiler filling*] and [*boiler heating*]. As soon as the NTC sensor measures the set temperature, the heating element will be switched off.

When a drink is being dispensed the water level drops and the maximum electrode is released; the inlet valve (2.5 litres/min.) opens and immediately refills the reservoir until the maximum level is reached again. If the water level falls under the minimum electrode level during operation, the operating panel display will show [refilling boiler]. If the supply of water is not restored within 90 seconds, the display will show the error message [*E3 level error*] and shut off the inlet valve.

1.2 Temperature regulation

The heating element is turned on when the water temperature falls below the temperature setting and the minimum electrode registers water. The temperature in the water reservoir is measured using an NTC precision sensor mounted on the outside wall of the reservoir.

The water temperature also drops when drinks are dispensed. To avoid the temperature regulator from responding too late, the heating element is switched on as soon as the inlet valve (fig. 1-13) opens and cold water is added. The heating element switches off again as soon as the inlet valve shuts off. The software can also be used to delay when the heating element switches off. See menu item 2.4 Settings / Temperature in the service menu. The heating element always switches off when the maximum boiler temperature of 99˚C is reached.

1.3 Hot water dispensing

When dispensing drinks one of the dispensing valve (fig. 1-3) opens and hot water flows the mixer system. The flow velocity for each valve is set using the adjustment screw on the valve. The amount of outflow is determined by the length of time that the valve stays open. In order to rinse the brewer unit and mixer system, a small amount of rinsing water is released shortly after dispensing to rinse away any ingredient residue.

1.4 Cold water dispensing (optional)

OptiVend has a built-in cold water option + special base cabinet with built-in cooling unit. When dispensing a cold-water recipe, inlet valve DV6 opens (fig. 1-14) and allows water to flow from the mains to the cooling unit cooling coil (fig.1-15). The cooled water already present flows directly to the cold water outlet (fig. 1-6). As soon as the valve shuts off again the cold water dispenser stops immediately.

1.5 Ingredients and mixer system

The ingredients canisters (fig. 1-1) are powered by a 130 RPM motor (fig. 1-2). The instant product (ingredient) is forced out of the canister by a coil and drops through the dispensing bent pipes into the mixer unit (fig. 1-8). At the same time, the dispensing valves (fig. 1-3) dispense hot water into the mixer unit. The mixer motor (fig. 1-15) blends the instant product with water at a speed of 10,700 RPM using the mixer rotor (fig. 1-10). The drink flows into the cup via the drink outlet (fig. 1-6). All individual parts mentioned in this section can be sequentially coordinated using adjustable parameters (timers) in the control unit.

1.6 Evaporation extractor system

Evaporation released during mixing is largely absorbed by the evaporation extractor ring (fig. 1-7) and sucked into the machine via the filter cassette (fig. 1-5). The evaporation and ingredient residue are absorbed by the filter. The filter (fig. 1-5) can be easily reached (for cleaning purposes) by dismantling the mixer unit (fig. 1-8). To a large extent, this prevents evaporation from entering the canister outlet and making ingredients damp.

1.7 Solid State Relay (SSR)

The heating element is controlled by a solid state relay (fig. 2C), which supersedes the magnetic switch that was formerly used for this purpose.

1.8 Steam thermostat

The solid state relay (fig. 2C) is secured by a steam thermostat (fig. 2D) which is build in line with the over-flow tube (fig. 2A). The steam thermostat contact is in series with the solid state. This thermostat prevents the boiler from boiling empty when the solid state breaks down in a operating condition. The thermostat switches the heating element OFF (fig. 2B) when steam escapes from the boiler. The thermostat must be manually reset.

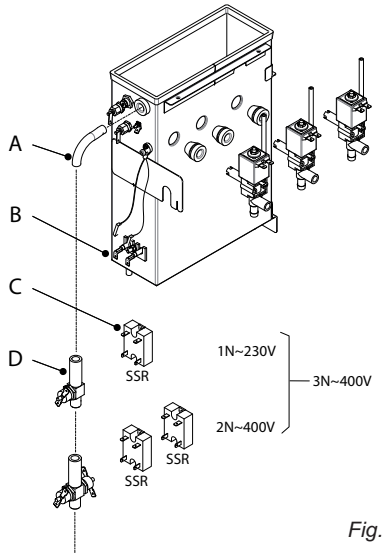
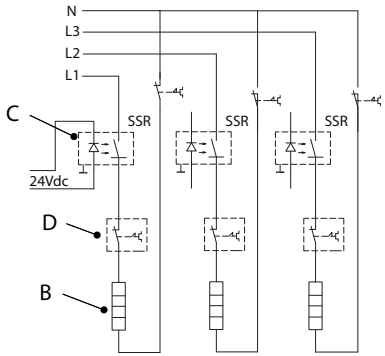


Fig. 2



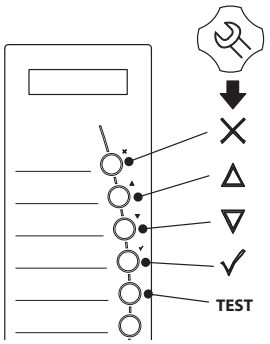
2. MENU STRUCTURE

2.1 The operator/service menu

The majority of settings, including product settings, are protected by a PIN code. This PIN code ensures that users do not gain access to the service menu.

It is recommended not to leave this document with the user after installation and to change the standard factory PIN code.

This section describes how the various settings can be changed by **trained, authorized service staff.** You can read about how to gain access to the service menu below. On access to the **service menu** the control panel has the following functions:



From Software V4.00 the menu items are bounded in a 'loop'

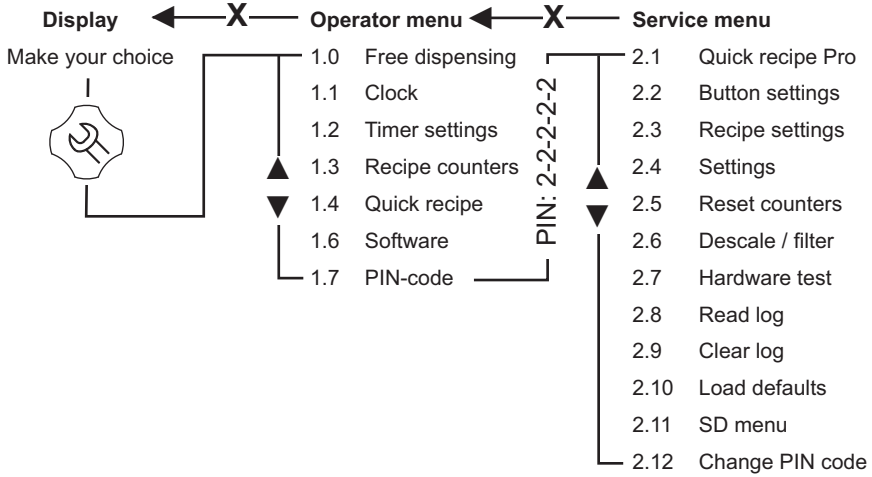
To leave the Operator menu; press the X-button ones.

To leave the Service menu; press the X-button twice. This means its not necessary anymore to press the menu button on the inside of the service key panel when leaving the menu.

When changes where made a long beep-signal follows to indicate that the settings are stored in the memory.

X	Escape	(back without confirming any changes)
△	Previous	(menu item / increase value)
▽	Next	(menu item / decrease value)
✓	Enter	(confirm menu choice)
TEST	Test	(press for 1 sec.)

Summary:



2.2 The operator menu

Operator menu					
Main item	Sub item	Item	Range	Set	Description
1.0 Free dispensing			Yes/no	Yes	Set the device to free or paid dispensing here.
1.1 Clock	Time		HH:MM		Set the clock to the correct local time here.
	Date		DD-MM-JJJJ		Set the clock to the correct local time here.
1.2 Timer	Mon-Fri		On 00:00 Off 00:00		Set the time when the device should operate here. If the timer switches off the device it will automatically revert to standby mode.
	Sat		On 00:00 Off 00:00		
	Sun		On 00:00 Off 00:00		
1.3 Recipe counters	Recipe 1 ⋮ Recipe 10	Total	Off 00:00		Total counter for recipe 1 (free-paid-jugs)
		Free	Cups		Number of free dispensed drinks (recipe 1)
		Paid	Cups		Number of paid dispensed drinks (recipe 1)
		Jug	Cups		Number of dispensed jugs (recipe 1)
	Recipes total	Total	Cups		Total counter for all dispensed recipes
		Free	Cups		Total counter for all free dispensed recipes
		Paid	Cups		Total counter for all paid dispensed recipes
		Jug	Cups		Total counter for all dispensed jugs
	Rinse counter	Mixer(s)			Number of mixer rinses
	Reset counter				Total rest of all counters
1.4 Quick recipe	Recipe name 1 ⋮ Recipe name 10	Cup volume	50-250 ml	120ml	Use this for setting the volume and strength of coffee, milk, sugar and cocoa easily per recipe (drink button). Only the ingredients applicable to the recipe are shown.
		Ingredient 1	-20 / +20%	0%	
		Ingredient 2	-20 / +20%	0%	
		Ingredient 3	-20 / +20%	0%	
		Ingredient 4	-20 / +20%	0%	
1.6 Software					Software version is readable here.
1.7 PIN-code			2-2-2-2-2		PIN code = press the number 2 key five times.

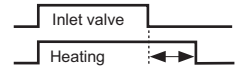
2.3 The service menu

Service menu					
Main item	Sub item	Item	Range	Set	Description
2.1 Quick recipe * From software V4.0	Recipe name 1 Recipe name 10	Cup volume	50-250 ml	120ml	* 2.1 Quick recipe change into Quick recipe Pro. Set here directly your ingredient dispensing time (sec.) Use this for setting the volume and strength of coffee, milk, sugar and cocoa easily per recipe (drink key). Only the ingredients applicable to the recipe are shown.
		Ingredient 1	0,0 - 50,0 s		
		Ingredient 2	0,0 - 50,0 s		
		Ingredient 3	0,0 - 50,0 s		
		Ingredient 4	0,0 - 50,0 s		
2.2 Button setting	Button 1 Button 10	<Recipe>	Coffee ↓ list ↓ Recipe list see section 3.3		Change any recipe buttons here that standard factory settings. All settings that correspond to selected recipes are automatically loaded.
		Recipe active	Yes/no	Yes	Use this to place the product concerned out of service.
		Price	0,05-100,00	0,10	For paid dispensing a price can be set here for each product button.
		Cup volume	50-250ml *	120ml	Set the desired cup volume here. All other parameters (e.g. coffee dosage) can be adjusted automatically. This parameter is linked to the cup volume item in the menu 2.1 Quick recipe!
		Multicup	0-20	0	Set the number of cups that should be dispensed when the key switch is in the jug setting.
		Key switch	0-1-2-3	0 / 1	Recipe button concerned works as follows: 0= key switch setting n/a CUP (paid) or JUG* (paid) 1= key switch |: CUP (paid) key switch –: JUG* (paid) 2= key switch |: no dispensing key switch –: JUG* (paid) 3= key switch |: CUP (paid) key switch –: JUG* (free) (*when multicup is set to >1)
		Push & Hold	Yes-No	No	If set to yes: pressing this button starts the hot/cold water dispensing and releasing it stops the hot water dispensing. Use this option only for DV4 , DV5 and DV 6 in combination with a hot/cold water recipe button.
		Drip time	0-10 sec.	2 sec.	The length of time that the product continues to run from the brewer or mixer. After this time has elapsed a new drink selection can be made.

Service menu continued ….					
Main item	Sub item	Sub	Item	Range	Description
2.3 Recipe setting	<Recipe name> 1	Unit 1	DV 1 WT	0,0-90,0 s	Waiting time Water 1
			DV 1	0-100 ml	Dispensing amount Water 1
			Rinse 1 WT	0,0-20,0 s	Waiting time Rinsing Water 1
			Rinse 1	0-15 ml	Dispensing amount Rinsing Water 1 Automatically deducted from Water 1
			Ingredient 1 WT	0,0-90,0 s	Waiting time Ingredient 1
			Ingredient 1	0,0-50,0 s	Product dispensing time Ingredient 1
			Ingredient 2 WT	0,0-30,0 s	Waiting time Ingredient 2
			Ingredient 2	0,0-50,0 s	Product dispensing time Ingredient 2
			Mixer1 WT	0,0-90,0 s	Waiting time Mixer 2
			Mixer 1	0,0-50,0 s	Mixing time Mixer 2
		Unit 2	DV 2 WT	0,0-30,0 s	Waiting time Water 2
			DV 2	0-100 ml	Dispensing amount Water 2
			Rinse 2 WT	0,0-20,0 s	Waiting time Rinsing Water 2
			Rinse 2	0-15 ml	Dispensing amount Rinsing Water 2 Automatically deducted from Water 2
			Ingredient 3 WT	0,0-30,0 s	Waiting time Ingredient 3
			Ingredient 3	0,0-50,0 s	Product dispensing time Ingredient 3
			Ingredient 4 WT	0,0-30,0 s	Waiting time Ingredient 4
			Ingredient 4	0,0-50,0 s	Product dispensing time Ingredient 4
			Mixer 2 WT	0,0-30,0 s	Waiting time Mixer 2
			Mixer 2	0,0-50,0 s	Mixing time Mixer 2
		Unit 3 *	DV 3 WT	0,0-30,0 s	Waiting time Water 3
			DV 3	0-100 ml	Dispensing amount Water 3
			Rinse 3 WT	0,0-20,0 s	Waiting time Rinsing Water 3
			Rinse 3	0-15 ml	Dispensing time Rinsing Water 3 Automatically deducted from Water 3
			Ingredient 5 WT	0,0-30,0 s	Waiting time Ingredient 5
			Ingredient 5	0,0-50,0 s	Product dispensing time Ingredient 5
			Ingredient 6 WT	0,0-30,0 s	Waiting time Ingredient 6
	<Recipe name> 10		Ingredient 6	0,0-50,0 s	Product dispensing time Ingredient 6
			Mixer 3 WT	0,0-30,0 s	Waiting time Mixer 3
			Mixer 3	0,0-50,0 s	Mixing time Mixer 3

** Unit 3 is not used*

Service menu continued ….					
Main item	Sub item	Sub	Item	Range	Description
2.3 Recipe setting (continued…)	<Recipe name> 1	DV 4 WT		0,0-30,0 s	Waiting time Water 4
		DV 4		0-100 ml	Dispensing amount Water 4 (Hot water dispensed)
		DV 5 WT		0,0-30,0 s	Waiting time Water 5
		DV 5		0-100 ml	Dispensing amount Water 5 (Hot water HS DUO)
		DV 6 WT		0,0-30,0 s	Waiting time Water 6
	<Recipe name> 10	DV 6		0-100 ml	Dispensing amount from an extra inlet valve Water 6 (Cold Water option)

Service menu continued…					
Main item	Sub item	Item	Range	Set-ting	Description
2.4 Settings	Language	English			Language choice display. Ex factory setting English.
		Dutch			
		German			
		French			
	Temperature	Temp. boiler	70-95°C *	85°C *	Boiler temperature standard model AA - 4A OV Choco till OV4
				90°C *	Boiler temperature FreshBrew + instant model 5A t/m CA OV 1 TS till OV HS DUO
		Hysteresis	2-10°C	2°C	Temperature drop, after which boiler must reheat
		Output block	70-80°C	78°C	Boiler temperature disables dispens-ing. Display: [Out of order, boiler heating]
		Output release	70-82°C	83°C	Boiler temperature allows dispens-ing again
		Stand-by	60-95°C	60°C	Boiler temperature during stand-by
		Extended Heating	0-5 sec	0 sec	To maintain the optimum boiler tem-perature the heating element and inlet valve switch on simultaneously. Set the waste delay of the element here after the inlet valve is closed. Inlet valve Heating 
	Display	Show clock	Yes/no	No	Show clock in display
		Show date	Yes/no	No	Show date in display
		Message text	Yes/no	No	Show message text (running text) in display. Only shown if Display Date, Clock or both are set to no. Message text only programmable by using the Optimizer programme and SD card.
	Use bleeper		Yes/no	Yes	Sound signal on or off
	Ventilator	Fan time	0-300 sec.	60 s.	Duration of Fan speed 2 after dispensing
		Fan speed 1	40-100%	50%	Fan speed when resting
		Fan speed 2	70-100%	100%	Fan speed during dispensing

Service menu continued …..						
Main item	Sub item	Item		Range	Set-ting	Description
2.4 Settings (continued…)	Coin system	None				No coin system used
		G13	Coin channel 1 … Coin channel 6	0-100,00 + Token	€ 0,05 € 0,10 € 0,20 € 0,50 € 1,00 € 2,00	Coin value setting for each channel. €0.05-€2 respectively. 0.00=free TOKEN=coffee token Foreign currencies; see list #
			Single vend	ja-nee	ja	Yes: any excess credit is not retained for next drink. No: credit retained for next drink.
			Max coin accep.	€ 0,05-100,00	€ 2,00	Coins larger than € 2.00 are rejected and ejected through the return slot of the coin mechanism. Adjust to the highest recipe product price.
			Point position	0-2	2	Decimal position in amount
			Show credit	Yes/no	Yes	Show credit on the display
		MDB [2]	Single vend	ja-nee	ja	Yes: any excess credit is not retained for next drink. No: credit retained for next drink.
			Max coin accep.	€ 0,05-100,00	€ 2,00	Coins larger than € 2.00 are rejected and ejected through the return slot of the coin mechanism. Adjust to the highest recipe product price.
			Point position	0-2	2	Decimal position in amount
			Show credit	Yes/no	Yes	Show credit on the display
			Purchase obligation [3]	Yes/no	Yes	purchase obligation; by pressing the return lever the coin changer return the throw-in yes or no.
			Pre pay [3]	Yes/no	No	A drink can only be selected (yes/no) once enough money has been inserted.
	I/0 Reset counter			Yes/no	No	Add Reset counters menu item to the operator menu
	I/0 Quick recipe			Yes/no	Yes	Add Quick recipe menu item to the operator menu
	Drip tray sign. [1]			Yes/no	Yes	Turns off drip tray sensor software.
	Demo modus [3]			Yes/no	No	This feature can be used when the machine in a showroom or a exhibition. The machine does not need to be connected to a water supply. DEMO will appear on the bottom line of the display. Buttons, LEDs and display work like normal.
	Stop button [3]			Yes/no	No	If this feature to Yes, the instant products (cup) can be stopped using any key on the panel. Also hot water (and cold) are stopped.

[1] From software 2.00

[2] From software 3.03

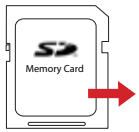
MDB Coin changers
MDB acceptor
MDB GiroVend

[3] From software 4.00

Service menu continued …..					
Main item	Sub item	Item	Range	Set-ting	Description
2.5 Reset counters	Rinse counters	Mixer counter?			Reset mixer Rinse counters
	Recipe counters	Recipe counter 1 … Recipe counter 10			Reset Rinse counters per recipe.
		Reset counter total			Reset total counter
	Reset all counters				Reset all counter at ones
2.6 Descale/filter	Service moment		0-50000	12500	After the Service Due setting has been reached the Descale/filter indicator will be displayed. See section 5. Service
	Service counter			?????	The number of beverages dispensed is counted here. Check here to see how far the machine is from periodic maintenance (descaling boiler or replacing water filter).
	Reset serv. coun				After periodic maintenance has been carried out (boiler descaled or filter replaced) the service counter should be set to nil.

# Coin channel settings foreign currencies					
	Danish Krone	Swedish Krone	Norwegian Krone	South African Rand	Jordanian Dinar
	DK	SEK	NOK	ZAR	JOD
CH 1	0,50	0,50	1,00	0,50	0,50
CH 2	1,00	1,00	5,00	1,00	1,00
CH 3	2,00	5,00	10,00	2,00	25,00
CH 4	5,00	10,00	20,00	5,00	50,00
CH 5	10,00	1,00	10,00	5,00	1,00
CH 6	20,00	0,00	20,00	0,00	0,00
Max coin accep.	10,00	10,00	10,00	2,00	50,00

Service menu continued….				
Main item	**Sub item**	**Sub**	**Range**	**Description**
2.7 Hardware test	Inputs	Temperature	Boiler temp °C	Shows the status of the sensors/switches indicated
		Level sensors	High Yes/no Low Yes/no	
		Drip tray sensor	Yes/no	
		Key switch	Yes/no	
	Outputs **Test by holding in recipe button 5.** # During test the display shows the Nominal current (mA) When the Nominal current of a output rises above the set current * mentioned output will be shut off.	KW1	400 mA	Inlet valve (Boiler)
		DV1		Dispenser valve 1 (Mixer 1)
		DV2		Dispenser valve 2 (Mixer 2)
		DV3		Dispenser valve 3 (n/a)
		DV4		Dispenser valve 4 (Hot water)
		DV5		Dispenser valve 5 (Hot water HS DUO)
		DV6		Inlet valve 6 (Cold water) optional!
		IM1 #	600 mA [1]	Ingredients motor 1 (Canister 1)
		IM2 #		Ingredients motor 2 (Canister 2)
		IM3 #		Ingredients motor 3 (Canister 3)
		IM4 #		Ingredients motor 4 (Canister 4)
		IM5 #		Ingredients motor 5 (Canister 5)
		IM6 #		Ingredients motor 6 (Canister 6)
		MM1 #	1000 mA [1]	Mixer motor 1
		MM2 #		Mixer motor 2
		MM3 #		Mixer motor 3
		Ventilator	200 mA	Ventilator
	Calib. valves **Test by holding in recipe button 5 (for 1 sec.) to open the relevant valve for 10 seconds.**	DV1	15 ml / sec	Calibrate to 150 ml (10 sec x 15 ml)
			20 ml / sec	OV Choco; calibrate to 200 ml (10 sec x 20 ml)
		DV2	15 ml / sec	Calibrate to 150 ml (10 sec x 15 ml)
		DV3	15 ml / sec	n/a
		DV4	20 ml / sec	Calibrate to 200 ml (10 sec x 20 ml)
			15 ml / sec	OV HS, HS DUO; calibrate to 200 ml (10 sec x 20 ml)
		DV5	20ml / sec.	Calibrate to 200ml (10sec. x 20ml)
		DV6	42 ml / sec	Inlet valve cannot be calibrated (fixed flow)

Service menu continued….			
Main item	**Sub item**	**Item**	**Description**
2.8 Read log			Saves last 20 error messages, including date and time
2.9 Clear log	Are you sure?		Clears log
2.10 Load defaults # See chapter 2.3 Model code system * From software V1.02 June 2009		Are you sure?	When a new circuit board is introduced it is necessary to load defaults. When loading defaults it must be stated on the OptiVend model plate. The correct model settings are not loaded until the question 'Are you sure?' has been confirmed. **Attention**: • Before you start changing the button- and/or receipt- settings, first close the service menu, only after re-entering the service menu the new model settings will be activated. • When you confirm this setting all loaded factory settings and changed programmed values will be lost. • After loading defaults the PIN code reverts to 2-2-2-2-2 and the language reverts to English. Change if necessary.
	Model # OV1 OV2 OV3 OV4 OV1 TS TL OV2 TS OV3 TS OV4 TS OV HS OV Choco OV HS DUO OV HSDUO capp OV 3 Sugar * OV 3 TS Sugar *	Type code 1V1A xx 1V2A xx 1V3A xx 1V4A xx 1V5A xx 1V6A xx 1V7A xx 1V8A xx 1V9A xx 1VAAxx 1VBA xx 1VCA xx 1VDA xx 1VEA xx	
2.11 SD menu Before saving or loading data, insert an empty SD memory card into the card reader . This is located behind the stainless steel panel on the inside of the door. SD card specifications: - 16MB or greater - FAT16 format	Load data 	Pers. settings	This menu item is for loading **personal settings** to the device using an SD memory card. This file contains the (amended) personal settings for menus: **2.4 Settings / 2/6 Descale-filter .** The data file (Ofxxxx00.mdu) should be on the SD card.
		Language	This menu item is for loading a **different language set** to the device. The data file (xxxxxx.tlf) should be on the SD card.
		Recipe	This menu item is for loading **personal recipes** to the device using an SD memory card. This file contains the (amended) personal recipes for menus: **2.1 Quick recipe / 2.2 Button settings / 2.3 Recipe settings.** The data file (OFxxxx00.rcu) should be on the SD card.
	Save data 	Pers. settings	This menu item is for saving **personal settings** to an SD memory card and copying them to another device. All settings amended in menus: **2.4 Settings / 2.6 Descale-filter** are loaded to the SD card in one data file (OFxxxx00.mdu).
		Recipes	This menu item is for saving **personal recipes** to an SD memory card and copying them to another device. All settings amended in menus: **2.1 Quick recipe / 2.2 Button settings/ 2.3 Recipe settings** are loaded to the SD card in one data file (OFxxxx00.rcu).
2.12 Change PIN	New PIN code	Repeat PIN code	This menu item is for changing the PIN code using buttons 1-4 only. The entire service menu is accessed with this PIN code, which prevents unintentional changes from being made to the machine settings by untrained staff. • The ex-factory PIN code is 2-2-2-2-2
			PIN code forgotten or needs to be deactivated? The PIN code input display (operator menu item 1.7) shows a number on the right. Enter the corresponding PIN code (see list on p.63) to access the service menu.

PIN Code Table

No.	Pincode				
1	3	4	2	4	2
2	3	1	4	3	4
3	4	1	3	4	3
4	4	3	2	3	2
5	2	3	3	4	1
6	4	2	1	3	1
7	2	4	2	4	4
8	2	3	2	4	1
9	2	4	3	2	3
10	3	1	3	3	2

Table 1

No.	Pincode				
11	1	3	3	3	2
12	1	2	4	1	3
13	4	3	1	2	1
14	1	1	1	4	2
15	2	1	2	1	1
16	1	2	2	3	3
17	3	4	1	4	4
18	4	1	4	3	3
19	3	1	2	4	1
20	2	2	3	2	4

Water Hardness Table

Water Quality	Hardness					Limescale Indicator ...cups
	°D	°F	°C	mmol/l	mgCaCo3/l	
Very hard	18-30	32-55	11-18	3,2-5,3	321- 536	5000
Hard	12-18	22-32	7-18	2,2-3,2	214-321	8500
Average	8-12	15-22	5-7	1,4-2,2	268-214	12.500*
Soft	4-8	7-15	2-5	0,7-1,4	72-268	20.500
Very soft	0-4	0-7	0-2	0- 0,7	0-72	0 = off

Table 2

3. RECIPE SETTINGS

3.1 Quick recipe

First of all we would like to remind you that the **cup volume** (ml) and **strength** (%) can easily be set in the service menu **2.1 Quick recipe** (page 52 of this document).

The operator of the device (end user) also has access to this quick recipe, which is found under section 1.4 Quick recipe (see user manual). As supplier of the device, you can remove the quick recipe from the operator menu if desired. Go to **2.4 Settings / 2.4.9 I/0 Quick recipe** via the service menu and change **Yes** into **No**.

3.2 Model code system

The OptiVend models have the following standard canister configurations (table 3):

Table 3	Model code	Canister			
		1	2	3	4
OptiVend 1	1V1A	Coffee	-	-	-
OptiVend 2	1V2A	Coffee	Chocolate	-	-
OptiVend 3	1V3A	Coffee	-	Topping	Chocolate
OptiVend 4	1V4A	Coffee	Sugar	Topping	Chocolate
OptiVend 1 TS/TL	1V5A	-	-	Coffee	-
OptiVend 2 TS [1]	1V6A	Coffee	-	Chocolate	-
OptiVend 3 TS	1V7A	Coffee	-	Topping	Chocolate
OptiVend 4 TS	1V8A	Coffee	Sugar	Topping	Chocolate
OptiVend HS	1V9A	Coffee	-	Coffee	-
OptiVend Choco	1VAA	Chocolate	-	-	-
OptiVend HS DUO	1VBA	Coffee	-	Coffee	-
OptiVend HS DUO capp [1]	1VCA	Coffee	Topping	Coffee	Topping
OptiVend 3 Sugar [2]	1VDA	Coffee	-	Topping	Sugar
OptiVend 3 TS Sugar [2]	1VEA	Coffee	-	Topping	Sugar

[1] Special model, only available on request
[2] standard model with different canister configuration (from software V1.02 June 2009)

3.3 Button settings

The standard of programmed recipes (table 4, 5 and 6) can easily be transferred over the 12 recipe buttons. See service menu **2.2 Button settings** (page 52).

The optional recipes table are already contained in the software and can easily be programmed under one recipe button.

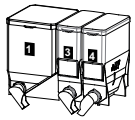
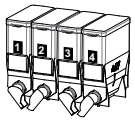
Table 4		OptiVend Choco	OptiVend 1	OptiVend 2	OptiVend 3 (Hot & Cold)	OptiVend 4 (Hot & Cold)
		Model 1VAA	Model 1V1A	Model 1V2A	Model 1V3A	Model 1V4A
Canisters	1	Chocolate	Coffee / Chocolate	Coffee	Coffee	Coffee
	2	-	-	Chocolate / Topping	-	Sugar
	3	-	-	-	Topping	Topping
	4	-	-	-	Chocolate	Chocolate
	Button					
Standard recipes	1	Chocolate small	Coffee Black	Coffee Creme	Coffee Black	Coffee Creme
	2	Chocolate large	Coffee Creme	Espresso	Coffee Creme	Coffee Milk
	3	-	Espresso	Hot Chocolate	Espresso	Coffee Sugar
	4	-	Hot Water	Coffee Chocolate	Hot Chocolate	Coffee Milk Sugar
	5	-	-	Hot Water	Coffee Chocolate	Espresso
	6				Cappuccino	Hot Chocolate
	7				Wiener Melange	Coffee Chocolate
	8				Hot Water	Cappuccino
	9				-	Wiener Melange
	10				-	Hot Water
Optional recipes			*Double Espresso*	*Double Espresso*	*Double Espresso*	*Double Espresso*
			*Decaf **	*Decaf **	*Decaf **	*Decaf **
			Chocolate	*Espresso Chocolate*	*Espresso Chocoate*	*Espresso Choc*
			*Hot Milk **	*Hot Milk **	*Hot Milk **	*Hot Milk **
			Jug Hot Water	*Jug Hot Water*	*Jug Hot Water*	*Jug Hot Water*
			Jug Coffee	*Jug Coffee*	*Jug Coffee*	*Jug Coffee*
			*Soup **	*Coffee latte **	*Coffee latte*	*Coffee latte*
			*Tea **	*Coffee Black*	*Latte Macchiato*	*Latte Macchiato*
				*Chocolate Milk **	*Chocolate Milk*	*Chocolate Milk*
				*Cappuccino **	*Cold water **	*Cold water **
				*Coffee Milk **	*Coffee Milk*	Cappuccino *Sugar*
				*Coffee Sugar **	*Coffee Sugar*	Espresso *Sugar*
				*Soup **	*Soup **	*Soup **
		** = only if the necessary ingredient (s) are available in the canisters.*		*Tea **	*Tea **	*Tea **

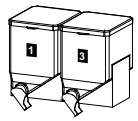
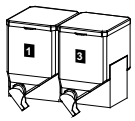
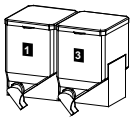
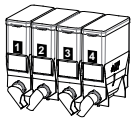
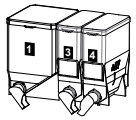
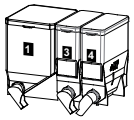
Table 5		OptiVend 1 TS/TL	OptiVend 2 TS	OptiVend 3 TS (Hot & Cold)	OptiVend 4 TS (Hot & Cold)
		Model 1V5A	Model 1V6A	Model 1V7A	Model 1V8A
Canisters	1	Coffee / Chocolate	Coffee	Coffee	Coffee
	2	-	-	-	Sugar
	3	-	Chocolate / Topping	Topping	Topping
	4	-	-	Chocolate	Chocolate
	Button				
Standard recipes	1	Coffee Black	Coffee Black	Coffee Creme	Coffee Creme
	2	Coffee Creme	Coffee Creme	Espresso	Coffee Milk
	3	Espresso	Espresso	Hot Chocolate	Coffee Sugar
	4	Hot Water	Hot Chocolate	Coffee Chocolate	Coffee Milk Sugar
	5	Jug Coffee 1/2	Coffee Chocolate	Cappuccino	Hot Chocolate
	6	Jug Coffee	Hot Water	Wiener Melange	Coffee Chocolate
	7	Jug Hot Water 1/2	Jug Hot Water	Hot Water	Cappuccino
	8	Jug Hot Water	Jug Coffee	Jug Hot Water	Hot Water
	9	-	-	Jug Coffee	Jug Hot Water
	10	-	-	-	Jug Coffee
Optional recipes		*Double Espresso*	*Double Espresso*	*Double Espresso*	*Double Espresso*
		*Decaf **	*Decaf **	*Decaf **	*Decaf **
		*Hot Chocolate **	*Espresso Chocolate*	*Espresso Chocolate*	*Espresso Chocolate*
		*Hot Milk **	*Hot Milk **	*Hot Milk*	*Hot Milk*
		*Soup **	*Jug Hot Water 1/2*	*Jug Hot Water 1/2*	*Jug Hot Water 1/2*
		*Tea **	*Cappuccino **	*Coffee Black*	*Espresso*
			*Coffee latte **	*Coffee latte*	*Coffee latte*
			*Latte Macchiato **	*Latte Macchiato*	*Latte Macchiato*
			*Chocolate Milk **	*Chocolate Milk*	*Chocolate Milk*
			*Coffee Milk **	*Cold water **	*Cold water **
			*Coffee Sugar **	*Coffee Milk*	*Cappuccino Sugar*
			*Soup **	*Coffee Sugar*	*Wiener Melange*
			*Tea **	*Soup **	*Soup **
		** = only if the necessary ingredient (s) are available in the canisters.*		*Tea **	*Tea **

Table 6		OptiVend HS	OptiVend HS DUO	OptiVend HS DUO Cappuccino	OptiVend 3 Sugar	OptiVend 3 TS Sugar
		Model 1V9A	**Model 1VBA**	**Model 1VCA**	**Model 1VDA**	**Model 1VEA**
Canisters	1	**Coffee**	**Coffee**	**Coffee**	**Coffee**	**Coffee**
	2	**-**	**-**	**Topping / Chocolate**	**-**	**-**
	3	**Coffee**	**Coffee**	**Coffee**	**Topping**	**Topping**
	4	**-**	**-**	**Topping / Chocolate**	**Sugar**	**Sugar**
	Button					
Standard recipes	1	**Coffee Black**	**Coffee small**	**Coffee small**	**Coffee Creme**	**Coffee Creme**
	2	**Coffee Creme**	**Coffee large**	**Cappuccino**	**Coffee Milk**	**Coffee Milk**
	3	**Espresso**	**Hot Water**	**Hot Water**	**Coffee Sugar**	**Coffee Sugar**
	4	**Hot Water**	**Double Coffee small**	**Double Coffee small**	**Coffee Milk Sugar**	**Coffee Milk Sugar**
	5	**Jug Coffee 1/2**	**Double Coffee large**	**Double Cappuccino**	**Espresso**	**Cappuccino**
	6	**Jug Coffee**	**Double Hot Water**	**Double Hot Water**	**Double Espresso**	**Hot Water**
	7	**Jug Hot Water 1/2**	**Double Jug Coffee**	**Jug Coffee**	**Espresso Sugar**	**Jug Coffee 1/2**
	8	**Jug Hot Water**	**Jug Hot Water**	**Jug Hot Water**	**Cappuccino**	**Jug Coffee**
	9		**Jug Coffee**	**Double Jug Coffee**	**Cappuccino Sugar**	**Jug Hot Water 1/2**
	10		**Double jug Hot Water**	**Double jug Hot Water**	**Hot Water**	**Jug Hot Water**
Optional recipes		*Double Espresso*		*Coffee large*	*Decaf **	*Double Espresso*
		Decaf		*Hot Milk **	*Hot Milk **	*Decaf **
		Coffee small		*Hot Chocolate*	*Jug Hot Water*	*Hot Milk **
		Coffee large		*Double Hot Chocolate **	*Jug Coffee*	*Espresso*
				Double Hot Milk	*Coffee latte*	*Coffee latte*
				Coffee Miilk	*Latte Macchiato*	*Latte Macchiato*
				Double Coffee Miilk	*Coffee Black*	*Coffee Black*
				Coffee Choc	*Cold water **	*Cold water **
				Double Coffee Choc	*Jug Hot Water 1/2*	*Cappuccino Sugar*
				Cafe Latte	*Jug Coffee 1/2*	*Espresso Sugar*
				Double Cafe Latte	*Soup **	*Soup **
					*Tea **	*Tea **
		** = only if the necessary ingredient (s) are available in the canisters.*				

3.4 Detailed recipe settings

To change detailed recipe settings (service menu 2.3) you first need to be aware of the various parts such as valves DV, ingredients motors IM and mixers MM that work together. See section 3.5 Timebar recipe settings.

The following rules should be taken into consideration:

- Water (valves) are easily set in millilitres.
- Motor running times (Ingredients/Mixers) are set in seconds (0.1 second steps)
- All parameters (Water and Ingredients) are based on a 100 ml drink and the programme automatically converts them to the cup volume as set in 1.4 / 2.1 Quick recipe and 2.2 Button settings.
- If a drink contains DV1 and DV2, the total amount of water should always be 100 ml when combined. For DV1, DV2 and DV4, this amount = > 100 ml.
- A Rinse parameter is used to ensure that the mixers are properly rinsed after making a drink. After the mixers are almost empty a small amount of hot water is dispensed to the mixer so that it is as clean as possible on completion.

  A realistic rinse value is 7.5 ml. Caution: this does not need to be deducted from the amount of water as the programme does this automatically!
  Example: Set parameter for DV1 = 100 ml, Rinse 1 = 7.5 ml -->
  Programme carries out the following action: DV1 = 92.5 ml, Rinse 1 = 7.5

3.5 Timebar recipe settings

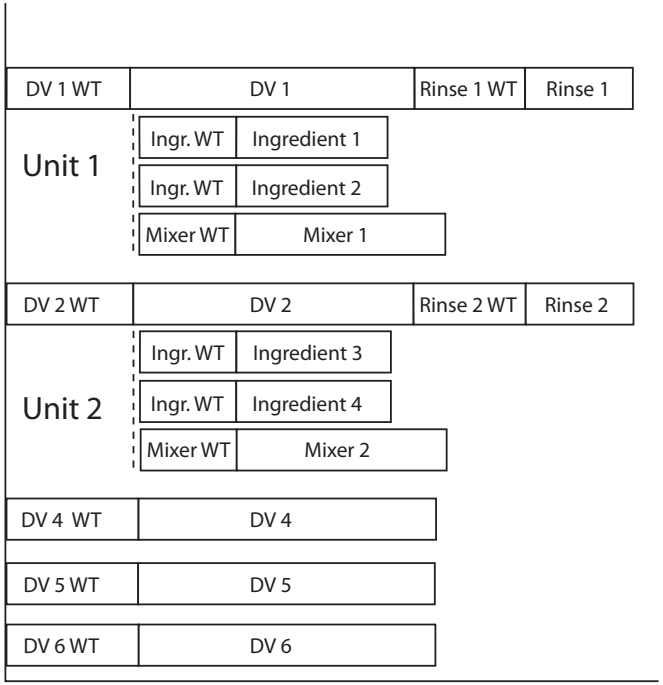


Fig. 3

3.6 Principle overview

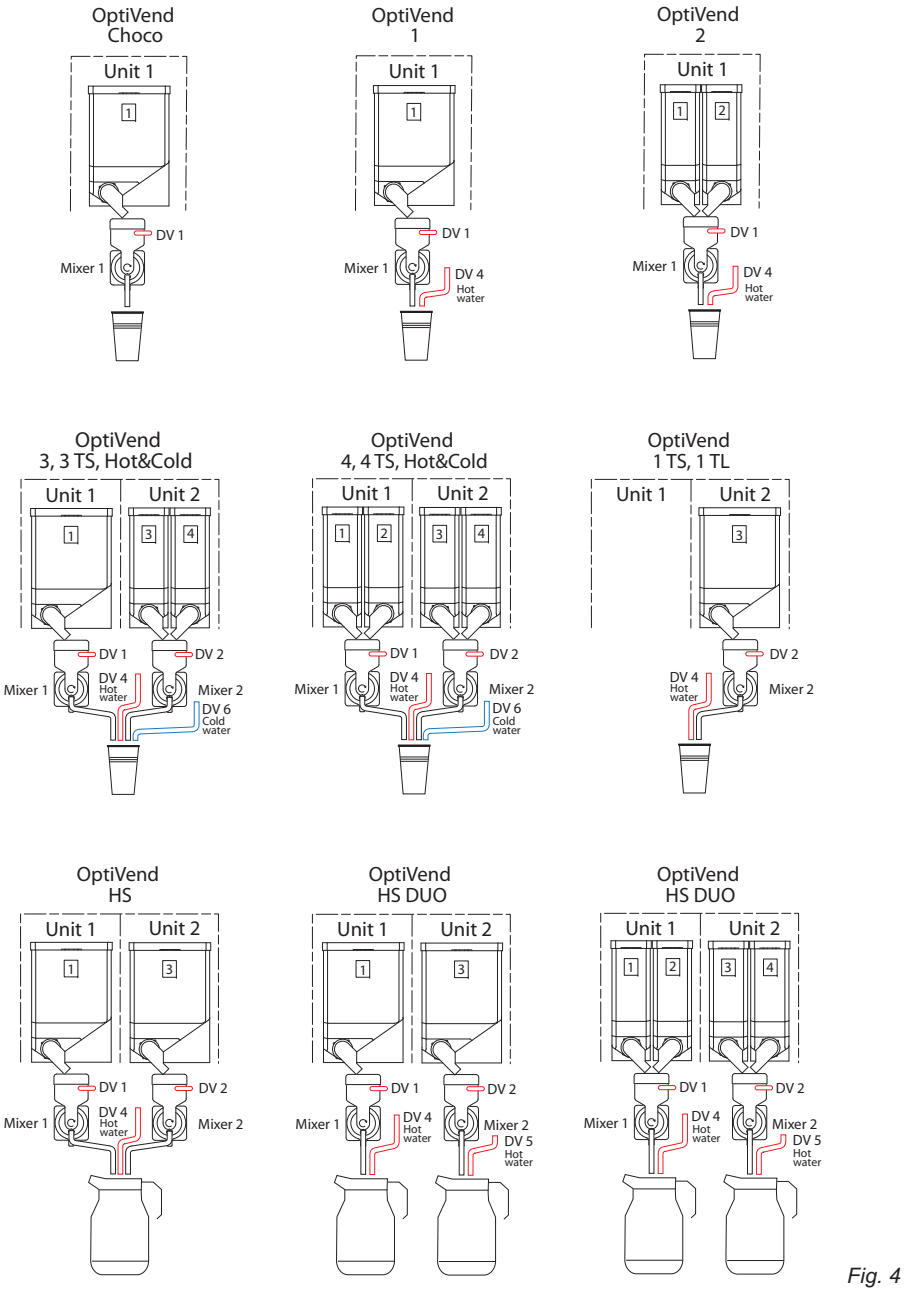


Fig. 4

3.7 Calibrating the hot water valves

The Mixers are supplied with water by the Dispensing Valves DV1 and DV2.

The water valve DV4 also called the 'dump valve', either doses the water or supplements the total dose in a cup.

In the unlikely event that one of the valves needs replacing, it should be calibrated to one of the dispensing speeds given in figure 5 after it has been fitted.

When calibrating valves, use the special **Valve Calibration** menu by opening the **Service Menu** and going to **2.7 Hardware Test / 2.7.2 Calibrating Valves**.

The hot water dispensing valves are accessible by dismantling the canister plateau behind the ingredients canisters (fig. 5a).

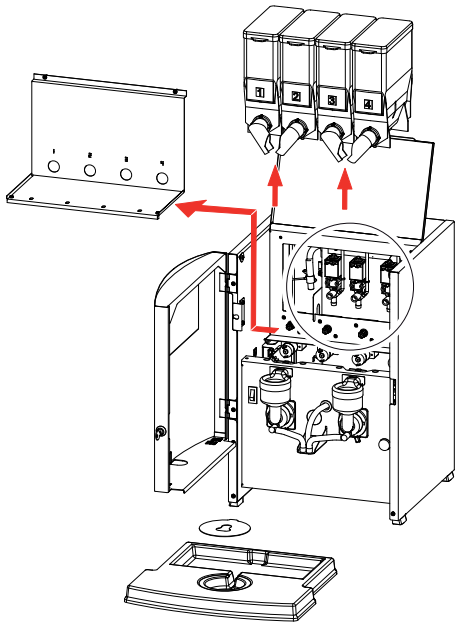


Fig. 5a

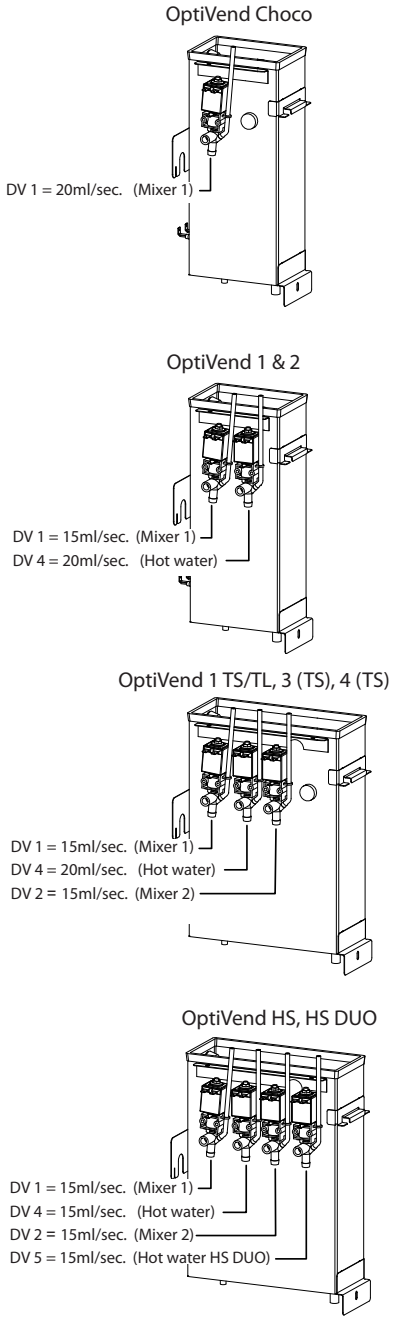
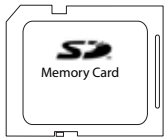


Fig. 5

4. SOFTWARE

4.1 Memory card



Type: SD
Capacity: 16Mb or bigger
Format: FAT (no FAT32 or NTFS)

4.2 Installing software

The device can easily be installed with new software, which is made available as follows:

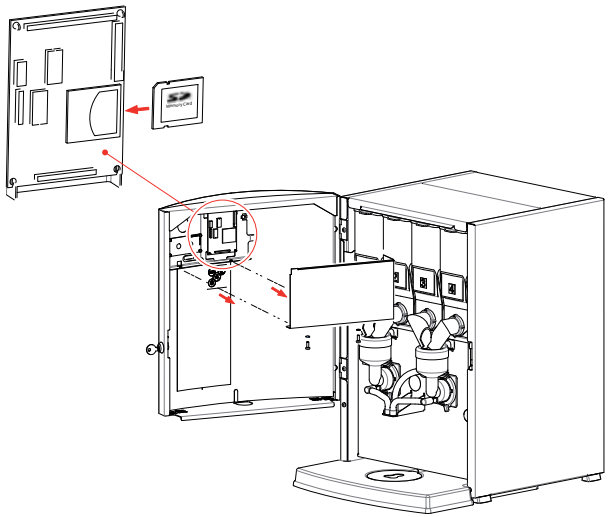
- www.Animo.eu / dealer log in: Extranet *
- By Email

4.3 Installing a language

The device has four standard languages (NL/GB/D/F).
The device can easily be installed with another language set (if available).
A new language file can be made available as follows:

- www.Animo.eu / dealer log in: Extranet *
- By Email

* User manuals, service manuals and software updates can be found on the Extranet section of www.animo.eu. If you do not have access, please request your personal login code on our website.



5.0 SERVICE

⚠ WARNING

- In order to descale the water reservoir, the device must be opened. This will expose live parts of the machine, which can be touched easily. This may lead to highly dangerous situations!

⚠ WARNING

- The device must not be submerged or hosed down.
- Always stay with the device during maintenance work.

5.1 Setting a service parameter

During installation, set a parameter for the device to be serviced. See Service Menu item 2.8 Descale / filter. Use the table below to set the correct service parameter.

Service parameter reached?
The dispensed drinks are counted during use. If the service parameter is reached the display shows the following message: *Descale / filter* (fig. 6).

The message indicates that the device must be descaled. If a water filter is fitted (recommended), this is also an indication that the filter must be replaced.

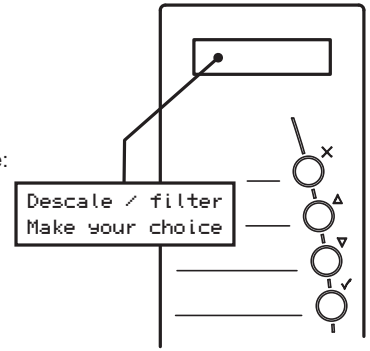


Fig. 6

Water hardness table

Water Quality	Hardness					Limescale Indicator ...cups
	°D	°F	°C	mmol/l	mgCaCo3/l	
Very hard	18-30	32-55	11-18	3,2-5,3	321- 536	5000
Hard	12-18	22-32	7-18	2,2-3,2	214-321	8500
Average	8-12	15-22	5-7	1,4-2,2	268-214	12.500*
Soft	4-8	7-15	2-5	0,7-1,4	72-268	20.500
Very soft	0-4	0-7	0-2	0- 0,7	0-72	0 = off

Table 7

5.2 Preventative maintenance

5.2.1 Service contracts

PREFACE

Preventative maintenance will lengthen the life cycle of the device and reduce the chance of malfunction. Before carrying out maintenance, read the safety instructions in the user manual, service manual, and recommended cleaning agents.

User manuals, service manuals and software updates can be found on the Extranet section of www.animo.eu. If you do not have access, please request your personal login code on our website.

Water filter

We strongly advise you to use a water softener and/or water filter if the mains water is heavily chlorinated or is too hard. This increases the quality of the drink and will ensure that you do not have to descale the device too often.

5.2.2 Servicing

For an estimated total of < 25000 cups a year we recommend one service a year.

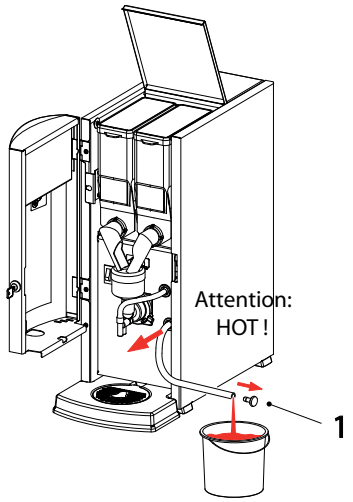
For an estimated total of > 25000 cups a year we recommend two services a year.

Service activity	Time	Product	Art. No.:	OptiVend	
					
Descale	45 min.			small	wide
Descale boiler system (see service manual)		Animo descaler	49007		
Use valve seal set if necessary.		Valve seal set	99673	2x	3x
Mixer(s)	10 min.				
Check Motor axis for dirt and wear and tear. Grease water connection using silicone grease).					
Replace mixer fan			03254	1x	2x
Replace green mounting ring			03253	1x	2x
Clean mixer parts.		Animo cleaner	49009		
Inspection (general)					
Check that the entire machine is working. Check parts for damage/wear and tear and/or leaks.					
Cleaning (general)					
Mixer unit as for weekly cleaning. The entire interior and exterior of the machine					

Table 8

⚠ WARNING

- Do not leave the device during maintenance work.
- When descaling always follow the instructions for the descaler used.
- It is advisable to wear safety goggles and protective gloves when descaling.
- After descaling, allow the device to run a minimum of three times.
- Wash hands thoroughly after descaling.
- The device must not be submerged or hosed down.



5.3 Descaling instructions

Animo supplies Descaler in the following quantities:

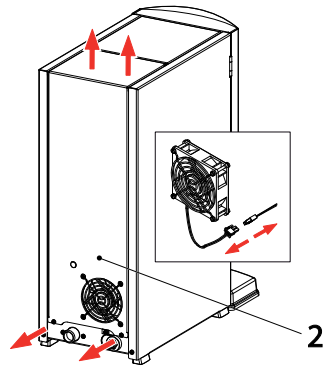
- 48 x 50g sachets (Art. No. : 49007)
- 1kg tube (Art. No. 00009)

Time required, products and tools:

- Time: approximately 45 minutes
- Animo Descaler x 2 sachets or 8-10 dessert spoons
- Drip tray of approximately 1.5 litres
- Phillips screwdriver
- Bucket or basin at hand

1. Switch on the device and let it warm up. The advantage of this is that the reservoir is properly warmed in advance, which achieves a better result during descaling.
2. Switch off the device and pull the plug out of the socket.
3. Dispense one litre of hot water from the water reservoir using the tap at the front of the device (fig. 7-1).
4. Remove the rear plate (fig. 7-2) and unscrew the reservoir lid (fig. 7-3). Take care: HOT!
5. Before going any further, read the warnings and instructions for use on the Animo Descaler sachets before dissolving two 50g sachets in the measuring jug (8-10 dessert spoons).

.



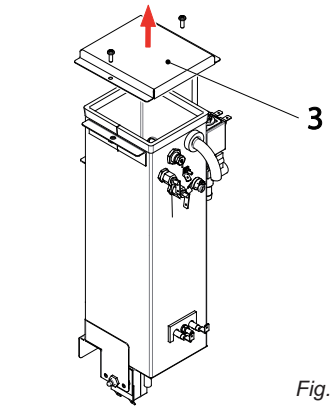


Fig. 7

6. Pour the acid solution into the reservoir (fig. 8-1). The acid solution will now react with the lime scale.
7. Leave the solution to soak for a minimum of 10 minutes, until the foaming has stopped.
8. Use a brush to spread the acid over the level electrodes during the soaking time (fig. 8-2).
9. Put the plug in the socket again and turn on the device so that the reservoir warms up.
10. Activate the MIXER cleaning programme (fig. 8-3), so that the acid solution leaves the water reservoir via the MIXER VALVES. Place a drip tray under both outlets (fig. 8-4) and follow the instructions on the display.
11. Turn off the device and allow the reservoir to empty completely using the tap (fig. 8-5).
12. Turn on the device again; the reservoir will refill with clean water. Repeat instruction 10 one more time to rinse the reservoir completely free of acid.
13. Turn on the device again; the reservoir will refill with clean water. Allow the water reservoir to heat up.
14. Activate the MIXER programme (fig. 8-3) three times (3x), so the valves and pipe systems are rinsed clean. Place the measuring jug under the outlet (fig. 8-4).
15. Repeat the above descaling procedure if lime scale is still present in the reservoir.
16. Screw the lid back onto the reservoir and replace the rear plate.
17. Clear the service parameter counter in the Service Menu **2.6 Descale / filter /2.6.2 Reset service counter.**
18. The device is now ready for use again.

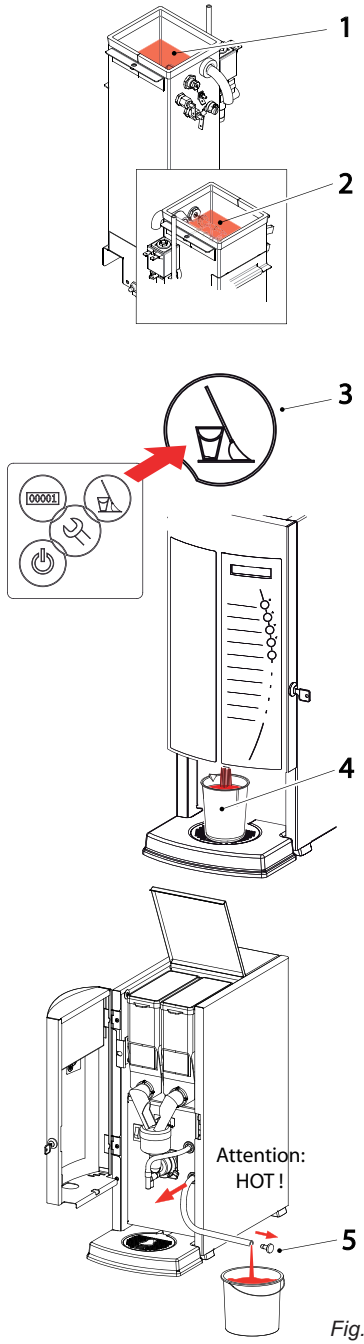


Fig. 8

6. COMPONENT ACCESSIBILITY

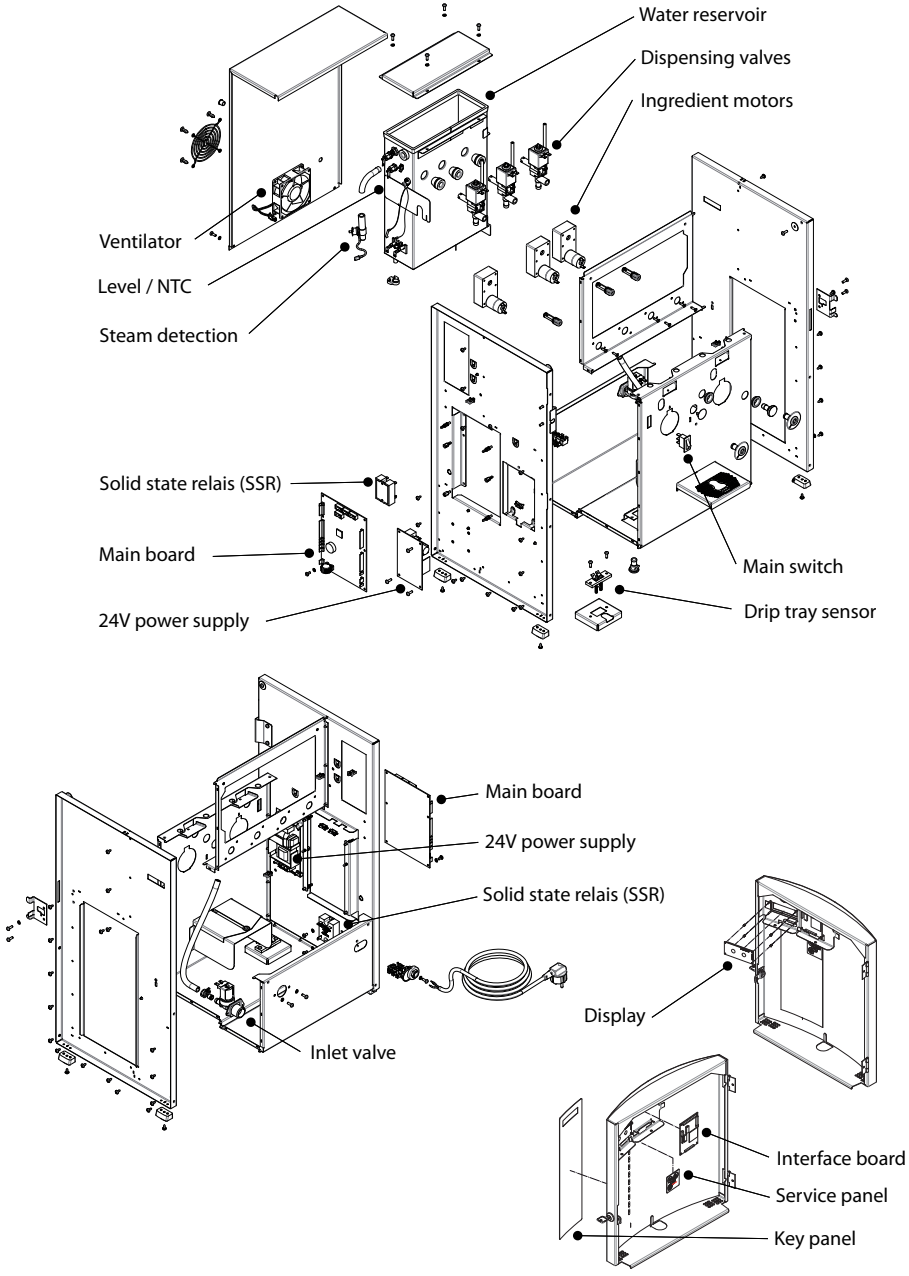


Fig. 9

6.1 Electronics summary

WARNING

During repairs or maintenance work, avoid electrostatic discharge (ESD) on the control unit.

- Main control board..... 6.1.1
- Interface board 6.1.2
- Power supply 230Vac:24V 65W 6.1.3

6.1.1 Main circuit board

The main circuit board is accessible by removing the left side panel (fig. 10a). The following important parts can be found in the main control unit (fig. 10):

- Fuse (6, 3A t): to safeguard the power supply to the control unit.
- Battery: to maintain the clock and counter function when there is no power supply to the device.

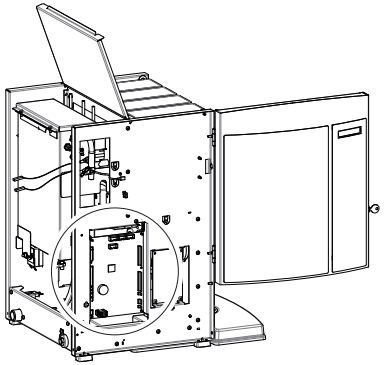


Fig. 10a

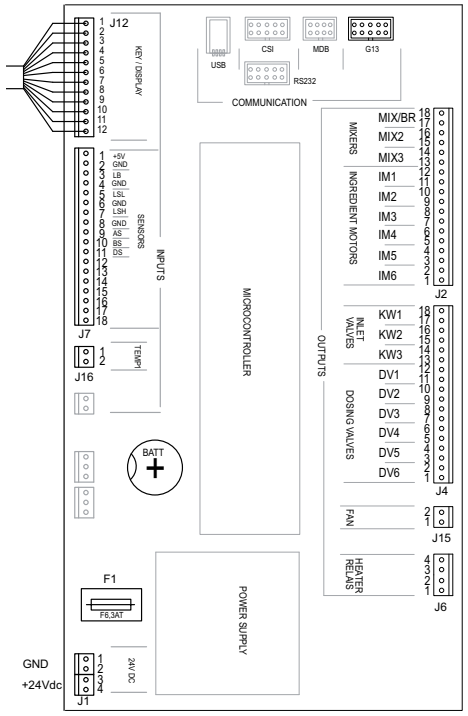


Fig. 10

6.1.2 Interface board

The interface board (fig. 11) connects all components found inside and on the door with the main circuit board via a flat cable.

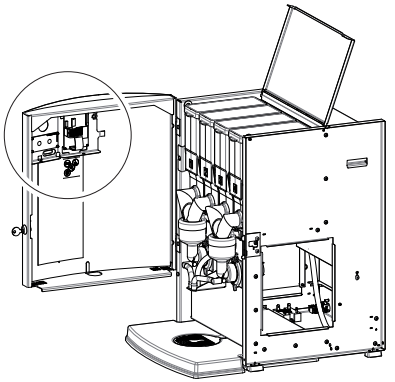


Fig. 11a

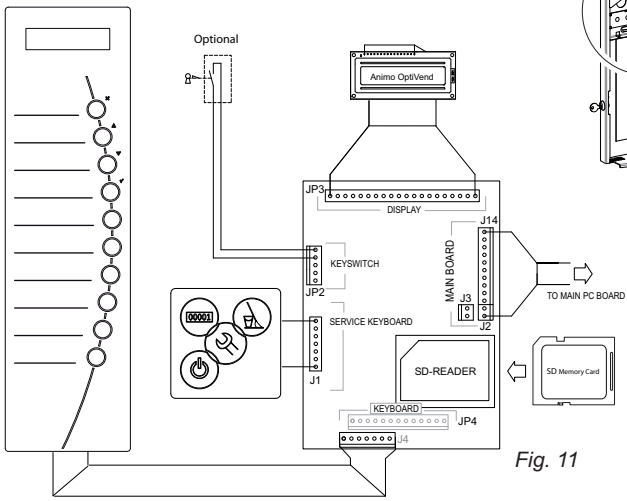


Fig. 11

6.1.3 Power supply

The 24 V DC power supply (fig. 12) consists of a 24V DC 65W switch mode power supply and can be accessed by removing the rear plate. The power supply is located next to the main circuit board.

During an overload the power supply automatically switches off. Reset the power supply by turning the main switch off and on.

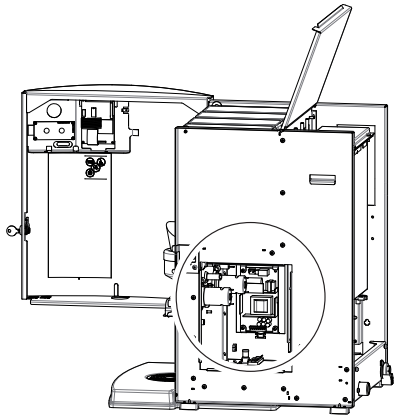


Fig. 12a

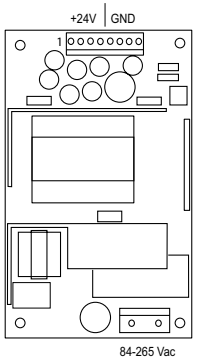


Fig. 12

6.2 Main circuit board entrances

Connector J12
Connector cable between the main circuit and door circuit

Connector J7			
Pin	**Sensor**	**Colour**	**Comments**
1-2	-		
3	Drip tray sensor	Yellow	
4	Drip tray sensor Mass	Black	
5	Level sensor Low	Brown	
6	Level sensor Mass	Green	
7	Level sensor High	White	
8-18	-		

Connector J18			
Pin	**Sensor**	**Colour**	**Comments**
1	NTC sensor	Violet	
2	-	-	
3	NTC sensor	Violet	

Battery	
Lithium 3V Type CR2025	Art. No. 02816

Fuse	
6,3A slow	Art. No. 03391

Connector J1			
Pin		**Colour**	**Comments**
1	Mass (GND)	Black	
2	Mass (GND)	Black	
3	+24V DC	Red	
4	+24V DC	Red	

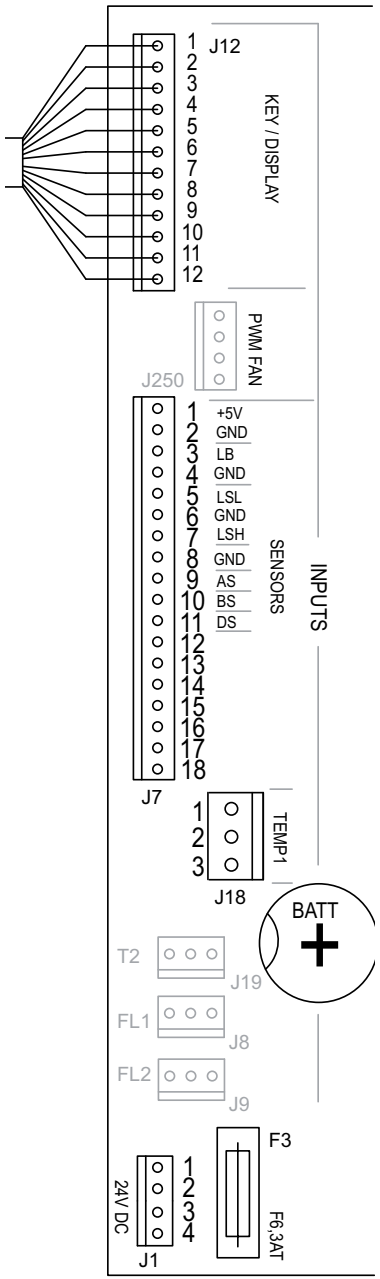


Fig. 13

6.3 Main circuit board exits

Connector J2			
Pin	**Motor**	**Colour**	**Comments**
17-18	Mixer 1	Black	**Take care to rotate in the right direction!** Shared +24 DC (red wire) on red spot on Mixer and Ingredients Motor.
15-16	Mixer 2	Violet	
13-14	Mixer 3	-	
11-12	Ingredient Motor 1	Brown	
9-10	Ingredient Motor 2	Green	
7-8	Ingredient Motor 3	White	
5-6	Ingredient Motor 4	Yellow	
3-4	Ingredient Motor 5	-	
1-2	Ingredient Motor 6	-	

Connector J4			
Pin	**Valve**	**Colour**	**Comments**
17-18	KW 1 (inlet valve)	Violet	Red wire is a shared (24VDC) connection
15-16	KW 2	-	
13-14	KW 3	-	
11-12	DV 1 (mixer 1 valve)	Brown	
9-10	DV 2 (mixer 2 valve)	White	
7-8	DV 3 (mixer 3 valve)	-	
5-6	DV 4 (hot water tap)	Green	
3-4	DV 5 (hot water tap HS DUO)	Grey	
1-2	DV 6 (cold water tap	Orange	

Connector J15			
Pin	**Motor**	**Colour**	**Comments**
2	Fan	Red	
1		Orange	

Connector J6			
Pin	**Relay**	**Colour**	**Comments**
4	Solid state relay (SSR) (heating element H1)	Red	
3		White	
2	Extra Solid state relay (SSR) (heating element H2/3)	-	Multi phase execution
1			

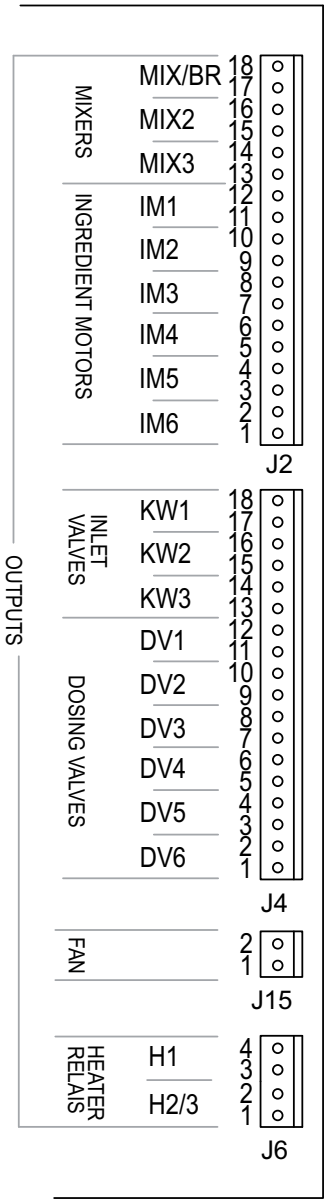


Fig. 14

6.4 Main circuit board communication

Communication			
Conn			**Comments**
G13	Coin tester NRI G13		
MDB	Coin changer NRI C^2		Please note; MDB signal should adapted on PC board.
CSI			Future port
RS232			Future port
USB			Future port

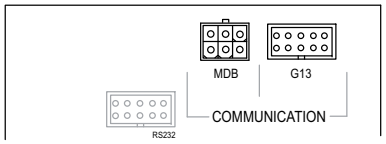


Fig. 15

7. TROUBLESHOOTING

WARNING

- When carrying out repairs and cleaning the device, the plug should always be removed from the wall socket before the device is opened.

Preface

Before searching for the defect, check that all parts are in their correct position. To do this, remove the device's rear plate and check that all printed circuit boards, connectors, wire beams and pipes are mounted correctly.

After carrying out a general parts inspection, use section 7.3 Troubleshooting analysis to verify the probable cause of the problem.

#) If the column solution advises replacement of the part concerned, there is always the possibility that the defect may be caused by another problem. The functioning of the device should therefore be thoroughly tested to make sure that the defect does not reappear.

7.1 Read log

The last 20 error messages displayed during use are registered and saved (fig. 16).

To read out these error messages activate the menu item 2.8. The first error is the most recent error message.

- The first line shows the same error codes listed in the troubleshooting analysis table (see section 7.3)
- The second line shows the date and time at which the error message occurred.

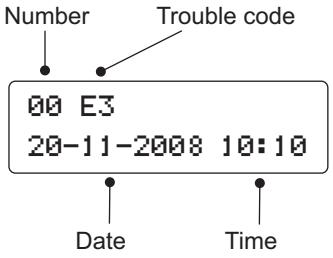


Fig. 16

7.2 Clear log

Use the Clear log function in service menu 2.9 to clear the log.

7.3 Troubleshooting

Display	Possible cause	Action
Out of order Boiler filling	When used for the first time: boiler is still empty and is being filled.	No action required. When boiler reaches the appropriate level, the display will show 'Boiler is heating up'.
	During use: boiler is not filling up or is filling up too slowly. After 60 sec. the display will show 'E3 Level error'.	Check the water pressure, turn the water supply tap completely open and check the connection tube for any kinks.
Out of order Boiler heating	The boiler temperature is (temporarily) too low because too much water has been used.	Once the temperature is restored, the message automatically disappears and the drink selection buttons are reactivated.
Out of order Door open	For safety reasons, the machine automatically switches off if the door is opened.	The machine can be operated with the door open by using the door pin (User manual: section 8.1).
Out of order Stand-by	The machine is on standby.	This function can be set manually or automatically.
Out of order E1 Level error	Minimum electrode error: minimum electrode detects no water but maximum electrode does. Inlet valve shuts.	Check that the level sensors are functioning. See service menu **2.7 Hardware test**. Switch the device off and on again.
Out of order E2 Level error	Maximum electrode error: maximum electrode not reached within 30 sec. Inlet valve shuts. Boiler fills up too slowly. Water pressure has dropped or the water tank (stand-alone) is empty.	Check the water pressure, turn the water supply tap completely open and check the connection tube for any kinks. Switch the device off and on again.
Out of order E3 Level error	Electrode error: minimum electrode not reached within 90 sec. Boiler fills up too slowly Water pressure has dropped or the water tank (stand-alone) is empty.	Check the water pressure, turn the water supply tap completely open and check the connection tube for any kinks. Switch the device off and on again.
Out of order E6 Boiler temp	Temperature sensor or solid state relais (SSR) problem.	Check the temperature sensor function in the service menu **2.7 Hardware test.** Check if SSR switches. Replace if necessary.
		Check if steam detection mounted in the overflow tube was triggered. Reset if necessary.
Out of order E7 Mixer 1 error	Mixer 1 motor stuck. Mixer 1 motor exit overload (power too high). Control unit has switched off the exit.	Check if Mixer 1 is unclean or incorrectly fitted. Clean and/or check whether the rotor can run freely. Switch the device off and on again.
Out of order E8 Mixer 2 error	Mixer 2 motor stuck. Mixer 2 motor exit overload (power too high). Control unit has switched off the exit.	Check if Mixer 2 is unclean or incorrectly fitted. Clean and/or check whether the rotor can run freely. Switch the device off and on again.

Display	Possible cause	Action
Out of order E10 Valve error	Valve exit overload (power too high). Control unit has switched off the exit.	Check valves and wiring for leakage. Switch the device off and on again.
Out of order E11 Ingr. m error	Ingredient motor stuck. Ingredient motor exit overload (power too high). Control unit has switched off the exits.	Check the driving motor function in service menu **2.7 Hardware test**. Empty the Canister(s) and clean thoroughly. See User manual section **8.9 Cleaning the canister(s)**. Switch the device off and on again.
Out of order E12 Fan error	Fan exit overload (power too high). Control unit has switched off the exits.	Check the ventilator and wiring for leakage. Switch the device off and on again.
Out of order E13 Mixer error	Mixer exit group overload (power too high). (power too high). Control unit has switched off the exits.	Carry out the inspection actions as described for E7, E8 and E9. Switch the device off and on again.
Out of order E14 Output err.	Ingredient motor and ventilator exit group overload (power too high). Control unit has switched off the exits.	Carry out the inspection actions as described for E11 and E12. Switch the device off and on again.
	Valve exit group overload (power too high). Control unit has switched off the exits.	Carry out the inspection actions as described for E10. Switch the device off and on again.
Out of order E16 Level error	Electrode error; Max. and Min. Electrode both suddenly detect no water level. Inlet valve shuts.	Make sure if the boiler does not leaks. Check the water pressure, turn the water supply tap completely open and check the connection tube for any kinks. Switch the device off and on again.
Out of order E17 MDB error	There is no communication between machine and MDB payment system	Check the connection between the machine and MDB payment system.
Out of order E18 mixer FET error	Mixer motor output remains active.	Mixer motor output (FET) defective. Replace PC board.
Out of order E19 Output FET error	Ingredient motor / valve / ventilator output remains active.	Ingredient motor / valve / ventilator output (FET) defective. Replace PC board.
Out of order E20 Software error	Software fault	Reset machine. Load defaults. Install new software.
Out of order E21 Boiler timeout	Heating element heats for max. 8 minutes. If boiler still has not reached its temperature this error occurs. Dry boil protection and / or steam thermostat is enabled.	Reset the steam thermostat, see CHAPTER 1.8 Check the logmenu. If a E6 boiler temp. the boiler has boiled to long. Check the NTC sensor and wiring / connection

8. PAYMENT SYSTEMS

8.1 Coin mechanism (optional)

The OptiVend is available with an optional coin mechanism suitable for euros (€0.05 - €2.00). Other currencies are available on request.

The coin mechanism can also easily be programmed to accept tokens.

It is also possible to have an existing device fitted with the coin mechanism. The right-hand side panel is replaced by a wider side panel, which houses the coin mechanism and slot (fig. 17).

1. Coin insert
2. Return button
3. Return slot
4. Money drawer
5. Door lock (also locks the money drawer)

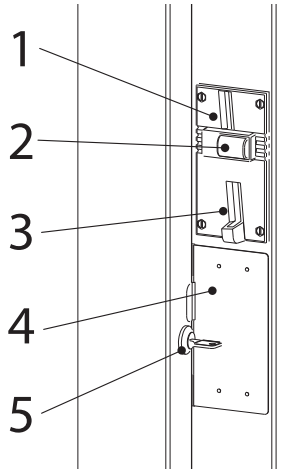


Fig. 17

8.1.1 Standard configuration

Fig. 18 shows the standard configuration of the DIL switches, S1-10 ON

The coin mechanism is connected to the device with a connector (Fig. 18A).

8.1.2 Rejecting coins

If desired, certain types of euro coins can be rejected by using DIL-Switch block S1 + S2 (fig. 18).

Coin	DIL +	DIL
€ 0,05	S1-1	S1-7
€ 0,10	S1-2	S1-8
€ 0,20	S1-3	S2-1
€ 0,50	S1-4	S2-2
€ 1,00	S1-5	S2-3
€ 2,00	S1-6	S2-4
Token 607	-	S2-5
Token Eagle	-	S2-6
Token new	-	S2-7
Token new	-	S2-8
ON = rejected / OFF = accepted		

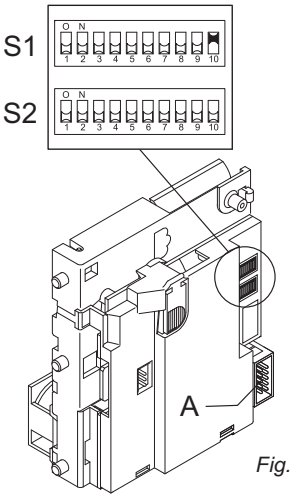


Fig. 18

Example: Reject €1 and €2 euro coins (fig. 19)

- S1-5, S2-3 -> ON (€ 1,00 rejected)
- S1-6, S2-4 -> ON (€ 2,00 rejected)

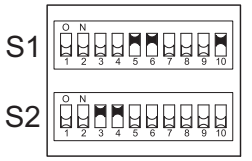


Fig. 19

8.1.3 Activating existing tokens

The token shown here (fig. 20) is programmed in the coin mechanism as standard.

Configure the service menu as described in the following section from point 4.

Token Art. No. : 03344

Fig. 20

8.1.4 Programming a new token

- Required: 10 tokens
- Attention: remember the DIL switch positions for any rejected coins. Leave S1.10 ON!

1. The following DIL switches on Switch Block S2 should be facing upwards and switch to ON (fig. 21).
   a) First switch S2-9 Teach Mode to ON
   b) Then, switch S2-7 coin channel 6 (TM) to ON
2. Insert a minimum of ten tokens (Fig. 22). These ten tokens should not be the same. After the ten tokens have been inserted the (internal) reject coil will be automatically drawn.
3. End programming by switching the DIL switch S2-9 downwards to OFF. If saved successfully, the reject coil will be drawn once again. After this, switch S2-7 OFF again. (To halt programming, first switch S2-7 and then S2-9 to OFF).
4. Service menu: change coin channel 6 (menu item 2.5 Payment system) from €2 to TOKEN.
5. The device now accepts the token as a method of payment.

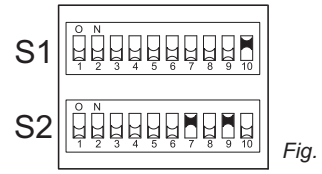


Fig. 21

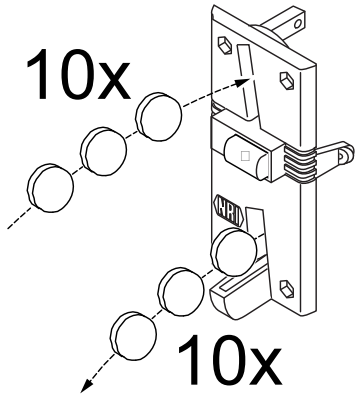


Fig. 22

8.1.5 Accepting Euros and Tokens

Carry out section 8.1.3 and 8.1.4 beforehand.

- Open the service menu
- Set a price using menu 2.2 Button settings / Button 1-12 / Price (e.g. € 0.50)
- The recipe buttons are activated after sufficient euros or tokens have been inserted!

8.1.6 Accepting Tokens only

Carry out sections 8.1.3 and 8.1.4 beforehand.

1. Open the service menu
2. Set to TOKEN using menu 2.2 Button settings / Button 1-10 / Price.
3. Block the €0.05 - €2 coins using the coin mechanism DIL switches and the table below.
4. The recipe buttons are only activated after a token is inserted!

Coin	DIL +	DIL
€ 0,05	S1-1	S1-7
€ 0,10	S1-2	S1-8
€ 0,20	S1-3	S2-1
€ 0,50	S1-4	S2-2
€ 1,00	S1-5	S2-3
€ 2,00	S1-6	S2-4
ON = rejected / OFF = accepted		

8.1.7 Cleaning the coin holder

From time to time, the coin mechanism should be cleaned with a light, damp cloth (lukewarm water containing a mild cleaning agent).
No further maintenance is necessary.

⚠ **ATTENTION**

- The cloth should not be too wet as any liquid that gets into the device will damage the printed circuit board.
- Do not use any solvents or scouring agents that may damage the

1. Turn off the device.
2. Take the coin mechanism out of the side panel.
3. Carefully open the coin holder valve (fig. 23A) and hold it open.
4. Clean the coin holder with a cloth and close the valve again.
5. Turn on the device again.

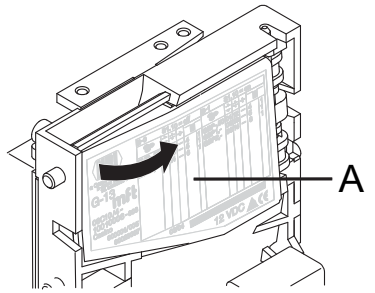


Fig. 23

8.2 Coin changer (optional)

The OptiVend is available with an optional coin changer suitable for euros (€0.05 - €2.00). Other currencies are available on request.

The coin changer has 6 coin tubes (€ 0.05 / 2x 0.10 / 0.20 / 0.50 / 1,00).

1. Return button
2. Coin insert
3. Lock
4. Change

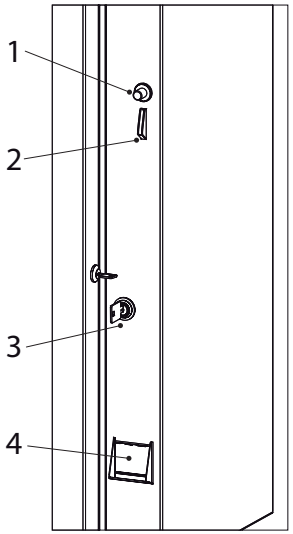


Fig. 24

8.2.1 Troubleshooting

In order to diagnose the cause of the fault in detail, please refer the NRI technical Documentation.

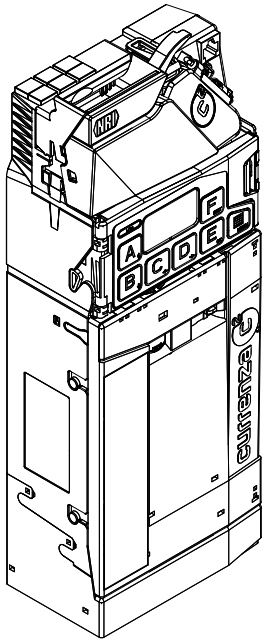


Fig. 25

- Blanc -

Animo®

OPTIVEND Model 2009

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