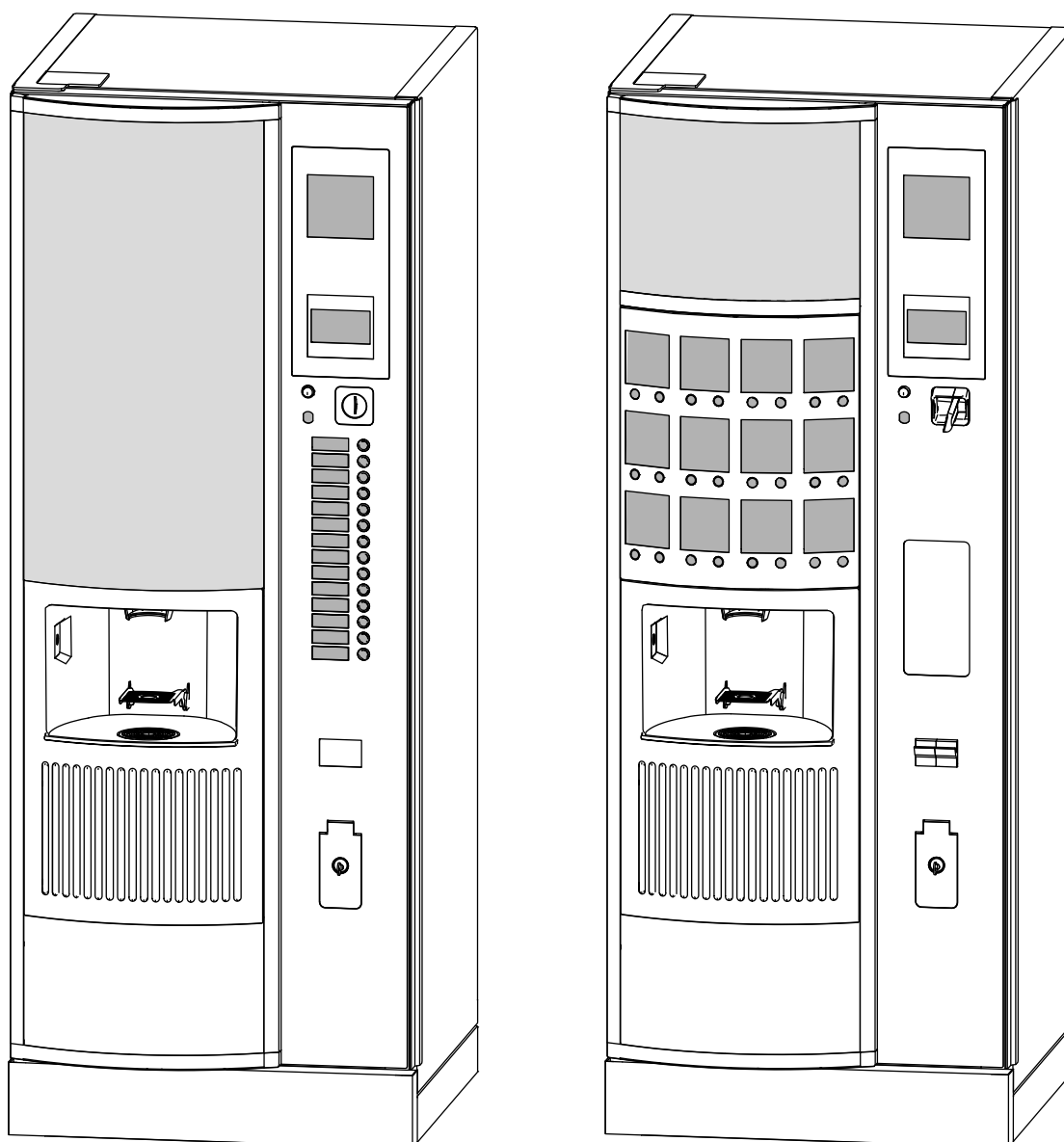


HG CIS 500 EC-03
ES-03

HG CVS 500 EC-03
ES-03

Hot drinks vending machine



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Hotline

Enquiries and orders are dealt with at the following address:

SIELAFF GmbH & Co. KG Automatenbau

Münchener Straße 20

D - 91567 Herrieden

Telephone: +49 9825 18-0 Switchboard
 +49 9825 - 18 -31 51 08 Service-Hotline

Telefax: +49 9825 - 18 -31 54 99 Service
 +49 9825 - 18 -31 52 99 Spare parts ordering

Email: **export@sielaff.de**

Internet: **www.sielaff.com**

Modifications

The texts, pictures and data in these Operating Instructions reflect the technical status of the machine at the time of printing. We reserve the right to make changes in order to develop the machine further.

Versions

Please note that these operating instructions cover different machine versions. For this reason some of the information may not apply to your vending machine.

This manual covers the following versions:

 HG CIS 500 EC-03..... Art.Nr. 404 00 000 23

 HG CIS 500 ES-03..... Art.Nr. 404 00 000 27

 HG CVS 500 EC-03 Art.Nr. 404 00 000 33

 HG CVS 500 ES-03 Art.Nr. 404 00 000 37

This operating guide can also be accessed via the Internet from our secure download centre:

(<http://www.sielaff.com/download-center/>)

1. Safety

1.1 Safety information

General

- Before commissioning the machine, the operating instructions should be read and understood.
- The operating instructions should be readily available for referral at all times.
- When transporting, setting up, servicing and repairing the vending machine, strict adherence to the following rules and guidelines - in their latest version - is essential: Standards set by the appropriate electricity company, UW-accident prevention regulations, trade association guidelines, industrial code, EC guidelines, VDE regulations, observance of the current hygiene regulations, country-specific regulations, Industrial Safety Regulation -BetrSichV, Workplace regulations - ArbStättV

Transportation, installation, commissioning

- Due to its high centre of gravity, there is a risk of the machine tipping over. Therefore caution needs to be exercised. Do not jerk the machine when lowering.
- The machine must be positioned on a horizontal, stable base. It has to be secured to the wall or to the floor.
- The machine is only suitable for indoor use in dry and heated areas.
- Machine installation and repairs should only be carried out by trained service engineers.
- The clearance distance for ventilation between the back of the vending machine and the wall behind must be observed.
- The vending machine should only be connected to a cold water line that is suitable for drinking

Operation

- This machine can be used by children from 8 years and above and by people with limited physical, sensory or mental abilities or lack of experience and/or knowledge, provided that they are supervised by another person responsible for their safety, or if they have received instructions on how to use the machine and are able to comprehend the dangers resulting thereof. Cleaning and maintenance work on the machine should not be carried out by children without supervision.
- Children should be supervised to ensure that they do not play with the machine. The machine is not suitable for children under 3 years old.
- The mains plug must be easily accessible. Never insert damp appliance plugs into sockets or touch with wet hands.
- The machine dispenses food products. For the prevention of health hazards for the consumer the machine must be cleaned regularly.
In addition to the standard cleaning procedures maintenance work should also be carried out on the machine.
- The liquids dispensed by the machine are hot. To prevent scalding during the vending process refrain from putting hands under the drinks outlet.
- Never put hands into the brewing chamber. There is risk of them being crushed.

Cleaning

- Before cleaning, turn off the main switch. Exception: Cleaning programme
- Use only approved, food-safe cleaning agents.
- Do not clean the machine with a water hose or a high-pressure cleaner.

Repairs

- The inside of the machine may have sharp edges and corners Always wear protective gloves when carrying out maintenance work
- The use of the service key is reserved exclusively for trained service technicians. By inserting the service key, a protection device is de-activated. Risk of injury
- Even if the mains switch is off, there is still voltage to the main switch, the service socket and the interior lighting. Always pull out the plug when working in this area.
- Damaged power cables must only be replaced by the manufacturer, authorised service centre or equally qualified person in order to prevent serious accidents.
- Use only original replacement parts.
- Only products approved by SIELAFF should be used.
- The machine must not be converted or modified in any way. SIELAFF disclaims any liability for any defect claims resulting from the afore-mentioned not being adhered to!

1.2 Cleanliness and hygiene

Machine cleanliness is the responsibility of the operator and should be monitored by filling staff. When working on the vending machine general hygiene requirements must be observed.

- Wash hands thoroughly and disinfect them before handling foods.
- For cleaning the vending machine only use cleaning solutions that are food-safe.
- Remove mixing bowls, tubes and mixer housing and rinse under running water
- After cleaning, do not touch parts that come in contact with food.
- Avoid sneezing and coughing when handling open food products.
- Products that have been opened must be properly closed and stored safely.
- Any product remains must be removed
- Store products separately in a cool and dry area
- Direct contact with the product should be avoided
- In order to provide a drink quality, which meets the most stringent hygiene standards, it is essential that the prescribed cleaning intervals are followed. Thorough and regular cleaning/maintenance can be carried out at little cost.

1.3 Explanation of signs and symbols

This vending machine was manufactured in accordance with state-of-the-art technology standards. Nevertheless, even the most expertly designed machine, cannot be without risks.

In order to ensure the highest possible level of operator safety, additional safety guidelines are highlighted by using the following symbols with accompanying detailed definitions.

Adequate safety during operation is ensured only when these safety precautions are observed.



DANGER!

Risk which could result in death or severe injury.



CAUTION!

Possible hazardous situation which could result in death or severe injury.



ATTENTION!

Hazardous situation which could result in injury or damage to the vending machine.



NOTE:

Information to facilitate handling and use of the vending machine.



WARNING electricity! Danger to life!

This symbol warns that electrically live components are installed in this area. Covers marked with these symbols should only be removed by authorised electricians.



Observe handling regulations when dealing with electro-statically sensitive components and modules (ESD)

Parts and components that are susceptible to electrical discharge are behind covers marked with this symbol.

It is imperative that plug connections, electrical leads and component pins are not touched.

Only specialist personnel with ESD knowledge are authorised to work on the machine!

1.4 Mechanical safety

Whilst the coffee is being prepared, the brewing chamber moves horizontally in order to force the water through the ground coffee. This movement also occurs when the brewer is being flushed during regular maintenance.



Consequently:

Never reach into the brewing chamber or the brewing chamber carriage!

An appropriate warning symbol is positioned on the cover of the brewing chamber.



DANGER! Live electrical components

Risk to life!

- Before commencing maintenance and repair work, turn off the machine and pull out the mains plug.

For all repair and maintenance work, great care must be taken and caution applied.

Safety instructions must be adhered to.

Only original **SIELAFF** replacement parts should be used and fitted.

1.5 Temperature

The machine contains a boiler which is constantly filled with hot water. The water has a temperature of more than 90° C. After turning off the machine the temperature of the water in the boiler cools down slowly.



CAUTION! Hot surfaces!

Risk of scalding!

- Let the machine cool down before carrying out any maintenance and repair work.

Therefore:

Avoid contact with hot water, there is a danger of scalding!

This risk is particularly high at the drinks outlet opening and the hot water run-out when a drink is being dispensed.

1.6 Service Key



CAUTION! Risk to life! Risk of damage to the vending machine!

The use of the service key is reserved exclusively for trained service technicians. By inserting the ser-

vice key, a protection device is de-activated. Warning, risk of injury!



WARNING electricity! Danger to life!

When the door is open, the machine is put out of action for maintenance work via the door contact switch. The door contact switch turns off the control voltage (24V) for safety reasons. This prevents any mechanical movement inside the machine.



CAUTION!

For safety reasons only a trained engineer may bridge the door with the service key. No other such persons, such as an operator, filler or customer should use the service key!

Use of the service key

- Open machine door.
- Insert the service key horizontally into the door.
- Turn the service key 90° in a clockwise direction and release

Safe-keeping

- Never leave the service key in the machine.
- The machine operator has to take care of the service key.

Please note

The machine door cannot be closed completely. It is essential that you remove the service key before closing the door!



NOTE:

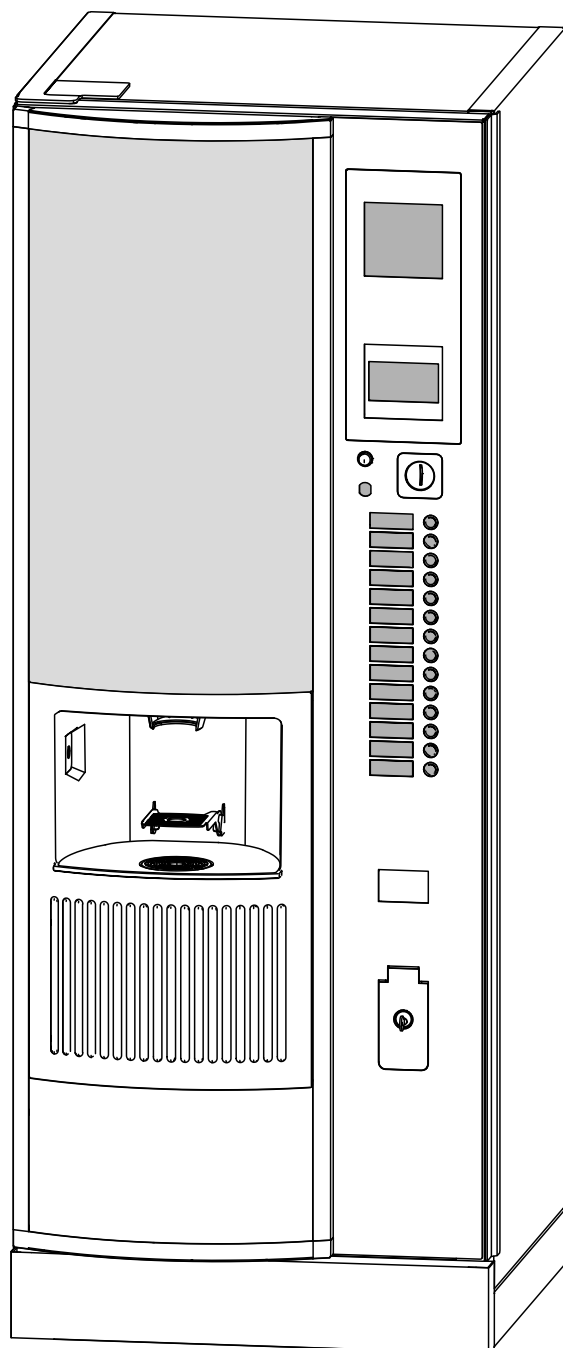
Maintenance and repair work should only be carried out by trained specialists!

Maintenance and repair work on the machine's electrical equipment should only be carried out by a qualified, authorised electrician.

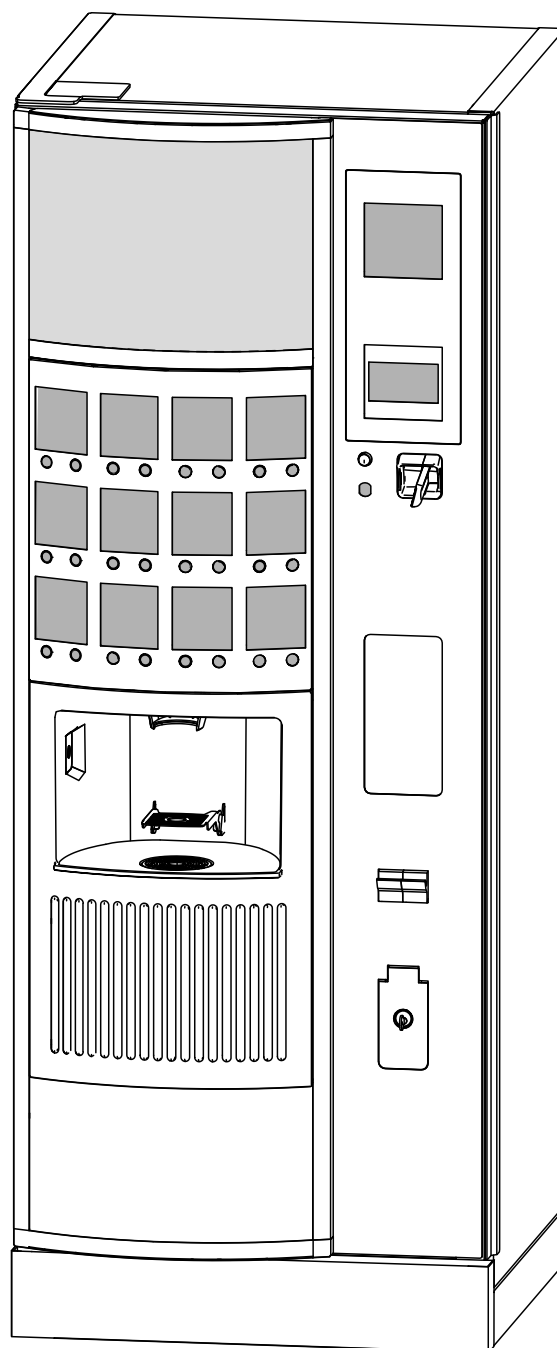
2. Machine diagram

2.1 Front view

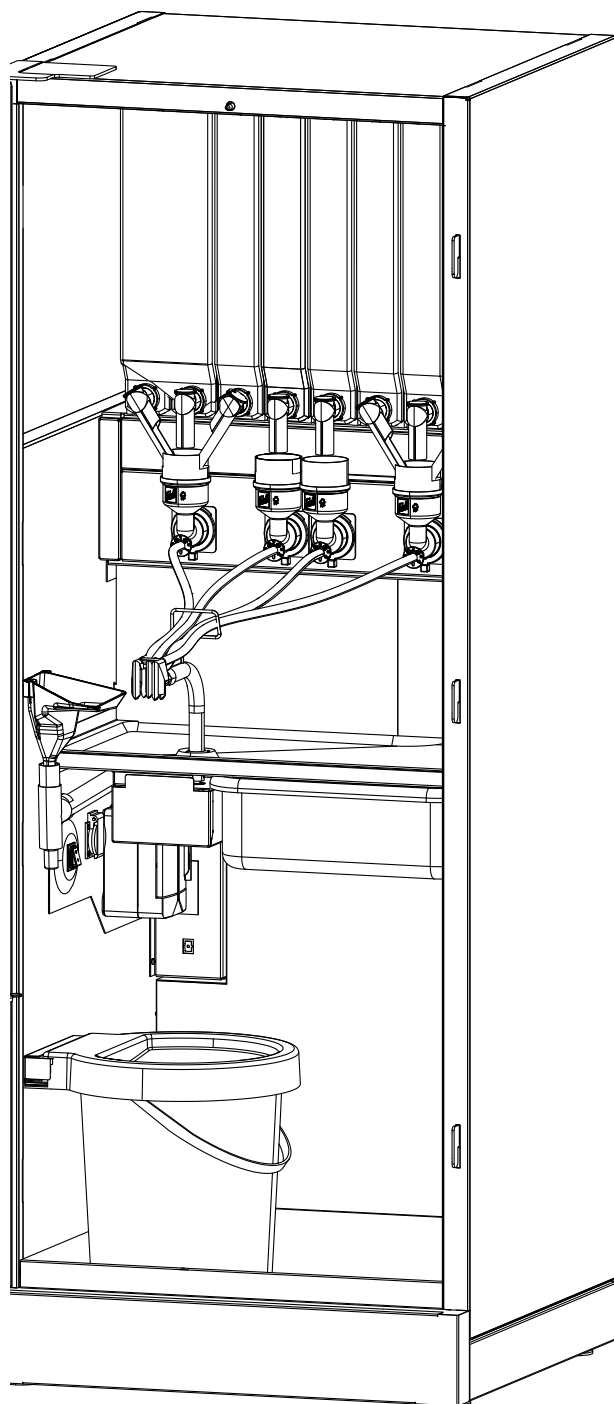
EC-Design



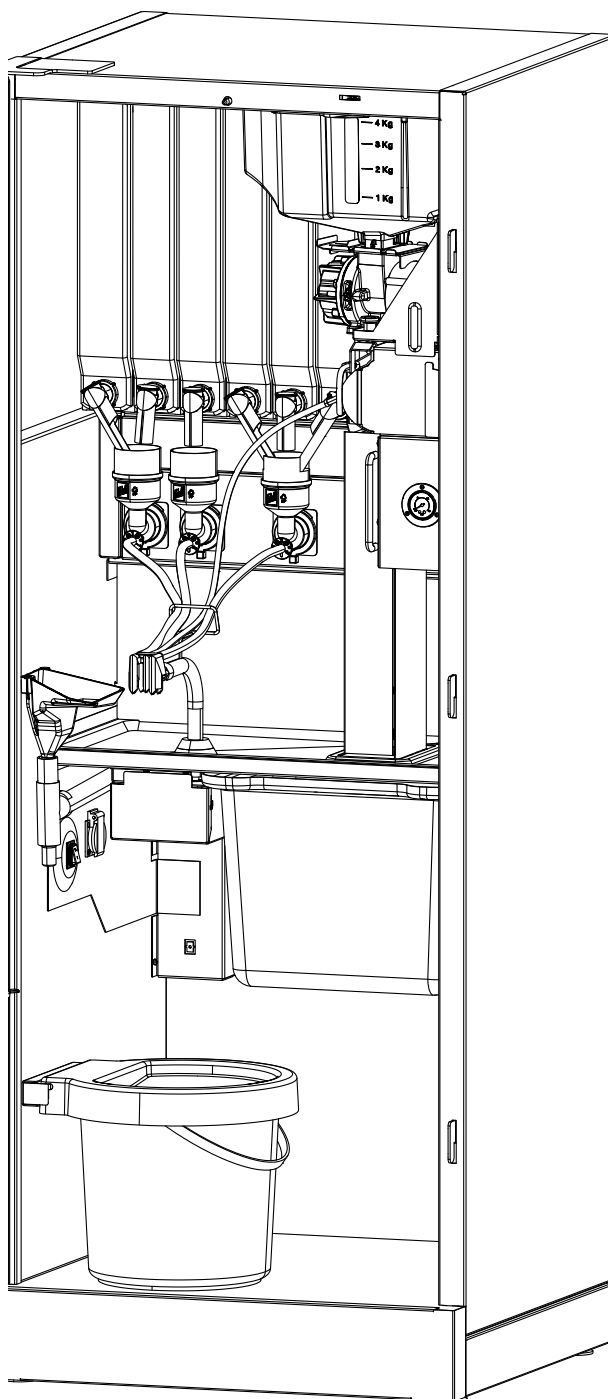
ES-Design



2.2 Internal views showing Instant and espresso versions

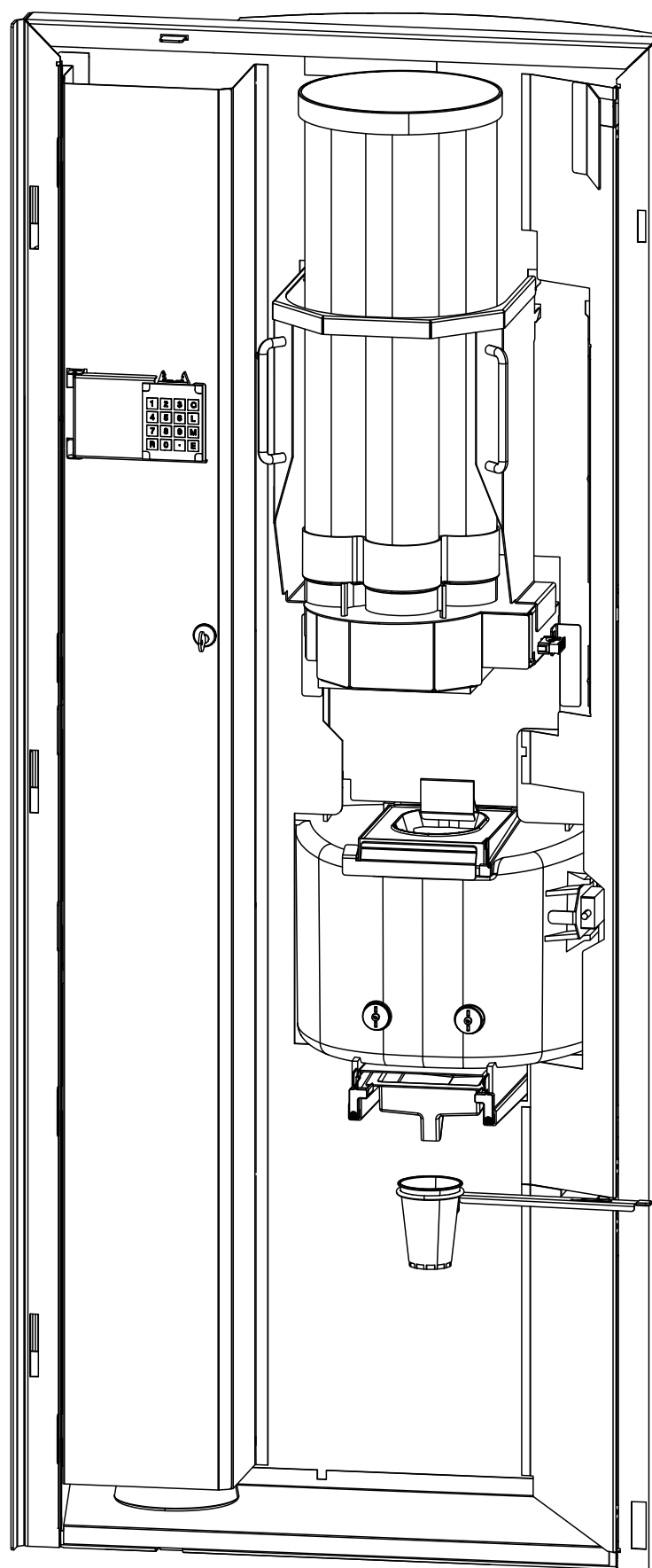


Instant variant



Espresso variant

2.3 Inside of door



3. Maintenance list

Housing

Component	Resources Spare part number	Action 1= exchange 2= clean 3= align 4=check						OK
		6 months and/or 20,000	12 months and/or 40,000	18 months and/or 60,000	24 months and/or 80,000	30 months and/or 100,000	36 months and/or 120,000	
Water supply pipe	402 00 082 00	4	1	4	1	4	1	
Water supply pipe (only if no filter is fitted)	402 40 905 00	4	1	4	1	4	1	
Water supply pipe (only if a filter is fitted)	2 x 403 00 384 00	4	1	4	1	4	1	
Fine filter dirt trap	404 00 963 01	2, 4	2, 4	2, 4	2, 4	2, 4	2, 4	
Non-return valve	404 00 995 29	4	1	4	1	4	1	
Water circulation	Check for leakages,	4	4	4	4	4	4	
Drinks outlet with 7 outlets	412 00 078 00	4	4	4	4	4	4	
Hinge bolts on door	Special lubricant e. g. Microlube GL 261 part no. 998 90 037 01	4	4	4	4	4	4	
Locks	006 00 024 00	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	

Brewing unit (HG CVS Espresso only)

Component	Resources Spare part number	Action 1= exchange 2= clean 3= align 4=check						OK
		6 months and/or 20,000	12 months and/or 40,000	18 months and/or 60,000	24 months and/or 80,000	30 months and/or 100,000	36 months and/or 120,000	
Brewer filter	407 00 608 00 407 00 644 00	4	1	4	1	4	1	
Clamping ring (replace if damaged)	407 00 609 00	4	1	4	1	4	1	
Flowmeter	402 40 404 00	4	4	4	4	4	4	
Silicone tube Brewer → Reducer	985 13 420 16	4	1	4	1	4	1	
Outlet reducer	412 00 146 00	4	1	4	1	4	1	
Silicone tube Reducer → Dispense head (4x2 mm brown)	985 13 420 45	4	1	4	1	4	1	
Silicone tube Brewer → Non-return valve (4x2 mm black)	985 13 420 16	4	1	4	1	4	1	
Non-return valve	412 00 322 00	4	1	4	1	4	1	
Silicone tube Non-return valve → Brewer	985 13 420 16	4	1	4	1	4	1	
Grinder		2, 3	2, 3	2, 3	2, 3	2, 3	2, 3	
Silicone flow regulating disc	406 00 348 01	4, 1	4, 1	4, 1	4, 1	4, 1	4, 1	
Grinding disks for EK21	407 00 011 01	4, 1	4, 1	4, 1	4, 1	4, 1	4, 1	
Espresso boiler pressure relief valve	404 00 633 00	1	1	1	1	1	1	
Teflon tubes transparent	985 13 430 10	4	4	4	4	4	4	
Teflon tubes red	985 13 434 04	4	4	4	4	4	4	
Non-return valve	403 00 164 35	4	1	4	1	4	1	

Instant section

Component	Resources Spare part number	Action 1= exchange 2= clean 3= align 4=check						OK
		6	12	18	24	30	36	
		months and/or 20,000	months and/or 40,000	months and/or 60,000	months and/or 80,000	months and/or 100,000	months and/or 120,000	
Fan	Service number 33M	2, 4	2, 4	2, 4	2, 4	2, 4	2, 4	
Mixer paddle	404 00 309 00	1	1	1	1	1	1	
Flange: V-ring	404 00 331 01	1	1	1	1	1	1	
Flange: O-ring	952 40 040 25	4	1	4	1	4	1	
Mixer water couplings	402 00 326 00	4	1	4	1	4	1	
Silicone tube	985 13 420 17	4	1	4	1	4	1	
Mixer housing → Dispense head								
Mixer housing	405 00 038 00	4	4	4	4	4	4	
Mixer motor	404 00 330 00	4	4	4	4	4	4	
Instant product containers including worms and wheels		4	4	4	4	4	4	
Valve hoses, mixer	404 00 434 00	4	1	4	1	4	1	
Valve hoses, circulation	404 00 435 00	4	1	4	1	4	1	
Hose clamping valves		4	4	4	4	4	4	
Instant boiler	Descale	2	2	2	2	2	2	
Tube in peristaltic pump	404 50 224 00	1	1	1	1	1	1	
Clean the back of the machine	Cloths	2	2	2	2	2	2	

Electronics

Component	Resources Spare part number	Action 1= exchange 2= clean 3= align 4=check						OK
		6	12	18	24	30	36	
		months and/or 20,000	months and/or 40,000	months and/or 60,000	months and/or 80,000	months and/or 100,000	months and/or 120,000	
Door contact switch	985 14 065 27	4	4	4	4	4	4	
Water supply valve	Service number 19M / 20M	4	4	4	4	4	4	
Waste bucket sensor	Service number 17L	4	4	4	4	4	4	
Control board software version	Service number 21L	4	4	4	4	4	4	
Membrane keypad		4	4	4	4	4	4	
Online module (optional)		4	4	4	4	4	4	
LED-Illumination		4	4	4	4	4	4	
Internal illumination	Service number 47M	4	4	4	4	4	4	

Settings

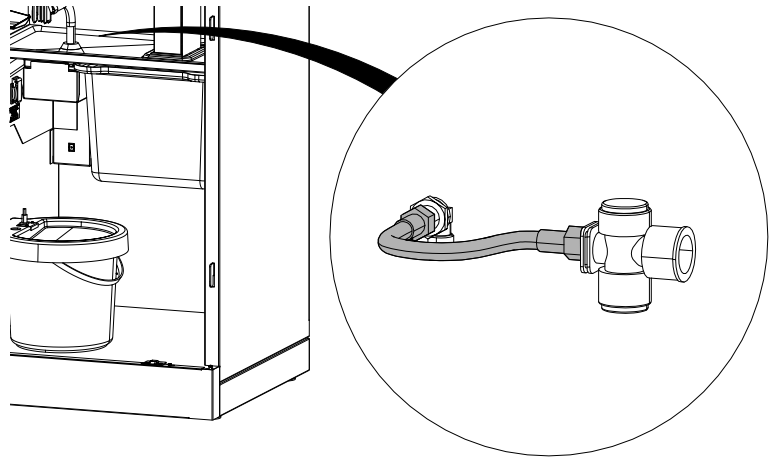
Component	Resources Spare part number	Action 1= exchange 2= clean 3= align 4=check						OK
		6	12	18	24	30	36	
		months and/or 20,000	months and/or 40,000	months and/or 60,000	months and/or 80,000	months and/or 100,000	months and/or 120,000	
Water quantities	Measuring cup	3	3	3	3	3	3	
Dosage, calibration, grind	Measuring cup, scales to 0.1g accuracy	3	3	3	3	3	3	
Brewing temperature	Thermometer	3	3	3	3	3	3	

4. Maintenance work

4.1 Housing

4.1.1 Replace water inlet hose

- Open the machine door.
- Remove the water inlet hose and replace with a new one



4.1.2 Checking the non-return valve

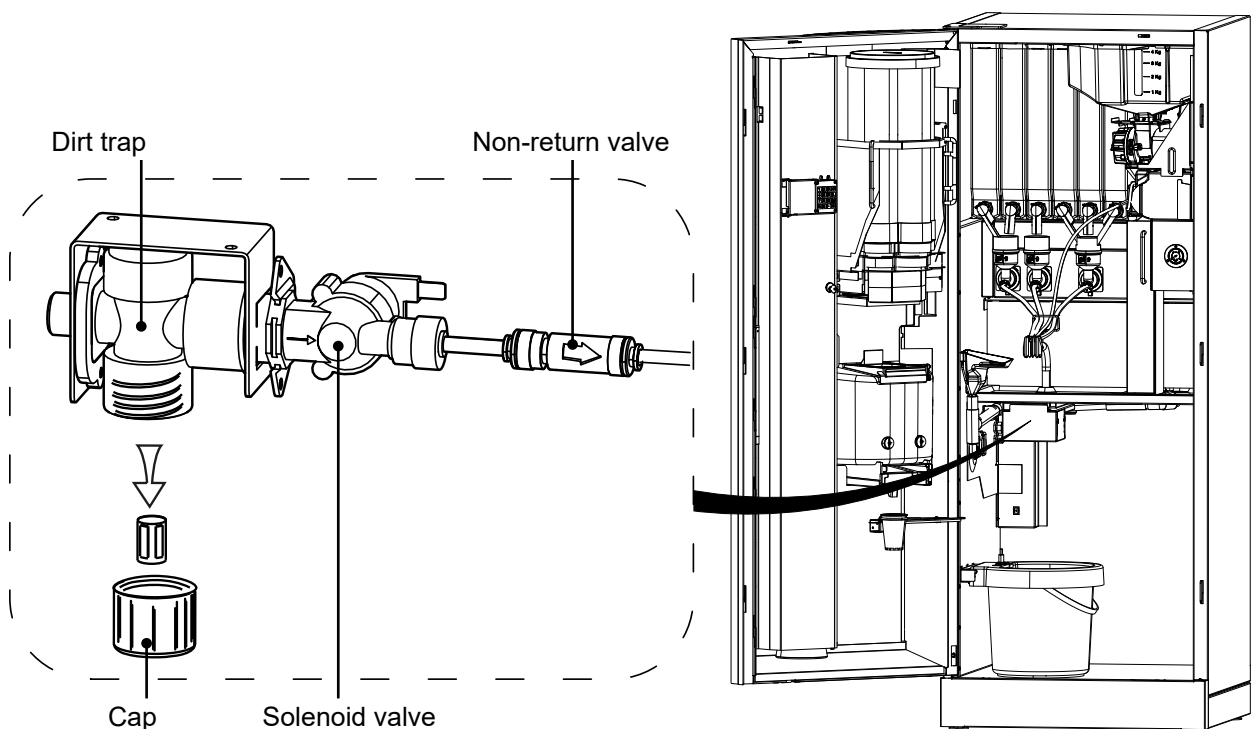
- Open the inlet valve briefly (service function 19M)
- Then remove the tube between the inlet valve and non return valve. In doing so no water should come from the direction of the boiler
- Refit the parts.

4.1.3 Cleaning the dirt trap/fine filter

A dirt trap is fitted in the water pipe in front of the machine's main inlet valve. A fine filter is located in the cover of the dirt trap to filter out any impurities in the water.

NOTE: By unscrewing the cap the water inflow into the machine is suspended.

- Open the machine door.
- Remove the plastic container (instant) and the grounds container (espresso)
- Remove the cap on the dirt trap
- Wash the cap and fine filter thoroughly with water
- Screw the cap back onto the dirt trap



4.2 Brewer unit (HTP brewer)

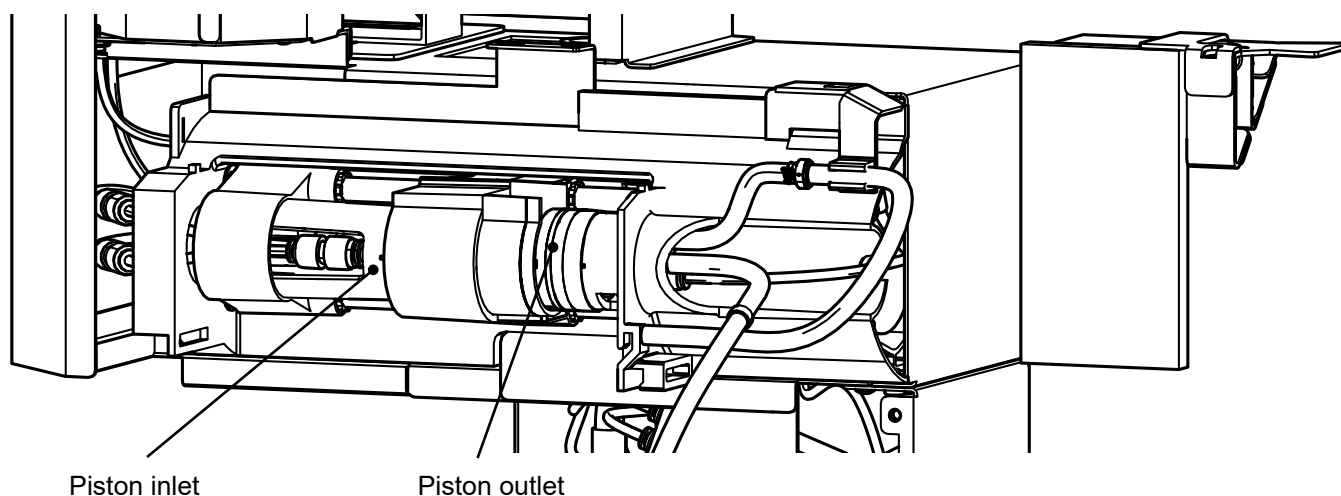
4.2.1 Checking brewer filter / brewer seal

The brewer is maintenance-free.

The brewer seals are not subjected to any significant wear and tear.

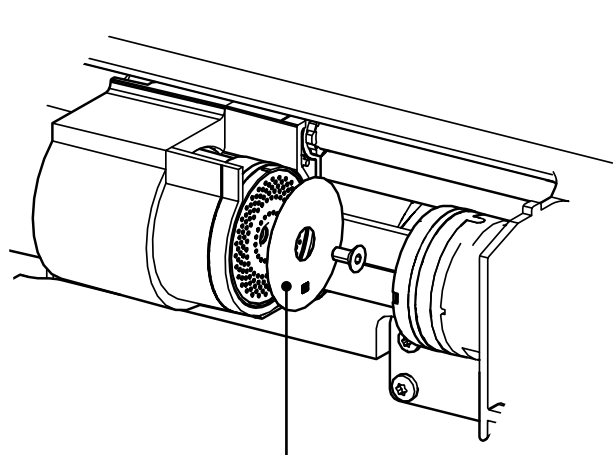
The parts can be visually checked. Changes to the colour of the parts are completely normal and no reason for complaint.

- Insert the service key.
- Put the brewer into service position
- Enter service function 58M (open brewing chamber)/57M (close brewing chamber).
- Remove the service key

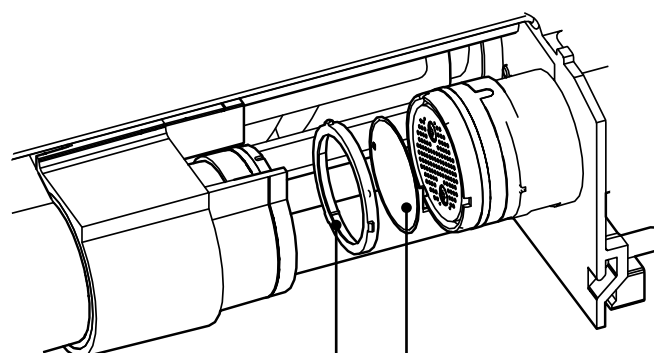


4.2.2 Changing the filters

- Remove the screw on the piston inlet to change the filter
- Using a small screwdriver lever out the clamping ring on the piston outlet.



Filter
407 00 644 00



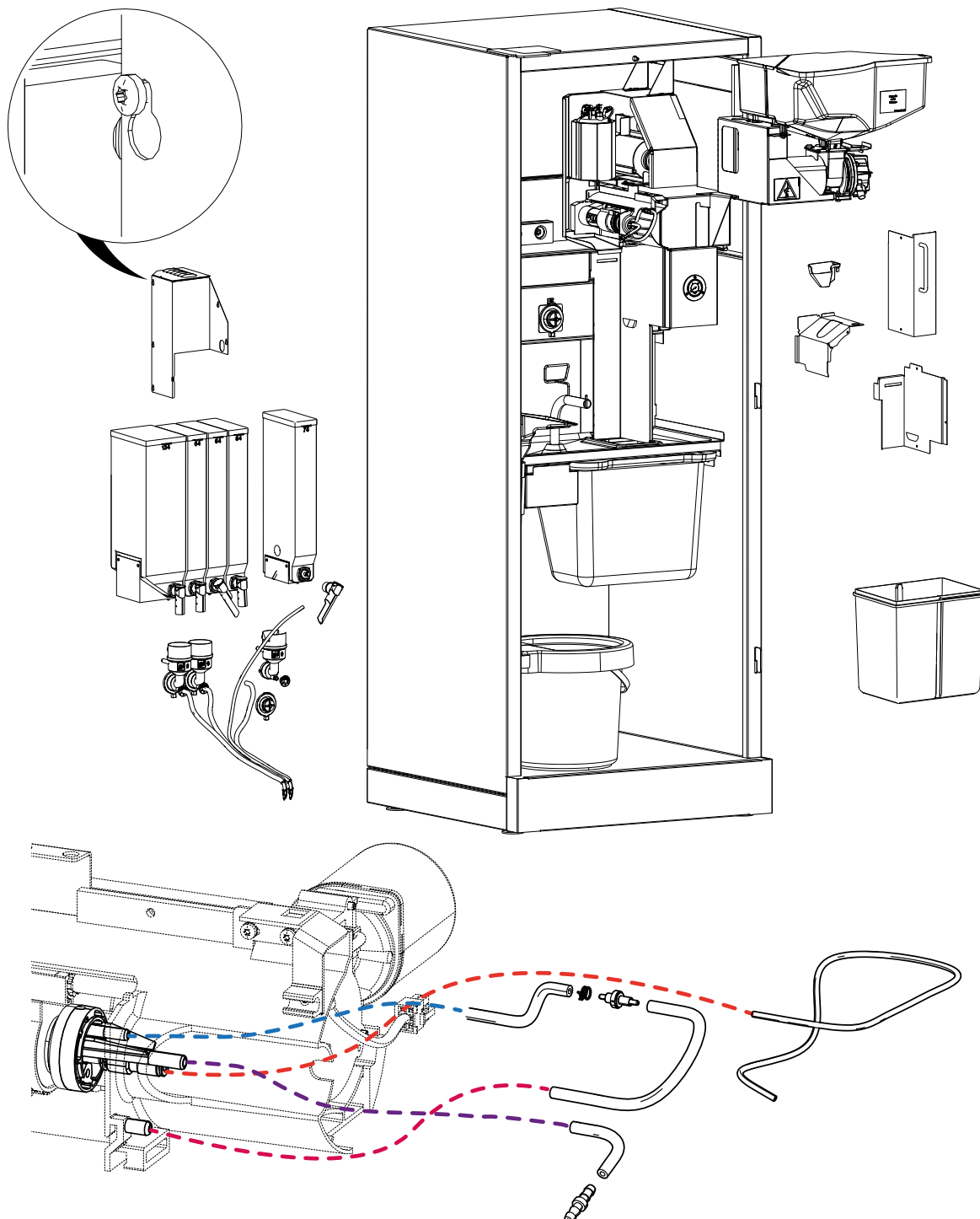
Clamping ring Filter
407 00 609 00 407 00 608 00

4.2.3 Replace douchette (piston inlet) / piston outlet

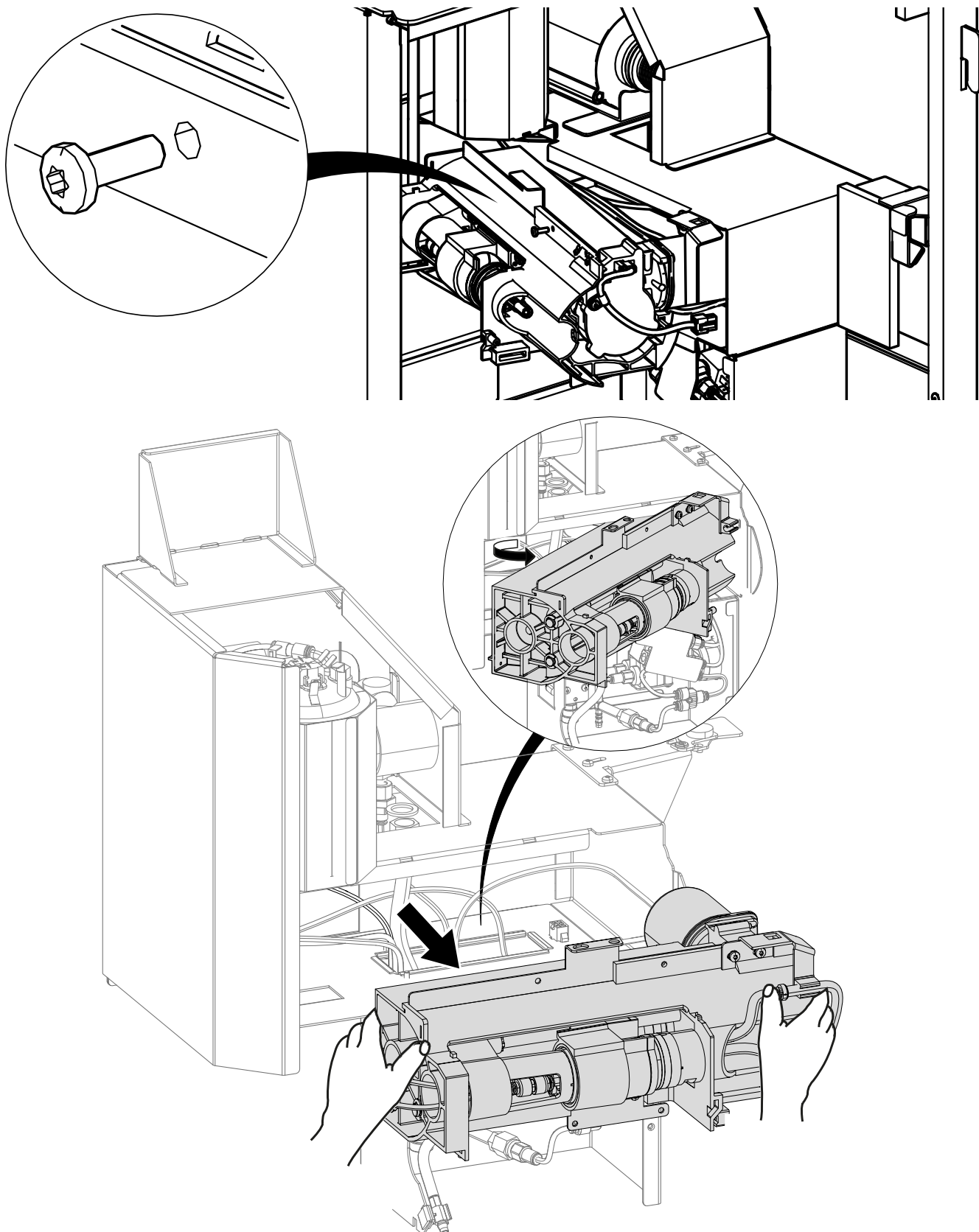
The brewer outlet on the right hand side can be accessed with the brewer fitted.
To change the piston inlet, the brewer must be completely dismantled.

Preparatory work

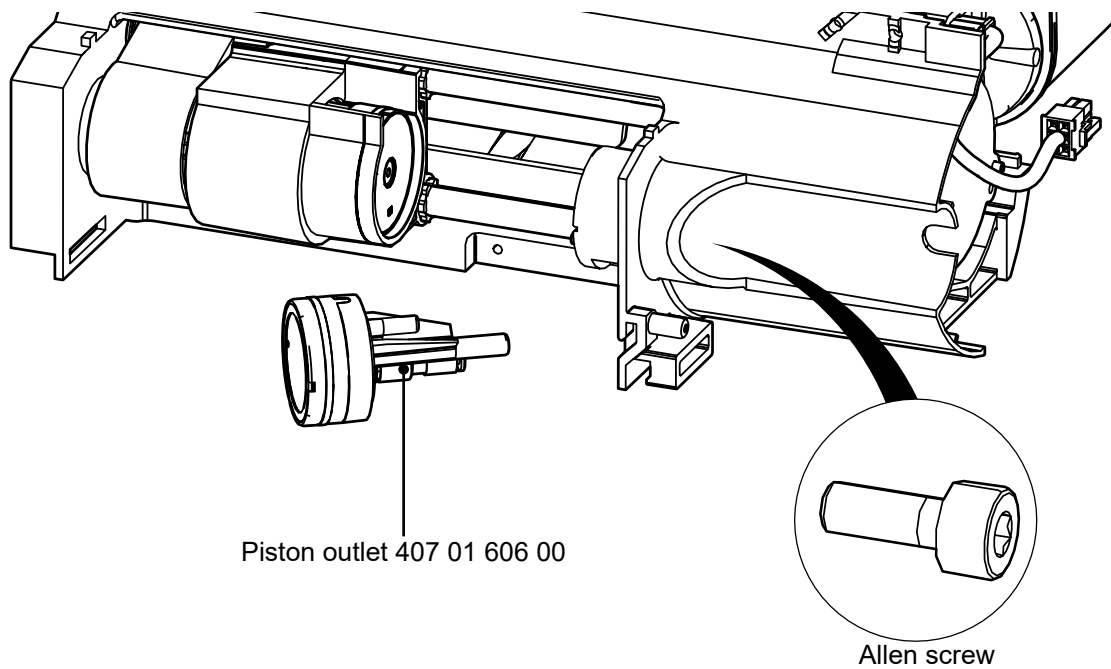
- Open the machine door and swivel the bean container and grinder outwards
- Put the brewer into service position: Insert the service key. Keep entering Service function 58M in the service menu until the brewer stops moving
- Remove the service key and switch the machine off
- Remove all instant containers.
- Dismantle all mixer housings, grounds run-off chute and grounds bucket
- Disconnect the brown tube which runs from the brewer to the drinks outlet
- Remove the brewer ventilation hose and the inlet hose for the right hand brewer seal



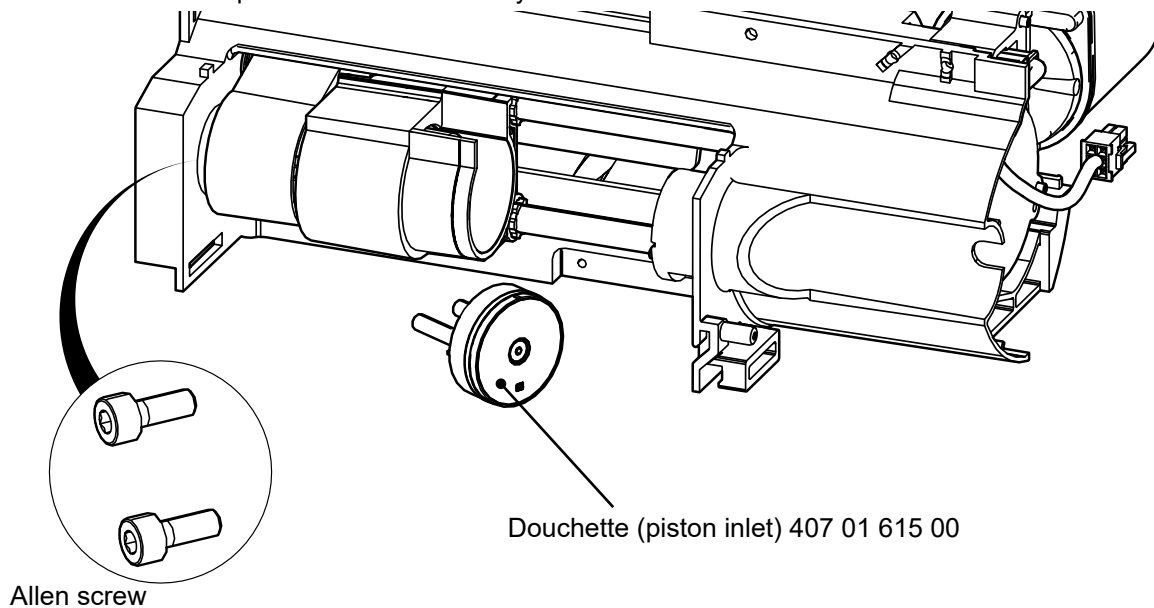
- Now remove the brewer fixing screws (4 in total).
Make a note of the different screw lengths
- The brewer can now be removed. On the left hand side of the brewer the hot water inlet and inlet hose for the left brewer seal are still connected. Remove both hoses.
Important: The hoses must not be mixed up!
- Remove the power plug-in connector on the brewer. Remove the complete brewer.



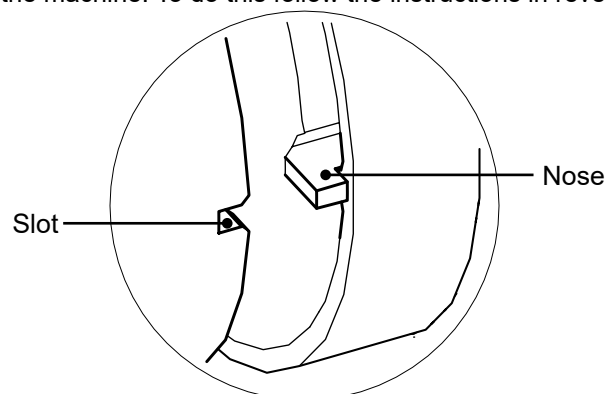
- Dismantle the right hand piston. This is secured by an Allen screw.



- Dismantle the left hand piston. This is secured by 2 Allen screws.



- When assembling the left piston ensure that the nose on the piston fits into the slot on the brew chamber. Only then tighten the two fixing screws
- Then fit the brewer back into the machine. To do this follow the instructions in reverse order.



4.2.4 Brewer outlet: Replacing parts

Silicone hose brewer - reducer

Replace the hose which runs from the brewer to the reducer.

Outlet reducer

Replace the outlet reducer.

Silicone hose reducer - Outlet

Replace the hose which runs from the reducer to the outlet.

Silicone hose brewer - non return valve

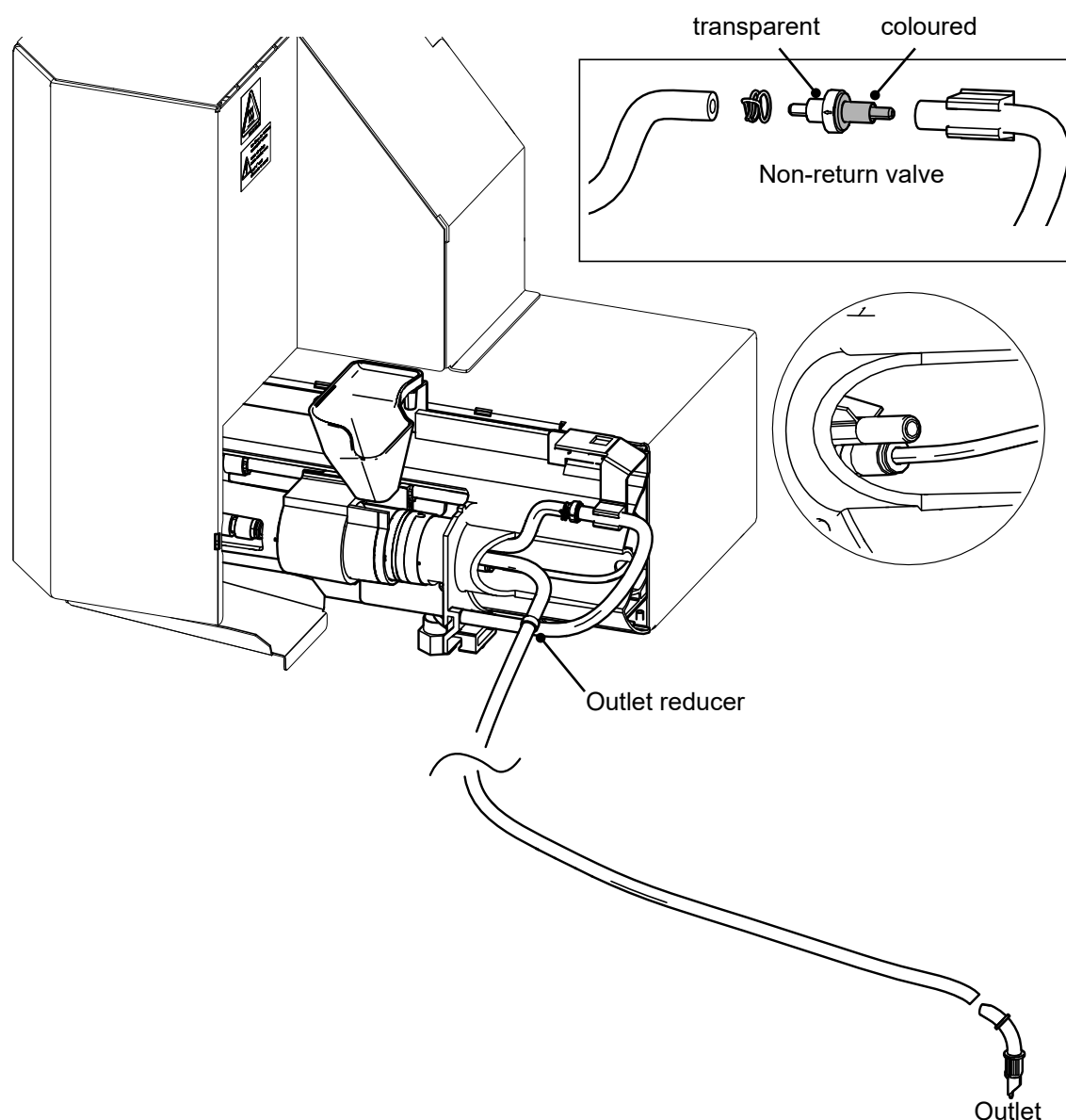
Replace the hose which runs from the brewer to the non return valve.

Non-return valve

Replace the non return valve

Silicon hose non-return valve - brewer

Replace the hose which runs from the brewer to the non return valve.



4.2.5 Testing the flowmeter

- Press service function 88M once for approx. 5 seconds. This ensures that water reaches the brewer.
- Place a cup on the scales and press the tare button.
- Now place the cup under the drinks dispense head.
- Re-enter the service function and catch the quantity dispensed in the cup.
- Then place the cup on the scales and read off the weight. The value on the scale must agree with the value in the display. A slight deviation is permissible.

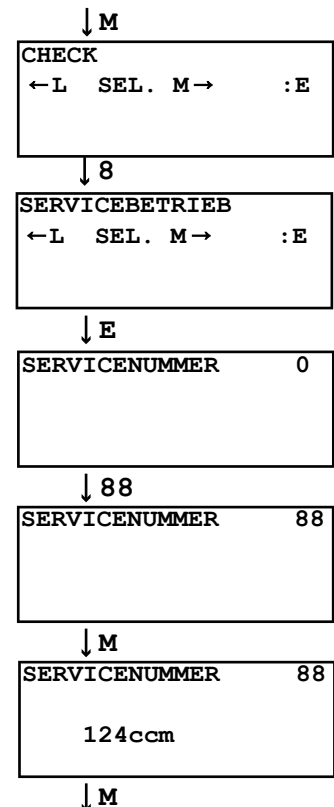
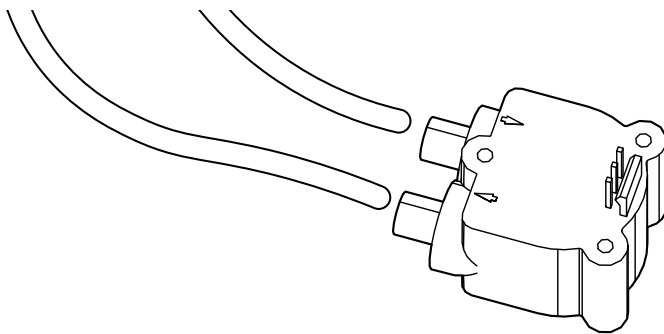
However if there is a significant difference, the flowmeter may be faulty. Replace the flowmeter and repeat the process.



NOTE:

The flow meter is a flow rate sensor that measures the water quantity during the brewing process. A consistent drink quantity can only be guaranteed if the flowmeter measures the water quantity accurately. For this reason the flowmeter has to be checked from time to time to ensure it is functioning correctly

If no dispense quantities are displayed when filling the boiler, press service function 99M121M once.



4.2.6 Cleaning the grinder

The inside of the grinder as well as the grinding discs can be cleaned by using grinder cleaner part no. 998.00.119.55. The grinder discs should be cleaned periodically as oil residue from the coffee can be deposited on the inside of the grinder.

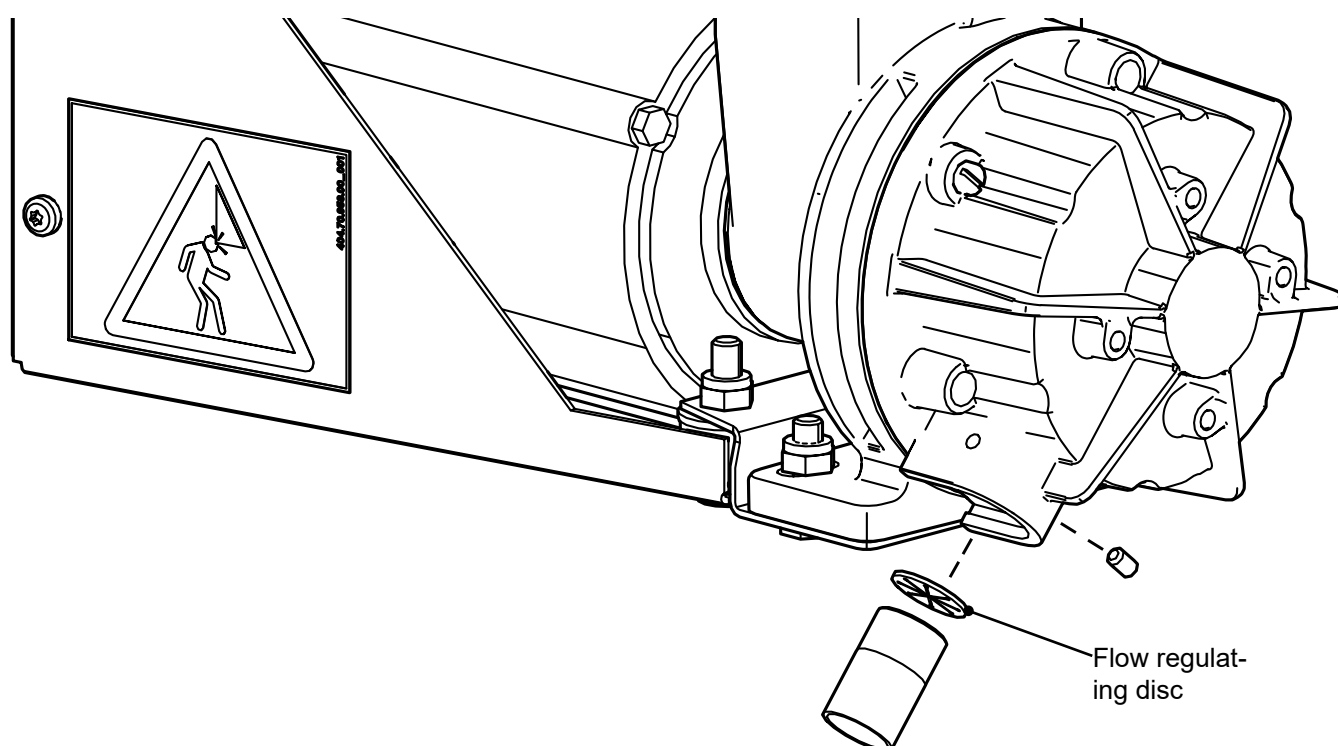
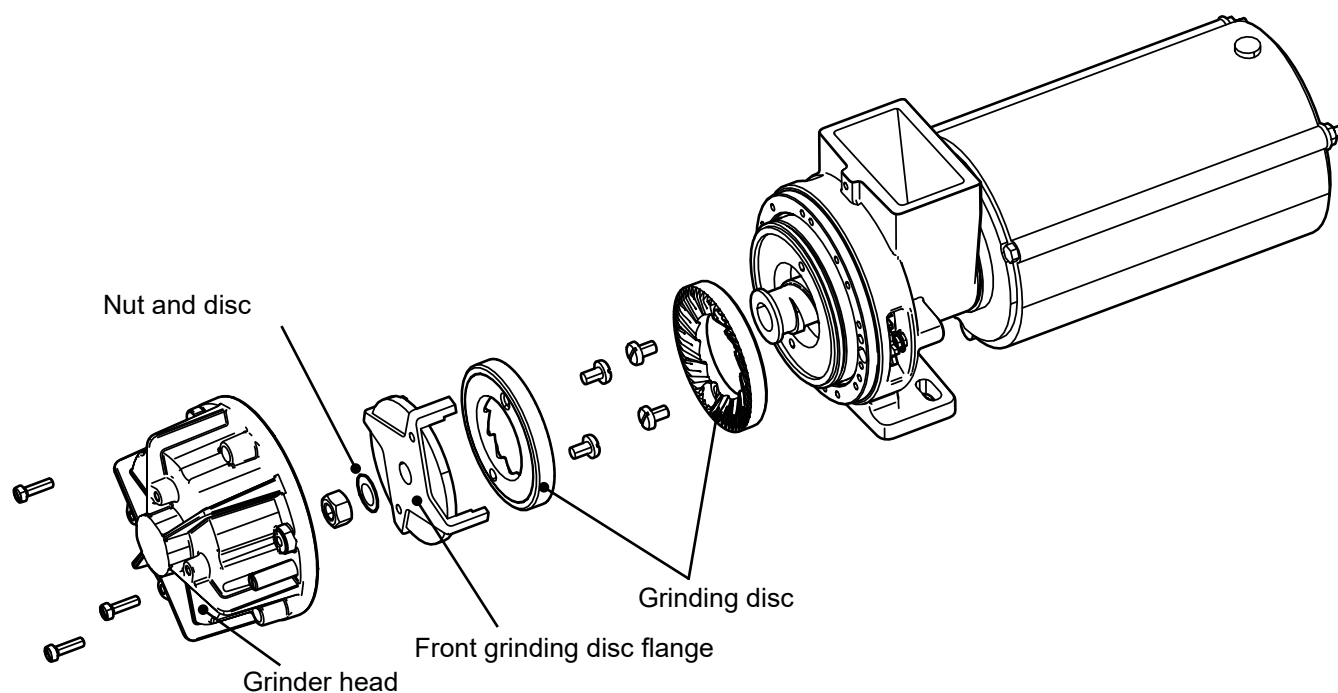
The grinder cleaner comprises coffee bean-shaped tablets which are made from corn and cereal fibre materials.

How to proceed:

- Open the machine door and swivel the bean container outwards.
- Open the lid of the bean container and empty out contents.
- Insert the service key.
- Hold a container under the outlet pipe.
- Using service function 10M completely empty the grinder. No more coffee powder should come down the slide.
- Tip approx. 40 grammes of coffee grinder cleaner into the bean container
- Grind the beans using service function 10M. The ground-down cleaning tablets move the coffee oil residue to the outside during the grinding process
- Fill the bean container with fresh beans
- Grind approx. 40 grammes of coffee beans in order to remove the remainder of the grinder cleaner
- Swivel the bean container back into position and close the machine door

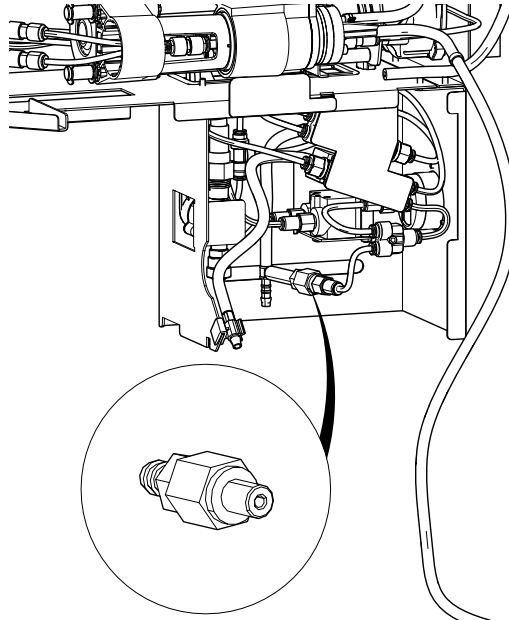
4.2.7 Changing the grinding discs

- Ensure that no coffee beans are in the grinder and switch the machine off
- Take out the fixing screws and remove the grinder head
- Remove the nut using a spanner
- The grinding disc flange must be secured (tightening torque 2 Nm)
- Remove the front and back disc flanges from the drive shaft
- Change the grinding discs. Make sure that the surface areas are clean and flat
- Fit the grinder back together in reverse order and adjust the grind
- Calibrate the coffee grinder.



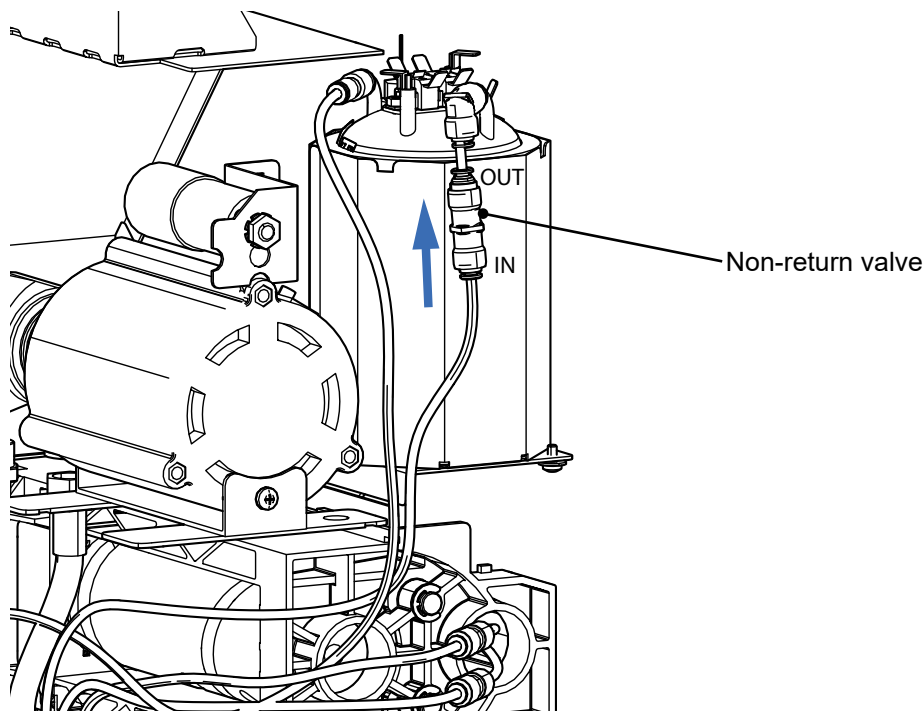
4.2.8 Checking the espresso boiler pressure relief valve

- The pressure control valve on the espresso boiler opens automatically once a specified pressure is reached (adjustable). The pressure control valve ensures the safety of the brewer and boiler.
- For a machine ready for operation you can run the service function "switch on heating" more than once. Every time the heater is switched on the pressure inside the boiler increases. Run the service function until the pressure on the manometer remains constant. At this stage the pressure relief valve must open (recognisable from small quantities emitted by the pressure control valve). To improve checking, the outlet hose can be disconnected.



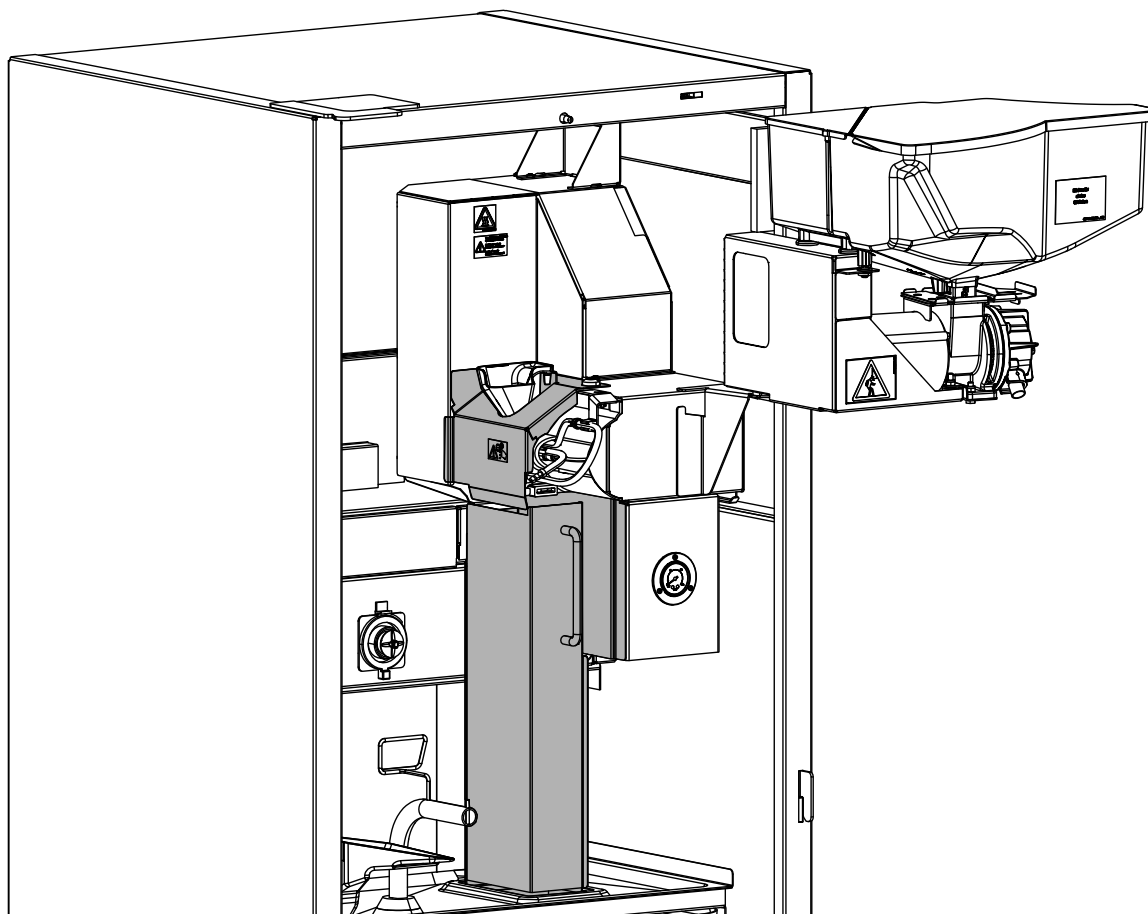
4.2.9 Changing the non-return valve

Change the non-return valve in front of the espresso boiler.
Use kit no. 415 50 926 00 for this



4.2.10 Checking the teflon tubes

Check the Teflon tubes on the brewer unit for leaky connections. To do this remove the boiler cover, brewer cover and the protective cover for the grounds run off.



4.3 Instant section

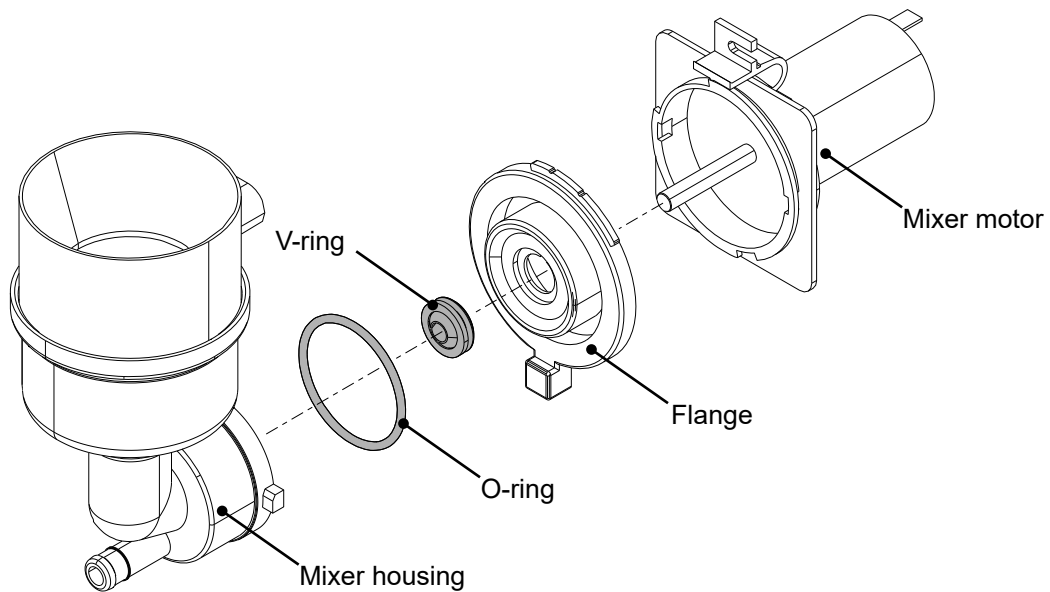
4.3.1 Cleaning the fan

The fan must be cleaned periodically

- Open the machine door.
- Remove all instant containers and mixer housings, baffle plate cover and baffle plate
- Use a vacuum cleaner to clean the fan. Use a tube extension to remove any dust that may have accumulated in the fan.

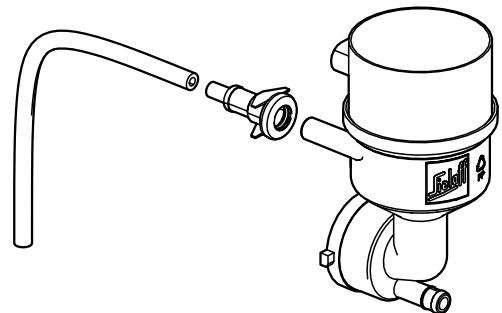
4.3.2 Changing the mixer paddle, V-Ring and O-Ring

- Turn the flange anti-clockwise to the first stop position. This will release the mixer housing from its locking device.
- Pull the mixer housing forwards to remove
- Remove the mixer paddle (pull firmly).
- Turn the flange anti-clockwise and remove.
- Exchange the O-ring and V-ring on the flange. When fitting the V-ring ensure that the marking on the flange and the marking on the seal line up.
- Re-fit all parts in reverse order.



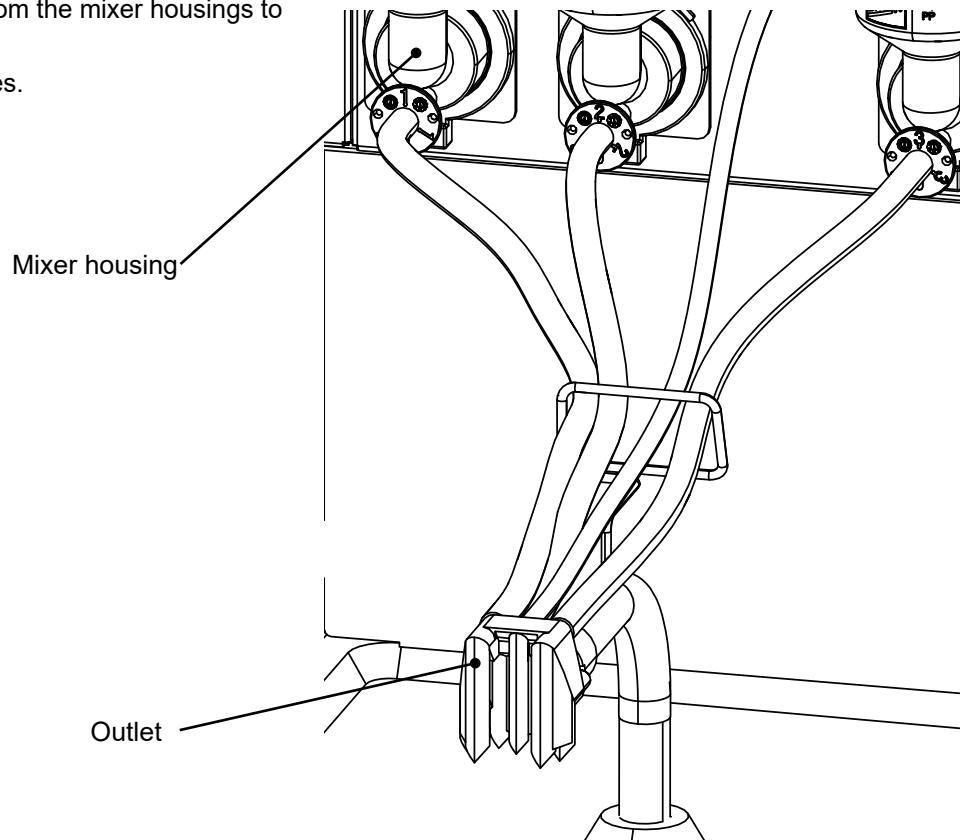
4.3.3 Replacing the mixer water couplings

- Remove mixer housing
- Pull mixer water coupling forwards until it can be removed from the water hose.
- Fit the new mixer water coupling and connect the water hose.
- Mount the mixer housing.



4.3.4 Replace silicone tube mixer housing - outlet

- Replace the hoses which run from the mixer housings to the outlet.
- Note the lengths of the old hoses.

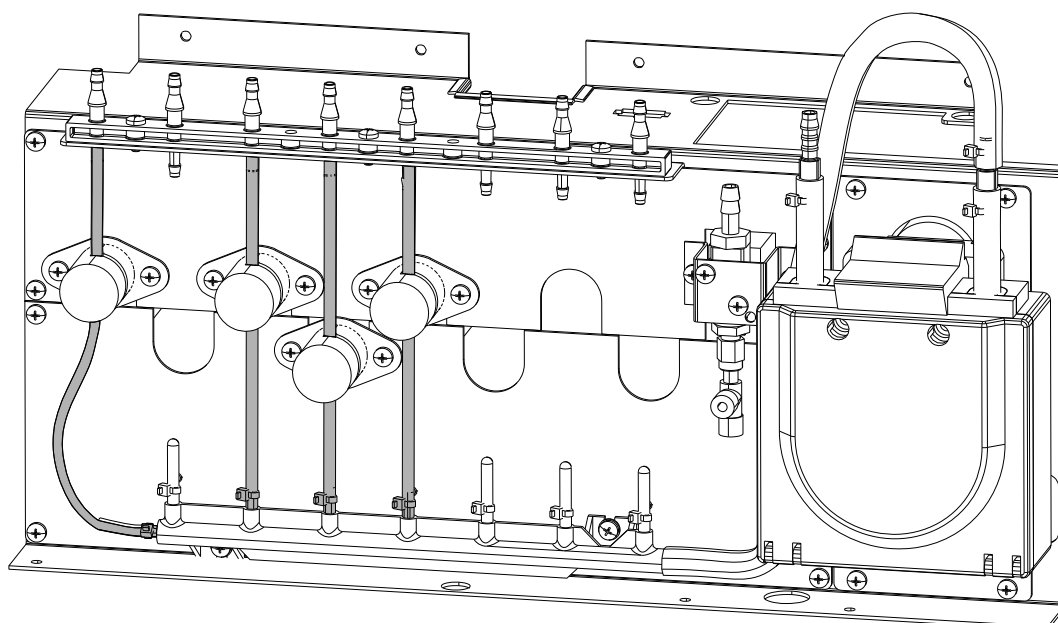
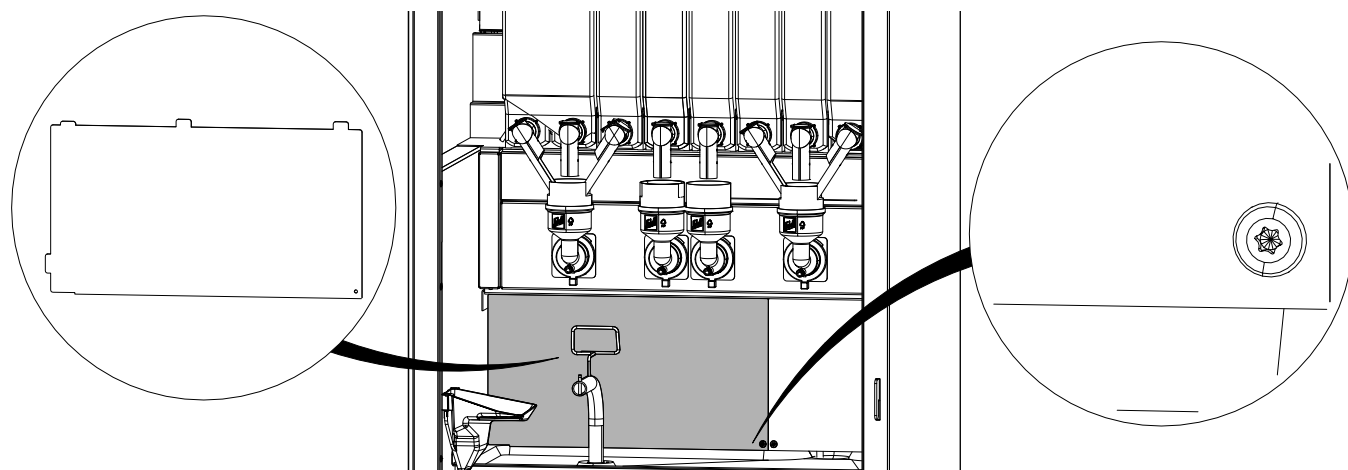


4.3.5 Changing the valve hoses mixer / valve hose circulation

- Remove the grounds disposal and protective cover.
- Remove the protective plate. This is secured lower right by two screws, and clipped into slots on the left side and on the top. The valve hoses are now visible
- Remove the cable ties, which hold the valve hoses to the lower distributor panel
- Remove the valve hoses
- Replace the valve hoses with new ones. When clamping the hoses into the valves press the valve. The hoses must not be kinked or twisted.
- Finally secure the valve hoses at the bottom with cable ties

Waste
discharge

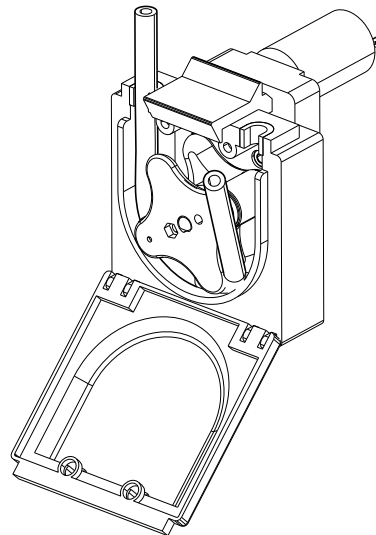
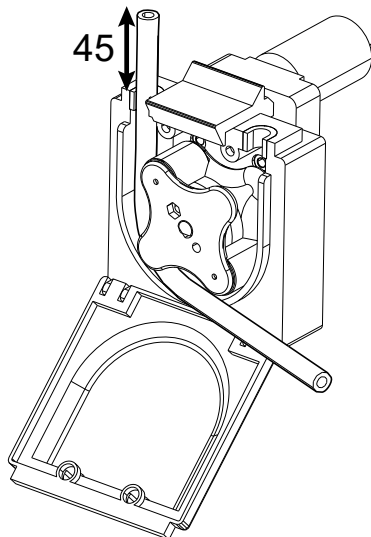
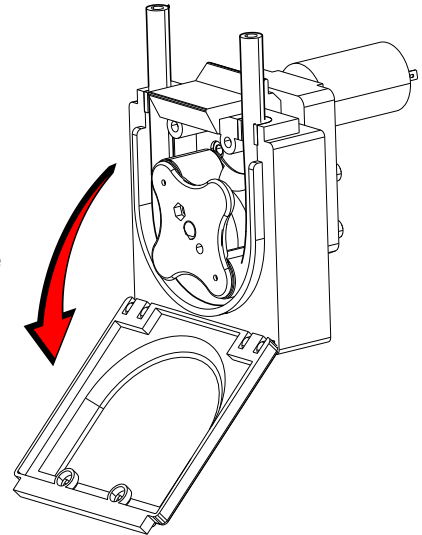
Protec-
tive plate



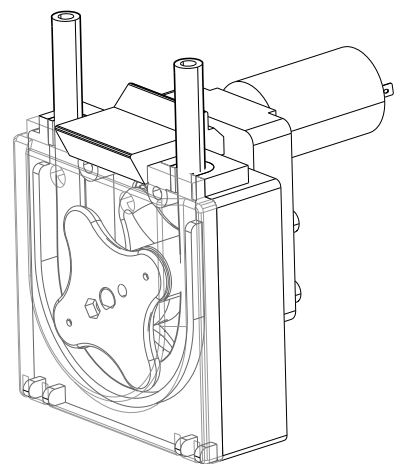
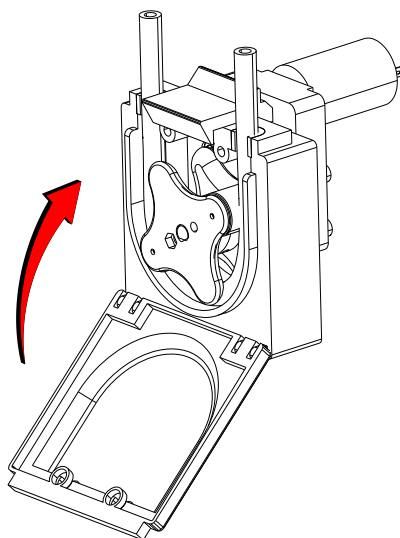
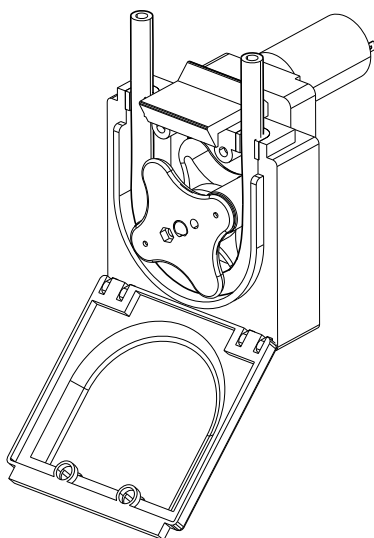
4.3.6 Replace tube in peristaltic pump

When changing the tube proceed as follows:

- Open the pump.
- Disconnect all tubes and remove the old tube.
- The new tube must be approx. 340 mm long. Apply two marks 45 mm away from both ends of the new tube
- Place the tube into the pump housing so that approx. 45 mm protrudes on the left hand side
- While turning the rotor anti-clockwise press the tube lightly into the housing.



- Check if both markings are on the top edge of the housing.



- Close the pump. This locks the tube so that it cannot move out of place.
- Connect the tubes. Use the tube couplings included in the conversion kit.
- Secure the pump tube using the cable ties.

4.4 Testing / adjusting the pump (HG CVS 03)

The pump pressure is dependent on the water pressure in the supply line. Therefore, if the machine is relocated, the pump pressure should be checked and readjusted, if necessary.

The pump pressure can be checked via function 86M in the Service menu. The dynamic pressure is displayed on the left manometer during the test. The value should be 9.5 bar.

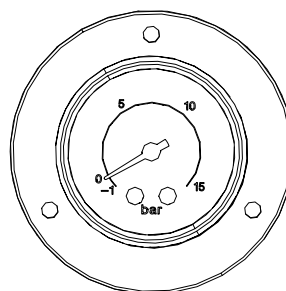
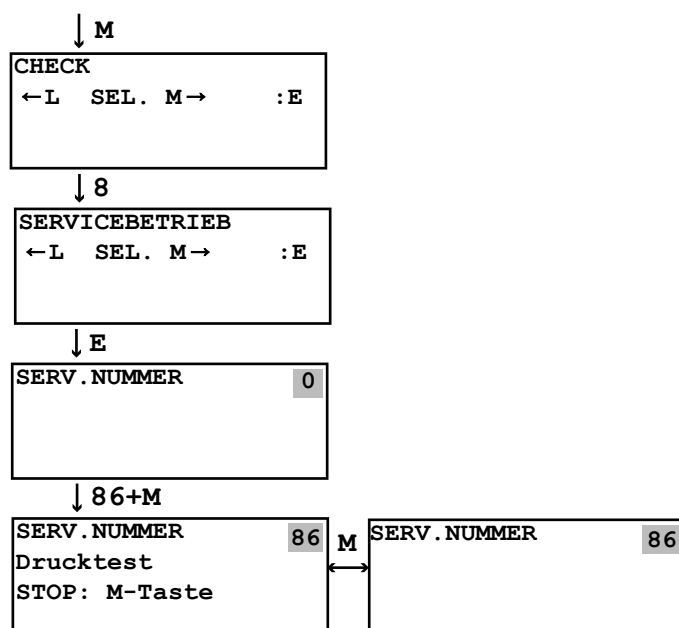
4.4.1 Checking

In the Service menu a pump pressure test may be performed via service function 86M.

The dynamic pressure is displayed on the manometer during the test. The value should be 9.5 bar.

Proceed as follows to check the pressure:

- Call up the Service menu by pressing buttons M 8 E.
- Enter service number 86 and start the pressure test with button M. The pressure test remains switched on until button M is pressed again. The current dynamic pressure is indicated on the left pressure gauge.
- Press R to exit the menu.



Pressure test must be switched off with the M-key.

4.4.2 Adjusting the dynamic pressure

The dynamic pressure is dependent on the mains water pressure. Therefore, if the machine is relocated, the pump pressure should be checked and readjusted, if necessary.

Set value 9.5 bar

If the dynamic pressure is not set to around 10 bar, adjust it with the adjusting screw. Use a screwdriver to do this. The adjusting screw is located above the brewer. It is accessible once the grinder has been swivelled out

Turn to the right → to increase dynamic pressure

Turn to the left → to reduce dynamic pressure

Then check the dynamic pressure following the instructions above. If the rated value is not reached, repeat the procedure.



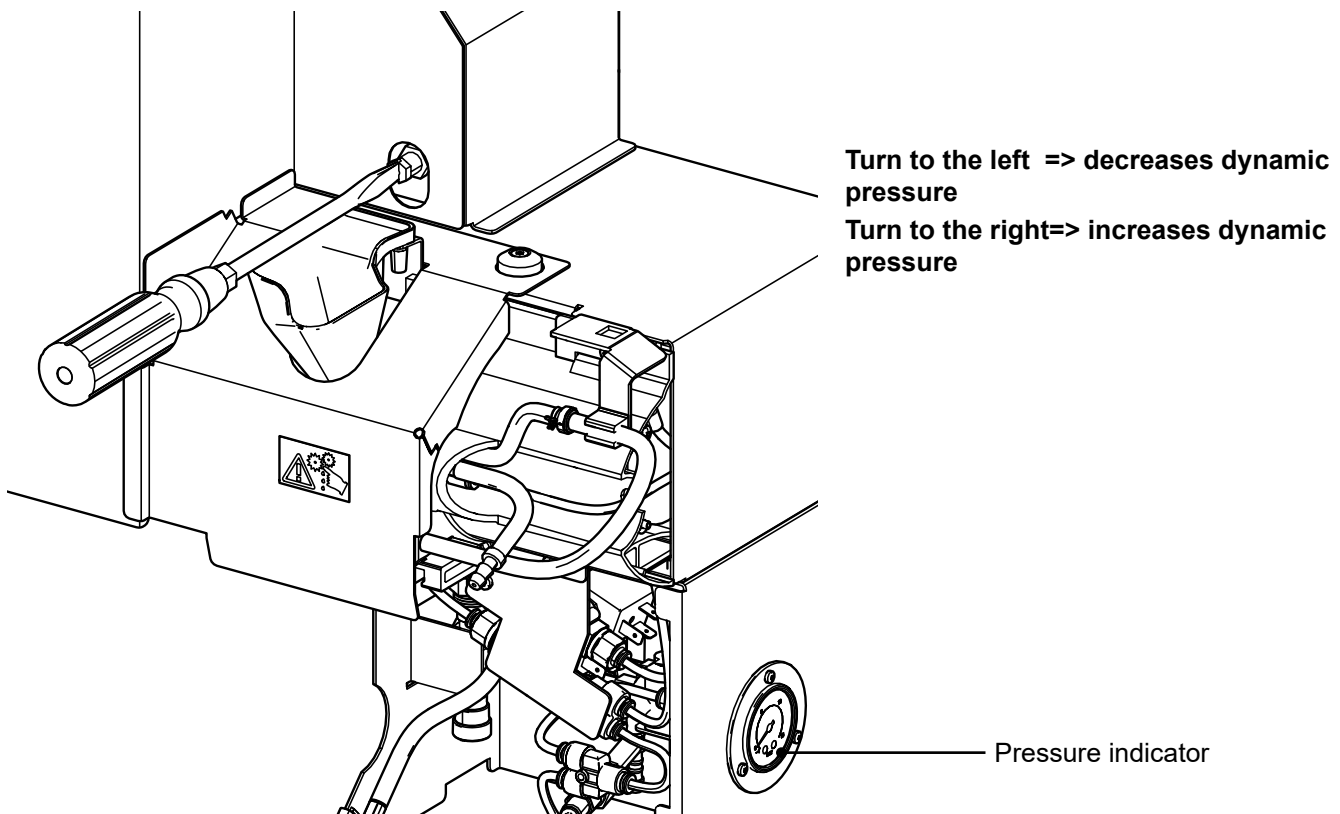
NOTE:

The dynamic pressure is taken when the heater is switched off.

Go to menu [Technician] - [Machine configuration] - [Heating/Water system]

In the [Heating] menu select [no].

To confirm press [OK]



4.5 Electronics

4.5.1 Adjusting the light barrier

To check that the object recognition device is working place a cup on the cup shelf and in the service menu M8E enter service number 14L. If the light barrier detects a cup, the display will show "1":

If the cup is not detected, "0" will be displayed. In this case you need to adjust the light barrier.

The setting screw on the light barrier is accessible if the light barrier with its holder is removed. Near the setting screw there is an LED, which lights up when an object is detected.

Please proceed as follows:

- Remove one screw and remove the light barrier with holder.
- Turn the setting screw to change the sensitivity of the light barrier.
- Put the light barrier back in.
- Place a cup onto the cup shelf.
- Check if the cup is detected as described above. Remove the cup and place it onto the cup table several times. "1" must show in the display each time the cup is placed on the cup shelf. If this is not the case, you have to remove the light barrier again and re-adjust it.
- Re-fit the light barrier and secure it in place.

4.5.2 Checking the door contact switch

Open the door; the message [Door open, please close] must be displayed.

4.5.3 Checking the water inlet valve

The water inlet valve can be checked using service function 20M.

By pressing this service function the valve can be heard clicking.

4.5.4 Checking the waste bucket sensor

The sensors can be checked by using service number 17L. Enter this service number and an 8-digit number (in 4 blocks of 2 digits) will be displayed. The 2-digit blocks are hexadecimal numbers, which make up the total from several active/inactive switches.

This is why the value of a 2-digit block changes by a certain value if a switch is activated:

Drip bucket sensor	00	--	--	--	:	The sensor is active, drip bucket is full
	04	--	--	--	:	The sensor is not active, drip bucket empty

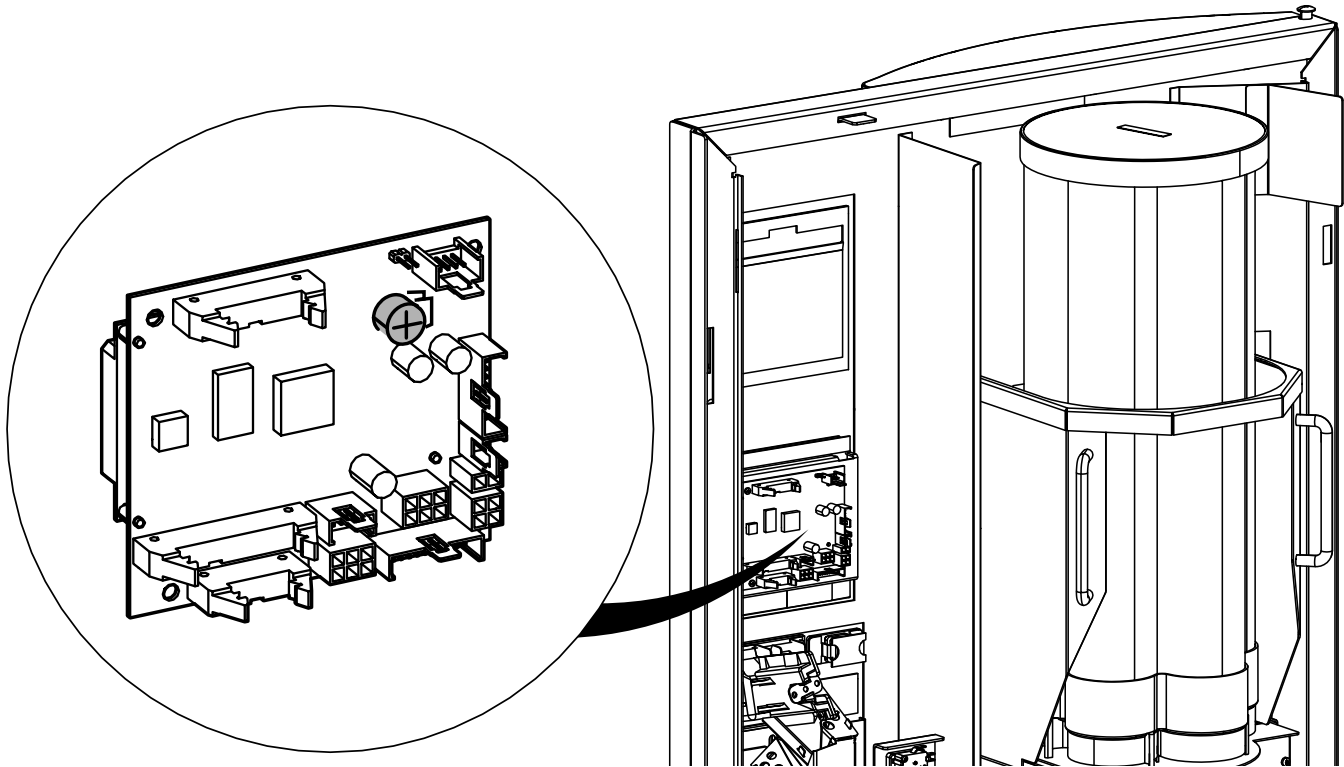
4.5.5 Software version

Check the software version on the control board. The software version, if possible, should be the most recent.

5. Entering the settings

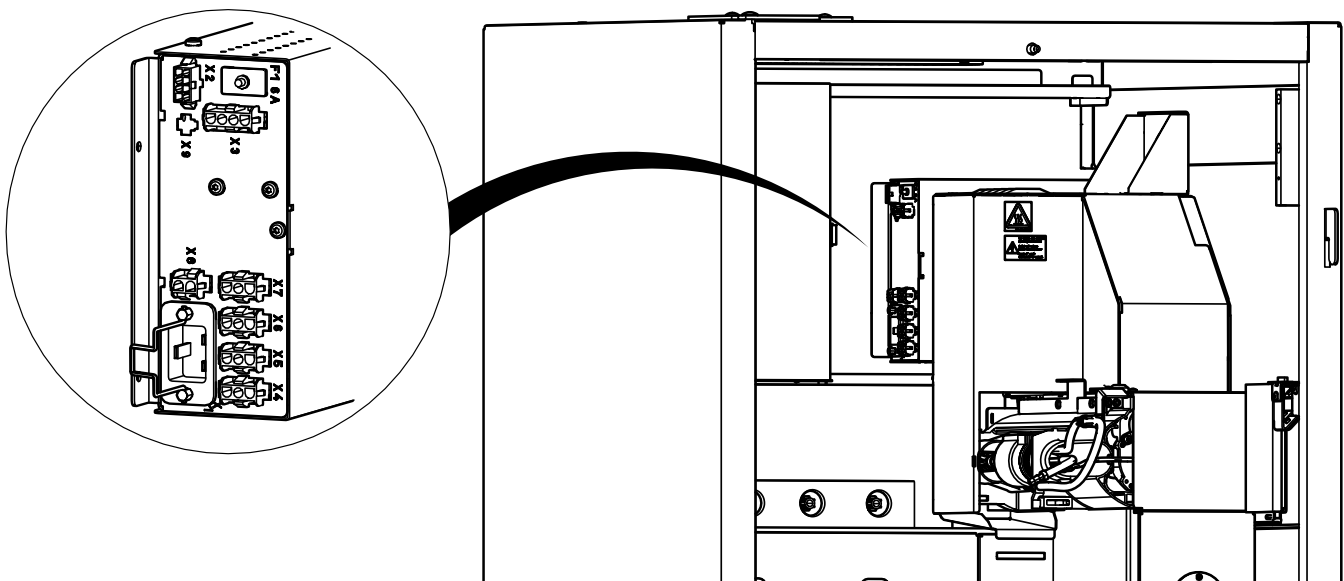
5.1 Display contrast

The display contrast can be adjusted to suit lighting conditions from very bright areas to being in direct sunlight. The contrast is set via the potentiometer (blue plastic screw) located on the back of the display board.



5.2 Thermal fuse power supply unit

The power supply is protected against overload by a thermal fuse. If the fuse has triggered, to switch back on the button must be pressed.

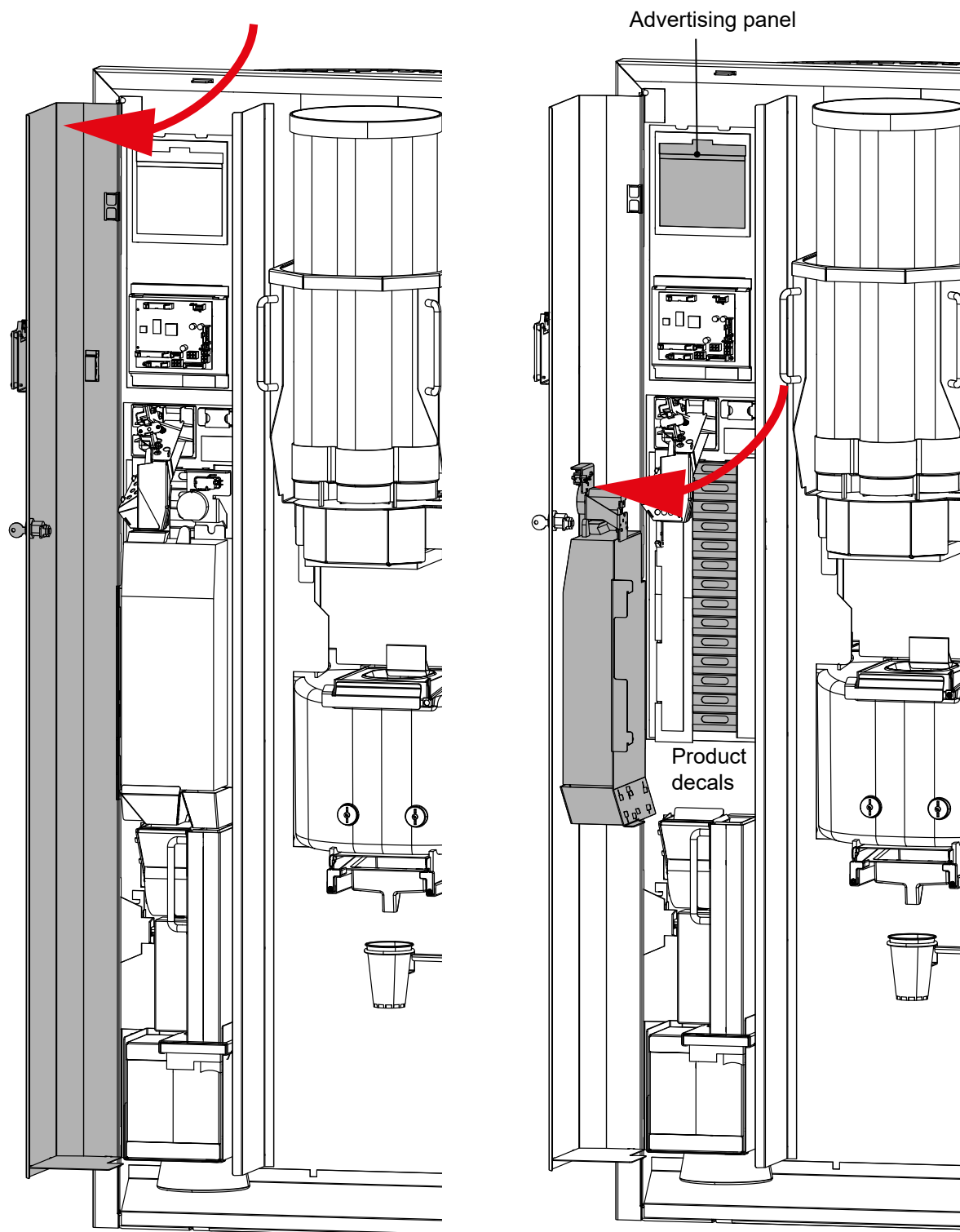


6. Changing components

6.1 Changing the product and advertising panel

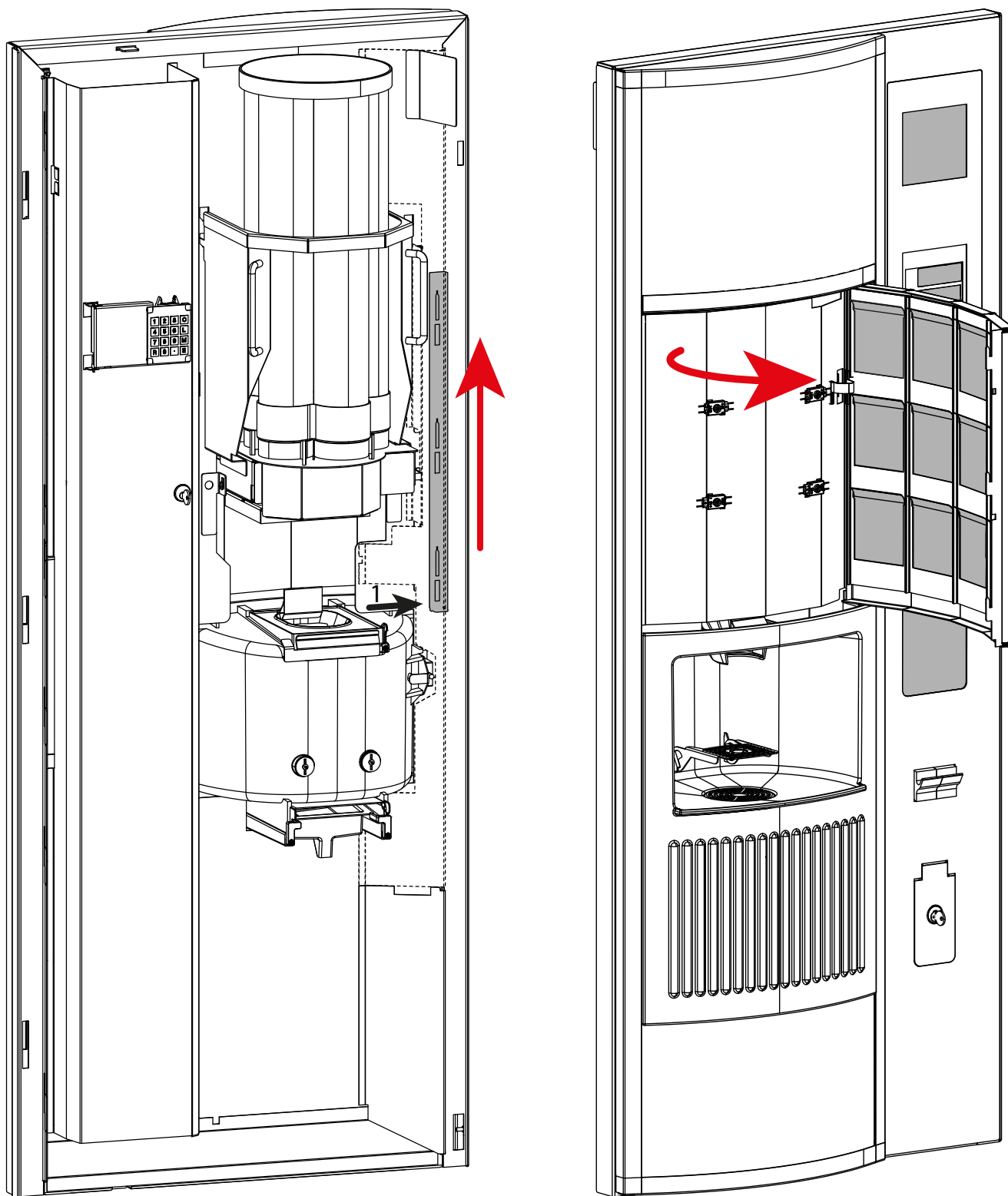
6.1.1 EC-Version

You can change the product and advertising panels by opening the coin-mechanism cover, then by lifting the coin mechanism slightly and swivelling it outwards. You can now pull out the product decals and replace with new ones.

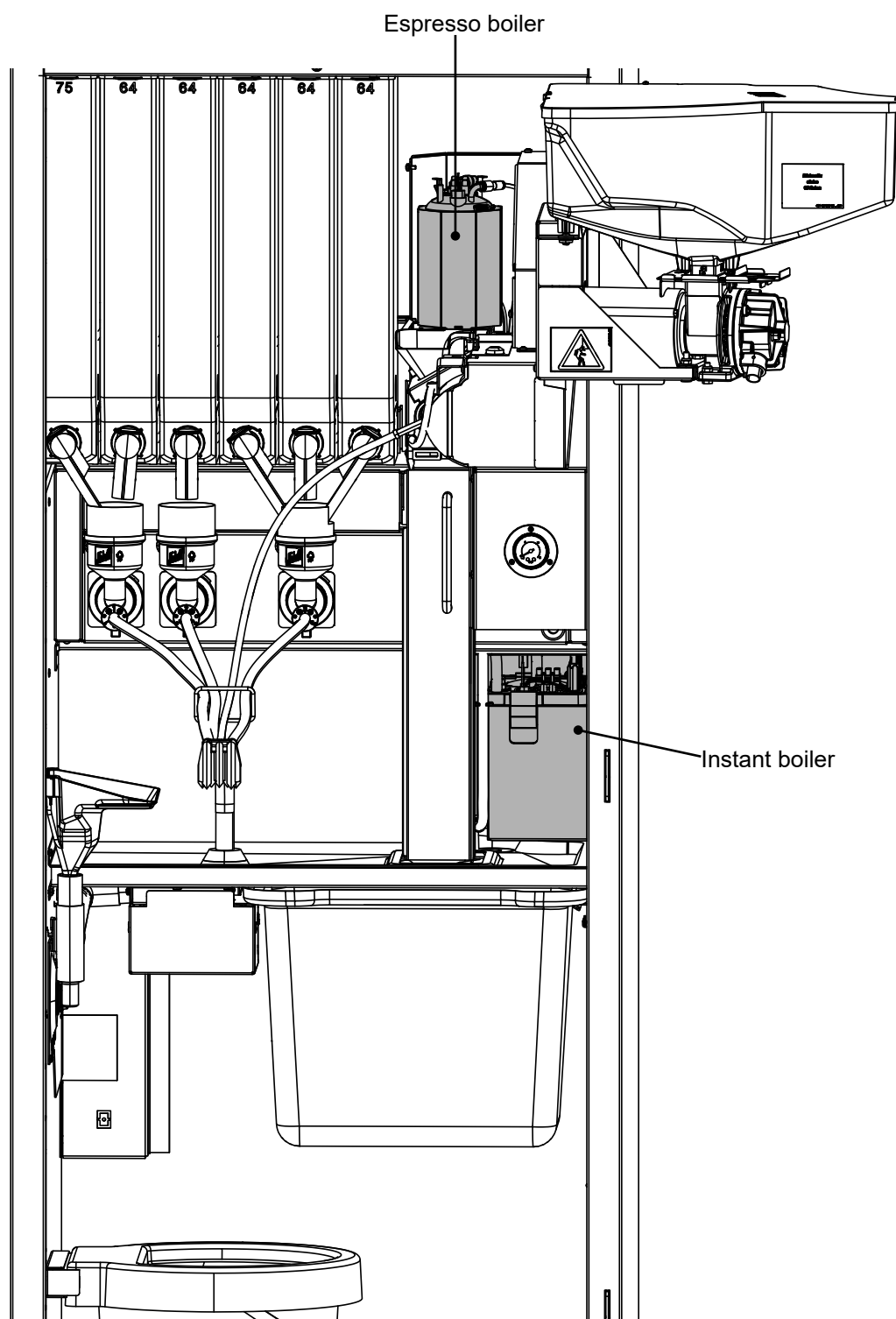


6.1.2 ES-Version

You can change the product and advertising panels by opening the door and as shown below by pushing the retention bar upwards (black arrow 1) You can then open the panels with the product decals from the outside to change them.



6.2 Removing the espresso and instant boilers



DANGER! Live electrical components

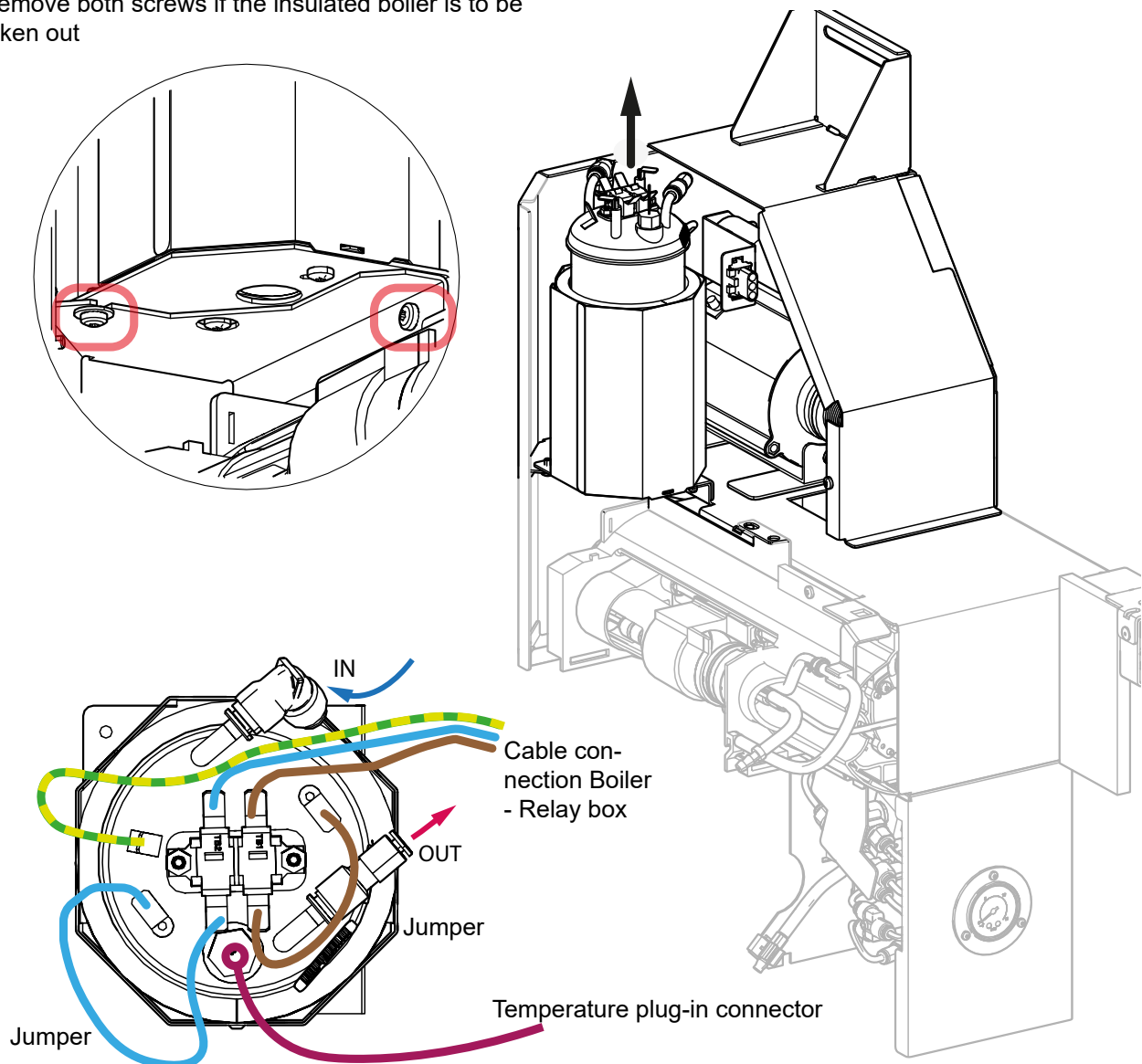
Risk to life!

- Prior to dismantling the boiler turn off the machine and remove the mains plug.

6.2.1 Removing the espresso boiler (HG CVS 03)

- Turn off the heating in the installation menu
- Fill the boiler using the Service menu. Hold a container under the drinks outlet and start the service function. Let this function run until cold water comes out of the drinks outlet. The boiler has now cooled down and can be dismantled
- Remove the instant containers.
- Swivel the bean container including the grinder outwards
- Make sure that there is no power to the machine!
- Remove the boiler cover.
- Remove the neutral wire, phase and the ground connection from the boiler.
- Disconnect the water inlet and outlet from the boiler
ATTENTION! Mark the respective boiler connection and the hose belonging to it, in order avoid mixing them up
- Remove the cable tie from the wiring harness and remove the plug-in connector from the temperature sensor

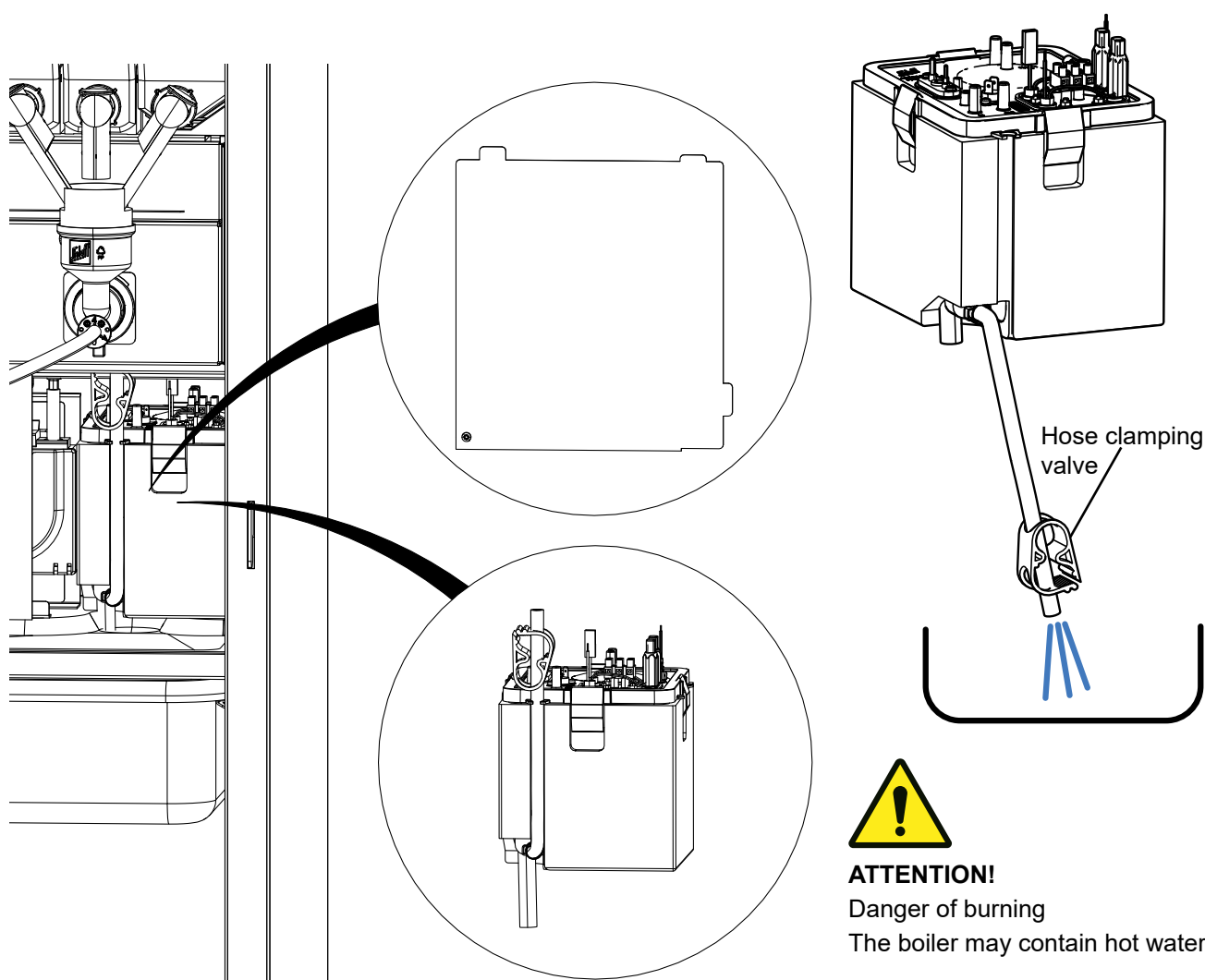
Remove both screws if the insulated boiler is to be taken out



6.2.2 Removing / descaling the instant boiler

The instant boiler must be removed for descaling

- Shut off external water supply
- Open the door and switch the machine off..
- Remove the cover on the instant boiler
- Remove the water outlet tube from its holder, place the end of the tube into a heat-resistant container and open the hose clip. Warning, hot water!
Wait until the instant boiler is empty (holds approx. 3 litres)
- Carefully pull out the instant boiler including all connected tubes. Remove all the tubes
- Disconnect the power cable
- Remove the 4 hooks on the boiler cover
- Put 6 scale removing tablets (part no.: 998.00.119.770) into the boiler. Fill with hot water and replace boiler cover, so that the heating coil is submerged in the cleaning fluid
- After approx. 30 minutes rinse out the boiler, cleaning all parts that come into contact with the cleaner with clear water
- Place the seal into the boiler cover and close the boiler using the 4 hooks.
- Fit the boiler back into the machine



6.3 Removing the dosing motor

- Switch off the machine and disconnect mains plug.
- Close the product slides and remove the product containers.
- Remove both fixing screws on the motor plate.
- Lift the motor plate and pull towards you to remove.
- Remove both fixing screws on the product motor.
- Remove the motor plug connection on the product motor.
- Remove the product motor.

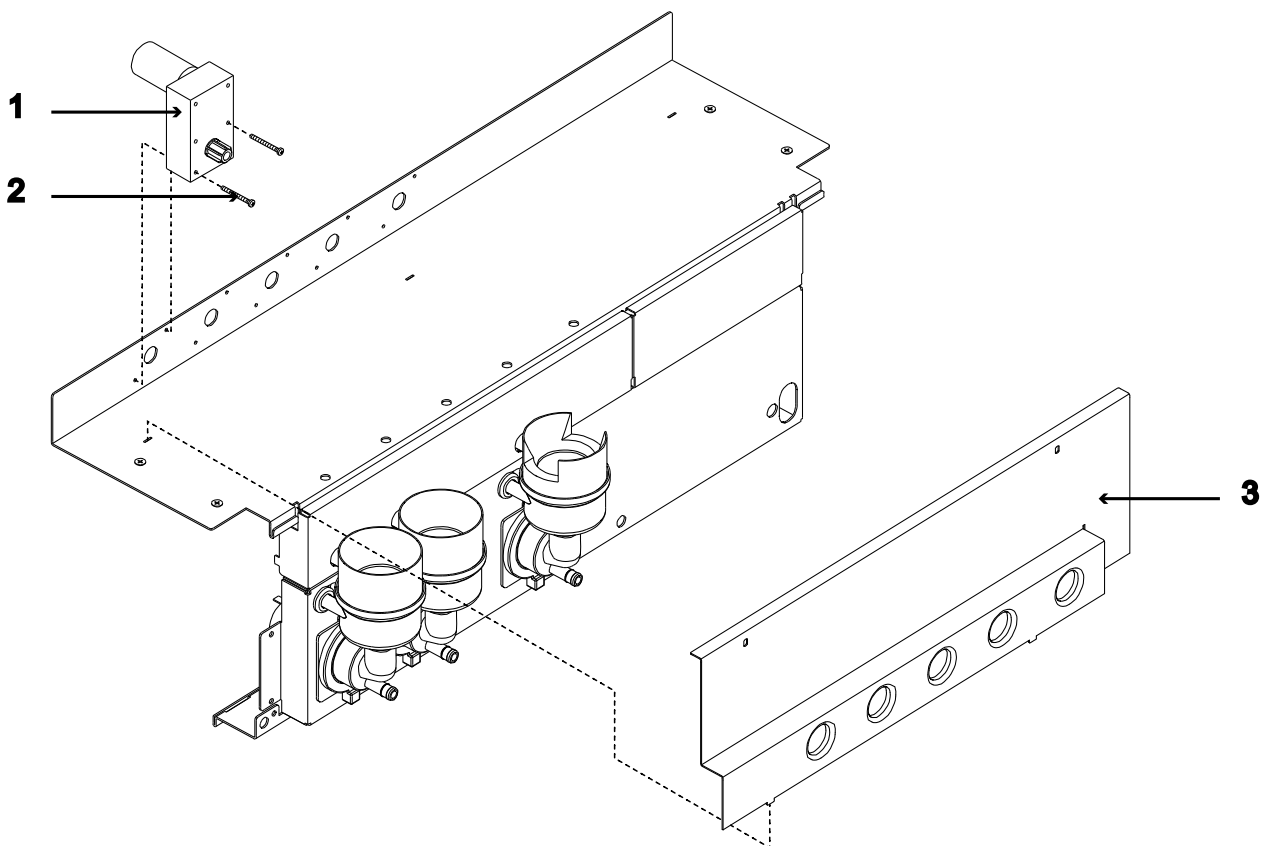
Reinstall all parts in reverse order.



DANGER! Live electrical components

Risk to life!

- Switch off the machine and disconnect the mains plug prior to removing the dosing motor



- 1 Product motor
- 2 Fixing screw
- 3 Motor plate

6.4 Dismantling the mixer motor

- Close the product chute and remove the product container.
- Turn the flange anti-clockwise to the rest position. This will release the mixer housing from its locking device.
- Pull the mixer housing and mixer paddle towards you to remove.
- Turn the flange to the left and remove it.
- Remove the upper middle screw on the mixer motor.
- Press release clip downwards and pull motor forwards to remove it from the mixer plate.
- Detach the motor plug connection.

Reinstall all parts in reverse order.



DANGER! Live electrical components

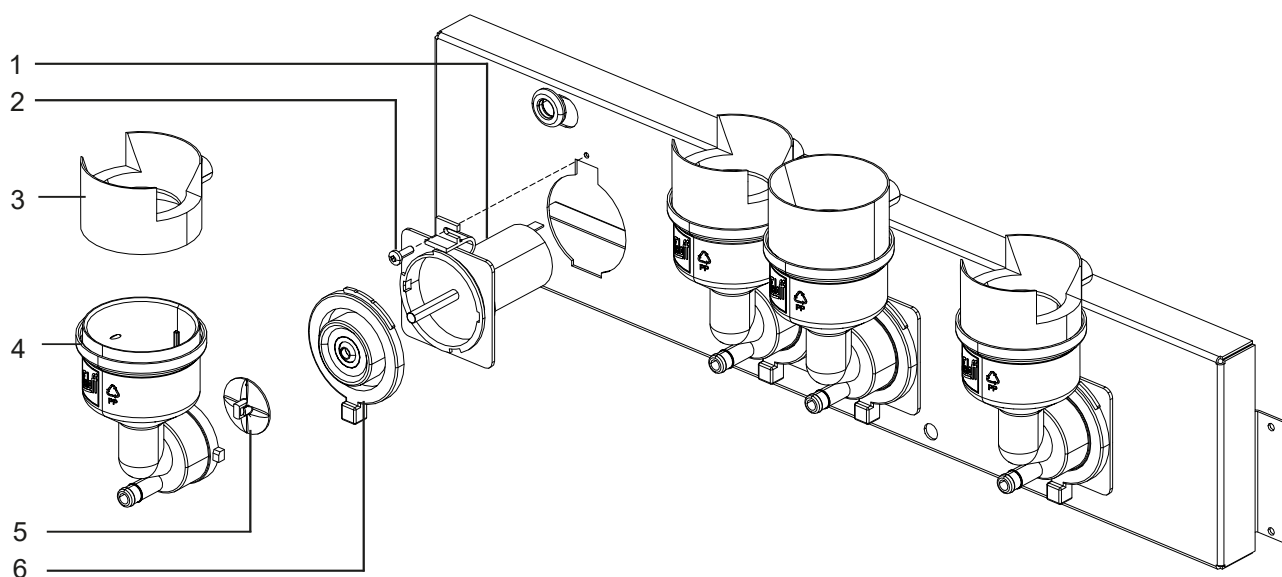
Risk to life!

- Switch off the machine and disconnect the mains plug prior to removing the mixer motor



NOTE:

The marking on the mixer paddle must point to the axle face when the paddle is being attached.



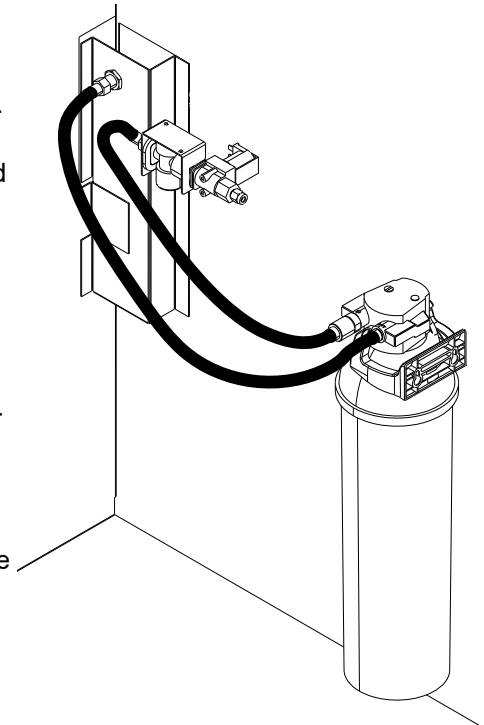
- | | |
|---|----------------------|
| 1 | Mixer motor |
| 2 | Screw |
| 3 | Mixer-air extraction |
| 4 | Mixer housing |
| 5 | Mixer paddle |
| 6 | Flange |

6.5 Installing the water filter

A stop cock should be installed on the mains water connection.
If the water hardness is 6°dH (°KH) or more, a water filter should be fitted.
When installing a water filter, note the residual limescale content. This should be at approx. 6°dH (°KH). Use the bypass-setting on the filter head

For retrospective conversion to water-filter operation:

- Turn off the water supply
- Remove the reinforced hose which runs from the bulkhead connector to the main inlet valve
- Connect a reinforced hose from the bulkhead connector to the In-Connector on the filter
- Then connect the OUT-connection of the filter to the main inlet valve
- The filter cartridge must be rinsed with approx. 5 litres of water. When doing this place the run-off hose from the filter head into a sufficiently large container and press the inflow-button.



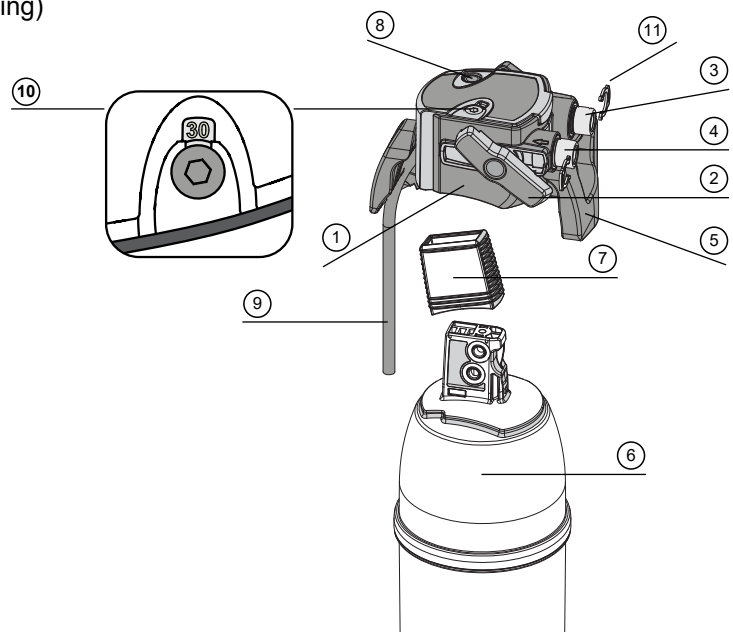
6.6 Replacing the filter cartridge

The PURITY C filter cartridge must be exchanged either, after the capacity indicated is reached, or at the latest, 12 months after commissioning, depending on which occurs first.

Attention: Examine all remaining parts carefully when changing the cartridge! Defective parts must be replaced, soiled parts should be cleaned!

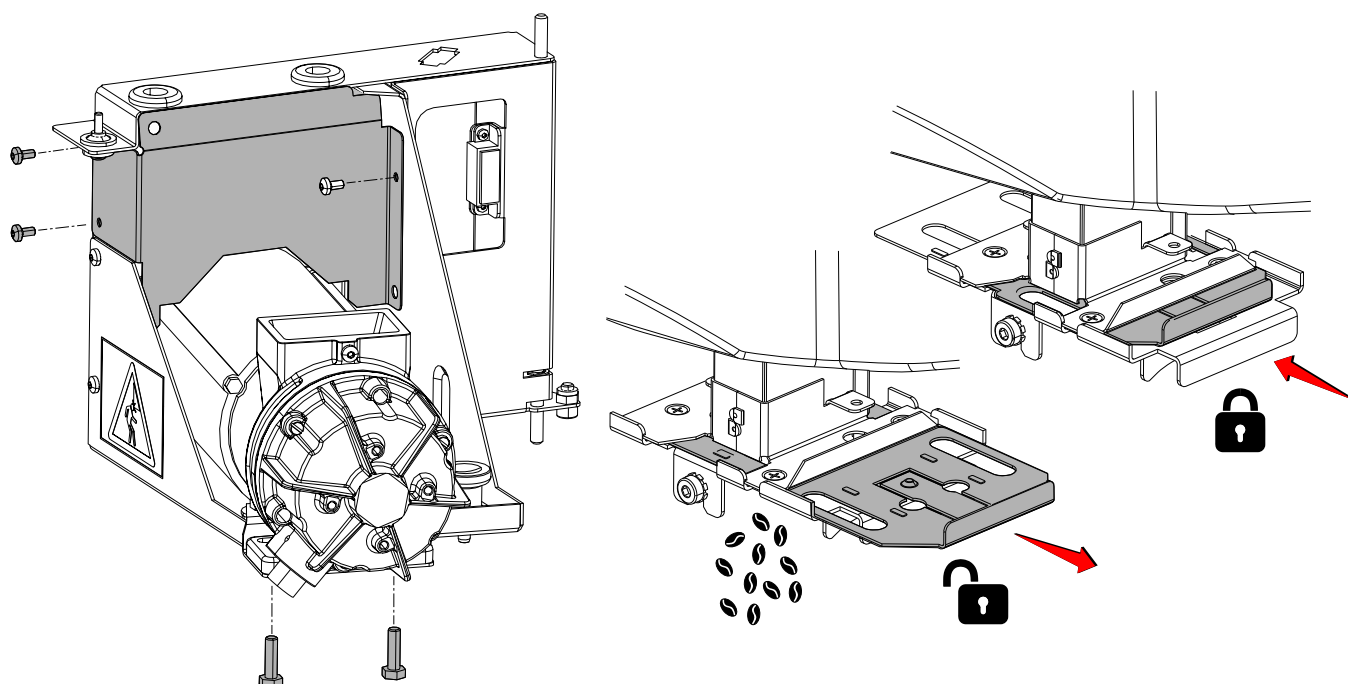
Note: If the locking handle is open, the water supply into the cartridge is interrupted and a short circuit with direct water flow from water supply 4 to the water outlet 3 is possible. If necessary, close the water supply and switch off the power supply to the machine.

- Open locking handle (2)
- Press the rinse valve (8) and de-pressurize the system
- Remove the empty filter cartridge (6) from the filter head (1). Take care as the cartridge is heavy.
- Fit the new cartridge.
- Close the locking handle (See diagram for positioning)
- Let the filter run over the rinsing valve (8)



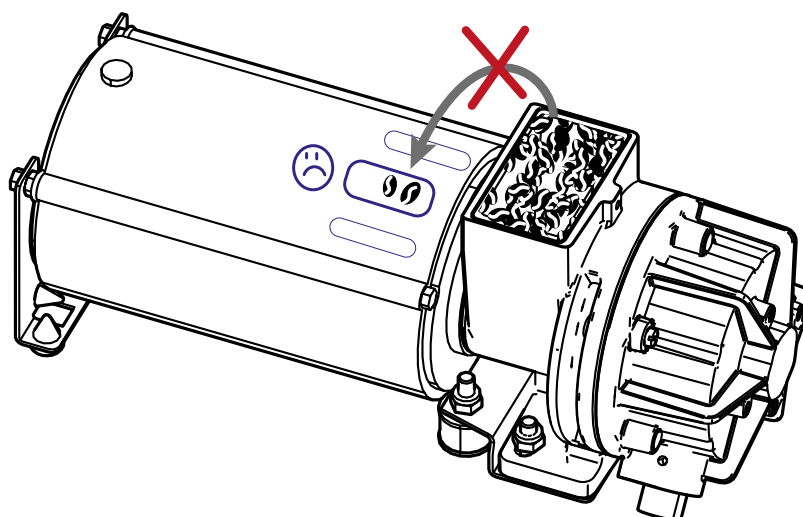
6.7 Changing the grinder

- Swivel the bean container including the grinder outwards
- Remove the bean container fixing screw (at the back)
- Press the locking slider on the bean container in fully
- Lift the bean container to remove and put to one side.
- Remove the cover
- Unscrew the condenser on the grinder
- Remove the cable connection at the top and then press the connector socket out of the holder (press in the lugs)
- Then unscrew the grinder from underneath



NOTE:

Ensure that no beans inadvertently fall into the ventilation slots on the rotor.



6.8 Changing the control board

Saving the configuration

- Connect a laptop/computer to the vending machine control board (dongle).
- Open Sielector and switch to raw data mode .
- Press .
- Tick [List 50] and [List 178] and press [OK]. Data transmission starts.
- Once the lists are uploaded click on [File] - [Save as] and save the document (.dts-file)

Removing the control board.

- Open the machine door.
- Swivel the bean container outwards
- Remove all instant containers
- Behind the instant containers there is a large cover. Remove the screws on the left and push the cover to the right
- Remove all the cable connections to the control board. The control board is attached to the printed circuit board bracket
- Change the control board.

Uploading the software.

- Connect your laptop/computer to the new control board with the aid of the Sielaff dongle
- Upload the latest software (for the specific machine) onto the control board.

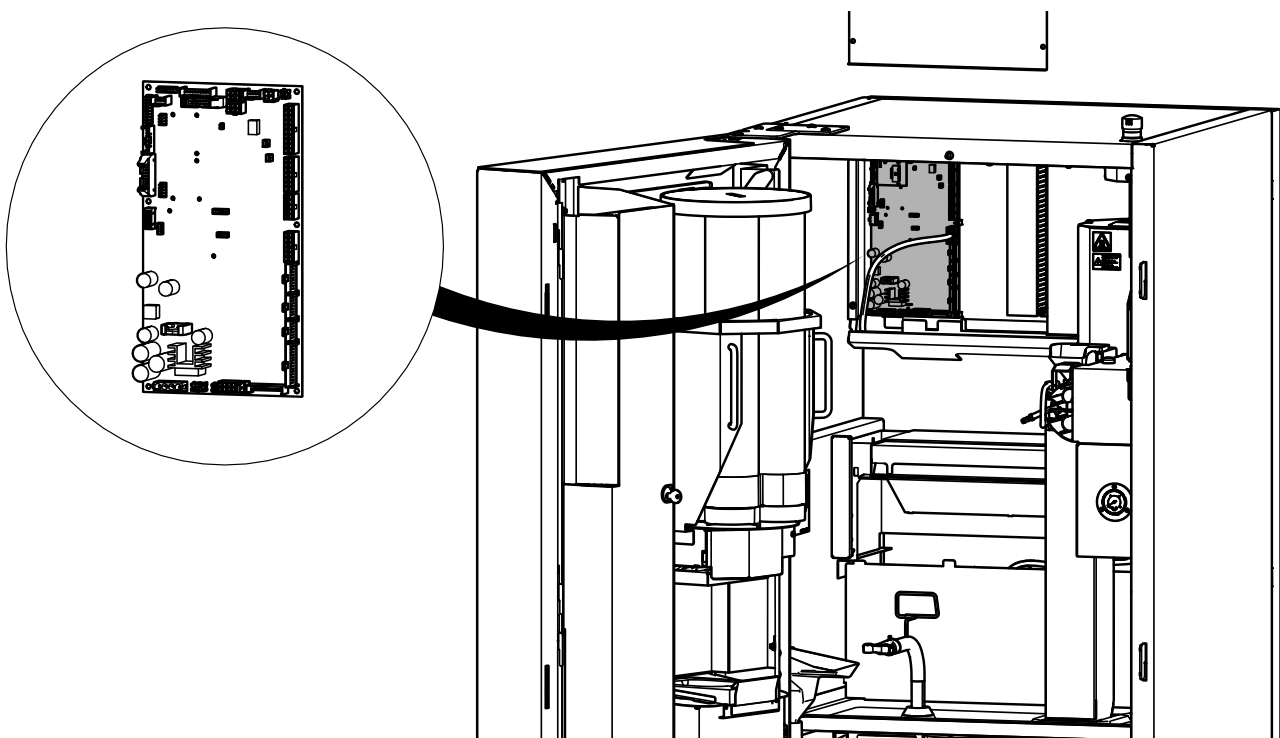
Transferring the configuration to the control board.

Load the saved configuration in Sielector [File] - [Open]. Select [Raw data] and then press . Select [List 50] and [List 178] and confirm with [OK]. Transmission starts.



NOTE:

The configuration on the existing control board must be saved before changing it for the new one!



7. Special settings

A value may be entered here to activate one or more of the following special settings. To activate several of these functions, the total of the relevant numbers must be entered. If, for example, refilling of the boiler during product dispensing is to be permitted (01) and no supply valve test performed (08), 09 must be entered.

As entering a new value deletes the previous value that was entered, you should determine what special settings should be activated before you actually programme them.

Special settings	Value	Function
A	04	CIS: Without any current, open hose clamping valves
	08	No supply valve test at the end of the rinse program
	16	No moisture sensor self-test (jumper)
	32	Do not set as an error, if it is refilled after a circulation of at least 3s
	64	Do not set as an error, in the standby leakage monitoring
	128	For a cup price of 0.00, if a cup is not dispensed, money is returned by pressing the refund button. This also applies to compulsory purchase.
B	16	Use price B for "Happy Hour" (default 0)/ Cashless (1)
	32	Complimentary drink
	64	No inverse leakage test
	128	Vends without cup dispensing are sent to BDV and MDB-card with product number +50. ATTENTION! Patch can also activate this function.
C	02	IR readout/configuration only active if entered in the menu (no menu selected)
	04	All error messages are displayed in plain text
	16	Detection of insufficient water deactivated via flow meter (Espresso machines)
	64	Shorten MDB polling rate to 100ms
	128	Reduce MDB polling rate to 50ms, has priority over 64
D	01	Disable heater monitoring device
	04	Do not rinse with carbonated water
	08	Card system in multi-vend, no cancel session if credit remains
	64	Payment required if there is a cup jam or error
	128	Use settings "max. CREDIT" and "max. REFUND" for bill acceptance strategy (in manual mode).
E	01	Inhibit mixed payment with card and coins
	02	Token value cannot be booked onto card
	04	"Free vends" made when service key is inserted, do not count as key vends but as free vends.
	64	Always send list 1 to the modem as per journal data

F	04	Do not delete non-repayable remaining credit after 200s
	08	Activate 21 selections (floor standing machines)
	64	Brewer with Valeo-encoder (CVS only)
	128	Automatic recognition (and switch over) Valeo-motor disabled (CVS only)
G	02	Use counter strength per selection for sales token per selection
	16	Special handling of selection keys, debouncing for capacitive selection keypad
	128	Two-point calibration for instant motors activated
H	02	Pot sales via MDB-card system with the total amount debited at the beginning. No remaining credit if cancelled before sale completed.
	04	Manual deletion of short statistics in the statistics menu is inhibited
	32	Activate extended statistics display.
	64	Special selections not reported from 200 but up to a maximum of 99 reported. (CVS only)
	128	Brewer pressure not in home position but in dispense position

8. Service functions

In the [SERVICE MODE] menu all important machine parameters are displayed. All machine components can be activated directly. Service mode provides support during error location and machine maintenance.

- Service jobs must be carried out with the machine door open.
- The service key must be inserted into the door switch.

Service numbers are divided into function categories, M, double M, and L.

M functions are used for testing the control board outputs which communicate with a motor or similar actuators.

L-functions display a value.

8.1 M-Functions

Number	Button	Display	Comments
1	M	Mixer Coffee 1	
2	M	Mixer Coffee 2	
3	M	Mixer Chocolate powder	
4	M	Mixer Tea	
5	M	Mixer Soup	
6	M	Mixer Topping/CSP 1	
7	M	Mixer Sugar	
8	M	Mixer Whitener	
10	M	Dosing motor coffee 1/ CVS: Coffee grinder	→ The coffee grinder runs as long as button M is pressed
11	M	Dosing motor coffee 2	
12	M	Dosing motor chocolate powder	
13	M	Dosing motor tea	
14	M	Dosing motor soup	
15	M	Dosing motor topping/ CSP 1	
16	M	Dosing motor sugar	
17	M	Dosing motor whitener	
19	M	Supply valve 1	
20	M	Supply valve 2	
21	M	Valve Coffee 1	only CVS: Brewing valve
22	M	Valve Coffee 2	
23	M	Valve Chocolate powder	
24	M	Valve Tea	
25	M	Valve Soup	
26	M	Valve Topping/ CSP 1	
27	M	Valve Sugar	
28	M	Valve Whitener	
29	M	Valve Hot water	
30	M	Boiler pump forwards	
33	M	Fan	
34	M	Heater	CAUTION! Heater may burn out

44	M	Boiler pump backwards	
46	M	Fan 2 (dry sugar)	(CVS only)
47	M	Illumination	
50	M	Coin return	
54	M	Rotate cup dispenser	
56	M	Cup dispense	
57	M	Brewer closed / close brewer	only CVS
58	M	Brewer open / open brewer	only CVS
59	M	Swivel arm extended	
60	M	Swivel arm retracted	
61	M	Heater 2	only CVS
65	M	Stirrer dispense	
66	M	Circulation valve 1 (hot)	
76	M	Delivery unit lock	
77	M	Delivery unit lock	
86	M	Pump pressure test (dynamic pressure)	only CVS: Block against brewing valve 2/3 way
87	M	Empty boiler	
88	M	Fill boiler	CVS 500 only (Espresso boiler): Filling is started with the M button and runs as long as the latter is held down. Continue until water comes out of the discharge tube.. After entering 99M121M the amount of water (in ccm) measured by the flow meter will be dispensed.
105-109	M	Issue a coin from the tube	Take a note of the tube channels on the coin mechanism
115-119	M	Empty all coins from the tube	Statistics deleted after one tube
150	M	Teach brewer route (perform reference run)	only CVS: Exit with "R" afterwards
152	M	Open supply valves 1 and 2 simultaneously	

8.2 L-Function

5	L	Boiler temperature Instant boiler	255 °C Sensor or supply line defective 0 °C Temperature < 15 °C
6	L	Time of last brewing process	The run time of the pump is measured in seconds
7	L	Espresso boiler temperature	For CVS only 255 °C Sensor or supply line defective 0 °C Temperature < 15 °C
8	L	Motor operating voltages in mV	
14	L	Light barrier output value	Cup recognition if value = 1
17	L	Position contacts and sensors	
18	L	Display keypad status	Change display when pressing enter
21	L	Display software version	e.g.: HTI5S228
22	L	Display operating days	
23	L	Display operating hours	
25	L	No. of cleans and rinses	Total number of rinses
28	L	Times of last 5 door openings and last 5 cleans	Service key Cleaning programme brewer button 0
69	L		Statistics can still be read out
85	L		Brings machine to a Flashload status
91	L	Status MDB-equipment	CO=MSD; BI = banknote reader; CR = card system; OLM = Online module Capital letters: Logged in and communication OK Small letters: no communication

8.3 Double-M-Functions

Number	Display	Comments
99 M 78 M	Delete error history	
99 M 81 M	Generate data error 81	
99 M 89 M	Save all parameter settings as flash backup.	CAUTION! Default values are overwritten
99 M 90 M	Read out flash memory	e. g. water quantity for boiler filling (88M) is displayed
99 M 121M	Show hidden times	Following boiler emptying or software upload, if not already switched on in the Installation menu
99 M 123 M	Turn on heater	Following boiler emptying or software upload, if not already switched on in the Installation menu
99 M 180 M	Load standard dosages for all products	Product calibration is required

9. Error codes

Text:	Telemetry memory full Please read out	Group: 1	No: 1
Cause:	Telemetry memory is full		
Action	Read out telemetry memory (from external location, cannot be deleted internally!?)		

Text:	Data error 81 Request service visit	Group: 1	No: 81
Cause:	Flash restoration failed while the machine was being switched on		
Action	Error while machine is working: Hardware / control board defective; should be changed		

Text:	Data error 82 Request service visit	Group: 1	No: 82
Cause:	Machine is set to test mode, no variant programmed, no programming data uploaded		
Action	Programme variant and upload complete data		

Text:	Data error 83 No Ram Scratch possible	Group: 1	No: 83
Cause:	Data/Settings have become lost, possibly due to faulty hardware (control board)		
Action	Changing the control board		

Text:	Remote maintenance active Please wait...	Group: 1	No: 85
Cause:	Online module is active / transmission is running		
Action	Wait until the transmission is completed / machine operation reinstated If there is no reaction for a long period, turn machine on/off		

Text:	Check credit system settings (Communication)	Group: 2	No: 64
Cause:	Communication with credit system not correct		
Action	Check credit system settings		

Text:	Note: Vending was interrupted	Group: 3	No: 8
Cause:	A vend was interrupted, e.g. machine switched off during product dispense		
Action	Note, has no influence on the system, must be deleted manually with CECE		

Text:	Jammed key on keypad	Group: 4	No: 8
Cause:	One button on the selection keypad is jamming		
Action	Mechanical damage to the keypad, check cable or plug-in connection		

Text:	Machine heating up... Please wait...	Group: 5	No: 32
Cause:	Temperature in the espresso boiler is too low		
Action	Machine is in heating-up phase; Heating not enabled or switched on Service key not inserted or door open; STBs have tripped; Temperature sensor defective; Cable or triac in power supply defective		

Text:	Insufficient water	Group: 6	No: 32
Cause:	Insufficient / no impulses from flow meter		
Action	Check water connection Flow meter is defective Brewing time is too long, grind level may be too fine Inlet valve is blocked Brewing valve is blocked Hot water valve is blocked Instant product valve is blocked Bypass valve is blocked Check cable connections to valves Water input pressure too high (max. 8 bar)		

Text:	Canister empty Please fill	Group: 6	No: 128
Cause:	Canister detected empty		
Action	Check float switch and associated cables and plug connections; If unsure fill up canister		

Text:	[is not displayed, see Repairs]	Group: 7	No: 1
Cause:	Is triggered when switched on, when achieving set temperature or as protection against running dry		
Action	Cannot remain as an error; will be deleted after a reference run has taken place or be reported as brewer position error during reference run		

Text:	Brewer position? Check dosages and mechanical clearance	Group: 7	No: 2
Cause:	Brewer position error, reference run failed or set position during the drink preparation not achieved		
Action	Correct by switching the machine on/off; Manually clean the brewer if necessary; if required check and set the grind and dosage; Damaged cable on the brewer motor/encoder; Faulty brewer motor/encoder Spacer not fitted on the brewer piston after the O-ring has been changed		

Text:	Temporarily out of service due to brewer error	Group: 7	No: 2
Cause:	This error occurs for a few seconds after a sales malfunction due to brewer error group 7, no. 2, until a money refund has been initiated and carried out		
Action	Automatically resets		

Text:	Cup carousel empty	Group: 9	No: 1
Cause:	The control board recognises that the cup turrets are empty. Cup empty Light barrier/microswitch faulty or a damaged cable. Motor for carousel rotation faulty		
Action	Refill cups Machine on/off Machine turns the carousel until a cup stack drops or the carousel rotates once		

Text:	Cup empty	Group: 9	No: 2
Cause:	Light barrier/microswitch on the cup separator shows "empty" Cups not available Light barrier/microswitch faulty or a damaged cable.		
Action	Refill cups Machine off/on		

Text:	Cup dispense mechanism time out	Group: 9	No: 4
Cause:	The cup carousel turns too slowly		
Action	Motor faulty Limit switch faulty Broken cable Temperature too low Jam during the rotation process (check even if the door is closed)		

Text:	Cup dispense mechanism time out	Group: 9	No: 8
Cause:	Jam in the cup dispense mechanism (cup separator)		
Action	Motor faulty Limit switch faulty Broken cable		

Text:	No cup, with compulsory cup	Group: 9	No: 32
Cause:	See group 9, no. 2 Error with no. bigger than/same as 16 means that the machine is "out of order", however the same error appears again as the designated out of order error		
Action	Refill cups Machine off/on		

Text:	Message inverse leakage:	Group: 10	No: 16
Cause:	It is not necessary to refill even though water has been taken out via the peristaltic pump.		
Action	Check inlet The inlet valve/s may not be closing properly, change the inlet valves		

Text:	Moisture in system	Group: 10	No: 32
Cause:	After one circulation more than 3s water re-filled		
Action	Applies to machines with circulation valve Circulation hose loses water		

Text:	Moisture in system	Group: 10	No: 64
Cause:	In standby mode on several occasions the instant part has been re-filled with water within a short time		
Action	Loss of water without active water dispense (product preparation, cleaning,...) Boiler or hose losing water		

Text:	Moisture sensor error (drip bucket)	Group: 10	No: 128
Cause:	Water sensor in the drip bucket/drip container indicates moisture		
Action	Empty waste bucket/drip container Dry sensor Short-circuit in the sensor cable		

Text:	Inlet valve faulty, indication 1	Group: 11	No: 1
Cause:	Inlet valve 1 not closing correctly		
Action	Check inlet valve 1		

Text:	Inlet valve faulty, indication 2	Group: 11	No: 2
Cause:	Inlet valve 2 not closing correctly		
Action	Check inlet valve 2		

Text:	Inlet valve faulty, indication 3	Group: 11	No: 4
Cause:	Inlet valve 3 not closing correctly		
Action	Check inlet valve 3		

Text:	Fill level sensor instant boiler	Group: 11	No: 32
Cause:	Sequence of lower and upper fill level sensor in the instant boiler is incorrect		
Action	Connection mixed up Short-circuit/broken sensor cables		

Text:	Moisture sensors faulty	Group: 11	No: 64
Cause:	Fourth moisture sensor must be short-circuiting in the wiring loom. This is used to check that the moisture sensors are working. Jumper not available. Faulty control board input		
Action	Changing the control board		

Text:	Espresso boiler temperature monitoring faulty	Group: 12	No: 32
Cause:	Malfunction of espresso boiler temperature sensor		
Action	Cable break, temperature sensor defective, cable connection not inserted		

Text:	Night-time economy active... Please wait until it is enabled...	Group: 13	No: 32
Cause:	Night-time economy is activated		
Action	The machine is in standby mode. Change programming		

Text:	Cleaning interrupted Please re-start the machine operation	Group: 15	No: 32
Cause:	The cleaning process was interrupted.		
Action	The cleaning process was interrupted (e.g. because the machine was switched off or an error occurred). Please re-start cleaning and clear errors (for example insufficient water).		

Text:	Light barrier	Group: 16	No: 32
Cause:	The light barrier for mug/cup recognition is permanently on		
Action	Remove mug/cup Clean light barrier and reflector		

Text:	It will take some time for the water to refill	Group: 17	No: 1
Cause:	Water inlet provides insufficient water to refill the instant boiler		
Action	Check inlet Open water inlet For canister operation Refill canister Check pump Check inlet valve		

Text:	Motorized coin return malfunction	Group: 19	No: 32
Cause:	Coin return defective; Eccentric motor timed-out		
Action	Eccentric disc broken Faulty switch or motor Damaged cable		

Text:	Brewer motor circuit open	Group: 22	No: 1
Cause:	For freshbrew: Fresh brew unit not pushed in or incorrect contact Cable break in the brewer-motor cables		
Action	Slide in freshbrew unit Check cable		

Text:	Door open Please close	Group: 23	No: 32
Cause:	Door contact switch not activated, switch may be faulty		
Action	Close door Insert service Key Check cable Adjust/check the position of the switch on the door		

Text:	Heater monitoring device has registered an error	Group: 24	No: 1
Cause:	Espresso boiler: the temperature in the espresso boiler does not increase despite the heater being switched on.		
Action	Faulty pressure relief valve, brewer valve not closing properly		

Text:	Heating switched off	Group: 24	No: 32
Cause:	"Heating off" in the display Heating is switched off (in Installation menu)		
Action	The heating is not enabled. Before enabling the heating in the installation menu a sufficient level of water must be in the boiler (via boiler filling). When the machine is not in use the heating should be set to "not enabled" ("Heating off")		

Text:	Wrong software/keypad	Group: 25	No: 32
Cause:	Incorrect display connected to the control board for this type of machine (two line / four line display)		
Action	Connect correct display with correct display software		

Text:	Swivel arm/dispense carousel jamming	Group: 26	No: 32
Cause:	Swivel arm/cup arm/dispense carousel not positioning		
Action	Ensure free mechanical movement Broken cable Short circuit Motor faulty		

Text:	Swivel arm/dispense carousel jamming	Group: 26	No: 64
Cause:	Swivel arm/cup arm/dispense carousel requires too long to position		
Action	Ensure free mechanical movement Broken cable Short circuit Motor faulty		

Text:	Grounds container almost full	Group: 27	No: 1
Cause:	The software monitoring says : "Warning: Grounds container full"		
Action	The grounds container almost full, advance notice		

Text:	Grounds container full Please empty	Group: 27	No: 32
Cause:	The software monitoring says : "Grounds container full"		
Action	Empty grounds container If necessary check setting for full message in the installation menu		

Text:	Refill the beans	Group: 28	No: 1
Cause:	Brewer can travel too far, probably too little coffee powder in the brewer Beans empty		
Action	Refill with beans; Slider on bean container closed Grinder blocked		

Text:	Cleaning should be carried out	Group: 28	No: 2
Cause:	When the product counter reaches zero, cleaning should be carried out (250)		
Action	Start a machine clean		

Text:	Cleaning must be carried out	Group: 29	No: 32
Cause:	When the product counter reaches zero, cleaning should be carried out (+50)		
Action	Start a machine clean		

Text:	Replace water filter	Group: 30	No: 1
Cause:	Filter counter (l) has run down to zero		
Action	Replace water filter		

Text:	Machine requires servicing Please, call for a service engineer	Group: 30	No: 2
Cause:	Service counter down to zero		
Action	The machine should be serviced.		

Text:	Max. no. of errors per day	Group: 31	No: 1
Cause:	In the course of a day more errors have occurred than should theoretically be reported via online connection. At present the limit is set to 40 error reports.		
Action	Request service visit		

Text:	No vend noted for 24 h	Group: 31	No: 2
Cause:	Information: No vend has taken place for 24 hours		
Action	---		

Text:	Time-out delivery unit lock	Group: 32	No: 32
Cause:	Dry sugar lock or delivery unit lock have not opened or closed within the required time		
Action	Ensure free mechanical movement Broken cable Short circuit Motor faulty		

Text:	Motor error; Brewer motor time-out	Group: 63	No: 0
Cause:	T--		
Action	Ensure free mechanical movement Broken cable Short circuit Motor faulty		

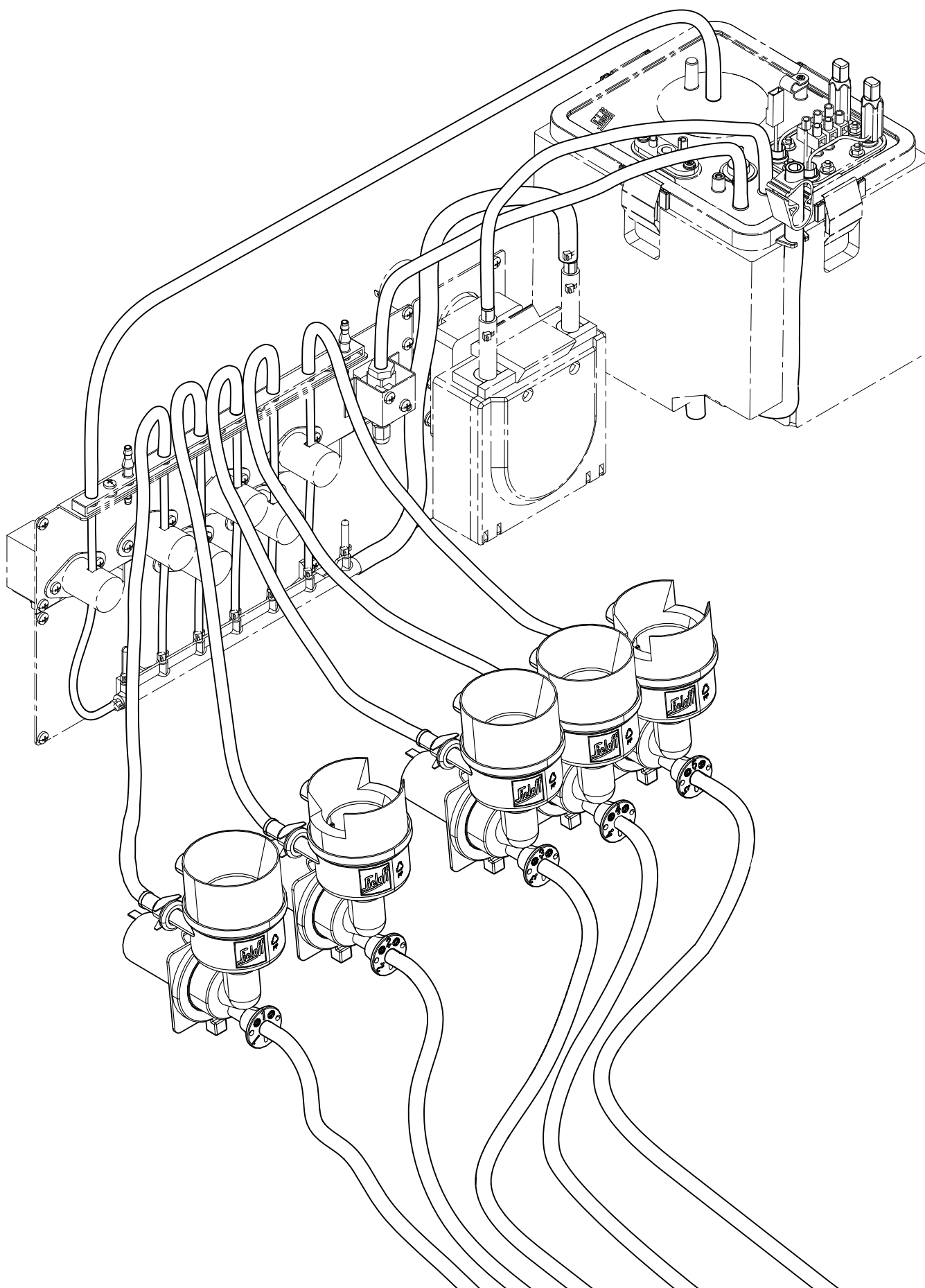
Text:	Payment system error MDB coin mechanism	Group: 65	No: 0
Cause:	Payment system error		
Action	Refer to payments system operating manual		

Text:	Payment system error MDB card reader	Group: 66	No: 0
Cause:	Payment system error		
Action	Refer to payments system operating manual		

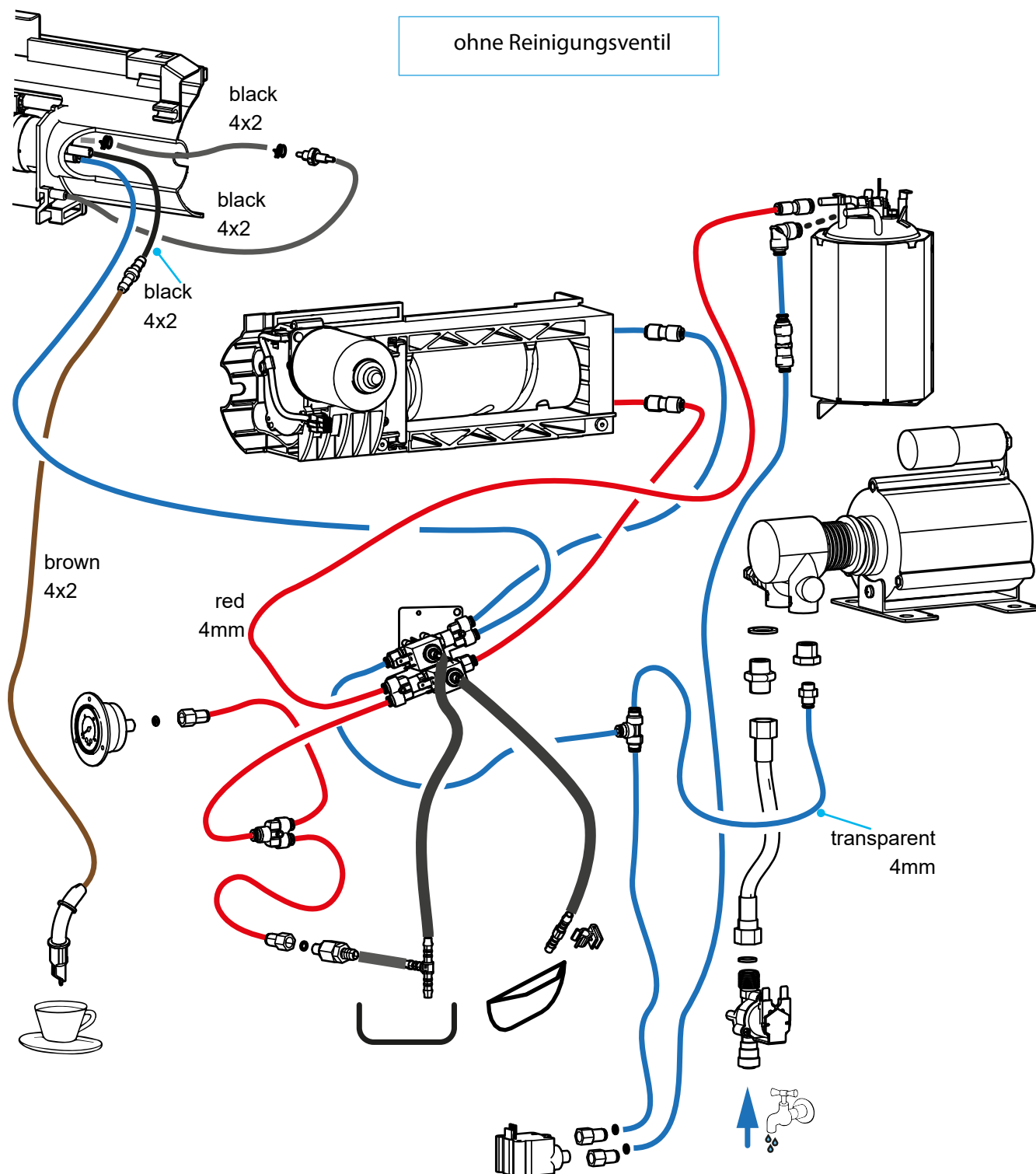
Text:	Payment system error MDB bill validator	Group: 67	No: 0
Cause:	Payment system error		
Action	Refer to payments system operating manual		

Text:	Payment system error MDB slave machine	Group: 69	No: 0
Cause:	Payment system error		
Action	Refer to payments system operating manual		

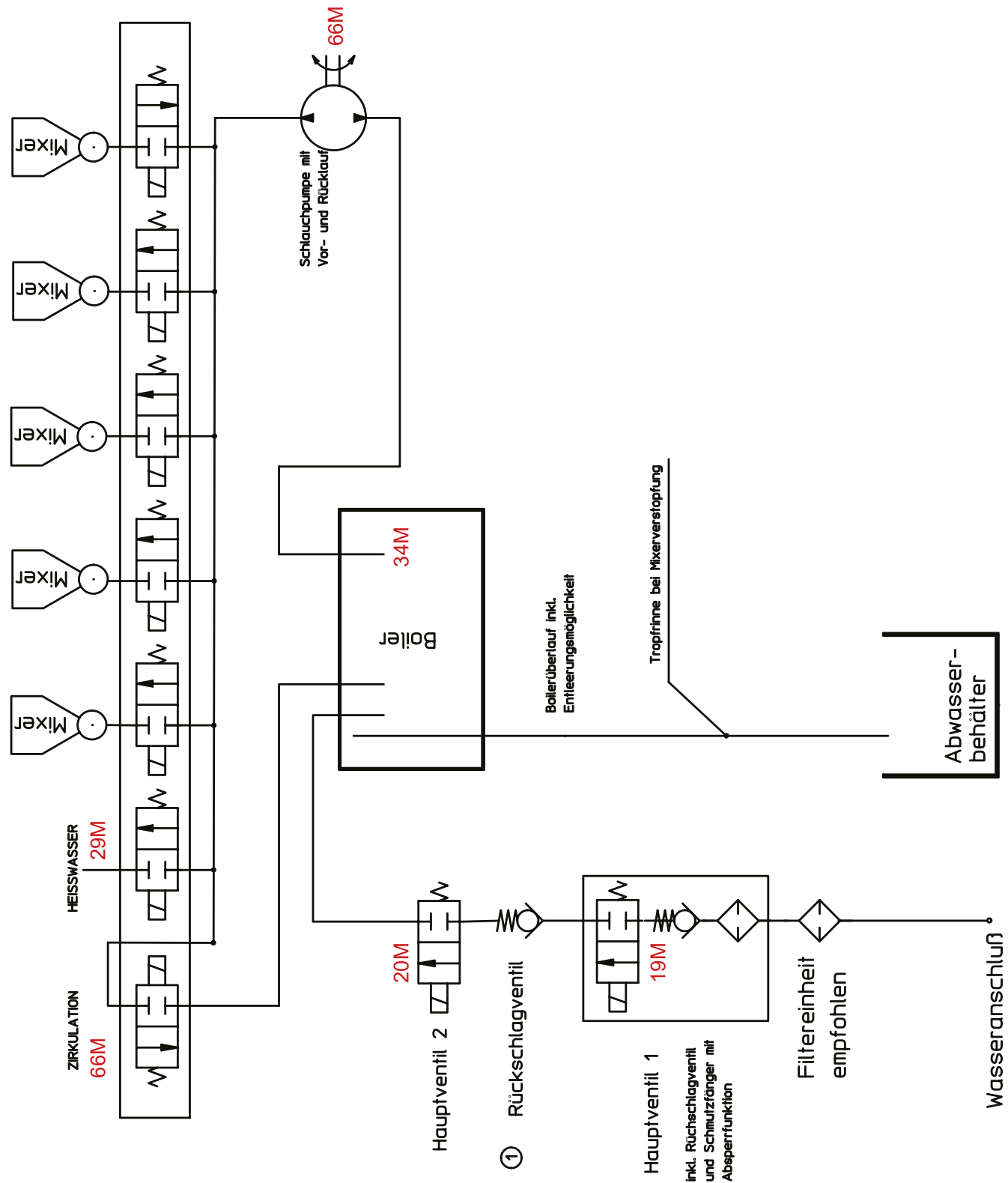
10. Tube layout diagram HG CIS 03 (Instant)



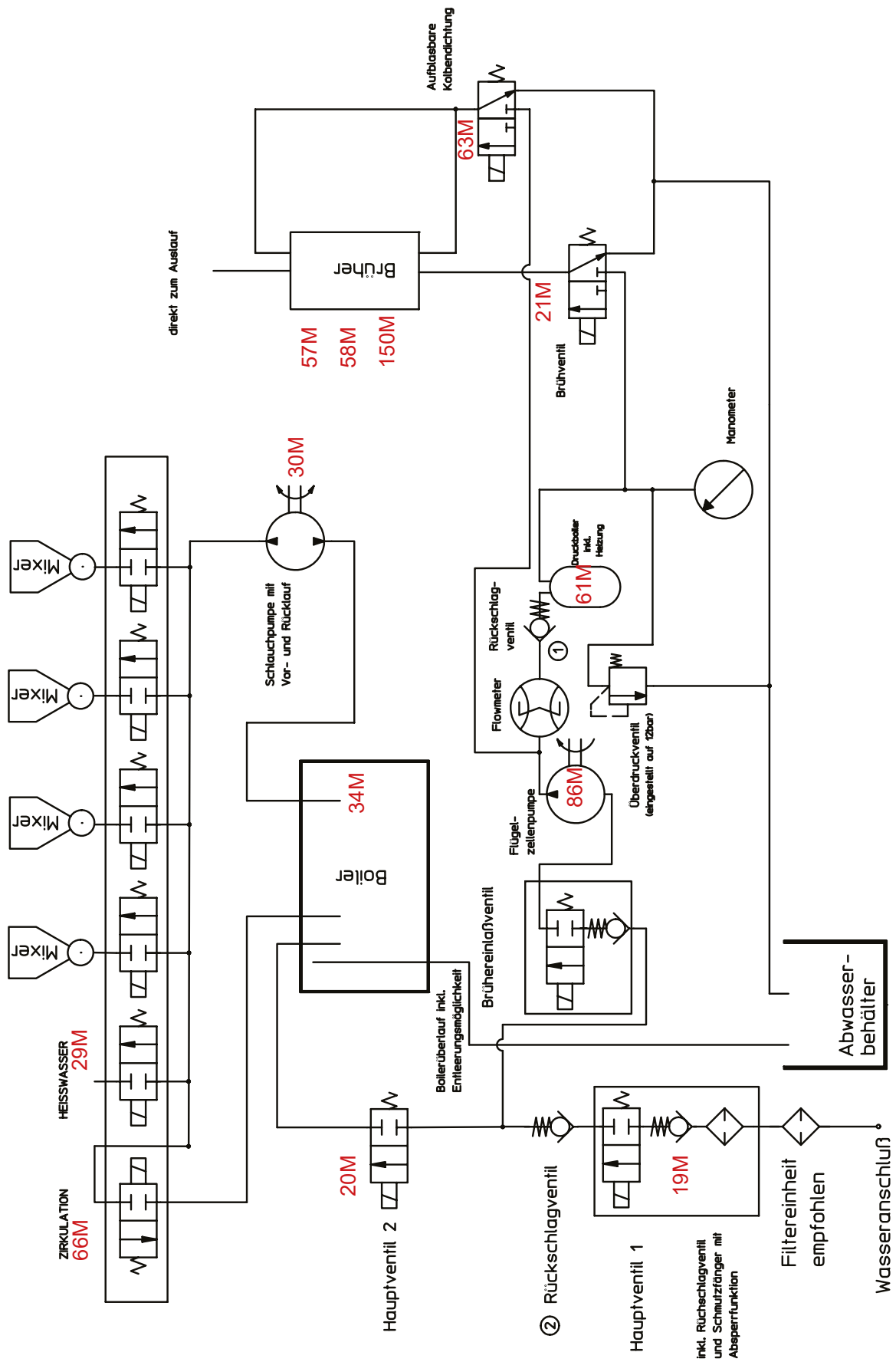
11. Tube layout diagram HG CVS 03 (Espresso)



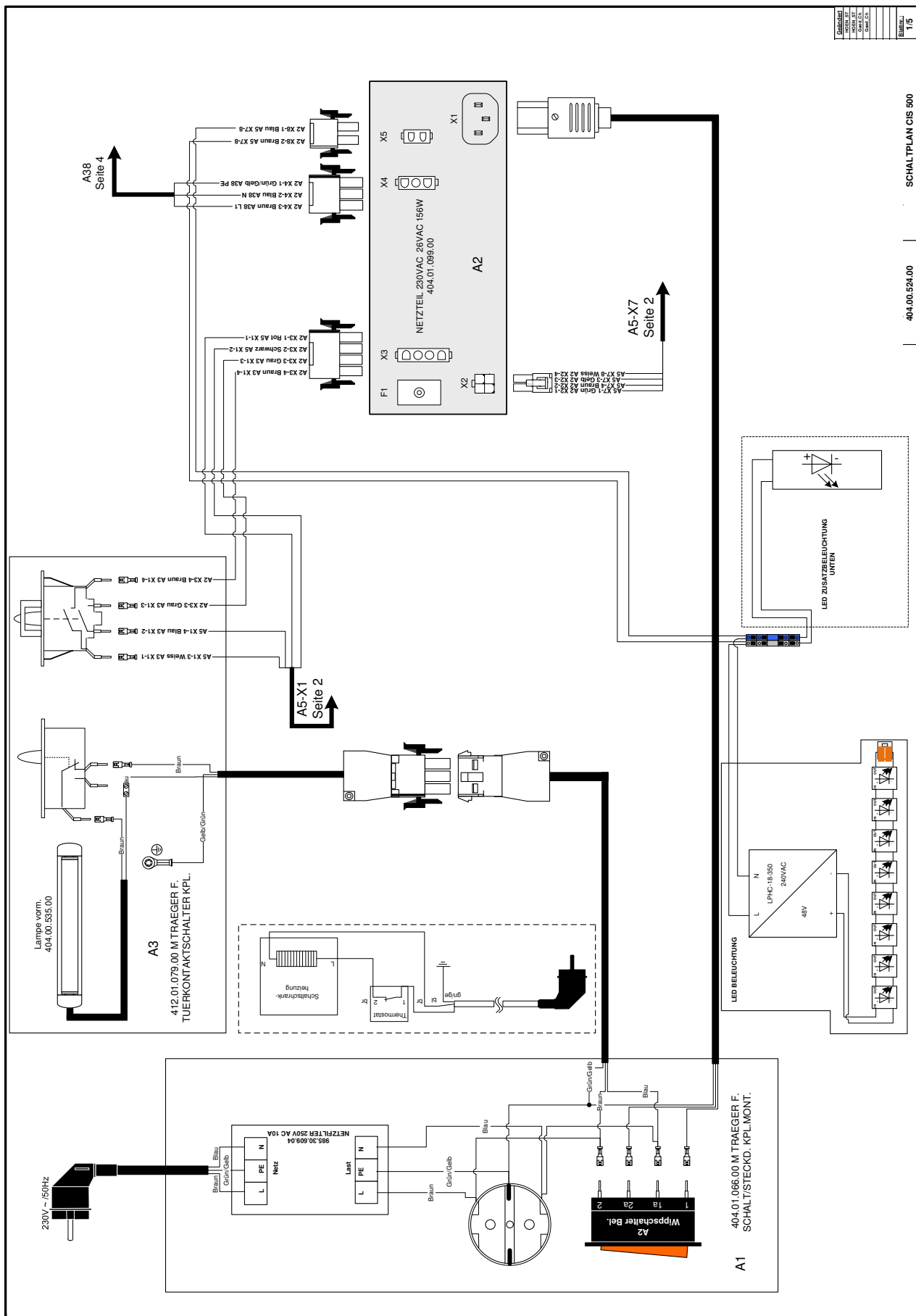
12. Water flow chart HG CIS 03 (Instant)



13. Water flow chart HG CVS 03 (Espresso)

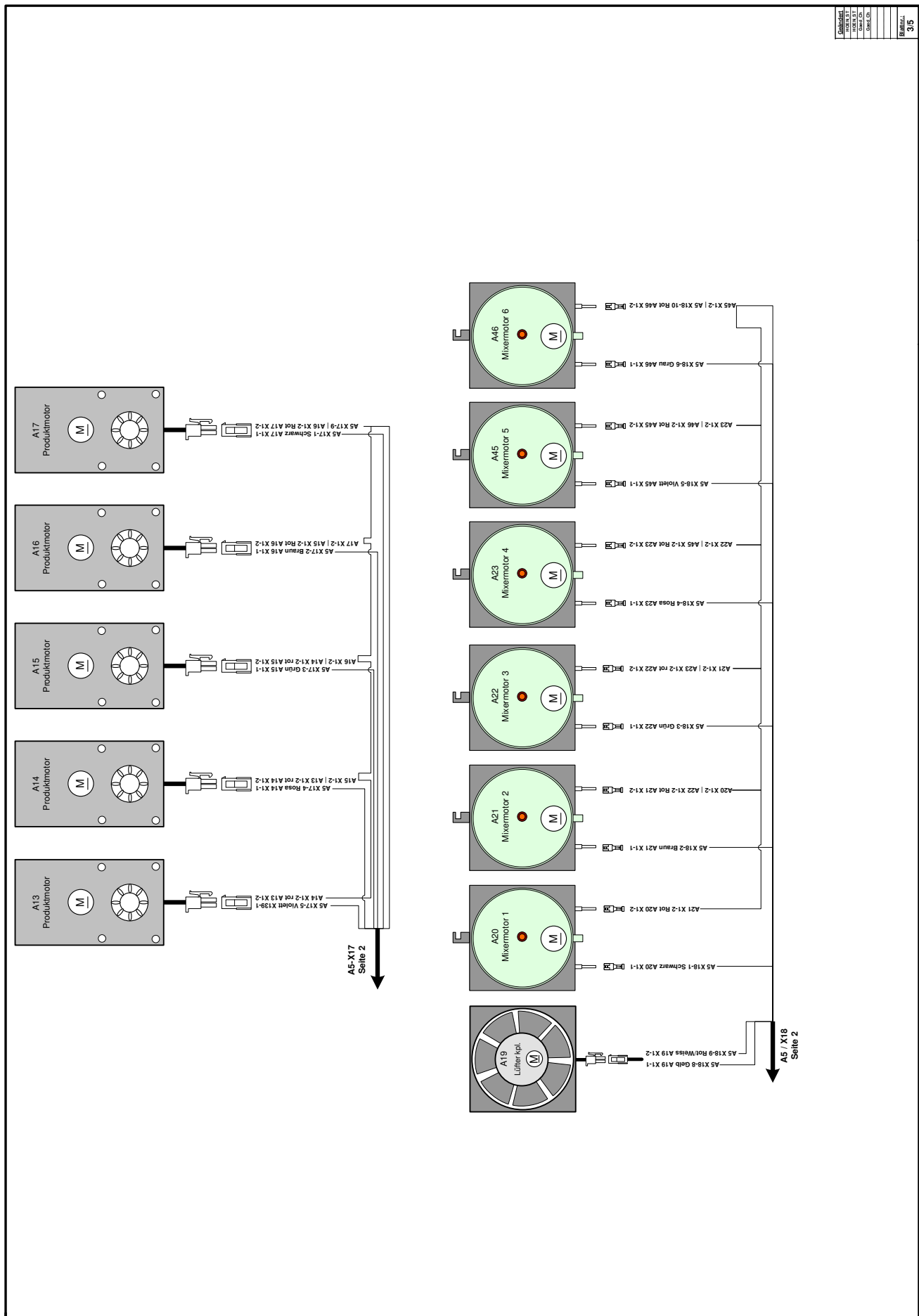


14. Wiring diagram HG CIS 03 (Instant)

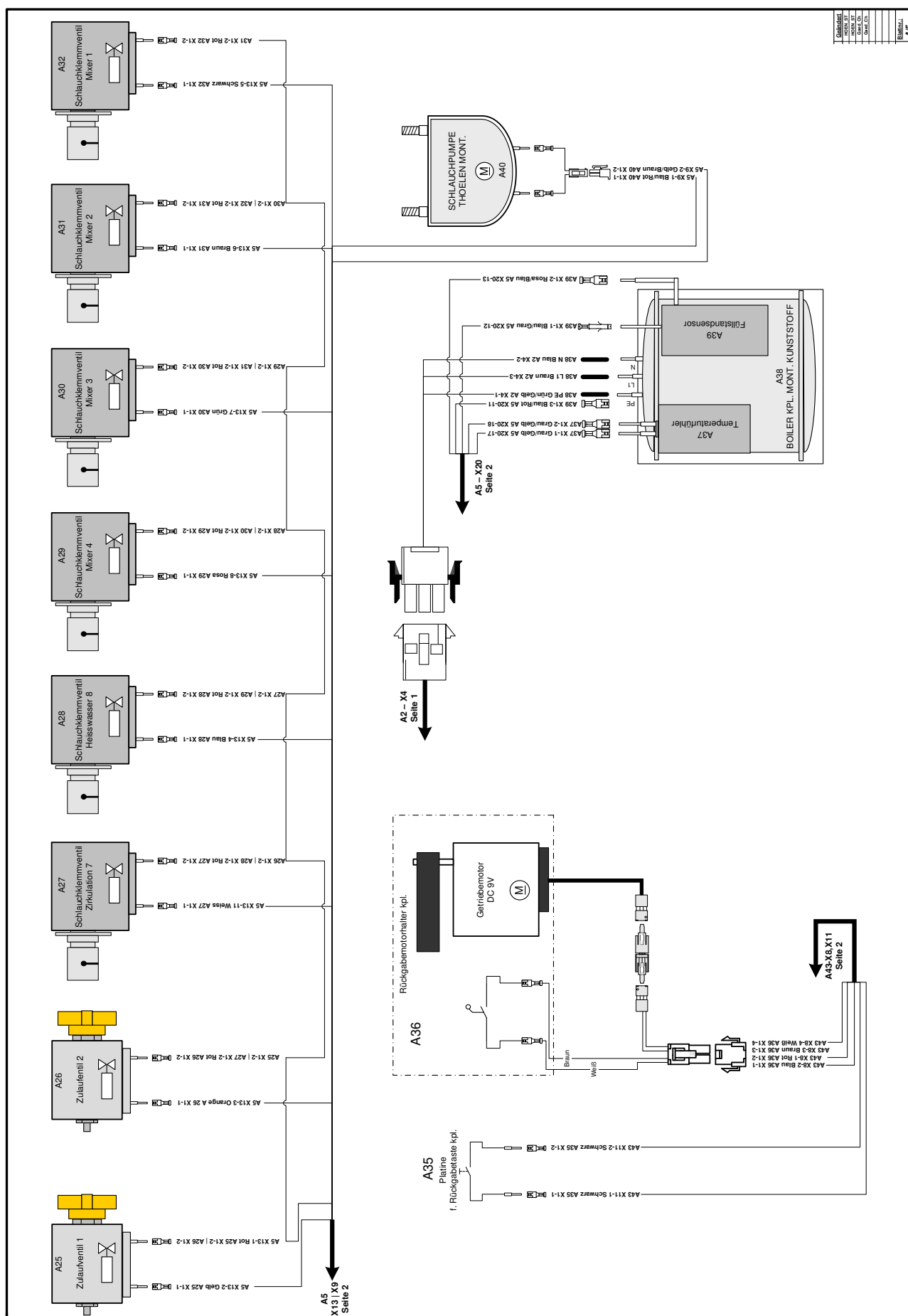




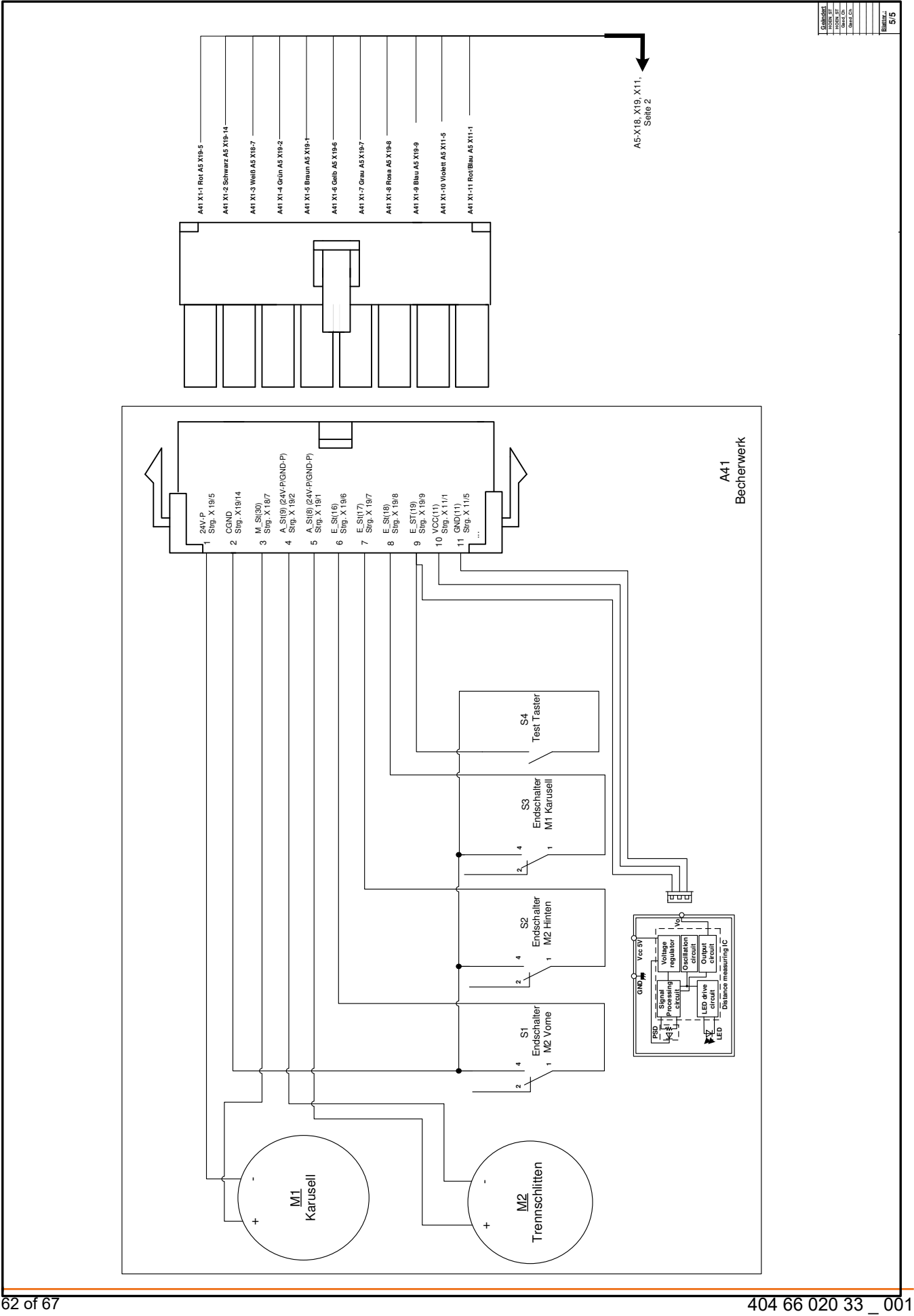
Wiring diagram HG CIS 03 (Instant)



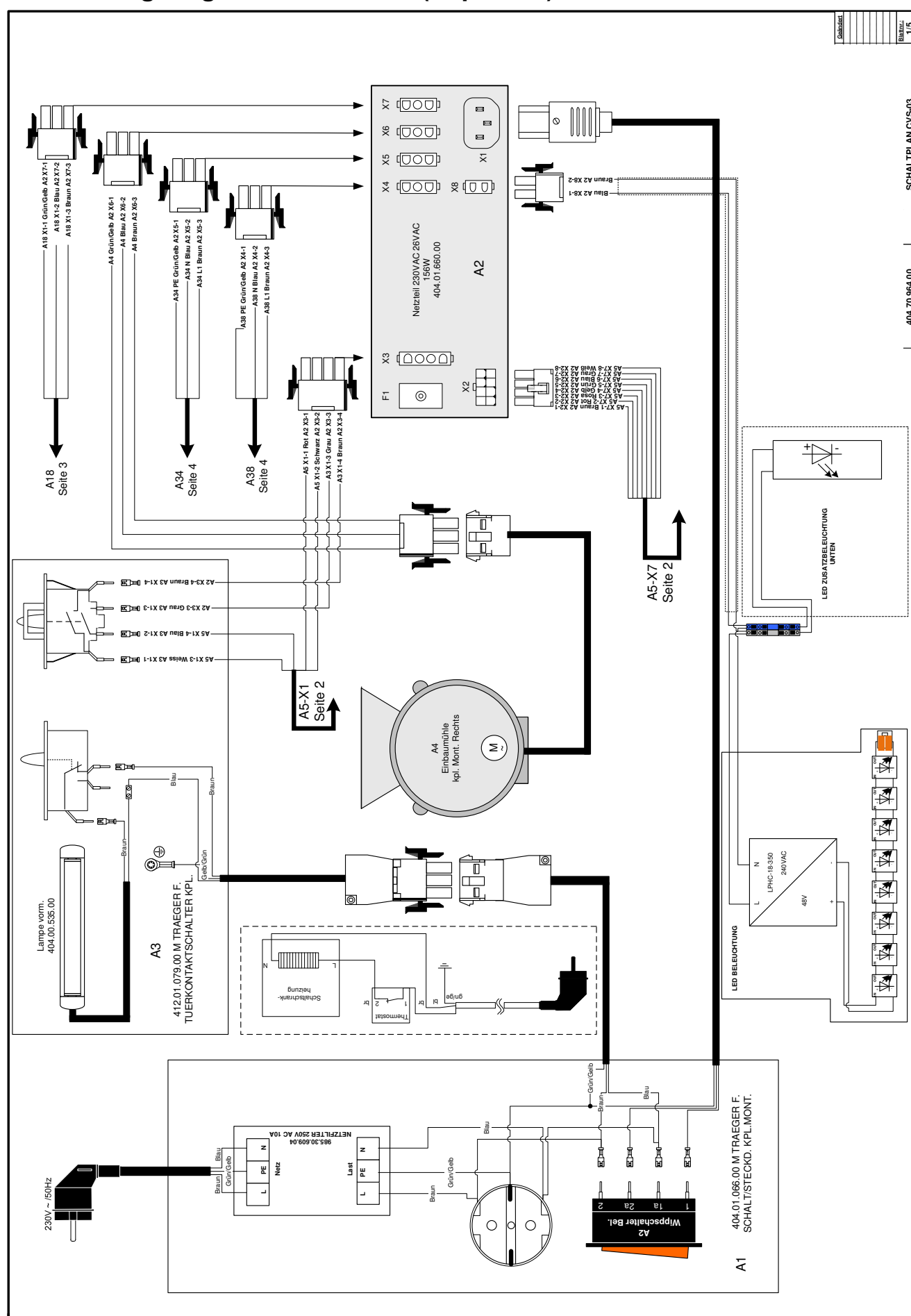
61 of 67

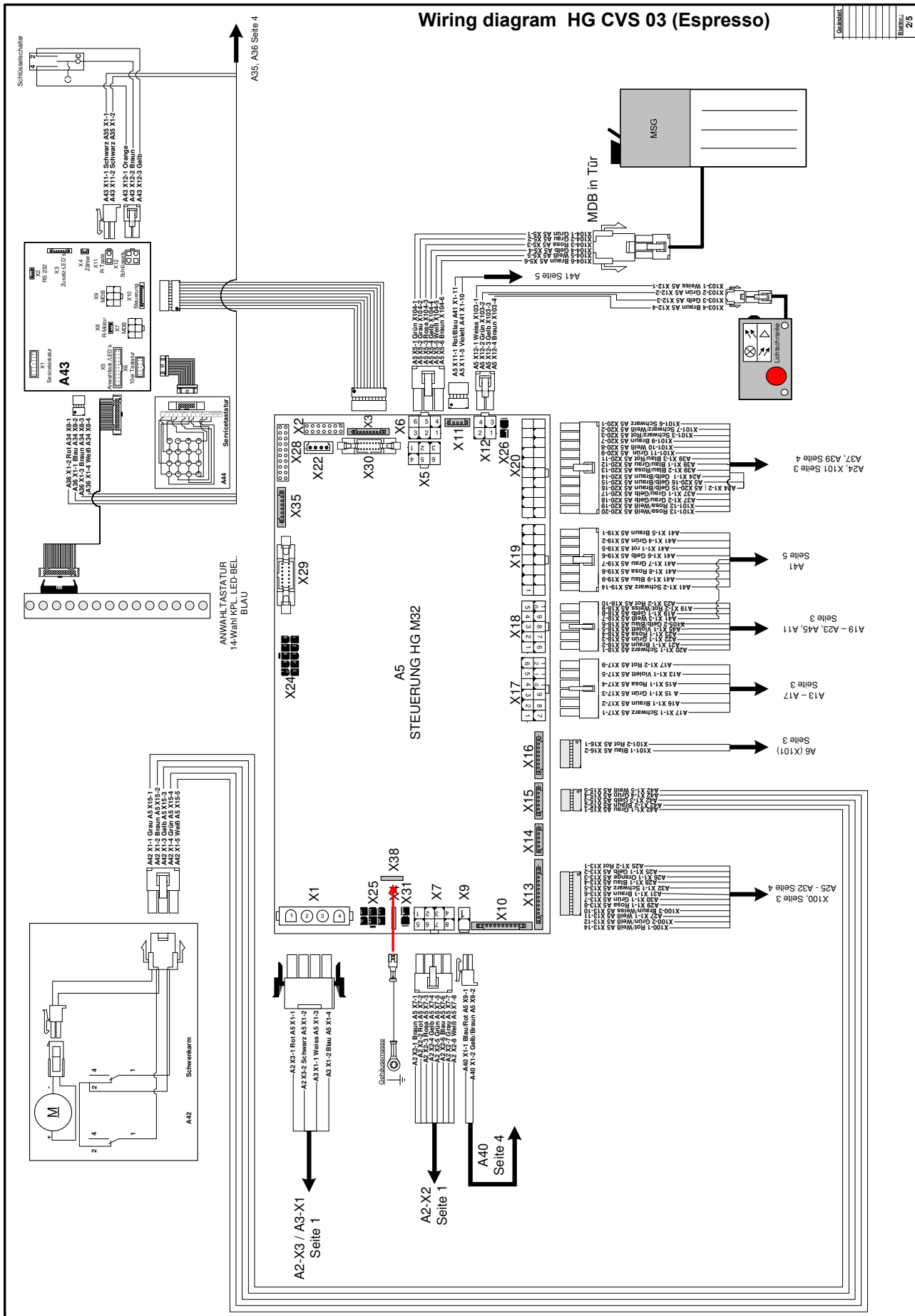


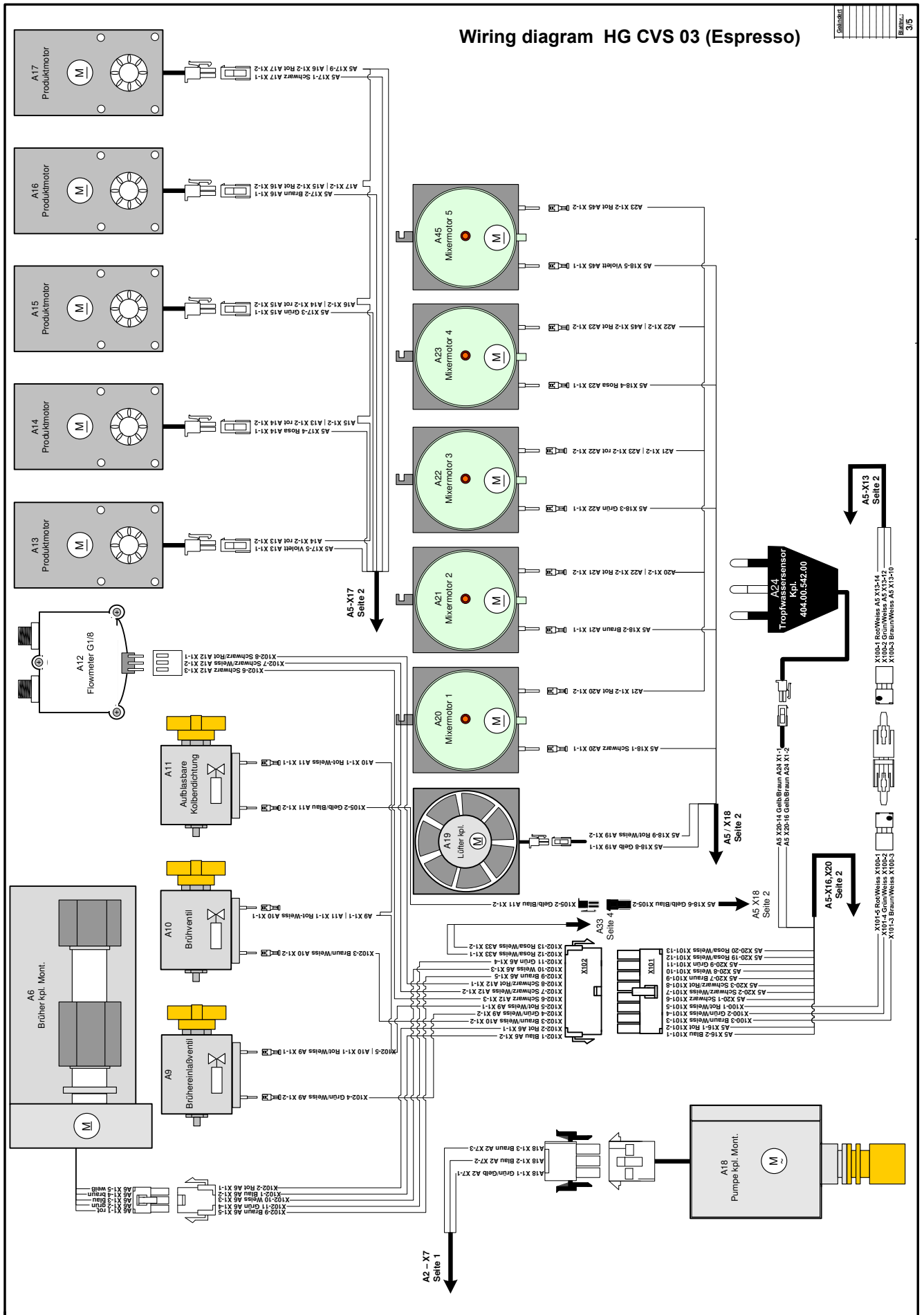
Wiring diagram HG CIS 03 (Instant)



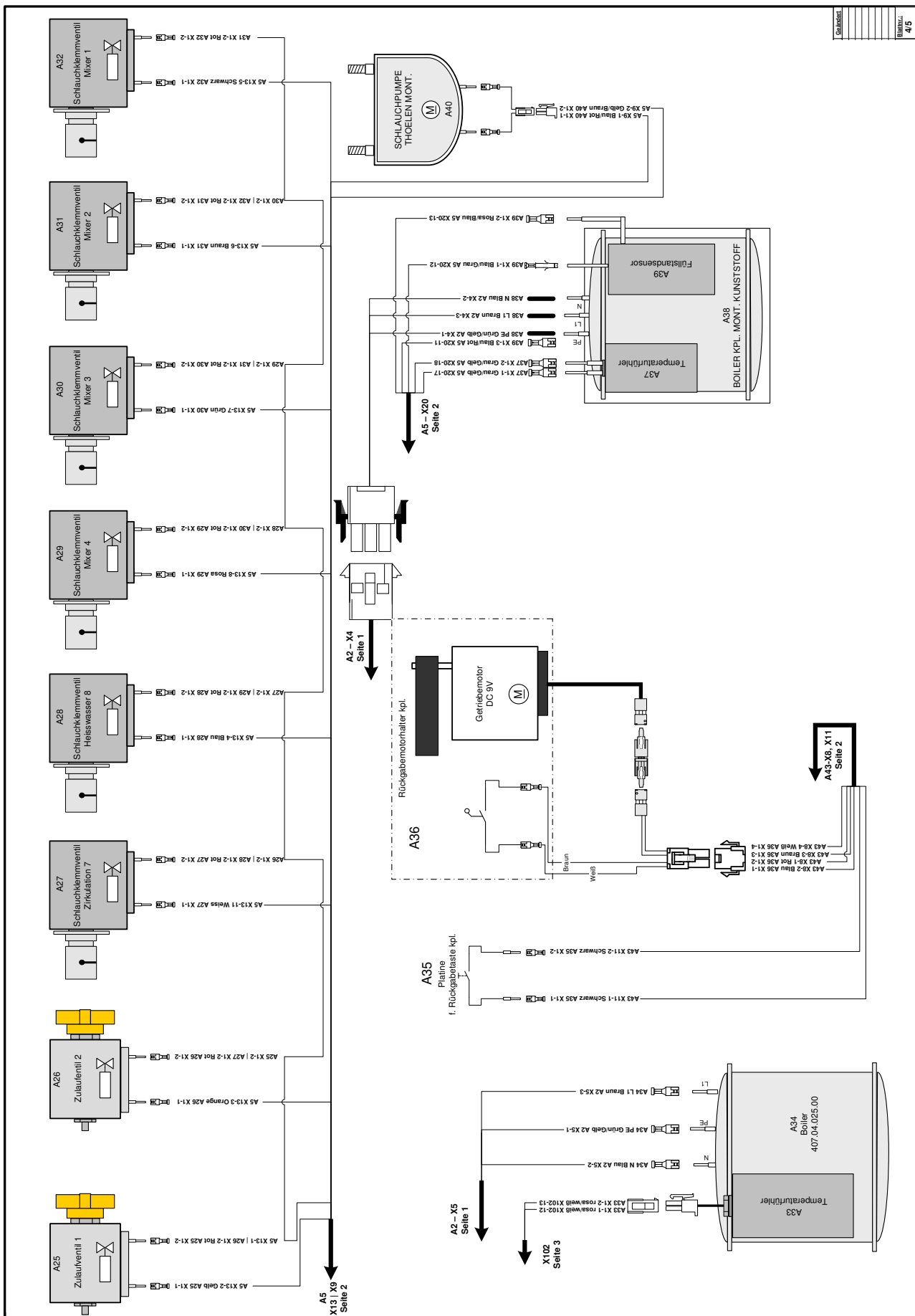
15. Wiring diagram HG CVS 03 (Espresso)







Wiring diagram HG CVS 03 (Espresso)



Wiring diagram HG CVS 03 (Espresso)

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