

Service Manual



Peak 50

KSS Technical Support

Edition: 09/2026

Rev. 03

Change history

■ Rev. 00	Edition for field testing
■ Rev. 01	1st edition for series launch
■ Rev. 02	Edition 04-2026/ Initial PIN, MSU/PSU, designation of 24 g brewing unit, Essential Foam, Cold Americano
■ Rev. 03	Edition 09-2026 / Changed item No. 16bar safety valve, #0 installation routine, panel updater, Cleaning the Cool Americano path

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We reserve the right to make technical modifications.

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1 Preface

This document, "**Service manual**", provides machine-specific information for trained service technicians. Performing service and maintenance work on coffee machines and their accessories requires appropriate proficiency with electrical, mechanical, and hydraulic systems. If you do not have this proficiency, please contact trained service personnel.

Otherwise there is a risk that the machine will be damaged or you could injure yourself.

If significant changes are made, then this User Manual, along with the referenced attachments and related documents, will be updated and provided to registered users for download in the Media Pool via Coffee Connect.

For tasks that are to be performed by the Peak 50 as well, the hazard warnings in the Operation Manual must be followed.

Especially with respect to the operational safety of the coffee machine, the service partner / Service technician must ensure that, at minimum, the following safety checks are performed at every visit:

- ➔ Check the electrical safety devices, such as protective earth connections (including machine housing and housing screws), insulation of primary power cords, and contact protection for temperature limiters on the steam and hot water boilers (including wiring and plug connections). Also check the steam and hot water boilers for leaks and external scale deposits.
- ➔ Check whether maintenance and safety-related tasks are due and perform them accordingly. In particular, check whether the 16 bar and 5 bar safety valves are due to be replaced.
- ➔ If other tasks or checks are mandated by local laws and regulations, such as high-voltage equipment and insulation checks, they also need to be performed.
- ➔ Other machine-related topics can be found in this document, in the "Safety and Maintenance Instructions," and in other applicable documents.

Related documents

- Essential Foam (Basic Milk) setting instructions
- Software description
- Event and error list
- Safety and Maintenance Instructions

Peak 50 documents

- Planning information
- User Manual
- Care instructions

Technician documents

- Piping schematics
- Electrical schematics
- Wiring schematics
- Spare parts lists
- Technical circulars

QR codes

If a QR code is included in a chapter, this QR code can be used to call up additional help on this chapter using a QR code scanner or by clicking on the code. This typically consists of tutorials in the form of animations, or videos. The safety instructions in the appropriate chapter of the corresponding document absolutely must be followed before you perform any work, as shown in the animations and videos.



Always disconnect the coffee machine from the mains voltage, check that it is de-energized, and secure it to prevent it from being switched on again before performing any work on it. The machine must be completely depressurized and cooled off.

Technical service instructions

These documents are subject to change. Please try to keep these documents up-to-date.

Planned contents which is awaiting implementation / remain unavailable appears in italics in this document.

2 Important safety and hazard warnings

2.1 Notes
IMPORTANT Note of property damage ■ for the coffee machine ■ for the installation location ➔ Always follow the User Manual.
 CAUTION Personal injury safety instructions If the safety instructions are not followed, Improper use could cause minor injury.
 WARNING Personal injury safety instructions If the safety instructions are not followed, Improper use could cause minor to severe injury.
 DANGER Personal injury safety instructions If the safety instructions are not followed, improper use will cause severe injury or death.

2.2 Signs	
	Hot liquid
	General warning symbol
	Hazard to the user
	Warning of electrical voltage
	Hot surfaces
	Wear personal protective equipment (PPE)
	Hot steam
	Slipping hazard
	Pinching hazard Crushing hazard

2.3 General safety instructions

- Every time the coffee machine is opened, repaired, or serviced, it must first be ensured that all safety and hazard warnings listed here, along with all national and locally applicable regulations, are known and will be complied with.
- **The coffee machine must be de-energized and depressurized prior to performing such work.**
- We strongly recommend wearing necessary personal protective equipment such as safety shoes, work gloves, and safety goggles, among others.
- We recommend the following prior to and during service tasks:
Perform a risk assessment and visual inspection, ensure sufficient illumination, wear personal protective equipment, use suitable tools, cover sharp edges, use due care and caution, and follow safety regulations.



Risk of Electrical Shock – Components carrying mains voltage

- The coffee machine is not fully disconnected from the mains if switched off only!
- Mains voltage is present at the mains cable connection, the power supply, the heater relays, the boilers at the heater connections, at the temperature limiters, and their corresponding connecting lines.
- **Always disconnect the coffee machine from the mains voltage, check that it is de-energized, and secure it to prevent it from being switched on again before performing any work on it.**



Depressurize coffee machine

- Boiler and steam boiler, valves and media-carrying pipes are under pressure and temperature.
- **Release the pressure and allow the machine to cool off prior to performing maintenance or repair work.**



Make sure the floor is not slippery and you can stand securely

- Coffee machines are often installed in locations where it can be damp or wet.
- **Make sure the floor is not slippery and you can stand securely prior to performing maintenance and repair work.**
- **Wear appropriate shoes and use a suitable ladder or stepstool if needed.**



**WARNING****Burn hazard**

- Any parts that come into contact with media present a burn hazard.
- Use caution when touching certain components and allow them to cool. Wear work gloves.

**WARNING****Scalding hazard**

- There is a scald hazard from escaping medium at the spouts and wherever connecting elements have been removed or are defective.
- When touching and removing components and hoses, make sure that any escaping media cannot spill or spray onto your fingers and arms.

**CAUTION****Handling of cleaning and descaling agents**

- Health hazard through contact and swallowing. Consult information in safety data sheets.
- Use personal protective equipment and follow the instructions for any chemical products used.

**CAUTION****Pinching or crushing hazard**

- There is a crushing hazard especially for the following tasks and moving parts:
 - Installation, repair of the coffee machine, brewing unit, grinders, drip tray, cup table, housing parts, display, mixer bowl.
- There is a particular crushing hazard. associated with the following components:
 - Inner edges and housing parts.
 - Use personal protective equipment. Cover sharp edges and use due care and caution.



3 Installation and commissioning



3.1 Connection by others – Prerequisites – Planning information

Necessary preparatory on-site work for electricity, water and drainage connections at the customer's premises are to be arranged by the machine owner / operator. The work must be carried out by authorized installation technicians in compliance with general, country-specific and local regulations. The coffee machines service technician may only connect the coffee machine to existing prepared connection points.

WMF Service is neither authorized nor responsible for carrying out any work on-site prior to connection.

For details, see planning information at the web addresses:

[https:// www.wmf-coffeemachines.com](https://www.wmf-coffeemachines.com)

Or from the Media Pool at:

[https:// coffeeconnect.wmf.com](https://coffeeconnect.wmf.com)

3.2 Hardware connections and preparations

3.2.1 General tasks



- ➔ Remove the coffee machine from the packaging and check the included accessories.
- ➔ Set the coffee machine on the counter and level it (horizontal / vertical); adjust feet where adjustable.
- ➔ If needed, Connect the water infeed (for optional constant water supply and drain module).
- ➔ If needed, Connect the wastewater drain (for optional constant water supply and drain module).
- ➔ If necessary, install a water filter.
- ➔ Connect the electrical supply by first plugging the power cord into the machine and then into the on-site power outlet.
- ➔ Switch on the coffee machine and follow the start-up routine.
- ➔ Update to current machine firmware if available.

For details, see document "User Manual"

For details, see chapter:
Constant water supply module

Technical service instructions

When setting up and installing the coffee machine, the information and conditions described in the User Manual must always be followed.

3.2.2 Connections

3.2.2.1 Electrical connections

The electrical connections are located on the rear side of the Peak 50, in the machine base (**Fig. 1**).

Power is supplied via the mains power connection **1** and a country-specific 10 A appliance power cord.

A WMF milk cooler with empty sensor and temperature display may be connected to the machine **2**.

If the optional constant water supply module is used with the machine, then the feed valve installed in the constant water supply module **3** is connected to the appropriate socket.

Technical service instructions

When installing the machine, make sure that the *appliance connector socket* power cord is connected to the machine first, **1** before connecting to the mains power connection.

Interface descriptions			
1	230 V	Mains power connection	10 A appliance connector socket
2		Cooler	Milk cooler (empty sensor & temperature)
3	Constant water supply	Electrical connection for constant water supply module	24 V feed valve, installed in the constant water supply module
4	Constant water supply	Water connection Constant water supply module	Push-in connector for the constant water supply module
5	Waste water	Drain connection Constant water supply module	Guide for rigid drain pipe, to the connection point on the drip tray



Fig. 1

3.2.2.2 Constant water

Connections for converting from a tank to constant water supply are located on the rear side of the machine base **4** & **5**.

For details, see chapter:
"3.2.3 – Constant water supply module"

3.2.3 Constant water supply module - Optional

- The Peak 50 is always shipped as a tank unit variant.
The following retrofit module is required to convert it to a constant water supply:

- Retrofit module – 33 3333 6000 Constant water supply and drain

This can be used for the following machines:

- WMF 1100 S
- Schaerer Coffee Club
- WMF 1300 S
- Peak 50



- This constant water supply module contains all relevant components required for connecting the machine to an external water / drain line. Because the fresh water in the constant water supply version fills the existing water tank, it is highly recommended that the machine also be connected to a wastewater drain via the drain hose, due to potential risk of damage to furniture from an overflowing drip tray, for example.

- ➔ In order to prevent back contamination of the coffee machine by the wastewater, the drain hose must not directly contact the water supply line. The drain trap mount (**Fig. 2**) can be used for this purpose.

Technical service instructions

If a constant water supply module is installed or removed, the machine automatically detects whether a constant water supply module is connected the next time it is switched on. No further adjustments to the machine are necessary.

If the drain outlet has also been installed (urgently recommended), this must be manually configured in the machine configuration settings.

System > **Machine configuration** > **Drain**

IMPORTANT

For details, see the document, "Installation instructions for constant water supply retrofit module"



Fig. 2

3.2.4 Recommended water filter – machines with constant water supply

- WMF generally recommends the use of a water filter.
- If the coffee machine is run without a water filter, this can lead to damage (e.g., due to scaling) and may have a negative effect on the beverage quality. A premature need for descaling can also lead to service intervals and intervention being required before the usual time.
- ➔ Use a test kit that has been properly stored and has not exceeded its expiration date to test the overall and carbonate hardness of the line water (before the water filter).

Constant water supply filter

- ➔ Enter the measured values in the WMF Aquatool app and install the water filter recommended for your water consumption and type of coffee machine.
- ➔ Please note the variance in line water values for the filter capacity shown in the app.
(Plan for buffer)

Tank filter

- ➔ When a tank filter is used, enter the filter capacity in the menu "Filter capacity", based on the measured carbonate hardness. (**Fig. 3**) To determine the capacity, use the service life table from the User Manual.

System > Water filter > Filter capacity

Technical service instructions

Because the water tank gets filled, even with the constant water connection variant, it is theoretically possible to use a tank filter with the constant water supply. The software uses the entered capacity to differentiate between a tank filter and external water filter. The software assumes that a capacity of up to 400 liters means that a tank filter is being used, while a service life of over 500 liters implies an external filter (**Fig. 3**).

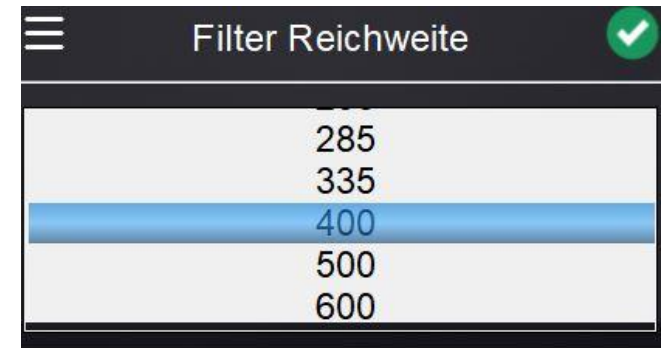
IMPORTANT

For details, see document
"Water filter operation manual"
"Water filter training document"

WMF Aquatool app:
[https:// www.wmf-aquatool.com](https://www.wmf-aquatool.com)

For details, see:
Technical Information 2024-02 WMF Aquatool

For details, see document
"User Manual"



Filter Reichweite	
	285
	335
	400
	500
	600

Fig. 3

3.3 Initial commissioning with the aid of the technical information

3.3.1 Goal of the Technician's Intro

- Guided commissioning for the mandatory basic settings.
- Fast and easy commissioning of the coffee machine for the best beverage quality.

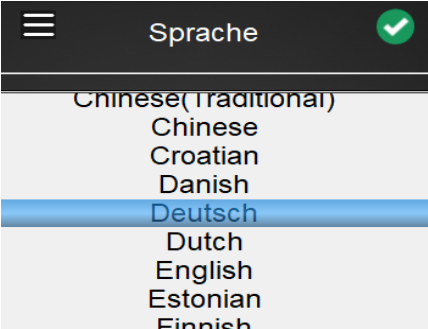
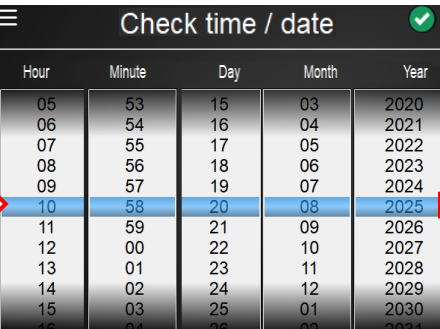
Detailed settings specific to the Peak 50 are not covered, so they must be done must be carried out after the technician introduction, in consultation with the operator. This includes button layouts or settings in operating options, as well as customer-specific recipe settings.

3.3.2 Initial commissioning

IMPORTANT

 **CAUTION**

 **WARNING**

→ Switch on the machine → Set language 	→ Set time zone 	→ Set the time and date Technical service instructions If NGx3 is activated, then the date and time are taken from the NGx3 server.  ■ The machine start-up date is set, which will be relevant for scheduling future maintenance date.	→ Initial PIN Technical service instructions A PIN must be assigned and should be noted down for later use. For details, see document "Software description Part 1 and Part 2"  ■ This PIN protects the network identity of the machine and of the operator. ■ The PIN assigned here is also the accounting PIN.
--	--	---	--

- Press the "lock symbol" to start the technician intro



Customer's Intro WMF Peak 50

This is your WMF Peak 50
Shortly, you will be able to enjoy your coffee specialties



- Arrow symbol starts the simplified peak Customer start-up routine

- Enter service PIN

PIN

1	2	3
4	5	6
7	8	9
C	0	<

Please enter PIN:

- Start OR Cancel the technician intro

Start technician's intro?

If no, the technician's intro is stopped and the machine switches to ready-to-operate mode without any further settings.
Start technician's intro?

No

Yes

- "Yes" starts the technician intro
 ■ "No" cancels the routine and the machine starts without any specific settings.

- Notes for technician intro

Technician's Intro

On the following page you will see the menu items included in the intro which are to be processed in this order.

Machine configuration

In order to check and if required adjust the machine configuration.

Water filter

Entry of all settings relating to the water filter. Afterwards the machine is filled and heated.

Cooler

Only available when cooler has been activated in the machine configuration.

Entry of all settings relating to the water filter.

- The individual steps of the following technician intro are explained here.

- Check machine configuration and correct if necessary

Machine configuration

PowerClass	Water infeed
B	Tank
A	Ext. pump
B	Constant water
A	Tank
B	Ext. pump
A	Constant water
B	Tank
A	Ext. pump

New: A Tank
Old: A Tank

- Machine restarts

Machine configuration

Data successfully loaded
System must be restarted

- Continue to follow the technician intro after the restart
 ■ The machine fills up with water and heats up.

- Go through all of the menu items shown here

Techniker Intro

☒	☒
Water filter	Milk and foam
☒	
Portioner calibration	

- Once it is finished, the green checkmark appears at the top right
 ■ The "Cooler" menu appears only if activated in the machine configuration settings.

- Final note

Final advice

The technician's intro is now completed. If required, further customer- and machine-specific settings can be carried out now.

- Make any customer-specific settings after this.

3.4 Installation work to be completed

The quality of our machines is constantly monitored and improved when necessary. Nevertheless, damage to the machine may be discovered during installation that must have occurred prior to delivery. This can have various causes, from incorrect or missing part to shipping damage. In order to continuously improve the quality at delivery, damage that occurs to the machine directly during installation must be reported to production immediately.

- Please use the form – "Abnormal installation report"
- Include with the report all relevant information that describes the damage
- Use photos and videos

Document:
[Abnormal Installation Report](#)

3.5 User training

3.5.1 Operator and user

Instruct the operator and the users of the coffee machine on the following topics

- Duties of the owner / operator and hazard warnings
- Operation, care, and cleaning of the machine
- Settings, programming, operating options
- Maintenance and service, consumables

See document:
User Manual, cleaning instructions

3.5.2 Service technician

Additional important information for the service technician on the following topics is available here:

- Beverage programming, button allocation
- Machine care, service reports, error messages
- Service messages, software settings, PIN access rights

For details, see document:
User Manual, basic beverage settings
Service Manual, error and events list
Software description Part 1 and Part 2

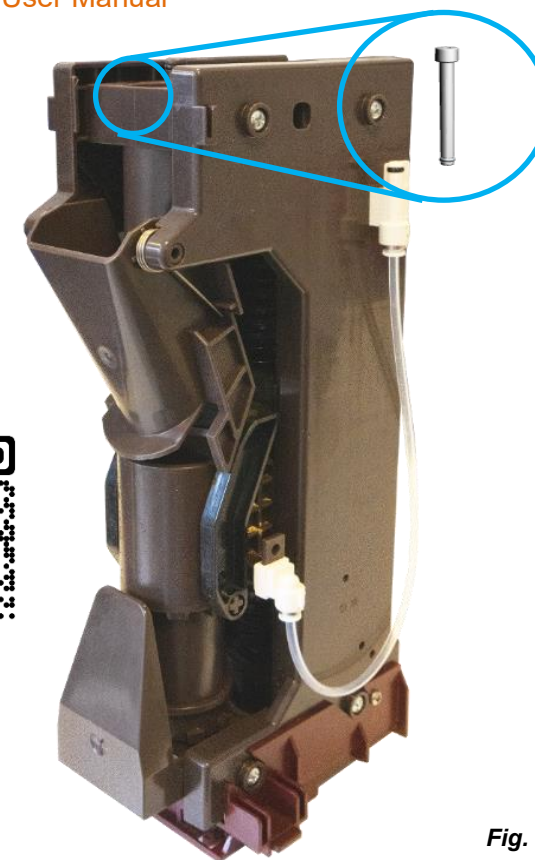
IMPORTANT

4 Customer service – care and cleaning tasks

4.1 Brewing unit (brown) with removable brewing aperture

- The standard equipment for the Peak 50 is the brown 16 g brewing unit and removable Ø0.6 mm brewing aperture (**Fig. 4**).
 - A larger capacity brewing unit (max. 24 g) also equipped with a 0.6 mm Ø is available as an option.
- Both brewing units can be removed from the machine by the operator and are subject to a cleaning and maintenance interval that must be performed by the operator as needed and whenever indicated on the display.

For details, see document:
"User Manual"



Technical service instructions

For repairs, individual spare parts from the brown brewing unit may NOT be installed with spare parts from a dark red brewing unit (Presto! family / WMF 1500 S (old)), and spare parts from a 16 g brewing unit cannot be mixed with those for the larger (max. 24 g) brewing unit.

4.1.1 Brewing aperture Ø 0.6 mm

The brewing aperture is installed in the top brewing piston, between the brewing sieve and the discharge nozzle (**Fig. 4**) and can be removed or replaced for cleaning purposes.

Technical service instructions

If a cleaning cycle or warm-up rinsing is carried out while the brewing aperture is removed, sediments that may have accumulated behind the brewing sieve can be flushed out, thus preventing flow rate errors or machine failures.

Fig. 4

**CAUTION**

4.1.2 Remove / install brewing unit

The brewing unit is located above the coffee grounds container and attached to the side walls of the brewing shaft.

The brewing unit can be removed and installed in just a few steps, which can be carried out by the operator.

Disassemble to the level shown:

- Drip tray, grounds container, and dirt tray removed

Removal:

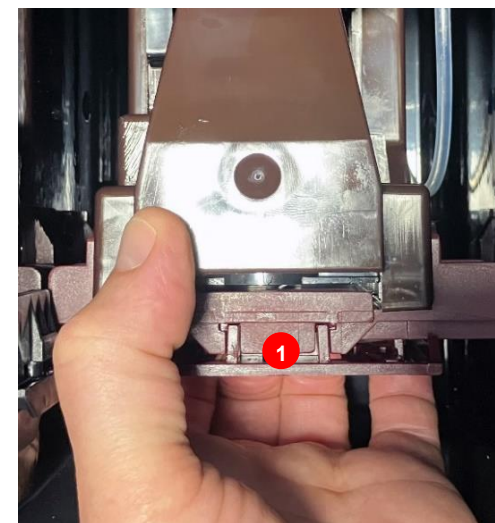
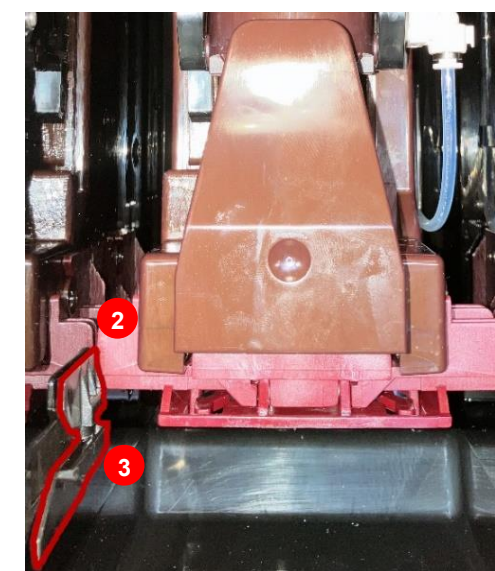
- Grab the latch **1** (Fig. 5) on the brewing unit from below and push the latch from the back to the front.
- Drop the unlatched brewing unit down into your hand, tilt the brewing unit down and forward, take it out of the brewing shaft, and remove it from the machine.

Installing:

- Grab the brewing unit at the bottom and insert the top side in the machine first
- When inserting the brewing unit, make sure that the lock mechanism **2** (Fig. 6) is inserted below the guide (marked area) **3** (Fig. 6) of the safety switch for the coffee grounds container. Otherwise there may be difficulty latching the brewing unit in place in the shaft wall.
- Tilt the brewing unit up in the brewing shaft and press it until the latch engages in the side cover.

Technical service instructions

To re-install the brewing unit, the powder chute must be folded in and the brewing chamber must be in the filling position (basic position, see Fig. 4 on the preceding page). The brewing unit can only be correctly inserted in this position.

**Fig. 5****Fig. 6**

IMPORTANT**⚠ CAUTION**

4.2 O-Ring for water tank

- On the rear cover of water tank, there is a transfer fitting that connects the water tank to the machine. To seal this connection, an O-ring is installed on the transfer fitting (**Fig. 7**). If the water tank is difficult to insert completely into the machine, this O-ring can be replaced or greased lightly with a suitable grease to make it easier.

Disassemble to the level shown:

- Water tank removed

Removing the O-ring:

- ➔ Insert a narrow screwdriver in the notch (**Fig. 7**) provided to release and remove the O-ring from the transfer fitting.

Installing the O-ring

- ➔ Place the new O-ring over the transfer fitting, making sure that the O-ring is fully seated in the groove.
- ➔ Grease the O-ring lightly with a suitable grease.

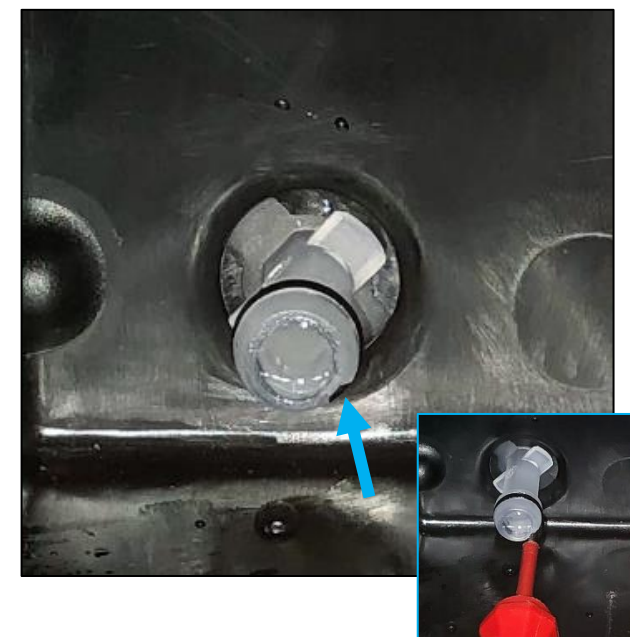


Fig. 7

5 Settings / service tasks

IMPORTANT



WARNING



DANGER

5.1 Pressure reduction steam boiler

Before working on the boiler water system, the display-guided steam boiler depressurization routine must be carried out. This is for your own safety, because if the pressure in the steam boiler is not relieved, various lines, hoses, and valves will be under pressure. As soon as the routine starts, the pressure in the steam boiler dissipates via the open cappuccino valve and the spout. The current steam boiler temperature is shown on the display during this procedure (**Fig. 9**).

→ Prior to opening the machine, carry out the depressurization routine and then disconnect the machine from the electrical mains supply. This prevents uncontrolled depressurization.

Service > Service routines > Pressure reduction steam

Technical service instructions

The depressurization routine can also be started in the Service menu, even if the machine is not yet fully heated up (ready for operation)!

In general, components of the boiler water and steam system must be opened very slowly and carefully.

- Do not cut hoses carelessly or open screw connections quickly and always listen for steam escaping noises.
- Even if depressurization has been performed successfully, various hoses that are connected directly to the steam boiler may still contain hot water that can escape suddenly when the hose is disconnected. Warning – there is a scald hazard here – wear personal protective equipment.
- Once the depressurization routine has been carried out, the heater remains deactivated until the machine has been turned off and on again (**Fig. 8**).
After switching on again, a query appears as to whether the machine should be started up with or without heating up.



Pressure reduction steam boiler

Caution, hot steam escapes from the spout!

Steam boiler temperature: 127 °C

Fig. 9

Pressure reduction steam boiler

Pressure reduction routine has been carried out.
Always disconnect machine from mains supply prior to working at machine.
Always open boiler connection carefully.
Heating is switched off and is only activated again after restart.
Steam valve remains open until machine is switched off.

Fig. 8

5.2 Exchange boiler

The level probe installed in the steam boiler detects whether the boiler water system of the PEAK 50 is completely filled with water. The steam boiler is filled directly from the hot water boiler. When water makes contact with the level probe, the boiler water system is considered to be completely filled and the machine starts to heat up.

If a new, "empty" hot water boiler is installed in the machine after a repair, then it must be filled and vented by the system afterward. Because the level probe in the steam boiler remains in contact with water at this point in time, this filling does not happen automatically and the machine will start to heat up, which could destroy the heater in the empty hot water boiler.

To prevent this, the "Replace boiler" routine must be started prior to replacing the hot water boiler:

Service > **Service routines** > **Exchange boiler**

- Start "Replace boiler" service routine.
- The machine then shuts down (**Fig. 10**).
- Disconnect machine from power supply.

Disassemble to the level shown:

- Machine cover, right side cover, rear cover.
- Removing a defective hot water boiler.

Attention: boiler, hoses, and the medium that comes out of them may still be hot!

- Install the new "empty boiler" and connect the hoses and electrical lines.
- Close the machine and switch it on.
- Just as in initial start-up, the initial filling of the machine happens automatically (**Fig. 11**).

Technical service instructions

During the initial filling, water runs out of the hot water spout until the hot water boiler is completely filled, then the machine starts to heat up and a warm-up rinsing is carried out (**Fig. 12**).

IMPORTANT

CAUTION

WARNING

DANGER

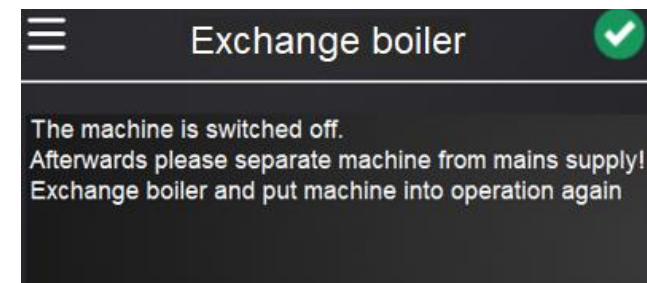


Fig. 10

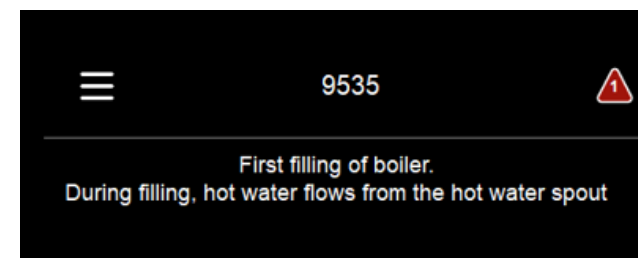


Fig. 11



Fig. 12

5.3 Grinders - grinder disks

IMPORTANT

5.3.1 Return to factory settings

- The grinder should always be disassembled and completely empty when returning it to the factory settings.
- ➔ Removing the grinding degree adjustment **1** (**Fig. 13**).
- ➔ Turn the top grinder disk **2** to "block" (clockwise) **3** until the bottom grinder disk can no longer turn. Mark the blocked position on the crown gear and the grinder housing with a marker, or use the center of the powder dispensing fitting as a reference point (**Fig. 13**).

For details, see document:
"Further detailed information"

5.3.1.1 Espresso – Grinder 63 (portioner 2) links (blue mark (**Fig. 13**))

- Standard factory setting for grinding degree is **1** = approx. 470 µm
- Standard factory setting for grounds delivery rate – pitch 1.0 = approx. 1.3 g/sec
- Turn the top grinder disk **2** by 12.5 teeth **4** from the blocked position (**Fig. 13**)

5.3.1.2 Café Creme – Grinder 64 (portioner 1) right (brown mark (**Fig. 13**))

- Standard factory setting for grinding degree is **5** = approx. 640 µm
- Factory setting for grounds delivery rate – pitch 1.0 = approx. 1.5 g/sec
- Turn the top grinder disk **2** by 18.5 teeth **5** from the blocked position (**Fig. 13**)

Technical service instructions

Whenever the grinder disks or the entire grinder has been replaced, the corresponding maintenance counter for this grinder must be confirmed and reset to zero.

Service	>	Service dates	>	Grinder 1 grinder disks / Grinder 2 grinder disks
Service	>	Service dates	>	Grinder 1 drive / Grinder 2 drive

Fig. 13 shows an espresso grinder (portioner 1) set to the factory setting grinding degree **1**

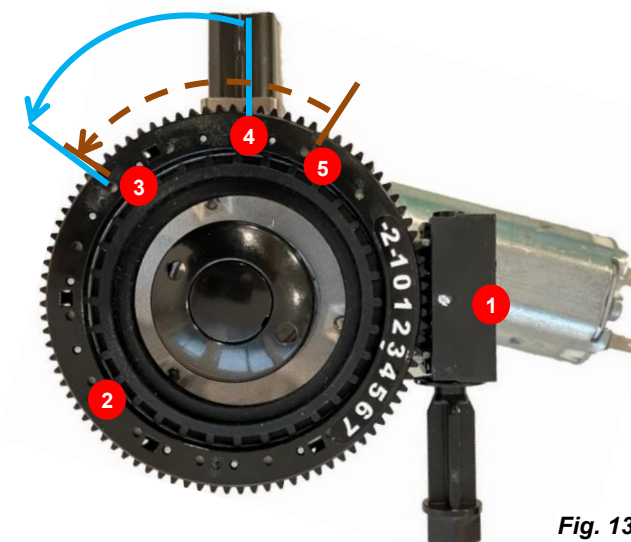


Fig. 13

5.4 Portioner calibration

5.4.1 Grinder portioner calibration

In order to determine the correct grounds delivery of a grinder and enter it in the software, a portioner calibration must be performed for each grinder. This is the only way to ensure that the amount of grounds called for in the beverage recipe is correctly dispensed.

- Set the required grinding degree (customer-specific requirements).
- Refill bean hopper.
- Start the portioner calibration and follow the instructions on the display.
 - Service** > **Service routines** > **Portioner calibration** **Portioner 1/2**
- Dispose of the old ground product from the grinder.
- Remove the coffee grounds container and empty it completely.
- Place the empty, clean, and dry coffee grounds container.
- The measurement starts.
- Remove the coffee grounds container and weigh the ground coffee that it contains on a scale that has been tared.
- Replace the empty grounds container and enter the measured weight in the software (**Fig. 14**).
- With this final step, the measurement is accepted and saved in the software.
- The values are shown in the Service menu under portioner calibration (**Fig. 15**).

Technical service instructions

The pitch is calculated from the defined factory setting (see grinder factory setting) and the measurement result entered from the portioner calibration.

Example:

- Defined factory setting (1.4 g/sec x 35 sec = 49 g) = **Pitch 1**
- After portioner calibration (entered in software = 43 g)
 - Machine-specific grinding degree: 1.23 g/sec x 35 sec (5 x 7 sec grinding) = Pitch 0.9

A portioner calibration should be carried out whenever the following cases occur:

New installation – Change in grinding degree – Grinder replacement – After grinder has been opened or closed – Factory data loaded – Operating panel replacement.

IMPORTANT

For details, see document:
 "User Manual"
 "Software description Part 1"

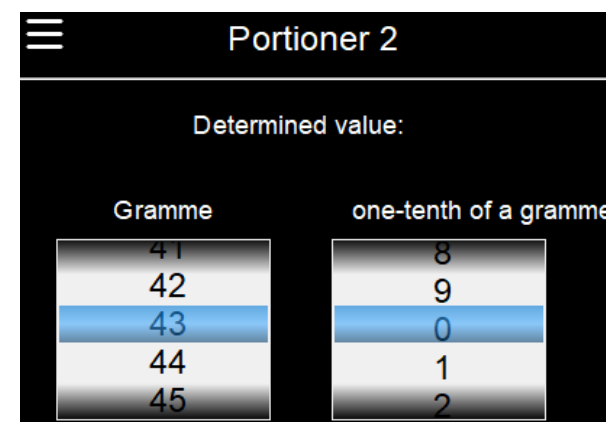


Fig. 14

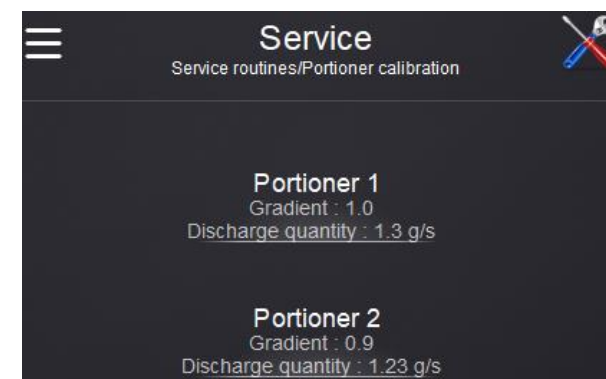


Fig. 15

5.4.2 Empty grinder current calibration

In order to obtain correct notifications that the bean hopper is empty, an empty grinder current calibration must be performed for each grinder.

- Interrupt bean feeding → Empty or remove the hopper.
- Start the empty grinder current calibration and follow the instructions on the display (**Fig. 16**).
Service > **Service routines** > **Idle current calibration** > **Portioner 1**
- The measured empty grinder current is then automatically entered in the software.
- Restore the bean infeed.

Technical service instructions

If the idle current measurement fails, this means that too high an empty grinder current was measured for too long a time. In this case, check the bean infeed and try again.

5.4.3 Portioner calibration for Choc / Topping

In order to determine the correct metering for the powder portioner and enter it in the Software, the portioner calibration must be performed for Choc and Topping.

This is the only way to ensure that the correct amount of powder, as entered in the beverage recipe, is dispensed.

- Fill the water tank and powder hopper.
- Start the portioner calibration for Choc / Topping and follow the instructions on the display (**Fig. 17**).
Service > **Service routines** > **Portioner calibration** > **Portioner 2**
- Place a large empty container under the spout and start the measurement.
- Weigh the filled container on a scale that has been tared and enter the weight in the software.
- Empty the container, rinse it out, dry it, place it under the spout again, and start the measurement.
- Weigh the filled container on a scale that has been tared and enter the weight in the software.

IMPORTANT

For details, see document:
 "Software description Part 1"



Fig. 16

For details, see document:
 "Software description Part 1"

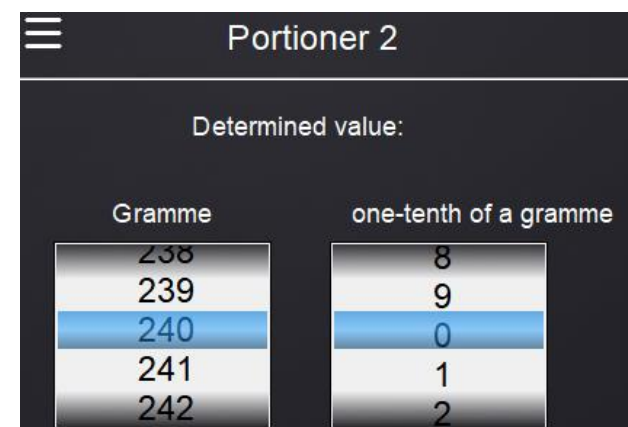


Fig. 17

IMPORTANT

5.5 Choc / Topping – mixing in cold water

In order to prevent the powder spout on the powder hopper from becoming clogged due to rising steam, the Peak 50 has a cold water mix-in valve installed on machines with the powder (Choc / Topping) option.

For recipes that contain powder, there is a checkbox in the beverage settings (**Fig. 18**) with the function "Mix in cold water".

Beverages > **Recipe composition** > **Change addition**

When the box is checked, the cold water mix-in valve (cold water) is opened in parallel with the Choc valve (hot water), so that cold water is mixed into the hot water while the beverage is being dispensed.

- The box is checked by default.
- An Ø 0.8 mm aperture is permanently installed in the water path and reduces the cold water flow. This means that it is not possible to adjust the ratio of hot to cold water in order to change the dispensing temperature.
- When automatic mixer rinsing is activated, the cold water path is also rinsed.

Service > **Machine data** > **Cleaning** > **Mixer rinsing**

Technical service instructions

If the "Mix in cold water" checkbox is deactivated in the recipe, and no cold water is added, the dispensed temperature of powder beverages increases by about 10 °C.

Higher dispensing temperatures lead to more steam, which, for many types of Topping powder, can cause clogging of the mixer bowl and the powder spout on the powder hopper.

For details, see document:
"Piping diagram, User Manual"

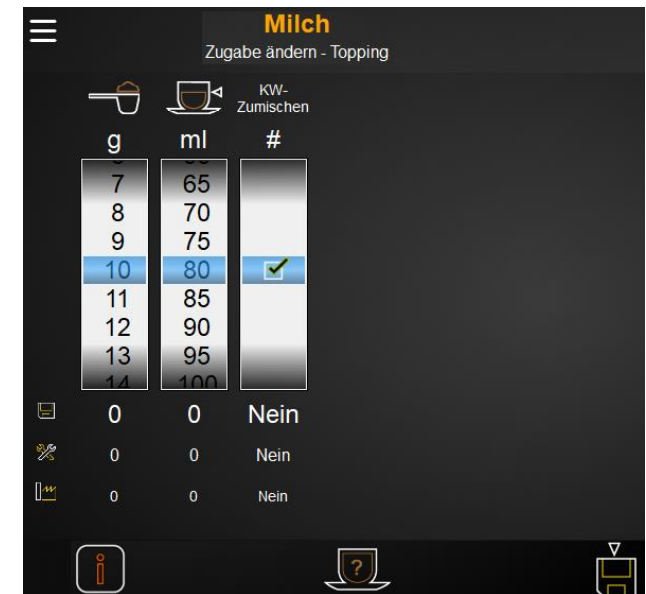


Fig. 18

5.6 Cold Americano

IMPORTANT



If a machine has the "Cold Americano" feature installed, this is automatically detected by the auto-detect function and automatically configured in the machine equipment whenever the machine is restarted. It is not possible to change this machine equipment setting manually.

System > Machine configuration

The "Cold Americano" feature includes the following additional valves:

- Cold water Americano valve -> feeds cold water to the coffee spout directly after the oscillation pump.
- Cold water Americano rinsing valve -> rinses the cold water path with hot water from the hot water boiler during system cleaning.
- The standard recipe "Cold Americano" in the menu always includes a cold water portion and a normal hot brew of coffee (**Fig. 19**).
- The cold water and the brewed coffee cannot be dispensed in parallel. They are always dispensed sequentially.

In order to prevent microbial contamination in the cold water path:

- Is requested to empty the fresh water tank and fill it with water after switching on the machine, prior to warm-up rinsing.
- The cold water path is rinsed with hot water during every warm-up rinsing cycle.
- The cold water path is flushed with hot water, and the hot water boiler temperature is raised temporarily in order to flush the cold water path at an even higher temperature. Similarly, the pipes leading to the water tank are purged with steam using short bursts of steam.

Technical service instructions

Because the cold water path may still become contaminated with microbes, despite regular rinsing, the operator must make sure that the water used in the machine always meets drinking water standards. Using lower-quality water can lead to microbial contamination of the machine, especially for Cold Americano beverages, and cause health problems.



For details, see document:
"Piping diagram, User Manual"



Fig. 19

For details, see document:
"WMF Peak 50 Tech-Info-Letter 2026-30 -
Software Version 1.2.9"

IMPORTANT

5.7 Option – Coffee Versatile (not available at series launch)

The option – Coffee Versatile – makes it possible to dispense coffee beverages that are similar to filter coffee without changing out the brewing unit beforehand.

For Coffee Versatile, the Ø0.6 mm brewing aperture in the brewing unit (16 g or 24 g) installed in the machine has been removed.

After the brewing unit, the coffee flow is divided as it flows through a 3/2-way pivoted armature valve (Fig. 20). Depending on the setting of the pivoted armature valve, the coffee flows through a Ø 0.6 mm brewing aperture (2) (Fig. 20) to the spout, or, for filter coffee without a brewing aperture (3) (Fig. 20), directly to the spout.

The recipes that are similar to filter coffee can be loaded and set up via the beverage menu.

Beverages > **Load beverages**

Technical service instructions

The configuration of a machine with Coffee Versatile always has 2 grinders installed.

The combination of 1 grinder / powder is not available with Coffee Versatile.

The maintenance concept for machines with Coffee Versatile is more extensive than the standard maintenance plan.

Additional maintenance components must be ordered in addition to the maintenance set (MK2).

Technical service instructions

Because the Cold Americano valve cannot be installed in combination with the "Coffee Versatile option", Coffee Versatile and Cold Americano are mutually exclusive.

For details, see document:
"Piping diagram, User Manual"

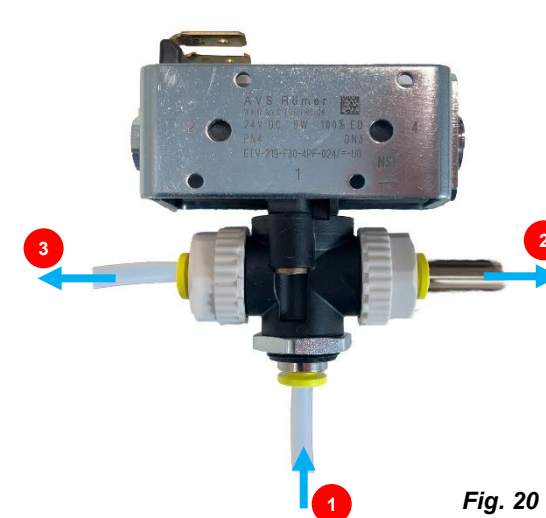


Fig. 20

For details, see document:
"Further detailed information"
"Safety-related tasks & maintenance instructions"
and maintenance concept

5.8 Power Class

- The "Power Class" incorporates country-specific heat output versions of the machine, connection configurations at the mains power connection, and power backups on the supply side.
- The "Power Class" is useful for optimizing utilization and ensuring machine functionality.

Technical service instructions

After the operating panel has been replaced, or after Factory ->Service / Customer (reset to factory standards), the power class from the rating plate (**Fig. 22**) **MUST** be re-entered in the machine configuration settings (**Fig. 21**).

Service > Machine configuration > Power class

The Power Class determines the following:

- ➔ Mutual lockout and enabling of components such as the grinder and heater,
- ➔ Lockout and enabling of parallel product dispensing (ensures optimal utilization of steam pressure and thus of dispensing temperatures),
- ➔ Heating and reheating thresholds based on heat output,

Technical service instructions

The software-adjustable "Power Class" **MUST** always match the rating plate indication. If this is not adhered to, then errors specific to the heating time, for example, or undesired deviations (variations in temperature) in the beverages can occur. In the worst case, this can trip a customer's on-site circuit protector.

IMPORTANT

⚠ DANGER

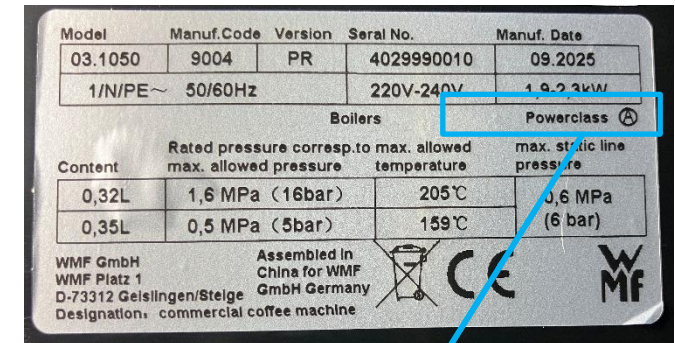


Fig. 22

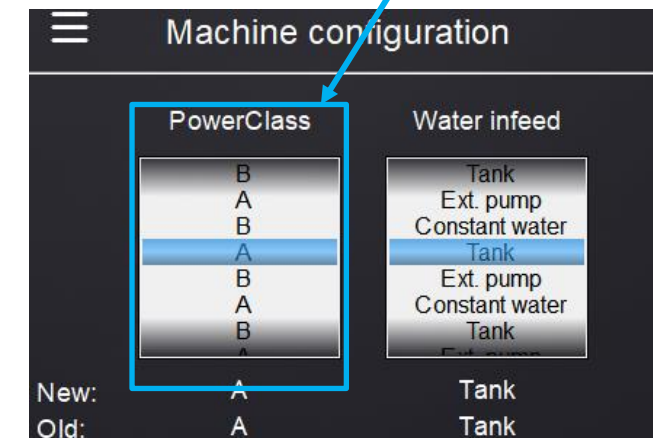


Fig. 21

5.9 Common power stage – MCU – PSU power supply (Multi Control Unit - Power Supply Unit)

5.9.1 MCU-PSU plug assignments

- The common power stage - power supply, referred to hereafter as MCU-PSU, contains all electrical inputs and outputs and all power supply levels for the machine.

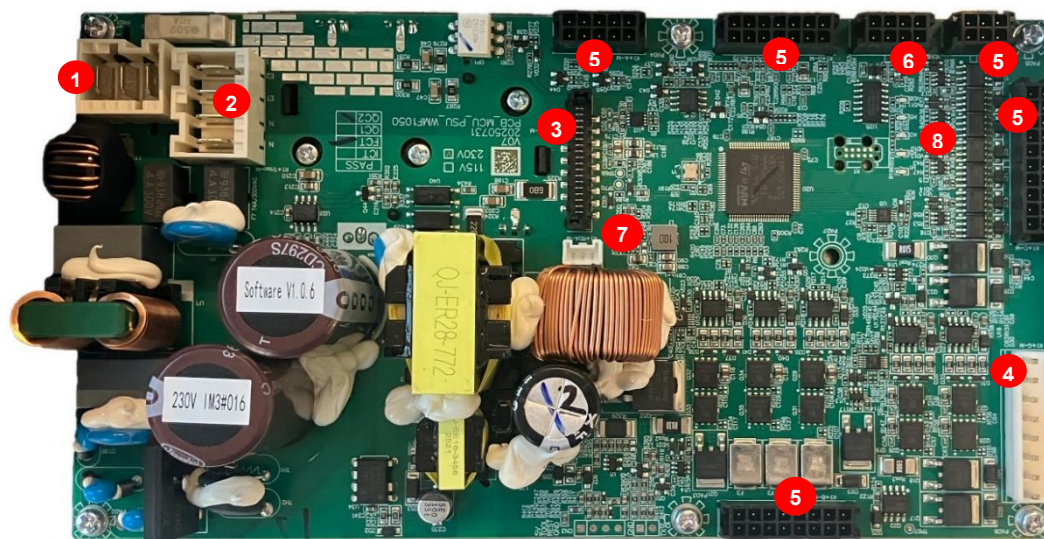


Fig. 23

- All connectors on the MCU-PSU are locked and encoded to prevent individual connections from being plugged in incorrectly.

- | | | | |
|--|--|---|--|
| <p>1 Plug
Power supply:
Mains input 220 V/115 V</p> | <p>3 Operating panel plug:
Connection for operating panel.
(Never unplug while power is connected; see technician instruction on Page 31)</p> | <p>5 Pin connector components:
Connection for various components
– for details, see VP low voltage</p> | <p>7 Telemetry plug
Connection for signal cable from telemetry module</p> |
| <p>2 Power element plug connection:
Heater for hot water and steam boiler</p> | <p>4 Power element plug connection:
e.g., grinder motors, brewer motor, grounds container microswitch</p> | <p>6 Accounting plug:
Connection of MDB vending device
Connection for serial interface</p> | <p>8 Status LEDs
H1 – H5
For details, see Chapter 5.9.2</p> |

Technical service instructions

At the current time, the MSU/PSU of the Peak 50 is not compatible with other machines and may only be used in the Peak 50.

IMPORTANT

⚠ WARNING

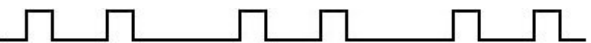
⚠ DANGER





5.9.2 MCU-PSU – Status LEDs

There are 5 status LEDs on the MCU-PSU that provide information about the status of the machine, its accessories, and the voltages present on the MCU.

H 4 ->	Flashes yellow when data is being sent by the MDB accessory device.		
H 5 ->	Flashes red when data is being received by the MDB accessory device.		
H 2 ->	Flashes yellow		Normal operation
		200 ms on/200 ms off.....	
			Boot manager active
		100 ms on/200 ms off /100 ms on/400 ms off	
			Current monitor tripped
		1,000 ms on/1,000 ms off.....	
H 1 ->	Lights up green when 5 V from the PSU is present at the MCU		
H 3 ->	Lights up green when 24 V from the PSU is present at the MCU		

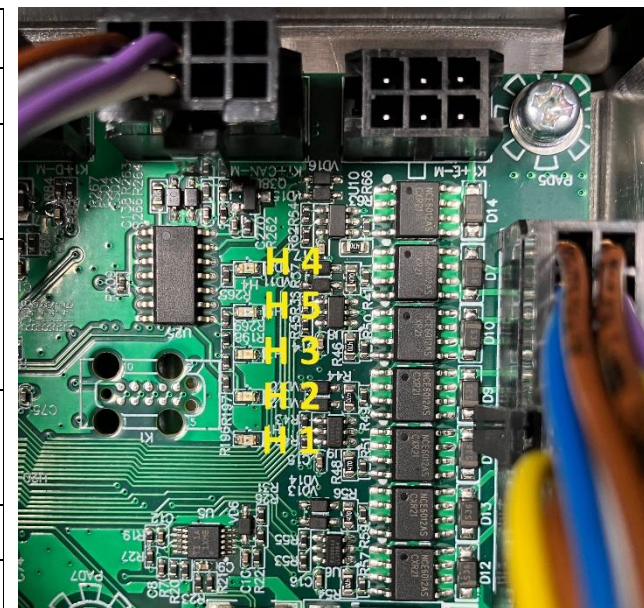


Fig. 24

Important technical service instructions:

Before the ribbon cable running from the MCU-PSU to the operating panel is unplugged from the operating panel or the MCU-PSU, check to make sure that the residual voltage has been discharged from the capacitors on the MCU-PSU.

To do so, the machine must be disconnected from the power grid and the on/off switch held down for 2 seconds.

5.10 Machine software update

- The machine software consists of two programs, independent of each other, which are both found in the update file "  1050_0X.0X.XX_service.exe " provided by WMF.
- When the update file is unpacked directly from the computer onto a USB stick formatted to FAT 32, the folder structure required for the machine update (**Fig. 25**) is automatically created on the USB stick, and then contains the following file in the "update" folder:

→  1050_0X.0X.XX.squashfs.crypt (this file contains the machine firmware and the BSP)

5.10.1 Machine update:

- The coffee machine is ready to operate
- Update file is unpacked to the USB stick and the folder structure (**Fig. 25**) is created properly.
- Insert USB stick into external USB slot (left side of operating panel) (**Fig. 26**).
- Open USB menu – Service PIN or Initial PIN must be entered beforehand.
USB > **Firmware update**
- Follow the instructions on the display and perform the machine update.

If the update was successful, the coffee machine will restart and will then be ready for use again.

If the machine update was NOT successful, an error message with a brief description of the error will appear on the display. After restarting, the coffee machine will automatically boot up with the previous software version and will be back in the same state as it was before the failed update attempt.

Technical service instructions

For a successful update, the folder structure shown in (**Fig. 25**) must be retained on the USB stick. The "Update" folder with the associated "crypt" file is relevant for the firmware update. This file includes the BSP and the machine firmware. The folder marked in green with machine serial numbers (0310–900XXX-900XXX) is created automatically during data back-up and is therefore not present on the USB stick until a data backup has been run on the machine for the first time.

For details, see document:
 "Software description Part 1"
 "Further detailed information"

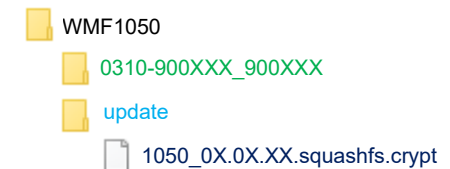


Fig. 25



Fig. 26

5.11 Spare part – operating panel

The operating panel spare part for the Peak 50 is pre-programmed with #0 (previously #100) start-up routines.

To replace the operating panel on a Peak 50, a spare operating panel is absolutely necessary. In order to start up the new operating panel with the software version, data, and settings as previously installed on the machine, the microSD card from the defective operating panel must be transferred to the new operating panel.

When the New operating panel is switched on, the #0 (previously #100) start-up routine starts automatically and the data that are present on the previously transferred microSD card can be transferred to the new operating panel, or the new operating panel can be completely reprogrammed.

Technical service instructions

When the new operating panel with the included "empty" microSD card is installed in the machine and started up, the new operating panel must be manually updated to the latest software version after the #0 (previously #100) start-up routine and then the machine must be completely newly set up and programmed.

For details, see document
"Further detailed information"



IMPORTANT

5.11.1 Replacing the operating panel

Perform the following steps in order to safely replace the operating panel:

Step 1 – Remove operating panel

- Switch off and disconnect machine from power supply.
- Slide the Operating panel all the way to the left.
- Unscrew the screw on the stop **1** (Fig. 27) all the way and remove the screw and the stop.
- Slide the operating panel all the way to the right and tilt it forward (Fig. 28).
- Loosen the rubber cover (cable grommet), disconnect the cable connection at the board on the operating panel, and remove it toward the front.



Fig. 27



Fig. 28

Technical service instructions

Prior to unplugging the cable connection, be sure to follow the technician instructions from Chapter 5.9.2.

Step 2 – replace microSD card /#100 start-up routine

- Open the cover for the microSD card and remove the microSD card from the defective Operating panel (Fig. 29).
- Place the microSD card into the new operating panel, reconnect the cable connections, and install the new operating panel on the machine.
- Plug in the machine, switch it on, and continue to follow the instructions on the display (language, PIN, etc.).
- The start-up routine #0 (previously #100) starts after the operating panel is replaced.
- Program the machine and, if necessary, load data from the microSD card.
- If the data from the microSD card could not be transferred to the new operating panel, then the machine must be completely reprogrammed and set up.

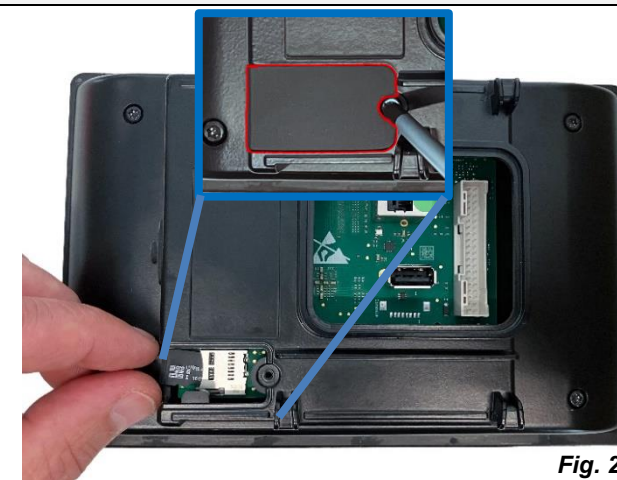


Fig. 29

IMPORTANT

5.12 Operator panel – Panel Updater (not available at series launch)

If the operating panel is defective, then the panel updater can be used to restore the used operating panel that is still installed in the machine to its original state – like a spare part operating panel with serial number #100.

For details, see document
"Software description Part 1"

If the panel updater has been started and successfully run to completion, the front panel is completely reset and all data in the operating panel is permanently deleted.

- The restore files, software levels, machine data, and counters that are saved on the MicroSD card will NOT be deleted and can be run after the panel updater to restore files.
- In general, it is recommended that the data be saved to a USB, if possible, prior to starting the panel updater.
- There are two possibilities for running the panel updater:
 - WITHOUT USB stick – Panel update from Service menu:
Service > **Service routines** > **Panel Updater** > **Start panel updater**
 - Once the panel updater has been started, follow the display messages.
(the messages to insert or remove a USB stick can be ignored, as no USB stick is required for this method.)
 - WITH USB stick – *Panel updater when machine is restarted*
First, insert a USB stick with the text file "reset.txt" in the operating panel.
 - *Once the USB stick with the "reset.txt" file has been inserted, switch on the machine and follow the display messages.*
- Once the panel updater has been completed successfully, the machine restarts and runs the familiar routine for replacement operating panels with serial number #100. The software levels and data can be loaded from the SD card.

When an operating panel has been set to new via the panel updater, this is saved in an internal database every time, and can be viewed in the Service menu:

Service > **Service routines** > **Panel Updater** > **History**

Technical service instructions

A replacement operating panel platform from other machines (e.g. WMF 1300 S) can NOT be used for the Peak 50!

For this method, WITH USB stick, make sure that there is no BSP software or folder on the stick. If this is the case, then the BSP update will always start before the panel Updater.

**IMPORTANT** **WARNING**

5.13 Antifreeze / transport preparation

This function can be used to prepare the coffee machine for shipping during winter months in order to prevent frost damage. This partially empties the machine's boiler water system in order to avoid any frost damage.

- Perform all required system cleaning functions (machine cleaning).
- If needed, enter service PIN.
- Start the function "Antifreeze / transport preparation".
 System > Antifreeze / transport preparation
- Follow the instructions on the display.
- Empty the water tank and replace it.
- Steam and hot water will come out of the hot water spout.
- Use the display message to switch off the machine.

The next time the machine is switched on, the boiler water system will be filled automatically and then heat up.

Technical service instructions

Before the boiler is filled, the software checks whether the machine has thawed out by checking the current temperature at the temperature probe in the hot water / steam boiler.

If it is <5 °C then an error message appears and the machine CANNOT be started up.

For details, see document
"Event and error list"

The frost protection / shipping prep function is available to the customer as "Default" in the "System menu".

This function can be blocked for the customer under the access rights settings.

Service > Access rights > Antifreeze / transport preparation

6 Component overview

6.1 Front view of machine



- | | |
|--|----------------------------|
| 1 Bean hopper | 7 Cup table |
| 2 Hot water dispensing | 8 Grounds container |
| 3 Manual insert | 9 Drip tray |
| 4 Bean / powder hopper
(depending on configuration) | 10 Choc door / right cover |
| 5 Sliding operating panel | 11 Water tank |
| 6 Spout cover with logo | 12 Brewing unit |

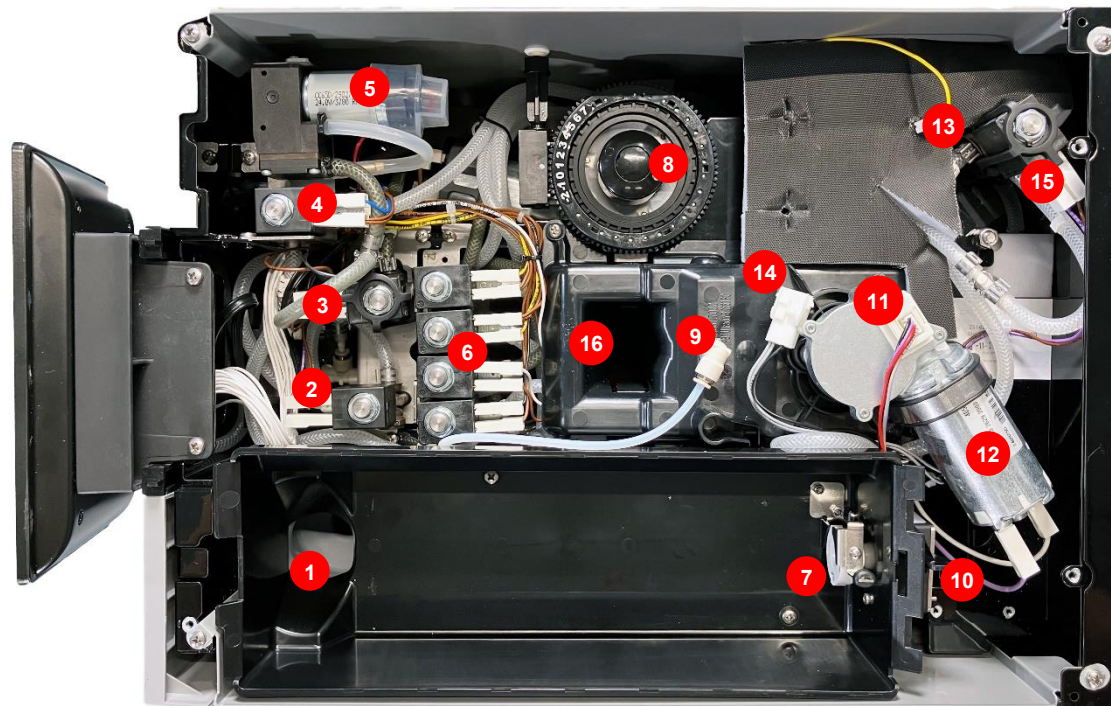


CAUTION



- | | |
|--------------------------|---|
| 13 Illumination | 19 Drip tray cover grate |
| 14 Milk connection flap | 20 Spout cover with logo |
| 15 Milk foamer | 21 Choc hopper lock |
| 16 Coffee spout coupling | 22 Water tank connection
with O-ring |
| 17 Choc mixer spout | |
| 18 Mixer bowl | |

6.2 Top view of machine

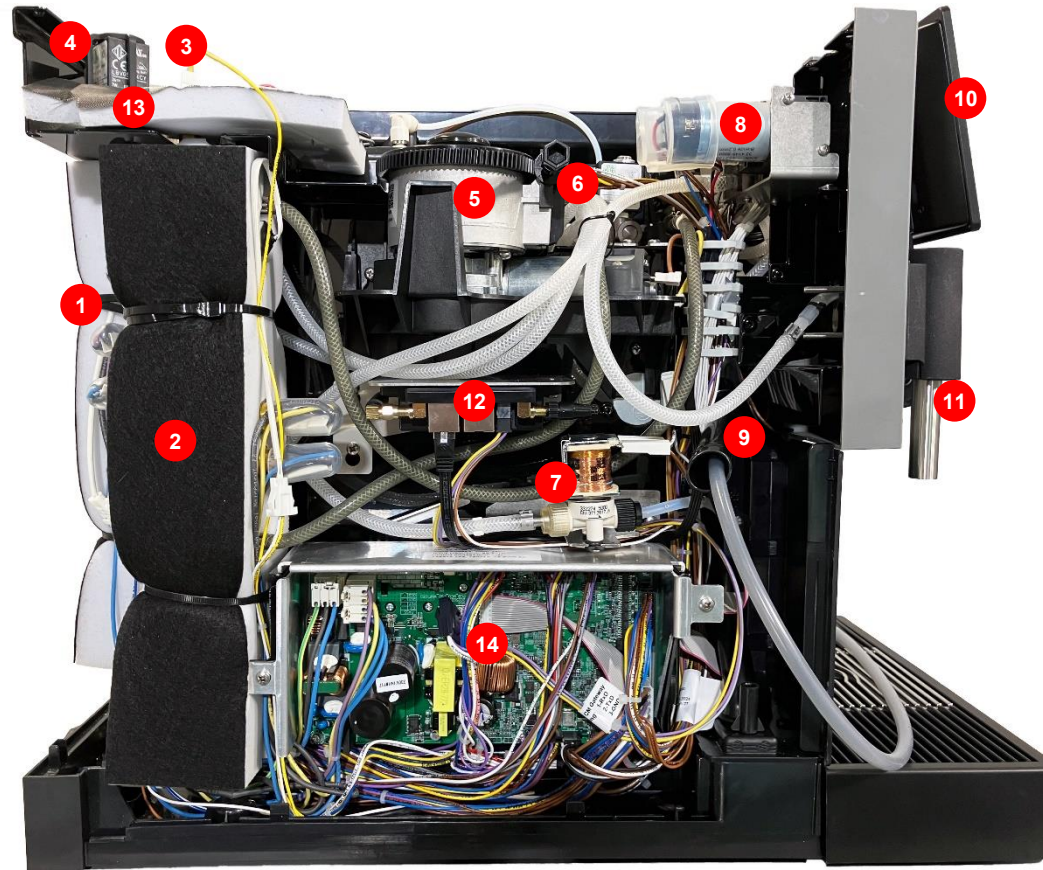


Disassemble to the level shown:

■ Hopper and machine cover

- | | | |
|---|--------------------------------------|----------------------------------|
| 1 Mixer bowl | 7 Choc tray with shaker / grinder 2 | 13 Level probe |
| 2 Cold Americano valve (optional equipment) | 8 Grinder 1 | 14 Manual insert transfer plug |
| 3 Cappuccino valve | 9 Coffee connection at brewer output | 15 Brewing valve – after mod. 03 |
| 4 Cold Americano rinsing valve | 10 Powder portioner motor | 16 Manual insert brewing shaft |
| 5 Air pump | 11 Plug encoder for brewer drive | |
| 6 Hot water valve group | 12 Brewer drive motor | |

6.3 Left-side view of machine

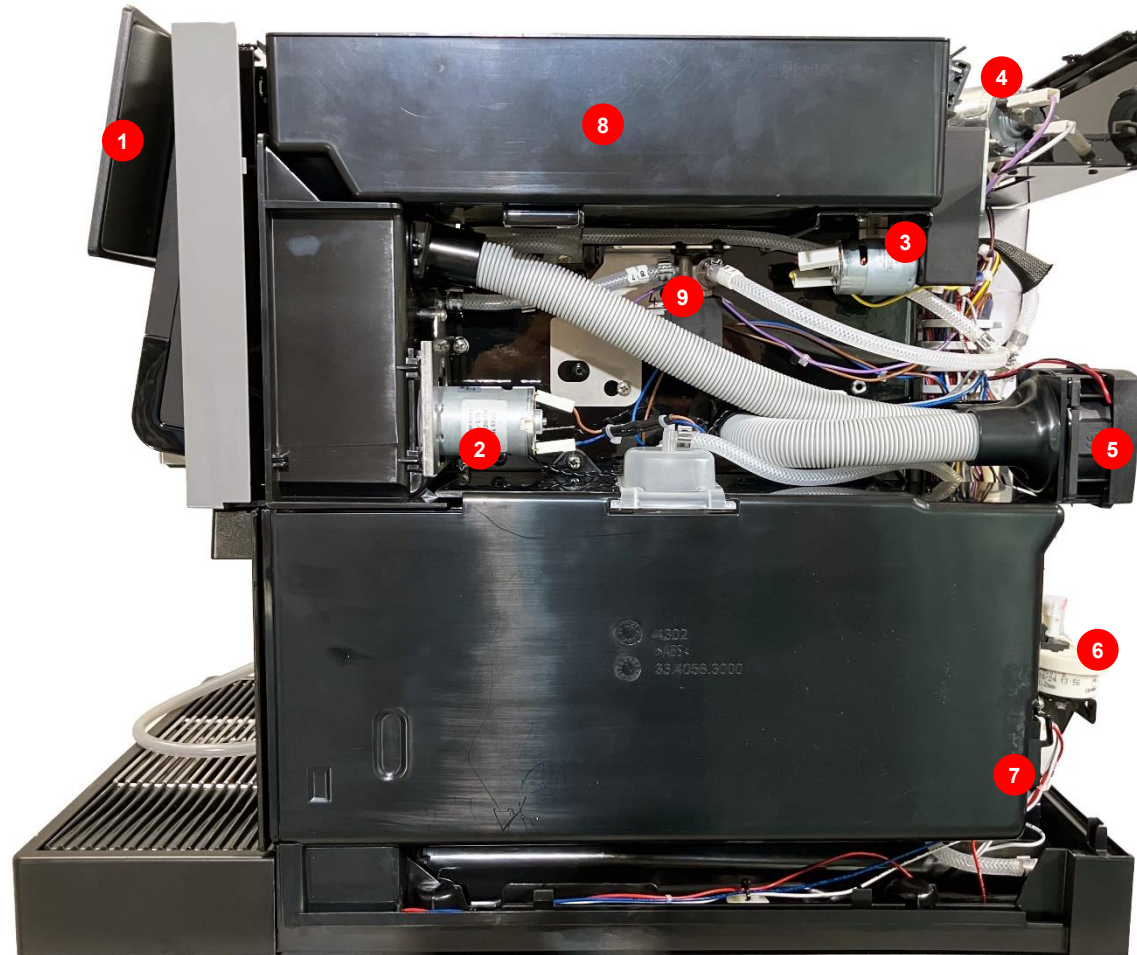


Disassemble to the level shown:

■ Hoppers and machine covers, rear cover, left side cover

- | | | | |
|--------------------|---------------------------|--------------------------------|---------------------------|
| 1 Hot water boiler | 5 Grinder 1 | 9 Milk hose routing | 13 Bean hopper insulation |
| 2 Steam boiler | 6 Grinding degree setting | 10 Operating panel | 14 MCU/PSU |
| 3 Level probe | 7 Release valve | 11 Hot water spout | |
| 4 Brewing valve | 8 Air pump | 12 Telemetry module (optional) | |

6.4 Right-side view of machine

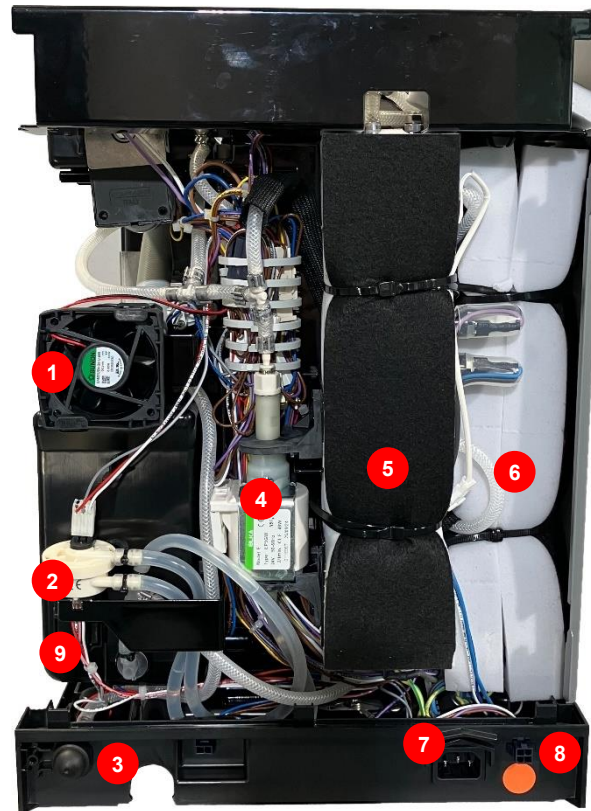


Disassemble to the level shown:

■ Hoppers and machine covers, rear cover, right side cover

- | | | |
|--------------------------|---------------------|--------------------------------|
| 1 Operating panel | 4 Brewer drive | 7 Water tank fill level sensor |
| 2 Mixer motor | 5 Fan / ventilation | 8 Choc basin |
| 3 Powder portioner motor | 6 Flow meter | 9 Powder cold water valve |

6.5 Rear view of machine



Disassemble to the level shown:

■ Hoppers and machine covers, rear cover, right side cover

- | | | |
|---|--------------------|------------------------------------|
| 1 Fan / ventilation | 4 Oscillation pump | 7 Low-power device plug connection |
| 2 Flow meter | 5 Hot water boiler | 8 Milk cooler connection |
| 3 Prepping the constant water supply kit connection | 6 Steam boiler | 9 Water tank fill level sensor |

7 Maintenance concept

7.1 Overview of **Safety-related tasks** and maintenance instructions

The WMF maintenance concept outlined below, based on time and number of brewing cycles, describes the specified **safety-related** and recommended minimum level of maintenance tasks.

Please also consider separate agreements from service contracts, as well as local conditions (which may make early descaling, brewer cleaning, etc. necessary, for example).



Maintenance task	Abbreviation Maintenance sets	Maintenance cycle	Maintenance set Required components	Additional components for options
Service maintenance 2	MK 2	■ every 24 months	33 4600 2000	<i>Option</i> "Coffee Versatile" 1x valve base – 33 4190 4100 1x membrane – 33 4190 3000
Safety valve 16 bar** Safety valve 5 bar**			33 2915 4000 33 4179 4000 (both included in MK 2)	
Water filter*	-	■ Machine with constant water: 1x annually or after service life expires ■ Tank machine: every 3 months or after service life expires	Water filter	
Customer descaling	-	Due date: ■ Without water filter → depends on hardness level setting ■ With water filter → 1 x annually	2 bottles Liquid descaling agent 750 ml 33 7006 2869	
Powder system	MK Choc / Topping	■ After 6,000 mixer cycles	33 2938 0000	

- **OPTION Coffee Versatile** -> Order and install additional components: 1x pivoted armature valve base – **33 4190 4100** – and membrane – **33 4190 3000**.

*If water filter is used. If no water filter (not recommended) is used, the request for descaling appears after the water flow rate

**If these tasks are not performed, then any liability on the part of WMF GmbH is void. See also the chapter, "Safety-related tasks"

8 Safety-related tasks

IMPORTANT **WARNING**

8.1 Safety valves

The two safety valves:

- 16 bar safety valve -> Brewing pressure system
- 5 bar safety valve -> Steam pressure system

can be accessed and replaced from the outside once the coffee grounds container has been removed.

Technical service instructions

Both safety valves **MUST** be replaced every 2 years. If this is not done, liability on the part of WMF GmbH is void.

If a problem occurs wherein a safety valve is tripped, it must be replaced immediately, as the valve seal may have been damaged.

 **DANGER**

Disassemble to the level shown

- **IMPORTANT** – Depressurization must be performed prior to replacing the safety valves.
Service > Service routines > Pressure reduction steam boiler
- Machine fully disconnected from the power grid.
- Machine cover is open, coffee grounds container is removed.
- **ATTENTION** – always remove the hose connectors from the safety valves slowly and carefully.
This ensures that any residual pressure will be discharged slowly, and will be completely dissipated.
- ➔ Use a long screwdriver to loosen (but not remove) the fastening screw **1** (Fig. 30) on the mounting plate from the top.
- ➔ Unhook the mounting plate from the bottom and carefully pull it downward and forward.
- ➔ Loosen the hose connectors and remove the mounting plates with the two safety valves.
- ➔ Replace both safety valves and re-install them at the same position as before on the mounting plate.
- ➔ Insert the hose connectors at the safety valves, hook in the mounting plate with the connected safety valves in the coffee grounds container from below, and secure it again from above with the screw.



Fig. 30

9 Descaling

A customer descaling is available for the Peak 50.

The customer can start the display-guided descaling routine via the customer care menu.

The descaling procedure is shown in detail on the display.

Care > **Descaling**

The dosage is 2 bottles of WMF liquid descaling agent, 750 ml each, and one 750 ml bottle of water.

The please descale prompt appears:

- With water filter
 - ➔ 1 x annually
- Without water filter
 - ➔ Depending on the entry for carbonate water hardness, and the water flow in liters, the descaling request is calculated automatically by the software.

Brief description of display-guided descaling routine

- ➔ Start the descaling routine.
- ➔ Cool off the boiler water system.
- ➔ Prepare the descaling mixture (2 bottles of liquid descaling agent / 750 ml water).
- ➔ Start the descaling routine and follow the instructions on the display.
- ➔ 3x rinsing phase.
- Descaling duration approx. 50 min.

Technical service instructions

There is no technician descaling option available on the Peak 50 to reduce the time.

The customer descaling can be deactivated under access rights in the service menu. If customer descaling is deactivated, then a service PIN is required to start the descaling procedure.

Service > **Access rights** > **Descaling**

IMPORTANT

For details, see document:
"User Manual"



Fig. 31

10 Special tools and aids

Description	Item number	Illustration (not to scale)
USB stick ■ Formatting ➔ The USB stick must be FAT32 formatted	33 2492 5000	
Manual insert jumper plug ■ Bypasses the manual insert switch when the machine cover is open	33 2783 5000	
■ Peak 50 / multitool ■ Used to perform the following actions: ➔ Grinding degree setting ➔ Manually rotate the brewing unit up and down (removed from the machine)	33 7007 1261	
■ Peak 50 hopper lock ■ Used to perform the following actions: ➔ Lock the bean hopper for removal ➔ Release the retaining catch of the powder hopper	33 4122 6000	
■ USB mouse, keyboard ■ A USB mouse or keyboard can be plugged into the USB slot of the operating panel to make entry on the touchscreen easier.		