WMF espresso

Service manual

KMR Technical Support

Revision: 02/2016

Rev. 03

Preface

This **service manual** contains the most important information that is relevant to typical service and maintenance activities.
If significant changes are made, then this document, along with the referenced attachments and related documents, will be updated and provided to registered users for download in the service center.

Attachments.

- WMF espresso basic setting beverages
- WMF espresso Software description
- WMF espresso event and error list

Applicable documents

Customer documents

- Planning information
- User manual

Technician documents

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

Note for technicians: **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.

Further detailed information are distributed in paper form as part of the face-to-face training sessions; however, they are not available for download unrestricted.

Change history

Rev. 00	• Preliminary edition from KVS fall meeting, Nov. 2014
Rev. 02	• 1st edition for series launch
Rev. 03	• *January 2016 edition*

Table of contents

1 Installation and start-up

1.1 Customer's on-site connection requirements

Necessary preparatory 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 authorised installation technicians in compliance with general, country-specific and local regulations.
The WMF Service engineers may only connect the coffee machine to existing prepared connection points.
WMF Service is neither authorised nor responsible for carrying out any work on-site prior to connection.

For details, see the planning information on the website www.wmf-kaffeemaschinen.de

1.2 Hardware connection and preparatory work

1.2.1 General tasks

- Place the coffee machine horizontally on the counter (width and depth);
  adjust feet where adjustable
  Set the adjustable feet
  Important note for technicians:
  The WMF espresso must be installed by more than one technician due to its highly weight.
  When lifting the machine, be careful to lift only by the bottom pan and not the rear cover of the machine.

- Connect the water infeed
- Connect a water filter if one is needed. (For details, see the next chapter)
- Connect the drain hose to a permanent drain tube using angle 33 2165 8000.
- All drains must be sloped.
- Connect to the power supply
- Switch on the coffee machine

1.2.2 Recommended water filter

A WMF water filter is recommended for carbonate hardness above 5 °dKH.
For the WMF espresso, the –bestmax XL– water filter is recommended in the standard WMF price list.
After measuring the carbonate hardness with (non-expired) test kit, cut off according to the capacity table (see the User manual included with the filter).

1.3 Initial commissioning workflow

In order to avoid jumping back and forth between menus unnecessarily, we recommend that you adhere to the following initial commissioning sequence description.

Requirements:
Coffee machine installed and connected to water and power supply.
See chapter 1.1 – 1.2.2

Basic setting	Switch on the machine. Check the start-up date and time and change them if needed and confirm the start-up date. Confirmation is requested only when switched on for the first time. The date setting starts the maintenance counters and service intervals.	Check date and time (One-time query when switched on for the first time) Caution: The date can NOT be changed later!
	The machine fills up automatically and heats up	
	Language selection	System > Language
	Enter the measured water hardness on the information pad Activate any pre-rinsed water filter under System and enter the filter capacity taken from the cutting table.	System > Water filter (Service PIN must be entered)
	Check machine options and correct if necessary: Power Class, Low pressure, RDA, External Tank, Accounting ...	Service > Machine configuration (Service PIN must be entered)
	Enter the Service address(es)	Service > Service address(es)
	Enter the machine name for the data back-up filename. E.g.: Serial number and name of the company	Service > Machine master data

Standard allocation set at the factory

Milk **Autosteam milk foam** **Ristretto** **Espresso** **Lungo** **Café small** **Café crème** **Mug** **Milk foam** **Basic Steam** **Ristretto** **Espresso** **Lungo** **HW small** **HW large**

The allocation is the same as the standard allocation set at the factory. The left brewing group is preconfigured for espresso beverages, and the right brewing group for Café crème beverages. However, this standard allocation applies only for Germany, Switzerland, and Austria. For international machines, both brewing groups are preconfigured for espresso beverages.

Because the beverage buttons on this machine are permanently assigned to the grinder above them, customer clarification is required in advance with respect to what type of bean should be used in which bean hopper, or which beverages should be dispensed with which brewing group.

Only when this is complete can the beverage and recipe settings be made (see the document "Basic beverage settings").

Adjusting and testing recipes	Set up the recipes as described in the document "Basic beverage settings".	Recipes - see the beverages basic setting description
Set the Auto Steam dispensing	Set up the dispening as described in the document "Basic beverage settings".	Recipes - see the beverages basic setting description
Set hot water dispensing	Adapt the beverage temperatures to customer requirements	Set the cold water mix rate using the adjustable aperture of the pressure reducer. - see Chapter 2.8
Inquire about and enter any customer requests	SteamJet, barista pad, brewing time control, display text (optionally bean type), milk foam selection, acoustic signal for brewing complete, Auto Start	System > operating options
Save settings	Save to the USB stick	USB > Data back-up
	Save in service memory	Service > Machine data > Defaults -> Customer -> Service
User / Customer training	See: • WMF espresso user manual • WMF espresso Software description part 1	
Service / Maintenance	Set the service date (delete the error memory)	Service > Service dates

2 Service

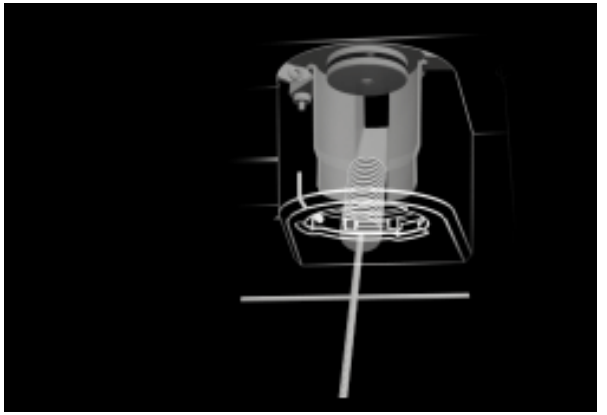
2.1 Clean the distributor sieve

The distributor sieve is based on a customer-defined cleaning interval and is described in the User manual

Cleaning the distributor screen takes just a few easy steps:

1. Remove portafilter
2. Use the cleaning brush to clean the distributor sieve and bayonet joint
3. Rinse distributor sieve

2.2 Clean the ground coffee chute



The ground coffee chute is cleaned based on a customer-defined cleaning interval and is described in the User manual

Cleaning the ground coffee chute takes just a few easy steps:

1. Start cleaning the ground coffee chute:
   Care > Clean the ground coffee chute ... > Group (left or right)
2. Follow the animation and clean the ground coffee chute
3. Replace the portafilter

2.3 Replace brewing piston seal

The seal on the brewing piston (o-ring) can be changed by the technician as part of the service maintenance 1. If needed, the seal can be changed by the customer himself. The procedure is described in the User manual.

The seal can be changed with just a few, simple motions:

1. Start changing the seal
   Care > Change of seals... > Group (left or right)
2. Follow the animation and clean the O-ring
3. Replace the portafilter

2.4 Replace brewing piston

The brewing piston is changed out by the technician as part of the service maintenance 2.

Replacing the brewing piston takes just a few, easy steps:

1. Open the Service menu
   Service > Service routines ... > Piston change ... > Group (left or right)
2. Follow the animation and change the brewing piston
3. Replace the portafilter

Important note for technicians:

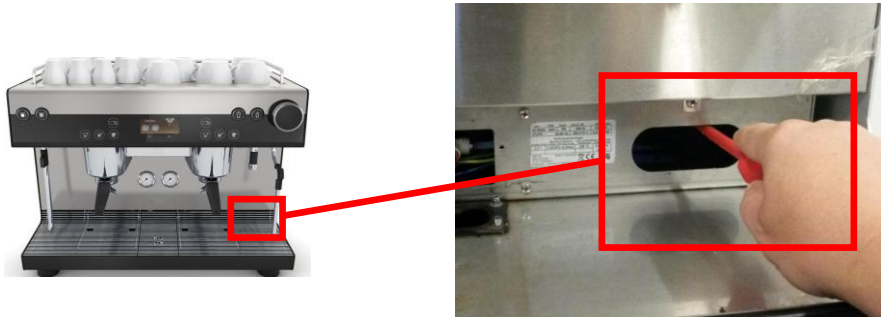
To drive down the brewing piston, the portafilter 2 (double portafilter) must be inserted without brewing sieve, retaining spring, and insulation insert.

This is the only way to ensure that the brewing piston can travel down as far as necessary without an error message.

2.5 Espresso pump - Setting the brewing pressure

The pump and brewing pressure is set to 9 +0,5 bar at the factory. If a new espresso pump is being installed or if the desired brewing pressure is different from the setting, then this can easily be adjusted via the front access panel.

Level of disassembly—right drip tray grid and drip tray, rear cover
Machine is ready for operation



Setting the brewing pressure

- Start an Espresso (with brewimg time of at least 15-30 sec.)
- Read the brewing pressure from the manometer
- Adjust the desired brewing pressure using the bypass screw
  - Clockwise -> Increased brewing pressure
  - Counter-clockwise -> Reduced brewing pressure
- Target pressure should be at 9 bar – max. 10 bar
- Check settings by initiating an espresso three times

Important note for technicians:

The system and its components are designed for a maximum of 10 bar. This pressure must not be exceeded. The maximum water pressure occurs during cleaning, when the blind sieve is installed and no water is flowing (back pressure).

Changing the brewing pressure has a substantial effect on the brewing time, extraction times, and beverage quality.
If the brewing pressure must be changed, therefore, the beverage settings absolutely must be checked and may need to be readjusted.

2.6 Espresso pump - low-pressure-ready

The WMF espresso generally comes with an integrated low-pressure-ready balanced espresso pump.
This espresso pump, unlike standard non balanced espresso pumps, controls the brewing pressure to the set level, regardless of the pump inlet pressure.

"Low pressure" is deactivated in the software by default; the coffee machine operates in normal mode. This means

- The espresso pump only operates for coffee servings

After "Low pressure" is activated in the software, the coffee machine operates in normal/low pressure mode, irrespective of the pump input pressure (= line pressure):

- Pressure switch activated > 2.7 bar ± 0.1 = normal operation:
  The espresso pump only operates for coffee servings.
- Pressure switch not activated < 2.7 ± 0.1 = low pressure operation:
  Espresso pump runs when making coffee and when filling the boiler, and for hot water servings.

Important note for technicians / Note to customer

- The espresso pump is NOT self-priming.
- If the espresso pump runs dry, there is a risk that it will be damaged.
- The coffee machine must therefore have an upstream pressure on the line side of 0.2 bar. This means:
  - Under no circumstances must the coffee machine be operated with an external tank which does not have a supply pump between it and the machine.
- If low-pressure is activated in the software, a flow meter evaluation triggers the message "Open water supply" during the coffee servings, and not the pressure switch. At present, NO evaluation takes place during boiler filling, and hot water servings; the message "Open water supply" does NOT appear
  - If the customer is not able to guarantee the on-site line pressure specified in the planning information and if the low-pressure option is selected, the customer must refer to the above information/the customer MUST ensure that the water tap is open before serving.

2.7 Set pressure reducer

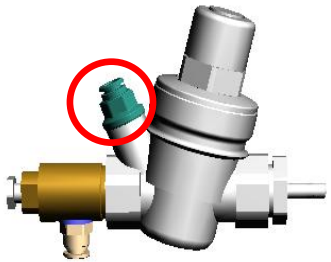


Illustration 1

The pressure manometer 33.2745.3000 (with aperture 1.1) can be used to check and adjust the output pressure of the pressure reducer.
Requirements: The water system and steam boiler are depressurized (according to the routine), the main water tap is closed, the machine is disconnected from the power grid.
Disassemble to the level shown: Top lid

Checking and adjusting the output pressure:

- Close water tap
- Pull the hose off of the plug-in nipple after the inlet assembly (illustration 1 and 2)
- Remove the hose from the test pressure gage and replace it with an approximately 1.0m hose.
- Place the hose on the plug-in nipple of the inlet assembly (illustration 1 and 2), run the free end to the drip tray and set it down there (illustration 3)
- Open water supply valve
    - For the low pressure option, the power must be switched on here and the espresso pump must be actuated by the software under Service > Component test > Water system > Espresso pump.
- Adjust the pressure reducer by turning the adjustment screw to 2.4 ± 0.1 bar.
- Close water tap
- Remove the pressure manometer, attach the hose plug-in nipple again, replace the pressure manometer, open water supply valve. (Replace hose again.)
- Open water supply.

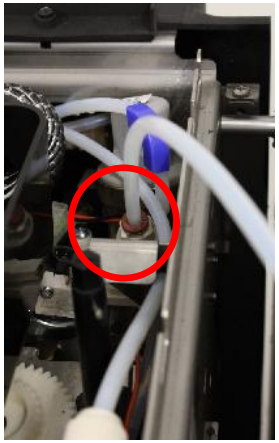


Illustration 2

Illustration 3

2.8 Set the hot water temperature

The adjustable aperture on the pressure reducer can be used to adjust the cold water proportion for the hot water dispensing.

- Temperature too low -> Turn screw (illustration 4) clockwise -> less cold water mixed in
- Temperature too high -> Turn screw (illustration 4) counterclockwise -> more cold water mixed in

Set the hot water temperature to the customer's requirements - but no higher than 96°C

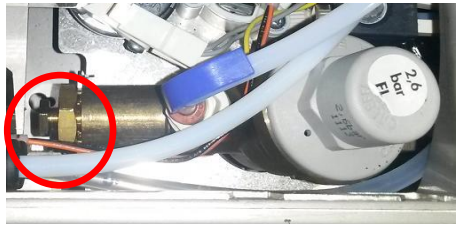


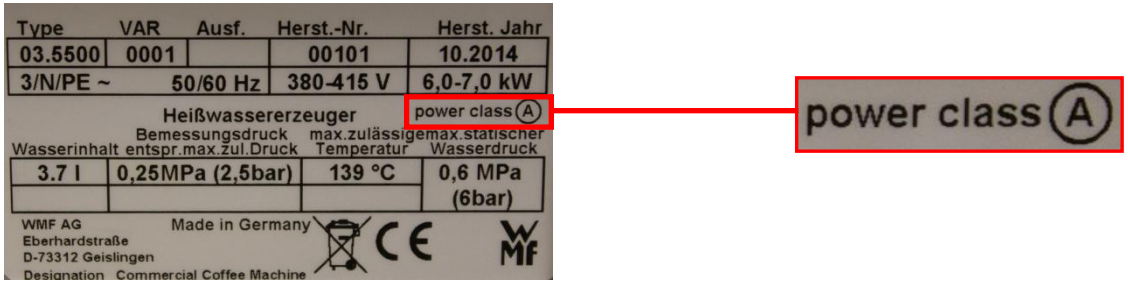
Illustration 4

2.9 Power Class

The "Power Class" considers the country-specific heating output versions of the machine, the connection configuration at the grid power terminal, and the current protection on the supply grid side. The Power Class is therefore useful for optimizing utilization and ensuring machine functionality.
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

Important note for technicians:
Therefore, 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 (temperature fluctuations ...) in the beverages can occur.
In the worst case, this can trip a customer's on-site circuit protector.

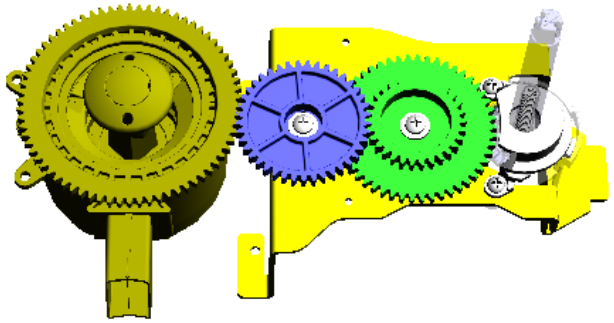
The "Power Class" that applies to a machine is on the rating plate.



Important note for technicians:
After replacing the operating panel, replacing the plug-in board/SD card, or after Factory->Service/Customer (resetting to factory standards, the Power Class MUST be read from the type plate and entered again.

Service > Machine configuration > Power class

2.10 Grinders – grinding degree and motor cooling



The grinders have been set to a default value at the factory and must be set up for the customer-specific types of bean and beverages during commissioning of the machine.

See Attachment WMF espresso Basic beverage settings

With specially hardened grinder disks and the powerful grinder motor, these grinders can achieve a very fine grinding degree, with a grain size distribution down to a minimum of 190µm.

Factory settings:
Grinding degree 3 -> approx.: 1.6 g/s and a grain size distribution of about 280µm

Important note for technicians

- Due to the fine degree of grinding and the longer grinding time, it is necessary to actively cool down the motor.
- The two installed fans perform the function of motor cooling and cool the bean hopper as well

2.11 Grinders – idle current calibration

Menu -> Service -> Service routines -> Idle current calibration
starting for grinder 1 or grinder 2.

Follow the animation - lock the bean hopper (see left illustration) and measure the idle current. After successfully carrying out the idle current, open the bean hopper again and dispense a test beverage in order to fill the grinder.

2.12 Grinders – grinding degree setting

Restore shipping condition:

If the grinder has been opened for cleaning, or for replacing a grinder disk, the shipping settings need to be restored afterward.

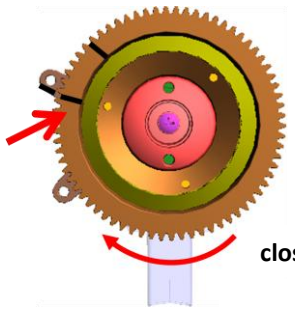


Illustration 1

1. Mark

"Locked position"

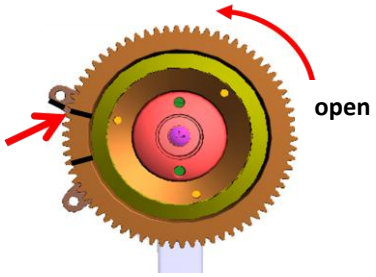


Illustration 2

2. Mark

"Basic setting"

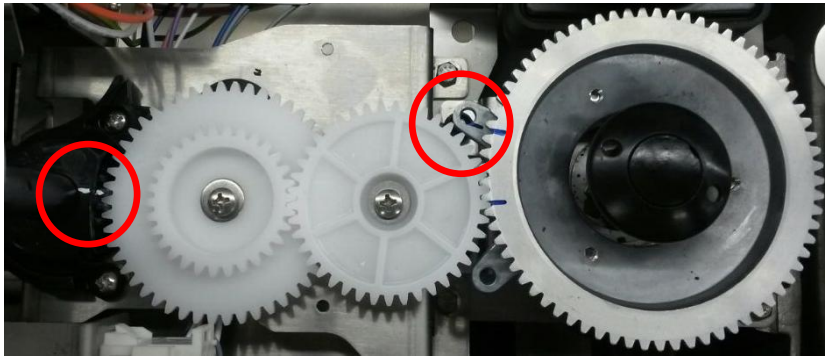


Illustration 3

Shipping condition setting

1. Remove grinder housing (without motor)
2. Screw the grinder in place completely and clean it
3. Turn the top grinder disk to the blocked position by hand, using the gear ring and make the first Mark, "Locked position", on the gear ring (see illustration 1)
4. Turn the top grinder opposite the 1st mark by 5 teeth, using the gear ring, and make a second Mark, "Basic setting", on the gear ring (see illustration 2).
5. Turn the adjustment gearbox until the two white dots--on the black housing of the adjustment gearbox and its gear ring—are aligned to each other (see illustration 3)
6. Carefully place the grinder on the motor, and make sure of the following:
   - that the gear ring on the grinder loosely engages with the teeth of the adjustment drive.
   - that the gear ring of the top grinder disk is still at the 2nd mark.

   (see illustration 3)
7. Attach the grinder.

Important note for technicians

Finally, adjust the grinding degree again to match the customer-specified type of bean and beverage

See Attachment: WMF espresso - basic setting beverages

2.13 Admixture calibration for proportional valve

Given the heavy temperature fluctuations at the start of brewing cycle, the initial opening path of the proportional valve can be adjusted via the mixing calibration (=cold water mixing amount) as follows

- Start beverage
- First value displayed = target temperature configured in the recipe
- Observe the max. and min temperature
- With larger deviations, between the target and max/min configure this difference temperature

  Service > Service routines > Mixing calibration lower.
- Repeat the procedure until the temperature has leveled out to +/- 2 °C.

Example for determining the temperature difference:

First value displayed

= target temperature configured in the recipe = 92°C

Max. temperature during beverage serving = 98°C

Temperature difference +6°C

Mixing calibration setting: -6°C

2.14 Brewing time monitoring

Description of basic functions

- If brewing time monitoring is activated and larger deviations arise between the ACTUAL and the TARGET contact time (contact time= pre-treatment time + brewing time), the customer sees an animated prompt to set the grinding degree coarser or finer and confirm the adjustments.
- Brewing time monitoring can be activated as follows:
  System – Operating options – Brewing time control

Functions control function

- The beverage recipe marked as the control parameter serves as the "reference beverage" per brewing group
- The ACTUAL contact times of the reference beverage are logged in the ring memory on a continuous basis
- If there are deviations ± 20% between the ACTUAL/TARGET - after subtracting the min/max brewing times - for over 7 brewing cycles in succession, brewing time monitoring with kick in; via an animation in the display, the customer will be asked to adjust the grinding degree by one notch
  - ACTUAL/TARGET deviations greater than +20 % means Contact time too long = grinding degree too fine
    - Animation requires that you set the grinding degree to be more coarse by one notch
  - ACTUAL/TARGET deviations greater than -20 % means Contact time too short = grinding degree too coarse
    - Animation requires that you set the grinding degree to be more fine by one notch
- Since changing the grinding degree changes the Ground coffee quantity used = the grinding time is adjusted by the software in order to retain the configured grinding volume [g]. This adjustment however is only complete when the grinding degree is ONLY actually changed by one notch AND this was confirmed in the display.

Important notes for technicians:

- Marking the "reference beverage"/setting the TARGET contact time – see document: "WMF espresso Basic beverage settings"
- To make sure that the brewing time monitoring steps in as precisely as possible, the most frequently served beverage recipe is marked as the reference beverage for each brewing group. Usually this is the 1x Espresso or 1x Café Crème.
- During beverage setting, the TARGET contact time determined from the average of several beverages must be defined under the Reference beverage
- If brewing time monitoring is activated, the customer must receive detailed training about the following along with explanations concerning general operation of the machine:
  - NO change to the beverage recipe marked as the "reference beverage"/ NO change to the TARGET contact time
  - Grinding level adjustment ONLY when requested by animation

Grinding level adjustment in the correct direction/ by one notch not more! / confirm adjustment >> Follow the animation

2.15 Front panel

The following components are installed on the front panel

- **CPU** (on CPU-power board)
  - **Plug-in board/SD card**
    = Primary storage medium for:
    - Machine software (firmware)
    - Customer memory / Service memory / Working memory

    Important note for technicians:
    If the front panel is replaced, the plug-in board/SD card from the defective front panel must be installed in the replacement front panel.
    This restores exactly the previous condition of the machine (prior to the defect in the front panel)

    Internal USB Stick
    = Backup storage medium
    Important note for technicians:
    Because the plug-in board/SD card is the primary memory medium for the machine, a defect in the plug-in board/SD card could mistakenly be interpreted as a defect in the front panel.
    The following errors indicate that the plug-in board/SD card is defective:
    - Machine does not boot (does not start or hangs up after switching on)
    - Machine hangs up during operation; switching the machine OFF-ON has no effect; disconnecting the machine from the power grid for at least 5 min has no effect.

    In case of doubt, therefore, the SD card must be replaced BEFORE replacing the front panel. A query routine starts automatically to capture the serial number, software version, etc. During this routine, the data from the internal USB stick is transferred to the new SD card. This restores exactly the previous condition of the machine (SD cards defective) If the replacement of the SD card was not successful, then the plug-in board with the SD card can be replaced before swapping out the front panel.

  Saving to the internal USB stick only works if the internal USB stick has been written with the correct identifier.

  Service > Service routines > Internal USB stick backup Formatting / identification

- **Power stage** (on CPU-power board)
  - 10-pole plug 30 V outputs for Grinders, brewer drives, cup storage heater
  - 96-pole plug 5 V / 24 V inputs and outputs for valves, flow meter, microswitches, etc.

  Note:
  All outputs, with the exception of the brewer drive, are short circuit protected
  The outputs for the brewer drive are rated for lock-up, that is, they can withstand high currents for a longer period of time, but will be destroyed by a short circuit.

- **Side boards –** for hot water and auto steam buttons

Below is an illustration of the listed components

Board – for Autosteam buttons

CPU-power board

Plug-in board/SD card

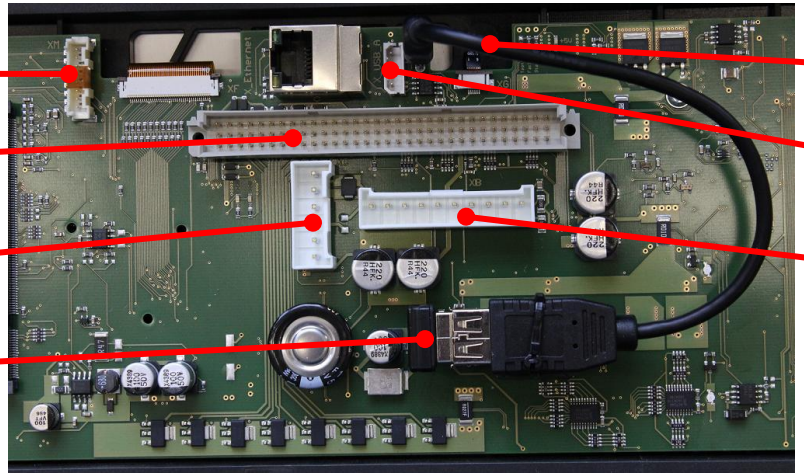
Board – for hot water buttons

Connector – serial adapter board

Central 96 pole plug

Power supply from the switched-mode power supply

“internal USB backup stick”



Slot for "internal backup of USB stick"

Slot of "external USB stick" (for left-hand insertion underneath the cup storage)

10-pin power connector for 30V components

- Plug-in board
- SD card

- Internal USB backup stick

2.16 Safety valve – Procedure for performing a functional check

The safety valve is screwed onto the steam boiler via a pipe end. The pipe end is dimensioned so that the valve seal is exposed to a temperature load less than 80 °C. If functioning normally, the valve need not be replaced during the entire service life of the coffee machine.

Important note for technicians:

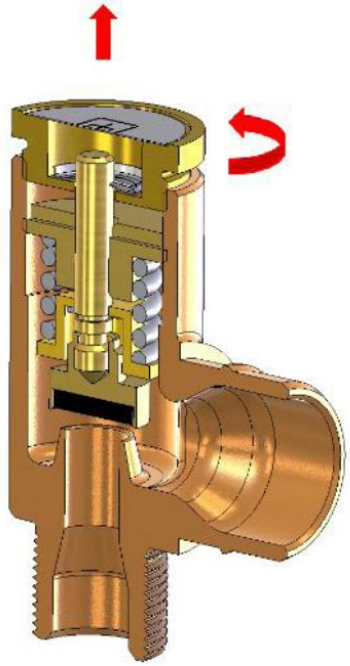
The safety valve must undergo a functional check at least 1 x year.

If an error situation arises, in which the safety valve was triggered, the safety valve will need to be replaced because its seal may be damaged.

Functional check / venting instructions

Disassemble to the level shown: Top cover and rear cover

- The function is to be carried out at operating pressure
- Gently unscrew the knurled nut on the safety valve (1/2 to max 1 turn max) until steam escapes
- Afterwards, immediately tighten already at the stop.



Note for technicians:

- The safety valve MUST NOT be vented in the pressureless state.
- The knurled nuts must only be tightened ½ to a maximum of 1 rotation- otherwise, the clamp collar may come off, which would compromise the accuracy of subsequent functional checks.

3 Maintenance concept

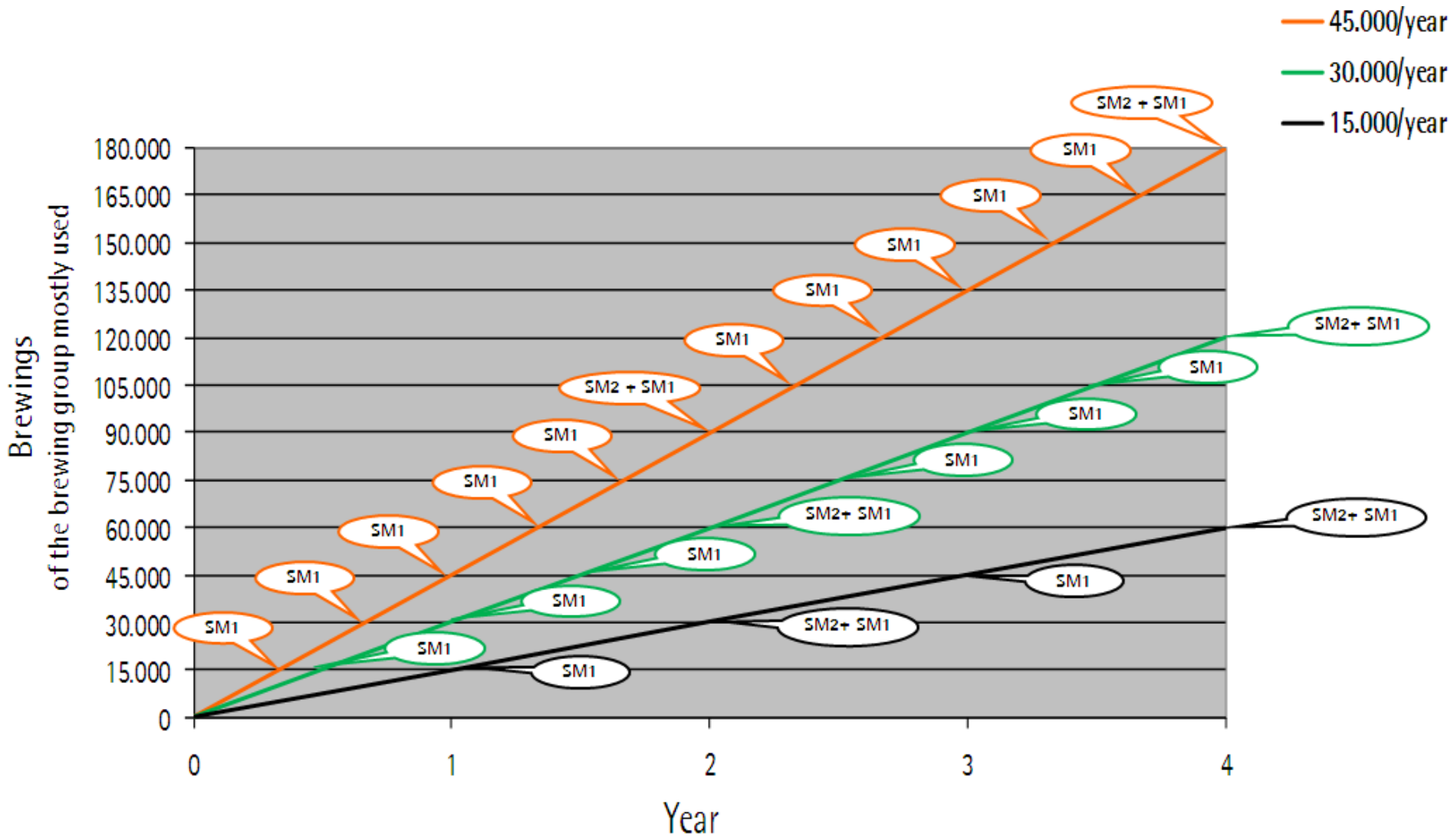
3.1 Overview of maintenance activities

The following WMF maintenance concept based on time-/serving-dependent cycles, describes the minimum scope of maintenance activities as recommended by WMF.
Please also take into account the special terms arising from the service agreements and local factors
(which may make earlier descaling of the flow heater necessary).

Maintenance activity	**Abbreviation Maintenance package**	**Maintenance cycle**	**Items needed**
Service maintenance 1	SM 1	after 15,000 brewing cycles or 1x annually	33 2893 8000*
Service maintenance 2	SM 2	every 2 years	33 2893 9000*
Safety valve functional check	-	1 x annually (for details, see chapter 2.2.4)	-
Descaling flow heater	-	1 x annually	100 g Special deposit removal solution 33 0680 80000
Descaling steam boiler	-	every 2 years / 10,000 litres water flow	100 g Special deposit removal solution 33 0680 8000
Boiler pressure check	-	every 2 years	Boiler pressure test fitting 33 2911 6000

* For details on the contents of the maintenance packages please see the following pages

3.1.1 Installation of maintenance packages required for different brewing times



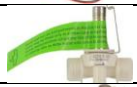
3.2 Maintenance packages

Service maintenance 1	**33 2893 8000**				
Module	No.	Designation	Order number	Count	Illustration (not to scale)
Brewer	1	O-ring (distributor sieve)	33 2675 5000	2	
Portafilter	2	Insulation insert	33 2681 3000	3	
Portafilter	3	Screen retaining ring (spring)	33 2672 5000	3	
Basic Steam	4	O-ring (steam nozzle)	33 0398 4000	1	
Autosteam	5	O-ring (steam nozzle)	33 0395 3000	1	
Brewer	6	Brewing piston distributor sieve	33 2671 0000	2	
Brewer	7	Control curve	33 2685 8000	2	
Brewer	4	Bellows spindle cover	33 2685 7000	2	
Brewer	5	Scraper steam block	33 2689 7000	2	

Note for technicians:

If "1x annually" applies, perform descaling of the flow heater at the same time.

Otherwise, the continuous heating element is descaled independently of the service maintenance once a year.

Service maintenance 2	**33 2893 9000**				
Module	No.	Designation	Order number	Count	Illustration (not to scale)
Brewer	1	Brewing piston, compl.	33 2897 2000	2	
Coffee / hydraulics	2	Brewing valve socket	33 2400 8000	2	
Ventilation / cooling	3	Fan	33 2617 5000	2	
Coffee / hydraulics	4	Release valve socket	33 2274 5000	2	
Steam / hydraulics	5	Socket for linked valves (without union nuts)	33 2894 9000	1	
Steam / hydraulics	6	Socket for steam barrier valve	33 2273 9000	1	
Hot water / hydraulics	7	Socket for hot water mixing valve	33 2273 9000	1	
Hot water / hydraulics	8	O-Ring water filter	33 2283 2000	1	
Hot water / hydraulics	9	Water filter sieve	33 1509 2000	1	
Coffee / hydraulics	10	NTC cold water mix-in O-ring	33 2534 8000	2	
Hot water / hydraulics	11	Reducer, water filter	33 2354 1000	1	

Note for technicians:

Service maintenance 2 coincides with descaling of the steam boiler. During the descaling of the steam boiler, the water filter sieve must be removed from the water filter (risk of blockage due to suspended particles). The new water filter sieve must only be used AFTER descaling (otherwise there is a risk that descaler residues may get into the water filter).

Service maintenance 2 coincides at the same time as the boiler pressure test.

3.3 Descaling - Preliminary

Because the software sequence and the amount of boiler descaler have not yet been 100% defined, it is recommended to run the descaling operation 2 times if the machine has heavy scaling. For this reason, descaling is labeled as preliminary.
The flow heater and the steam boiler are descaled using two separate, display-guided descaling routines.

Brief description of the display-guided descaling routine:

- Start the descaling routine
- Continue to follow the instructions on the display
  - The steam boiler pressure is relieved through the hot water spout
  - Load the descaling agent (Dissolve 100 g of the boiler descaler in 1 liter of water at about 50°C)
  - Close water tap
  - Pressure reduction water infeed running
  - Remove the drip grid and drip tray
  - Remove sheet metal cover (see illustration 1)
  - Place the hose from the descaling pump on the connection nipple (see piping diagram excerpt)
  - Reinsert the drip tray and replace the steam plate (SteamJet)
  - Place the drain tube (00.0048.0041 – 290 mm) over the HW spout (splash protection)

Important note for technicians for descaling:
Because the espresso pump is not self-priming, and therefore the connecting line must be filled manually in order to start descaling, the descaling pump (familiar from the bistro!) is used.
The plug connector for this connection is located behind the metal cover, in the rear
rear part of the drip tray.

Important notes for technicians:
When connecting the descaling pump to the connection nipple, make sure that the SteamJet hose is not pulled out of the SteamJet receptacle.

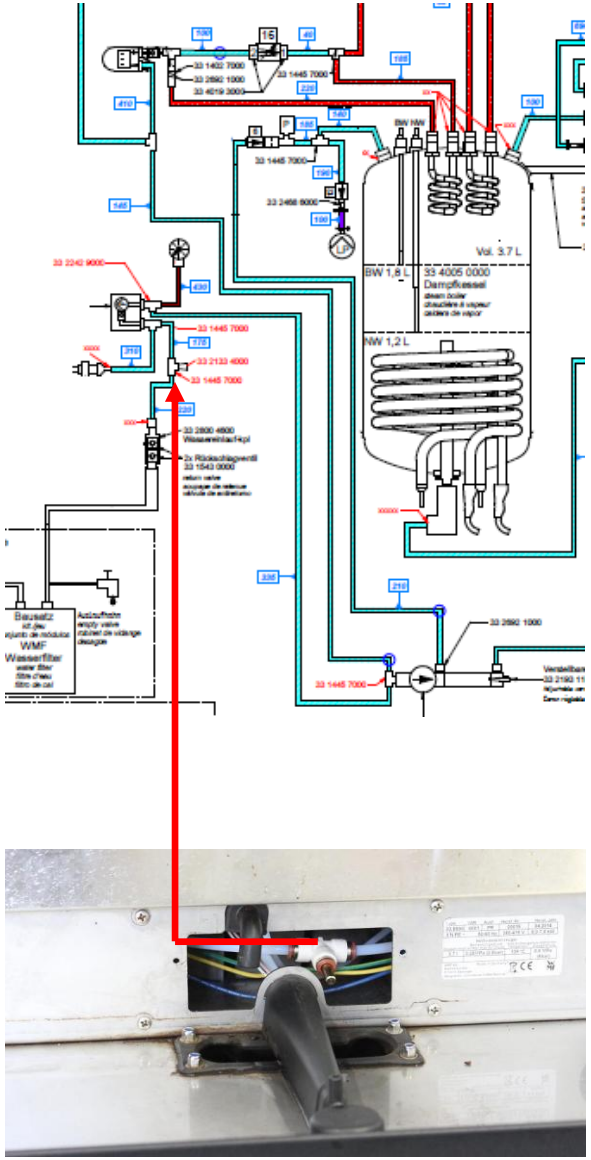


Illustration 1 – Descaling pump connection

3.4 Pressure release routine

Before working on the boiler system, the on-screen guided pressure release routine must be carried out. This is for your own safety, because if the pressure in the steam boiler is not relieved, various lines and valves will be under up to 1.5 bar of pressure. As soon as the routine starts, the system pressure is relieved via the hot water spout (pressure relief can be tracked on the display and the manometer in the front panel). Once the pressure relief routine has been completed, the residual pressure can be read on the display (see Fig. 1) or the pressure manometer on the front panel. The Valve button (see Fig. 1) can be used to actuate the Auto-steam valve and boiler pressure relief valve for 3 sec. in order to discharge any remaining pressure. Before opening the machine, disconnect it from the power supply. This will prevent unintentional pressure discharge.

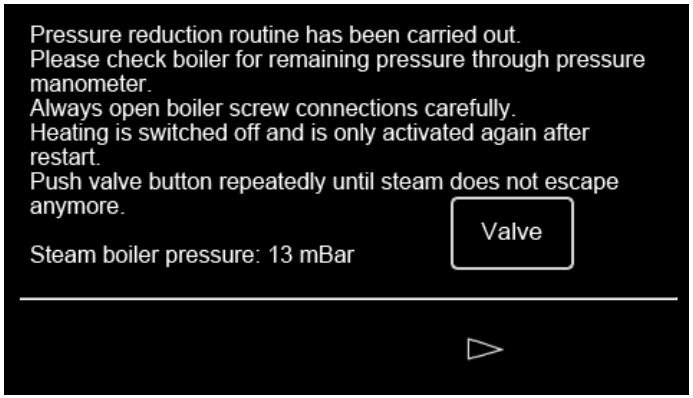


Illustration 1

Service > Service routines > Pressure release steam boiler

3.5 Boiler pressure check

The boiler pressure check must be performed as part of the "Every 2 years" service maintenance.

Service > Service routines > Boiler pressure check

The boiler pressure check has made the previous boiler inspection to be performed every 2 years much simpler, as the boiler insulation no longer needs to be removed for this purpose. The boiler pressure check must be performed using the "WMF test fittings". These test fittings include detailed instructions for performing the boiler pressure check. If the boiler pressure check fails, after it has been ensured that there are no other leaks, then the steam boiler must be replaced and the steam boiler pressure check must be started again.

Important note for technicians on the pressure relief routine and boiler pressure check:

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

- Do not cut off any hoses or open screwed connections quickly, and always listen for the noise of escaping steam.

If the pressure release routine was performed, the heater will remain deactivated until machine is switched off and switched on again. After switching on again, a query appears as to whether the machine should be started up with or without heating up.

3.6 Special tools and aids

	Illustration (not to scale)
<u>USB stick</u> Item number 33 2492 5000 Formatting • The USB stick must be FAT32 formatted Maximum dimensions • In order to ensure that the hopper cover can close, the outer dimensions should not exceed 52 x 14 x 5.5. The WMF USB stick meets this requirements.	
<u>Descaling</u> <u>Descaling pump</u> Item number 33 1878 3000 Drain tube 290 mm – 00.0048.0041 (Splash protection for placing over the HW spout during descaling)	 
<u>Pressure manometer</u> Item number 33 2745 3000 (1 m hose also required) Pressure manometer for adjusting the pressure reducer	
<u>Boiler pressure test fitting</u> Item number 33 2911 6000	
<u>USB mouse, keyboard</u> To simplify touchscreen entry, you can insert a USB mouse or keyboard into the USB slot on the front panel.	