

# metos

**WATER BOILER**

**METOS MARINE WKI**

MG4164349MW, 4164349, 4164354, 4164356

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**User manual**

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**WKI10n**

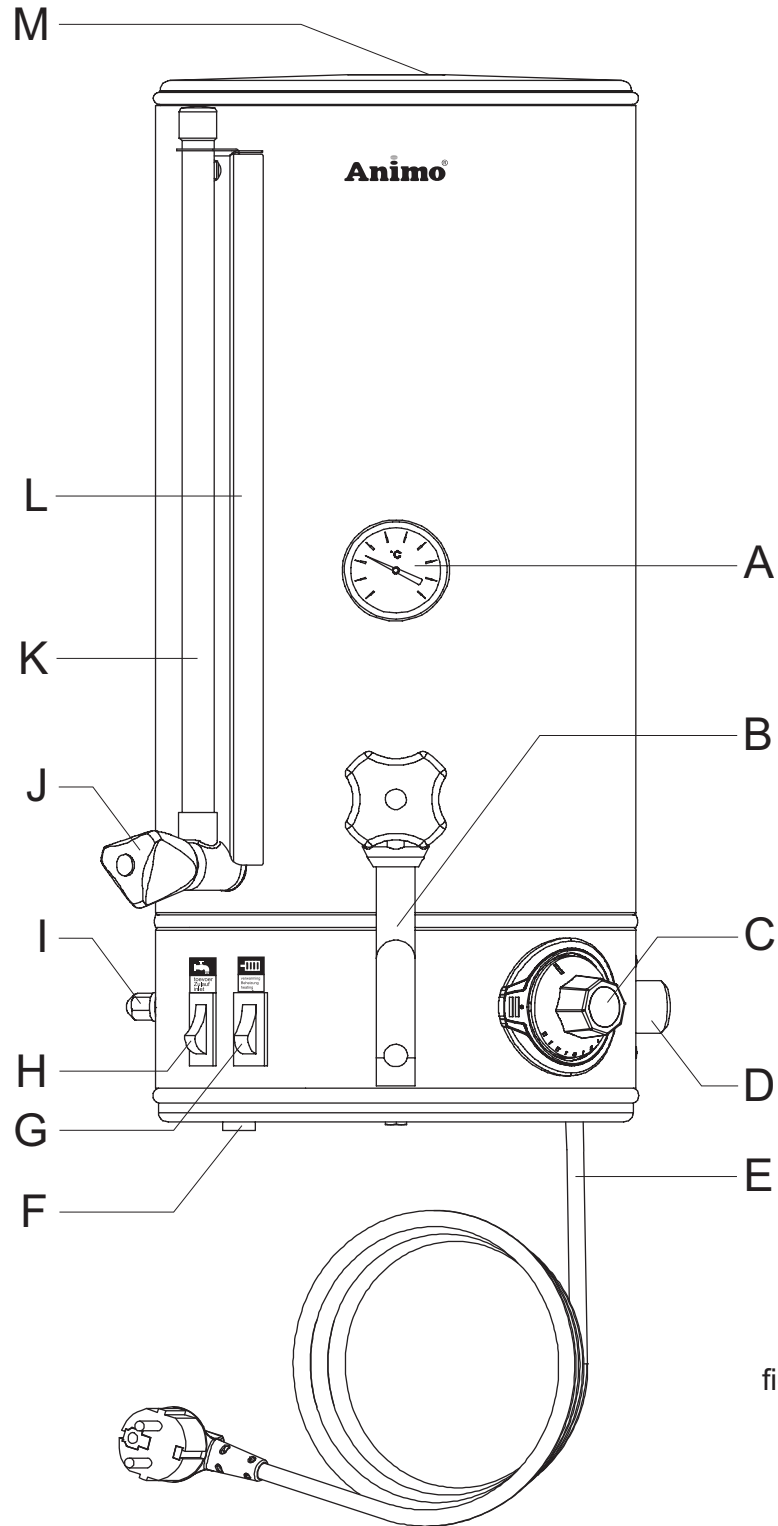
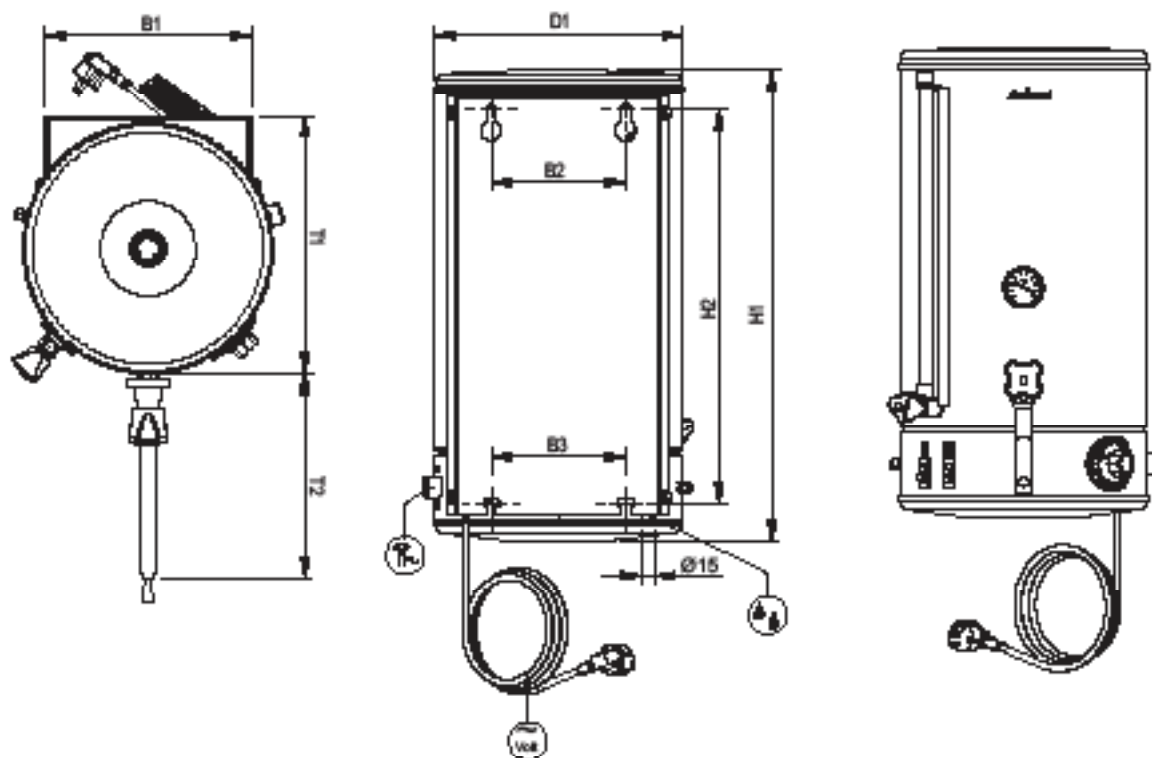





fig. 1 / Abb. 1



 Electrical connection    
  Water connection    
  Overflow connection n

	WKI 10n	WKI 20n 3KW	WKI 20n 6KW	WKI 40n	WKI 60n	WKI 80n
<b>B1</b>	<b>188</b>	<b>253</b>	<b>253</b>	<b>316</b>	<b>316</b>	<b>367</b>
<b>B2</b>	<b>124</b>	<b>165</b>	<b>165</b>	<b>165</b>	<b>165</b>	<b>250</b>
<b>B3</b>	<b>74</b>	<b>165</b>	<b>165</b>	<b>165</b>	<b>165</b>	<b>250</b>
<b>D1</b>	<b>224</b>	<b>304</b>	<b>304</b>	<b>382</b>	<b>382</b>	<b>444</b>
<b>H1</b>	<b>523</b>	<b>583</b>	<b>583</b>	<b>685</b>	<b>856</b>	<b>890</b>
<b>H2</b>	<b>432</b>	<b>484</b>	<b>484</b>	<b>565</b>	<b>740</b>	<b>780</b>
<b>T1</b>	<b>249</b>	<b>313</b>	<b>313</b>	<b>404</b>	<b>404</b>	<b>456</b>
<b>T2</b>	<b>246</b>	<b>325</b>	<b>325</b>	<b>345</b>	<b>345</b>	<b>345</b>



This appliance is in accordance with the EMC-Directive 89/336/EEC, 92/31/EEC and the low voltage directive 73/23/EEC.

Animo has the right to change parts of the machine at any time without advice or direct announcements to the client. The contents of this manual can also be changed without any announcements. This manual is to be used for the standard model/type of the machine. Thus Animo cannot be held responsible for any damage resulting from the application of this manual to the version delivered to you. For extra information on adjustments maintenance and repair, contact the technical department of your supplier. This manual has been written very carefully. However, Animo cannot be held responsible neither for mistakes in the book nor for their consequences.

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	<b>General sign for: IMPORTANT, WARNING OR REMARK.</b>
	<b>Warning for possible damage and/or injury to machine or operator.</b>
	<b>Warning for electricity and/or steam hazard.</b>

These operating instructions are intended for the user of the ANIMO storage water boilers type WKI. Read these operating instructions carefully to ensure that appliance is used properly and safely.

## 1. GENERAL DESCRIPTION

A storage water boiler of the WKI range makes constant hot water always available.

All WKI boilers are mains connected. An adjustable thermostat keeps water at a constant, pre-set temperature. It refills automatically when water is drawn off.

In figure 1 the main parts are indicated.

Figure 1:

A - Thermometer	H - Filling switch
B - Tap with swivel arm	I - Dry-boil protection
C - Adjustable thermostat	J - Gauge glass tap
D - Cold water connection	K - Gauge glass
E - Electrical connection	L - Litre index
F - Overflow connection	M - Desaeration
G - On / off switch	

The storage water boiler is supplied with the following accessories:

- Operating instructions
- Swivel arm
- Water tube 1.5 m
- 1 sachet descaling agent (48 sachets for 50 grams art.nr. 49007)

## 2. TECHNICAL DETAILS

Type	: WKI 10n	WKI 20n 3kW	WKI 20n 6kW
Article number	: 30110	30115	30120
Buffer stock hot water	: 10 ltr. / 80 cups	20 ltr. / 160 cups	20 ltr. / 160 cups
Hour capacity hot water	: 30 ltr. / 240 cups	30 ltr. / 240 cups	60 ltr. / 480 cups
Heating time 20 - 97°	: 24 min	45 min.	23 min.
Tapping speed	: 6-9 sec/ltr.	6-9 sec/ltr.	6-9 sec/ltr.
Electrical connection	: 1N~220-240V/50-60Cy	1N~220-240V/50-60Cy	3N~380-415V/50-60Cy
Output	: 3200W	3200W	6600W
Fuse 1N~220-240V	: 16A	16A	-
Fuse 3N~380-415V	: -	-	3x10A
Fuse N~230V	: -	3x20A	3x20A
Cold water connection	: 3/4"	3/4"	3/4"
Min. - Max. pressure	: 1-8 bar	1-8 bar	1-8 bar
Overflow connection	: Ø15 mm	Ø15 mm	Ø15 mm
Cord length	: 1.3 m	1.3 m	1.5 m
Dimensions	: see fig. 2	see fig. 2	see fig. 2
Weight empty	: 8 kg	11 kg	11 kg

Type	: WKI 40n	WKI 60n	WKI 80n
Article number	: 30125	30130	30135
Buffer stock hot water	: 40 ltr. / 320 cups	60 ltr. / 480 cups	80 ltr. / 640 cups
Hour capacity hot water	: 90 ltr. / 720 cups	90 ltr. / 720 cups	180 ltr. / 1440 cups
Heating time 20 - 97°	: 23 min.	35 min.	25 min.
Tapping speed	: 6-9 sec/ltr.	6-9 sec/ltr.	6-9 sec/ltr.
Electrical connection	: 3N~380-415V/50-60Cy	3N~380-415V/50-60Cy	3N~380-415V/50-60Cy
Output	: 9600W	9600W	19,2kW
Fuse 3N~380-415V	: 3x 16A	3x 16A	3x 16A
Fuse 3~230V	: 3x 35A	3x 35A	3x 35A
Cold water connection	: 3/4"	3/4"	3/4"
Min. - Max. pressure	: 1-8 bar	1-8 bar	1-8 bar
Overflow connection	: Ø15 mm	Ø15 mm	Ø15 mm
Cord length	: 1.5 m	1.5 m	1.5 m
Dimensions	: see fig. 2	see fig. 2	see fig. 2
Weight empty	: 17 kg	19,5 kg	24 kg
filled	: 61 kg	82,5 kg	107 kg

*Technical alterations are reserved*

## WARNING



- \* Always remove the plug from the socket if the machine has to be opened for repair or maintenance.
- \* Always observe local rules while installing the unit and use approved materials and parts.
- \* Do not put the machine in areas where the temperature drops below freezing point because there is always water left in the system.
- \* Always plug the machine into an earthed wall socket.
- \* Do not submerge or spray the machine.
- \* Have all repairs carried out by a specially trained technician.
- \* **When the appliance is in use, some of the components will get very hot.**
- \* If the machine is not used it is advisable to remove the plug from the socket and to turn off the water tap.

## 3. INSTALLATION

This appliance may only be positioned and connected by a qualified service engineer.

- Preparation for positioning see 3.1
- Electrical connection see 3.2
- Water connection see 3.3
- Water drainage see 3.4
- Mounting the WKI on the wall see 3.5

### 3.1 Preparation for positioning

- The preparation to install must be done by a specially trained technician. Always observe local rules while installing the unit and use approved materials and parts.
- The technician may only make the connection of the machine to the wall.

### 3.2 Electrical connection

Depending on the model, the WKI should be connected to single phase or rotatory current.

The wall socket and the main switch secured group are part of the electricity installation. It is not allowed to connect other users to that group. Depending on the appliance's electrical execution, it must be connected as below.

- (fig. 3) In case of 3N~ 380-415V (5-core cable).
- (fig. 4) In case of 3~ 230V (4-core cable).
- (fig. 5) In case of 1N~ 220-230V (3-core cable).

The following points should be observed when wiring a new plug:

1. The green/yellow-coloured wire ("EARTH") should be connected to the terminal which is either marked with the letter "E", the "earth" symbol ( $\perp$ ) or coloured green or green/yellow.
2. The blue-coloured wire ("NEUTRAL") should be connected to the terminal which is either marked with the letter "N" or coloured black.
3. The brown and black-coloured wires ("LIVE") should be connected to the terminals which is either marked with the letter "L1, L2 and L3" or coloured red.

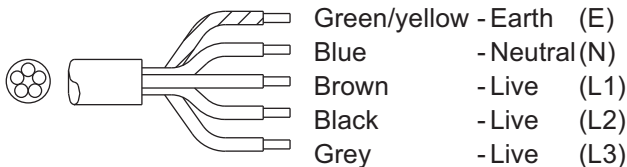


fig. 3

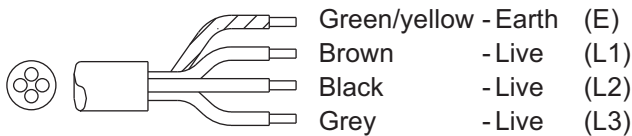


fig. 4

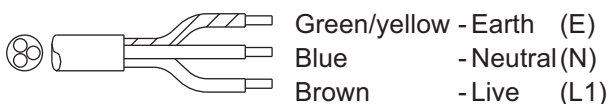


fig. 5

### 3.3 Water connection

The system must be a stopcock, a drain, a non-return valve and must end with an easily accessible aeration tap with a 3/4" connector. The minimum water pressure must not fall below 1 bar (with 5 l./min. flow pressure).

### 3.4 Water drainage

The overflow connection (Ø15 mm) of the WKI must be connected to the water drainage.

### 3.5 Mounting the WKI on the wall

Mount the appliance on the wall using plugs suitable for the purpose. In case of cellular concrete, plasterboard or similar walls of other materials screw right through them or apply extra wall reinforcement.

1. The local voltage should correspond with the specifications indicated on the type plate.
2. Determine the complete setup of the serving trolley with the storage water boiler (WKI).
3. Determine where the storage water boiler should be mounted with the help of fig. 2 + 6.
4. Mount the storage water boiler on the wall and connect electricity, water supply and water drain.
5. Place the combination of the serving trolley, container/combi filter under the tap with swivel arm.

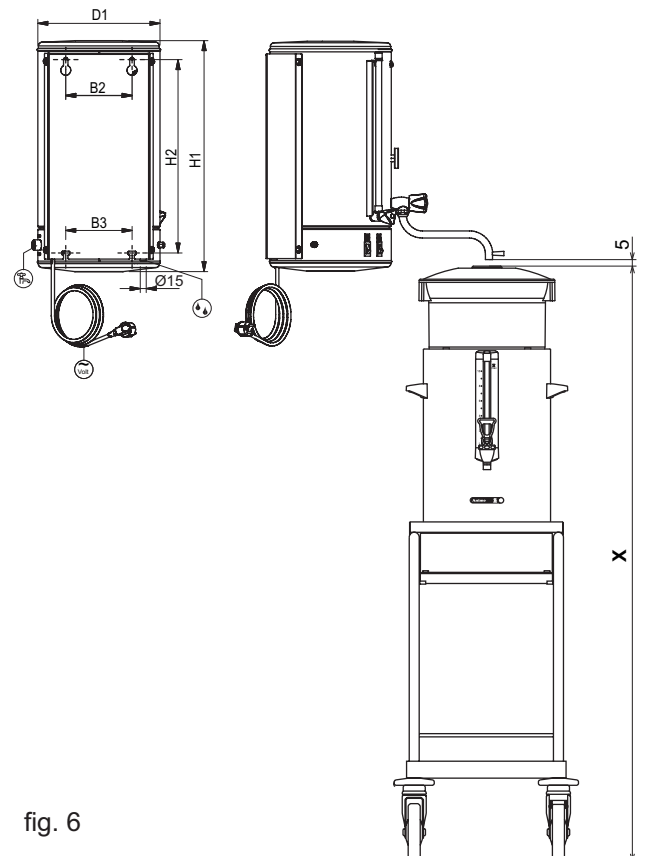
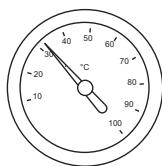


fig. 6

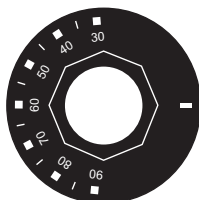


## 4. CONTROL PANEL (FIG. 1)

A - Thermometer



C - Adjustable thermostat



G - On / off switch



H - Filling switch



K - Gauge glass

## 5. PREPARATIONS BEFORE USE

When placing and connecting the appliance, the following instructions should be followed.

1. Open the manual stopcock (part of the water connection) and check if the connections do not leak.
2. Plug in the water boiler and press the orange filling switch (fig. 1H). The water boiler will now start to fill.
3. As soon as the water becomes visible in the gauge glass, the heating system can be switched on; press the green on/off switch (fig. 1G). The water boiler will now start to heat up.
4. Allow the water boiler to reach the required level in the gauge glass (fig. 1K) and then stop the water supply by pressing the orange filling switch again. If the water supply is not turned off on time. The built-in floating mechanism will automatically shut off the water supply when the maximum capacity has been achieved.

5. The thermostat can be used to heat the water to any temperature between 30°C and 97°C. The ideal water temperature when making coffee is approx. 97°C.
6. The water boiler is now ready for use.

- When drawing off hot water, the orange filling switch must be turned off, so that cold water can no longer flow into the boiler.
- The quantity of water to be added to and/or drawn off can be checked using the volume scale next to the gauge glass.
- In the event of breakage or repair work, the gauge glass can be shut off by closing the gauge glass tap (fig. 1J).
- The water temperature is easy to read from the thermometer.
- When drawing off water using the swivel-arm tap, open the tap as far as possible, allowing it to vent properly. Afterwards, the flow can be reduced to a level that can be processed by the water distributor on the filter.
- After use, both switches must be turned off, shutting off the water supply and electricity. It is possible to keep water at a temperature of at least 60°C overnight, but it is important to make sure that the orange filling switch has been turned off.

## 6. USE

- Brewing coffee, see section 6.1
- Brewing tea, see section 6.2

Always apply the following safety precautions with a WKI when making use of a serving trolley setup;

- Always park the serving trolley straight between the parking rails.
- After parking the serving trolley always put the brake on the right-hand swivel wheel.
- Plug in the cable in the inlet socket on the back of the container, put the plug in the power socket and switch the container on. The container now starts heating.
- After the filter has been drained turn, the swivel arm away from the filter, remove the filter and immediately place the lid on the container.
- Before transporting the serving trolley always remove the cable with plug between the power socket and the container.

### 6.1 Brewing coffee

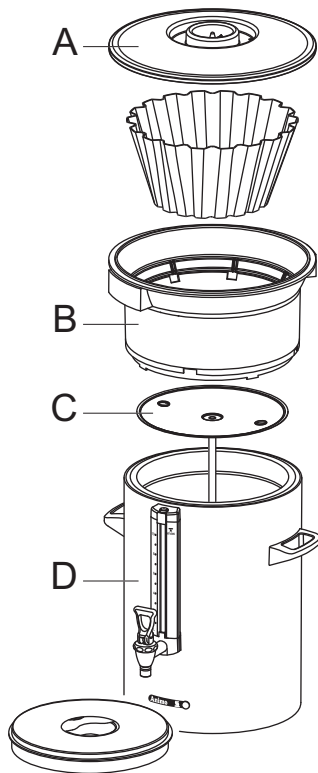


Fig. 7

- A - Filter lid with water distributor
- B - Combi-filter with basket filter insert
- C - Blender / transport disk
- D - Container and lid

#### *Basic rules for brewing coffee*

- Use regular ground coffee ( $\pm 50$  gram/litre).
  - Keep the containers and the filters clean.
1. The inner pot of the container must always be fresh and clean.
  2. To avoid temperature loss during the brewing process we recommend you to pre heat the container, by putting the cable into a power socket. Fill the container with approx. 2 litres of hot water and switch on the container for at least 10 minutes before the brew starts. The indication lamp on the container will light up.
  3. Tap the water from the container and place the blender into the container.
  4. Place a basket filter paper into the filter with the appropriate amount of coffee (normal/medium ground). The coffee must be evenly spread over the filter. Generally speaking you will need about 45-50 grams per litre.
  5. Place the filter lid on the filter, put the filter on the container and position the swivel arm over the centre of the filter lid.
  6. Fill the water boiler with the required quantity of water (fig. 1H), switch on the heating system (fig. 1G) and wait until the water has reached the temperature set. Open the tap as far as possible, enabling it to vent properly. Afterwards, the flow can be reduced to a normal level. Adjust the flow so that the water does not run over the distributor tray in the filter lid. Doing this will ensure that the right filtering speed has been set.
  7. The brewing process is starting, the blender in the container guarantees a uniform quality of the coffee, which makes stirring the coffee (with loss of time, temperature and aroma) unnecessary. The temperature of the coffee is kept at a temperature of 80 - 85°C.  
The storage time of the coffee is determined by the blend of coffee and is usually 1 - 1,5 hours.
  8. Once the water level in the water boiler has reached 0, the tap can be closed and the water boiler can be refilled and heated for the next brew.
  9. After the coffee has been made and the filter has leaked out, the latter can be removed and the lid can be placed on the container.
  10. Rinse the filter after use.

Fig. 7

**Attention!** Always place the blender / transport disk and the lid when transporting the container (by hand or serving trolley), this prevents spilling from the container.

## 6.2 Brewing tea

A tea filter with disk and a filling pipe is needed to brew tea in a container (optional) in combination with WKI.

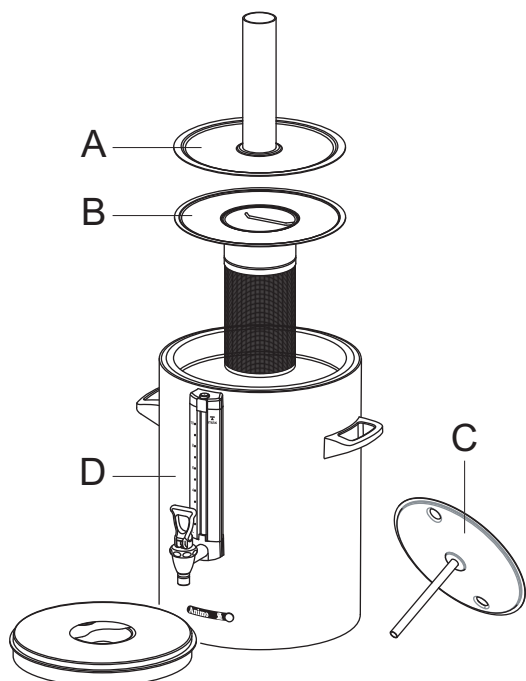


Fig. 8

Fig. 8

- A - Filling pipe
- B - Tea filter with disk
- C - Blender / transport disk
- D - Container and lid

1. The inner pot of the container must always be fresh and clean.
2. To avoid temperature loss during the brewing process we recommend you to pre heat the container, by putting the cable into a power socket. Filling the container with approx. 2 litres of hot water and switch on the container for at least 10 minutes before the brew starts. The indication lamp on the container will light up.
3. Put the tea, loose or in bags, in the tea filter, approximately 6 grams per litre.
4. Insert the tea filter into the disk already placed in the container.
5. Tap the water from the container. Place the filling pipe on the tea filter and the disk. Then position the swivel arm over the pipe.

6. Fill the water boiler with the required quantity of water and wait until the water has reached the temperature set. Open the tap as far as possible, allowing it to vent properly. Afterwards, the flow can be reduced to a level that can be processed by the water distributor on the filter. Adjust the flow rate so that the container fills up in approx. 5 to 6 minutes.
7. Once the water level in the water boiler has reached 0, the tap can be closed and the water boiler can be refilled and heated for the next brew.
8. Remove the pipe and the tea filter after the tea has been made.
9. **ATTENTION:** After brewing put the lid on the container to avoid loss of temperature and taste. The optimum extraction time is minimally 4 minutes and maximally 15 minutes. After more than 15 minutes the flavour of the tea decreases.
10. Rinse the tea filter immediately after use.

**Attention!** Always place the blender / transport disk and the lid when transporting the container (by hand or serving trolley), this prevents spilling from the container.

## 7. MAINTENANCE

### WARNING



- \* Do not leave the unit during maintenance.
- \* Always follow the instructions, which are supplied with the used scale remover.
- \* It is advisable to wear safety glasses and gloves during descaling.
- \* After descaling, run the appliance through at least three cycles.
- \* Wash your hands after descaling.
- \* Do not submerge or spray the unit.
- \* Have all repairs carried out by a qualified technician.

- Cleaning (daily) See section 7.1
- Descaling See section 7.2

### 7.1 Cleaning (daily)

- Clean the outside of the appliance with a clean damp cloth, if necessary using a mild (non-abrasive) cleaning agent.
- Do not use an abrasive, as this will leave scratches and dull spots.

**WARNING**

- To descale the WKI the appliance needs to be opened and partly disassembled. As a result components are opened up that have a high voltage and are not covered. Always disconnect before opening the appliance!

**7.2 Descaling**

During operation scale will form in the machine. Therefore the machine needs to be descaled regularly to guarantee the lowest energy consumption and proper functioning.

**WARNING**

- **Since the drain tap is located in the electrical part of the water boiler, users are advised (for safety reasons) not to descale the hot water boiler themselves!**

*When to descale?*

Depending on the use and hardness of the water, we advise you to have the WKI descaled by a service technician every 5 or 6 months.

Depending on the frequency of usage and the hardness of the water, we advise you to inspect the appliance regularly for scale formation.

Remove the cover of the water boiler regularly; If there is loose scale grit on the bottom, or if there is severe scale formation on the walls, then the unit needs to be descaled.

**Descaling procedure for the service engineer:**

1. Switch off the appliance and remove the plug from the socket.
2. Remove the bottom plate by unscrewing the fastening bolt in the middle of the plate.
3. Once the hexagonal plug has been removed from the red drain tap, the drain tap can be used to completely drain the water boiler. Any loose boiler scale will then be removed.
4. Close the red drain tap, replace the hexagonal plug and bottom plate (for safety reasons).
5. Switch the water boiler on again, allow it to fill until all scale deposit has been completely submerged.
6. Switch on the heating system and heat the water to a temperature of approx. 60°C.
7. Read the warnings and other instructions indicated on the Animo scale remover.

8. Add the scale remover to the heated water.  
**Please note:**  
once the scale remover has been added, the water will start to foam. In extreme cases, where too much scale remover has been used, the foam may flow over the edge of the water boiler!
9. When no more scale remover is required (no foaming occurs when more scale remover is added), drain the water boiler via the tap. In the event of obstinate boiler scale, repeat steps 5-9.
10. Repeat steps 1-4 in order to drain the water boiler.
11. Once all boiler scale has been removed, rinse the water boiler thoroughly with clean water, not forgetting to also rinse the tap.
12. The water boiler is now ready for use again.

**8. Dry-boil protection**

This appliance is equipped with a dry-boil protection. This protection triggers if the heating element overheats owing to a fault. Once the fault has been resolved, the dry-boil protection can be reset at the left side of the appliance (fig 11). The most common cause of the dry-boil protection being triggered is not descaling the heating system in time.

If the heating system does not switch back on, proceed as follows:

1. Allow the appliance to cool down.
2. Unscrew the protective cap.
3. Press the button which is now visible and firmly screw the protective cap back on.

If the dry-boil protection triggers owing to increased scale deposits, descale the appliance. See chapter 7.2. Consult your dealer if the fault was caused by a problem other than the dry-boil protection being triggered.

## 9. TRANSPORTATION

Before transporting the WKS, carry out the following actions:

1. Switch off the WKI and remove the plug fitting from the wall socket.
2. Close the water supply tap and disconnect the connection hose.
3. Remove the bottom plate by unscrewing the fastening bolt in the middle of the plate.
4. Once the hexagonal plug has been removed from the red drain tap, the drain tap can be used to completely drain the water boiler.
5. Remove the water boiler from the wall.
6. Replace the parts mentioned in points 3 and 4.
7. The WKI is now ready for transportation.
8. When reinstalling the water boiler, carefully follow the instructions indicated in the "Installation" chapter.

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