–weishaupt–

manual

Installation and operating instructions

Energy storage
WES 500, 800, 1000, 1250, 1500, 2000, 3000 Cas-R / B
WES 1000 WP / B

242273-4
83288002 • 2/2017-11

EU conformity certification

Language 02

Product description	**Energy storage**
Type	**WES 500 Cas-R** **WES 800 Cas-R** **WES 1000 Cas-R** **WES 1250 Cas-R** **WES 1500 Cas-R** **WES 2000 Cas-R** **WES 3000 Cas-R** **WES 1000 WP**
Manufacturer	**Max Weishaupt GmbH**
Address	**Max-Weishaupt-Straße 14, DE-88475 Schwendi**

The sole responsibility for issuing this conformity declaration lies with the manufacturer.
The content of the statement described above complies with the relevant harmonisation legislation of the European Union:

ELD **2010/30/EU**
Test regulation: 812/2013/EU

EDD **2009/125/EC**
Test regulations: 814/2013/EU, EN 12897:2016

Schwendi, 13/09/2017

Signed for and on behalf of:

MAX WEISHAUPT GMBH

ppa.

Dr. Schloen
Manager research and Development

ppa.

Denkinger
Manager Production and Quality Management

1. Safety instructions

Please carefully read all information provided in this set of instructions prior to commissioning!

The installation and initial commissioning, as well as all other interventions or repairs, may only be carried out by a licensed installation company in accordance with these instructions.

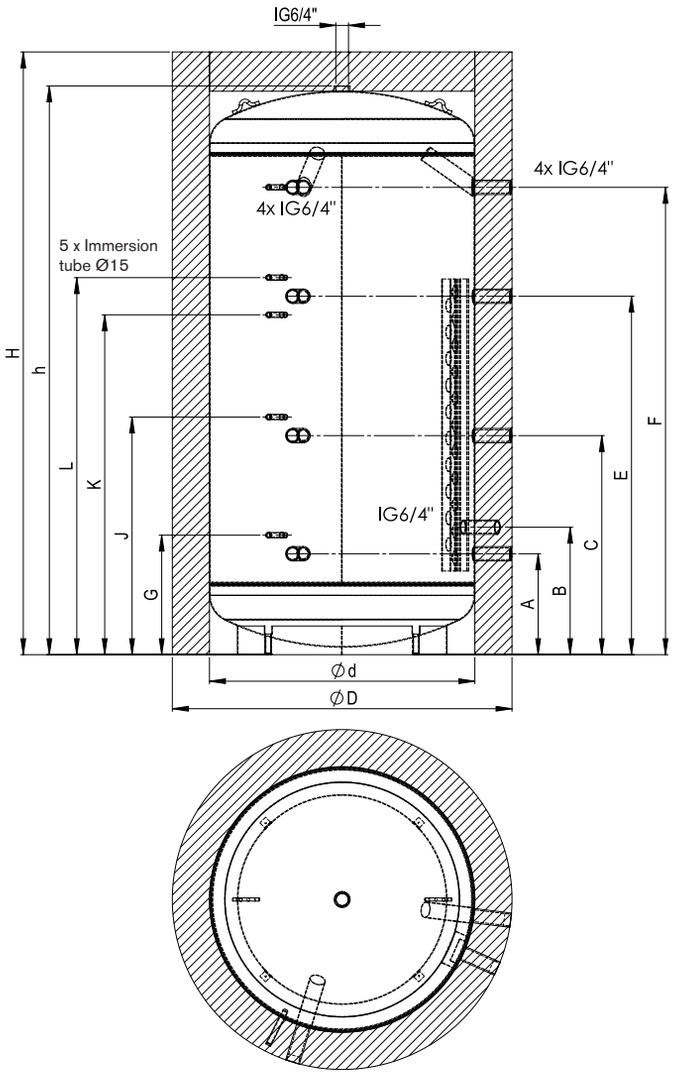
Safety-related defects must be rectified immediately.

This tank can be used by children eight years old and older as well as by persons with reduced physical, sensory or mental capabilities or who lack experience and knowledge if they are supervised or if they have been trained with regard to the safe use of the tank and understand the resulting risks. Children may not play with the tank or its packaging. Cleaning and user maintenance may not be performed by children without supervision.

Materials and components should be disposed of properly and environmentally friendly manner via an authorized body. The local regulations must be observed!

2. Dimensions Sketch

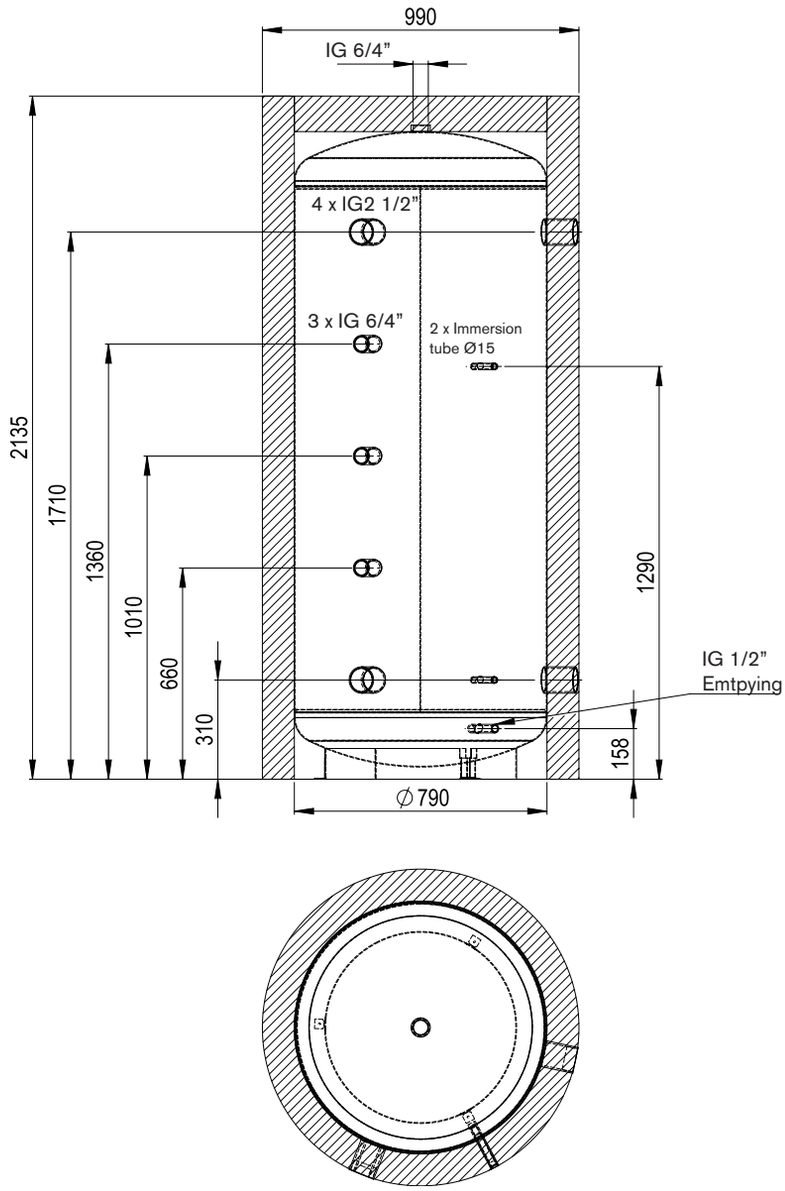
2.1 WES 500, 800, 1000, 1250, 1500, 2000, 3000 Cas-R / B



Type	Contents Litre	Dimensions in mm												
		H	h	ØD	Ød	A	B	C	E	F	G	J	K	L
WES 500 Cas-R / B	500	1720	1640	850	650	220	320	620	1010	1390	290	690	940	1080
WES 800 Cas-R / B	780	1780	1694	990	790	260	365	630	1030	1430	330	700	960	1100
WES 1000 Cas-R / B	960	2135	2044	990	790	310	415	745	1250	1710	380	815	1180	1320
WES 1250 Cas-R / B	1250	1940	1802	1200	1000	330	430	705	1105	1480	400	775	1035	1175
WES 1500 Cas-R / B	1500	2270	2142	1280	1000	380	480	825	1350	1760	450	895	1280	1420
WES 2000 Cas-R / B	2000	2500	2372	1380	1100	320	420	900	1490	2020	390	970	1420	1560
WES 3000 Cas-R / B	3000	2690	2596	1530	1250	375	475	985	1600	2205	445	1055	1530	1670

Type	Tilt dimension mm	Empty weight kg	max. operating temperature	max. operating pressure	Entry portal
WES 500 Cas-R / B	1670	75	95 °C	4 bar	700
WES 800 Cas-R / B	1750	91	95 °C	4 bar	820
WES 1000 Cas-R / B	2090	106	95 °C	4 bar	820
WES 1250 Cas-R / B	1900	114	95 °C	4 bar	1020
WES 1500 Cas-R / B	2270	192	95 °C	4 bar	1020
WES 2000 Cas-R / B	2460	235	95 °C	4 bar	1120
WES 3000 Cas-R / B	2650	390	95 °C	4 bar	1270

2.2 WES 1000 WP / B



Type	Contents Litre	Tilt dimension mm	Empty weight kg	max. operating temperature	max. operating pressure	Entry portal
WES 1000 WP / B	960	2090	101	95 °C	4 bar	820

2.3 Product fiche ErP

Type	Energy efficiency class	Standing loss W
WES 500 Cas-R / B	C	87
WES 800 Cas-R / B	C	111
WES 1000 Cas-R / B	C	130
WES 1250 Cas-R / B	C	140
WES 1500 Cas-R / B	C	150
WES 2000 Cas-R / B	C	163
WES 3000 Cas-R / B	C	217
WES 1000 WP / B	C	130

2.4 Specification plate

On your tank you will find a specification plate with the data and serial number of your device.
The serial number is required for the Weishaupt customer service. Please provide this number for any queries about the device.
Always keep the specification plate on the device legible.
Another specification plate is located in the documentation. After installation of the thermal installation, this is to be adhered next to the closure band and be easily visible.

3. Operating Requirements and Important Information

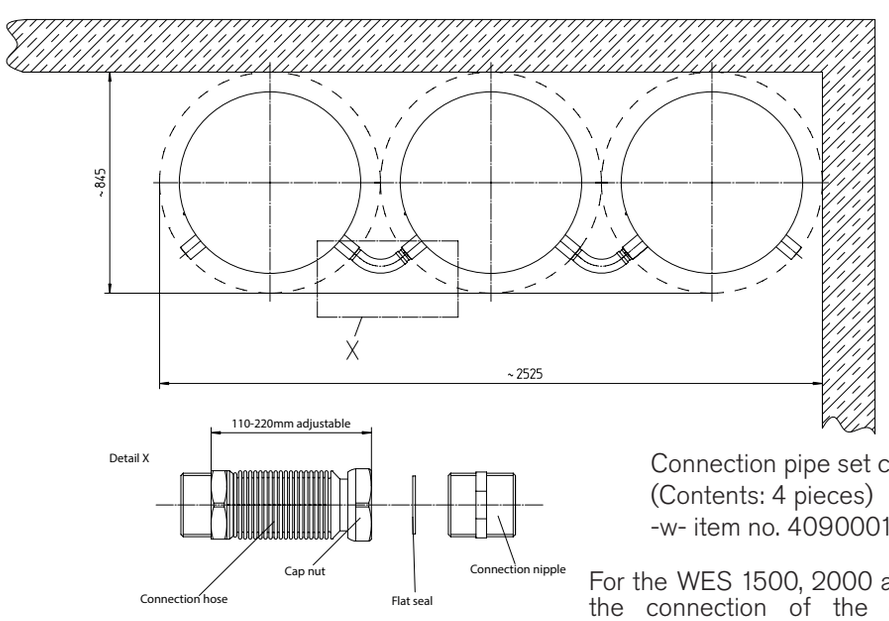
The device is only suitable for heating up heating water within closed spaces and may only be installed by licensed professionals.
The tanks must be used exclusively in accordance with the conditions set out on the specification plate.
In addition to the legally recognised guidelines and standards (ÖVE, ÖNORM etc.), the connection conditions of the local electricity and water works as well as those set out in the installation and operating instructions must be complied with. Hot water preparation must take place in compliance with the applicable standards.

The area in which the device is operated must be frost-free.
The device must be easily accessible in case of necessary servicing, repairs or in case it needs to be replaced. All structural provisions that impede problem-free work must be eliminated by the end customer.
If setting up, installing and operating the buffer cylinder in unusual places (e.g. lofts, living quarters with water sensitive flooring, store rooms etc.), potential water leakage must be taken into consideration and therefore a device for capturing and draining off any leaked water must be provided in order to prevent secondary damage. The device may only be installed and operated in the proper configuration on a horizontal surface suitable to support the weight of the full water heater.
Prior to commissioning, the tube register must be flushed out in order to remove any contaminants (e.g. scale) from the heating circuit.
The energy storage WES Cas-R has a return stratification device (supports, see dimension B). The inflowing heating water via the backflow is stratified via this device in a manner dependent on temperature.

These buffer cylinders are suitable for all hot water central heating systems, regardless of whether they are solid fuel or oil fired boiler, thermal pump, solar system, gas or electric instantaneous water heaters. It is also possible to connect several buffer cylinders to batteries by means of connection pipes to increase the storage volume to meet the requirements of a given individual (not possible with WES 1000 WP).

Caution: The buffer cylinder is not suitable for the preparation of drinking water!

Installation example of the buffer battery 3 x 1000 litres



Connection pipe set cascade
(Contents: 4 pieces)
-w- item no. 40900015552

For the WES 1500, 2000 and 3000 Cas-R / B, the connection of the cascades must be established by the customer.

4. Heater Side Connection (pressure resistant)

The following must be observed:

In order to ensure the faultless functioning of the connection fittings, these may only be installed in frost-protected spaces. The outlet of the safety valve must be open and observable and/or the outlet pipe from the drip tray (water overflow funnel) must be introduced into the sewer line so that neither frost nor blockages due to dirt and the like can result in a malfunction. It is to be ensured that the drip container or the drainage object is free of deposits and dirt.
No shut-off valve or any other restriction may be installed between the safety valve and the storage tank.
The outlets of the safety valves must lead to a corresponding drainage object in order to prevent any damage from the outlet of hot fluids.

The safety valve must be configured for a trigger pressure that is lower than the nominal pressure of the storage tank.
Before the final connection of the storage tank, the inflow pipe must be flushed through.

When lifting or turning (ventilation) the safety valve testing knob, the water must be able to flow properly and without congestion from the excess water funnel.

In order to avoid damage, it is necessary to establish the connection to the tank by means of a detachable connection (union). Tank leaks as a result of an improper connection and resulting damage and consequential damage are excluded from the warranty and product liability.

5. Important Installation Information

When installing the device due attention must be paid to the dimensional sketches.
CAUTION: The weight of the tank, including the weight of the water content (the nominal capacity), must be taken into consideration for the selection of an installation point and/or the preparation a device mounting surface that is adequate to meet the technical loading and installation strength requirements.
The required clearances to furnaces are to be taken from the manufacturer's documentation as well as from the relevant ordinances.

In case of damage any failure to heed this instruction shall be deemed to represent an improper usage and will therefore result in this not being covered by the warranty provisions.

If an energy storage tank is fitted with covers or cladding in narrow small spaces or in suspended ceilings and the like, it is crucial to ensure that the connector block of the device (water connections, electrical connections) remains freely accessible and that heat accumulation is not generated. There must be a free space of at least 500 mm for the dismantling of the heating flange.
The assembly must be carried out on site.
The device operator has a duty to ensure that there can be no risk of physical injury by scalding with hot water to people not fully instructed in the use of the appliance.

If a connection sleeve becomes necessary for the installation of a built-in heater, the internal baffle plate is to be bent inward with a suitable tool at the energy storage WES Cas-R.

6. Temperature Display, Temperature Regulation for Charge Pump

When installing external regulators, it must be ensured that the tank temperature cannot exceed the permitted operating temperature (see specification plate).

7. Initial Commissioning

The area in which the device is operated must be frost-free.
The initial commissioning and heating must be supervised by a trained professional.
Prior to initial commissioning and connection to the electrical power supply of the plant, the storage tank must be filled with water and aerated.
All connections, including those that are locked down in the factory (flange, sleeves), are to be checked for leaks during commissioning (if necessary, remove insulation again for visual inspection or remove lid).
Then check the plumbing for potential leaks and repair if necessary. As listed in item 4, the safety group as well as the valves must be checked for functionality.

After heating up, the configured temperature, the actual temperature of the extracted water as well as any temperature display that may have been built in should be about the same (after deducting the switch hysteresis and the line losses).
When the water within the storage tank is heated, its volume is changed accordingly.
During the heating up process, the expansion water created within the tank must be captured by an appropriate expansion water container. Please see the manufacturer's documentation for the size of the container.
The automatic switching off of the system of any potentially installed electric heating installations or of the boilers must be checked.

Caution: The hot water drainage pipe as well as parts of the safety fittings can get hot.

8. Decommissioning, Draining

If the storage tank is to be taken out of operation or not used for a considerable period, then it should be completely isolated (all poles) from the electrical power supply - switch off at the mains or disengage the automatic circuit breakers and secure against being switched back on.
In rooms subject to a risk of frost, the tank must be emptied prior to the start of the cold weather season if the device is to be unused for several days.

Careful: Hot water can escape when draining!

If there is a risk of frost, it is generally to be observed that all water-carrying fittings and pipes (including the heating circuit = register) are to be emptied up until the frost-proof area.

If the storage system is brought back into service, then it is crucial to ensure that it is filled with water and aerated.

9. Inspection, Servicing, Maintenance

a) When fully heated up (about 80 °C), the excess water volume is about 3.5% of the storage tank volume.
The function of the safety valve should be checked regularly. When lifting or turning the safety valve testing knob to the "Test" position the water must flow unhindered out of the body of the safety valve and into the drainage funnel.
Caution: Parts of the storage tank connection fittings can become hot as a result.

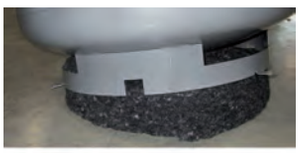
b) The storage tanks must be used exclusively in accordance with the conditions set out on the specification plate. In addition to the legally recognised national guidelines and standards, the connection conditions of the local electricity and water works as well as those set out in the installation and operating instructions must also be complied with.

10. Electrical Connection

General information:

In addition to the legally recognised national guidelines and standards, the connection conditions of the local electricity and water works as well as those set out in the installation and operating instructions must be complied with and must only be carried out by a licensed professional. The mandatory protection measures must be carried out carefully, so that in case of a malfunction or outage of the water heater's electrical power supply no other electrically powered devices are affected by it (e.g. deep freezer, rooms used for medical purposes, intensity maintenance devices etc.).
In rooms with baths or showers the device must be installed in compliance with the relevant national legislation and regulations (e.g. from the ÖVE- SEV or VDE).
The technical connection conditions (TAB) of the competent energy supply company responsible must be adhered to without fail. A ground fault circuit interrupter with a trip current of $I_{\Delta n} \leq 30mA$ must be installed upstream from the electrical circuit. The device may only be connected to permanently installed power lines.
These types of water heaters are to be supplied exclusively via a hard-wired connection cable and are therefore not suitable for connection via a shock-proof plug (SKI). Accidental activation of the upstream RCD is to be avoided in this way.
An all-pole isolating device with a contact spacing of at least 3mm must be installed upstream of the device. This requirement is fully met by a circuit breaker for example. Without fail, the buffer cylinder must be filled with water prior to electrical commissioning. In accordance with safety regulations, the buffer cylinder must be isolated from the power supply prior to any invasive operation and must be secured against accidental powering up and must be checked to ensure that it is voltage free. Interventions into the device's electrical systems may only be carried out by a licensed professional. The electrical connection must always be implemented in accordance with the circuit diagram pasted in the heating!

11. Thermal insulation installation



After opening the packaging, properly place the floor insulation and border strip.
In order to eliminate hazards for those requiring care (e.g. choking in children), all packaging parts are to be immediately disposed of properly or are to be cut up.
In order to perform a proper installation, the device must be horizontally aligned before installing the thermal installation.

Pull the perforated thermal insulation part with the geomembrane inward over the connections.

Lock the non-perforated thermal insulation part into place on the hook closure strip of the already attached thermal installation part.

In order to avoid the hook closure strip from opening during the additional installation procedure, the delivered cover strips must be clicked into place via the hook closure strip.

After attaching the cover strip, the thermal insulation can be closed by means of the second hook closure strip.
In the case of a three-part thermal insulation, repeat the previous two work processes.

Insert the rondles on top of the tank and position them by pressing them lightly.
Caution: To obtain an optimal thermal insulation, there may be no air gap present between the rondle and the thermal insulation.

Properly position and attach the lid with the hook strip recesses on top of the thermal insulation.

Note:
The lids of the energy storages WES 1500, 2000, 3000 Cas-R / B has neither border nor hook strip recesses.

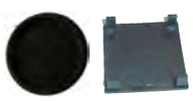
Attach the included rosettes at the connections.

The thermal insulation may not be buckled or crushed, as otherwise there is a risk of damage (stress whitening). A stress whitening resulting from improper handling can be carefully eliminated or minimised by means of a hot air gun.
Caution: Depending on the heat output of the hot air gun, a minimum distance is required between the thermal insulation and gun. An open flame is not permitted (e.g. flames).
Note: The tank temperature may not exceed 110°C for a long time during operation.

Installation of the sensor with accompanying immersion sleeve spring. A total of 3 sensors can be installed per immersion tube.
Laying of the lines in the duct under the cover strip (if possible).

Attach the enclosed specification plate after the installation of the thermal insulation.

12. Spare parts list



Designation	Item number	Type							
		WES 500 Cas-R	WES 800 Cas-R	WES 1000 Cas-R	WES 1250 Cas-R	WES 1500 Cas-R	WES 2000 Cas-R	WES 3000 Cas-R	WES 1000 WP
Immersion sleeve									
Clamp spring 14 x 8 x 90 170mm long	47600001297	x	x	x	x	x	x	x	x
Cover strip									
Cover strip 2690 mm (can be cut to length)	47600002977	x	x	x	x	x	x	x	x
Rosette set									
Accessories kit WES Cas-R	47600002492	x	x	x	x	x	x	x	
Accessories kit WES 1000 WP	47510202012								x
Cover									
Cover D858 x d60 x 70	47600002377	x							
Cover D998 x d60 x 70	47600002387		x	x					x
Cover D1210 x d60 x 70	47600002397				x				
Cover D1270 x 2	47600002897					x			
Cover D1370 x 2	47600002907						x		
Cover D1520 x 2	47600002917							x	
Thermal insulation (sheath)									
Thermal insulation WES 500 Cas-R	47600002207	x							
Thermal insulation WES 800 Cas-R	47600002217		x						
Thermal insulation WES 1000 Cas-R	47600002227			x					
Thermal insulation WES 1250 Cas-R	47600002237				x				
Thermal insulation WES 1500 Cas-R / B	47600002892					x			
Thermal insulation WES 2000 Cas-R / B	47600002902						x		
Thermal insulation WES 3000 Cas-R / B	47600002912							x	
Thermal insulation WES 1000 WP	47510202017								x
Accessories									
Connection pipe set cascade	40900015552	x	x	x	x				
Connection pipe cascade	40900015562	x	x	x	x				

13. Guarantee, Warranty and Product Liability

Warranty, guarantee and liability claims for personal injury and property damage are excluded if they are due to one or more of the following causes:

- Operation with non-functioning safety or protective equipment,
- Continued use despite the occurrence of a defect,
- Improper installation, commissioning, operation and maintenance,
- Unauthorized modifications to the device,
- Installation of additional components that have not been tested together with the device,
- Improperly executed repairs,
- Not using Weishaupt original parts,
- Unsuitable media,
- Deficiencies in the supply lines.

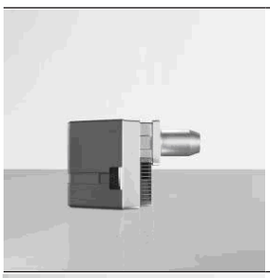
The following explicitly listed items in each case lead to the exclusion of any warranty, guarantee and liability claims: Improper transportation, normal wear and tear, deliberate damage or damage through negligence, any application of force whatsoever, mechanical damage, damages due to frost or resulting from exceeding the operational pressure stated on the rating plate even once, the use of connection fittings that do not comply with the applicable standards or non-functioning storage tank connection fittings as well as unsuitable and non-functioning operating fittings. Plastic components breakage, any colour differences there may be, damage resulting from improper use, especially resulting from a failure to comply with the installation and operating instructions (Operating and Installation Instructions), damage due to external factors, connection to the wrong voltage, corrosion damage due to aggressive waters not suitable as drinking water in accordance with national guidelines (European Drinking Water Ordinance, national drinking water laws), divergences of the actual drinking water temperature at the storage tank instruments from the stated water temperature of up to 10°K (hysteresis of the regulator and potential cooling through plumbing), too low conductivity of the water (at least 150 µs/cm), operational wear of the magnesium anode (wear part), natural scaling, lack of water, fire, flooding, lightning strike, voltage overloading, power outages or other acts of force majeure. The use of non-original and non-company parts such as for example heating rod, protective anode, thermostat, thermometer, ribbed pipe heat exchanger etc., uninsulated components introduced opposite the tank, the infiltration of foreign bodies or electro-chemical influences (e.g. mixed installations), failure to pay due care and attention to the planning documentation, failure to renew the inbuilt protective anode on time and to document it, lack of or unprofessional cleaning and operation, as well as any divergences from the norm that even slightly reduce the value or the functional capability of the device. In addition, as a matter of basic principle, all regulations set out in DIN 1988 (EN 806), DIN 1717, VDI 2035 as well as the corresponding national regulations and legislation must be complied with.

–weishaupt–

Max Weishaupt GmbH · D-88475 Schwendi

Weishaupt in your area? You will find addresses, telephone numbers, etc. at www.weishaupt.de

The entire program: reliable technology and fast professional service

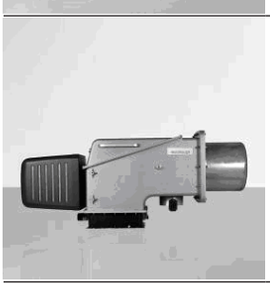


W-burner **up to 570 kW**

The compact burners proven million times over are economical and reliable. As oil, gas and dual fuel burners, they heat single and multi-family homes as well as commercial operations. As purflam® burners with a special mixing device, they burn oil virtually free of soot and with reduced NOx emissions.

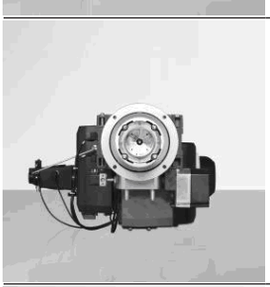
WM burner monarch® and industrial burner **up to 11,700 kW**

The legendary industrial burners are durable and versatile in use. Numerous design versions as oil, gas and dual fuel burners are suitable for different heat requirements in various areas and applications.



WK burner **up to 28,000 kW**

The industrial burners in the modular system are adaptable, robust and powerful These oil, gas and dual fuel burners work reliably, even in tough industrial applications.



multiflam® burner **up to 17,000 kW**

The innovative Weishaupt technology for medium and large burners offers minimal emission values at power levels up to 17 megawatts. The burner with the patented mixing device is available for oil, gas

MSR technology/building automation by Neuberger

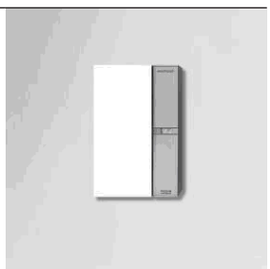
From control cabinets to complete building automation solutions – at Weishaupt you will find the entire range of instrumentation and control technology. Future-oriented, economical and flexible.

Service

Weishaupt customers can rely on the fact that special knowledge and tools are always available when you need them. Our service technicians are universally trained and precisely know every product, from burners to heat pumps, from condensing boiler units to solar collectors.

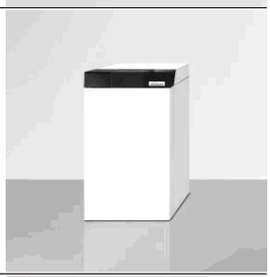
Wall-mounted condensing boiler systems for oil and gas **up to 240 kW**

The wall-mounted condensing boiler systems WTC-GW and WTC-OW were developed for the highest standards of comfort and economy. Its modulating operation makes these devices particularly quiet and economical.



Upright condensing boiler for oil and gas **up to 1,200 kW**

The upright condensing boilers WTC-GB and WTC-OB are efficient, low emission and versatile in use. Large demands can also be covered by cascading up to four gas condensing boilers.

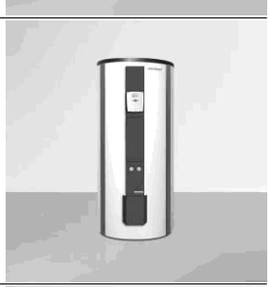


Solar systems

The elegant flat plate collectors are the ideal supplement to Weishaupt heating systems. They are suitable for solar drinking water heating as well as for combined heating support. With versions for roof mounting, mounting integrated in the roof and flat roof installations, solar energy can be used on nearly every roof.

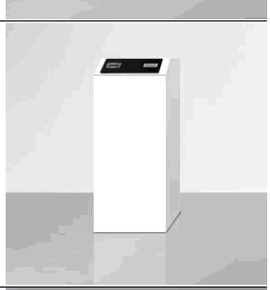
and dual fuel operation.

The attractive program for drinking water heating includes traditional water heaters, solar tanks, heat pump tanks as well as energy storage tanks.



Heat pumps **up to 130 kW**

The entire heat pump range offers solutions for the use of heat from the air, the earth or groundwater. Some systems are also suitable for cooling buildings.



Geothermal probe drillings

With the subsidiary BauGrund Süd, Weishaupt also offers geothermal probe and well drilling. With experience of more than 10,000 systems and more than 2 million meters drilled, BauGrund Süd offers a comprehensive range of services.