

# General connection and warranty conditions

Layer-buffer storage tanks

**PZ - PZR - PZRR**

500 - 800 - 1000 - 1500 litres

Please pass on to the end user

**Dear Customer,**

Following your decision to purchase a hot water heater with an electric storage tank produced by our company,

**we should like to thank you for selecting one of our products.**

You will receive an elegantly designed device that was constructed in accordance with the state of the art and the applicable regulations. Continuous research as well as an ongoing quality control during the production provide our buffer tanks with technical characteristics that you will always value.

The installation and first commissioning must be performed by a licensed plumber and in accordance with these instructions only.

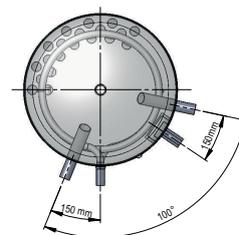
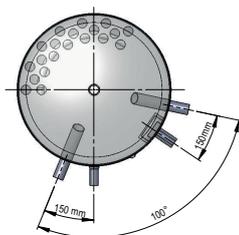
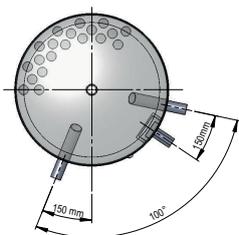
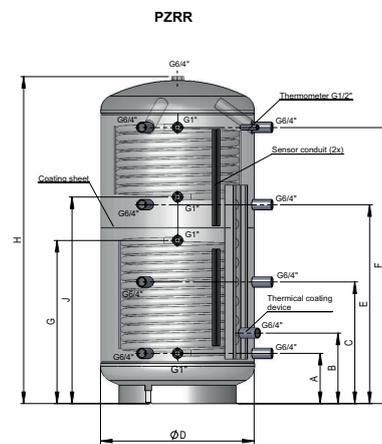
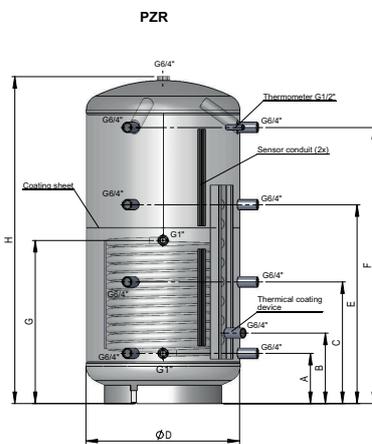
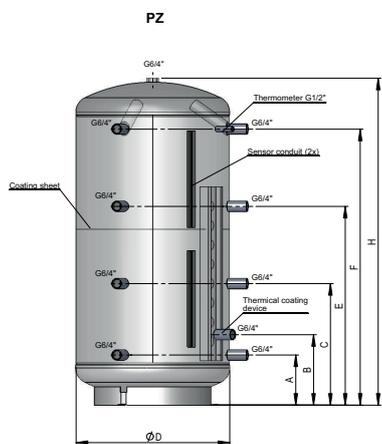
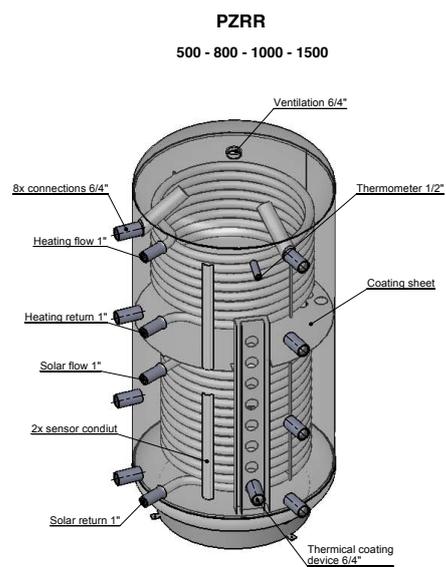
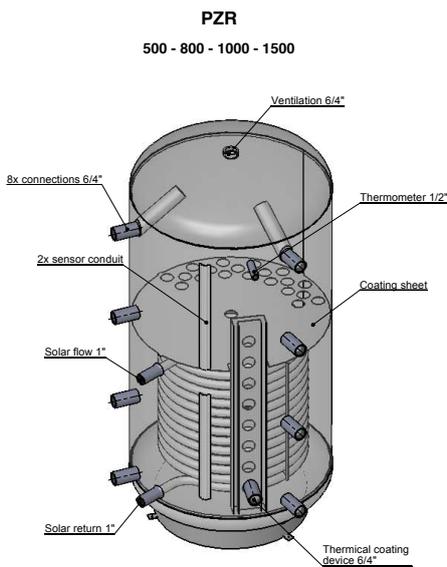
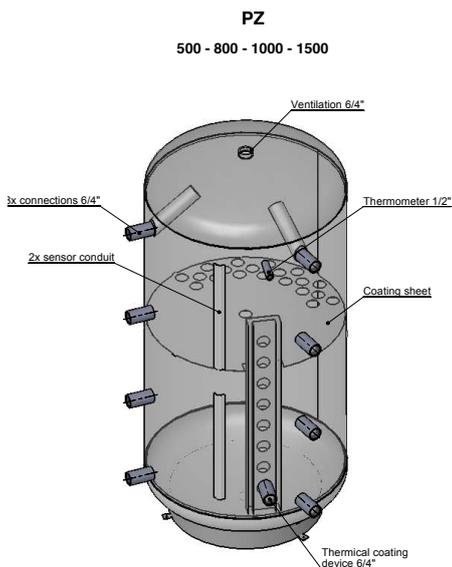
You will find all important information for a correct assembly and operation in this small brochure. Nevertheless, let your concessionary explain to you how the device functions and demonstrate its operation. Of course, our customer service and sales department are at your service to support you in case you need any advice.

Please read through all the information provided in these instructions carefully. Keep these instructions in a safe place and pass them on to subsequent owners, if applicable.

**We hope that you enjoy using your tank.**



# 1 Technical specifications



Type	Contents l	Dimensions in mm											Tilted dimension mm	Heater register surface less than m <sup>2</sup>	Heater register surface more than m <sup>2</sup>	Register content less than l	Register content more than l
		H	H with insulation	ØD	ØD with insulation	A	B	C	E	F	G	J					
PZ 500	500	1640	1725	650	850	220	320	620	1010	1390	-	-	1680	-	-	-	-
PZR 500	500	1640	1725	650	850	220	320	620	1010	1390	715	-	1680	1.9	-	12.3	-
PZRR 500	500	1640	1725	650	850	220	320	620	1010	1390	715	1040	1680	1.9	1.2	12.3	7.9
PZ 800	780	1700	1785	790	990	260	365	630	1030	1430	-	-	1750	-	-	-	-
PZR 800	780	1700	1785	790	990	260	365	630	1030	1430	845	-	1750	2.4	-	15.6	-
PZRR 800	780	1700	1785	790	990	260	365	630	1030	1430	845	1070	1750	2.4	1.6	15.6	10.6
PZ 1000	960	2050	2085	790	990	310	415	745	1250	1710	-	-	2100	-	-	-	-
PZR 1000	960	2050	2085	790	990	310	415	745	1250	1710	1030	-	2100	3.0	-	19.2	-
PZRR 1000	960	2050	2085	790	990	310	415	745	1250	1710	1030	1160	2100	3.0	2.4	19.2	15.5
PZ 1500	1500	2150	2235	1000	1200	380	480	825	1350	1760	-	-	2250	-	-	-	-
PZR 1500	1500	2150	2235	1000	1200	380	480	825	1350	1760	1175	-	2250	3.6	-	23.5	-
PZRR 1500	1500	2150	2235	1000	1200	380	480	825	1350	1760	1175	1265	2250	3.6	2.4	23.5	15.5

## 2 Operating prerequisites and important instructions

The appliance is only suitable for hot water heating within enclosed rooms and may only be installed by approved specialists (subject to taking into account the technically relevant standards, for example ÖNORM B2531-1; DIN 1988). The AE buffer storage units are suitable for all hot water - central heating installations regardless of whether these are solid fuel or oil fired heating boilers, heating pumps, solar installations, gas or electrical flow heaters. Several buffer storage units in rows can be combined with each other and in this way the storage volumes can be individually adjusted according to requirements. Furthermore, the buffer storage units can also be used as cold water storage units for cooling processes or for heat recovery in industrial plants.

The storage tanks are to be exclusively installed as per the conditions given on the rating plate.

In addition to the legally-recognized national regulations and standards (Austria ÖVE, ÖNORM, etc.) the connecting regulations of the local electricity and water supply companies as well as the assembly and operating instructions are to be observed. The hot water heating must be carried-out in accordance with the applicable standards (e.g. ÖNORM H 5195-1)..

The room in which the equipment is to be operated must be frost-free. The assembly of the equipment has to be carried out in one place and taking into account the cheapest method; i.e. the equipment must be easily accessible and capable of being exchanged in the event of any maintenance, repairs and possible exchanging of components being required. This means that any building-related measures which present problems for working must be removed by the end customer. In the event of the installation, assembly and operation of the hot water heater in unusual locations (e.g. attics, living rooms with water sensitive floors, storerooms, etc.) the possible leakage of water is to be taken into account and whether a device for catching and channelling any leaking water is to be provided in order to avoid any secondary/consequential damage. The equipment may only be installed and operated as per the intended arrangement on a vertical surface, which is suitable for bearing the weight of the fully-filled hot water heater.

**Warning: The buffer storage unit is not suitable for the supply of drinking water!**

This equipment is not suitable for use by persons (including children) with limited physical, sensory or mental capabilities or those who lack experience and/or knowledge, unless they are being supervised by someone responsible for their safety or have received instructions on how the equipment is to be used. Children should be supervised to ensure that they do not play with the equipment.

## 3 Screw-in heaters

A 1 1/2 inch sleeve is provided with some buffer storage units, which can be used for the installation of an electrical screw-in heater for auxiliary or reheating operations (Except: Type PZRR 1000 and 1500 litres). Screw-in heaters are designed in terms of their technical concept as so-called auxiliary heaters and are not to be used for permanent heating.

## 4 Central heating connection

Prior to commissioning, the pipe register or the double jacket should be rinsed out in order to remove any contamination (such as scale) from the heating circuit.

The hot water must be provided in accordance with the national regulations and standards (e.g, ONORM H5195) when being commissioned and must meet the regulations.

### Storage unit with pipe register

The registers that are built-into the storage unit (heat exchangers) are suitable for connection to a hot water heater at the pressure and temperature that is indicated on the rating plate of the buffer storage unit. A forced recirculation by means of a pump is required.

When installing a buffer storage unit with a pipe register, a shut-off device should be installed upstream, so that when the central heating and heat pumps and electrical operation are switched off any back heating in the heating circuit is prevented.

In no case however may the forward and back flow be shut off as otherwise water that is contained in the register cannot expand and a risk of damage to the heat exchanger arises.

## 5 Important assembly instruction

During the assembly process the dimensional drawings and any possibly included instructions are to be observed.

**WARNING:** The weight of the hot water heater including the weight of the water in the tank (at the rated capacity) is to be taken into account for any load-related and strength-related laying out of the assembly surface of the equipment or for the selection of the place where it is to be installed.

Distances to fire installations are to be taken from the manufacturer's documentation and also from the appropriate regulations.

If a hot water boiler is fitted with surrounds (cladding) in confined, small areas or in false ceilings and similar things, care must be taken to ensure that the connecting side of the equipment (water connections, electrical connection compartment or heat installation) remains freely accessible and that no heat build-up takes place. There must be an unencumbered space of at least 500mm for removing the heating flange.

The assembly must be made on the site. It must be ensured that screw threads are completely engaged in all connection sleeves. If there is particularly aggressive water, which requires special solutions in terms of the installation, the possible need for special versions of the storage tank should be looked into (please make enquiries with our representatives or directly with our company).

The failure to observe these regulations constitutes an unprofessional utilisation in the event of damages occurring and with this being ineligible for the terms of warranty.

Appliances with electrically-driven built-in heaters are equipped with a safety temperature limitation device, which switches off the further heating of the appliance (EN 60335-2-21, OVE-EW41, Part 2 (500) (1971)). The selection of the connecting components (connecting pipes, circulation, safety valve combinations, etc.) should be carried out in such a way that the connecting components, in the event of any possible malfunctioning of the temperature control system, withstand temperatures of 110°C and avoid any consequential damage. The assembly and installation work may only be performed by duly licensed tradesmen.

The operator of the installation has to ensure that no risk of being scalded with hot water can arise for persons not duly trained when using the equipment.

## 6 Temperature gauge, temperature control system for charging pump

In the event of the installation of non-standard control systems, it must be ensured that the temperature of the boiler cannot exceed 95°C in practical operation.

## 7 Initial commissioning

The room in which the equipment is to be operated must be frost-free.

The initial commissioning and heating-up must be supervised by the specialist.

Prior to the initial commissioning and connecting-up to the electrical power network, the storage tank on the unit must be filled with water. The drain valve on the valve fittings must be opened at the initial filling. The buffer storage unit is completely filled, whenever bubble-free water runs out from the drainpipe of the valve fittings. All of the connections including those which are closed-up in the manufacturing process (flanges, sleeves, etc.) are to be inspected for their sealing when the commissioning is carried out. Following this, the pipelines should be checked for any leakages and these should be rectified if need be. The set of safety components and the valves between the cold water inlet and the buffer storage unit must be inspected to ensure their correct operation.

After the heating-up has been completed, the set temperature, the actual temperature of the water that is removed and that displayed on any built-in temperature gauge must be more or less the same (after deducting the switching hysteresis and the line losses).

When the water in the storage tank heats-up, its volume then changes.

During the heating-up process the expansion water that is in the internal boiler must be taken off through a corresponding expansion tank. The size of the expansion tank should be taken from the manufacturer's documentation.

The self-actuating switching-off of the system of any electrical heating insert or of the heating boiler is to be inspected.

**Warning:** The hot water outlet pipe and parts of the safety valve/fittings can become hot.

## 8 De-commissioning, draining

If the storage unit should be out of operation or not be used for a long period of time, then it should be drained and disconnected from the main electricity supply at all poles - switch off the inlet-switch or automatic circuit breakers. In rooms that are at risk from frost, the hot water heater should be drained before the start of the cold time of year, if the equipment is to remain out of operation for several days.

**Warning: Hot water can escape during the draining process!**

If there is a risk of frost, you should furthermore be aware that not only the water in the hot water heater and in the hot water pipes can freeze but also the water in all of the cold water supply lines to the heaters as well as to the equipment itself. It is therefore advisable to drain off all water-carrying valves and fittings and pipes (also heating circuit = register) back as far as the frost-protected part of the domestic water installation (domestic water connection).

**When the storage tank is put back into operation, it is essential to ensure that it is filled with water and that bubble-free water is emitted from the valve fixings.**

## 9 Inspection, maintenance, care

a) When the unit is fully heated-up (approx. 80°C) the expansion water totals approximately 3.5% of the contents of the storage tank.

The functioning of the safety valves should be regularly inspected. (as per DIN 1988). When raising or rotating the safety valve test toggle into the "Prüfen" ("Test") setting, the water must flow unimpeded out of the body of the safety valve into the overflow funnel.

Warning: The cold water intake and parts of the storage unit connection fittings can become hot during this process. Should the storage unit not be heated-up, no water may drip from the safety valve. If this should be the case, the water intake pressure is either greater than the permitted level or the safety valve is faulty. Should the water intake pressure be higher than permitted, a pressure reduction valve must be utilised.

b) No abrasive cleaning material or any paint thinners (such as Nitro, Trichlor, etc.) may be used for cleaning the storage unit. The best thing to use for cleaning is a damp cloth to which a couple of drops of liquid household cleaner have been applied.

The smooth pipe heat exchanger is to be professionally flushed prior to the commissioning (we also recommend installing a dirt filter). Should the smooth pipe heat exchanger not be used during the operation of the storage unit (for example only using electric heating) then this is to be completely filled with an appropriate glycol mixture in order to avoid any corrosion caused by condensation water. The filled up smooth pipe heat exchanger may not be closed up on both sides after being filled-up (pressure expansion due to temperature).

d) The storage unit is to be exclusively installed as per the conditions given on the rating plate. In addition to the statutory recognised national regulations and standards, the connection conditions of the local electricity and water supply companies and the assembly and operating instructions are also to be observed.

e) The room in which the equipment is to be operated must be frost-free. The assembly of the equipment has to be carried out in one place and taking into account the cheapest method; i.e. the equipment must be easily accessible and capable of being easily exchanged, in the event of any maintenance, repairs and possible exchanging of components.

# 10 Electrical connection

## General instructions

The connection to the electrical mains supply has to be carried out in accordance with the valid national regulations and standards, with the corresponding connection conditions of the local electricity and water supply companies and with the requirements of the assembly and operating instructions and may only be performed by licensed electrical technicians. The prescribed safety measures are to be carefully carried out so that in the event of a breakdown or failure of the electricity supply to the hot water heater, no further electrically supplied equipment will be affected by this (e.g. freezers, areas used for medical activities, intensive care units, etc.). In rooms with baths or showers, the equipment must be installed as per the national rules and regulations (for example ÖVE-SEV or VDE).

The technical connection conditions (TAB) of the competent energy supply companies must be strictly observed. A residual current circuit breaker must be installed upstream of the circuit with an activation current  $I_{\Delta N} \leq 30\text{mA}$ . The equipment may only be connected to fixed pipework.

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 disconnecting device with at least 3 mm distance between contacts must be installed upstream of the equipment. This requirement is met for example by means of a circuit breaker. The buffer storage unit must without fail be filled with water prior to the electrical commissioning. In accordance with the safety regulations, the buffer storage unit is to be switched off so it is free of tension, secured against the possibility of being switched on again and inspected for being free of tension. Work on the electrical equipment of the device may only be carried out by a licensed electrical specialist. Basically, the electrical connection should be made in accordance with the switching diagram that is affixed to the heater!

# WARRANTY, GUARANTEE AND PRODUCT LIABILITY

The warranty is granted in accordance with the statutory provisions of the Republic of Austria, as well as of the EU.

1. Prerequisite for the provision of warranty services by Austria Email AG (hereinafter referred to as AE AG) shall be the presentation of the paid invoice for the purchase of the device for which the warranty service is claimed, whereby the identity of the device with regard to the model and the manufacturing number must be evident from the invoice and must be documented by the claimant. The General Terms and Conditions, Terms and Conditions of Sale and Delivery of AE AG shall apply exclusively.
2. To the extent required by the law, respectively in the Operator's Manual and Installation Instructions, the assembly, erection, connection and commissioning of the unit for which the claim is presented must have been carried out by a licensed electrician or installation firm, duly observing all applicable rules. The tank (without outer shell and plastic outer shell) must be protected from sunshine to avoid discolouring of the PU foam and potential warping of plastic components.
3. The room in which the device is operated must be free of frost. The unit must be mounted in a location that may reasonably be expected, i.e. it must be possible to access and replace the unit without difficulty for the purpose of necessary maintenance, repairs and possible replacement. The costs for any necessary changes to the structural conditions (e.g. doors and passages too narrow) are not governed by the guarantee and warranty declaration and therefore shall be rejected on the part of AE AG. If the water boiler is set up and operated in uncommon locations (e.g. attics, living rooms with water-sensitive floors, store rooms, etc.), the possibility of water leakage must be taken into account and provisions made for collecting and discharging the water leakage in order to prevent secondary damage within the meaning of product liability.
4. The following is not covered by the warranty and guarantee:  
inappropriate transport, normal wear and tear, intentional or negligent damage, use of force of any kind or description, mechanical damage or damage caused by frost or also by exceeding the operating pressure stated on the rating plate, even if only once, use of connection fittings that do not comply with the standard, use of defective tank connection fittings and unsuitable and defective service fittings. Breaking of glass and plastic components, possible colour differences, damage due to improper use, in particular non-observance of the mounting and operating instructions (Operating and Mounting Instructions), damage by external influence, connecting to incorrect voltage, corrosion damage as a consequence of aggressive waters (water not suitable for drinking) in accordance with the national regulations (e.g. Austrian ordinance on drinking water, TWV – Fed. Law Gazette II No. 304/2001), Continued use, despite the occurrence of a defect, unauthorised modifications to the device, installation of additional components that were not tested together with the device, improperly carried out repairs, deviations between the actual drinking water temperature at the tank fitting and the specified hot water temperature of up to 10°K (hysteresis of the controller and possible cooling due to pipelines), Insufficient water conductivity (min. 150 µs/cm) operational wear of the magnesium anode (wearing part), natural formation of boiler scale, lack of water, fire, flood, lightning, overvoltage, power failure or other types of force majeure. Use of non-original and company-external components such as e.g. heating elements, reactive anode, thermostat, thermometer, ribbed tube heat exchanger, etc., Parts installed in an insulated condition with respect to the storage tank, ingress of foreign particles or electrochemical influences (e.g. mixed installations), failure to observe the design documents, unpunctual and undocumented renewal of the installed protective anode, no or improper cleaning and operation, as well as any deviations from the standard that reduce the value or functionality of the device only slightly. Fundamental compliance with all regulations in ÖNORM B 2531, DIN 1988 (EN 806), DIN 1717, VDI 2035 or the corresponding national regulations and laws must be ensured.
5. In the case of an authorised complaint, this must be reported to the next available customer service location of AE AG. The same reserves the right to decide whether a defect component shall be replaced or repaired or whether a defect device shall be replaced by an equivalent fault-free device. Furthermore, AE AG explicitly reserves the right to request that the rejected device be returned by the buyer. The time of a repair or a replacement is determined by the AE-AG.
6. Repairs under warranty must be performed exclusively by persons authorised to do so by AE AG. Replaced parts shall remain the property of AE AG. If a repair of the hot water heater should be required in connection with necessary service work, the Manufacturer shall invoice these as repair and prorated material costs.
7. Any intervention by third parties without our express instruction, even if performed by a licensed electrician, shall have the effect of voiding the warranty. Costs for repairs carried out by third parties shall be replaced only if AE AG has previously been requested to remove the defect and if AE AG shall have failed to satisfy its obligation to replace the defective item or repair the defect or if it shall have failed to do so within a reasonable period of time.
8. Neither the performance of works under warranty or guarantee, nor the performance of service and maintenance works shall renew or extend the term of warranty.
9. Transport damage shall be investigated and possibly accepted only if it is reported to AE AG in writing on the next following workday after delivery at the latest.
10. Claims over and above the warranty, if legally permissible, in particular claims with respect to compensation of damages and consequential damages, shall be excluded. Prorated labour time for repairs as well as the costs of restoring the original condition of the unit must be paid in full by the buyer. In accordance with this warranty declaration, the warranty shall apply only to repair or replacement of the unit. The provisions of the Terms and Conditions of Sale and Delivery of AE AG shall, unless amended by these Terms and Conditions of Warranty, remain fully in place.
11. Services that are not performed within the scope of these Terms and Conditions of Warranty shall be charged.
12. No claims under warranty shall be considered by AE AG unless full payment for the device has been made to AE AG and unless the claimant has fully satisfied all obligations arising to him vis-à-vis the seller.
13. The enamelled internal boiler for water heaters is warranted for the specified period from the delivery date provided all warranty terms described under Points 1 to 12 are observed with in full. If the warranty terms have not been met, the legal warranty requirements of the respective country from which the appliance was shipped shall prevail.
14. With regard to the assertion of claims pursuant to the Austrian Product Liability Act it must be noted:  
Potential claims under the title of product liability relating to the regulation of damages due to a defective product (e.g. a human's body is injured, his health is damaged or any corporeal property differing from the product is damaged) shall only be justified if all the prescribed measures and requirements for flawless and normal operation of the unit have been fulfilled.  
These include e.g. the mandatory and documented anode replacement, the connection to the correct operating voltage, any damage due to improper use must be avoided, etc. These standards are based on the assumption that if all the regulations (standards, assembly and operating instructions, general guidelines, etc.) are observed, the defect in the unit or product causal for occurrence of the secondary damage would not have occurred. It is further imperative that all the documentation necessary for handling of a claim, such as e.g. the type and fabrication number of the unit, the vendor's invoice and the invoice of the licensed electrician or installation firm, as well as a description of the malfunction be provided, as well as the defective unit itself for examination in the lab (absolutely necessary, as the unit will be investigated by an expert and the cause of the defect analysed). In order to exclude any possibility of mistaken identity of the unit during transportation, the unit must be labelled with a clearly legible label (ideally with the end customer's address and signature). Appropriate photographic documentation of the extent of damage, the installation (cold water inflow, hot water outflow, heating inflow and outflow, safety fittings, expansion vessel if applicable), as well as the defective part of the tank is required. AE AG further expressly reserves the right to demand the submission of documentation and units or unit components by the buyer for the purpose of clarification.  
The damaged party's full burden of proof that the damage was caused by the product of AE AG is prerequisite for the payment of any benefits under the title of product liability. Claims for damages pursuant to the Austrian Product Liability Act are moreover justified only for any amount exceeding the amount of 500 euros (deductible amount). Until all the facts and circumstances as well as the problem causally underlying the defect have been ascertained, any possible fault on the part of AE AG shall be ruled out explicitly. Any non-observance of the operating and assembly instructions as well as the relevant standards shall be deemed negligence and shall result in an exclusion of any liability for damages.

The figures and data are not binding and may be amended without notice in the interest of technical improvement.

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