

Type of device: VERTICAL BUFFER

CAPACITIES AVAILABLE: 80, 100, 120, 140, 160, 200, 250, 300, 400, 500, 600, 750, 1000

PRODUCT ID: BuforPion



1. PRODUCT DESCRIPTION

Water buffer is a device dedicated to closed heating system. Buffer is constructed for storing domestic water, which can be used long after the source of heat is extinguished. It can also work as an alternative source of heat. However the most important role of this type of tank is to increase quantity of water in the heating system as well as to optimize of energy usage by decreasing the frequency of switching on the furnace. The tank is designed for vertical work only.

THE TANK DOES NOT REQUIRE MAGNESIUM ANODE

2. CONSTRUCTION:

Tank body - made of black steel. The steel thickness presented below is dedicated to a given product capacity.

CAPACITY [L]	Lower and upper bottom	Tank body
	steel sheet thickness [mm]	steel sheet thickness [mm]
80	4	3
100	4	3
120	4	3
140	4	3
160	4	3
180	4	3
200	4	3
250	4	3
300	4	3
400	4	4
500	4	4
600	4	4
750	4	4
1000	4	4

The internal anti-corrosion layer - the tank is covered EPIDIAN - food grade epoxy resin atested by National Institute of Public Health NIH - National Research Institute.

The externam thermal insulation - it is made of cloased polyurethane foam PUR of about 5,5 centimeters thickness being the integral part of the tank. The external values of the buffer are enhanced by ecological leather, which can be removed when needed.

3. INSTALLATION SAFETY

The process of installation must be prepared by an installer with appropriate qualifications and in compliance with Occupational Health and Safety Rules. Before starting the installation, please read this user manual. The product should be installed in accordance with the intended use recommended by the Manufacturer. The installation cost is the responsibility of the Buyer/User. The manufacturer is not responsible for device defects resulting from incorrect installation of the tank or by a person who does not have installation qualifications.

Installing the tank in places exposed to: low temperature/ freezing, high temperature/ steam/ explosion and other substances that accelerate corrosion or oxidation (e.g. chlorine, ammonia) is prohibited, and its effects release the Manufacturer from liability for the tank.

If the tank is installed in a non-standard place, the surface of which is exposed to rapid destruction in contact with water, the User is obliged to appropriately protect the surface against possible secondary damage. IT IS PROHIBITED TO USE THE TANK WITHOUT AN OPERATING SAFETY VALVE - regular inspection of the valve is recommended. You must also not prevent dripping from the safety valve (do not seal the valve, but specify the cause and replace it with a functional valve if necessary).

If the tank is installed in a closed heating system, an expansion vessel with a capacity of not less than 5% of the tank capacity should be installed, while if the tank is installed in an open system, the so-called expansion tank with a capacity of not less than 5% of the heater capacity should be installed.

4. INSTALLATION

The tank should be placed on a durable surface in a vertical position (the only permissible form). It is necessary to install the tank in such a place that the user has easy access to the safety valve in the event of a failure of the device, the heat source or the safety valve itself. The distance from the tank cover to the ceiling should not be less than 30 cm. Do not interfere with the connections, e.g. by bending them. In accordance with Journal of Law 2015 point: 1422 each connector must be insulated. The appropriate water intake for the buffer is the water supply network, the water quality must meet the standards of Council Directive 98/83/EC of November 3, 1998. ref. Quality of water intended for human consumption and the corresponding legislation of the Republic of Poland (Journal of Laws of 2017, item 2294). There is a risk of discoloration of the water or a foreign odor if the device is connected to its own water intake, for which the Manufacturer is not responsible.

The installation begins with filling the tank with water by opening the valve at the utility water inlet and opening (completely until the air is released, i.e. until the water

flows out in a continuous stream) at the water outlet from the tank. When the tank is filled with water, close the valve and make sure that all connections are tight - tighten them if necessary. The installer is obliged to install a safety valve. The tank works on the principle of gravity, and consequently the inlet of the hot heating medium into the buffer must be located higher than the outlet from the boiler.

There are many options for connecting the buffer in the heating system, including combining several heat sources, e.g. a boiler/ furnace (gas, coal, wood, pellets, eco-pea), solar system, heat pump, fireplace. One of the simplest configurations is the scheme:

furnace => buffer => water conditioner => heaters

The permissible temperature for the buffer operation is maximum 90 degrees Celsius, the maximum working pressure of the buffer is 0.6 MPa.

It is important to use a dialectical connector that does not conduct electricity at the junction between the cold and hot water connectors of the tank and the installation cables. This solution eliminates contact of iron with copper, thus extending the life of the tank and preventing electrolysis (a phenomenon that is particularly active in water with an acidic pH (level <7)).

If the User decides to install an electric heater, it must be connected through a socket with a grounding pin and must be protected by a residual current circuit breaker. The device works properly when the entire heating installation has been properly constructed and secured.

5. USER MANUAL

Important! You must not use the tank without filling it with water and without properly working safety valve.

The device maintenance process must be carried out in accordance with current Occupational Health and Safety rules.

After installing the tank but before using it, rinse the tank by filling the tank with water, heating it to a temperature of 50 degrees Celsius, and then releasing the water through the tap at the furthest point in the installation, and then repeating the process one more time.

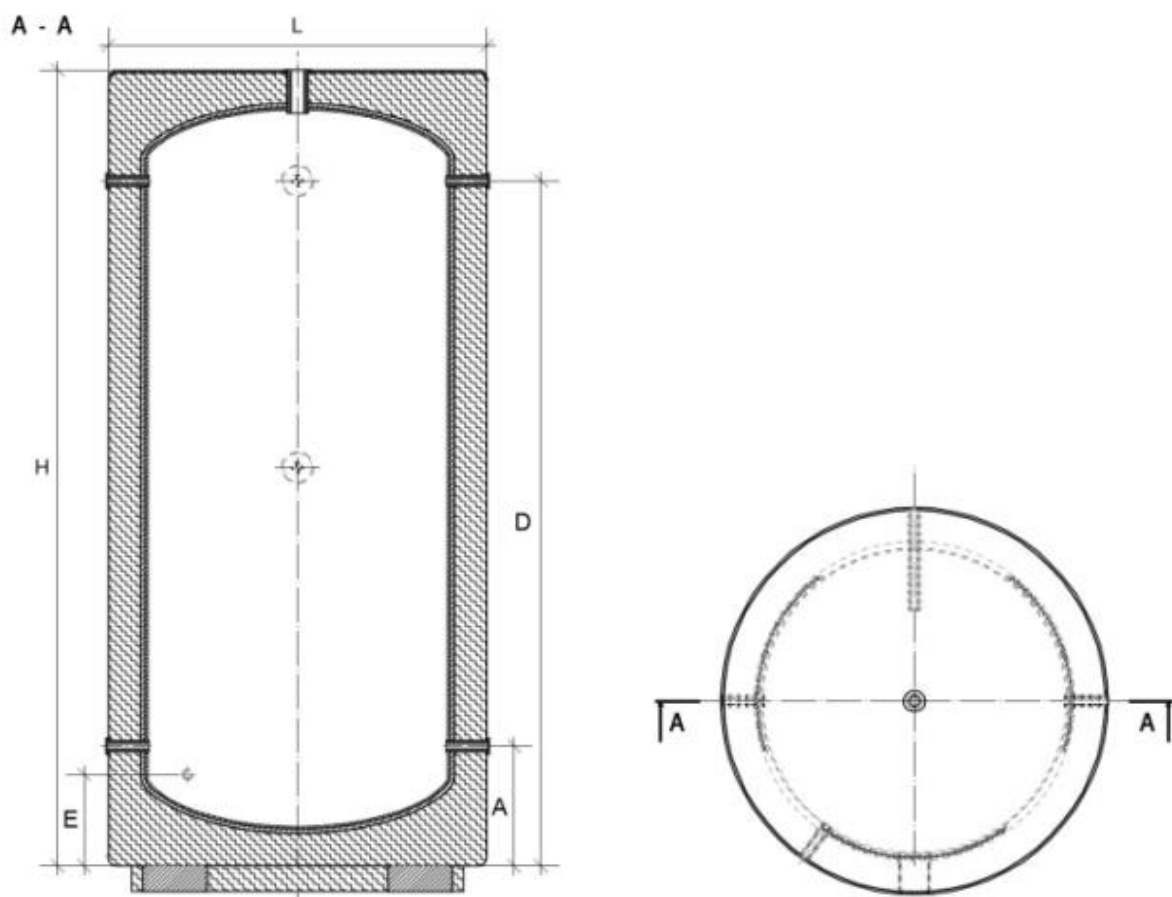
Once a month, you should heat the tank - heat water to 70 degrees Celsius to remove bacteria which may occur.

If an undesirable factor occurs - e.g. the risk of freezing water inside the tank, in this case water from the tank should be immediately removed. The appearance of fire in the close contact with the tank may cause it to burn.

In case of steam appearance at the hot water outlet, immediately open the water outlet/faucet and check the temperature of the heat source - reduce or turn off the heat source. If the device is connected to the electrical network, remove the plug from the power socket and find the cause of excessive temperature with the manufacturer of the heat source. The above situation may result in loss of health or life.

ATTENTION! The tank requires a flow of utility water of at least 20% of its capacity for 24 hours of operation. Precipitation of sediments and discoloration of water caused by lack of tank operation, the so-called the temporary stagnation of the hot water circuit is not subject to complaint.

TECHNICAL DRAWING



SYMBOL	CAPACITY	DIAMETER [L]	LENGHT [H]	DIAM. [A]	DIAM. [D]	DIAM. [E]
BuforPion80	80 L	490 mm	945 mm	250 mm	685 mm	175 mm
BuforPion100	100 L	490 mm	1060 mm	280 mm	830 mm	200 mm
BuforPion120	120 L	490 mm	1180 mm	280 mm	950 mm	200 mm
BuforPion140	140 L	490 mm	1295 mm	280 mm	1065 mm	200 mm
BuforPion160	160 L	490 mm	1560 mm	280 mm	1330 mm	200 mm
BuforPion180	180 L	490 mm	1760 mm	280 mm	1530 mm	200 mm
BuforPion200	200 L	630 mm	1240 mm	245 mm	1045 mm	170 mm
BuforPion250	250 L	630 mm	1490 mm	245 mm	1340 mm	170 mm
BuforPion300	300 L	630 mm	1740 mm	245 mm	1545 mm	170 mm
BuforPion400	400 L	830 mm	1420 mm	340 mm	1140 mm	270 mm
BuforPion500	500 L	830 mm	1520 mm	340 mm	1240 mm	270 mm
BuforPion600	600 L	680 mm	1920 mm	390 mm	1750 mm	200 mm
BuforPion750	750 L	830 mm	1920 mm	340 mm	1640 mm	270 mm
BuforPion1000	1000 L	1000 mm	1590 mm	515 mm	1320 mm	370 mm

TECHNICAL DATA

Technical Parameters		Unit measure	BuforPion80SKAJ	BuforPion100SKAJ	BuforPion120SKAJ	BuforPion140SKAJ	BuforPion160SKAJ	BuforPion180SKAJ	BuforPion200SKAJ	BuforPion250SKAJ	BuforPion300SKAJ	BuforPion400SKAJ	BuforPion500SKAJ	BuforPion600SKAJ	BuforPion750SKAJ	BuforPion1000SKAJ
Nominal capacity		[L]	80	100	120	140	160	180	200	250	300	400	500	600	750	1000
Real capacity		[L]	98	112	127	141	175	200	241	299	355	572	617	592	796	1076
Energy accumulated in the tank. Assumptions for the temperatures: domestic water 42°C; set in the tank 70°C		[L]	179	205	232	258	320	365	439	546	647	1043	1125	1079	1451	1962
Surface		[m²]	1,5	1,6	1,8	1,9	2,2	2,5	2,9	3,3	3,7	5,0	5,2	4,5	6,1	6,4
Weight		[kg]	33	37	41	45	53	60	67	77	88	116	123	111	147	154
Water tank maximum working temperature and pressure		[°C / Bar]	90°C / 6 Bar													
Downtime loss (S) in watt [W] for storage capacity in liters [L]		[W]	25	26	27	28	30	32	34	36	39	46	47	46	51	57
Heat losses depending on the capacity (V)		[kWh/24h]	0,61	0,63	0,66	0,68	0,73	0,76	0,81	0,87	0,93	1,09	1,12	1,11	1,23	1,37
Energy class		A+	A+	A+	A+	A+	A+	A	A	A	B	B	B	B	B	
Dimensions																
Height	H		945	1060	1180	1295	1560	1760	1240	1490	1740	1420	1520	1920	1920	1590
Diameter	L		ø490	ø490	ø490	ø490	ø490	ø490	ø630	ø630	ø630	ø830	ø830	ø680	ø830	ø1000
Connector - 5/4" or 6/4"	A		250	280	280	280	280	280	245	245	245	340	340	390	340	515
	D		685	830	950	1065	1330	1530	1045	1340	1545	1140	1240	1750	1640	1320
Drain - (1/2" for 80L - 140L; 3/4" for 160L - 1000L)	E		175	200	200	200	200	200	170	170	170	270	270	200	270	370

*The manufacturer reserves the right to the technical modifications/improvements in the product.

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SCHEMA - VERTICAL BUFFER



LEGEND

- 1. POLYURETHANE FOAM THERMAL INSULATION
- 2. ANTI-CORROSION LAYER
- 3. CAPILLARY TUBE TEMPERATURE SENSOR 1/2"
- 4. DRAIN 3/4"
- 5. THERMOMETER 1/2"
- 6. CONNECTOR NO.1 - 5/4" or 6/4"
- 7. CONNECTOR NO. 2 - 5/4" or 6/4"
- 8. VENTING 5/4"
- 9. ELECTRIC HEATER WITH THEROMOSTAT 5/4"