

SUNSYSTEM



WALL-HUNG WATER HEATERS

- ELECTRIC
- WITH ONE HEAT EXCHANGER
- WITH TWO HEAT EXCHANGERS
- WITH TWO PARALLEL HEAT EXCHANGERS



2018
CATALOGUE

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 Poland
 Portugal
 Romania
 Russia
 SAR
 Serbia
 Slovakia
 Slovenia
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 Sweden
 Switzerland
 Tunisia
 Ukraine
 USA

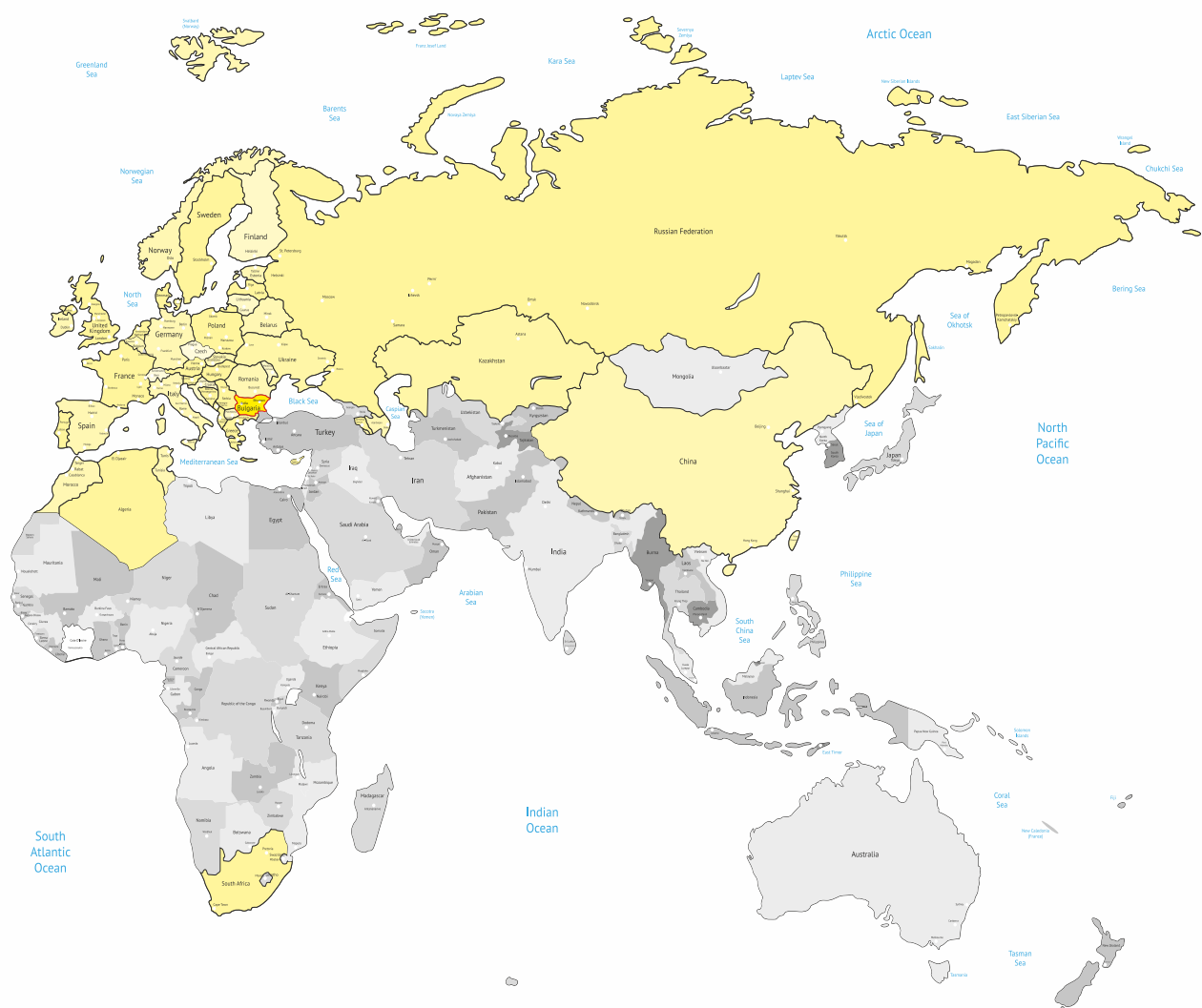


Our markets



Contacts

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NES Ltd., Town of Shumen, Bulgaria

NES Ltd.



The Company

NES Ltd. is a manufacturer of appliances utilizing alternative energy sources.

The company was established in 2002 in town of Shumen, Bulgaria.

The company has its own manufacturing, warehousing and administrative facilities with an area of 30 000 sq. meters.

The staff amounts to 360 highly qualified specialists.



NES Ltd., Town of Sofia, Bulgaria

All company activities are governed by QMS ISO 9001:2008.

The production is marketed across Europe, Africa, North America, part of Asia and other marketplaces are in the scope of near-future activities.

Most products of NES Ltd. are designed to utilize alternative energy sources like solar thermal energy, biomass energy and aerothermal energy. These products contribute to sparing the energy reserves of the planet and minimizing the carbon emissions.



Our trademarks



- **SOLAR THERMAL**

- Solar collectors
- Domestic/ Storage / Combi tanks
- Buffer tanks
- Heat pump heaters / Heat pumps
- Non-standart storage tanks

- **PHOTOVOLTAIC**

- Photovoltaic modules, accessories
- Engineering, Procurement and Construction of photovoltaic plants

- **BIOMASS HEATING**

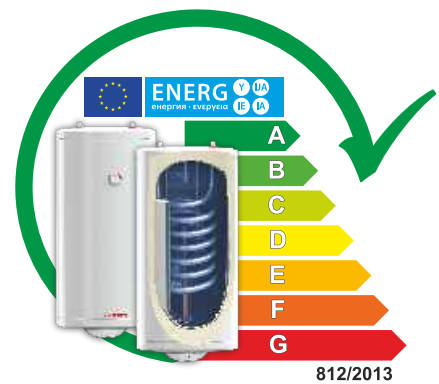
- Automated boilers
- Pellet stoves
- Pellet burners
- Solid Fuel Boilers
- Fuel Hoppers

- **BIOMASS HEATING INDUSTRIAL EQUIPMENT**

- Solid fuel boilers
- Combined boilers
- Pellet burners
- Set Pellet boilers



Contents



Water heaters MB NL series

Wall-hung

Electric (without coil): vertical and horizontal models

With one coil: vertical and horizontal models

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Water heaters MB NL PRL series

Wall-hung

With two parallel coils: vertical models

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Water heaters BB NL series

Wall-hung

Electric (without coil): vertical and horizontal models

With one coil: vertical and horizontal models

With coil and water mantle: vertical and horizontal models

With two coils: vertical models

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Water heaters BB NL PRL series

Wall-hung

With two parallel coils: vertical models

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Water heaters BB-N V/S1 UP series

Floor standing

With one coil: vertical models

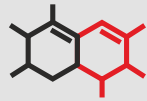
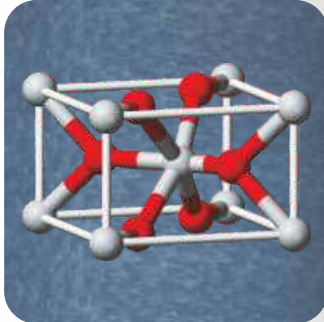
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Water heaters for domestic hot water BB Q/S1 EXT series

Floor standing

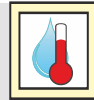
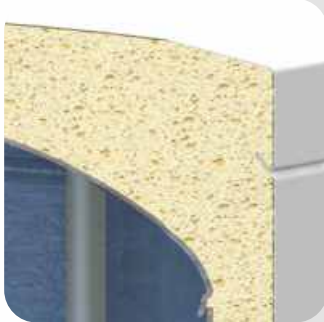
With one coil, horizontal models

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Titanium Enamel

Hot water is aggressive to steel. In order to protect a water heater from corrosion it needs to be isolated from the hot water in it. All SUNSYSTEM water heaters are tightly covered with titanium enamel on the inside. It is then baked to produce a smooth and uniform deposition-free glazing. Thus the domestic hot water remains clean, and the water tank is protected against corrosion.



Insulation

The quality of the insulation of a water heater is a key factor for its heat conservation capability and energy efficiency. All SUNSYSTEM water heaters are furnished with rigid Polyurethane (PU). Polyurethane boasts extremely low thermal conductivity owing to its closed cell structure. In the same time it is harmless to nature as it contains environment friendly foaming agent. Polyurethane helps conserve heat for a long time and minimize energy consumption.



Materials

All SUNSYSTEM appliances are produced from select materials of ultimate grades to provide for best product performance and longevity. We source our materials and components from qualified suppliers, with verified quality by reputable certification institutions.



Renewable Energy Enabled

SUNSYSTEM water heaters with heat exchangers (with one coil, with two coils or with coil and water mantle) are renewable energy enabled. They employ both indirect and direct heating and may be used with heat derived from renewable energy sources. Go for renewable energy to cut down on your monthly costs and do your part to help reduce carbon dioxide emissions.



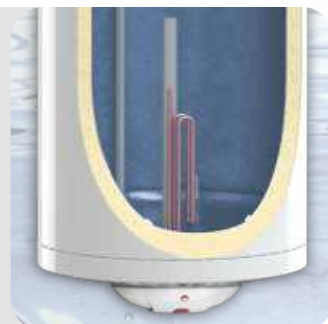
Cathodic Protection



Wall-hung water heaters SUNSYSTEM are equipped with two magnesium anodes. The sacrificial anode protectors provide secondary protection against corrosion of the water tank in all carbon-steel models.

The anode protector acts against corrosion in three different ways simultaneously:

- Decreases the electric potential by means of electro-galvanic polarization.
- Creates a protective film on the metal surface and thus protects it from contact with the water.



Electric heating kit (electric heating element and thermostat)



All wall-hung water heaters SUNSYSTEM, whether intended for direct heating or indirect, come in set with electric heater of 1.5 kW, 2 kW or 3kW.

The heater's operation is controlled by thermoregulator with independent thermal protection function.

The thermostat may be adjusted by the user within the range 30°C ÷ 80°C, and the thermal protection would go off in case the water reaches 95°C.



Inspection opening



Convenient inspection opening located in the water tank bottom gives access for maintenance and cleaning.

The opening is hermetically closed by special cover.

To the cover of inspection opening are mounted electric heating element, thermostat and anode.



Heat Exchangers



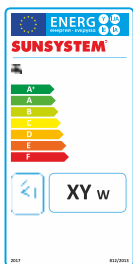
All models with indication S1, S2 and S1 M are equipped with heat exchangers (with one coil, with two coils or with coil and water mantle).

That enable the appliance to utilize heat from external sources of energy such as solar collector or biomass boiler.





Bathroom water heaters.
 Easy to install and use. Compact size.
 Vertical and horizontal models.
 Suitable to produce domestic hot water (DHW).
 In models with an electric heater, the water is heated directly.
 While in models with a built-in heat exchanger and an electric heater, the water is heated by using electrical energy and / or an external source of heat (solar system or heating system).



Energy Efficiency.
 Directive 2010/30/EU,
 Regulation 812/2013:

Capacity, Liters

50 - 120

Class

C



Insulation	High efficiency insulation (DIN 4753-8): rigid PU, thickness 20 mm. External metal casing in white RAL 9003.
Water tank	Water tank of low-carbon steel S235JR. Complex corrosion protection realized by means of titanium enamel (DIN 4753-3) and two magnesium anodes (DIN 4753-6). Thermometer. Convenient inspection opening on the bottom of water tank. Control panel: external thermostat control, light indicator. Electric heating element: 1.5kW, 2kW, 3kW. Operating pressure: 8 bar Test pressure: 13 bar Maximum temperature: 95°C
Inlets / Outlets	All threads are external. Available models with Left-side inlets/outlets or right-side inlets/outlets for convenient connection.
Heat-exchanger: coil (models MB NL S1)	Enables the tank to utilize an external source of heat. Operating pressure: 16 bar Test pressure: 25 bar Maximum temperature: 110°C





Safety devices	Safety valve, 8 bar. Thermostat with dual thermal electric protection.
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MB NL V/EL
electric (without coil)

Vertical models.



Connections: **bottom side** (inlet/outlet water).

	Model		Code
50	MB NL 50 V/EL	2	4010101105201
80	MB NL 80 V/EL	2	4010101105205
		3	4010101105206
100	MB NL 100 V/EL	2	4010101105209
		3	4010101105210
120	MB NL 120 V/EL	2	4010101105213
		3	4010101105214

MB NL H/EL
electric (without coil)

Horizontal models.

Connections: **bottom side** (inlet/outlet water).



	Model		Code
80	MB NL 80 H/EL	2	4010101105205
100	MB NL 100 H/EL	2	4015101105209
120	MB NL 120 H/EL	2	4015101105213



MB NL V/S1
with one coil

Vertical models.



Connections: **bottom side** (inlet/outlet water) and **right side** (inlet/outlet coil).

	Model		Code
80	MB NL 80 V/S1	2	4010101102205
		3	4010101102206
100	MB NL 100 V/S1	2	4010101102209
		3	4010101102210
120	MB NL 120 V/S1	2	4010101102213
		3	4010101102214



MB NL H/S1
with one coil

Horizontal models.

Connections: **right side** (inlet/outlet water) and (inlet/outlet coil).

	Model		Code
80	MB NL 80 H/S1	1.5	4015101102205
		3	4015101102206
100	MB NL 100 H/S1	1.5	4015101102209
120	MB NL 120 H/S1	1.5	4015101102213

Connections: **bottom side** (inlet/outlet water) and **left side** (inlet/outlet coil).

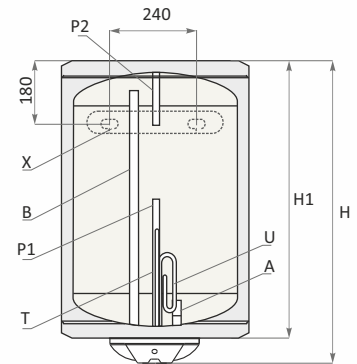
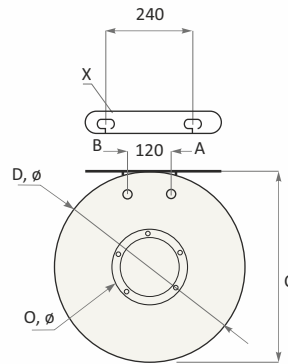
	Model		Code
80	MB NL 80 V/S1 L	2	4010101102207
		3	4010101102208
100	MB NL 100 V/S1 L	2	4010101102211
		3	4010101102212
120	MB NL 120 V/S1 L	2	4010101102215
		3	4010101102216



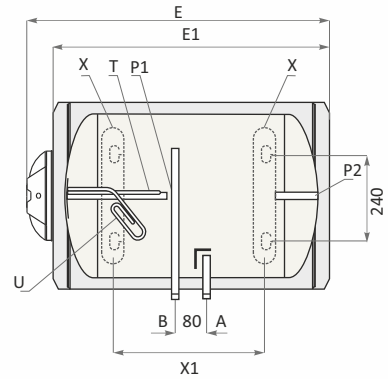
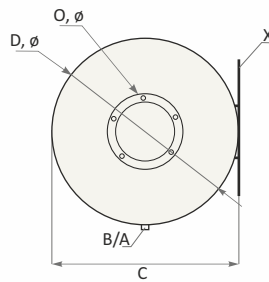
Technical characteristics.



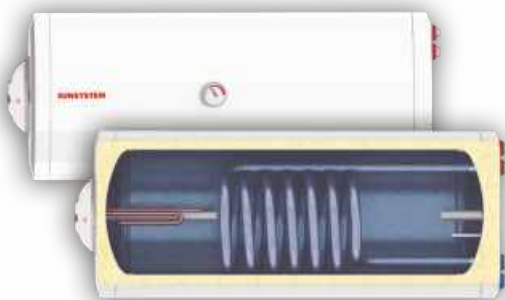
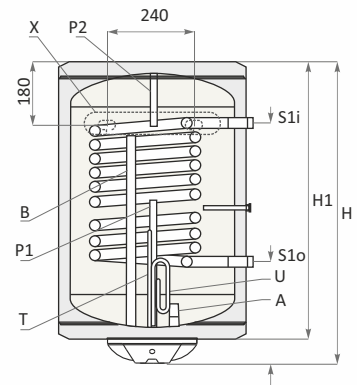
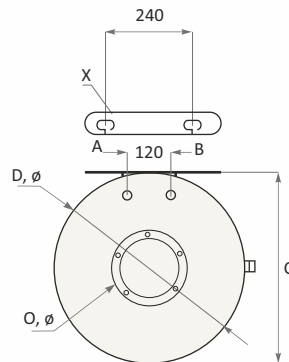
MB NL V/EL 50-120



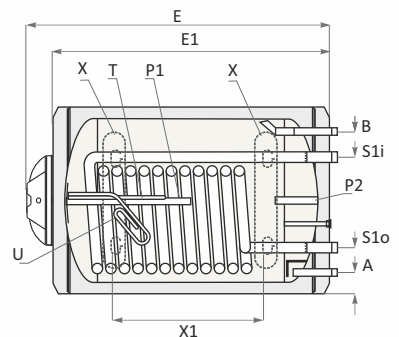
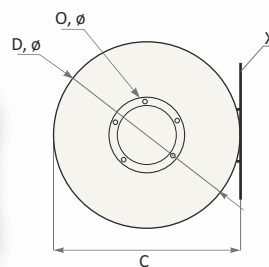
MB NL H/EL 80-120



MB NL V/S1 80-120




MB NL H/S1 80-120





MB NL V/EL, electric (without coil). Vertical models.

General parameters


	H mm	H1 mm	C mm	D mm ∅	kg
50	600	540	460	∅440	24.6
80	800	740	460	∅440	30
100	960	900	460	∅440	35
120	1120	1060	460	∅440	39.4

Inlets / Outlets

A	B	O mm ∅	P1/P2	T	U	X
R½"	R½"	∅132	✓/✓	✓	✓	✓
R½"	R½"	∅132	✓/✓	✓	✓	✓
R½"	R½"	∅132	✓/✓	✓	✓	✓
R½"	R½"	∅132	✓/✓	✓	✓	✓

MB NL H/EL, electric (without coil). Horizontal models.

General parameters


	E mm	E1 mm	C mm	D mm ∅	kg
80	800	740	460	∅440	30
100	960	900	460	∅440	35
120	1120	1060	460	∅440	39.4

Inlets / Outlets

A	B	O mm ∅	P1/P2	T	U	X	X1 mm
R½"	R½"	∅132	✓/✓	✓	✓	✓	380
R½"	R½"	∅132	✓/✓	✓	✓	✓	540
R½"	R½"	∅132	✓/✓	✓	✓	✓	700

MB NL V/S1, with one coil. Vertical models

General parameters


	H mm	H1 mm	C mm	D mm ∅	kg
80	800	740	460	∅440	36.4
100	960	900	460	∅440	43.6
120	1120	1060	460	∅440	49

Inlets / Outlets

A	B	O mm ∅	P1/P2	S1i mm R¾"	S1o mm R¾"	T	U	X
R½"	R½"	∅132	✓/✓	426	140	✓	✓	✓
R½"	R½"	∅132	✓/✓	540	140	✓	✓	✓
R½"	R½"	∅132	✓/✓	540	140	✓	✓	✓

MB NL H/S1, with one coil. Horizontal models.



General parameters

	E mm	E1 mm	C mm	D mm ∅	kg
80	800	740	460	∅440	36.4
100	960	900	460	∅440	43.6
120	1120	1060	460	∅440	49

Inlets / Outlets

A mm R½"	B mm R½"	O mm ∅	P1/P2	S1i mm R¾"	S1o mm R¾"	T	U	X	X1 mm
45	395	∅132	✓/✓	350	100	✓	✓	✓	380
45	395	∅132	✓/✓	350	100	✓	✓	✓	540
45	395	∅132	✓/✓	350	100	✓	✓	✓	700

Heat exchanger coil. Parameters.
Vertical and horizontal models.

		S1 m²	S1 L	S1 kW(m³/h)	S1 NL 60°C	S1 Δp, mbar
80		0.40	2.04	8.2(0.20)	1	50
100		0.53	2.70	9(0.22)	1.3	55
120		0.53	2.70	9(0.22)	1.3	55

Heat exchanger coil. Parameters.

- S1** Heat-exchanger coil
- S1, m²** Heat exchange surface S1
- S1, L** Coil capacity S1
- S1, kW (m³/h)** Prolonged power acc. to DIN 4708; 80°C/60°C/45°C, S1
- S1, NL 60°C** NL- power coefficient at 60°C, S1
- S1, Δp mbar** Pressure drop Δp, S1

General parameters

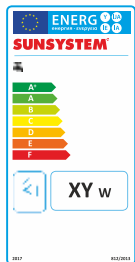
- L** Capacity
- H, mm** Overall Height
- H1, mm** Height of water tank
- E, mm** Overall Length
- E1, mm** Length of water tank
- C, mm** Depth
- ∅D, mm** Diameter of water tank
- ∅O, mm** Diameter of flange, inspection opening
- kg** Weight

Inlets / Outlets

- A, mm** Cold water inlet
- B, mm** Hot water outlet
- P1/P2** Anode
- T** Thermostat
- U** Electric heating element
- X** Stand for wall installation
- X1, mm** Distance between both stands



Bathroom water heaters with easy operation and compact size.
Vertical installation.
Suitable for domestic hot water production.
The models have two parallel heat exchangers coils for direct water heating.
Possibility to connect to the solar and heating system.



Energy Efficiency.
Directive 2010/30/EU,
Regulation 812/2013:

Capacity, Liters

100 - 120

Class

C



Insulation	High efficiency insulation (DIN 4753-8): rigid PU, thickness 20 mm. External metal casing in white RAL 9003.
Water tank	Water tank of low-carbon steel S235JR. Complex corrosion protection realized by means of titanium enamel (DIN 4753-3) and two magnesium anodes (DIN 4753-6). Thermometer. Convenient inspection opening on the bottom of water tank. Control panel: external thermostat control, light indicator. Electric heating element: 2kW, 3kW. Operating pressure: 8 bar Test pressure: 13 bar Maximum temperature: 95°C
Inlets / Outlets	All threads are external. Available models with Left-side inlets/outlets or right-side inlets/outlets for convenient connection.
Heat-exchanger: two parallel coils	Enables the tank to utilize an external source of heat. Operating pressure: 16 bar Test pressure: 25 bar Maximum temperature: 110°C



Safety devices	Safety valve, 8 bar. Thermostat with dual thermal electric protection.
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**MB NL PRL
with two coils**

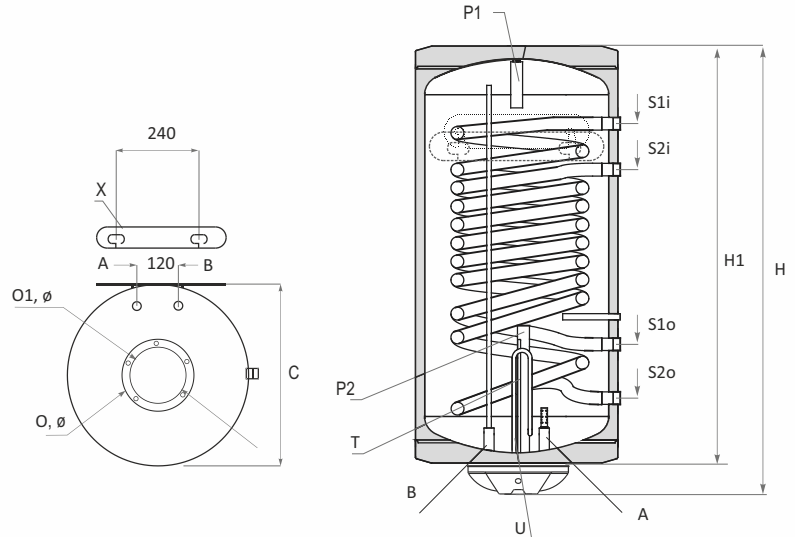
Vertical models.

Connections: **right side** (inlet/outlet water, coils).

	Model		Code
100	MB NL 100 PRL	3	4010101103009
120	MB NL 120 PRL	3	4010101103013

Connections: **left side** (inlet/outlet water, coils).

	Model		Code
100	MB NL 100 PRL L	3	4010101103011
120	MB NL 120 PRL L	3	4010101103015



MB NL PRL, with two coils. Vertical models.

General parameters

	H mm	H1 mm	C mm	D mm	
100	960	900	460	ø440	48
120	1120	1060	460	ø440	52

Inlets / Outlets

A mm	B mm	O mm	P1/P2	S1i mm	S1o mm	S2i mm	S2o mm	T	U	X
Rp ½"	Rp ½"	Ø		R¾"	R¾"	R¾"	R¾"			
✓	✓	ø132	✓/✓	738	141	638	258	✓	✓	✓
✓	✓	ø132	✓/✓	738	141	638	258	✓	✓	✓

Heat exchanger coil. Parameters.
Vertical and horizontal models.

S1/S2 m²	S1/S2 L	S1/S2 kW (m³/h)	S1/S2 NL Δp, 60°C	S1/S2 Δp, mbar
0.54/0.31	2.8/1.6	9(0.22) / 8(0.2)	1.3/1	55/50
0.54/0.31	2.8/1.6	9(0.22) / 8(0.2)	1.3/1	55/50

Heat exchanger coil. Parameters.

S1 / S2	Lower coil /Upper coil
S1/S2, m²	Heat exchange surface S1/S2
S1/S2, L	Coil capacity S1/S2
S1/S2, kW (m³/h)	Prolonged power acc. to DIN 4708; 80°C/60°C/45°C, S1/S2
S1/S2, NL 60°C	NL- power coefficient at 60°C, S1/S2
S1/S2, Δp mbar	Pressure drop Δp, S1/S2

General parameters

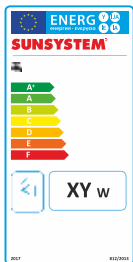
L	Capacity
H, mm	Overall Height
H1, mm	Height of water tank
C, mm	Depth
øD, mm	Diameter of water tank
øO, mm	Diameter of flange, inspection opening
kg	Weight

Inlets / Outlets

A, mm	Cold water inlet
B, mm	Hot water outlet
P1/P2	Anode
S1i	First coil input S1
S1o	First coil outlet S1
S2i	Second coil input S2
S2o	Second coil outlet S2
T	Thermostat
U	Electric heating element
X	Stand for wall installation
X1, mm	Distance between both stands



High efficiency bathroom water heaters.
 Easy to use and reliable.
 Vertical and horizontal models.
 Suitable to produce domestic hot water (DHW).
 In models with an electric heater, the water is heated directly.
 While in models with a built-in one or two heat exchangers and an electric heater, the water is heated by using electrical energy and / or an external source of heat (solar and / or heating system).



Energy Efficiency.
 Directive 2010/30/EU,
 Regulation 812/2013:

Capacity, Liters

80 - 200

Class

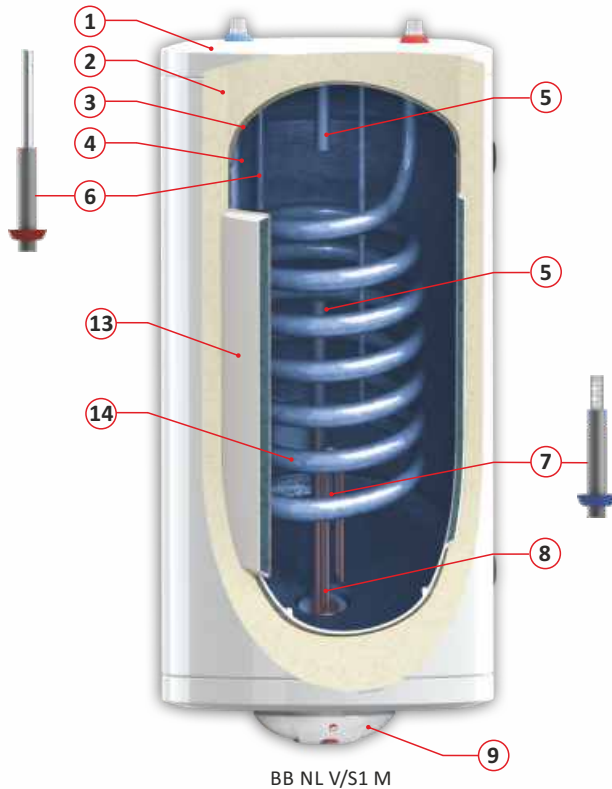
C



Insulation	High efficiency insulation (DIN 4753-8): rigid PU, thickness 32 mm. External metal casing in white RAL 9003.
Water tank	Water tank of low-carbon steel S235JR. Complex corrosion protection realized by means of titanium enamel (DIN 4753-3) and and two magnesium anodes (DIN 4753-6). Thermometer. Convenient inspection opening on the bottom of water tank. Control panel: external thermostat control, light indicator. Electric heating element: 1.5kW, 2kW, 3kW. Operating pressure: 8 bar Test pressure: 13 bar Maximum temperature: 95°C
Inlets / Outlets	All threads are external. Available models with Left-side inlets/outlets or right-side inlets/outlets for convenient connection.
Heat-exchanger: coil, water mantle (models BB NL S1, BB NL S2, BB NL S1M)	Enables the tank to utilize an external source of heat. Operating pressure coil/ mantle: 16 bar / 1.5 bar Test pressure coil/ mantle: 25 bar / 3 bar Maximum temperature coil/ mantle: 110°C / 95°C



Safety devices	Safety valve, 8 bar. Thermostat with dual thermal electric protection.
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1. External casing in white
2. High efficiency thermal insulation of environment-friendly rigid PU, thickness of 32 mm
3. Water tank of low-carbon steel
4. Titanium enamel (DIN 4753-3)
5. Two anodes (DIN 4753-6)
6. Stainless tube for hot water
7. Stratifier mounted on cold water inlet
8. Electric heating element
9. Control panel
10. Thermometer
11. Thermostat. Dual thermal electric protection
12. Safety valve, 8 bar
13. Water mantle heat exchanger
14. Coil heat exchanger

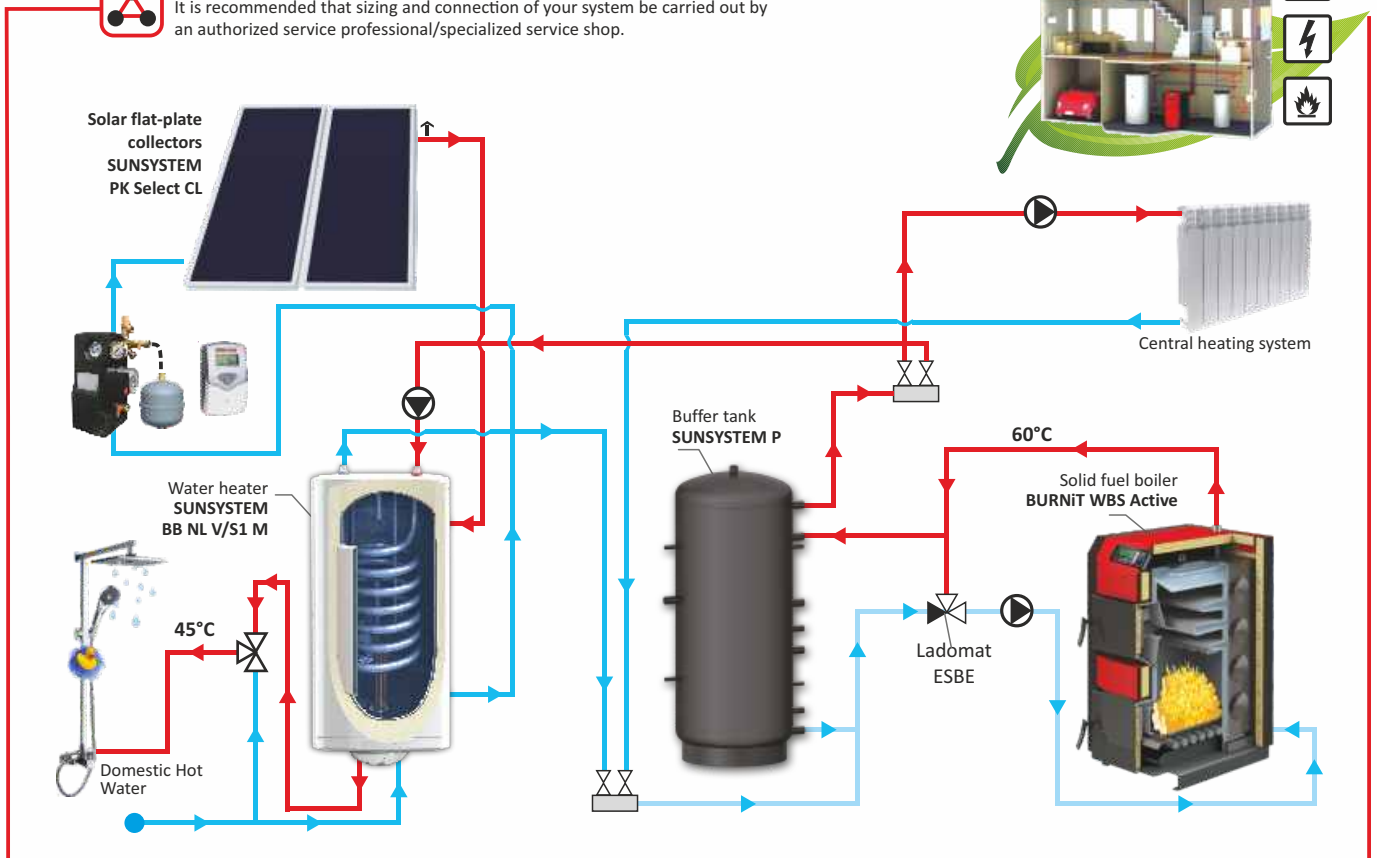


BB NL V/S1 M



Connection diagram (sample)

It is recommended that sizing and connection of your system be carried out by an authorized service professional/specialized service shop.





BB NL V/EL electric (without coil)

Vertical models.

Connections: **bottom side** (inlet/outlet water).





	Model		Code
80	BB NL 80 V/EL	2	4010102105205
		3	4010102105206
100	BB NL 100 V/EL	2	4010102105209
		3	4010102105210
120	BB NL 120 V/EL	2	4010102105213
		3	4010102105214
150	BB NL 150 V/EL	3	4010102105218
200	BB NL 200 V/EL	3	4010102105222

BB NL H/EL electric (without coil)

Horizontal models.

Connections: **right side** (inlet/outlet water).



	Model		Code
80	BB NL 80 H/EL	2	4015102105205
100	BB NL 100 H/EL	2	4015102105209
120	BB NL 120 H/EL	2	4015102105213
150	BB NL 150 H/EL	2	4015102105217
200	BB NL 200 H/EL	2	4015102105221

BB NL V/S1 with one coil

Vertical models.

Connections: **bottom side** (inlet/outlet water) and **right side** (inlet/outlet coil).





	Model		Code
80	BB NL 80 V/S1	2	4010102102205
		3	4010102102206
100	BB NL 100 V/S1	2	4010102102209
		3	4010102102210
120	BB NL 120 V/S1	2	4010102102213
		3	4010102102214
150	BB NL 150 V/S1	3	4010102102218
200	BB NL 200 V/S1	3	4010102102222



BB NL H/S1 with one coil

Horizontal models.

Connections: **right side** (inlet/outlet water) and (inlet/outlet coil).

	Model		Code
80	BB NL 80 H/S1	1.5	4015102102205
100	BB NL 100 H/S1	1.5	4015102102209
120	BB NL 120 H/S1	1.5	4015102102213
150	BB NL 150 H/S1	1.5	4015102102216
		2	4015102102213
200	BB NL 200 H/S1	1.5	4015102102221
		2	4015102102222

Connections: **bottom side** (inlet/outlet water) and **left side** (inlet/outlet coil).

	Model		Code
80	BB NL 80 V/S1 L	2	4010102102207
		3	4010102102208
100	BB NL 100 V/S1 L	2	4010102102211
		3	4010102102212
120	BB NL 120 V/S1 L	2	4010102102215
		3	4010102102216
150	BB NL 150 V/S1 L	3	4010102102220
200	BB NL 200 V/S1 L	3	4010102102224





BB NL V/ S1 M
with coil and mantle

Vertical models.

Connections: **bottom side** (inlet/outlet water),
top side (inlet/outlet coil) and
right side (inlet/outlet mantle).





	Model		Code
80	BB NL 80V/S1M	2	4010102104205
100	BB NL 100V/S1M	2	4010102104209
120	BB NL 120V/S1M	2	4010102104213
150	BB NL 150V/S1M	3	4010102104214
150	BB NL 150V/S1M	3	4010102104218



BB NL H/ S1 M
with coil and mantle

Horizontal models.

Connections: **right side** (inlet/outlet water) and
top/bottom side (inlet/outlet mantle).

	Model		Code
80	BB NL 80H/S1M	1.5	4015102104205
100	BB NL 100H/S1M	1.5	4015102104209
120	BB NL 120H/S1M	1.5	4015102104213
120	BB NL 120H/S1M	3	4015102104214
150	BB NL 150V/S1M	1.5	4015102104219
200	BB NL200H/S1M	3	4015102104222

Connections: **bottom side** (inlet/outlet water),
top side (inlet/outlet coil) and
left side (inlet/outlet mantle).



	Model		Code
80	BB NL 80V/S1M L	2	4010102104207
100	BB NL 100V/S1M L	2	4010102104211
120	BB NL 120V/S1M L	2	4010102104215
120	BB NL 120V/S1M L	3	4010102104216
150	BB NL 150V/S1M L	3	4010102104220

BB NL V/S2
with two coils



Vertical models.

Connections: **right side** (inlet/outlet water, coils)



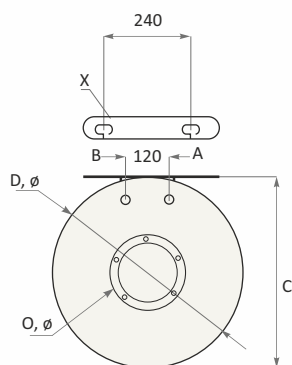
	Model		Code
200	BB NL 80V/S2	3	4010102103222

Connections: **left side** (inlet/outlet water, coils)

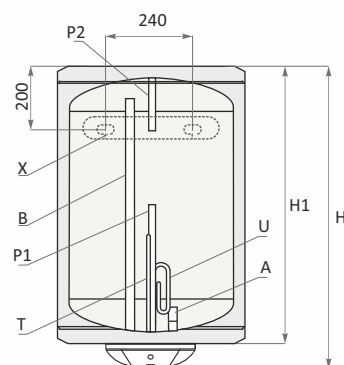
	Model		Code
200	BB NL 80V/S2 L	3	4010102103224



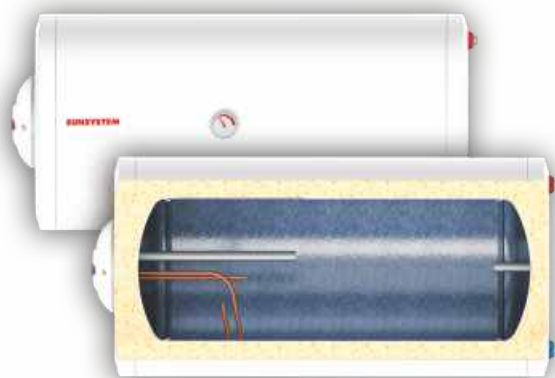
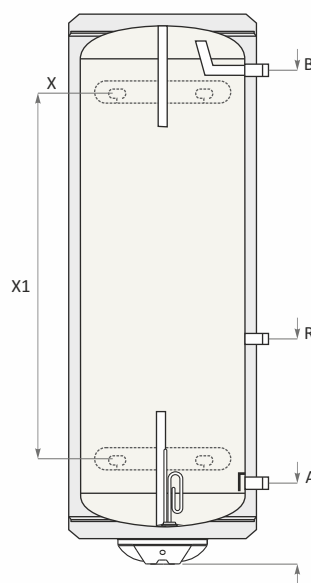
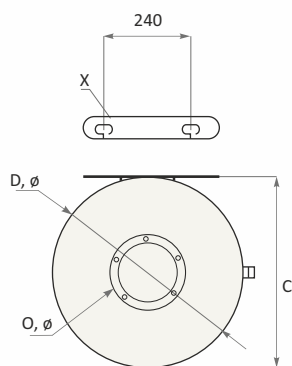
Technical characteristics.



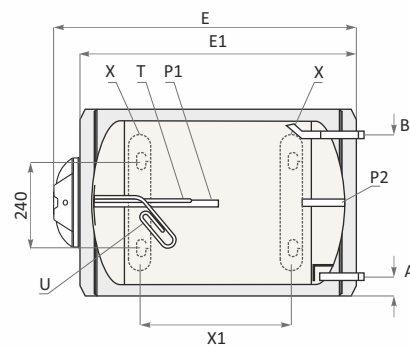
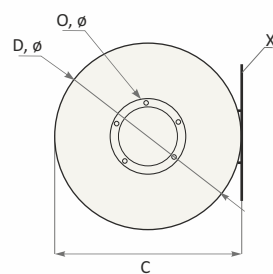
BB NL V/EL 80-150



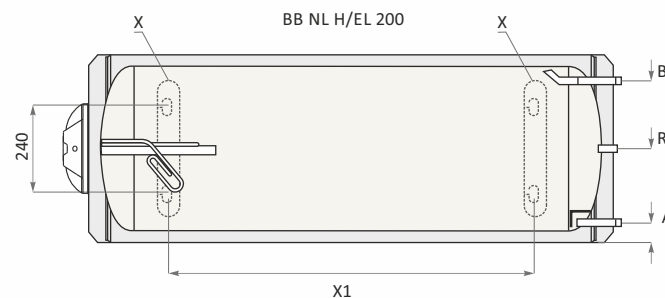
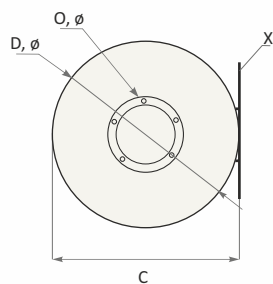
BB NL V/EL 200



BB NL H/EL 80-150




BB NL H/EL 200





BB NL V/EL, electric (without coil). Vertical models.

General parameters


	H mm	H1 mm	C mm	D mm ∅	kg
80	685	625	540	∅520	38
100	815	755	540	∅520	42.2
120	945	885	540	∅520	50
150	1085	1025	540	∅520	56
200	1355	1295	540	∅520	68

Inlets / Outlets

A mm	B mm	O mm ∅	P1/P2	R mm R ^{3/4} "	T	U	X	X1 mm
R ^{1/2} "	R ^{1/2} "	∅132	✓/✓		✓	✓	✓	
R ^{1/2} "	R ^{1/2} "	∅132	✓/✓		✓	✓	✓	
R ^{1/2} "	R ^{1/2} "	∅132	✓/✓		✓	✓	✓	
R ^{1/2} "	R ^{1/2} "	∅132	✓/✓		✓	✓	✓	
R ^{3/4} " 170	R ^{3/4} " 1120	∅132	✓/✓	877	✓	✓	✓	900

BB NL H/EL, electric (without coil). Horizontal models.

General parameters

	E mm	E1 mm	C mm	D mm ∅	kg
80	685	625	540	∅520	38
100	815	755	540	∅520	42.2
120	945	885	540	∅520	50
150	1085	1025	540	∅520	56
200	1355	1295	540	∅520	68

Inlets / Outlets

A mm	B mm	O mm ∅	P1/P2	R mm	T	U	X	X1 mm
R ^{1/2} " 65	R ^{1/2} " 455	∅132	✓/✓		✓	✓	✓	230
R ^{1/2} " 65	R ^{1/2} " 455	∅132	✓/✓		✓	✓	✓	360
R ^{1/2} " 65	R ^{1/2} " 455	∅132	✓/✓		✓	✓	✓	490
R ^{1/2} " 65	R ^{1/2} " 455	∅132	✓/✓		✓	✓	✓	630
R ^{3/4} " 65	R ^{3/4} " 455	∅132	✓/-	R ^{3/4} " 260	✓	✓	✓	900

General parameters

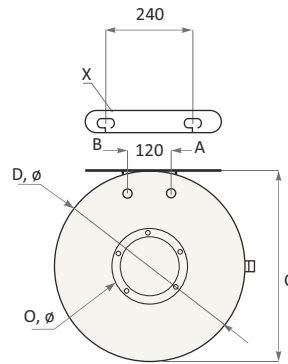
L	Capacity
H, mm	Overall Height
H1, mm	Height of water tank
E, mm	Overall Length
E1, mm	Length of water tank
C, mm	Depth
∅D, mm	Diameter of water tank
∅O, mm	Diameter of flange, inspection opening
kg	Weight

Inlets / Outlets

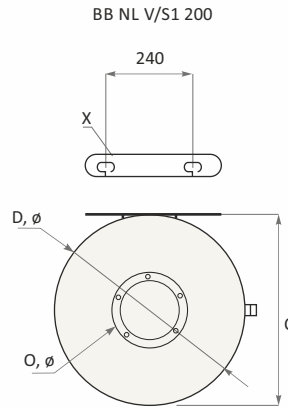
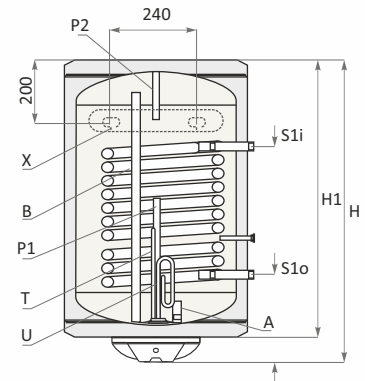
A, mm	Cold water inlet
B, mm	Hot water outlet
P1/P2	Anode
R, mm	Recirculation
T	Thermostat
U	Electric heating element
X	Stand for wall installation
X1, mm	Distance between both stands



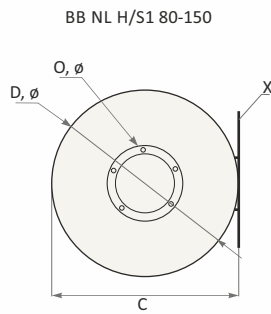
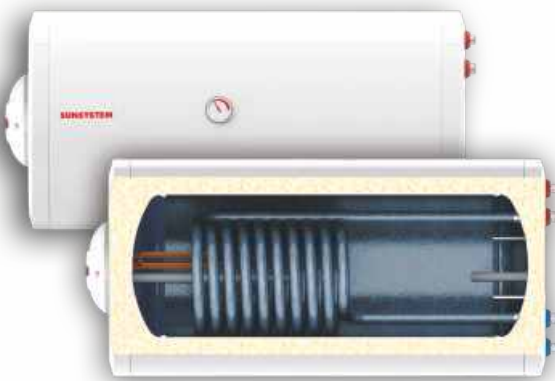
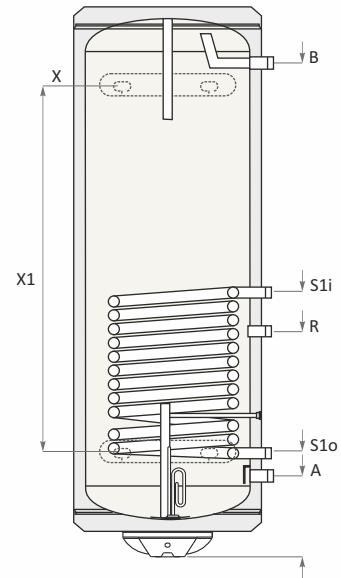
Technical characteristics.



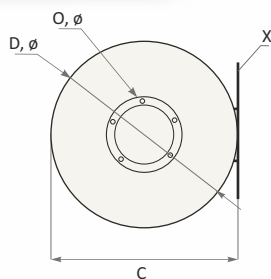
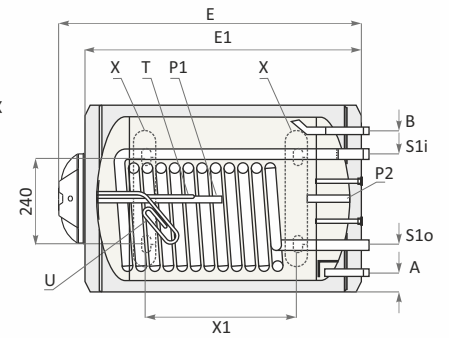
BB NL V/S1 80-150



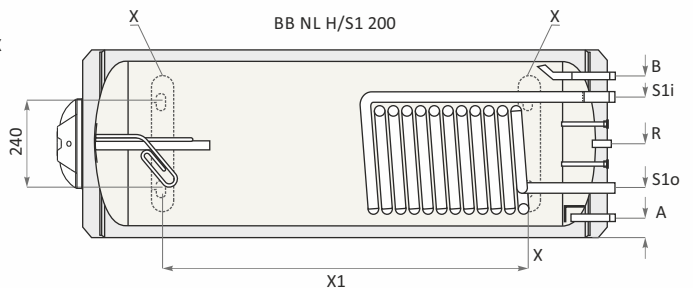
BB NL V/S1 200



BB NL H/S1 80-150



BB NL H/S1 200





BB NL V/S1, with one coil. Vertical models.

General parameters

		H mm	H1 mm	C mm	D mm	
80		685	625	540	ø520	42.2
100		815	755	540	ø520	51
120		945	885	540	ø520	55.8
150		1085	1025	540	ø520	70
200		1355	1295	540	ø520	82.4

Inlets / Outlets

A mm	B mm	O mm	P1/P2	R mm	S1i mm	S1o mm	T	U	X	X1 mm
R½"	R½"	ø132	✓/✓		436	150	✓	✓	✓	
R½"	R½"	ø132	✓/✓		550	150	✓	✓	✓	
R½"	R½"	ø132	✓/✓		550	150	✓	✓	✓	
R½"	R½"	ø132	✓/✓		702	150	✓	✓	✓	
R¾" 170	R¾" 1120	ø132	✓/✓	R¾" 877	645	250	✓	✓	✓	900

BB NL H/S1, with one coil. Horizontal models.

General parameters

		E mm	E1 mm	C mm	D mm	
80		685	625	540	ø520	42.2
100		815	755	540	ø520	51
120		945	885	540	ø520	55.8
150		1085	1025	540	ø520	70
200		1355	1295	540	ø520	82.4

Inlets / Outlets

A mm	B mm	O mm	P1/P2	R mm	S1i mm	S1o mm	T	U	X	X1 mm
R½" 65	R½" 455	ø132	✓/✓		R¾" 385	R¾" 135	✓	✓	✓	230
R½" 65	R½" 455	ø132	✓/✓		R¾" 385	R¾" 135	✓	✓	✓	360
R½" 65	R½" 455	ø132	✓/✓		R¾" 385	R¾" 135	✓	✓	✓	490
R½" 65	R½" 455	ø132	✓/✓		R¾" 385	R¾" 135	✓	✓	✓	630
R¾" 65	R¾" 455	ø132	✓/-	R¾" 260	R¾" 385	R¾" 135	✓	✓	✓	900

Heat exchanger coil. Parameters.
 Vertical and horizontal models.

			S1 m ²	S1 L	S1 kW(m ² /h)	S1 NL 60°C	S1 Δp, mbar
80			0.40	2.04	8.2(0.20)	1	50
100			0.53	2.70	9(0.22)	1.3	55
120			0.53	2.70	9(0.22)	1.3	55
150			0.80	4.07	15(0.37)	1.5	60
200			0.80	4.07	15(0.37)	1.5	60

Heat exchanger coil. Parameters.

- S1** Heat-exchanger coil
- S1, m²** Heat exchange surface S1
- S1, L** Coil capacity S1
- S1, kW (m²/h)** Prolonged power acc. to DIN 4708; 80°C/60°C/45°C, S1
- S1, NL 60°C** NL- power coefficient at 60°C, S1
- S1, Δp mbar** Pressure drop Δp, S1

General parameters

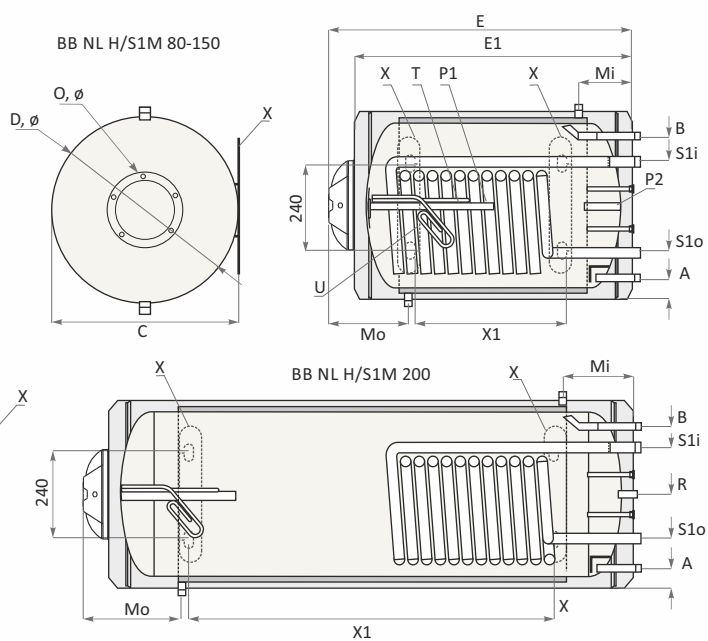
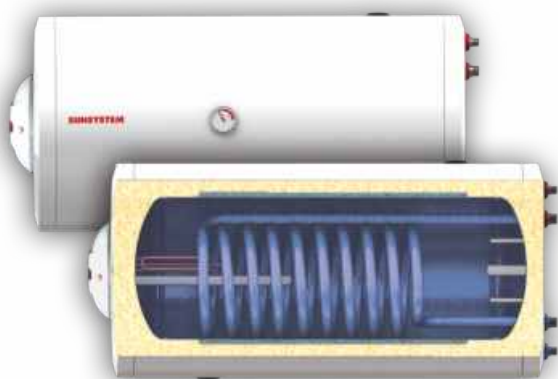
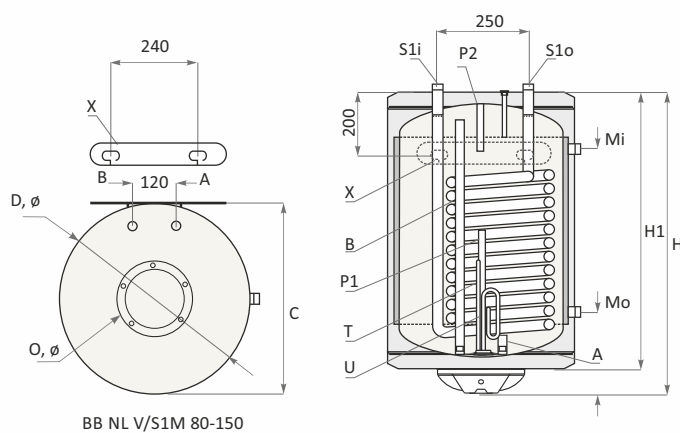
- L** Capacity
- H, mm** Overall Height
- H1, mm** Height of water tank
- E, mm** Overall Length
- E1, mm** Length of water tank
- C, mm** Depth
- øD, mm** Diameter of water tank
- øO, mm** Diameter of flange, inspection opening
- kg** Weight

Inlets / Outlets

- A, mm** Cold water inlet
- B, mm** Hot water outlet
- P1/P2** Anode
- R, mm** Recirculation
- S1i, mm** Coil inlet
- S1o, mm** Coil outlet
- T** Thermostat
- U** Electric heating element
- X** Stand for wall installation
- X1, mm** Distance between both stands



Technical characteristics.



BB NL series Wall-hung with coil and water mantle



BB NL V/S1M, with coil and water mantle. Vertical models.

General parameters

		H mm	H1 mm	C mm	D mm	kg
80		685	625	540	ø520	62
100		815	755	540	ø520	76
120		945	885	540	ø520	88
150		1085	1025	540	ø520	98

Inlets / Outlets

A	B	Mi mm R½"	Mo mm R½"	O mm Ø	P1/P2	S1i	S1o	T	U	X
R½"	R½"	450	280	ø132	✓/✓	R¾"	R¾"	✓	✓	✓
R½"	R½"	580	280	ø132	✓/✓	R¾"	R¾"	✓	✓	✓
R½"	R½"	710	280	ø132	✓/✓	R¾"	R¾"	✓	✓	✓
R½"	R½"	850	280	ø132	✓/✓	R¾"	R¾"	✓	✓	✓

BB NL H/S1M, with coil and water mantle. Horizontal models.

General parameters

		E mm	E1 mm	C mm	D mm	kg
80		685	625	540	ø520	62
100		815	755	540	ø520	76
120		945	885	540	ø520	88
150		1085	1025	540	ø520	98
200		1355	1295	540	ø520	110

Inlets / Outlets

A mm	B mm	Mi mm	Mo mm	O mm Ø	P1/P2	R mm	S1i mm	S1o mm	T	U	X	X1 mm
R½" 65	R½" 455	R½" 450	R½" 280	ø132	✓/✓		R¾" 385	R¾" 135	✓	✓	✓	310
R½" 65	R½" 455	R½" 580	R½" 280	ø132	✓/✓		R¾" 385	R¾" 135	✓	✓	✓	440
R½" 65	R½" 455	R½" 710	R½" 280	ø132	✓/✓		R¾" 385	R¾" 135	✓	✓	✓	570
R½" 65	R½" 455	R½" 850	R½" 280	ø132	✓/✓		R¾" 385	R¾" 135	✓	✓	✓	710
R¾" 65	R¾" 455	R½" 1100	R½" 310	ø132	✓/-	R¾" 260	R¾" 385	R¾" 135	✓	✓	✓	960

Heat exchangers: coil and water mantle. Parameters
Vertical and horizontal models.

			M m²	M L	M Δp, mbar	S1 m²	S1 L	S1 kW(m³/h)	S1 NL 60°C	S1 Δp, mbar
80			0.34	3.00	20	0.40	2.04	8.2(0.20)	1	50
100			0.53	4.71	20	0.53	2.70	9(0.22)	1.3	55
120			0.73	6.41	20	0.53	2.70	9(0.22)	1.3	55
150			0.93	8.25	20	0.80	4.07	15(0.37)	1.5	60
200			1.26	11.13	20	0.80	4.07	15(0.37)	1.5	60

Heat exchangers: coil and water mantle.
Parameters

M	Water mantle
M, m²	Heat exchange surface of mantle
M, L	Capacity of water mantle
M, Δp mbar	Pressure drop of mantle Δp
S1	Heat-exchanger coil
S1, m²	Heat exchange surface of coil S1
S1, L	Coil capacity S1
S1, kW (m³/h)	Prolonged power acc. to DIN 4708; 80°C/60°C/45°C, S1
S1, NL 60°C	NL- power coefficient at 60°C, S1
S1, Δp mbar	Pressure drop Δp, S1

General parameters

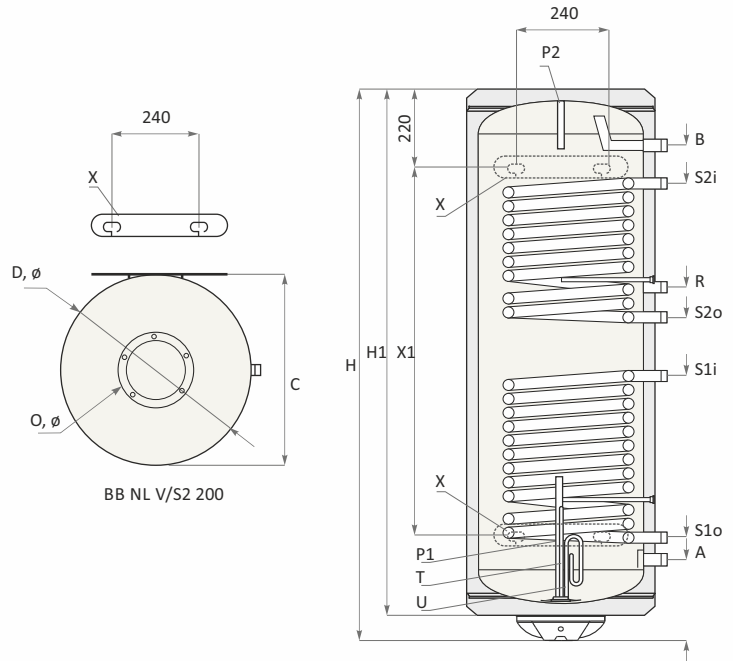
L	Capacity
H, mm	Overall Height
H1, mm	Height of water tank
E, mm	Overall Length
E1, mm	Length of water tank
C, mm	Depth
øD, mm	Diameter of water tank
øO, mm	Diameter of flange, inspection opening
kg	Weight

Inlets / Outlets

A, mm	Cold water inlet
B, mm	Hot water outlet
P1/P2	Anode
R, mm	Recirculation
Mi, mm	Water mantle inlet
Mo, mm	Water mantle outlet
S1i, mm	Coil inlet
S1o, mm	Coil outlet
T	Thermostat
U	Electric heating element
X	Stand for wall installation
X1, mm	Distance between both stands



Technical characteristics.



BB NL V/S2, with two coils. Vertical models.

General parameters

L	H	H1	C	D	kg
mm	mm	mm	mm	mm	
200	1370	1295	540	ø520	89

Inlets / Outlets

A	B	O	P1/P2	R	S1i	S1o	S2i	S2o	T	U	X	X1
mm	mm	mm		mm	mm	mm	mm	mm			mm	mm
R ³ / ₄ "	R ³ / ₄ "	ø132	✓/✓	877	R ³ / ₄ "	R ³ / ₄ "	R ³ / ₄ "	R ³ / ₄ "	✓	✓	✓	900

Heat exchanger coils: lower coil and upper coil. Parameters.

Vertical models.

S1/S2	S1/S2	S1/S2	S1/S2	S1/S2
m ²	L	kW (m ³ /h)	NL	Δp,
			60°C	mbar
0.80 / 0.53	4.07/2.70	15(0.37) /9(0.22)	1.5/1.3	60/25

Heat exchanger coil. Parameters.

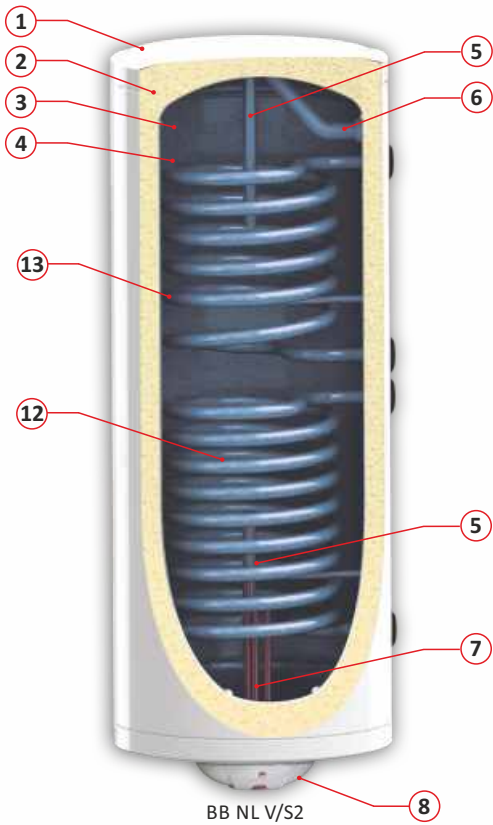
S1 / S2	Lower coil /Upper coil
S1/S2, m²	Heat exchange surface S1/S2
S1/S2, L	Coil capacity S1/S2
S1/S2, kW (m³/h)	Prolonged power acc. to DIN 4708; 80°C/60°C/45°C, S1/S2
S1/S2, NL 60°C	NL- power coefficient at 60°C, S1/S2
S1/S2, Δp mbar	Pressure drop Δp, S1/S2

General parameters

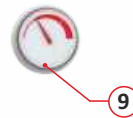
L	Capacity
H, mm	Overall Height
H1, mm	Height of water tank
C, mm	Depth
øD, mm	Diameter of water tank
øO, mm	Diameter of flange, inspection opening
kg	Weight

Inlets / Outlets

A, mm	Cold water inlet
B, mm	Hot water outlet
P1/P2	Anode
R, mm	Recirculation
S1i	Lower coil inlet S1
S1o	Lower coil outlet S1
S2i	Upper coil inlet S2
S2o	Upper coil outlet S2
T	Thermostat
U	Electric heating element
X	Stand for wall installation
X1, mm	Distance between both stands

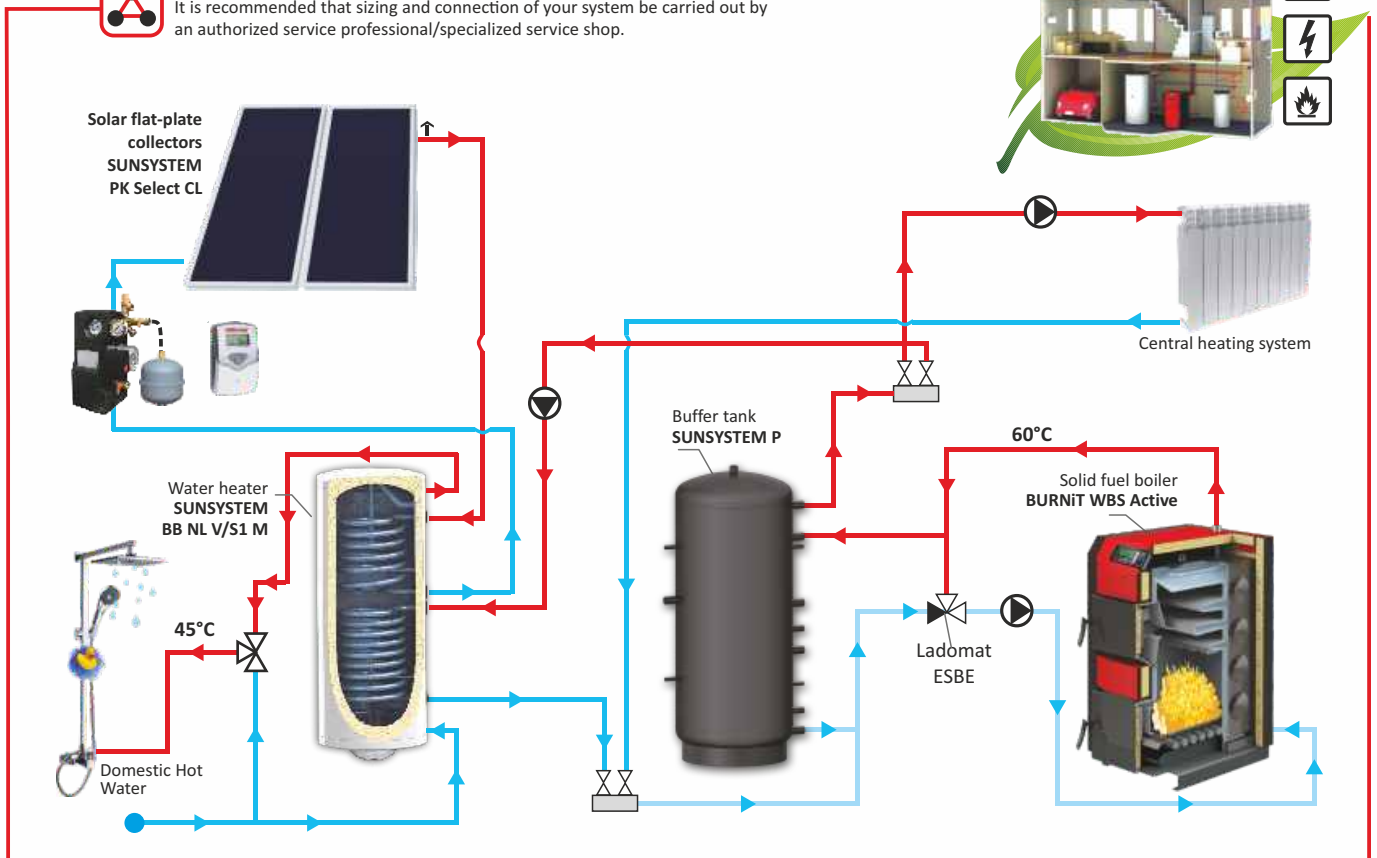


1. External casing in white
2. High efficiency thermal insulation of environment-friendly rigid PU, thickness of 32 mm
3. Water tank of low-carbon steel
4. Titanium enamel (DIN 4753-3)
5. Two anodes (DIN 4753-6)
6. Stainless tube for hot water
7. Electric heating element
8. Control panel
9. Thermometer
10. Thermostat. Dual thermal electric protection
11. Safety valve, 8 bar
12. Lower Coil heat exchanger S1
13. Upper Coil heat exchanger S2



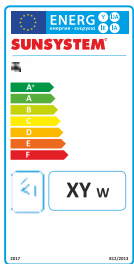
Connection diagram (sample)

It is recommended that sizing and connection of your system be carried out by an authorized service professional/specialized service shop.





Bathroom water heaters with easy operation and compact size.
Vertical installation.
Suitable for domestic hot water production.
The models have two parallel heat exchangers coils for direct water heating.
Possibility to connect to the solar and heating system.



Energy Efficiency.
Directive 2010/30/EU,
Regulation 812/2013:

Capacity, Liters

150 - 200

Class

C



Insulation	High efficiency insulation (DIN 4753-8): rigid PU, thickness 32 mm. External metal casing in white RAL 9003.
Water tank	Water tank of low-carbon steel S235JR. Complex corrosion protection realized by means of titanium enamel (DIN 4753-3) and and two magnesium anodes (DIN 4753-6). Thermometer. Convenient inspection opening on the bottom of water tank. Control panel: external thermostat control, light indicator. Electric heating element: 2kW, 3kW. Operating pressure: 8 bar Test pressure: 13 bar Maximum temperature: 95°C
Inlets / Outlets	All threads are external. Available models with Left-side inlets/outlets or right-side inlets/outlets for convenient connection.
Heat-exchanger: two parallel coils	Enables the tank to utilize an external source of heat. Operating pressure: 16 bar Test pressure: 25 bar Maximum temperature: 110°C



Safety devices	Safety valve, 8 bar. Thermostat with dual thermal electric protection.
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**BB NL PRL
with two parallel coils**

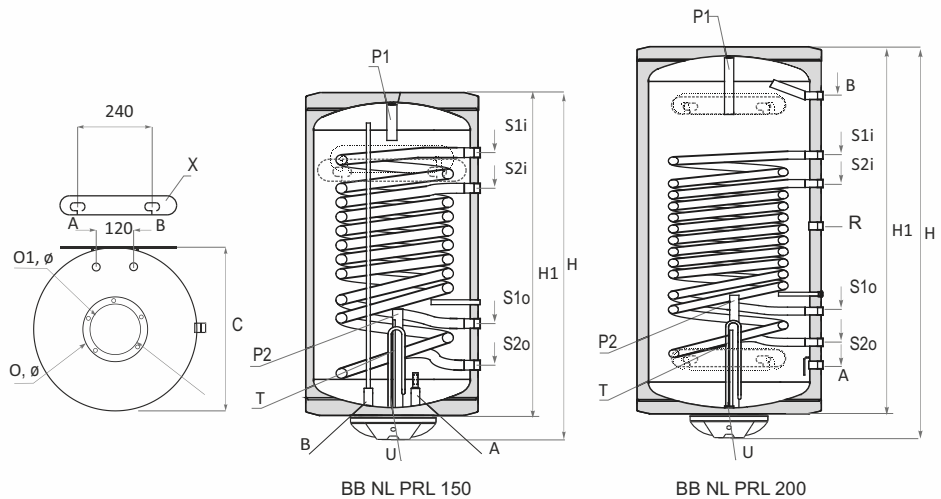
Vertical models.

Connections: **right side** (inlet/outlet water, coils).

	Model		Code
150	BB NL 150 PRL	3	4010102103318
200	BB NL 200 PRL	3	4010102103322

Connections: **left side** (inlet/outlet water, coils).

	Model		Code
150	BB NL 150 PRL L	3	4010102103320
200	BB NL 200 PRL L	3	4010102103324



BB NL PRL, with two parallel coils. Vertical models.

General parameters.

	H mm	H1 mm	C mm	D mm	kg
150	1085	1025	540	ø520	77
200	1370	1310	540	ø520	89

Inlets / Outlets

A mm Rp 1/2"	B mm Rp 3/4"	O mm Ø	P1/P2	R mm Rp 3/4"	S1i mm R 3/4"	S1o mm R 3/4"	S2i mm R 3/4"	S2o mm R 3/4"	T	U	X	X1
✓	170	ø132	✓/✓	-	810	150	410	260	✓	✓	✓	630
✓	1120	ø132	✓/✓	660	910	250	810	360	✓	✓	✓	900

Heat exchanger coil. Parameters.

Vertical models.

S1/S2 m ²	S1/S2 L	S1/S2 kW (m ³ /h)	S1/S2 NL 60°C Δp, mbar
0.7/0.44	3.6/2.3	15(0.37) / 82(0.2)	1.5/1.1 65/50
0.7/0.44	3.6/2.3	15(0.37) / 82(0.2)	1.5/1.1 65/50

Heat exchanger coil. Parameters.

S1 / S2	Lower coil /Upper coil
S1/S2, m²	Heat exchange surface S1/S2
S1/S2, L	Coil capacity S1/S2
S1/S2, kW (m³/h)	Prolonged power acc. to DIN 4708; 80°C/60°C/45°C, S1/S2
S1/S2, NL 60°C	NL- power coefficient at 60°C, S1/S2
S1/S2, Δp mbar	Pressure drop Δp, S1/S2

General parameters

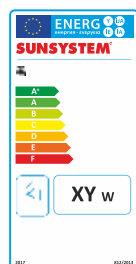
L	Capacity
H, mm	Overall Height
H1, mm	Height of water tank
C, mm	Depth
øD, mm	Diameter of water tank
øO, mm	Diameter of flange, inspection opening
kg	Weight

Inlets / Outlets

A, mm	Cold water inlet
B, mm	Hot water outlet
P1/P2	Anode
R, mm	Recirculation
S1i	First coil input S1
S1o	First coil outlet S1
S2i	Second coil input S2
S2o	Second coil outlet S2
T	Thermostat
U	Electric heating element
X	Stand for wall installation
X1, mm	Distance between both stands



Bathroom water heaters with easy operation and compact size.
Vertical floor standing installation.
Suitable for domestic hot water production..
The models have an added heat exchanger - coil for direct heating.
Pump control possibility
at the water temperature in the boiler.
Option to connect an electric heater.



Energy Efficiency.
Directive 2010/30/EU,
Regulation 812/2013:

Capacity, Liters

80 - 200

Class

C



Insulation	High efficiency insulation (DIN 4753-8): rigid PU, thickness 32 mm. External metal casing in white RAL 9003.
Водосъдържател	Water tank of low-carbon steel S235JR. Complex corrosion protection realized by means of titanium enamel (DIN 4753-3) and two magnesium anodes (DIN 4753-6). Thermometer. Convenient inspection opening from the top of the water tank. Thermostat for control of pump at the temperature of the water in the boiler. Control panel: external thermostat adjustment, light indicator. Electric heating element: 3 kW (option) with built-in thermostat. Operating pressure: 8 bar Test pressure: 13 bar Maximum temperature: 95°C
Inlets / Outlets	All outlets for connection to the installation are with external threads. Models with outlets for easy connection.
Heat-exchanger:	Enables the tank to utilize an external source of heat. Operating pressure: 16 bar Test pressure: 25 bar Maximum temperature: 110°C





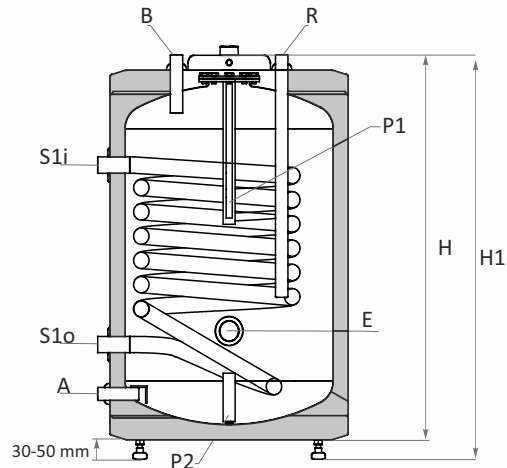
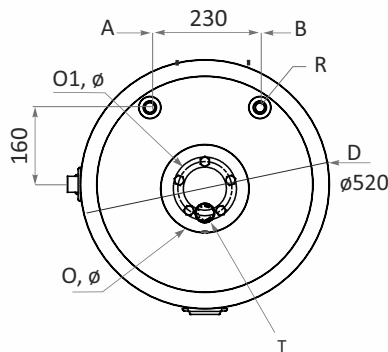
Safety devices	Safety valve, 8 bar.
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BB-N V/S1 UP
with one coil


Vertical models.

	Model		Code
80	BB-N 80 V/S1 UP	2	06010102102305
100	BB-N 100 V/S1 UP	2	06010102102309
150	BB-N 150 V/S1 UP	3	06010102102318
200	BB-N 200 V/S1 UP	3	06010102102322



BB-N V/S1 UP with one coil. Vertical models.


General parameters

	H mm	H1 mm	D mm ø	kg
80	665	695-715	ø520	42
100	795	765-785	ø520	50
150	1065	1035-1055	ø520	70
200	1335	1090-1110	ø520	82

Inlets / Outlets

A mm R¾"	B mm R¾"	O mm ø	P1/P2	R mm Rp¾"	S1i mm Rp1"	S1o mm Rp1"	E mm R1½"
94	665	ø132	✓/✓	665	475	165	200
94	795	ø132	✓/✓	795	535	165	200
94	1065	ø132	✓/✓	1065	865	165	200
94	1335	ø132	✓/✓	1335	865	165	200

Heat exchanger coil. Parameters.
Vertical models.

	S1 m ²	S1 L	S1 kW(m ³ /h)	S1 NL 60°C	S1 Δp, mbar
80	0.66	4.4	20(0.49)	1.8	65
100	0.77	5.1	25(0.61)	2.5	65
150	1.54	10.1	62(1.52)	13	180
200	1.54	10.1	62(1.52)	13	180

Heat exchanger coil. Parameters.

- S1** Heat-exchanger coil
- S1, m²** Heat exchange surface S1
- S1, L** Coil capacity S1
- S1, kW (m³/h)** Prolonged power acc. to DIN 4708; 80°C/60°C/45°C, S1
- S1, NL 60°C** NL- power coefficient at 60°C, S1
- S1, Δp mbar** Pressure drop Δp, S1

General parameters

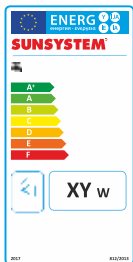
- L** Capacity
- H, mm** Overall Height
- H1, mm** Height of water tank
- øD, mm** Diameter of water tank
- øO, mm** Diameter of flange, inspection opening
- kg** Weight

Inlets / Outlets

- A, mm** Cold water inlet
- B, mm** Hot water outlet
- R, mm** Recirculation
- S1i, mm** Coil inlet
- S1o, mm** Coil outlet
- P1/P2** Anode
- E, mm** Installation of an electric heater



Compact and efficient water heater with one heat exchanger coil.
 Suitable to produce domestic hot water (DHW).
 Designed for connection to a diesel boiler or gas boiler.
 Diesel boiler (or gas boiler) can be placed on top of the water heater.
 This is a space-saving solution for small installation room.



Energy Efficiency.
 Directive 2010/30/EU,
 Regulation 812/2013:

Capacity, Liters
120 - 200

Class
C



Insulation	High efficiency insulation (DIN 4753-8): rigid PU, thickness 50 mm. External metal casing in white RAL 9006.
Water tank	Water tank of low-carbon steel S235JR. Complex corrosion protection realized by means of titanium enamel (DIN 4753-3) and magnesium anode (DIN 4753-6). Thermometer. Two sensors monitor the temperature in the water heater and the boiler. Convenient inspection opening 180x110. Adjustable feet. Operating pressure: 10 bar Maximum temperature: 95°C
Inlets/ Outlets	All threads are external.
Heat-exchanger: coil	The heat exchange coil is connected to the boiler. Operating pressure: 16 bar Operating pressure: 110°C




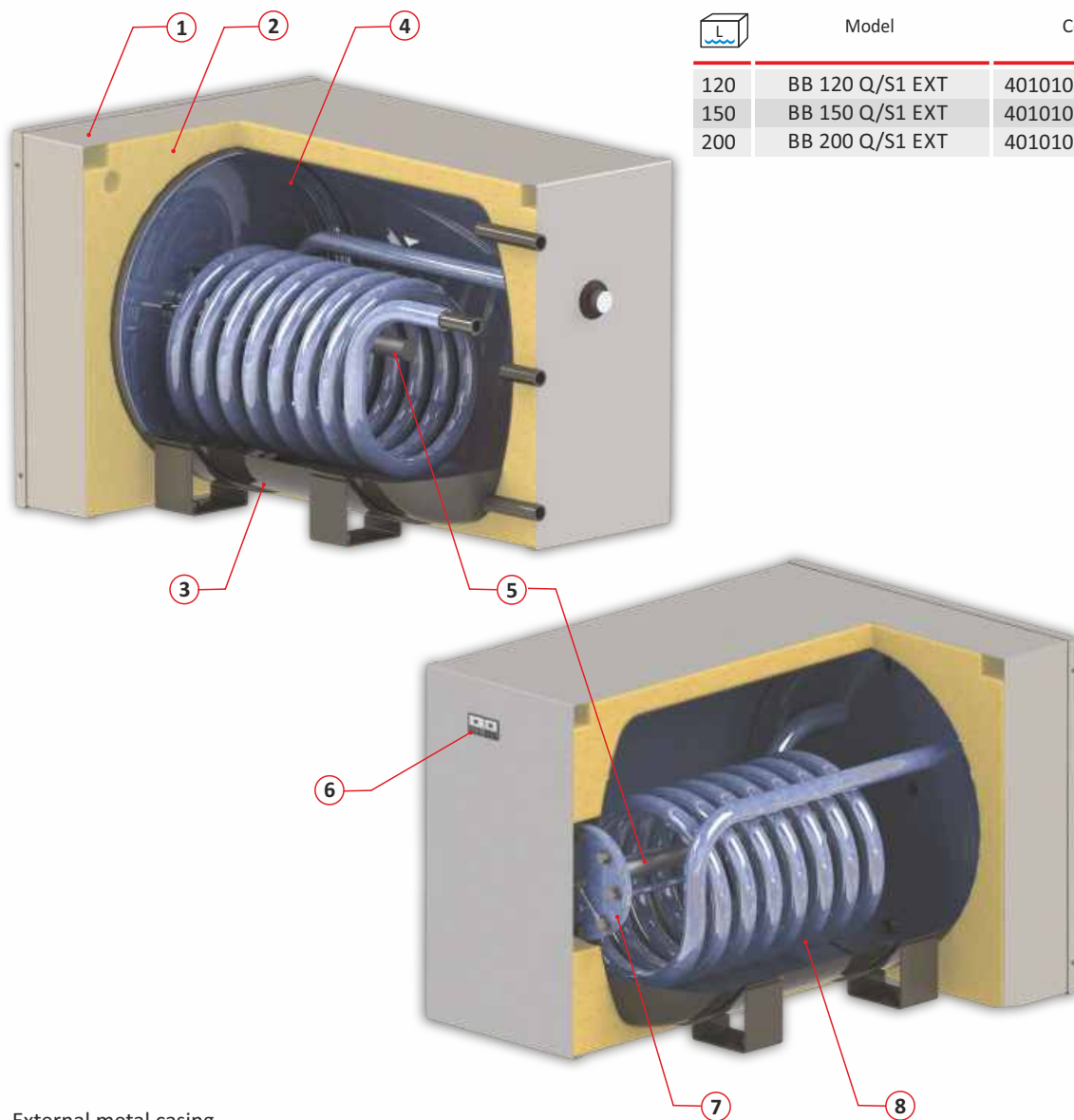
Safety devices	Safety valve, 8 bar.
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**BB Q/S1 EXT
with one coil**

Horizontal models

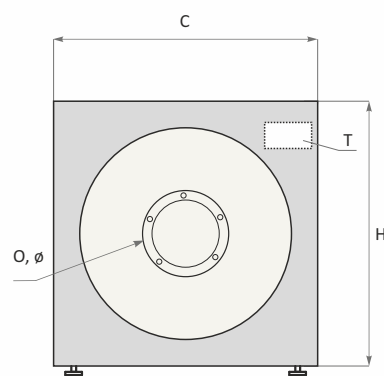
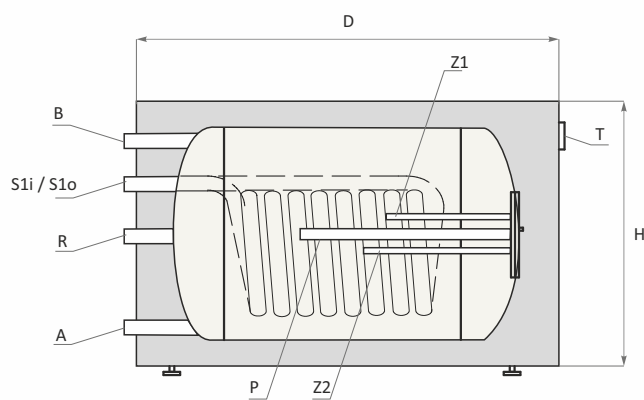
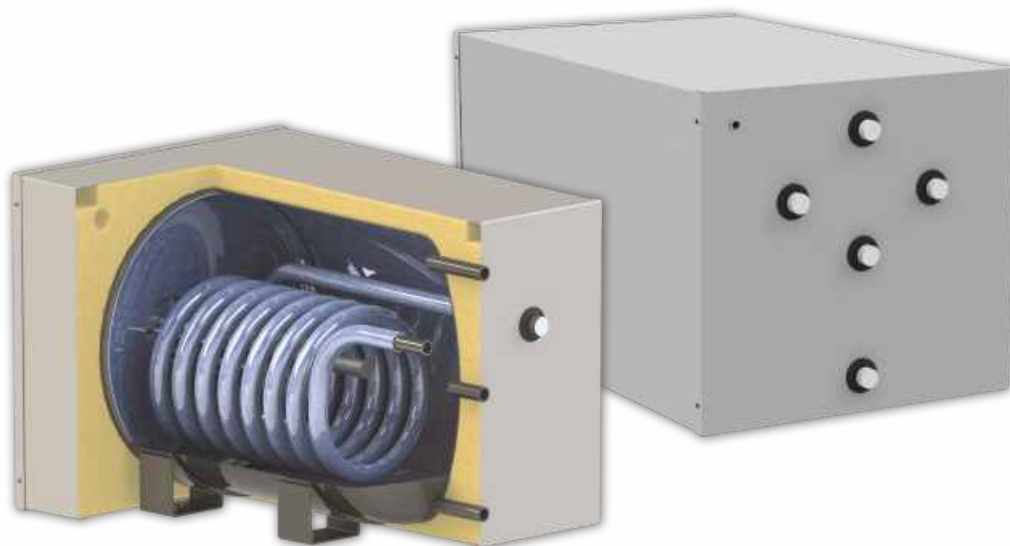
	Model	Code
120	BB 120 Q/S1 EXT	4010102102114
150	BB 150 Q/S1 EXT	4010102102118
200	BB 200 Q/S1 EXT	4010102102122



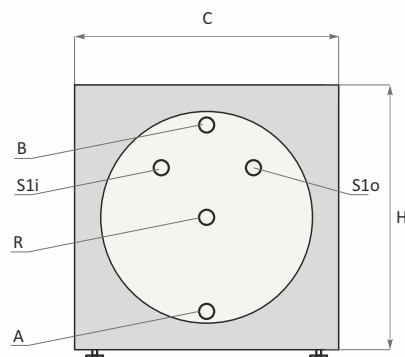
1. External metal casing
2. High efficiency thermal insulation of environment-friendly rigid PU, thickness of 50 mm
3. Water tank of low-carbon steel
4. Titanium enamel (DIN 4753-3)
5. Anode (DIN 4753-6)
6. Thermometer
7. Inspection opening, flange
8. Heat exchanger coil



Technical characteristics.



BB Q/S1 EXT 120-200





BB Q/S1 EXT with one coil. Horizontal models.

General parameters

	H mm	D mm	C mm	kg
120	568	815	608	84
150	568	965	608	96
200	668	995	708	113

Inlets / Outlets

A	B	O mm Ø	P	R	S1i	S1o	T	Z1	Z2
R¾"	R¾"	ø180/110	✓	R¾"	R¾"	R¾"	✓	✓	✓
R¾"	R¾"	ø180/110	✓	R¾"	R¾"	R¾"	✓	✓	✓
R¾"	R¾"	ø180/110	✓	R¾"	R¾"	R¾"	✓	✓	✓

Heat exchanger coil. Parameters.

	S1 m ²	S1 L	S1 L/h(kW)	S1 NL 60°C	S1 Δp, mbar
120	0.76	5.0	610(24.8)	1.5	80
150	0.76	5.0	610(24.8)	2.0	80
200	0.90	5.7	640(26.0)	2.3	90

Heat exchanger coil. Parameters.

- S1** Heat exchanger coil.
- S1, m²** Heat exchange surface
- S1, L** Coil capacity
- S1, L/h (kW)** Prolonged power acc. to DIN 4708; 10°C/80°C/45°C
- S1, NL 60°C** NL- power coefficient at 60°C
- S1, Δp mbar** Pressure drop Δp

General parameters

- L** Capacity
- H, mm** Height
- D, mm** Length
- C, mm** Diameter
- kg** Weight

Inlets / Outlets

- A** Cold water inlet
- B** Hot water outlet
- P1** Anode
- R** Recirculation
- S1i** Coil inlet
- S1o,** Coil outlet
- T** Thermometer
- Z1** Sensor for thermometer
- Z2** Sensor for boiler

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