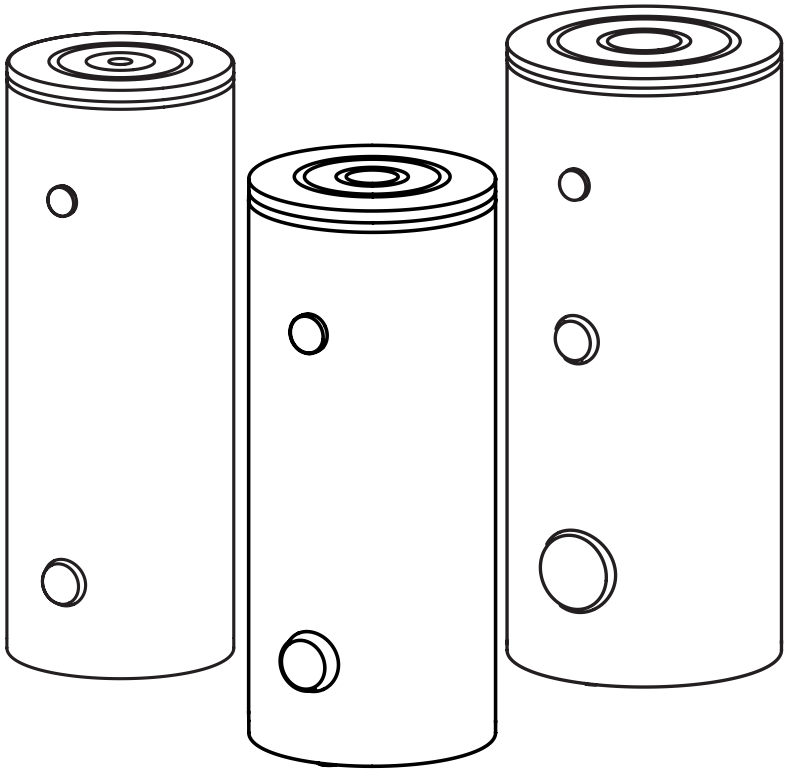
KOSPEL

DHW cylinder

EN



SW
SB

SWZ
SBZ

Assembly and operating instructions

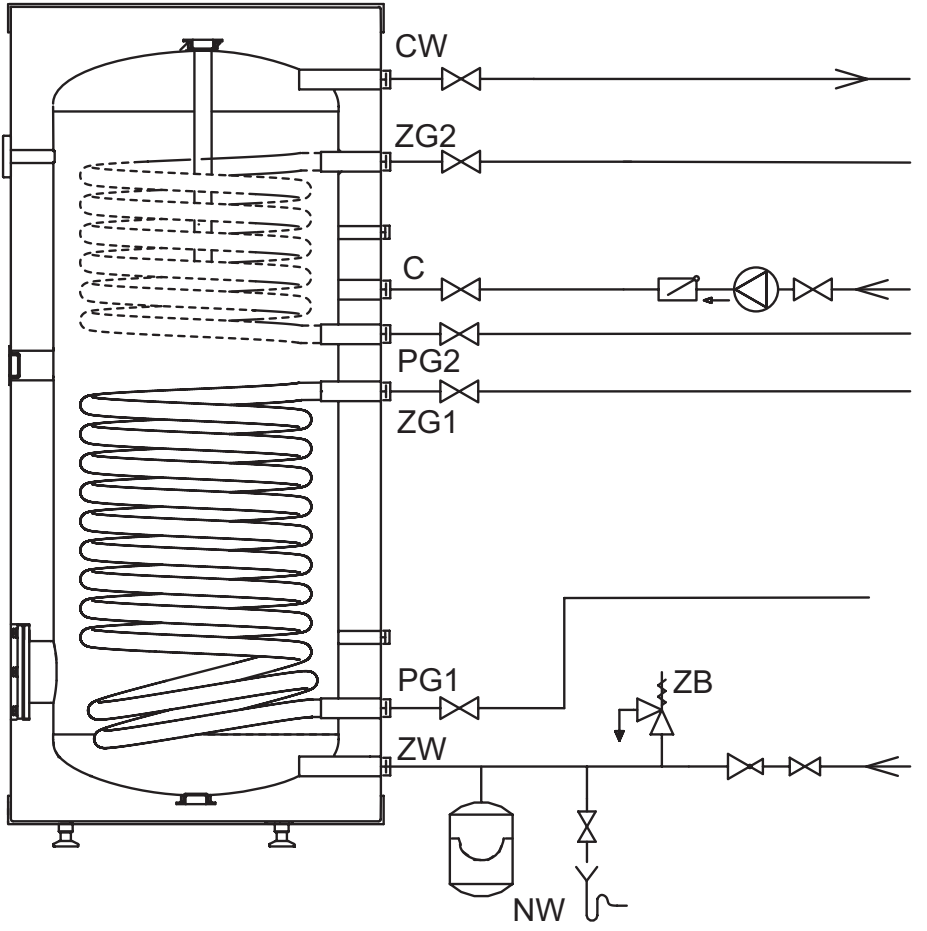
1. Read and strictly follow this assembly and operating instructions to ensure a long life and reliable cylinder operation.
2. The manufacturer of this cylinder will not be liable for any damages due to the failure to follow the assembly and operation instructions.
3. The cylinder must not be installed in rooms where the temperature may drop below 0°C.
4. The cylinder installation and initial start-up as well as all electrical and hydraulic work must be performed by a qualified professional installer and strictly follow installation and product instructions.
5. The cylinder is designed for vertical installation only (screw on feet).
6. The cylinder must be mounted in the place and in such a way to avoid room flooding caused be leaking tank or connectors.
7. Connections with water installation, central heating and solar system pipes must be made in accordance with diagram in this assembly instruction. Failure to observe the installation instruction invalidate the warranty and may cause cylinder damage.
8. A connection with water installation must be made in accordance with the legally binding standards.
9. The cylinder is a pressure appliance designed for connection with water installation where the water pressure doesn't exceed 0,6 MPa. If the water pressure exceeds 0,6 MPa the pressure reducing valve before cylinder must be fitted.
10. A small leak from the safety valve through the outlet pipe may occur, it is a normal operating state of the appliance. The outlet of the pipe has to remain opened. Do not clog it, as a clogged outlet may cause a break down of the cylinder.
11. Do not use the cylinder if you suspect that the safety valve may be faulty.
12. The storage is equipped with a magnesium anode - an additional protection against corrosion. The anode is an operating part therefore it is exposed to wear.
    The condition of the magnesium anode should be controlled every 12 months. The anode must be replaced once every 18 months.
13. Rated temperature of water in the cylinder should not exceed 95°C and in the case of exchangers with capacities of 250, 300, 400 i 500L - 80°C!

The cylinder is suitable for fitting an immersion heater with thermostat e.g. GRW 1.4, GRW 2.0. The immersion heater must be fitted in cork 1½".
A maximum length of immersion heater:

- 290 mm (Cylinders of 100,120,140 litres),
- 360 mm (Cylinders of 200 litres),
- 550 mm (Cylinders of 250,300 litres),
- 600 mm (Cylinders of 400 litres),
- 670 mm (Cylinders of 500-1000 litres).

Connection with central heating system

Cylinder must be fitted to the central heating system by pipe unions 1" (1½" - 1000l). A cut-off valves must be installed before the pipe unions.
A flow rate of heating water must be high enough to maximise cylinder efficiency (see technical data table). It concerns the forced circulation installation (with a central heating water pump). SW cylinder is equipped with single coil. SB cylinder is equipped with double coil for connection to e.g. boiler and solar collector system. SWZ and SBZ cylinders are equipped with additional connectors for external heat exchanger supply.



Connection with water installation

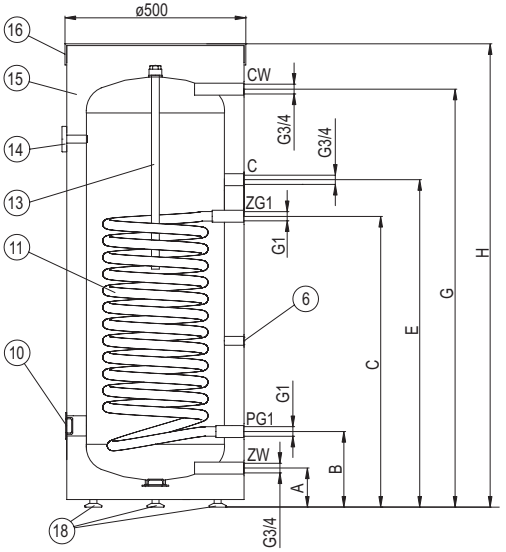
Connection with water installation must be performed according to binding norms of hydraulic installation. The cylinder is a pressure appliance designed for connection with water installation where the water pressure doesn't exceed 0,6 MPa. If the water pressure exceeds 0,6 MPa the pressure reducing valve before cylinder must be fitted.
Please follow the water connection instructions below:

- install the T-connection with 6 bar* safety valve and the drain valve to the inlet fitting of cold water [ZW]. It's forbidden to install a cut-off valve (or any flow reducer) between storage and the safety valve and on it's outlet. The safety valve must be installed in that place to let you quickly see the outgoing water,
- install the cylinder equipped with the safety valve with water installation,
- install the cut-off valve on cold water supply pipe.

Hot water outlet pipe must be connected to the fitting, which is located in the upper part of the unit.
Each cylinder is equipped with fitting for domestic hot water circulation connection.

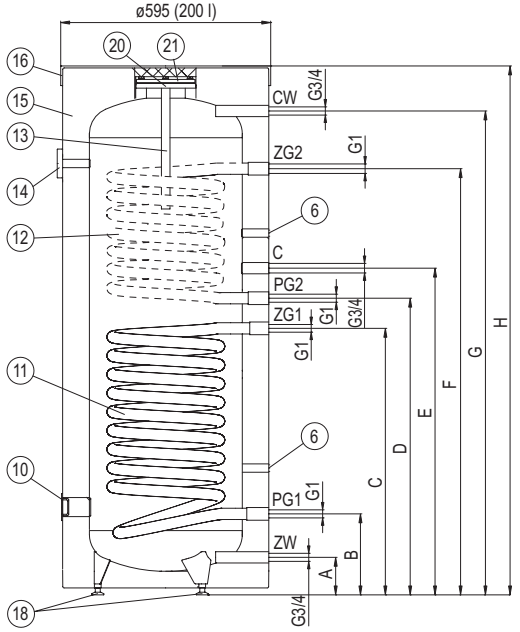
**Please note: use the safety valve matched to the heat's source. Installing a safety valve with inadequate capacity can result for excessive pressure increase in the cylinder and as a result a leakage. In this case, warranty does not cover damage caused.*

SW Cylinder construction (100; 120; 140 litres)



[6] - sensor pipe
[10] - immersion heater connection (cork 1½")
[11] - heating coil
[13] - magnesium anode
[14] - thermometer
[15] - thermal insulation
[16] - upper lid
[18] - feet
ZW - cold water
CW - hot water
C - circulation
ZG1 - heating medium supply
PG1 - heating medium return
A-H - dimensions described in table

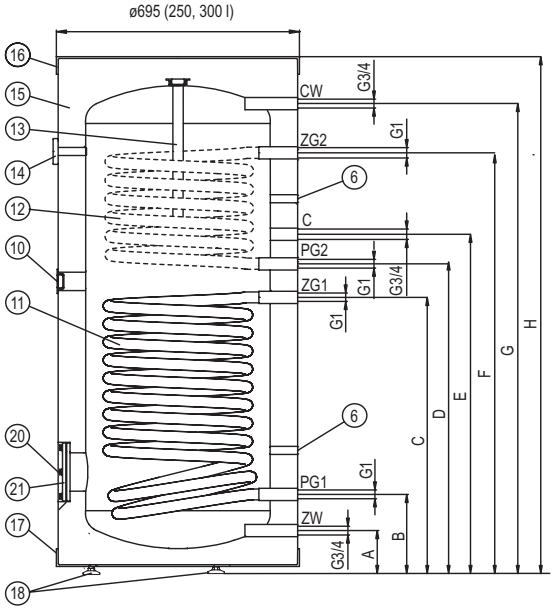
SB/SBZ/SW/SWZ Cylinder construction (200 litres)



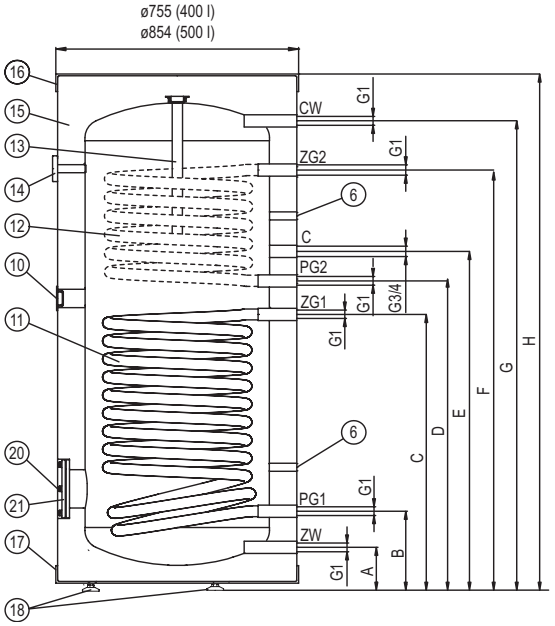
[6] - sensor pipe
[10] - immersion heater connection (cork 1½")
[11] - lower heating coil
[12] - upper heating coil
[13] - magnesium anode
[14] - thermometer
[15] - thermal insulation
[16] - upper lid
[18] - feet
[20] - access hole
[21] - access hole cover
ZW - cold water
CW - hot water
C - circulation
ZG1,ZG2 - heating medium supply
PG1,PG2 - heating medium return
A-I - dimensions described in table

Upper coil (ZG2,PG2 fitting) and upper sensor pipe are available in SB and SBZ only.

SB; SBZ; SW; SWZ Cylinder construction (250l; 300l)



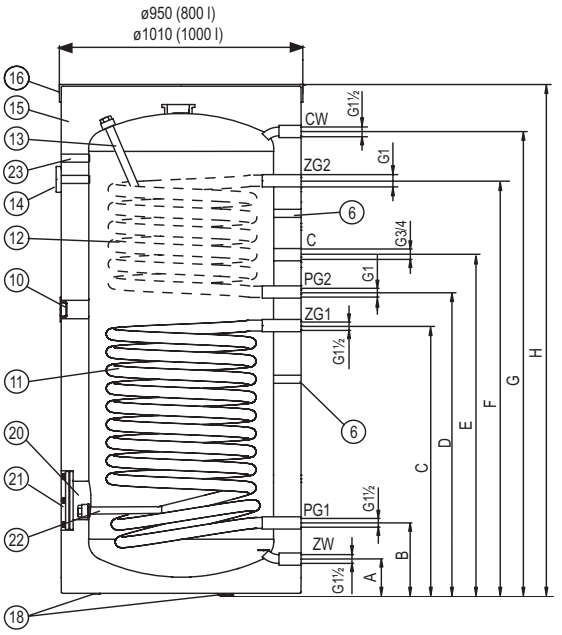
SB; SBZ; SW; SWZ Cylinder construction (400l; 500l)



[6] - sensor pipe
[10] - immersion heater connection (cork 1½")
[11] - lower heating coil
[12] - upper heating coil
[13] - magnesium anode
[14] - thermometer
[15] - thermal insulation
[16] - upper lid
[17] - lower lid
[18] - feet
[20] - access hole
[21] - access hole cover
ZW - cold water
CW - hot water
C - circulation
ZG1,ZG2 - heating medium supply
PG1,PG2 - heating medium return
A-I - dimensions described in table.

Upper coil (ZG2,PG2 fitting) and upper sensor pipe are available in SB and SBZ only.

Cylinder construction SW, SB (800, 1000l)



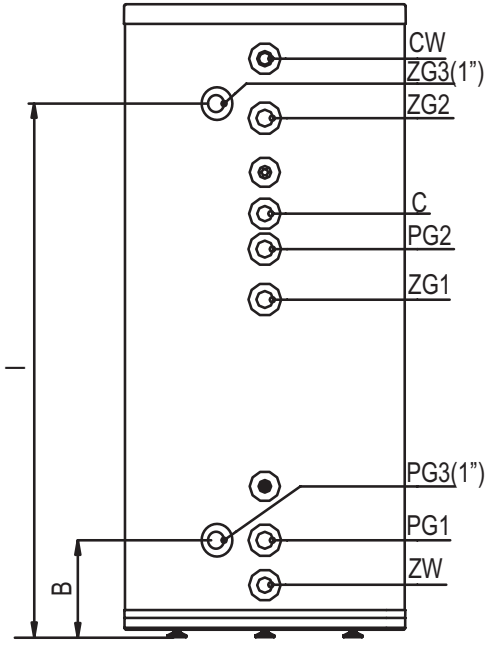
[6] - sensor pipe
[10] - immersion heater connection (cork 1½")
[11] - lower heating coil
[12] - upper heating coil
[13] - magnesium anode 1
[14] - thermometer
[15] - thermal insulation
[16] - upper lid
[18] - feet
[20] - access hole
[21] - access hole cover
[22] - magnesium anode 2
[23] - thermoregulator hole
ZW - cold water
CW - hot water
C - circulation
ZG1,ZG2 - heating medium supply
PG1,PG2 - heating medium return
A-I - dimensions described in table.

Dimensions SW; SWZ										
	100	**120**	**140**	**200**	**250**	**300**	**400**	**500**	**800**	**1000**
A	112			127			125	136	82,5	81,5
B	240			258	241		254	266	269	272
C	753	851		813	740	852	856	990	929	987
E	851	916	1065	903	841	953	986	1220	1273	1274
G	1065	1235	1305	1464	1230	1464	1490	1584	1780	1846
H	1200	1365	1435	1610	1380	1615	1660	1800	1937	2002
I	-		1200	1334	1116	1350	1377	1453	-	-

Dimensions SB; SBZ							
	200	**250**	**300**	**400**	**500**	**800**	**1000**
A	127			125	136	82,5	81,5
B	258	241		254	266	269	272
C	813	628	852	856	990	929	987
D	903	747	981	986	1115	1105	1174
E	993	837	1071	1076	1220	1273	1274
F	1290	1079	1313	1319	1448	1492	1475
G	1464	1230	1464	1490	1584	1778	1847
H	1610	1380	1615	1660	1800	1937	2002
I	1334	1116	1350	1377	1453	-	-

Start-up

Muff location for connection an external heat exchanger(SWZ and SBZ only)



Before starting the heat exchanger, an optical inspection of the device connection and the correct assembly according to the diagrams must be carried out. All connections, including those that were factory-assembled (connection nozzles of the electric heater, magnesium anode, inspection opening cover), must be checked for tightness upon startup and re-sealed in case of leaks. The heat exchanger must be filled with water:

- turn on the valve on cold water supply pipe,
- turn on the hot water outlet valve (water outflow without the air bubbles indicates that the storage is full),
- turn off the outlet valves.

Turn on the valves connecting cylinder with the central and the solar collector heating system.

Check for water and heating medium leaks. Check out the safety valve performance in accordance to valve manufacturer's instruction.

Cylinder emptying

Follow the guidelines below for safety cylinder emptying:

- turn off all valves connecting cylinder with the heating circuit,
- turn off the valve on cylinder cold water supply pipe,
- turn on the drain valve.

Follow the guidelines below for safety and trouble free cylinder operation:

- Check out the safety valve performance once every 14 days. Do not use the cylinder if the water does not come out (it indicates that the valve is broken).
- Clean inside of the cylinder periodically. The frequency of cleaning depend on the degree of water hardness. The cleaning should be done by a qualified person.
  Tightening torque value of access hole cover [21] screws must be 18-22Nm.
- The wear condition of the anode must be inspected annually.
- The anode must be replaced once every 18 months.

- anode rod replacement [13] (100/120/140/250/300/400 litres cylinder): take off the upper lid [16], take out an insulation ring, turn off the cut-off valve on cold water supply pipe, turn on the hot water valve (mixer tap), turn the drain valve on, drain as much water as you can easily screw out the anode rod (avoiding room flooding), screw off the cork and screw out the anode rod,
- anode rod replacement [13] (200 litres cylinder): take off the lid [16], take out an insulation ring, turn off the cut-off valve on cold water supply pipe, turn on the hot water valve (mixer tap), turn the drain valve on, drain as much water as you can easily screw out the anode rod (avoiding room flooding), take off the access hole cover [21] and screw out the anode rod. Tightening torque value of access hole cover [21] screws must be 18-22Nm,
- replacing the anode [22]: in cylinders with capacities. 800 and 1000 liters in order to replace the magnesium anode 2 unfasten the zipper thermal insulation, pull away the insulation exposing the muff with the anode next to the inspection hole, close shutoff valve on cold water supply, open hot water valve on the tap, open the drain valve, drain that amount of water that would allow to change anode without causing flooding, unscrew the plug and replace anode.

- Heat up the water above 70°C periodically for hygiene reasons.
- Failures or malfunctions notify to the seller.
- Insulate the outlet pipe and heating coil connection pipes to minimise the heat loss (recommended).

Above activities are beyond of the scope of warranty service (should be done by user).

Domestic hot water cylinder			SW			SW; SWZ						
Storage capacity		l	100	120	140	200	250	300	400	500	800	1000
Rated pressure	storage	MPa	0,6								0,8	
	coil		1								0,6	
Rated temperature		°C	95				80				95	
Performance factor NL according to DIN 4708 (lower) (Performance factor NL when supplied with heating water at 80°C)		N_L	1,8	2,3	2,5	3,5	4,5	6,4	-	14,9	-	-
Surface area of lower coil		m^2	0,8	1,0		1,1	1,2	1,5	1,7	2,25	2,89	3,45
Lower coil capacity		dm^3	3,6	4,3		6,4	7,4	9,1	10	13,7	26,2	31,3
Power of lower coil		kW	24*	30*		32*	35*	45*	50*	65*	72*	89*
			7,5**	9**		10**	11,5**	14**	16**	21**	23**	28**
Efficiency of lower coil		l/h	600*	750*		800*	875*	1120*	1250*	1620*	1850*	2200*
			190**	225**		250**	300**	350**	400**	520**	625**	675**
Weight (without water)		kg	46	52	54,5	82	87	100,5	132	163	221	233
Magnesium anode - service code			00943	01446		01448		01450	01449		02333 x2	02333 + 02327
Magnesium anode - product code			AMW. 660	AMW. 800		AMW. M8.450		AMW. M8.400	AMW. M8.500		AMW. 570 x 2	AMW.570 + AMW.760 / upper

*80/10/45°C
**55/10/45°C } heating water temp./ supply water temp./ domestic water temp./ flow rate of heating water through the coil -2,5m^3/h.

Domestic hot water cylinder			SB; SBZ						
Storage capacity		l	200	250	300	400	500	800	1000
Rated pressure	storage	MPa	0,6					0,8	
	coil		1					0,6	
Rated temperature		°C	95	80				95	
Performance factor NL according to DIN 4708 (upper) (Performance factor NL when supplied with heating water at 80°C)		N_L	1,5	1,9	1,8	-	2,8	-	-
Surface area of upper coil		m^2	0,75	0,8		0,9	1,04	1,54	1,31
Upper coil capacity		dm^3	4,5	5		5,5	6,4	9,4	7,9
Power of upper coil		kW	22*	24*		27*	30*	45*	38*
			7**	7,5**		8,5**	9**	14**	12,5**
Efficiency of upper coil		l/h	550*	600*		675*	750*	1120*	900*
			175**	190**		200**	225**	350**	350**
Performance factor NL according to DIN 4708 (lower) (Performance factor NL when supplied with heating water at 80°C)		N_L	3,5	3,9	6,4	-	14,9	-	-
Surface area of lower coil		m^2	1,1	1,0	1,5	1,7	2,25	2,89	3,45
Lower coil capacity		dm^3	6,4	5,8	9,1	10	13,7	26,2	31,3
Power of lower coil		kW	32*	30*	45*	50*	65*	72*	89*
			10**	9**	14**	16**	21**	23**	28**
Efficiency of lower coil		l/h	800*	750*	1120*	1250*	1620*	1850*	2200*
			250**	225**	350**	400**	520**	625**	675**
Weight (without water)		kg	97	99	115	150	180	252	279
Magnesium anode - service code			01450		01449		01784	02333 + 02327	
Magnesium anode - product code			AMW.M8.400		AMW.M8.500		AMW. M8.590	AMW.570 + AMW.760 upper	

*80/10/45°C
**55/10/45°C- } heating water temp./ supply water temp./ domestic water temp./ flow rate of heating water through the coil -2,5m^3/h.

Recycling and waste disposal

Removal of product and equipment:
Do not dispose of the product or equipment with household waste. Make sure that the product and all equipment is disposed of properly. Observe all applicable regulations.

Decomissioning

Used product must not be treated as a household waste. By disposing of this product correctly you will help to prevent potential negative consequences for the environment that could otherwise arise through inappropriate waste handling. For more detailed information about recycling of this product, please contact your local authority waste management service.

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