



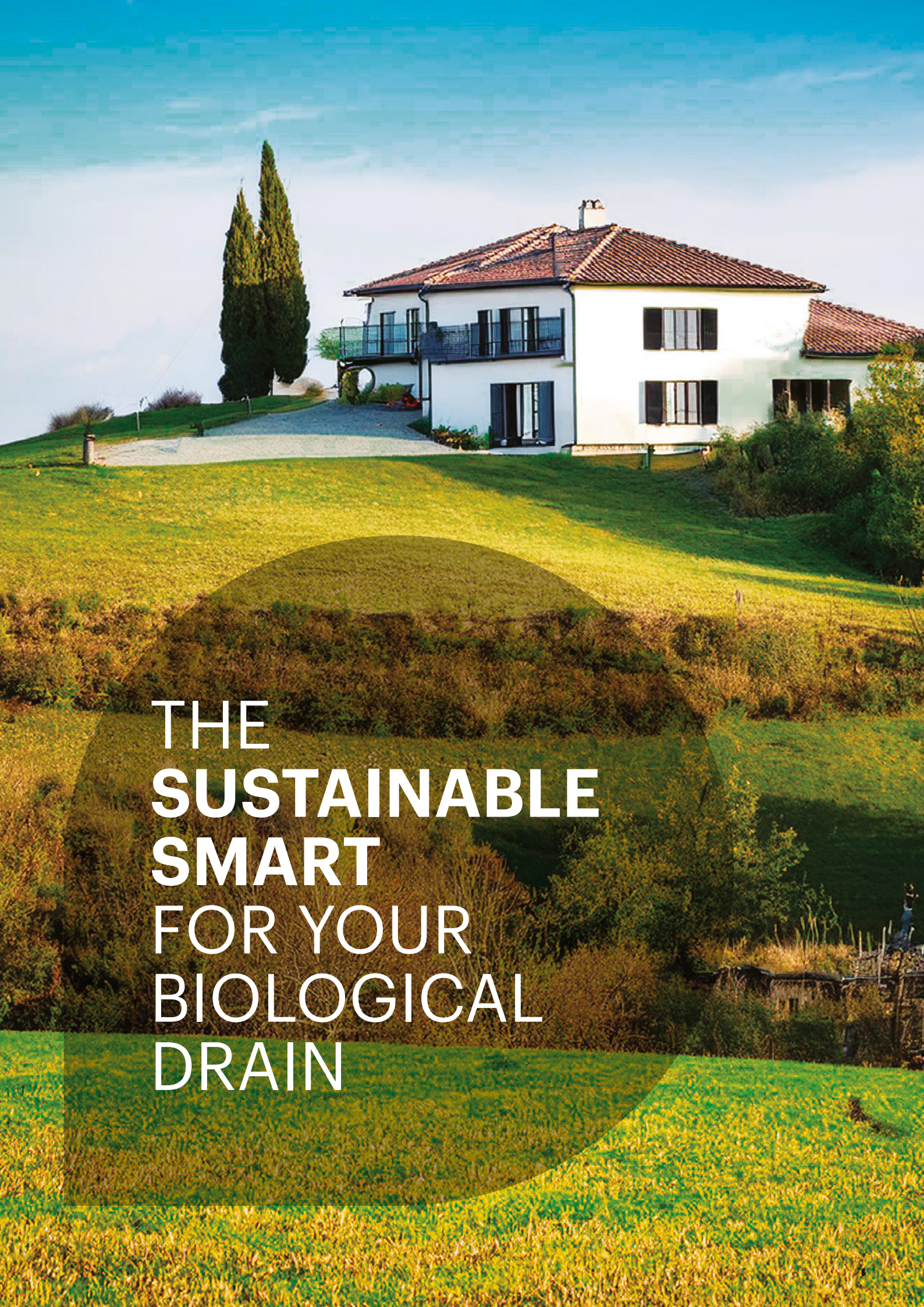
DEPURATION SYSTEMS SBR

Sequencing Batch Reactor

- **BluOne**
- **SBR**



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A two-story white house with a red-tiled roof is situated on a green hillside. The house has a balcony on the upper floor and several windows with dark shutters. To the left of the house, there are two tall, slender cypress trees. The foreground is a lush green field with some yellow flowers. The sky is a clear, bright blue.

**THE
SUSTAINABLE
SMART
FOR YOUR
BIOLOGICAL
DRAIN**

- **BluOne**
- **SBR**

Sequencing Batch Reactor

Biological activated sludge treatment with suspended biomass sequential type, which makes the effluent suitable for discharge to soil and reuse for non-drinking purposes.

PURPOSE

Are you far from the public sewerage system and have to discharge waste water? Regulations require you to treat it before discharging it into the environment! Do not incur penalties, but turn the effluent into a resource for reuse.

DEPURATING SOLUTION

BluOne e SBR: both with SBR technology, they offer high depuration efficiencies, in a single tank, in compliance with European and National standards.

APPLICATIONS

For civil drains from: houses where there is no public sewer, scattered houses, B&Bs, campsites, etc.

PURPOSE

DEPURATING WATER,
DISCHARGE IT ON LAND
OR RECOVER IT ACCORDING
TO REGULATIONS
IN ISOLATED HOUSES
OR ACCOMMODATION FACILITIES

- **BluOne** 5 / 16 E.I.
ex. dumping on land



For all discharges away from the sewerage system, we are obliged by law to purify the effluent ourselves and to do so with the best technologies available on the market.

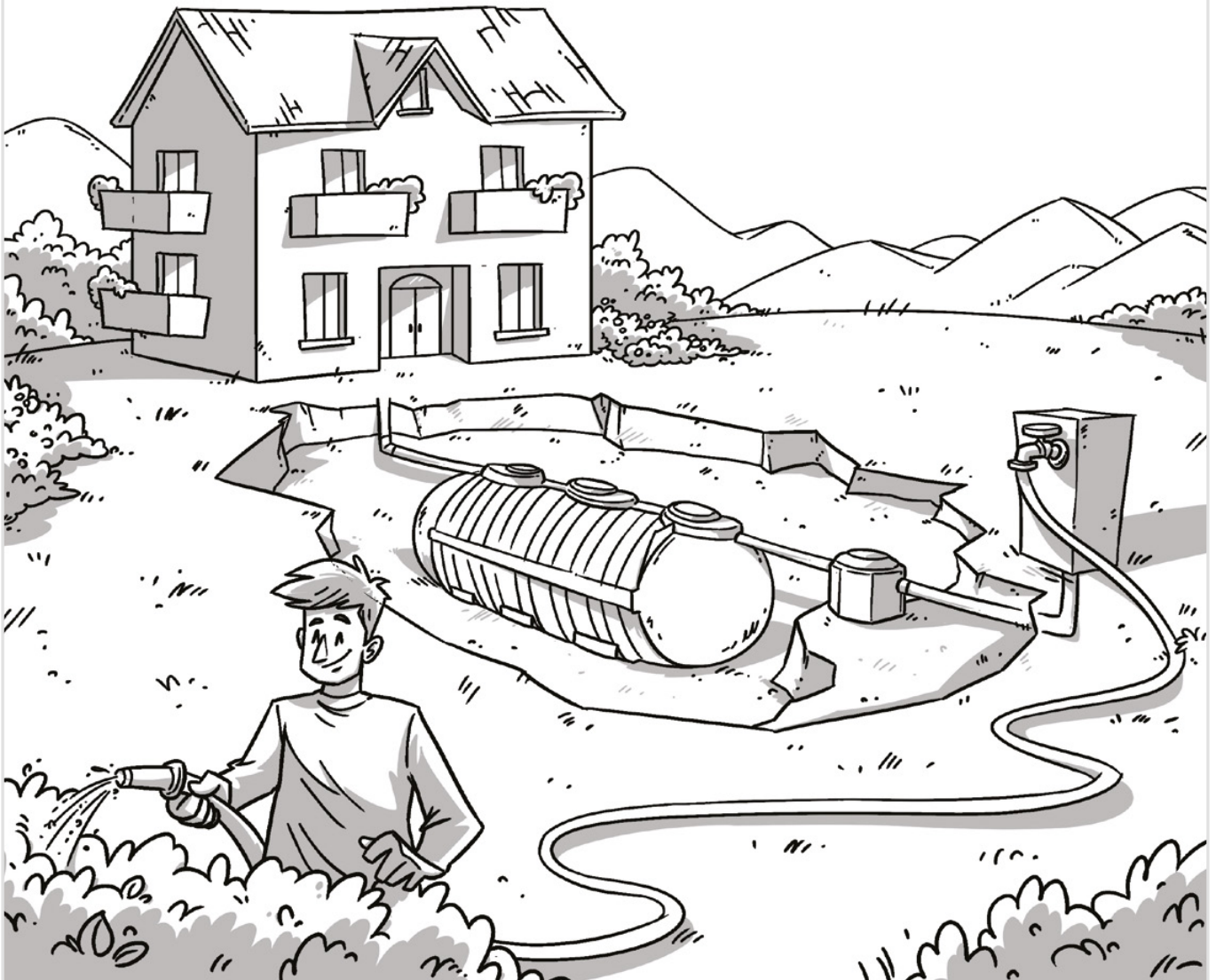
The use of recyclable materials, durability, low running costs, performance and the possibility of reuse in conjunction with the absence of unpleasant odours are the key parameters for choosing the best water treatment system.

Starplast with the SBR conciliates all these aspects:

- **PUSHED SYSTEMS WITH CERTIFIED QUALITY**
- **USE OF A SINGLE TANK FOR COMPLETE WASTEWATER TREATMENT**
- **EASE OF INSTALLATION**
- **LOW RUNNING COSTS**

These main features distinguish the two new systems from alternative systems.

• **SBR 5 / 50 E.I.**
ex. water recovery



DEPURATING SOLUTION

BluOne

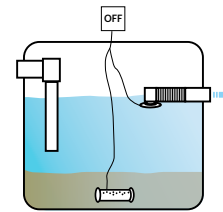
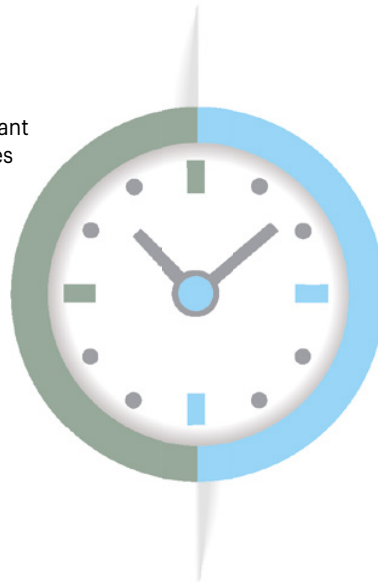
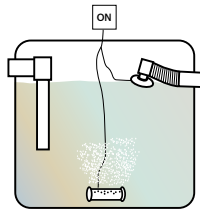
Sequencing Batch Reactor

E.I. FROM 5
TO 16

The SBR depuration process is a compact system used mainly in Nordic countries and is divided into daily cycles (**2 of 12 hours**) with depuration phases carried out in a single tank. The wastewater loading and discharge phases are common to all systems, while

1 - OXIDATION








Transformation of organic pollutant substance into simple substances non-polluting substances.



2 - SEDIMENTATION

Clarification of surface effluent.

SYSTEM COMPARISON TABLE - FOR 6/7 H.E.

biological plant	artefacts	BOD %*	culling nitrogen and phosphorus	bacterial load
BluOne	BluOne 	97	yes/yes	high
SBR	SBR 	99	yes/yes	high
system complete 5 E.I.	Imhoff Anaerobic percolator filter 	85	no	low
system complete 5 E.I.	Imhoff Aerobic percolator filter 	95	no/yes	medium/high
DEPUR STAR	Imhoff Activated sludge purifier 	95	no/yes	high
DEPUR SUPERSTAR	Imhoff Anaerobic percolator filter  Activated sludge purifier 	97	yes/yes	high

* BOD: biological type pollution.

the intermediate phases can vary depending on the result to be achieved in terms of the quality of the purified wastewater. The duration of the phases can be easily adjusted realising high management flexibility.

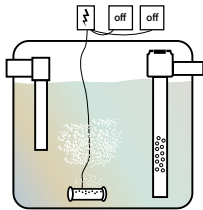
SBR

Sequencing Batch Reactor

E.I. FROM 4 TO 50

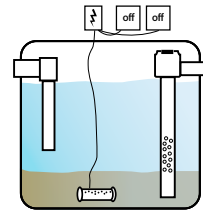
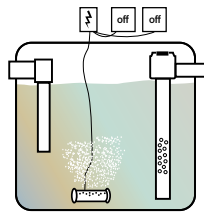
1 - DENITRIFICATION

Transformation of nitrogen nitric nitrogen into gaseous nitrogen.



2 - OXIDATION

Transformation of organic pollutant substance into simple substances non-polluting substances.

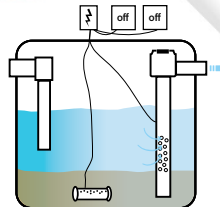


3 - NITRIFICATION

Transformation of ammoniacal ammonia into nitric nitrogen.

4 - SEDIMENTATION

Clarification of surface effluent.



impact environmental** (bad odours)	energy	annual purging	time activation (gg)	surfaces occupied	management	purchase price €
no	yes	1	10	low	easy	5.950,00
no	yes	1	15	low	easy	6.800,00
yes yes	no	2	20/30	high	very easy	2.590,00
yes no	yes	2	20/30	medium/high	easy	4.420,00
yes no	yes	2	20/30	medium/high	easy	8.400,00
yes yes no	yes	3	20/30	high	easy	9.375,00

** The negative impact of bad odours can be regimented through proper control and management of the vents on the purification tanks.

BLUONE

Sequencing Batch Reactor

DOES NOT
REQUIRE A
SWITCHBOARD
ELECTRICAL
PANEL, BUT ONLY
A TIMER

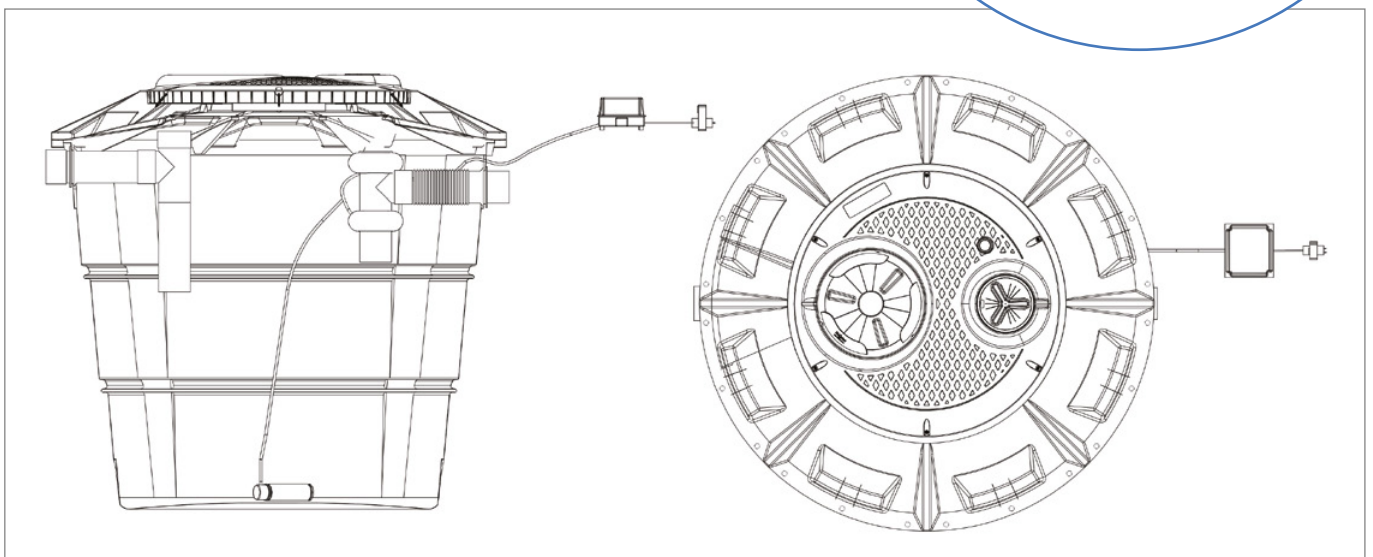


One of the first purification systems tested (Andern and Lockett 1914) is now taken up by **Starplast**, which makes it its own with an even smarter system. Tested in German laboratories (Weimar) for 38 weeks, it has achieved CE 12566-3 certification, guaranteeing safe water for us and the environment around us. **BluOne** system works with 2 daily cycles including

- **FILLING - OXIDATION**
- **SEDIMENTATION**
- **DISCHARGE**

doing all operations in a single tank.

TECHNICAL DRAWING



ADVANTAGES

COMPLETE ABSENCE OF ODOURS

the aerobic total oxidation type system does not create septic phenomena and can be installed close to homes without any risk of disturbance.

LOW SLUDGE PRODUCTION

thanks to its special sizing, the system results in very low sludge production (1 purge per year), thus reducing operating costs to a minimum.

EASE OF INSTALLATION

the system allows the entire effluent to be purified using a single tank; hence, speed of installation and lower site costs.

TRANSPORTABILITY

by using only one tank, the system allows enormous savings on transport.

STACKABILITY

Of the models in the range, the 4 A.E. model is offered on a stackable Aurora-type tub.

This feature means that a large number of systems can be transported on a single truck or container, maximising the space required for transport.

PERFORMANCE

the system has shown excellent results in the certification phases with the abatements shown below:

COD: 92,0"
 BOD₅: 97,8"
 N-NH₄⁺: 94,1"
 SST: 94,9"

SPECIFICATION ITEM

Supply of sequential total oxidation activated sludge purifier type **BluOne** for no. ... E.I. EC certified according to UNI 12566/3.

The purifier is built on a rotomoulded PE tank by an ISO9001 certified company.

The system is supplied complete with inlet and outlet pipes on PVC piping Ø110 mm mounted on a lip seal with perfect hydraulic tightness; pneumatic type floating effluent outlet; microbubble diffuser and membrane compressor with power ... W.

The system is complete with air control valve and timer.

Dimensions

Capacity..... E.l / Volume..... litres / Le x W x cm;
 tank height.....cm / H in.....cm / H out..... cm.

CERTIFICATIONS



TECHNICAL TABLE

icon	model	E.I.	volume	artefact		piping		blower		€
				model	Le x W x h Ø mm	h in / h out Ø mm	power Watt	voltage Volt		
	BLUONE 02-05 AI	5	2.500	AI 2500	Ø 170 x 168	110	155 / 131	50	230	4.500,00
	BLUONE 02-05 CX	5	2.600	CX 2600	Ø 150 x 182	110	136 / 116	50	230	5.400,00
	BLUONE 03-06 CS	6	3.500	CS 3500	Ø 165 x 196	110	175 / 155	75	230	5.950,00
	BLUONE 03-08 CS	8	4.500	CS 4500	Ø 195 x 178	110	153 / 130	75	230	6.450,00
	BLUONE 05-12 CR	12	7.000	CR 7000	Ø 230 x 218	110	181 / 170	115	230	8.800,00
	BLUONE 06-16 N	16	7.520	N 9000	285 x 210 x 234	110	199 / 160	186	230	11.500,00

SBR

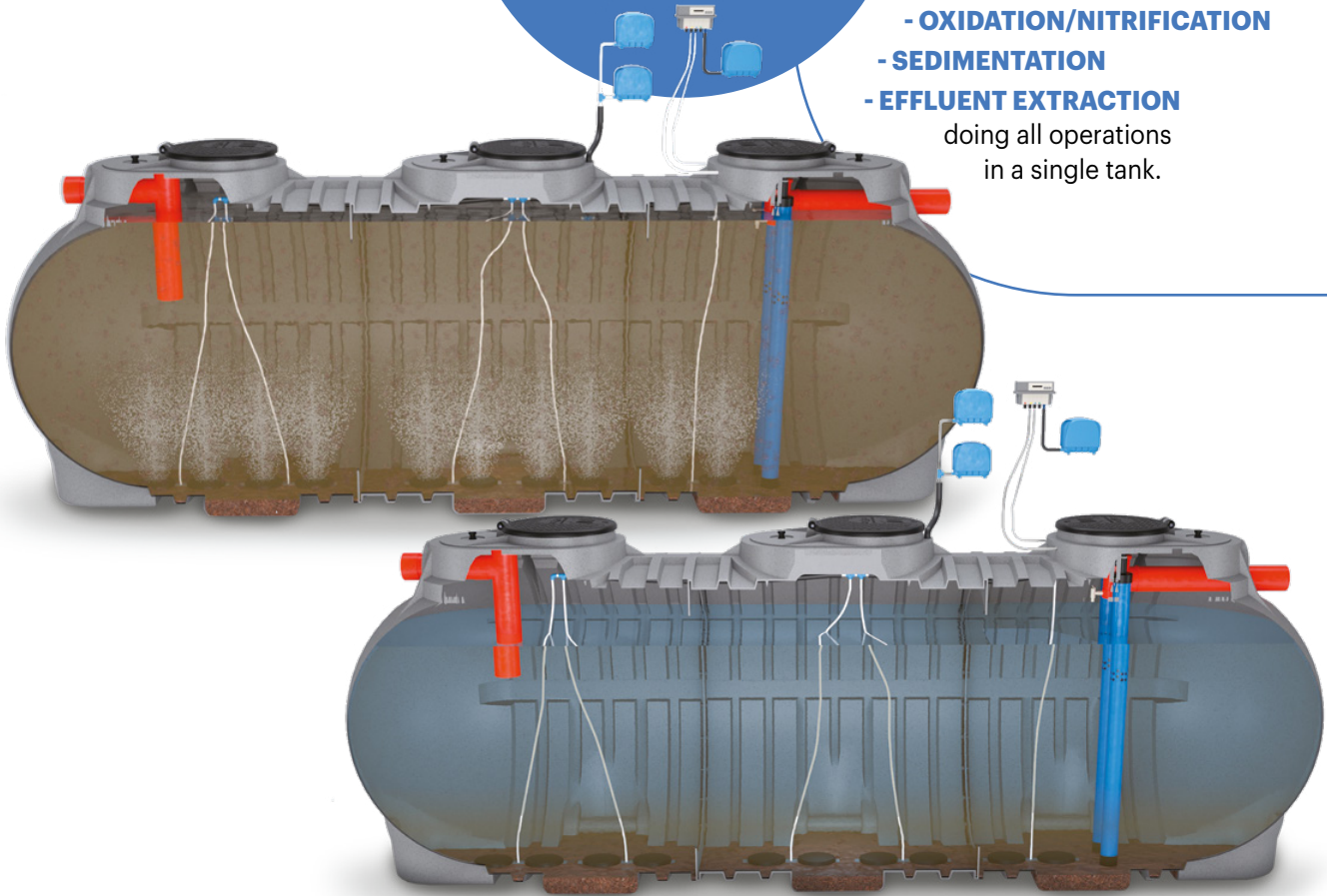
Sequencing Batch Reactor

PLANT WITH BLOWERS SELF-ADJUSTING DEPENDING ON THE USER

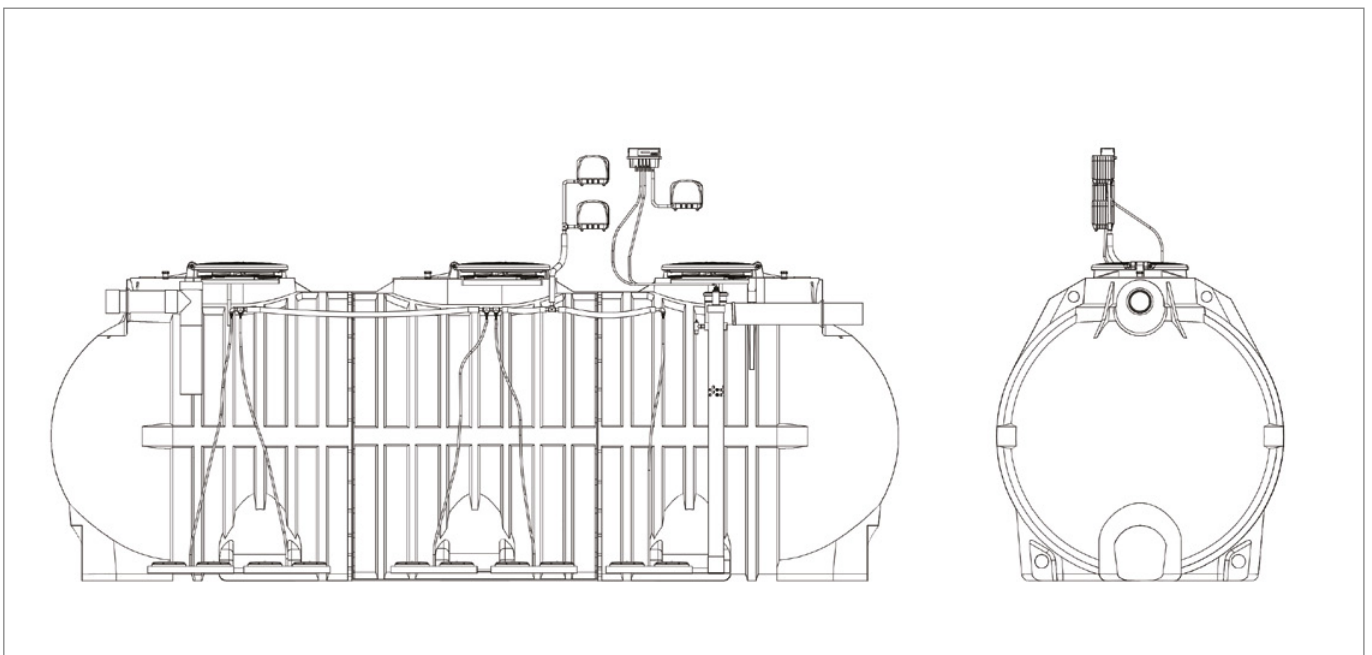
The **SBR** system operates with 2 daily cycles including:

- **FILLING**
- **DENITRIFICATION**
- **OXIDATION/NITRIFICATION**
- **SEDIMENTATION**
- **EFFLUENT EXTRACTION**

doing all operations in a single tank.



TECHNICAL DRAWING



ADVANTAGES

COMPLETE ABSENCE OF ODOURS

the aerobic total oxidation type system does not create septic phenomena and can be installed close to homes without any risk of disturbance.

LOW SLUDGE PRODUCTION

thanks to its special sizing, the system results in very low sludge production (1 purge per year), thus reducing operating costs to a minimum.

EASE OF INSTALLATION

the system allows the entire effluent to be purified using a single tank; hence, speed of installation and lower site costs.

TRANSPORTABILITY

by using only one tank, the system allows enormous savings on transport.

PERFORMANCE

the system showed excellent results in the certification phases with the abatements shown below:

COD:	96,3''%
BOD ₅ :	99,0''%
N-NH ₄ ⁺ :	98,4''%
SST:	98,8''%

POSSIBILITY OF WATER RECOVERY

thanks to its high purification performance, it is possible to recover purified water for non-drinking purposes.

SPECIFICATION ITEM

Supply of sequential total oxidation activated sludge purifier type **SBR** for no. ... E.I. EC certified in accordance with UNI 12566/3. The system is supplied on a vertical cylindrical tank or on a horizontal cylindrical tank of modular type complete with PVC inlet and outlet pipes Ø..... mm mounted on perfectly watertight lip seals; The tank is equipped with no. ... fine bubble diffusers for biological feed; no. air-lift for effluent extraction; no. ... power blowers.... for feeding the biological and/or the air-lift system; The tank is equipped with a tax sump already integrated in the system. The supply is completed by n.1 electrical panel for the management of the system phases with automatic system for energy saving.

Dimensions

Capacity.....E.l. / Volume.....litres / Le x W..... cm
 tank height..... cm / Hin.....cm / Hout..... cm.


CERTIFICATIONS



TECHNICAL TABLE

icon	model	E.I. n.	volume litres	artefact		piping		blower		€
				model	Le x W x h Ø mm	h in / h out Ø mm	power Watt	voltage Volt		
	SBR 04	4	2.600	CX 2600	150 x 182	110	155 / 148	75	230	6.500,00
	SBR 06	6	3.020	CS 3000	165 x 173	110	149 / 143	75	230	6.800,00
	SBR 08	8	3.500	CS 3500	165 x 196	110	168 / 162	75	230	7.100,00
	SBR 12	12	5.100	CS 5100	195 x 189	110	169 / 163	75	230	9.500,00
	SBR 16	16	7.000	CR 7000	230 x 218	110	180 / 173	186	230	10.450,00
	SBR 20	20	8.800	MM 10000	445 x 176 x 186	110	160 / 153	186	230	14.800,00
	SBR 24	24	10.450	MM 11000	535 x 176 x 186	110	160 / 153	2 x 186	230	16.900,00
	SBR 28	28	11.880	M 12000	440 x 210 x 234	160	204 / 295	2 x 186	230	20.500,00
	SBR 32	32	13.360	MN 15000	465 x 210 x 234	160	197 / 188	2 x 186 / 75	230	23.400,00
	SBR 38	38	17.650	M 18000	620 x 210 x 234	160	204 / 295	2 x 186 / 75	230	25.350,00
	SBR 44	44	19.130	MN 21000	645 x 210 x 234	160	197 / 188	2 x 186 / 75	230	26.200,00
	SBR 50	50	23.420	M 24000	800 x 210 x 234	160	204 / 295	2 x 186 / 75	230	28.950,00

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