

ECOROCK

👤 4 - 180

💧 500 - 30,000ℓ

WHAT IS HAPPENING TO **YOUR SEWAGE?**



BIOROCK

NON ELECTRICAL WASTEWATER TREATMENT



ADVANCES IN WASTEWATER TREATMENT

Water is the most common substance on Planet Earth, researchers tell us, but only 2,5% of it is fresh (not salty). And of that minimal resource, two-thirds is locked up in the polar ice caps and thus inaccessible to humans. Strategists warn that, in contrast to past and present times when nations went to war over resources like gold and oil, now there is a growing risk of war over water - "Who owns the rights to a given river basin?" - because their very survival depends upon it.

With increasing populations demanding evermore water for enhanced lifestyles, many countries - not only poor and arid ones, but even prosperous and well-watered countries - are seriously considering recycling their waste water to provide for human consumption, agricultural and industrial use.

WHO USES AN ECOROCK SYSTEM?



RESIDENTIAL

Single dwellings and estates not connected to a municipal sewage system, e.g. a family home who would otherwise rely on a septic tank or conservancy tank to dispose of their wastewater.



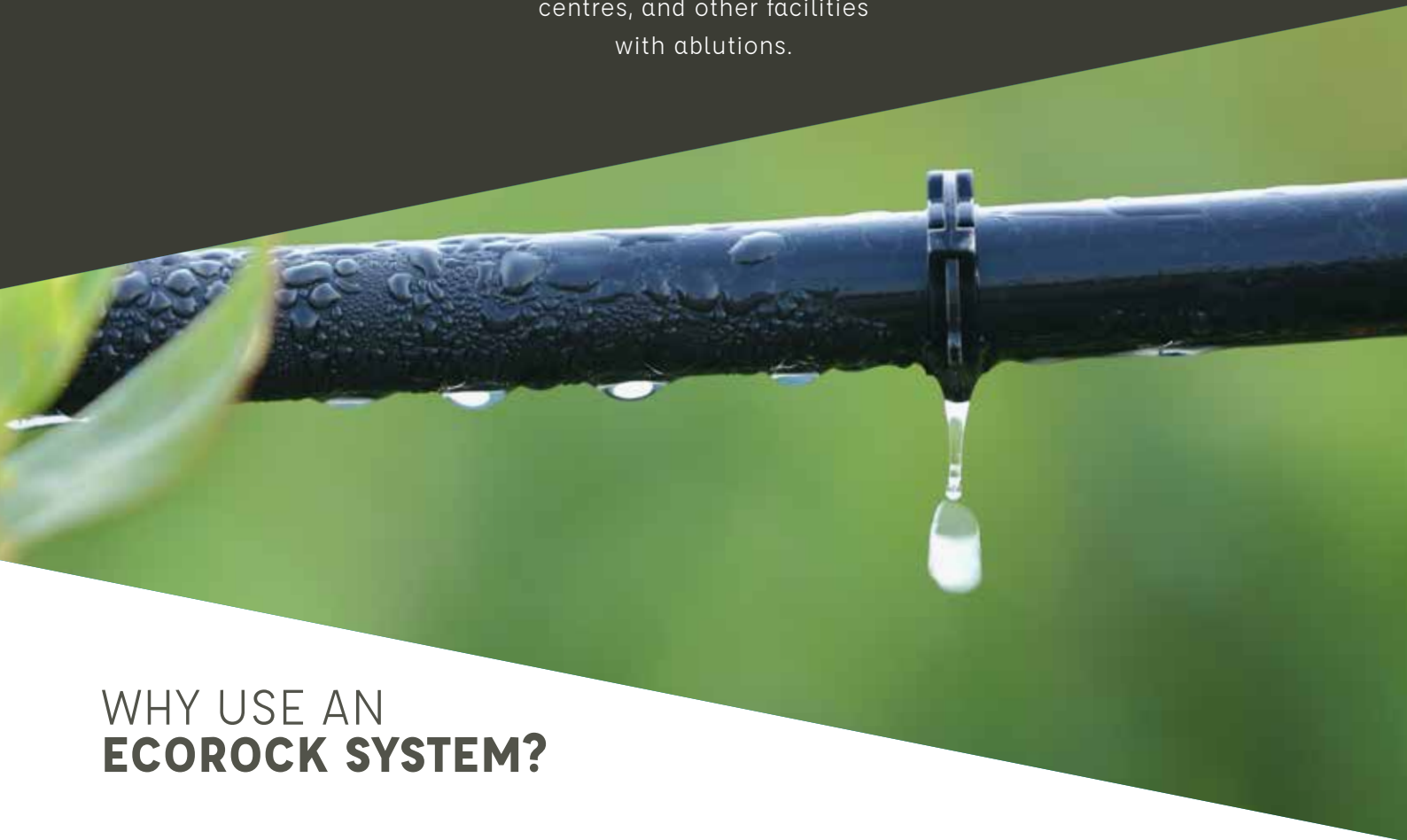
COMMERCIAL

Remote facilities requiring treatment of domestic sewage including but not limited to offices, schools, clinics, mine change houses, construction camps, housing compounds, petrol stations, shopping centres, and other facilities with ablutions.



HOSPITALITY

Game lodges, guest houses, hotels and resorts, etc. with a requirement to treat their sewage on-site.



WHY USE AN ECOROCK SYSTEM?

- Problematic septic tanks and French drains (soak-aways) causing headaches and costing R1,000's to service
- High ongoing costs and inconvenience associated with owning a conservancy tank
- Legislative requirement requires treatment of sewage on-site before disposal
- Ecologically sensitive environments such as nature reserves necessitate environmental preservation
- Water shortages require wastewater recycling for irrigation use

INTRODUCTION TO **BIOROCK**

Biorock, an industry leader in compact wastewater treatment technology, was established in 1988 and is an internationally acclaimed and experienced company represented in over 75 countries.

Biorock presently manufactures the Ecorock system in their ISO-accredited rotomoulding and assembly facility in Luxembourg.

"Over the past 20 years, we have successfully completed a matrix of different solutions to our clients wastewater treatment and recycling needs. This has placed us at the forefront of the wastewater solutions market around the world." - *Gerrit Smit, Biorock President.*



NEXT GENERATION WASTEWATER TREATMENT **TECHNOLOGY**

Ecorock uses a material with huge surface area which allows colonisation of the necessary bacteria, a process which is essential for the effective treatment of wastewater.

The Ecorock media from Biorock is highly resistant to degradation and remains extremely stable over the long term - their 25 years' experience in the industry being proof of this

- Very stable inorganic material - does not break down over time, unlike organic media
- Requires little maintenance - scraping and scarification is not necessary, unlike for organic media
- The structure and composition ensures unsurpassed and unique surface treatment with exceptional purification results
- Ecologically-friendly, recyclable material

WHAT MAKES ECOROCK UNIQUE?



Peace of mind

Ecorock offers class leading reliability with assurance of international certifications and an unrivalled warranty

- The system and process internationally certified by Agreement, Certipro, PIA, DIBt, CE, KIWA and AS/NZS
- Manufactured in an ISO9001 certified facility and standards
- 25-year tank warranty and 10-year media warranty
- Long lifespan media



Cost Savings

Ecorock reduces capital outlay and minimises running and maintenance costs

- Low operational costs
- No electricity required
- No blower or air diffusers



Convenience

Ecorock provides simple, flexible installation options and hassle free operation in a variety of conditions

- Can be retrofitted to an existing septic tank
- Tolerant of household cleaners
- Minimal sludge production and long desludge intervals
- Minimum annual maintenance
- Quick and easy to install
- Can tolerate long absence periods
- 24-hour start-up period



Environmentally Sound

Ecorock reduces environmental impact by enabling water reuse in a space-saving, visually unobtrusive and silent package

- Compact
- Can be installed above or below ground
- Low carbon footprint
- Completely silent
- Superb effluent quality



Biorock units are tested to International Standards EN12566-1, EN12566-3 and EN12566-6



Biorock is the only sewage treatment plant with a 25-year warranty

HOW DOES IT WORK?

1 STAGE 1: PRIMARY TANK

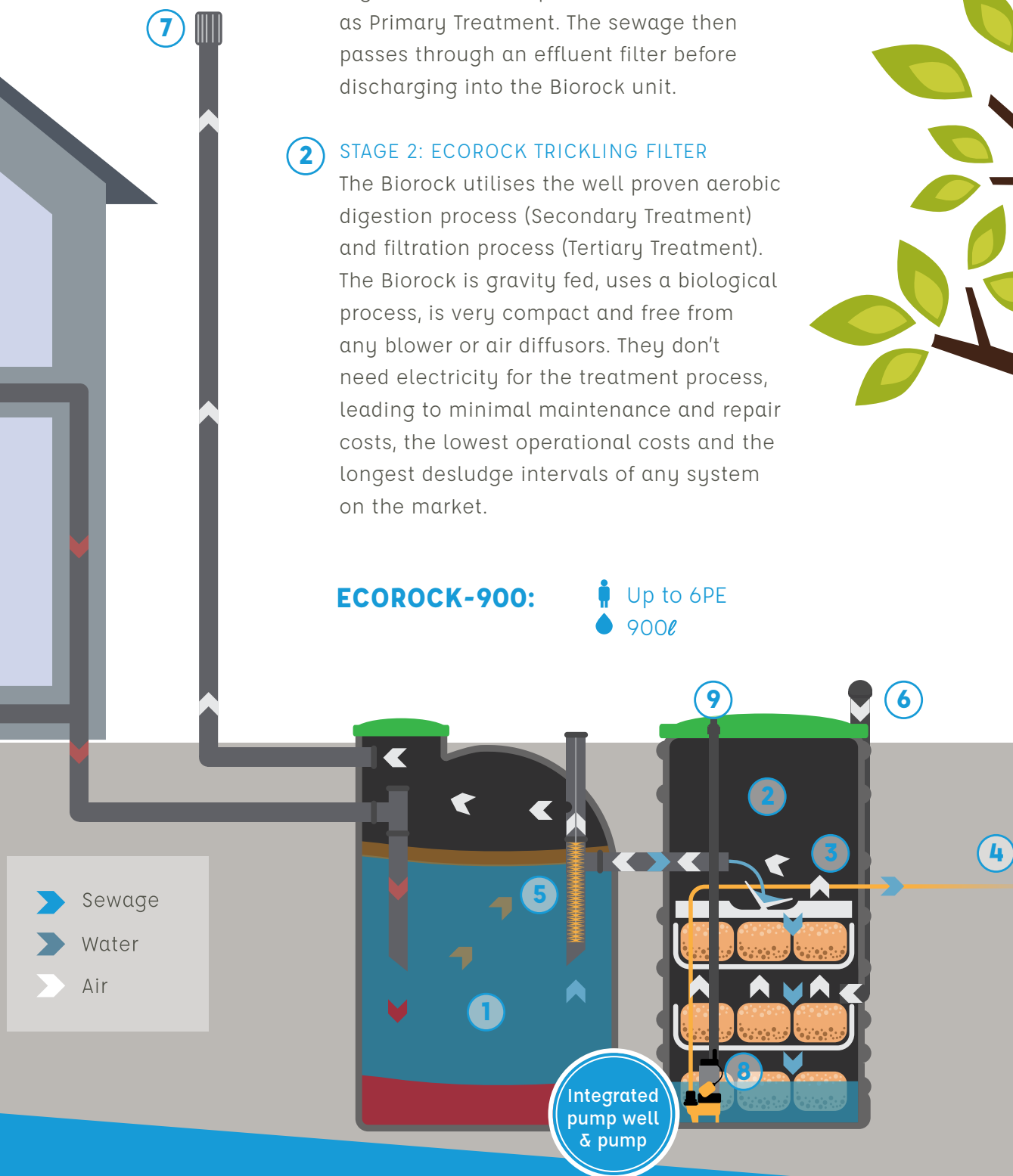
The raw sewage enters the primary tank to provide separation, and the break down of organic solids. This process is also known as Primary Treatment. The sewage then passes through an effluent filter before discharging into the Biorock unit.

2 STAGE 2: ECOROCK TRICKLING FILTER

The Biorock utilises the well proven aerobic digestion process (Secondary Treatment) and filtration process (Tertiary Treatment). The Biorock is gravity fed, uses a biological process, is very compact and free from any blower or air diffusers. They don't need electricity for the treatment process, leading to minimal maintenance and repair costs, the lowest operational costs and the longest desludge intervals of any system on the market.

ECOROCK-900:

Up to 6PE
900ℓ



The Ecorock units are durable and reinforced as standard, enabling them to be structurally sound in high ground water.

3 STAGE 3: DISINFECTION

Once biologically treated, the water must be disinfected to remove harmful organisms. This is commonly achieved by UV, Ozone or Chlorine.

4 STAGE 4: TREATED WATER

The treated and disinfected water can be pumped to irrigation or discharged under gravity to the local receiving environment.

5 EFFLUENT BRUSH FILTER

6 AIR INLET

7 AIR OUTLET WITH WIND-DRIVEN VENTILATOR

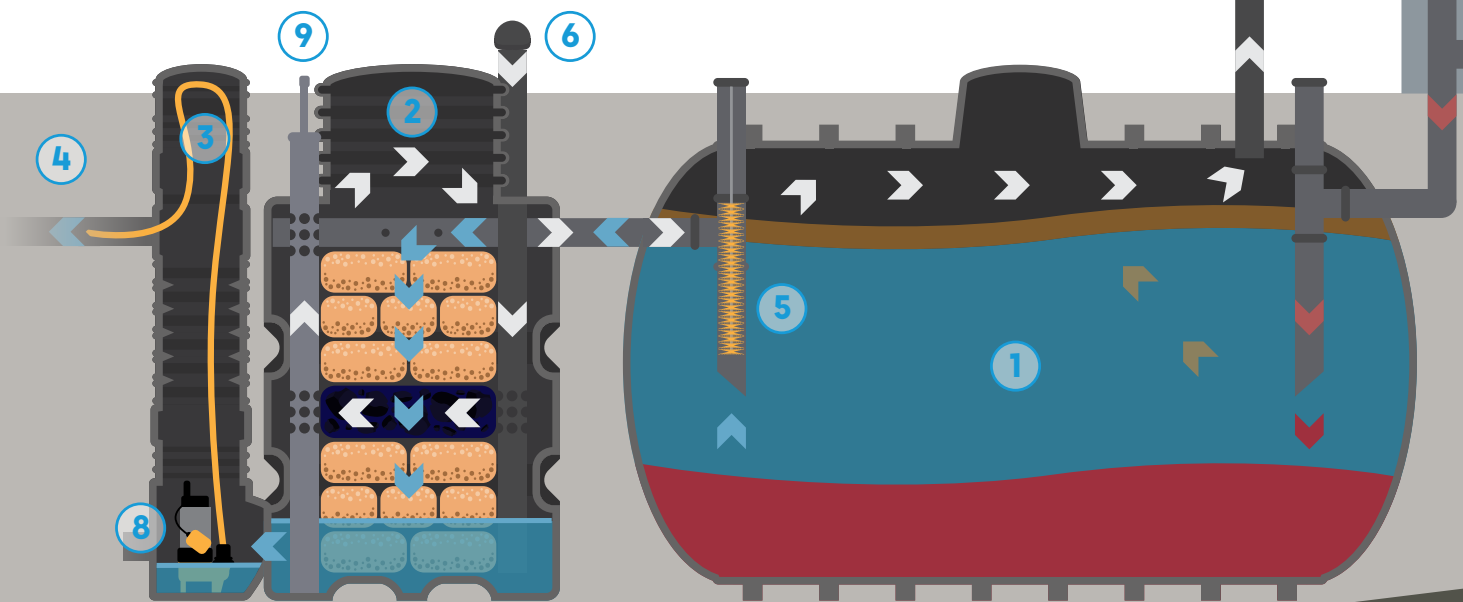
8 SUBMERSIBLE PUMP

9 FLOOD ALARM

ECOROCK-1500 / 2000 / 3000 / 5000:

6 - 180PE

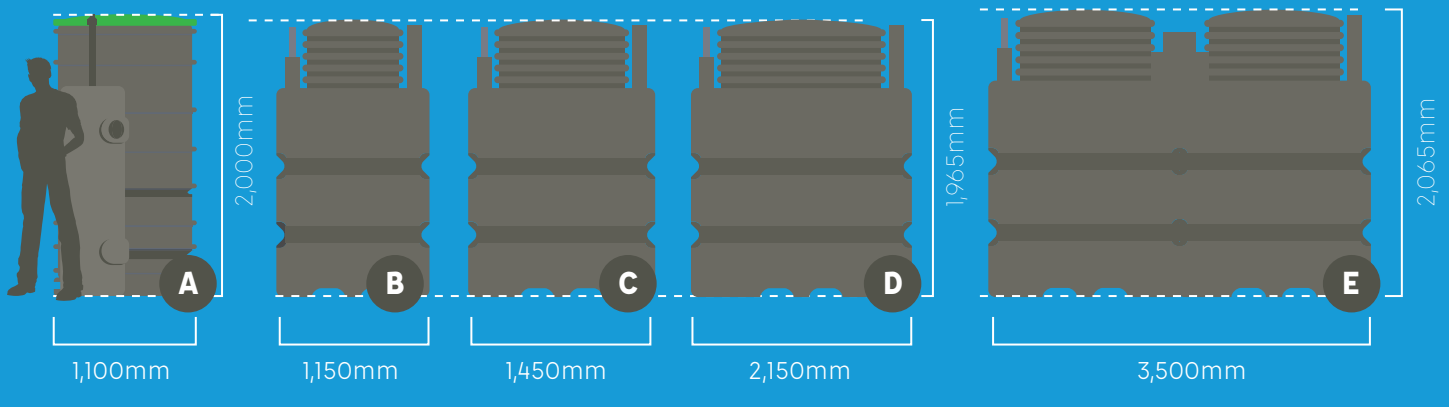
900 - 30,000ℓ



The Ecorock units can be retrofitted to an existing septic tank to replace a French drain entirely.

TECHNICAL INFORMATION

Ecorock	ER-900 (A)	ER-1500 (B)	ER-2000 (C)	ER-3000 (D)	ER-5000 (E)
Capacity	6PE / 900ℓ/d	8 PE / 1,200ℓ/d	10PE / 1,500ℓ/d	15PE / 2,250ℓ/d	30PE / 4,500ℓ/d
Length	1,100mm	1,150mm	1,450mm	2,150mm	3,500mm
Width	1,200mm	1,150mm	1,150mm	1,150mm	1,150mm
Height	2,000mm	1,965mm	1,965mm	1,965mm	2,065mm
Weight	189kg	197kg	241kg	304kg	682kg
Recommended Minimum Primary Tank Capacity	2,500ℓ	4,000ℓ	5,000ℓ	6,000ℓ	12,000ℓ
Inlet below NGL (mm)	<640mm	<610mm	<610mm	<610mm	<610mm



NEED A BIGGER SYSTEM?

MULTIROCK Systems utilise ECOROCK-5000 units installed in parallel and can cater for 60, 90, 120, 150 and 180PE respectively. Following the Primary tank, a Dosing Chamber and one or more Splitter Boxes, both non-electrical, are utilised to distribute water evenly across the units.

Final water quality

The treated water from an Ecorock is ideal for irrigation or to return to the natural environment and typically exceeds* the Department of Water and Sanitation General Limit Standards.

* In a biological treatment system, final effluent quality is determined by a variety of factors including influent quality, correct operation and routine maintenance.

Parameter	DWS Requirement (General Limits)	Typical Ecorock Final Effluent*
pH	5.5-9.5	7
COD (mg/l)	75	<50
(Conductivity (ms/m)	70	<50
Suspended solids (mg/l)	25	<10
Ammonia (mg/l)	6	<5
Nitrate (mg/l)	15	<10
Ortho-Phosphate (mg/l)	10	<5

CONTACT US

For more information and to book a free water consultation, contact a BIOROCK specialist near you today.

biorock.co.za