



CORPORATE PROFILE 2026

Specialised Systems for Air, Water, Waste & Packaging Disinfection



Engineered Water Skids



Containerised Water Treatment Systems



Bottling Lines with Water Purification Integration



Introduction

COMPANY OVERVIEW

Biozone provides engineered treatment solutions for a wide range of industries, covering water, air, and sanitation needs. **Validated against SANS 241, WHO and industry-specific product water standards.** Instead of using a one-size-fits-all method, Biozone designs systems to satisfy the unique operational and regulatory requirements of each sector, such as agriculture, food processing, chemical, pharmaceutical, and environmental industries.

Each environment has its own challenges, like controlling contamination, protecting materials, meeting hygiene standards, and staying within discharge limits. That's why we tailor our purification and disinfection approaches for every application, guaranteeing effective treatment and a process that is environmentally responsible.



OZONE TECHNOLOGY EXPERTISE

Advanced Oxidation and Disinfection Engineered for Water, Air and Waste Treatment Applications

At the core of Biozone Manufacturing's treatment capability is a deep specialisation in **ozone technology**. For more than two decades, Biozone has designed, integrated, and applied **ozone-based** systems across water treatment, air treatment, sewage treatment, packaging hygiene, and cold chain disinfection environments.

WHY OZONE

Ozone is one of the most powerful oxidising agents available for treatment processes. When engineered correctly, it enables effective disinfection, odour control, contaminant reduction, and chemical minimisation without leaving long-term chemical residuals.

- **Powerful oxidation and disinfection performance**
- **Reduced dependence on harsh chemical dosing**
- **Effective control of bacteria, viruses, and odour-causing compounds**
- **Suitable across both air and water treatment environments**



WHERE BIOZONE APPLIES OZONE TECHNOLOGY

WATER TREATMENT

Disinfection, oxidation, polishing, and support for drinking water treatment architectures.

AIR TREATMENT

Controlled atmospheric ozone systems for odour control, pathogen reduction, ethylene control, and cold storage disinfection.

SEWAGE & WASTEWATER

Final-stage disinfection, odour reduction, and advanced oxidation within commercial sewage treatment systems.

PACKAGING & BOTTLING

Ozone bottle rinse and disinfection, with optional ozonated product water configurations.

COLD CHAIN & FOOD HANDLING

Ozonated rinse water, air decontamination, and surface hygiene control from farm to retail.

OUR SERVICES



WATER TREATMENT



AIR TREATMENT



WASTEWATER



PACKAGING



WATER TREATMENT SOLUTIONS

Engineered Systems for Variable Conditions and Regulatory Compliance

Biozone designs and manufactures integrated water treatment systems for industrial, agricultural, commercial and remote applications. Systems are engineered to manage input variability, reduce chemical dependency, and maintain stable output quality under changing operating conditions.

Raw & Borehole Water Treatment

Mining operations | Agricultural estates | Remote facilities | Rural water schemes

Industrial Process Water Systems

Industrial plants | Food & beverage | Pharmaceutical manufacturing | Chemical processing

Bottling & Beverage Line Disinfection

Water bottlers | Beverage manufacturers | Dairy processors

Containerised & Retail Purification Skids

Retail refill stations | Shopping centres | Decentralised supply systems | Remote communities

[VIEW OUR CAPABILITIES IN WATER TREATMENT](#)



- Bacteria elimination
- Iron, manganese
- Total hardness reduction
- TDS reduction
- Alternate water source purified

AIR TREATMENT SOLUTIONS

Engineered Systems for Odour Control, Air Quality Stability and Regulatory Compliance

Biozone designs and manufactures integrated air treatment systems for industrial, commercial and specialised applications. Systems are engineered to neutralise odours, reduce airborne contaminants, and maintain consistent air quality under variable operating conditions while meeting environmental and workplace compliance standards.

Industrial Odour Control Systems

Food processing facilities | Wastewater treatment plants | Mining operations | Landfill sites

Cold Storage & Hygiene Air Management

Cold rooms | Abattoirs | Food & beverage plants | Logistics facilities

Decontamination & Controlled Environments

Pharmaceutical manufacturing | Laboratories | Clean rooms | Healthcare facilities

Commercial & Institutional Air Purification

Hospitality | Retail environments | Offices | Public facilities



- Bacteria elimination
- Pathogen elimination
- M3 of surface sterilisation
- Virus protection

[VIEW OUR CAPABILITIES IN AIR TREATMENT](#)

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WASTEWATER TREATMENT SOLUTIONS

Engineered Systems for Effluent Compliance, Reuse and Process Stability

- BOD / COD's
- Oxygen %
- Bacterial elimination
- Litres made usable

Biozone designs and manufactures integrated wastewater treatment systems for industrial, mining, commercial and municipal applications. Systems are engineered to stabilise variable influent loads, reduce environmental discharge risk, and achieve consistent compliance under changing operating conditions.

Industrial Effluent Treatment Systems

Food processing | Chemical manufacturing |
Pharmaceutical facilities | Industrial plants

Mining & High-Load Wastewater Treatment

Mining operations | Process water return streams |
Remote camps | Heavy industry

Containerised & Modular Sewage Treatment Plants

Commercial developments | Remote facilities |
Construction sites | Institutional applications

Advanced Polishing & Reuse Systems

Water recycling applications | Process water reuse |
Irrigation reuse | Environmental discharge compliance



[VIEW OUR CAPABILITIES IN WASTEWATER TREATMENT](#)

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PACKAGING SOLUTIONS

Engineered Integration for Hygienic Filling, Automation and Process Reliability

Biozone designs and integrates packaging and bottling systems for water, beverage and industrial applications. Systems are engineered for hygienic operation, consistent throughput, and seamless integration with upstream treatment processes while meeting quality and safety standards.

- High ROI
- Ozone disinfection
- Integration
- Plant automation
- Turnkey (Borehole to bottle)
- Ozone systems

Bottling Line Integration

Water bottlers | Beverage manufacturers | Dairy processors | Industrial liquids

Ozone-Based Bottle Sterilisation

Pre-filling sanitation | Hygienic packaging | Chemical-free sterilisation

Turnkey Packaging System Design

New plant installations | Capacity expansion | Line upgrades | Retrofit applications

Cold Chain Processing Disinfection

Targeted ozone sanitisation systems engineered to reduce microbial contamination risks in abattoirs, food processing facilities, and cold storage environments.



VIEW OUR CAPABILITIES IN PACKAGING AND DISINFECTION

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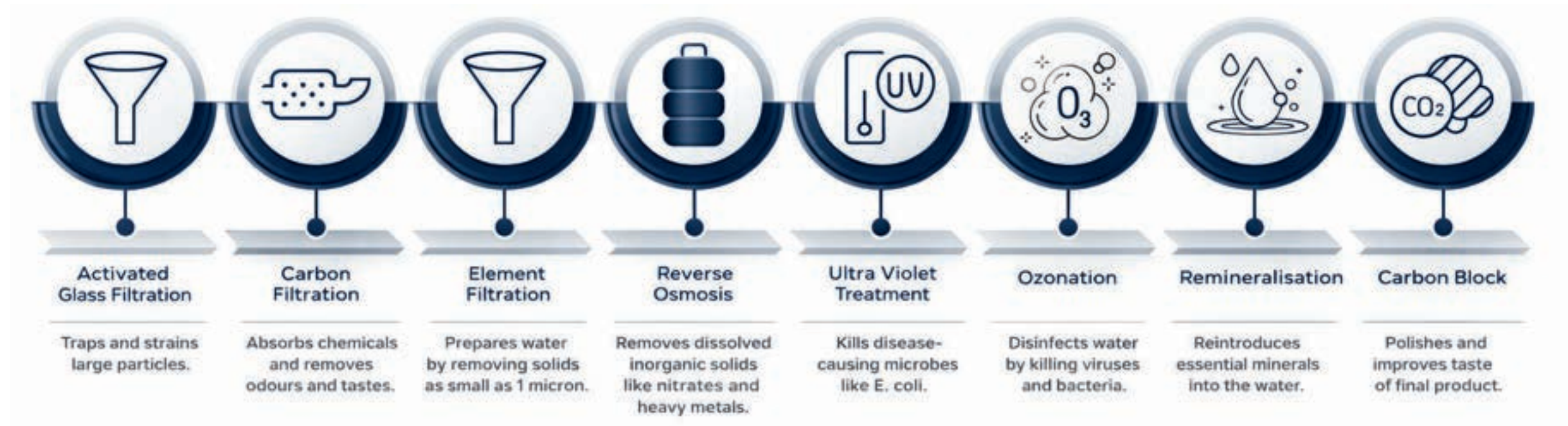
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RETAIL SOLUTIONS



Biozone retail outlet water systems are structured in layered treatment stages:



Each layer is engineered to complement the next, ensuring process stability, protection of downstream equipment and compliance with regulatory standards. This modular architecture allows systems to be scaled, expanded or adapted as operational requirements evolve.

BIOZONES CUSTOMERS





Project Overview

USHAKA MARINE WORLD, KWAZULU-NATAL

Industry: Hospitality & Marine Aquarium

Application: Multi-species marine & freshwater life support systems

Technology: Oxygen-fed ozone generation with ORP monitoring

Commissioned: 2005 (continuous operation since)

Treatment Process: Continuous ozone dosing + protein skimming + deaeration

Continuous oxygen-fed ozone treatment with ORP-controlled dosing and deaeration for multi-species marine/freshwater aquarium. Zero-residual design enables cohabitation of mammals and fish. 20-year operational validation in a mission-critical hospitality environment.

- **ORP monitoring/control**
- **Oxidation-reduction potential**
- **Deaeration equipment**
- **Multi-species systems**
- **Continuous dosing**
- **Zero residual design**
- **Life support systems**
- **Gas saturation management**



Project Overview



EASTPLATS CROCODILE MINE, SOUTH AFRICA

Industry: Mining (Platinum Group Metals)

Application: Boiler feed water softening + potable water supply

Technology: Nanofiltration (NF) membrane system with AFM pre-treatment

Commissioned: 2024 (continuous operation since)

Capacity: 12 kL/hour (144–192 kL/day)

Treatment Process: AFM pre-filtration → Nanofiltration → Chlorine disinfection

Containerized 12 kL/h nanofiltration system replacing salt softening for 600 mg/L hardness borehole water. Delivers 80% hardness reduction for boiler protection + SANS 241 potable water. Eliminates 70–90 tons annual salt discharge and R1.6M+ yearly operating costs. AFM pre-treatment, online monitoring, 10-year media lifespan.

- **600 mg/L inlet hardness**
- **80% hardness reduction**
- **12 kL/h capacity (expandable to 16 hrs operation)**
- **AFM (Activated Filter Media) pre-treatment**
- **Online monitoring system**
- **SANS 241 & WHO compliance**
- **Zero salt/brine discharge**
- **10-year media lifespan design**

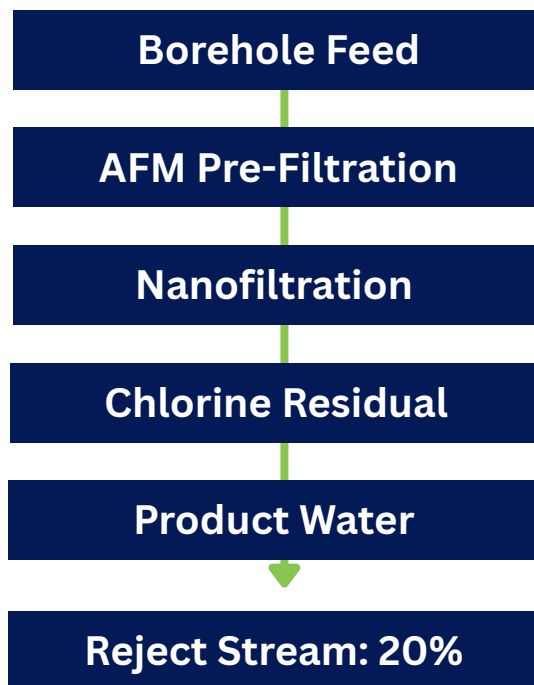
EASTPLATS CROCODILE MINE

Nanofiltration Hardness Reduction System

80% Hardness Reduction | 80% Recovery | <18 Month Payback

Industry: Platinum Group Metals Mining
Location: South Africa
Commissioned: 2024
System Type: Containerised Nanofiltration (NF)
Design Capacity: 12 kL/h (144–192 kL/day)
Recovery Rate: 80%
Compliance: SANS 241 | WHO

Treatment Process Flow



Design Principles

- Mass balance modelling
 - Hydraulic residence time optimisation
 - Membrane flux validation
 - Automated online monitoring
- Containerised plug-and-play configuration

FINANCIAL AND ENVIRONMENTAL IMPACT

CONVENTIONAL SOFTENING VS BIOZONE NANOFILTRATION SYSTEM			
Metric	Conventional	Nanofiltration	Impact
Salt Usage	70–90 t/year	0	Eliminated
Brine Discharge	80/20 m ³ /year	0	Zero liability
Annual OPEX	R1.62–2.16M	±R180,000	Major reduction
Equipment Life	5–7 Years	10+ Years	Extended asset life
Projected Financial Outcome Annual Savings: R1.44M – R1.98M Payback Period: <18 Months Chemical Usage: 0 kg/year Water Recovery: 80%		Validation and Compliance <ul style="list-style-type: none"> • SANS 241 Certified • WHO Aligned • Third-Party Testing • Online Monitoring & Control 	

OPERATIONAL BENEFITS

Continuous Operation	Monitoring & Control	Deployment	Scalability
24/7 Automated	Real-time data	Rapid mobilisation	Modular design
Minimal Maintenance	Remote monitoring	Pre-commissioned	Expandable capacity

TECHNICAL PERFORMANCE

Inlet Hardness: 600 mg/L
Outlet Hardness: <120 mg/L
Hardness Reduction: 80%
Recovery Rate: 80%
Media Lifespan: 10+ Years
Configuration: Containerised

Our systems have high ROI, scalable and don't require municipal connection. Fully customisable to customer needs. Off grid capacity and energy efficient.

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