

FREYTECH INC.

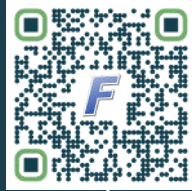
CONTROL CORROSION, SCALING, FOULING, & SLUDGE IN PIPELINES

In Any Type of Water
Piping and Oil Pipelines
In Real Time / Continuous /
Long-Term Basis Without
Electricity, Polymers or Other
Consumables

REDUCE BLOWER TIME
BY 50% IN WWTPs

&

ELIMINATES GHG
AND ODOR



ENVIRONMENTAL BALANCE DEVICE (EBD TECHNOLOGY)

EBD Water Pack
45mm x 115mm



EBD Crude Oil Pack
45mm x 115 mm

EBD Ground Pack
110 x 110 x 8 mm



SCIENTIFICALLY VALIDATED

- Certified by the Ministry of Science and Innovation of Spain
- Certified "Safe to Use" by Florida International University (USA)
- Confirmed to reduce dissolved and suspended solids in ground/ surface water.
- Confirmed by Certified laboratories in USA, EU & Malaysia to effectively remediate municipal wastewater & sewage in septic tanks.



EFFICIENT & SCALABLE

- Installs in hours, not months
- Highly scalable for small to large-scale systems
- Service life of 15+ years with minimal maintenance



COST-EFFECTIVE & SUSTAINABLE

- Low-cost solution compared to traditional systems
- Operates without chemicals or electricity
- Saves up to 38% on electricity costs

freytech.com/environmental-balance-devices/

WHAT IT IS: Environmental Balance Device (EBD) technology consists of compact deployable units attached to the outer surface of piping and related fluid infrastructure equipment designed to treat water and support the control of sludge, scaling, biofouling, and corrosion. It has also been associated with significant and sustained reductions in greenhouse gases (GHGs) and offensive odors, through ongoing atmospheric biodegradation and biotransformation processes. This is achieved without using electricity, consumables or labor. EBD is also effective in conditioning and treating wastewater, hard water, gray water, seawater as well as crude oil. EBD has operated at TRL 9 level since 2018 and is used at industrial scale in Europe, North America, and in the Middle East.

HOW IT WORKS: During EBD technology development, we focused, in part, on Reactive Oxygen Species (ROS) which are a collection of highly unstable, oxidizing oxygen-containing molecules that originate from industrial activities, combustion processes, pollution, as well as biological and environmental generators. High levels of ROS are known to damage microbial DNA, proteins, and lipids, significantly inhibiting their metabolic functions essential for effective biodegradation, biotransformation and conditioning. Elevated levels of ROS surpass the capacity of microorganisms to degrade pollutants and operational waste such as scale, sludge, biofilm, asphaltene, paraffin wax, and other materials that precipitate from suspension in fluids.

EBD units are engineered systems designed to interact with ambient environmental fields, influencing local electrochemical conditions and energy balance within air, water, and soil environments. These interactions are demonstrated to modulate local electrochemical balance, contributing to more stable molecular and ionic conditions that influence redox behavior and microbial energy exchange. Our proprietary, science-driven approach manages disorder and energy dispersal in a nature positive manner. EBD systems contain proprietary mineral compositions, including high-entropy metal oxides, that are demonstrated to support electrochemical stabilization and facilitate more favorable electron-transfer conditions within the surrounding environment. This process is proposed to reduce the persistence of unstable ROS, contributing to a shift toward more stable oxygen species within air, water, and soil environments. It reduces microbial stress, promoting optimal conditions for their metabolism and ion regulation. These small yet cumulative, progressive, stabilizing effects are greatly amplified and sustained over time via biological feedback loops, leading to significant, verifiable and continuous, long-term improvements in remediation and treatment efficiency without adding external energy.

EXCESS NUTRIENTS AND PATHOGENS: EBD systems are proposed to influence local energy distribution and electrochemical interactions in ways that support native microbial activity and enzymatic function, which contribute to sustained reductions in nitrogen, ammonia nitrogen, total phosphorus, BOD5, COD, TSS, heavy metals as well as pathogens such as Escherichia Coli, Salmonella, Clostridium Perfringens, Total Coliforms and Total Enterobacteria. These observed reductions are demonstrated to result from a combination of enhanced biological processing and altered chemical stability, with downstream transformation pathways remaining an active area of investigation.

ENERGY SAVINGS & INCREASED PRODUCTION: EBD systems are designed to control and remove material buildup inside piping and related infrastructure, preserving pipe inner diameter and improving production efficiency. This also reduces electricity use since pumps do not need extra pressure to compensate for restricted flow, supporting efficient and sustainable operations. In wastewater treatment plant applications, operators implementing EBD systems have reported the ability to reduce blower and aeration operating time, in some cases by up to 50% while continuing to meet effluent standards.

APPLICATIONS: Suitable for residential, commercial, and industrial piping systems and associated infrastructure designed to convey fluids, including (but not limited to) fresh water, gray water, wastewater (municipal, industrial, agricultural), sea water as well as crude oil. In oil production, ROS concentrations increase dramatically during production and surface handling. EBD has also been associated with controlling precipitation in oil pipelines and with extended water filter service life including reverse osmosis (RO) membranes. EBD systems have also been applied in agricultural irrigation systems to support the restoration of degraded soil, nutrient uptake, and agricultural output. Please contact Freytech Inc. for a full list of applications, sectors and benefits.

EBD IS ALSO A FINANCIAL TOOL: Public and private sector entities that implement EBD technology and improve their sustainability profile, can qualify for Sustainability Linked Loans (SLL). These are offered by most global banks providing reduced interest rates—usually 5-25 basis points—for meeting sustainability targets like Scope 1, 2, and 3 emission reductions, following SLL Principles. SLLs are flexible and may be used for general business needs including refinancing, M&A, or working capital.

SERVICE LIFE: EBD system service life exceeds 15+ years. Our systems help achieve net zero by 2050 since they are affordable, sustainable, and highly scalable (installed in hours not months). No permitting or infrastructure is required.

COMPLIANCE, ENHANCED ESG REPORTING & COMPETITIVE ADVANTAGE: EBD systems provide valuable tools to private and public sector GHG emitters wherever located.

European Union (EU): The EU Emissions Trading System (ETS) Directive is a key part of the Fit for 55 Package and vital for companies in the EU to meet climate and financial requirements.

Non-EU Companies: The EU Corporate Sustainability Reporting Directive (CSRD) has global reach requiring companies that export to the EU to report their gas emissions. EBD systems can help those exporters meet the CSRD requirements in order to stay competitive in the EU.

USA: EBD meets California's Climate Crisis Act (AB 1279, 2022) and Senate Bill 32 (SB 32) requirements.

UAE: EBD meets UAE's ROCC Law (Federal Decree-Law No. 11 of 2024) requirements.

National Determined Contributions (NDC). EBD helps nations meet their NDCs.