

UNIQUE TECHNICAL ADVANTAGES OF DEVISE PACKAGED WASTEWATER TREATMENT PLANTS

“High-Rate BioPlants”

DEVISE ENGINEERING S.A. uses the latest technologies for the design, engineering and manufacturing of its Treatment Plants. All design and drawing is executed using the latest 3D software, with animation and problem solving systems. The process calculations are worked out using our own models as well as internationally recognised modelling software based on ‘hands-on’ experience as well as the world wide operational practices and results.

The main objectives of the Packaged “High-Rate BioPlant” are briefly outlined below:

- ✓ Most Compact Design for Best Possible Performance
- ✓ High Rate Biological Treatment
- ✓ Easy to Transport and Deploy at any Location & Terrain
- ✓ Fully Automatic Operation
- ✓ Good Performance at even the most adverse conditions (heat, frost, limited attention & maintenance)
- ✓ Simple to Use & Maintain
- ✓ Reliability, zero down-time

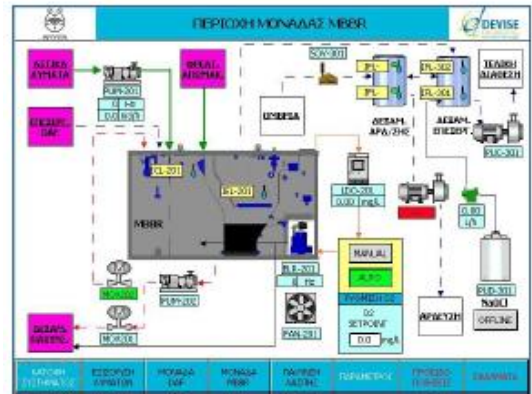
In order to achieve these objectives, **DEVISE ENGINEERING S.A** has paid special attention to the use of Innovative Process Technologies and developed them even further. The reliable and high-rate process treatment of **M.B.B.R** [Moving Bed Bio- Reactor] **was further advanced** by DEVISE engineers to a combined process of **MBBR- IFFAS** [Integrated Fixed-Film Activated Sludge] model using the most advanced and highest “Active-Surface” bio-carriers (< 3000 m²/m³) in the market, thus giving **an exceptionally high rate bio-degradability in the smallest bio-reactors in the market**. This advantage coupled with the excellent quality of construction and top quality European equipment & instrumentation integrated in the Plants provides our customers with numerous benefits that result to simply a **Better Value for Money** Product.

SMART DESIGN FEATURES

The Bio-Plants incorporate **multiple reactor cells** enhancing the efficiency of the treatment and separating these MBBR cells there are “**self cleaning**” - “**non-clogging**” screens that ensure **trouble free operation**. This is a very important feature for the End-Users where down-time means EXTRA COST.



The level of **automation** provided as standard in our plants reflect the “**state of the art**” technologies and modes of operation used for our Bio-Plants. These features provide full monitoring of the operational parameters of the plants, as well as easy adjustment and **follow up and logging** of errors, faults or other **operational parameters** such as capacity, temperature, dissolved-oxygen, waste sludge volume, hours of operation of equipment, etc. These parameters can easily be transferred to a **Central Control Station** where the Plant’s operation can **be fully monitored and if wished Controlled from a distant point**.



QUALITY MATERIAL & EQUIPMENT

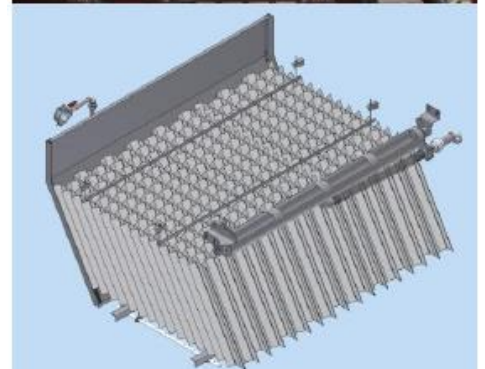
The **down-time and the high maintenance** requirements of a badly designed & engineered plant with low quality equipment and materials **eradicate very quickly any capital cost benefits** that may appear attractive in the beginning. This is why DEVISE uses 1st Class ISO Certified European Equipment & Instrumentation.

EASY MAINTENANCE FEATURES

One of the most common problem areas in the Sewage Treatment Facilities that cause serious drop of plant’s performance & efficiency are the aeration fine-bubble diffusers of which the rubber membranes clog and destruct the discharge of air. The difficulty of cleaning or

replacing these diffusers is so great that is one of the most notorious maintenance job in the sector. This work required full shut-down of the plant, draining of the plant, in the case of a fixed-bed or moving bed reactor, removal of the media and then again the opposite procedure in order to restart the plant. DEVISE ENGINEERING S.A has designed a **robust air diffusion system** of medium-size bubble diffusion system **from stainless steel** and has devised a mechanism for a simple operation to back-wash and keeps the **air-diffusers always clean** thus **operating at full efficiency all the time, keeping energy bills low and effluent quality high**.

It must also be outlined that the great compactness of the DEVISE “High-Rate BioPlants” does not affect the easiness to operate & maintain the plant and that is because of smart operational & maintenance features like the “**air-diffuser**” **clean system** and the “**air scouring**” of the **tube settlers** that provide the high performance in all of our plants.



DEVISE PACKAGED BIO-PLANTS – THE SMART & COST EFFECTIVE SOLUTION

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