



CATALOG 2014

DESIGN, SUPPLY AND INSTALLATION OF ALUMINUM COVERS

ADVANCED DEODORIZATION SYSTEMS

**DESIGN, SUPPLY AND INSTALLATION OF FLOATING COVERS
TO AVOID WATER LOSS BY EVAPORATION
IN IRRIGATION REGULATION RESERVOIRS
AND CONFINE AND DEODORIZE LEACHATE PONDS**

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JSF Hidráulica provides technological solutions in water, waste water and industrial facilities, innovative odor control technology, potable and irrigation water conservation.

Our challenges:

- Using materials of the highest quality and suitability in each application, which results in greater durability compared to conventional materials.
- Use of air treatment equipment of high efficiency and lower costs of operation and maintenance.

Our activities are:

- **ODOR CONTROL**
- **EVAPORATION CONTROL**
- **WATER STORAGE**
- **LEACHATE PONDS PROTECTION**
- **BIOGAS ENERGY USE**
- **PROTECTION OF LARGE PARKING SURFACES**





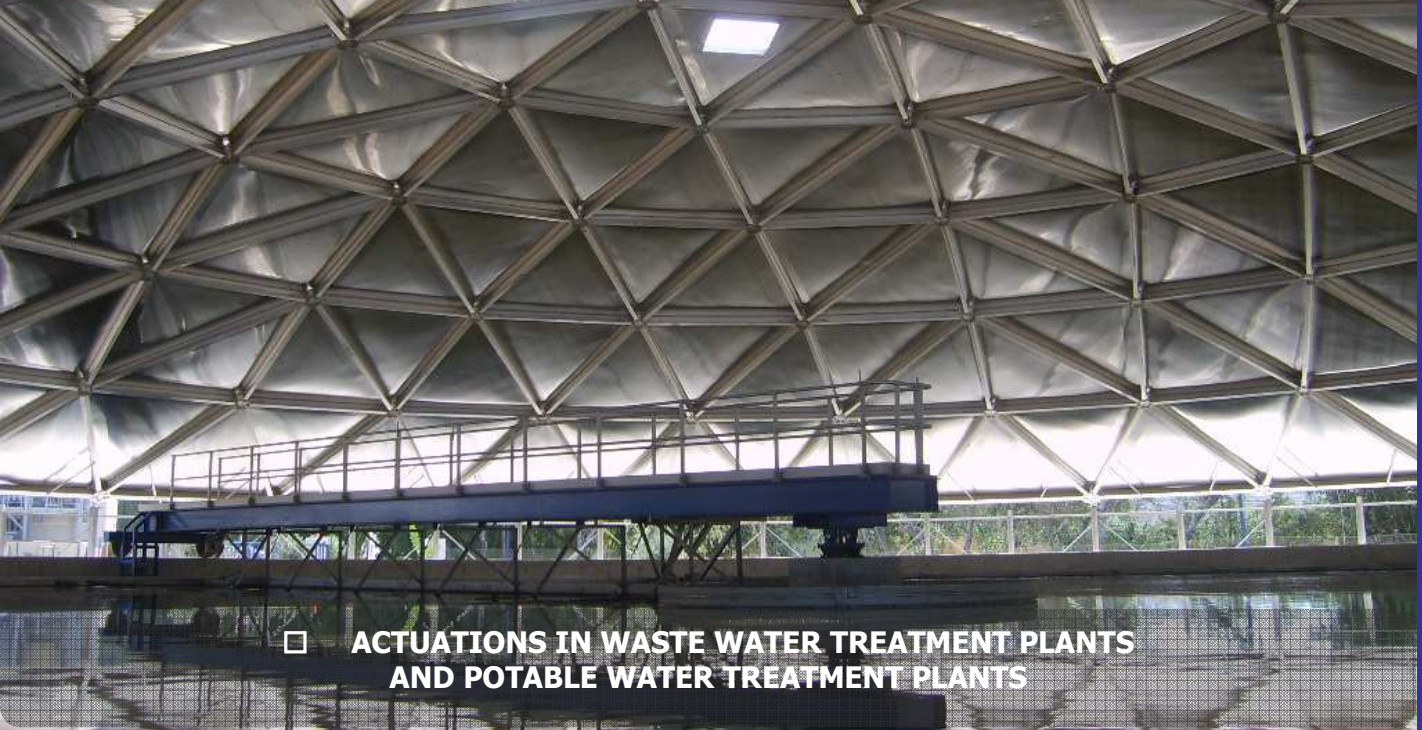
❑ **ACTUATIONS IN WASTE WATER TREATMENT PLANTS
AND POTABLE WATER TREATMENT PLANTS**

ADVANTAGES OF USING ALUMINUM IN COVERING PROCESSES IN WATER TREATMENT PLANTS

JSF Hidraulica covers are built completely in aluminum and have:

- **GREAT RESISTANCE TO CORROSION AND UV RADIATION** → Doesn't rust like galvanized steel nor degrades like Glass-Fibre Reinforced Plastic (GFRP).
- **MORE IMPACT RESISTANCE**
- **MORE DURABILITY**
- **SPECIFIC REGULATION** → Calculations supported by the EUROCODE 9 and the UNE. There are no rules or applicable calculation methods for structures with GFRP.
- **UNIFORMITY** → The automated manufacturing process ensures the quality of the material.
- **LIGHTWEIGHT** → Easy assembly, compared with galvanized steel.
- **VERY COMPETITIVE (COST/MAINTENANCE) RATIO**



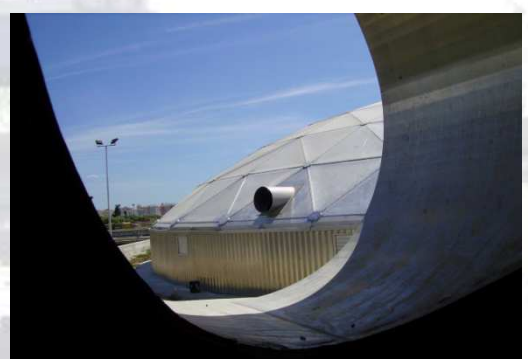


❑ **ACTUATIONS IN WASTE WATER TREATMENT PLANTS
AND POTABLE WATER TREATMENT PLANTS**

PROCESS CONFINEMENT WITH ALUMINUM DOME COVERS (ALUSPHERE®)

Our aluminum dome ALUSPHERE® consist of a triangulated profile system, covered with triangular panels. Besides the advantages of the use of structural aluminum, characterized by:

- **ALLOWING LARGE DIAMETERS** → Its clear span design and integral tension ring aluminum domes eliminate the need for intermediate columns and reinforcement of tank walls, with spans above the 100m if needed.
- **OPERATIONAL FLEXIBILITY** → Allows the installation of accessories, like doors, hatches and connections.





❑ **ACTUATIONS IN WASTE WATER TREATMENT PLANTS
AND POTABLE WATER TREATMENT PLANTS**

**PROCESS CONFINEMENT WITH ALUMINUM FLAT COVERS
(ALUGRECA[®] AND ALUPLAN[®])**

Our flat covers ALUGRECA[®] and ALUPLAN[®] are made with aluminum modules assembled and have, besides the advantages described at first, these other qualities:

- **EASILY REMOVABLE** → Due to its lightweight, the operation and maintenance works more easy to execute.
- **PASSABLES** → Structural resistance make them passable in a secure way.
- **AIR FLOW REDUCTION TO TREAT** → Flat design reduces air volume to deodorize.





□ **ACTUATIONS IN WASTE WATER TREATMENT PLANTS
AND POTABLE WATER TREATMENT PLANTS**

**PROCESS CONFINEMENT WITH ALUMINUM VAULTED COVERS
(ALUDOVEL®)**

The ALUDOVEL® vaulted covers are designed to cover large spans without intermediate supports and rely exclusively on the perimeter walls.

- **FOR LARGE SPANS**
- **REDUCED DISPLACEMENT** → Reduces the air volume to treat
- **IDEAL TO COVER BIOFILTERS AND DEPOSITS**





□ **DEODORIZATION OF CONTAMINATED GAS EFFLUENTS**

ADVANCED FILTRATION WITH ACTIVATED ALUMINA AND ACTIVATED CARBON

The impregnation of alumina with potassium permanganate allows it to react with the odorous compounds and oxidize them to inorganic salts, harmless and without unpleasant smell, which are retained in the porous structure itself. The activated carbon is capable of capturing a greater amount of volatile organic compounds (VOCs). These inorganic media have high selectivity and yield and are independent of variations in flow and concentration of odorous compounds.

These systems can be configured with disposable or reusable cartridges (Modular Filtration System type), or supplied in bulk (Deep Bed type)

- **CORROSION PROTECTION OF ELECTRICAL EQUIPMENT** → Specially indicated for this case due to its less need of space compared with other alternatives.
- **EASY OPERATION AND MAINTENANCE**
- **LOW INVESTMENT NEEDED**





□ DEODORIZATION OF CONTAMINATED GAS EFFLUENTS

HIGH PERFORMANCE BIOTRICKLING SYSTEMS FOR ODOUR CONTROL, BIODORTECH®

BIODORTECH® biotrickling systems are bioreactors for biological treatment of gas effluents. They are based on the action of microorganisms that degrade the contaminants in the gas phase. We employ inert material of high specific surface, porosity and chemical stability, with the following advantages:

- **DURABILITY** → Higher than that of vegetable fillings.
- **LOW COST IN OPERATION AND MAINTENANCE** → Doesn't require chemical reactive supply nor periodical renovations like in conventional biofilters.
- **MORE OPERATION SECURITY** → Doesn't require the use of dangerous chemical products.
- **DOESN'T SUFFER ACIDIFICATION** → The filling, due to its inert nature, doesn't suffer acidification.
- **DOESN'T SUFFER COMPACTATION** → The filling, due to its physical properties, doesn't suffer compactation.
- **LESS SURFACE NEEDED** → much less than conventional biofilters
- **GREATER RANGE OF CONTAMINANTS REMOVED**
- **ALLOWS MORE CONCENTRATION OF H₂S** → Compared with conventional biofilters.





□ **EVAPORATION CONTROL AND CONTAMINATION WATER PROTECTION**

FLOATEC[®], A SOLUTION FOR WATER LOSS BY EVAPORATION IN IRRIGATION REGULATION RESERVOIRS

The loss of water by evaporation in irrigation regulation reservoirs is a problem that, in arid areas, can be of considerable economic importance.

These losses can represent a significant percentage of the total volume of water regulating, and result in low storage efficiency, and thus negatively affect the overall efficiency of distribution systems water for irrigation.

There are different techniques to avoid evaporation, such as the application of dyes (for modifying sunlight effect), the use of windbreaks or use of other substances that break thermal stratification, all of them have low efficiency and / or are incompatible with the use of water for irrigation.

- **AVOIDS 100% EVAPORATION**
- **GREAT CHEMICAL RESISTANCE AND UV RADIATION**
- **NO THERMICAL DILATATION**
- **AUTOMATIC RAIN WATER DRAINAGE**
- **PASSABLES**, allowing maintenance operations
- **ADAPTS TO WATER LEVEL CHANGES**
- **NO SURFACE LIMIT**
- **MATERIAL FULLY COMPATIBLE WITH DRINKING WATER**





❑ ACTIONS IN WASTE TREATMENT PLANTS AND LANDFILL

CONTAINMENT AND DEODORIZATION OF LEACHATE PONDS FLOATEC®

Rainwater percolating through the solid waste stored in a landfill, drags suspended solids, dissolved salts, organics and other contaminants. These leachate is temporarily stored in waterproofed ponds until they are removed for further treatment (vacuum evaporation, ultrafiltration, crystallization, reverse osmosis, etc).

The main problems are associated with open air ponds, when leachate volume increases with rain fall and because dispersion of odours. This problem can be solved by installing floating cover and gaseous effluent treatment captured.

The use of floating covers in leachate ponds:

- **AVOIDS THE INCREASE OF LEACHATE VOLUMEN TO MANAGE**
- **DECREASES THE DISPERSION OF ODOURS AND ALLOW DEODORIZATION**
- **AVOIDS SOLID ENTRANCE THAT CAN DAMAGE EQUIPMENT**







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