

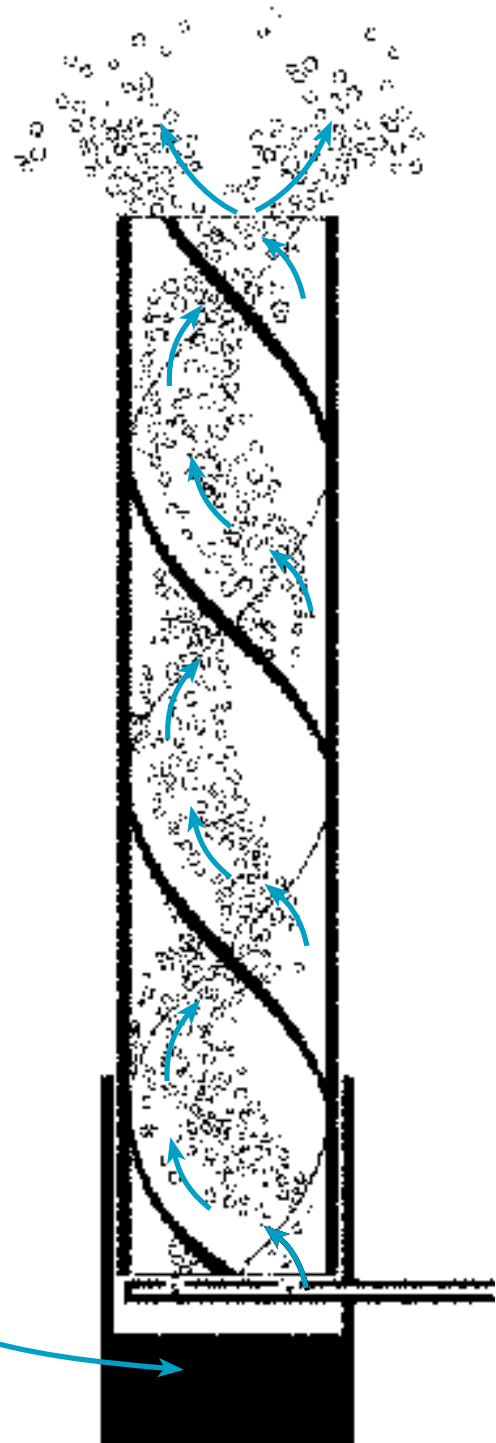
# The Static Tube Aerator Unit



• For 30 years. Simply. Worldwide.

**P O L C O N**  
AERATION SYSTEMS INC.

HELIXOR®  
MADE IN CANADA



## POLCON® AERATION SYSTEMS INC.

designs, manufactures and markets POLCON® HELIXOR® Systems through an international representative network.

Our POLCON HELIXOR Unit, invented in 1967, has an outstanding international reputation and reference list.

The HELIXOR Unit is a sub-surface mixing/aerating device, constructed of twelve (12) inch diameter molded polypropylene. It incorporates an integral monolithic helix component throughout its interior length. The units are anchored vertically and are supplied with compressed air (or gas) at their base. This creates a highly turbulent flow of air (gas) and liquid.

## HELIXOR's Key Features

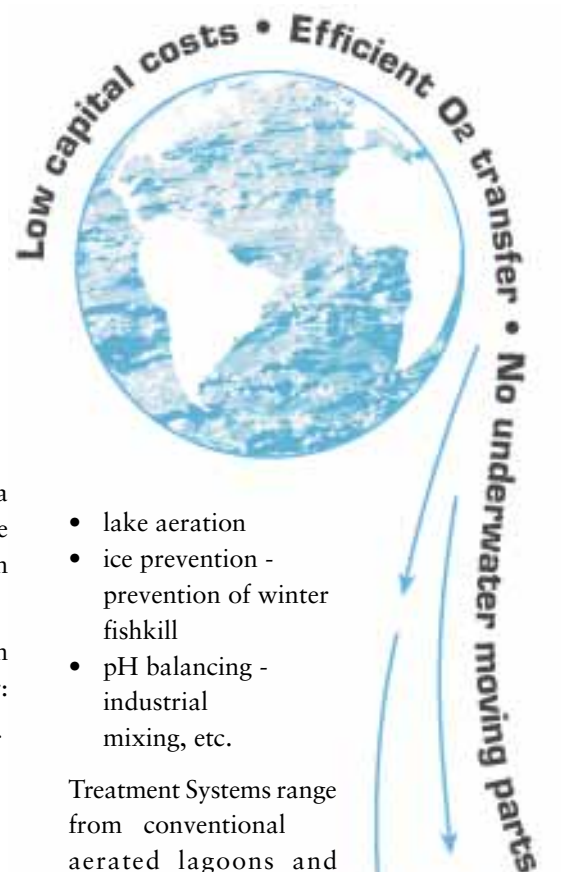
- Efficient oxygen transfer and complete mixing conditions;
- Low capital costs due to simplicity of installation and start-up;
- No moving parts underwater, resulting in significant savings in operating and maintenance costs.

## Worldwide Applications

POLCON HELIXOR Systems have a wide range of applications. There are approximately 2,000 in operation throughout the world.

The HELIXOR Unit has been incorporated into systems designed for:

- treatment of industrial wastewater
- treatment of domestic sewage
- water quality improvement

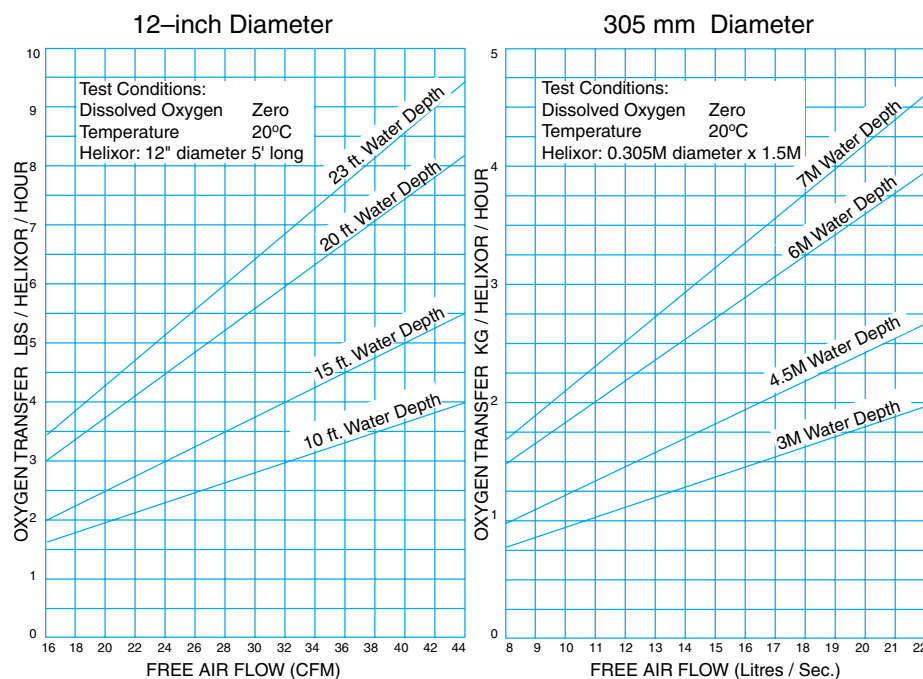


- lake aeration
- ice prevention - prevention of winter fishkill
- pH balancing - industrial mixing, etc.

Treatment Systems range from conventional aerated lagoons and concrete tanks or basins, to systems installed within the receiving body of water - (i.e. a portion of a lake, river, or harbor is used as a treatment facility). HELIXORS offer flexibility of design and few restrictions as to basin depth or geometry.

POLCON's Water Quality Improvement & Eutrophication Reversal Systems are designed to create and maintain ideal environments for the growth of desirable and healthy aquatic life and, in colder climes, the prevention of ice formation and winter fishkill.

## HELIXOR Oxygenation Capacity



Design data are based on controlled studies by independent authorities at:

- University of Iowa - P.F. Morgan Laboratory
- Aware Inc. - a recognized authority in the field
- Gerry Shell Environmental Engineering Inc. - also a recognized authority
- University of Montreal, Quebec, Canada

## Why Choose the POLCON HELIXOR System?

### *Higher operating efficiency and lower capital costs:*

Oxygen transfer from the compressed air to the effluent improves as the depth of the HELIXOR System increases.

Since our System can operate in any water depth from five (5) feet upwards, there are capital savings as depth increases because less land is required, fewer HELIXORS are needed and the size of the underwater piping is reduced.



### *Lower operating costs:*

Flexibility of loading saves operating costs when the oxygen demand varies.

When the design oxygen demand is decreased, the air flow to the HELIXOR® Units can be reduced automatically, while still maintaining uniform circulation throughout the basin.

### *No need for fixed structures:*

POLCON HELIXORS are mounted on concrete anchors on the lagoon or basin floor. When the units are to be installed in a concrete tank, the HELIXOR support brackets are simply bolted to the concrete floor.

### *Optimum treatment efficiency:*

POLCON HELIXOR Systems distribute the aeration and mixing units uniformly within the aeration basin. This allows effective and efficient treatment throughout the facility, without sludge-bank formation.

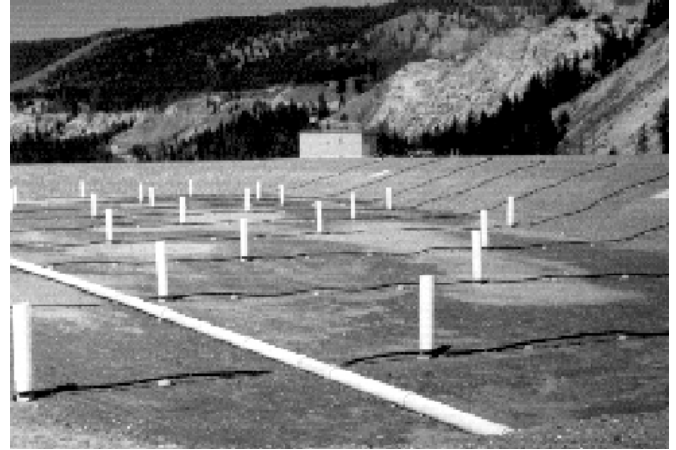
### *Facultative lagoons:*

If facultative lagoon technology is specified, POLCON HELIXORS may be secured by a tether-type system which positions the HELIXOR Units at a predetermined height above the basin floor, thus deliberately promoting the anaerobic/aerobic layers necessary for this process variant.

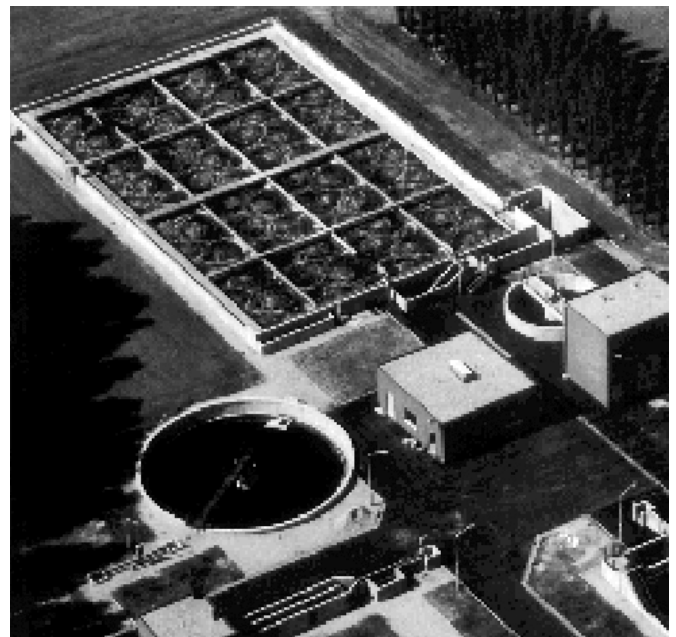
### *No water hazards:*

POLCON HELIXORS have no moving parts underwater requiring maintenance and no electrical connections.

Since the HELIXOR System is submerged, it is not subject to icing under normal loading conditions. This is due to the option of selecting a greater



*Aerated lagoon, British Columbia, Canada*



*Activated sludge plant, Belgium.*

water depth which results in the warmer bottom water being pumped to the surface.

### *No corrosion:*

The underwater components of the POLCON HELIXOR System are fabricated of corrosive-resistant materials.

# POLCON AERATION SYSTEMS INC.

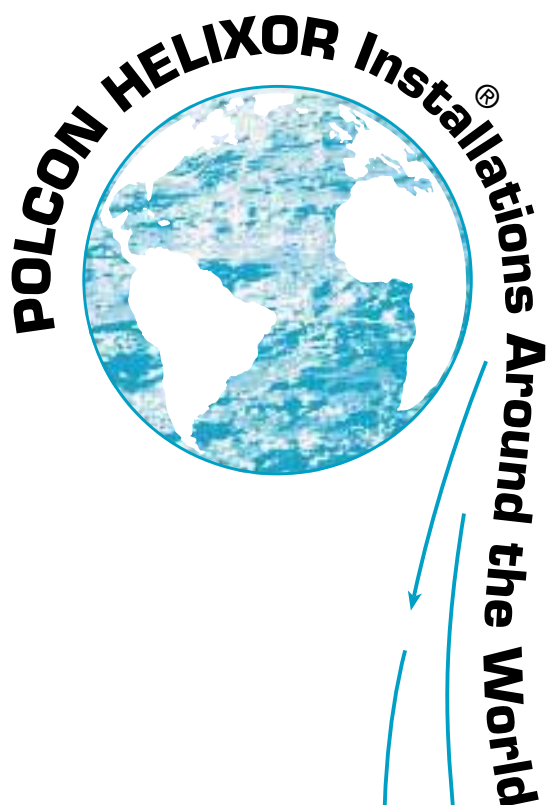
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