

O2SOLUTIONS ARTEMIS NANO BUBBLE SYSTEM

for oxygen enrichment of larger water systems



Water treatment

Introduction

The O2Solutions Artemis is a nanobubble system designed to increase and stabilize oxygen levels in larger water systems. The system utilizes patented VPOD technology (Vacuum Pressure Oxygen Dissolving Nano), which adds oxygen to a water flow under controlled conditions.

This results in a stable dissolved oxygen content combined with a high concentration of suspended nanobubbles. The Artemis can be installed as a stand-alone unit in the technical room and connected to silos, water basins, or existing irrigation systems.

The system is built on a plug-and-play stainless steel frame and equipped with all necessary fittings and controls.

Operation

The Artemis is equipped with a stainless steel Lowara pump that draws in water and forces it through the VPOD reactor under high pressure. The oxygen-rich water containing nanobubbles is then returned to the water system.

Via a stand-alone pressure diffuser plate, the treated water is optimally mixed with the untreated water. This results in an even distribution of oxygen and nanobubbles within the system.

The Artemis can be connected directly to:

- o silos
- o water basins
- o irrigation systems
- o bypass circuits of existing water systems

The system is mounted on a stainless steel frame equipped with fittings, check valves, shut-off valves, and an electrical control system.

The built-in control system regulates the VPOD process based on:

- o external start/stop signal
- o built-in timer
- o optional dissolved oxygen (D.O.) measurement

The Artemis comes standard with an integrated oxygen concentrator featuring a built-in oil-free compressor.

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Advantages of VPOD technology

The patented VPOD technology was developed for efficient and low-maintenance oxygen enrichment of water. The system achieves high oxygen transfer with low oxygen and energy consumption and is suitable for continuous use.

Since no membranes are used, there are no issues with fouled membranes, and periodic cleaning with chemicals is not required. The system is also officially approved according to European and North American quality standards.

- o Low-maintenance operation
- o High efficiency, suitable for 24/7 operation
- o No issues with fouled membranes
- o No periodic cleaning with chemicals required
- o High oxygen transfer efficiency with low oxygen consumption
- o Lower energy consumption
- o Approved according to European and North American quality standards

Specifications

SPECIFICATIONS	ARTEMIS 35	ARTEMIS 60
Flow	35 m ³ /h	60 m ³ /h
Oxygen flow	1 – 5 lpm	5 – 10 lpm
Maximum back pressure	0,5 – 1 bar	0,5 – 1 bar
Supply pressure	-0,1 tot +0,5 bar	-0,1 tot +0,5 bar
Oxygen concentration	93%	93%
Dissolution efficiency	>90%	>90%
Power supply	400 V	400 V
Power	2,5 kW	4,5 kW
Control	Ext. / Time / D.O.	Ext. / Time / D.O.
Inlet	110 mm	140 mm
Outlet	90 mm	125 mm
Pressure diffuser	90 mm	125 mm
Height	1.900 mm	1.900 mm
Width	900 mm	900 mm
Depth	1.300 mm	1.300 mm
Weight	125 kg	125 kg

Applications

The Artemis is suitable for:

- o hydroponic growing systems
- o large DFT systems
- o irrigation systems
- o water silos
- o rainwater basins
- o larger water systems

System configuration

The Artemis is supplied as a complete plug-and-play system consisting of:

- o integrated oxygen concentrator
- o pressure diffuser plate
- o stainless steel frame with integrated VPOD unit
- o electrical control system
- o stainless steel Lowara pump
- o fittings, shut-off valves, and check valves

Optional

- o dissolved oxygen sensor and controller
- o low-level float switch