O2SOLUTIONS TRITON NANOBUBBLE SYSTEM

for oxygen enrichment of silos and water basins

Water treament

Introduction

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

This creates a stable dissolved oxygen content combined with a high concentration of suspended nanobubbles. The Triton continuously circulates the water through the silo, ensuring that the treated water is distributed quickly and evenly.

The unit is mounted directly on the outer wall of a water silo and is delivered as a plug-and-play system, including mounting components.

Operation

The Triton is equipped with a Lowara pump that draws water from the silo and forces it through the VPOD reactor under high pressure. The oxygen-rich water containing nanobubbles is then returned to the silo.

Thanks to the special silo mixing technique, the entire contents of the silo are treated within a short time. The suction and return lines run over the edge of the silo to the bottom of the silo, allowing for installation without major modifications.

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

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

For the oxygen supply, either ambient air or pure oxygen via an oxygen concentrator is used.

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.

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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.

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

Applications

The Triton is suitable for:

- drainwater silos
- day storage silos
- rainwater silos
- underground silos
- DFT water basins
- rainwater basins

In addition, the system is suitable for frost-free outdoor installation.

System configuration

The Triton is supplied as a kit consisting of:

- pre-assembled and wired Triton unit
- mounting brackets for silo wall mounting
- pipe brackets for mounting on the silo edge
- pre-assembled suction and silo mixer
- oxygen hose with couplings

Optional

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

Oxygen concentrator

The industrial oxygen concentrator is equipped with a built-in oil-free compressor and produces oxygen with a concentration of approximately 93%.

One oxygen concentrator can supply oxygen to up to three Triton systems.

Specifications

SPECIFICATIONS	TRITON
Flow	8 m³/h
Silo mixing flow	40 m³/h
Oxygen flow	1 – 5 lpm
Maximum silo capacity	+/- 400 m³
Daily silo throughput	650 m³/dag
Oxygen concentration	93%
Dissolution efficiency	>90%
Power supply	230 V
Power	0,9 kW
Control	Ext. / Time / D.O.
Inlet	50 mm
Outlet	50 mm
Height	1.700 mm
Width	700 mm
Depth	350 mm
Weight	45 kg

Oxygen Concentrator Specifications

SPECIFICATIONS	O2 CONCENTRATOR 5	O2 CONCENTRATOR 10
Oxygen flow	1 – 5 lpm	1 – 10 lpm
Oxygen concentration	93%	93%
Power supply	230 V	230 V
Power	0,3 kW	0,4 kW
Height	700 mm	700 mm
Width	440 mm	440 mm
Depth	250 mm	250 mm
Weight	21 kg	21 kg