Aquaculture

DRYDEN AQUA
SUSTAINABLE WATER QUALITY TECHNOLOGY

AIR DIFFUSER

Simple, efficient & sustainable
Water Treatment without Chemicals

Product code	70000	70002	70005	70008	
Length	0.33m	1m	2m	3m	
Weight	0.5kg	1.5kg	3kg	4.5kg	
Air Flow	0.5-2m³/h	2-4m³/h	4-8m³/h	8-15m³/h	
					Depth
SOTR kg O_2/day	3.2	10	22	32	5m
SOTE	42.5	42	42	44	5m

Source: Clewatec independent laboratory test, 2023. Values at STP (20°C, zero DO, sea level). Depths 2–8m extrapolated using $SSOTE_{20}$ = 8.48 %/m (Dryden Aqua IFU).

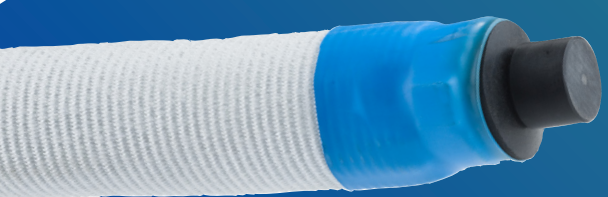
HIGH AIRFLOW, LOW PRESSURE LOSS

SELF-BALLASTED, UP TO 3M

EASY MAINTENANCE WITHOUT SHUTDOWN

The Dryden Aqua Air Diffuser is a high-performance, self-ballasted aeration system for tanks, lagoons, lakes, ponds and open water. It produces fine to medium bubbles (1-3mm) for efficient air to water oxygen transfer and strong vertical water movement. Its semi-flexible, glass-bead-ballasted design lies flat, at depths up to 3m without anchoring, and can be removed and cleaned while the system remains in operation.

Efficient, sustainable & effortless aeration!



MULTI-PURPOSE
Compatible with air, N_2 & CO_2

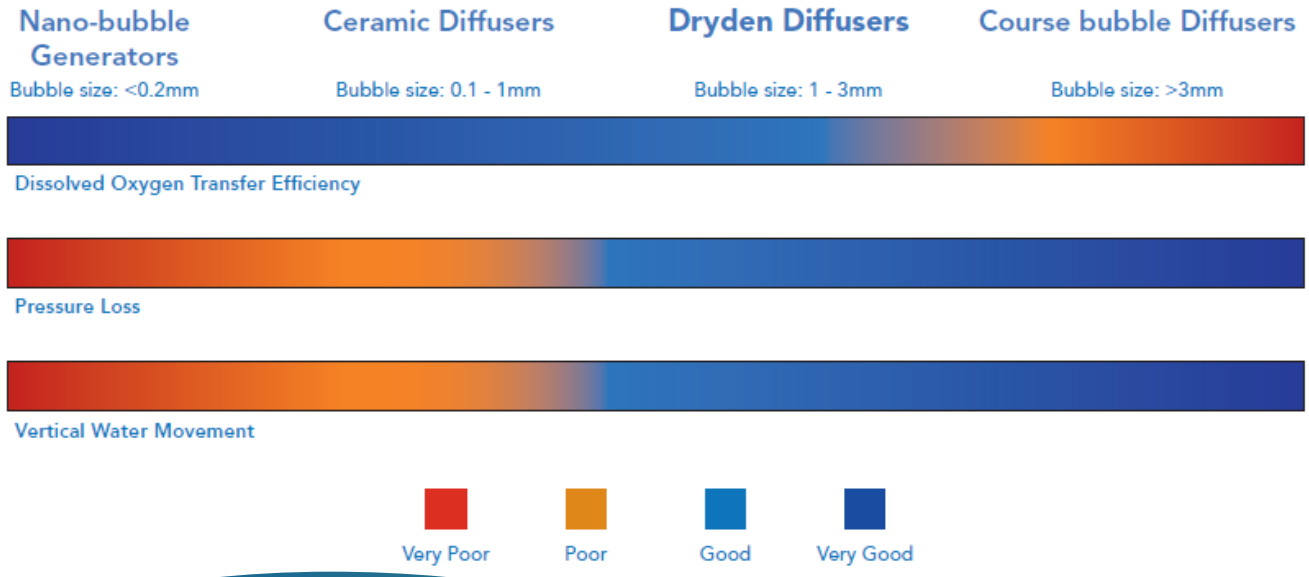
LONG SERVICE LIFE
> 10 years with correct maintenance

YouTube

www.drydenaqua.com

APPLICATION TYPE	RESIDENCE TIME	COMMENTS & DIMENSIONING GUIDELINES
AERATION AND WATER MOVEMENT		
Water Movement		1m³/h of air can move 10m³/h of water from 3m depth (by airlift pumping) — eliminates dead zones and dead areas in tanks and lagoons.
Particle resuspension		Keeping particles in suspension for full aerobic bacterial colonisation for faster digestion and/or capturing by filtration methods.
GAS STRIPPING / BALANCING GAS SATURATION LEVELS IN INTAKE WATER		
Gas pressure management		• Reduction of nitrogen partial pressure • Restoration of CO_2 partial pressure and stabilisation of pH • Blowing off of volatile organics (methane, hydrogen sulphide) • Raising dissolved oxygen partial pressures
THMs off-gassing (chlorinated systems)	60min	1m³/h of air per 1–2m³/h of water flow
CO_2, VOCs and pH balance	30min	0.5-1m³/h of air per 1m³/h of water flow
OXIDATION OF INTAKE WATER FOR IRON, MANGANESE & ARSENIC REMOVAL		
Iron / Mn / As removal	30min	0.5m³/h of air per 1m³/h of water flow. Mn:Fe ratio must be < 1:5 As:Fe ratio must be < 1:10 AFM®s is used for metals removal post-oxidation
AERATION OF AQUACULTURE SYSTEMS		
General oxygen demand		Each 20kg of feed/day requires 30–40kg of O_2/day to metabolise the feed. Size aeration system accordingly.
Salmonids (smolts, trout, RAS)		In shallow tanks at 20°C, 10m³/h of air delivers 250–500g/h of O_2 (seawater: 350–600g/h) for up to 40kg/m³ stocking density. • 1000kg of smolts below 15°C → 10–20m³/h of air (2 × 3m diffusers) • 1000kg of smolts above 15°C → 20–30m³/h of air (3 × 3m diffusers)
Salmon cages		Cage de-stratification: 1 × 3m diffuser per 10 tonnes of salmonids.
Tropical spp., shrimps, Tilapia		At temperatures above 25°C - 1000kg of shrimps above 25°C requires 40m³/h of air (4 × 3m diffusers).

The above values are guidelines only, Dryden Aqua has calculators for accurate dimensioning.



For full installation procedure, system sizing calculations, maintenance schedules, and application-specific design guidance, consult the Dryden Aqua Air Diffuser Instructions for Use (IFU) — downloadable from www.drydenaqua.com.

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