Nano Ceramic Oxygen Diffuser

www.cnhighborn.com

邮箱 Email:evelyn@cnhighborn.com

电话 Tel：86-518-81060600/11/22/55

whatsapp/微信 wechat：86-13951255589

地址：中国江苏省连云港市海州区朝阳东路 21 号东盛名都广场 A 座 9 楼

Address: 9F,Bldg.A Dongshengmingdu Plaza,No.21 Chaoyang East Road, Haizhou District,Lianyungang,Jiangsu,China

微孔陶瓷曝气盘是一种利用多孔陶瓷材料制成的、用于水处理曝气系统的关键扩散装置。其核心在于材料内部具有大量均匀、细密的微米级连通孔隙。当空气在一定压力下通过时，会被“切割”成极其细小的气泡释放到水中。

我们的曝气板以高纯度氧化铝为基材，结合先进结构设计与高温烧结工艺，打造高性能微孔曝气盘。释放直径 0.01~0.5mm 雾状微气泡，显著提升气液接触效率，实现高效溶氧，引领增氧技术革新。

纳米陶瓷曝气盘—高纯氧化铝微孔曝气技术

Nano Ceramic Aeratior - High-Purity Alumina Microporous Aeration

Fine-pore ceramic aeration discs are key diffusion devices used in water treatment aeration systems, crafted from porous ceramic materials. Their core feature lies in the material's internal structure, which contains a vast number of uniform, fine, and interconnected micron-sized pores. When air passes through under pressure, it is "cut" into extremely fine bubbles and released into the water.

Our aeration panels are made from high-purity alumina as the base material, combined with advanced structural design and high-temperature sintering processes to create high-performance fine-pore aeration discs. They release mist-like micro-bubbles with diameters ranging from 0.01 to 0.5 mm, significantly enhancing gas-liquid contact efficiency, achieving high-efficiency oxygen dissolution, and leading the innovation in aeration technology.

产品介绍/Product Introduction

一、无胶卡扣式·亚克力边框/Gel-free snap-fit acrylic frame

无胶技术是指采用一体成型烧结技术，将高纯度氧化铝陶瓷粉体直接烧制成整体板状。陶瓷板+亚克力外框，纯机械卡扣压紧，使用密封垫圈进行密封。

优势

超凡的耐用性与超长寿命

抗腐蚀极强：高纯氧化铝可耐受除氢氟酸和热浓碱外的几乎所有酸、碱、有机溶剂的腐蚀。

卓越的机械与热稳定性

-高强度、高硬度：耐磨损、抗冲刷，能承受水压、固体颗粒冲击及可能的踩踏。

- 耐高温：可长期用于高温废水（如某些工业废水）的曝气，无热变形、软化风险。

- 抗水压冲击：一体式结构或冶金结合，连接牢固，能承受系统启停的水压冲击。

极高的运行可靠性

抗堵塞、易清洗：表面光滑致密，微孔结构稳定，不易被生物膜深入附着。堵塞后可通过强酸、强碱或高温焚烧进行彻底、暴力的清洗，而不用担心损坏粘合层。

卓越的水力性能

气泡极细且均匀：高精度微孔产生的气泡直径小（1-3mm），气液接触面积巨大，氧转移效率（OTE）和充氧能力（SOTE）极高。

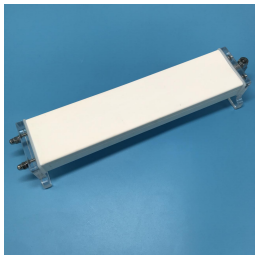
长期成本低

在使用过程中，其综合成本（初始+能耗+维护+更换）通常低于需要定期更换的橡胶膜、塑料或普通陶瓷曝气器。

The non-glue technology refers to the use of an integrated molding sintering process to directly sinter high-purity alumina ceramic powder into a single plate shape. The ceramic plate is combined with an acrylic outer frame, and is securely fastened by pure mechanical snap fasteners. Sealing is achieved using a sealing gasket.

Advantage：

1. Exceptional durability and extremely long lifespan
Extremely corrosion-resistant: The high-purity alumina can withstand the corrosion of almost all acids, bases, and organic solvents except hydrofluoric acid and hot concentrated alkali.
2. Outstanding mechanical and thermal stability
-High strength and high hardness: Resistant to wear and erosion, capable of withstanding water pressure, impact from solid particles, and possible trampling.
-High-temperature resistant: Can be used for a long time in the aeration of high-temperature wastewater (such as some industrial wastewater), without the risk of thermal deformation or softening.
-Resistant to water pressure shock: Integrated structure or metallurgical bonding, with a secure connection, capable of withstanding water pressure shocks during system start-up and shutdown.
3.Extremely high operational reliability
Anti-clogging and easy cleaning: The surface is smooth and dense, with a stable microporous structure, making it difficult for biofilms to deeply adhere. After clogging, it can be thoroughly and forcefully cleaned using strong acids, strong alkalis, or high-temperature incineration, without worrying about damaging the bonding layer.
4.Outstanding hydraulic performance
The bubbles are extremely fine and uniform: The bubbles produced by high-precision micropores have a small diameter (1-3mm), and the contact area between gas and liquid is huge, resulting in extremely high oxygen transfer efficiency (OTE) and oxygen supply capacity (SOTE).
5. Long-term cost is low
During use, its total cost (initial cost + energy consumption + maintenance + replacement) is usually much lower than that of rubber membranes, plastics or ordinary ceramic aerators that need to be replaced regularly.

类型/Styles	尺寸/size	曝气面积 /Aeration area	建议流量 /Recommended Traffic
 板式无胶，配亚克力支架/Sheet-type adhesive-free with acrylic bracket	1060*90*70	750cm^2	4.0-6.0/min
	660*90*70	450cm^2	2.5-3.5/min
	260*90*70	150cm^2	0.7-0.9/min
 管式无胶，配亚克力支架/Tube-type adhesive-free with acrylic bracket	370*90*70	232cm^2	1.2-1.8/min
	1060*60*60	1884cm^2	6-10.5/min
	660*60*60	1130cm^2	3.5-5.5/min
	370*60*60	584cm^2	1.8-2.3/min
	260*60*60	376cm^2	1-1.5/min
	1060*45*60	1413cm^2	6-10.5/min
	660*45*60	847cm^2	3.5-5.5/min
	370*45*60	438cm^2	1.8-2.3/min
	260*45*60	282cm^2	1-1.5/min

二、有胶粘合 • 底座（铝/ABS）/With adhesive bonding. Base (aluminum/ABS)

将烧结成型的整体陶瓷多孔板，用胶粘剂固定在底座上，以形成密封和连接结构。

优势

结构刚性极强、抗压抗造

铝/ABS 底座强度高、刚性足、抗冲击、抗磕碰、承重好；长尺寸大板不易变形，适合大流量、深水、强湍流工况。

耐温、耐恶劣环境更强

铝/ABS+耐高温结构胶，可耐受更高水温、可适度高温清洗、耐酸碱腐蚀更强；适配工业污水、高盐废水、恶劣化工水体。.

自重足、安装稳固

铝/ABS 底座压重大，池底固定稳，水流冲刷不易移位、晃动。

整体成本更低

模具简单、粘接工艺成熟量产快，裸板采购价更低。

密封性极佳

满胶粘接直接封死缝隙，出厂气密性好，几乎无漏气。

The integral ceramic porous plate that has been sintered is fixed to the base with adhesives to form a sealing and connecting structure.

Advantage:

1. Strong structural rigidity and resistance to compression and construction

Aluminum/ABS base has high strength, sufficient rigidity, impact resistance, collision resistance, and good load-bearing capacity; Long sized plates are not easily deformed and are suitable for high flow, deep water, and strong turbulence conditions.

2. Stronger resistance to temperature and harsh environments

Aluminum/ABS with high temperature resistant structural adhesive, can withstand higher water temperatures, can be moderately cleaned at high temperatures, and has stronger acid and alkali corrosion resistance; Suitable for industrial wastewater, high salt wastewater, and harsh chemical water bodies.

3. Self weight sufficient, stable installation

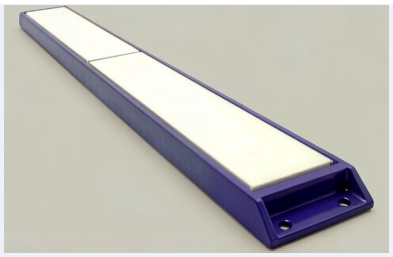
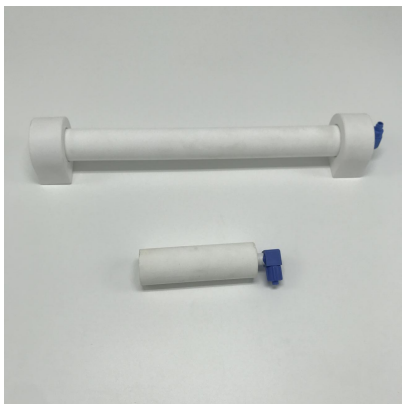
Aluminum/ABS base is heavily compressed, the pool bottom is fixed and stable, and it is not easy to shift or shake due to water flow erosion.

4. Lower overall cost

The mold is simple, the bonding process is mature and the mass production is fast, and the purchase price of bare boards is lower.

5. Excellent sealing performance

Full adhesive bonding directly seals the gap, with good factory air tightness and almost no air leakage.

类型/Styles	尺寸/size
 有胶粘合 •底座（铝/ABS）/Adhesive bonded Base(Aluminum/ABS)	310*60*10mm
	153*31*10mm
	260*90*70mm
	200*200*10mm
 双拼曝气板/Double-spelling aeration plate	375x82x25mm
	680x82x25mm
	310x60x10mm
 管式有胶，配氧化铝陶瓷支架/Tube type with adhesive, equipped with alumina ceramic bracket	Φ10*L100/150/300mm
	Φ20*L100/150/300mm
	Φ30*L100/150/300mm
	Φ50*L100-300mm
	Φ70*L200-300mm
	Φ200*L300mm
	Φ250*L300mm

曝气板/管-Aerator Plate/Tube

项目 Item	单位 Unit	曝气板/管 Aerator Plate/Tube
密度 Density	g/cm3	2.5-2.6
开放孔率 Open Porosity	%	30-35
气孔率 Porosity Rate	%	35-36
吸水率 Water Absorption	%	20-23
孔径 Pore Size	um	1-3