Passavant

ROEFLEX膜式微孔曝气头

ROEFLEX Disc Diffuser

ROEFLEX
Disc Diffuser

不断发展创新的成功历史

从奠基到工艺技术发展创新

德国帕萨旺-洛蒂格公司是以发展和创新的环境技术而闻名，处于传统、专家和经验的前沿。

自上个世纪30年代，帕萨旺公司就致力于污水处理设备的研制和生产，为城市和工业废水的彻底净化提供解决方案。早期，洛蒂格公司从事带过滤管的井的钻探、修建泵站及安装压力输水管道和轻气体管路系统。

多方结合的专业水准

1998年帕萨旺和洛蒂格这两个优秀的公司在母公司曼海母贝尔芬格伯格集团下合并，成为帕萨旺-洛蒂格环保技术股份有限公司。

放眼全球一立足于实际

得益于创新的技术，帕萨旺-洛蒂格公司已经在全世界几乎所有区域对所涉及到的人类和环境的地区作出决定性的贡献。这主要是关注于设想为全世界越来越重要的中心任务的饮用水和废水的处理工程。帕萨旺-洛蒂格公司的观点满足了工业化区域金融资源是有限的这个区域高标准的要求。

A Long History··· with Successful Continuation

From foundation to process technology

Passavant and Roediger—names which, in the develop-mentand production of innovative environmental technology, stand for tradition, expertise and experience.

Ever since the Ros of the last century,Passavant concentrated on the development and production of components and complete solutions for the purification of municipal and industrial effluents. Roediger's success story began with the drilling of filter wells, the setting up of pumping stations, as well as the installation of water under pressure and lighting gas network systems.

Joint expertise

These two well-established companies Passavant and Roediger merged in 1998 under the parent company Bilfinger Berger AG, Mannheim, and became Passavant Roediger Umwelttechnik GmbH.

Think globel-act local

With the aid of innovation technology in almost all, regios of the world Passavant Roediger have contributed to improving decisively the situation of mankind and it's environment in the region concerned. This concentrated mainly on protects for the treatment of drinking water and waste water central task assuming increasing importance worldwide. Passavant Rodiger's concepts meet a high degree of acceptance also in regions which are on the threshold of industrial station and whose financial resources are limited.

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工作原理

ROEFLEX膜式微孔曝气头安装简便，紧固耐用。它包括一个向上凸起的圆拱盘，圆拱盘上覆盖包裹一层弹性膜，膜的边缘有一圆环紧固，膜上具有成形微孔。由于圆拱盘的凸起形状，当供气时，膜稍微有些扩张便离开圆盘，因此，无须弹簧、螺丝或插销等部件来控制弹性膜。

当停止供气，膜内压力降低，微孔闭合，膜压在圆拱盘上，封闭供气孔。通过这样的双密闭机制，外部水不能进入膜式微孔曝气头及供气系统，因此，可以随意中断ROEFLEX膜式微孔曝气头的供气。使曝气池的各个部分可以灵活选择在缺氧或好氧的情况下运行。

空气通过微孔释放，产生直径约2mm的微细气泡。微细气泡增加泡沫和浮渣的形成，这就导致标准条件下洁净水中，而不是在工艺条件下混合溶液中更好的氧气转移能力。氧气高转移能力与低压力损耗的结合就产生了极佳的氧气转移效率。

充气量在1–10m^3/h之间可任意调节，允许具有长、短泥龄的活性污泥厂中大泛围的负荷量变化和平面曝气。供气可以调节以适应不同泛围的氧气消耗。

Operating principle

◆The ROEFLEX disc diffuser is simple and robust. It consists of a dome-shaped disc.

◆This disc is covered and encompassed by an elastic membrane. In addition, the membrane is circumferentially secured by a ring .The membrane is perforated with Little slits. Due to the disc's convex shape, the membrane is only slightly expanded and lifted off the disc when air is supplied. Therefore, neither springs nor screws nor bolts are needed for limiting the movement of the membrane.

◆ When the air supply is interrupted and the air pressure decreases,the slits are closed and the membrane is pressed on the disc, sealing the air inlet opening. Due to this double sealing mechanism, no water can enter the diffusers and the air supply system. Thus it is possible to apply the ROEFLEX diffusers for intermittent operation. Sections of the basins can be operated under oxic or anoxic conditions. as required for the process.

◆The air is released through the slits as fine bubbles with the optimum diameter of; approx 2mm, Finer bubbles would increase foaming and scum formation. This would result in better oxygen transfer capacity under standard conditions in clean water, but not under process conditions in mixed liquor. The combination of high oxygen transfer capacity and low pressure loss results in excellent oxygen transfer efficiencies.

◆The high variability of the air throughput in the range of 1-10m^3/h allows for wide load variations and for area aeration in activated sludge plants with low or high sludge age. The air supply can be adjusted to a wide range of oxygen consumption.

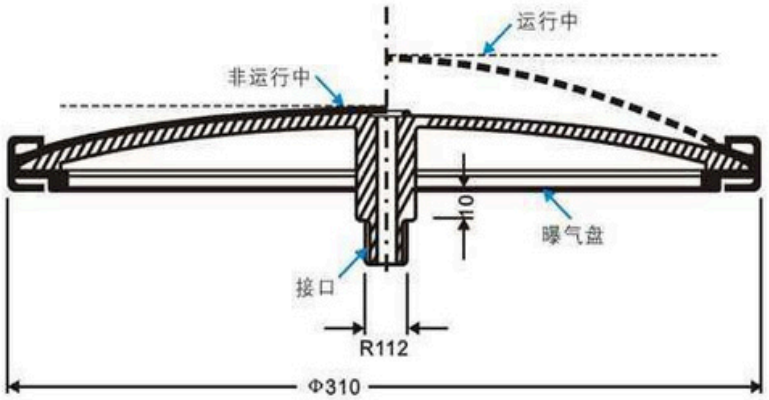
ROEFLEX
Disc Diffuser

曝气头结构特征

我公司的曝气头采用一种内在的止回阀设计-当空气关闭后，薄膜的中心落在薄膜托板的孔上，而未穿孔的区域恰好覆盖住空气释放孔，同时薄膜气孔关闭，就像一个止回阀一样能防止液体倒流进曝气系统中去。

Characteristics of the ROEFLEX disc diffuser

The Roeflex Disc Diffuser is designed into a check value function. When air supply is interrupted, the center of the membrane will be pressed against the hole of the membrane support and the un-perforated areas will exactly cover the air outlet opening. Meanwhile, Small slits on the membrane will be closed, which prevents liquid from flowing back into the aeration system as a check value functions.



优点

- **灵活性**-供气量在1:10范围内可调
- **中断运行的可能性**-膜由塑料环安全紧固，防止松动
- **耐用性**-全部材料对一般污水成分都具有耐腐蚀性，圆拱盘由玻璃钢制成，膜由适应污水环境的的橡胶制成
- **换膜方便**-既不需要松动圆拱盘，也不需要任何工具
- **压力损耗低**-圆拱盘的形状、膜的最初张力和微孔的孔径，都使微孔很容易张开
- **理想的气泡**-气泡平均直径为2mm
- **良好的氧转移效率**-其值依浸没深度、曝气量和曝气密度而定极佳的氧气转移速率在洁净水中，当浸没深度为4m，曝气密度高，气流率低时，氧气转移速率值可达4.5kgO_2/KWh以上。
- **极高的成本**-效益源于寿命长、投资和运行成本低

Advantages

- ◆Flexibility-the air throughput can be varied in a range of 1:10.
- ◆ Possibility of intermittent operation-no water can enter the aeration system while air supply is interrupted.
- ◆Reliability-the membrane is safely secured against loosening by a plastic ring.
- ◆ Durability-all materials are resistant to average domestic sewage. The disc is made of glass fibre reinforced PA, the membrane is made of waste water resistant EPDM.
- ◆Easy exchange of membrane neither loosening of the disc or any tool is required.
- ◆Low pressure loss-the shape of the disc, the initial tension of the membrane and the dimensions of the slits are such that the slits open easy.
- ◆Ideal bubble size-the average bubble diameter is 2mm.
- ◆ High oxygen transfer capacity-the value is dependent on immersion depth, air flow and diffuser density.
- ◆ High oxygen transfer efficiency-values above 4.5kg O_2 /kWh can be achieved in clean water with an immersion depth of 4m, a high diffuser density and a low air flow rate.
- ◆High economy- due to long life, low investment and operation cost.

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清水试验/clean water experimental chart

ROEFLEX膜式微孔曝气头可以采用不同的布置方式

◆ 平面曝气

◆ 点曝气

◆ 线曝气

◆可调整曝气

可以提供可提起的格栅

ROEFLEX diffusers can be arranged for:

◆Area aeration

◆Point aeration

◆Line aeration

◆Intermediates of the above

Liftable grids can be provided.

应用范围

◆ 城市生活污水或工业污水的处理

◆ 垃圾填埋场渗滤液的处理

◆ 液体有机肥料的处理

◆ 传统活性污泥曝气系统、延时曝气系统、间歇式曝气系统

◆ 污泥曝气（如用于好氧污泥稳定）

◆ 缓冲池、管（渠）道中的曝气、混合

◆ 通过清除CO_2来调整PH值

Fields of Application

◆Treatment of municipal or industrial wastewater

◆Treatment of landfill leachate

◆Treatment of liquid manure

◆Aeration in conventional activated sludge systems, extended aeration plants or sequencing batch reactors.

◆Aeration of sludge （e.g.for aerobic sludge stabilization）

◆Aeration and mixing in buffer tanks，channels etc.

◆Neutralization by stripping of CO_2

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曝气盘运行效果图/effect chart for the disc diffuser operation

技术数据

型　号	ROEFLEX-300
直　径	310mm
连　接	R 1/2"
每个曝气头气流	1-10Nm³/h个
特别氧气转移效率	10-25gO_2/Nm³/m
重　量	900g
材　质	PA/EPDM
使用寿命	>5年

Technical Data

Type	ROEFLEX-300
Diameter	310mm
Connection	R 1/2"
Air flow per diffuser	1-10Nm³/h个
Spec. oxygen transfer capacity	10-25gO_2/Nm³/m
Weight	900g
Material	PA/EPDM
Service life	>5year

帕萨旺－洛蒂格产品已通过ISO质量体系认证/Passavant－Roegiger has been awarded ISO authentification certificate


CERTIFICATE

PASSAVANT ROEDIGER
Anlagenbau
Passavant-Roediger Anlagenbau GmbH
Kinzigheimer Weg 106
63450 Hanau - Germany

Quality Management System

DIN EN ISO 9001


CERTIFICATE

PASSAVANT ROEDIGER
Anlagenbau
Passavant-Roediger Anlagenbau GmbH
Kinzigheimer Weg 106
63450 Hanau - Germany

Environmental Management System.

DIN EN ISO 14001

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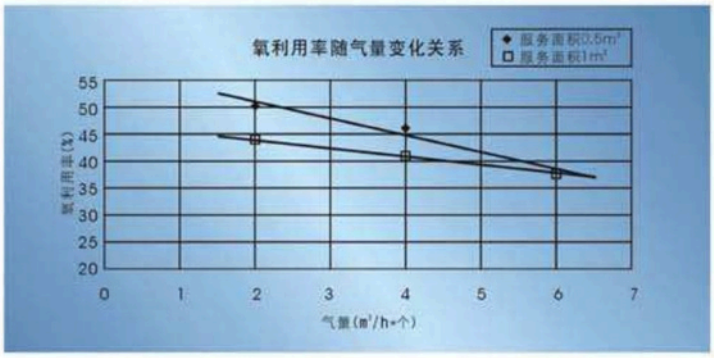
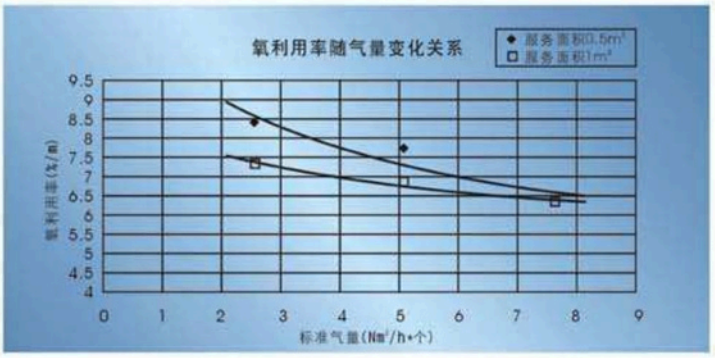
性能测试曲线

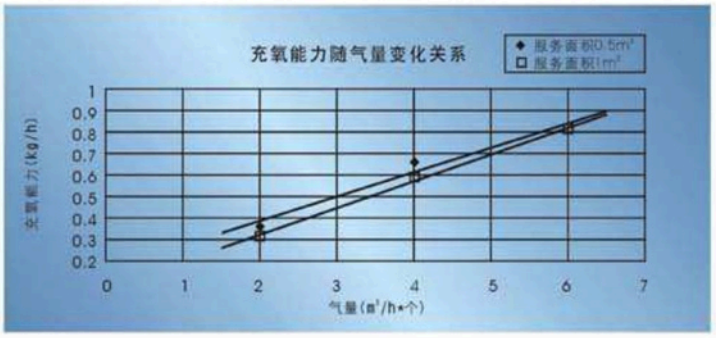
盘式橡胶膜微孔曝气盘氧利用率、充氧能力、阻力损失、理论动力效率等性能测试图(中国华北市政工程设计研究院检测曲线图)

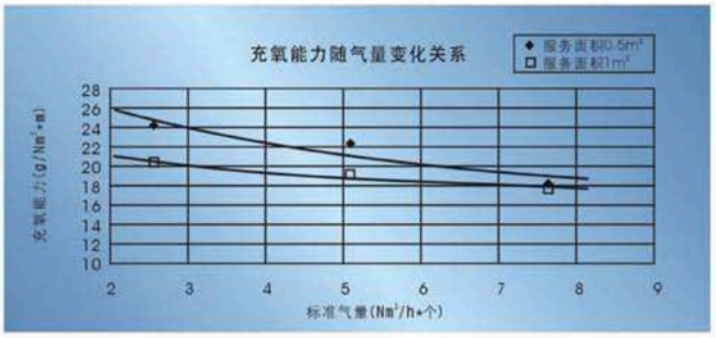
氧利用率与气量的关系/The relation between oxygen utilization rate and air supply volume



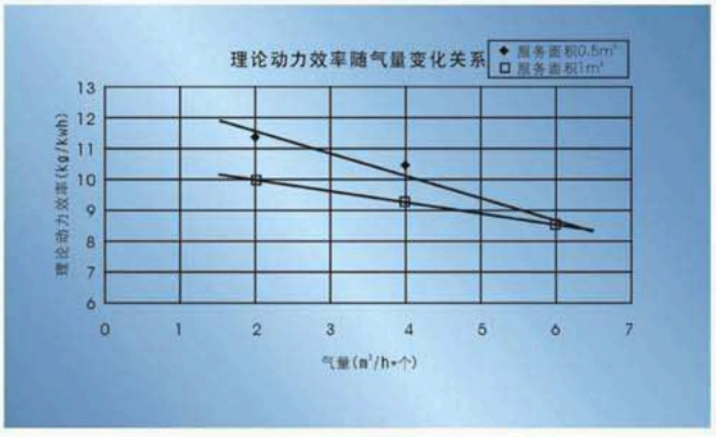


充氧能力与气量的关系/The relation between oxygen supply capacity and air supply volume





理论动力效率与气量的关系/The relation between theoretic power efficiency and air supply volume



阻力损失与气量变化关系/The relation between resistance loss and air supply volume variance