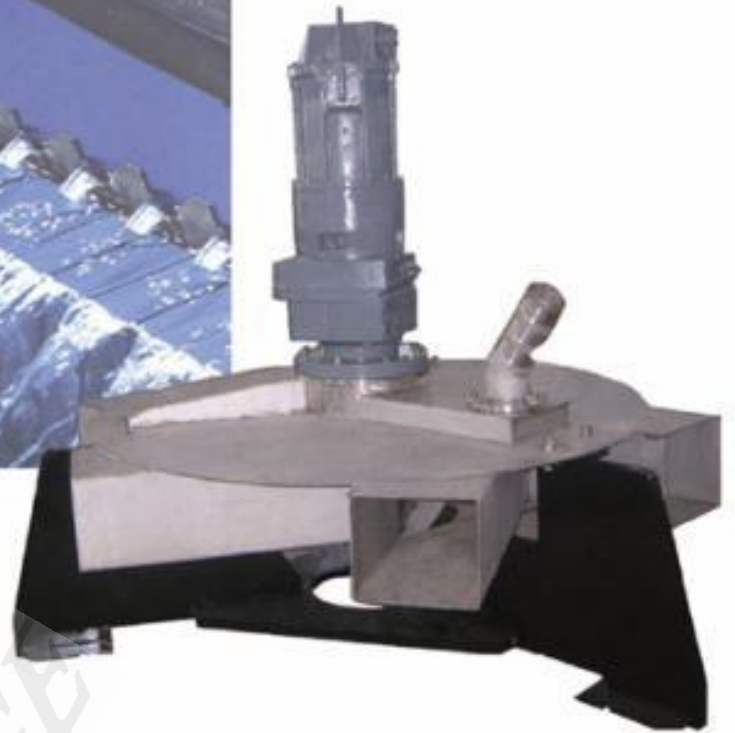




# 深水曝气机 Deep-water Aerator



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南京贝特环保通用设备制造有限公司  
Nanjing Beite Environmental Protection GE Manufacture Co., Ltd.

## QSB型深水曝气机 QSB Type Deep-water Aerater

### 用途 Usage

QSB型深水曝气搅拌机是机电技术和生化技术的集成产品，经过多年的市场、应用和产品改进设计证明它专为解决高浓度有机废水，在生化处理过程中实现高效率传氧的专用设备；主机采用双速电机设计，具有高速曝气低速搅拌的双重功效，加之潜水深度可达20m的卓越工作性能，是传统曝气设备无可替代的产品。

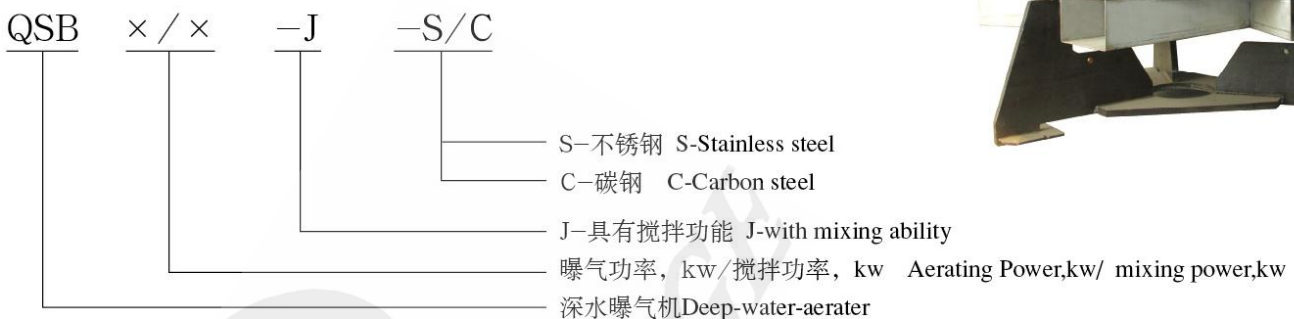
QSB型深水曝气搅拌机主要应用市政污水及垃圾渗滤液处理，以及食品、印染、造纸、化工等行业流量大、COD含量高(高于1000mg/L)的场所。

QSB deep-water aerating mixer is integrated by electro-mechanical technique and Biochemical technique; it is specially designed for highly concentrated organic waste water and high-efficiency oxygen transmission in biochemical treatment process. The main equipment employs dual-speed electric motor in the design, and has dual function of high-speed aeration and low-speed mixing. In addition to the excellent operating performance in the submersible depth 20m, it is a nonreplaceable product with any traditional aerating equipment.

QSB deep-water aerating mixers are mainly used in municipal sewage and trash seep fluid processing, as well as food, printing, chemical industry where the current capacity is big and the COD content is higher than 1000mg/L



### 型号表示 Type Code



### 结构特点 Structural Features

QSB产品由潜水电机、减速装置、叶轮、混合室、底座、输气管、起吊链组成。如图

QSB product consists of submersible motor, speed-reducing device, vanes, mixing chamber, base, air duct and lifting chain as shown in the drawing.

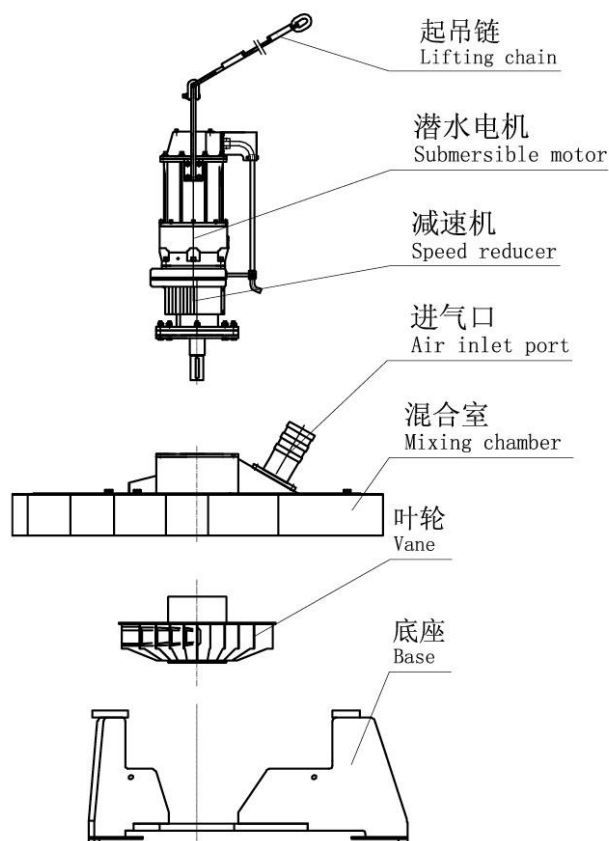
1、**深水** 由于采用深水电机密封技术，适合曝气池在垂直方向布置，池深可达20m,这样可节约占地面积、减少空气污染；由于水深，氧气在水中停留时间长，加上水下温度均衡，故氧转移率高。

1、**Deep water:** Owing to the use of sealing technique for the deep-water motors, the aeration pond can be arranged in the vertical direction with the depth of the pond of 20m,resulting in saving space and the reducing of air pollution. Due to the water depth, and the long duration of the air in water in addition to the equalized temperature under the water, the rate of oxygen transfer is very high.



2、曝气 QSB产品由供气装置和高速搅拌机组成的曝气系统，实际充氧能力是通过外接气源在主机与水的混合机能下完成的，因此，控制好水气混合比和工作时间，就可达到所需的最佳连续稳定的曝气性能；这使生化处理工艺的自动控制系统变得简单、可靠。实验证明，在QSB工作的水面可见气泡密实均匀见下图。由于叶轮在高速运动状态下形成的负压还增加了该机的自吸功能，从而提高了整机的动效率。

2、**Aeration:** QSB Product is an aeration equipment composed of air-supplying system and the high-speed agitator; and its actual oxygenation capacity is completed through the mixing function of inlet air and water, Therefore ,so long as the mixing proportion of water and the operation duration are under control, the optimum continuous and stable aeration performance can be achieved; therefore the automatic control system of the biochemical treatment process will become easy and reliable. The experiment proves that the visible air bubbles on QSB operating water surface are compact and uniform, Due to the negative caused by the impeller in high speed movement status strengthened the self-suction function, the dynamic efficiency of the equipment is improved.



3、**搅拌** QSB产品作为池底曝气搅拌设备，它利用开放式的叶轮结构设计，无堵塞之忧，在完成高速曝气后可自动切换到低速状态作为搅拌混合设备，沿圆周出口处可保持3~5m / s的流速，通过池壁的反射在水下形成环流能有效地防止悬浮物的沉降。

3.**Mixing** As an aerating & mixing equipment used at the bottom of the pond, QSBproduct employs the design of open-type vane structure avoiding blocking. After completing the high-speed aeration, it can be automatically switched to low-speed status and used as a mixing equipment. The flow velocity of 3~5m/s can be maintained around the outlet,of the circumference, and the circular current will be formed underwater through the reflection from the pond wall for effectively preventing the sedimentation of the suspended substances



4、**安装** QSB产品依靠自重定位，一体化的吊装设计无需

任何辅助配件，布置灵活。在无需排水和不中断工艺运行的情况下可实现快速吊装。

除了以上四大特点外，它还具有土建投资少、操作简单、运行维护费用低等优点；采用双重机械密封设计和多项电气保护功能，使用更安全、可靠。

**4. Installation** QSB product will position itself by the deadweight. The integrated hoist design doesn't need any auxiliary fittings, and the arrangement is flexible. Quick lifting can be achieved without any need for drainage and interruption of technological operation.

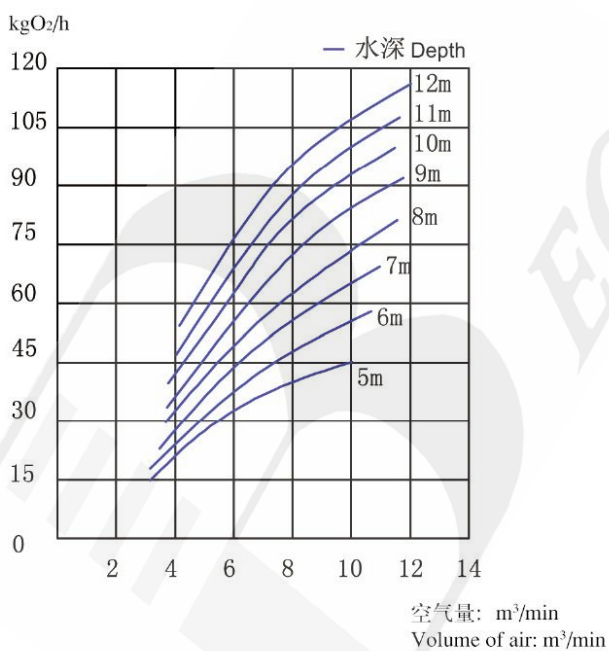
Besides of the above-mentioned four major features, it also is highlighted by less civil construction investment, simplicity in operation, low cost of operation and maintenance and so on, With the design of dual mechanical sealing and a multiple of electric protection function, its safer and more reliable.



## 性能曲线 Performance Curves

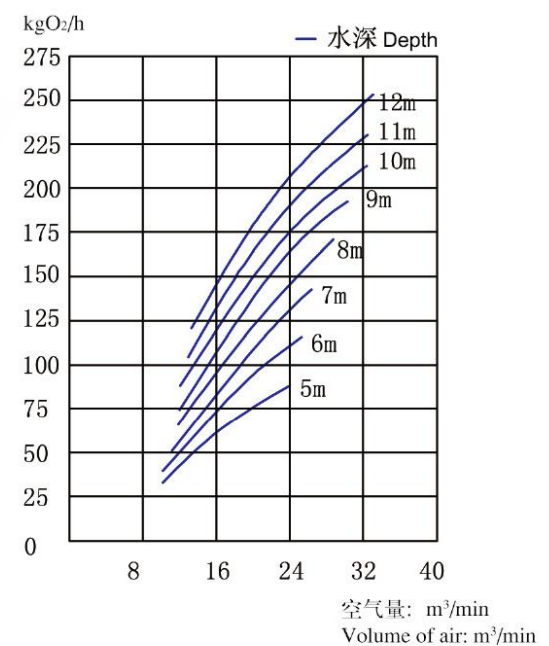
### QSB5.5溶氧性能曲线

Curve of oxygen-dissolving performance for QSB5.5



### QSB15溶氧性能曲线

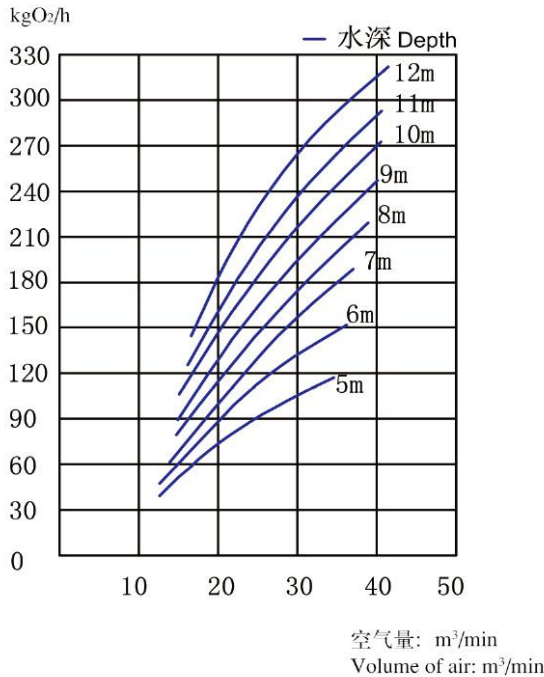
Curve of oxygen-dissolving performance for QSB15



## 性能曲线 Performance Curves

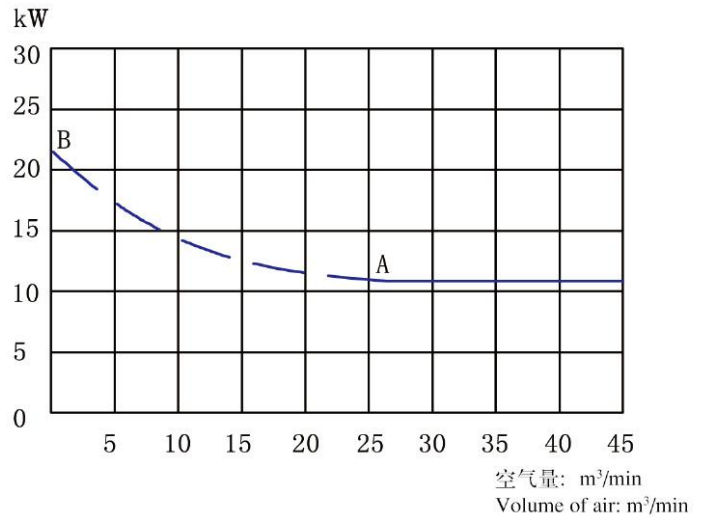
### QSB22溶氧性能曲线

Curve of oxygen-dissolving performance for QSB22



### QSB22功率消耗曲线

Curve of power consumption for QSB22



注：A实线段为曝气功率；B虚线段为搅拌功率；  
工况：大气：1.012bar、20℃、1.2kg/m<sup>3</sup> 水温：10℃  
Not: Continuous A is the aerating power; Dashed B is the mixing power.  
Condition: 1.013 bar, 20℃, 1.2kg/m<sup>3</sup> water temperature 10℃

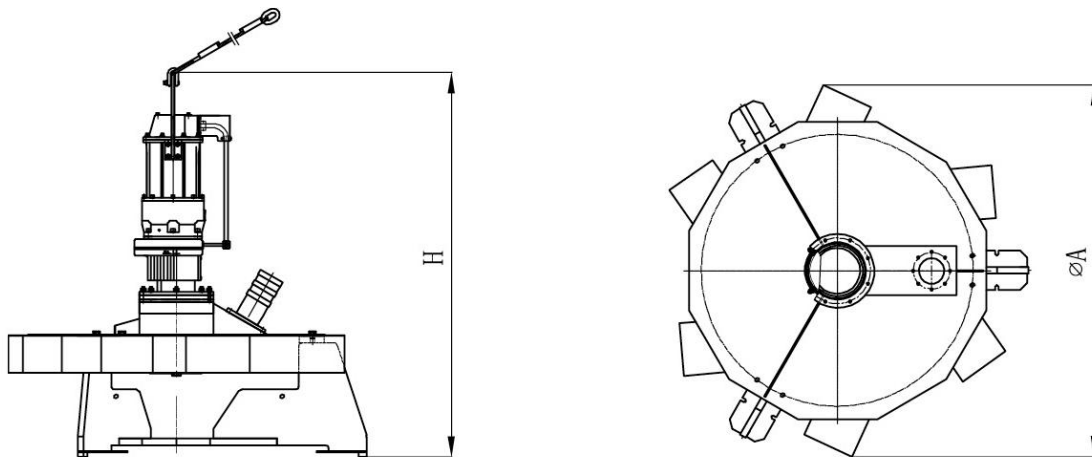
## 主要技术参数 Main Technical Parameters

型号 Type	电机额定功率Rated Power of the Motor (Kw)	自重 Dead weight (kg)	设备总高 Total height of the Equipment (H)	直径 Diameter (φ A)	进气量 Volume of Air (m <sup>3</sup> /min)	最大作用范围 Service range φ (m)	可安装水深 Water Depth for Installation (m)
QSB5.5/3-J	5.5/3	550	1600	1430	5-12	10	5~20
QSB7.5/4-J	7.5/4	800	1800	1830	6-15	12	5~20
QSB11/5.5-J	11/5.5	850	1800	1830	6-18	15	5~20
QSB15/7.5-J	15/7.5	1650	2100	2300	10-30	16	5~20
QSB22/11-J	22/11	1700	2200	2300	10-40	18	5~20
QSB30/15-J	30/15	1780	2200	2300	10-46	20	5~20
QSB37/18.5-J	37/18.5	1850	2300	2400	10-52	22	5~20
QSB45/22-J	45/22	2010	2300	2500	10-56	25	5~20

注：可提供单速曝气 (OA) 和单速搅拌 (OB)

No: The equipment with single-speed aeration(OA) or single-speed mixing(OB) is available for supply.





### 起吊安装 Lifting and Installation

1. 曝气搅拌机依靠自重定位安装于地底中心位置。
  2. 在大面积的曝气池中，可采用气浮升降法安装。
  3. 起吊可用汽车吊或用设在池边的手动卷扬装置完成。
  4. 水下进气管采用软管通过法兰与池边的风机管联结。
1. The aerating mixer is to be installed in the central position at the bottom of the pond on reliance of its deadweight.
  2. In an aerated pond with a large area, it can be installed by means of air floating lift
  3. The lifting operation can be completed by truck crane or hand winch installed at the side of the pond.
  4. The underwater air intake tube employs a hose to connect to the tube of the air blower installed at the side of the pond via flange as shown in the drawing.

### 设备选型 Equipment type Selection

请直接与供货商联系，我公司亦可协助客户进行配套鼓风机的选型。

Please directly contact with the supplier ;our company can help the customers to make the type selection of the matching blower.

