

## 防爆重载强排潜水渣浆泵

Explosion-proof heavy-duty submersible slag pump

## 可靠、坚固、耐用的潜水渣浆泵

Reliable, robust and durable submersible slurry pumps



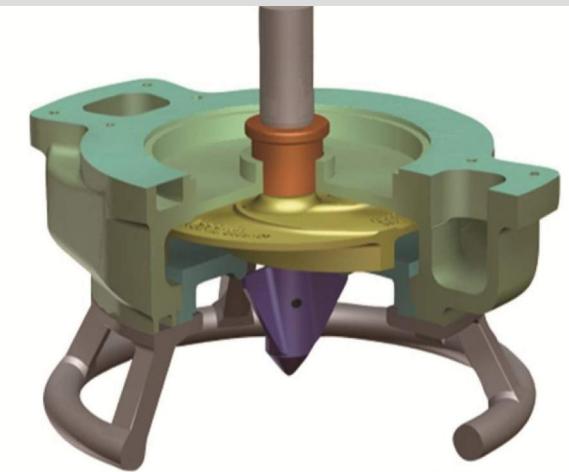
## 防爆重载强排潜水渣浆泵

防爆重载强排潜水渣浆泵就是为了在最恶劣的环境工况下长期稳定的运行而设计及精密制造

防爆重载强排潜水渣浆泵配置有外置搅拌器能够打碎并搅起沉积或紧实的固体并使其再次悬浮，从而泵出高固含量的渣浆。

超过15年的潜水渣泵的设计和制造经验  
最初的设计时包括一系列极其严格的标准,完善的仪器仪表检测试验台。

- 电机壳的设计根本上消除了电机由于过热而融毁的问题。
- 电机所产生的强大动力足以使潜水渣浆泵埋在沉积固体中直接在线启动。
- 一体化搅拌器可以打破并使固体再次悬浮。
- 重新开发设计的机械密封系统不再承受潜水渣浆泵在运行时的工作压力。
- 重新设计的进线电缆接头和电机的设置使得接线端子置于电机壳外。



Explosion-proof heavy-duty submersible slag pump

Explosion-proof heavy-duty submersible slag pumps are designed and manufactured for long-term and stable operation in the harshest environmental conditions.

Explosion-proof heavy-duty submersible slurry pumps are equipped with an external agitator that breaks and stirs up deposited or tight solids and suspends them again, pumping out high solid content of slag.

More than 15 years of experience in the design and manufacture of submersible slag pumps  
The original design included a series of extremely strict , perfect instrumentation testing test bench.

- The design of the motor housing fundamentally eliminates the problem of the motor melting and destroying due to overheating.
- The motor generates enough power to enable the submersible slurry pump to start directly online in a deposited solid.
- The integrated blender breaks and suspends the solid again.
- The redesigned mechanical sealing system no longer bears the operating pressure of the submersible slurry pump.
- The redesigned inlet cable connector and motor settings allow the terminals to be placed outside the motor housing.

相对于其他并不是非常坚固耐用的产品，我们的产品具有一系列杰出的特点，从而确保其更优越的表现，创新性的结构决定了其能够在全潜、半潜和非潜水时安全运行。

Compared to other products that are not very rugged, our products have a range of outstanding features to ensure better performance, and the innovative structure determines their safe operation in full, semi-submersible and non-diving.

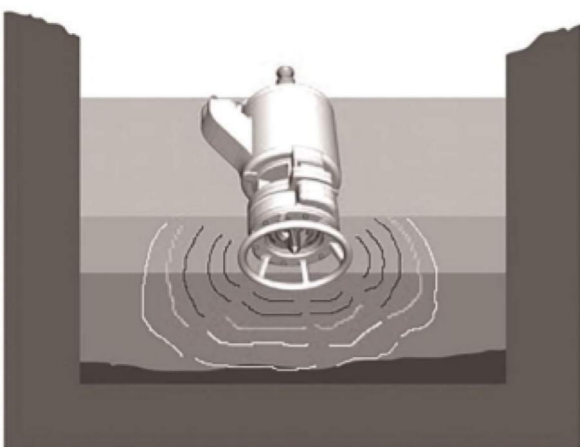
**双涡旋蜗壳**  
Double vortex pump shell diagram



使用双涡旋的泵壳设计，能够平衡轴上的载荷从而大大延长机械密封、轴承的寿命。

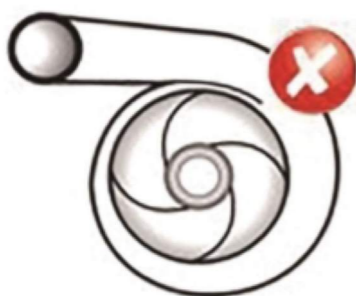
The dual-vortex pump shell design allows the load on the shaft to be balanced, greatly extending the life of mechanical seals and bearings.

**搅拌效果**  
Stirring effect map



搅拌头在泵的下方发射出强有力的水力震荡波从而使得沉积的固体再次悬浮流动。

The stirring head emits a powerful hydraulic shock wave under the pump, causing the deposited solids to float again.



其他同类产品所采用的单涡旋泵壳设计在轴上产生不平衡载荷，容易使得机械密封、轴承过早地失效。

Other similar products used in the single-vortex pump shell design on the shaft to produce unbalanced loads, easy to make mechanical seals, bearings premature failure.

**可拆卸出口弯头**  
出口尺寸为100mm的出口弯头。  
Exit elbow with an exit size of 100mm.

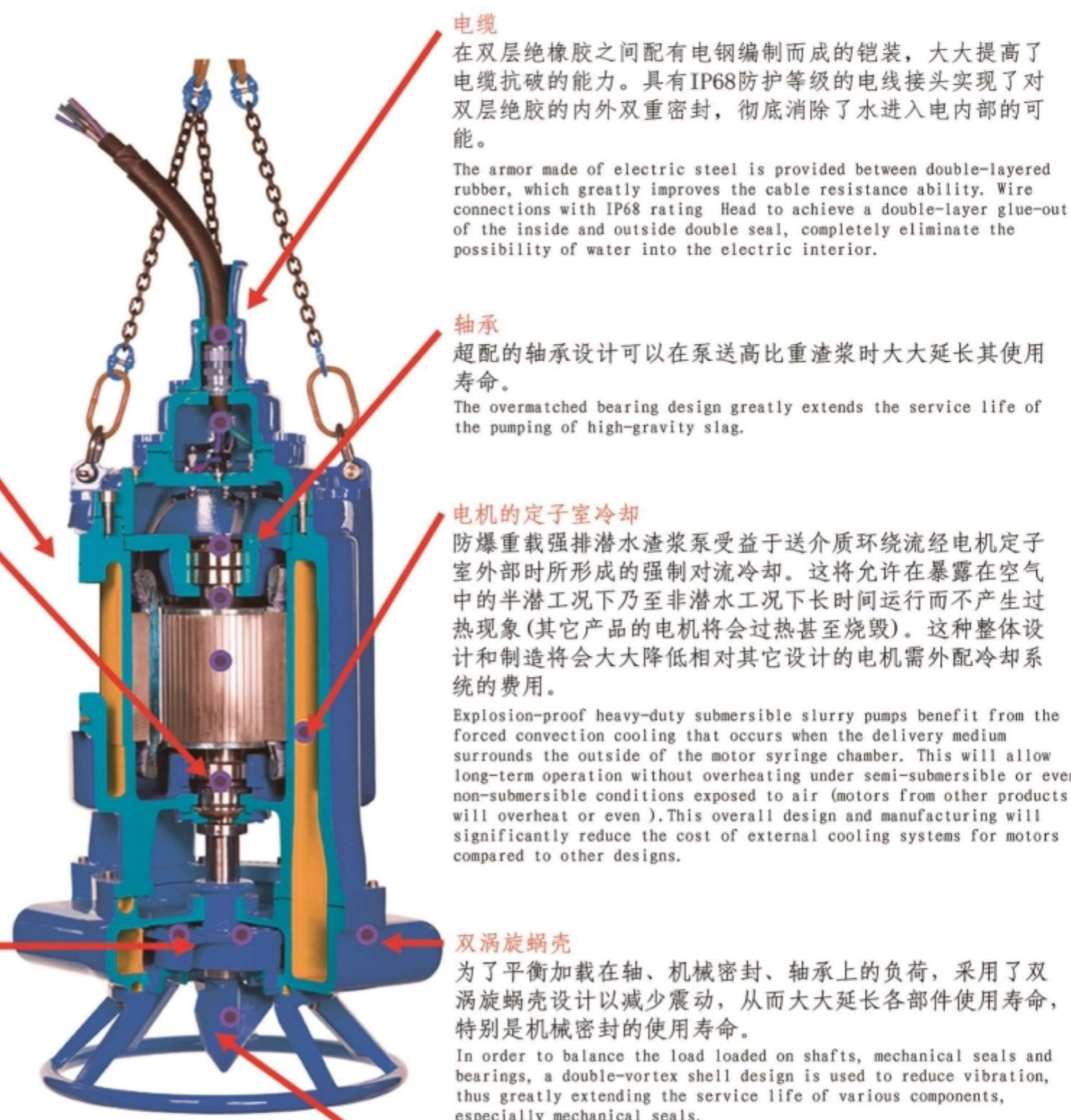
**机械密封不承受泵送时的工作压力**  
潜水的深度最深可达水下28米。防爆重载强排潜水渣浆泵的机械密封仅仅承受潜水时的静压力，而其它同类的产品则要同时承受水静压力和泵送时的工作压力。这个独特的设计大大降低了泵送介质进入电机室从而导致电机损坏的概率。直接安装在下轴承下方的机械密封可以从坚固的下轴承得到最大的支撑和防震保护。

Dives up to 28 meters underwater. The mechanical seal of the explosion-proof heavy-duty submersible slurry pump only withstands static pressure during diving, while other similar products are subjected to both static water pressure and pumping pressure. This unique design significantly reduces the probability that the pumping medium will enter the motor chamber and cause damage to the motor. Mechanical seals mounted directly under the lower bearings provide maximum support and shock protection from sturdy lower bearings.

**重载水力端部件**  
对于极端磨损的工况，高耐磨的高铬合金材质提供最大程度的续航。  
For extreme wear conditions, high wear-resistant, high-chrome alloy materials provide maximum battery life.

**开式叶轮**  
闭式叶轮设计可能会由于叶轮被大固颗粒卡住而造成堵塞流道。开式叶轮则可以完全避免这一风险，实现了吸得进来就一定泵得出去。

Closed impeller designs can clog the flowway because the impeller is stuck with large solid particles. Open impellers can completely avoid this risk, the realization of sucking in will certainly be able to pump out.



**电缆**  
在双层绝缘橡胶之间配有电钢编制而成的铠装，大大提高了电缆抗破的能力。具有IP68防护等级的电线接头实现了对双层绝胶的内外双重密封，彻底消除了水进入电内部的可能。  
The armor made of electric steel is provided between double-layered rubber, which greatly improves the cable resistance ability. Wire connections with IP68 rating Head to achieve a double-layer glue-out of the inside and outside double seal, completely eliminate the possibility of water into the electric interior.

**轴承**  
超配的轴承设计可以在泵送高比重渣浆时大大延长其使用寿命。  
The overmatched bearing design greatly extends the service life of the pumping of high-gravity slag.

**电机的定子室冷却**  
防爆重载强排潜水渣浆泵受益于送介质环绕流经电机定子室外部时所形成的强制对流冷却。这将允许在暴露在空气中的半潜工况下乃至非潜工况下长时间运行而不产生过热现象(其它产品的电机将会过热甚至烧毁)。这种整体设计和制造将会大大降低相对其它设计的电机需外配冷却系统的费用。  
Explosion-proof heavy-duty submersible slurry pumps benefit from the forced convection cooling that occurs when the delivery medium surrounds the outside of the motor syringe chamber. This will allow long-term operation without overheating under semi-submersible or even non-submersible conditions exposed to air (motors from other products will overheat or even ).This overall design and manufacturing will significantly reduce the cost of external cooling systems for motors compared to other designs.

**双涡旋蜗壳**  
为了平衡加载在轴、机械密封、轴承上的负荷，采用了双涡旋蜗壳设计以减少震动，从而大大延长各部件使用寿命，特别是机械密封的使用寿命。  
In order to balance the load loaded on shafts, mechanical seals and bearings, a double-vortex shell design is used to reduce vibration, thus greatly extending the service life of various components, especially mechanical seals.

**搅拌器**  
在搅拌过程中当搅拌器碰到大尺寸固体颗粒时，为了减少轴上弯曲挠性变形，采用了搅拌器更靠近下轴承的设计。  
In the process of stirring when the agitator touches large solid particles, in order to reduce the flexible deformation of bending on the shaft, the design of the agitator closer to the lower bearing is adopted.

**正确安装示范**

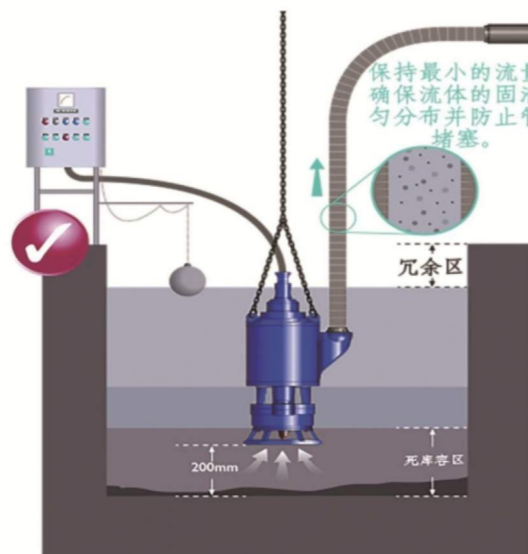
**Install the demonstration correctly**

为了确保使用防爆重载强排潜水渣浆泵时获得最佳表现，我们推荐您遵循以下最佳的操作实践。

- 正确的泵坑尺寸-必须要保证最小的泵坑尺寸是为了获得最大的部件使用寿命和防止管道堵塞。泵坑的尺寸计算基于以下原则:泵型号、流入流量、流出流量、泵坑工作容量和最多每小时20次启、停要求。
- 在之前提到的最小泵坑尺寸是基于泵型号和最小流出流量以确保出口管道临界流速为2米/秒和每10分钟循环一次启停。
- 合适的水与固体比率。
- 泵的最大启停次数不能超过20次/小时。
- 应该悬挂在距池底200mm以上的位置，确保最大送渣的固体浓度。

To ensure the use of explosion-proof heavy-duty submersible slurry pump to get the best performance, we recommend that you follow the best practices below.

- Correct pumping pit size - The minimum pump pit size must be guaranteed in order to maximize component life and prevent pipe blockage. The size calculation of the pump pit is based on the following principles: pump model, inflow flow, outflow flow, pump pit operating capacity and up to 20 start and stop requirements per hour.
- The minimum pump resistance dimensions mentioned earlier are based on the pump model and minimum outflow flow to ensure that the outlet pipe has a critical flow rate of 2 / and cycles every 10 minutes.
- The appropriate water-to-solid ratio.
- The maximum number of starts and stops of the pump must not exceed 20 / hour.
- It should be suspended more than 200mm from the bottom of the pool to ensure maximum solid concentration of slag delivery.



**电力供应和维护**

确保泵在正确地保护连接。应该按照运行维护手册的推荐对泵进行例行检查。

**Power supply and maintenance**

Make sure that the pump is properly grounded to protect the connection. The pump should be routinely inspected as recommended in the operating maintenance manual.

**不正确的安装示范**

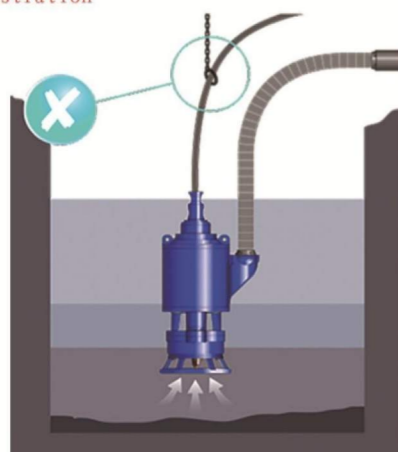
**Incorrect installation demonstration**

**正确提升**

移动或悬吊泵时，请使用合格的提升装置。禁止使用电缆起吊或移动泵。

**Lift correctly**

Use a qualified lifting device when moving or suspending the pump. Do not use cables to lift or move the pump.

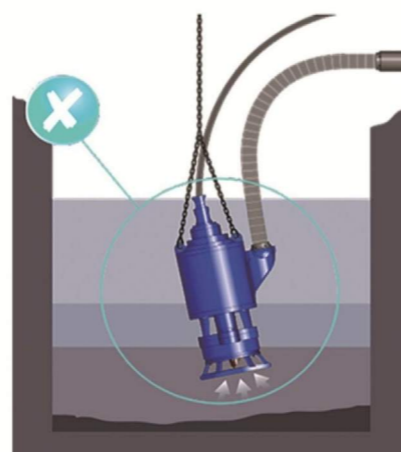


**垂直安装**

为了使泵达到最佳状态的运行和搅拌效果，请保持泵体处于垂直安装的状态。

**Vertical installation**

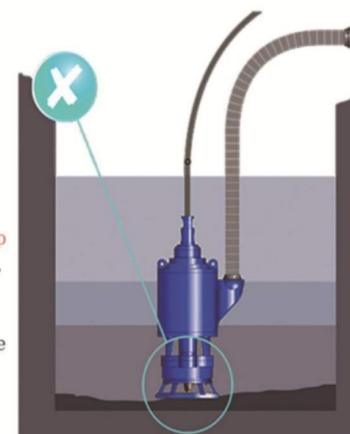
In order for the pump to operate and stir in optimal condition, keep the pump body in a vertically mounted state.



**泵的安装高度**

当泵送重载渣浆时，始终将泵悬挂在距池底200mm以上位置。禁止将泵直接放置于池底部。

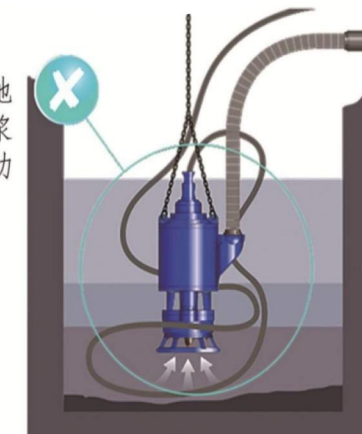
**The mounting height of the pump**  
When pumping heavy-duty slag, always hang the pump more than 200mm from the bottom of the pool. Do not place the pump directly at the bottom of the pool.



**电缆保护**

请勿将过长的电缆松弛地放置于所泵送的渣浆中以免造成电缆被转动的泵轴损坏。

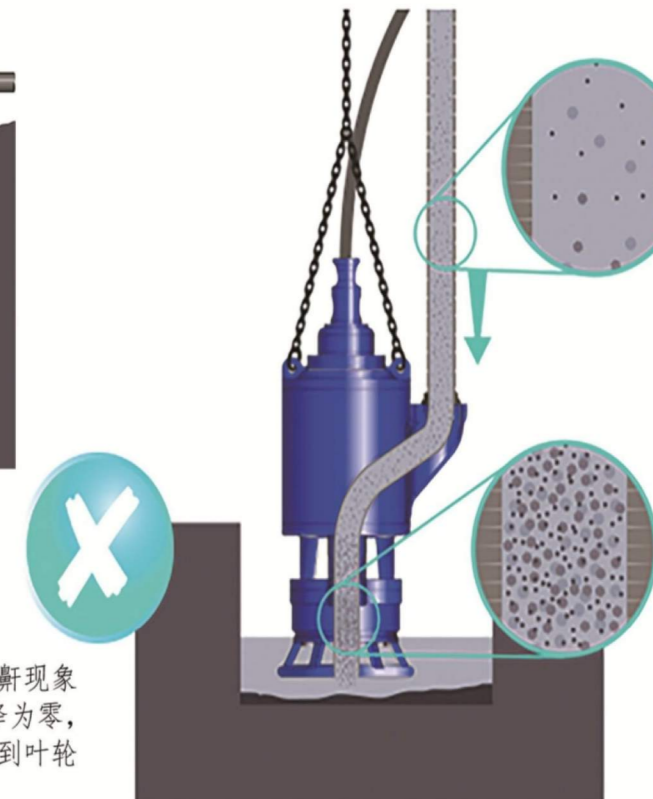
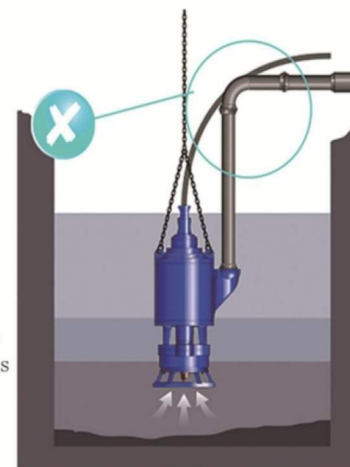
**Cable protection**  
Do not loosely place the long cable in the pumped slag to avoid damage to the pump shaft that is turning.



**使用重载渣浆软管**

始终要使用重载渣浆软管，它允许泵在启动时可以活动进而对泵轴起到缓冲作用。严禁将泵出口直接连接在固定管道。

**Use heavy-duty slag hoses**  
Always use heavy-duty slag hoses, which allow the pump to move at start-up and thus cushion the pump shaft. It is strictly forbidden to connect the pump outlet directly to the fixed pipe.



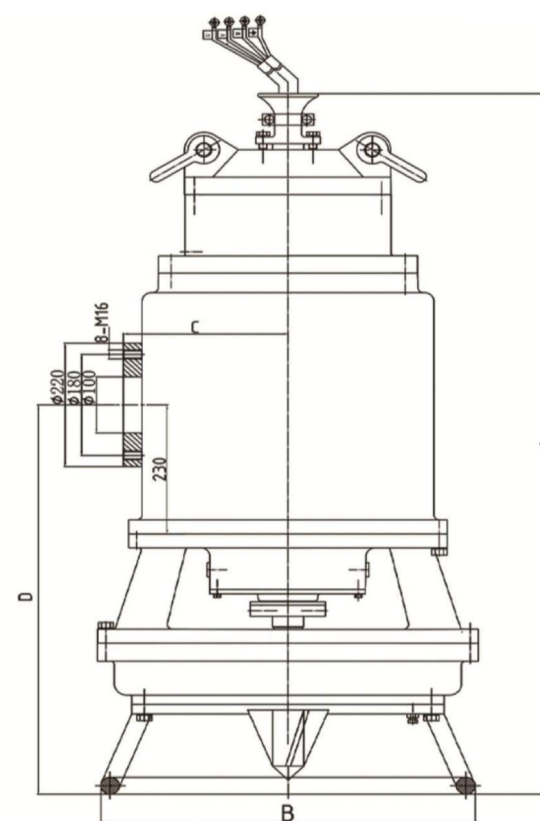
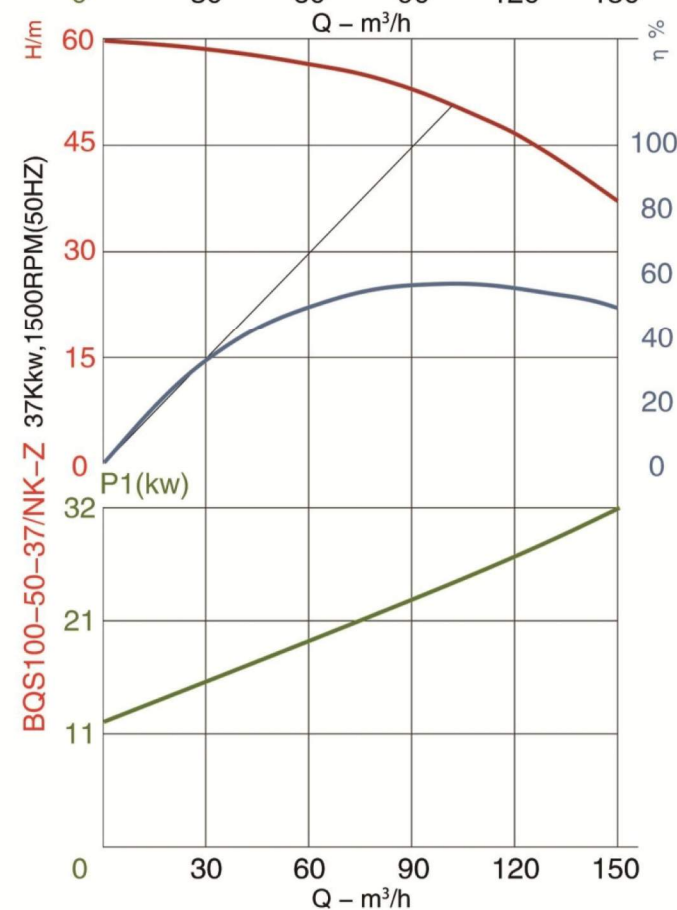
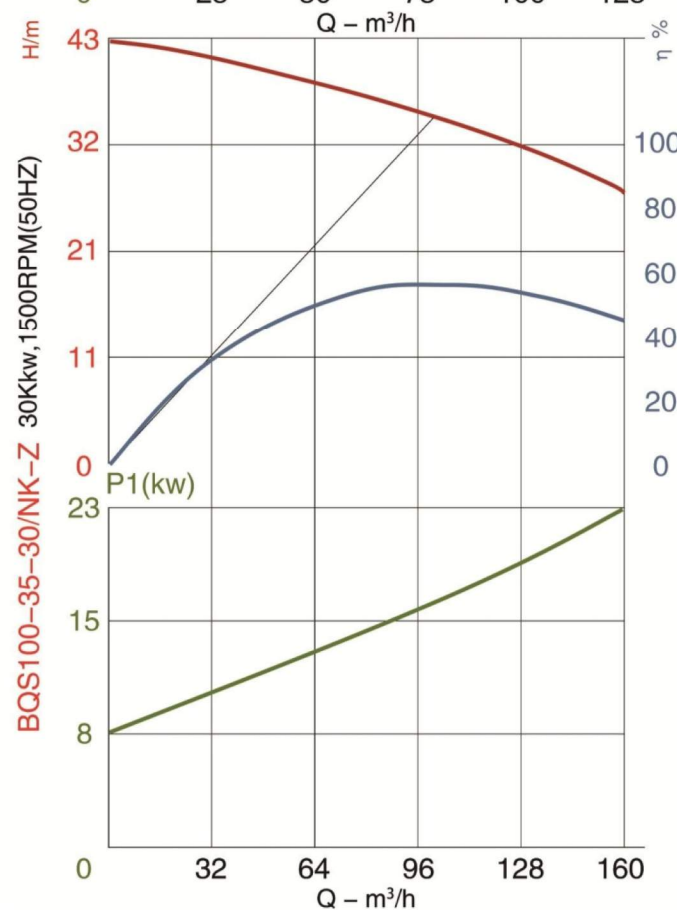
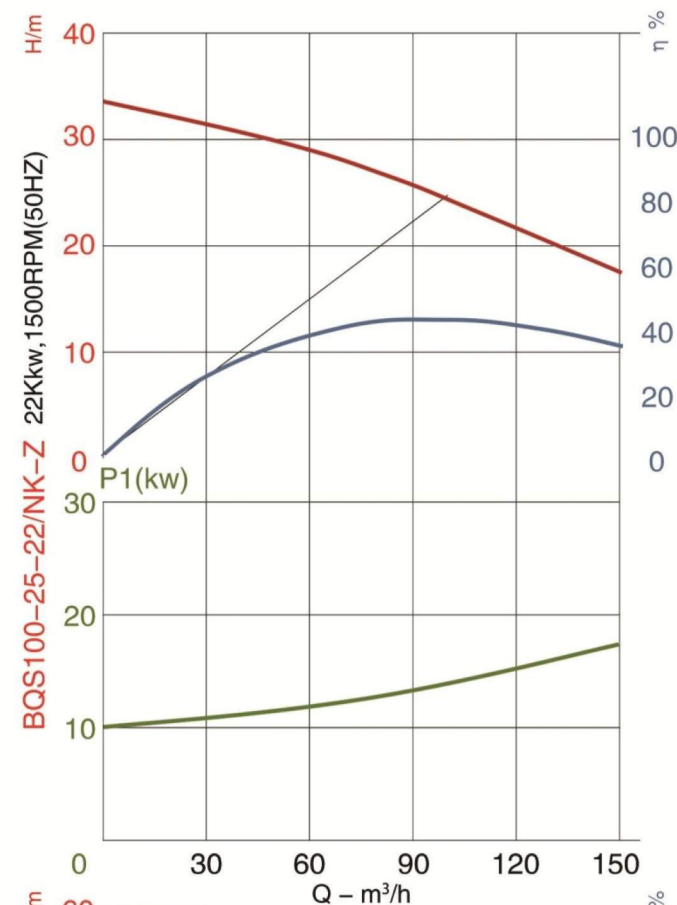
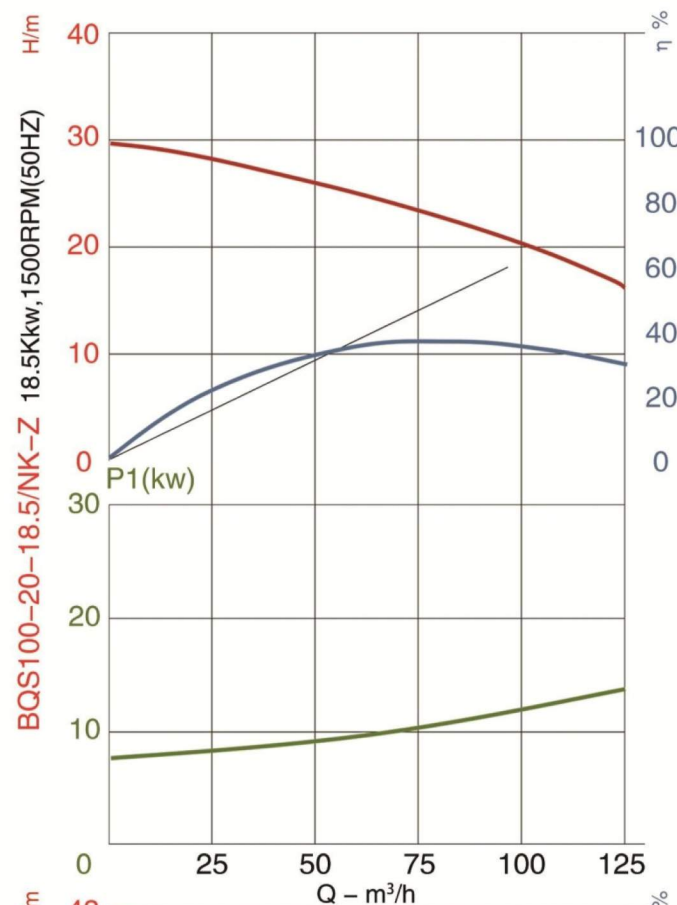
**过小泵坑**

过小泵坑将导致过度磨损及管道堵塞。因为过小的泵坑导致渣浆被过快地泵空而使泵发生打鼾现象（吸入含空气的渣浆）。一旦发生打鼾现象，流速将降为零，渣浆停止流动，渣浆中固体颗粒将沉积并顺着管道回到叶轮处。

如果泵没有及时停止运行，将导致在很短的时间内过度磨损的发生，此时不是进行泵送而是在研磨渣中的固体颗粒。如果过小泵坑连续注入渣浆，这将发生超过最大20次/小时的启、停频次要求或者使得泵处于打鼾运行状态—这两种情况都是不推荐的，当启停过于频繁时电机将烧毁，而让泵一直在打鼾状态下运行，水力端部件将会很快被磨坏。

**Too small a pump pit**

Too small a pump pit can cause excessive wear and pipe blockage. Snoring occurs in the pump (inhaling slag containing air) because too small a pump pit causes the slurry to be pumped out too quickly. Once snoring occurs, the flow rate drops to zero, the slurry stops flowing, and solid particles in the slurry are deposited and piped back to the impeller. Failure to stop running in time will result in excessive wear and tear in a very short period of time, when solid particles are not pumped but in grinding slag. If the slag is continuously injected into the pit, this will result in more than a maximum of 20 starts/hours of start-up, stop frequency requirements, or keep the pump in a snoring state — both of which are not / recommended, when the start-stop is too frequent, the motor burns and the hydraulic end components are quickly worn out while the pump is snoring.



|                    | A    | B     | C   | D   |
|--------------------|------|-------|-----|-----|
| BQS100-20-18.5/BKZ | 1200 | φ 520 | 236 | 672 |
| BQS100-25-22/BKZ   | 1200 | φ 520 | 236 | 672 |
| BQS100-35-30/BKZ   | 1245 | φ 600 | 260 | 694 |
| BQS100-50-37/BKZ   | 1245 | φ 600 | 260 | 964 |

**两侧强制搅拌**  
Forced mixing on both sides

两侧强制搅拌器具有破碎板结、增加吸入浓度、淤结强制搅散、范围挖掘等功能。十分适用于泥水、沙水分层的工况，通过搅拌可使液体—液体、液体—固体、液体—气体的混合物得到充分的混合、均质，加速液体流动，阻止液体中的悬浮物沉降。

The forced agitators on both sides have the functions of crushing and hardening, increasing suction concentration, silting and forced dispersion, range excavation and so on. It is very suitable for the working condition of mud water and sand water stratification. By stirring, the mixture of liquid liquid, liquid solid and liquid gas can be fully mixed and homogenized, accelerate the liquid flow and prevent the sedimentation of suspended solids in the liquid.

