



FOG CANNON

雾炮机



河南佰特威机械设备有限公司

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专注于各类机械设备的研发设计
加工制造与规模化批量生产

Focused on the development, design, manufacturing
and large-scale production of various mechanical equipment

COMPANY PROFILE

企业简介



河南佰特威机械设备有限公司, 专注于各类机械设备的研发设计、加工制造与规模化批量生产。公司坐拥齐全完善的生产配套设施, 汇聚专业技术研发团队, 可按照客户个性化需求承接各类定制化设备订单。公司主打产品远程射雾器, 广泛用于钢铁厂区、火力发电厂、港口码头的粉尘抑尘治理工程; 除此以外, 轮式消防灭火机器人、重型洗车机、消防涡扇喷雾风机等系列设备也广受市场认可、应用场景丰富。自创立以来, 企业秉持严谨务实的生产管理模式, 依托严苛高标准的品控体系打磨每一台设备, 坚守品质。我们热忱欢迎全球各地新老客商莅临厂区实地考察核验、洽谈商务合作, 我方将以热忱饱满的服务姿态, 全力对接、配合各项合作事务。

Henan Betterway Machinery Equipment Co., Ltd. focuses on the R&D, design, processing, manufacturing and mass production of all kinds of machinery and equipment.

Equipped with complete and comprehensive supporting production facilities and a professional technical R&D team, we undertake customized equipment orders in accordance with clients' personalized requirements.

Our flagship product, long-range fog cannons, are widely adopted for dust suppression projects in steel plants, thermal power plants, ports and docks. In addition, a full range of equipment including wheeled fire-fighting robots, heavy-duty truck washers and fire-fighting turbofan spray fans have gained wide market recognition with diversified application scenarios.

Since its establishment, adhering to rigorous and pragmatic production management, the company has manufactured every single piece of equipment under stringent, high-standard quality control systems to guarantee reliable quality.

We sincerely welcome new and existing merchants from all over the world to visit our factory for on-site inspection and business negotiation. With enthusiastic and dedicated service, we will fully coordinate and cooperate on all cooperation matters.



科技研发
Technology Research
and Development



设计制造
Design and
Manufacturing



自产自销
Produced and
sold by oneself

PRODUCT INTRODUCTION

产品介绍

一、工作原理

远程射雾器(雾炮机) 依托高压水泵对水体加压,水流经由专用雾化喷嘴细化成超细水雾,再借助射流风机产生的强劲气流,将水雾精准输送至指定作业区域。设备可广泛应用于工矿粉尘沉降、农林植被农药喷洒、公共环境消杀防疫、空间加湿喷淋等多种场景。

二、设备安装形式

本设备支持多种安装布设方案：

- 1.固定式:安装于高架塔台,定点长效抑尘；
- 2.移动式:分为手推便携款、重型牵引转运款,灵活变换作业点位；
- 3.车载式:可配套抑尘专用车辆,随车全域作业。

三、智能操控方式

操控模式灵活可选:既能够通过实体按键、触控屏等本地终端现场操控;也可接入物联网系统,借助手机、电脑端实现远程集中管控。

四、定制化服务优势

我司雾炮设备支持高度个性化定制,可依据客户现场工况、技术参数需求,灵活调整、适配整机配置,科学匹配各项性能指标,充分满足不同场景的使用标准。

1. Working Principle

The long-range mist cannon pressurizes water via a high-pressure water pump. The water is atomized into ultra-fine mist through special nozzles, then accurately delivered to the designated working area by powerful airflow generated by a jet fan. This equipment is widely applied in industrial and mining dust suppression, pesticide spraying for agriculture and forestry vegetation, public environmental disinfection and epidemic prevention, space humidification and spraying, and other scenarios.

2. Installation Types

Multiple installation layouts are available for the equipment:

- 1.Fixed Type: Mounted on elevated towers for fixed-point long-term dust suppression;
- 2.Mobile Type: Divided into hand-push portable models and heavy-duty traction models, enabling flexible adjustment of working positions;
- 3.Vehicle-mounted Type: Compatible with dedicated dust suppression vehicles for full-range mobile operation.

3. Intelligent Control Modes

Flexible control options are provided: on-site operation can be realized through physical buttons, touch screens and other local terminals; meanwhile, IoT access is supported to achieve centralized remote control via mobile phones and computers.

4. Customization Advantages

Our fog cannons are highly customizable. We can flexibly adjust and adapt the overall configuration according to customers’ on-site working conditions and technical parameter requirements, scientifically matching all performance indicators to fully meet the application standards of various scenarios.

MODEL 型号	SILENT WIND FIRING RANGE 静风射程 (m)	TOTAL POWER 总功率 (kW)	FAN POWER 风机功率 (kW)	PUMP POWER 水泵功率 (kW)	WATER VOLUME 水量 (T/H)		ROTATE 旋转	PITCH 俯仰	MOZZLE 水管		CONTROL METHOD 控制方式	TOTAL MACHINE WEIGHT 整机自重		
					REGULAR 常规	ULTRA-FINE 超细			REGULAR 常规	ULTRA-FINE 超细				
BTW-20	20-25	<3	1.5	1.1	0.8-1	0.2-0.4	0°-320°	-10°- 45°	单环12	三环30	Support: 支持:	约240kg		
BTW-25	25-30	<4	2.2	1.5	1.2-1.6	0.3-0.5			单环12	三环30		约280kg		
BTW-30	30-35	<6	3	2.2	1.6-2	0.5-0.8			单环12	三环30	Remote control 遥控+控制	约320kg		
BTW-40	40-45	<12	7.5	3	1.8-2.4	0.7-1.2			单环24	三环60		约450kg		
BTW-50	50-55	<22	15	4	2-3	1-1.6			单环30	三环80	Touchscreen control 触屏+控制	约550kg		
BTW-60	60-75	<27	18.5	5.5	5-5.5	1.4-1.8			单环36	三环90		约800kg		
BTW-70	70-75	<29	22	5.5	5-5.5	1.4-1.8			单环46	三环90	Mobile phone control 手机+控制	约900kg		
BTW-80	80-90	<48	37	7.5	6-8	2.2-3			双环70	三环120		约1600kg		
BTW-90	90-100	<60	45	11	9-11	2.5-3.5			双环70	三环120	Computer control 电脑+控制	约1700kg		
BTW-100	100-110	<70	55	11	9-11	3.2-4.5			双不100	三环150		约2100kg		
BTW-120	120-130	<90	75	15	12-16	4.3-5.8			双环110	三环150	Button control 按钮+控制	约2400kg		
BTW-150	130-150	<140	110	18.5	20-25	5.5-7.8			双环150	三环180		约3500kg		
注： ①以上参数仅供参考。 ②超细配置根据客户技术要求,可选配柱塞泵、离心泵、计量泵等。 ③超18.5kw电机推荐软启动或变频启动。 ④如以上参数不能满足客户要求,支持定制。														
Note: ① The above parameters are for reference only. ② The ultra-fine configuration can be equipped with plunger pumps, centrifugal pumps, metering pumps, etc., according to the customer's technical requirements. ③For motors over 18.5 kW, soft start or variable frequency start is recommended. ④ If the above parameters do not meet the customer's requirements, customization can be provided.														



PRODUCT CHARACTERISTICS

产品特点

① 有效覆盖范围大,工作效率理想

转向角度灵活,可实现精准转向及精准俯仰。

① Wide effective coverage and ideal work efficiency
The steering angle is flexible, allowing for precise steering and accurate pitching.

② 抑尘用途使用

风送距离远结合面积大,除尘抑尘效果理想。

② Use for dust suppression purposes
The wind delivers over long distances and covers a large area, achieving ideal dust removal and suppression effects.

打药消杀用途

风送距离远结合面积大,颗粒适中,结合效果理想。

Purpose of spraying pesticides and disinfection
The wind carries the material over long distances and combines with a large area, the particles are moderate, and the bonding effect is ideal.

③ 多种类控制终端

③ Multiple Types of Control Terminals

可遥控控制(8键,10键,12键等),可本地控制(按钮或触屏),可电脑控制(上位机组态),可手机控制(远程启动及监控设备状态。)

Can be remotely controlled (8-key, 10-key, 12-key, etc.), can be locally controlled (buttons or touchscreen), can be controlled by computer (host computer configuration), and can be controlled by mobile phone (remote start and monitoring of equipment status).

④ 安装方式多样

④ Multiple installation methods

根据现场工况,可定制固定式,移动式,车载式等多用途结构。

According to the on-site working conditions, it can be customized into fixed, mobile, vehicle-mounted, and other multi-purpose structures.

⑤ 可配套市电,可配套发电机,可采用直流电池组供电,亦可采用液压驱动。

⑤ It can be powered by mains electricity, supported by a generator, supplied by a DC battery pack, or driven hydraulically.

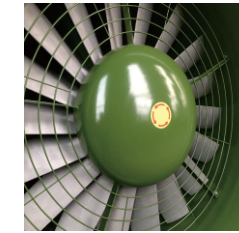
⑥ 多重保护,电机保护(缺相及过载保护),缺水及过压保护,控制回路保护,熔断保护等,异常状态紧急停车。

⑥ Multiple protections are provided, including motor protection (phase loss and overload protection), water shortage and overvoltage protection, control circuit protection, fuse protection, etc., with emergency shutdown in abnormal conditions.



打造一站式量身定制方案

ONE STEP CUSTOMIZED SOLUTION



► 叶轮采用铝合金压铸成型(亦可采用高强尼龙)等多种材质,叶轮可采用机翼或镰刀型,高效叶轮可采用三元流涂层形式,效率理想,结构紧凑,气动噪音可控。

The impeller is made of die-cast aluminum alloy (or high-strength nylon) and other materials. The impeller can be of wing or sickle type, and a high-efficiency impeller can adopt a three-dimensional flow coating form, offering ideal efficiency, a compact structure, and controllable aerodynamic noise.



► 风筒出口设置专用不锈钢喷头及水环(超细喷头较常规喷头有所不同),水雾颗粒交叉不碰撞,雾化效率高,耐腐蚀经久耐用。锯齿降噪,有效降低工作噪声。

The air outlet of the hairdryer is equipped with a dedicated stainless steel nozzle and water ring (the ultra-fine nozzle is different from a conventional nozzle). The mist particles intersect without colliding, achieving high atomization efficiency, and it is corrosion-resistant and durable. The serrated structure reduces noise, effectively lowering operational sound.



► 电控系统根据客户要求,可采用PLC(或继电器互锁)形式实现多种动作指令及控制,可通过多种控制终端(遥控器、电脑、触屏)实现动作控制,通过传感器实现运行状态及故障反馈,实现整机系统稳定运行。

The electronic control system can implement multiple action commands and controls in the form of PLC (or relay interlock) according to customer requirements. Action control can be achieved through various control terminals (remote control, computer, touch screen), and operational status and fault feedback can be realized through sensors, ensuring the stable operation of the entire system.



► 俯仰及旋转动作有自锁装置,确保断电或者异常后动作锁止,转向角度可调,转向速度及角度可定制,适应不同工况的要求。

The tilt and rotation movements are equipped with a self-locking mechanism to ensure that the motion is locked in case of power failure or abnormal conditions. The steering angle is adjustable, and both the steering speed and angle can be customized to meet the requirements of different working conditions.



► 转向结构采用回转支承实现动作,俯仰机构采用液压油缸实现动作,根据客户要求亦可定制液压回转支承、电动推杆、链条或皮带实现动作及角度需要。

The steering structure uses a slewing bearing to achieve movement, and the pitching mechanism uses a hydraulic cylinder to achieve movement. According to customer requirements, it can also be customized to use a hydraulic slewing bearing, electric actuator, chain, or belt to achieve the desired movement and angles.



可采用不锈钢多级离心泵、柱塞泵(农业及工业专用)、旋涡泵、计量泵等多种专用水加压装置,实现不同用途下对于水流量、水压力、水颗粒的精准控制。

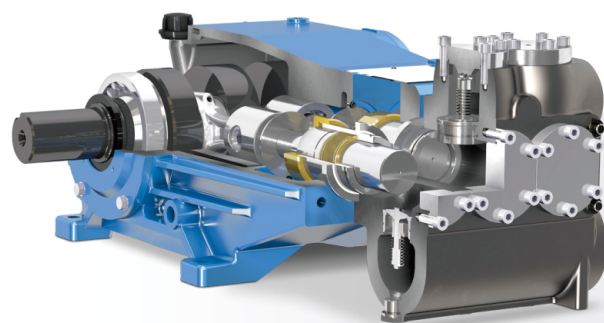
Various specialized water pressurization devices can be used, such as stainless steel multi-stage centrifugal pumps, plunger pumps (for agricultural and industrial use), vortex pumps, and metering pumps, to achieve precise control of water flow, water pressure, and water particles for different applications.

PRODUCT CONFIGURATION

产品配置



水泵配置 PUMP CONFIGURATION



柱塞泵
PLUNGER PUMP

- 有自吸功能, 适用于一些不具备管道供水的工况。
- 压力高, 雾化效果好, 但需要定期更换润滑油机油等确保正常工作。
- 部分柱塞泵有震动, 工业用三缸柱塞费用较高。

- The plunger pump has a self-priming function, making it suitable for certain operating conditions where pipeline water supply is unavailable.
- It has high pressure and good atomization performance, but regular replacement of lubricating oil and engine oil is required to ensure normal operation.
- Some plunger pumps have vibrations, and industrial three-cylinder plungers are relatively expensive.



旋涡泵
VANE PUMP

- 结构紧凑, 空间占用相对较小, 空间利用率高, 有一定自吸功能。
- 结构相对简单, 性能稳定, 维保方便。
- 压力小, 效率低, 雾化效果颗粒较大。

- The structure is compact, occupies relatively little space, has a high space utilization rate, and possesses a certain self-priming function.
- The structure is relatively simple, performance is stable, and maintenance is convenient.
- The pressure is low, efficiency is low, and the atomization effect produces larger particles.



不锈钢多级离心泵
STAINLESS STEEL MULTISTAGE CENTRIFUGAL PUMP

- 结构紧凑, 不锈钢叶轮及机壳耐腐蚀, 效率较高。
- 运行平稳, 几乎不产生振动, 噪音较小。
- 该型水泵无自吸功能, 需要管道供水或者二级加压供水。

- The structure is compact, with stainless steel impeller and casing that are corrosion-resistant, and it has relatively high efficiency.
- The operation is stable, producing almost no vibration and relatively low noise.
- This type of pump does not have a self-priming function and requires piped water supply or secondary pressurized water supply.

电机启动方式 MOTOR STARTING METHOD

直接启动 DIRECT START

通常适用于小型电机(推荐功率 $\leq 11\text{kW}$),结构紧凑,占用电控系统空间小,但启动电流较大,对电网冲击较大。

This is generally suitable for small motors (recommended power $\leq 11\text{ kW}$). It has a compact structure and occupies little space in the electrical control system, but the starting current is large, causing a significant impact on the power grid.

星三角启动 STAR-DELTA STARTING

相对于直接启动而言对电网的冲击小,较软启及变频启动成本低,结构也相对简单。

causes less impact on the power grid compared to direct starting, has lower costs than soft start and frequency conversion start, and its structure is relatively simple.

软启动 SOFT START

根据工况要求不同,推荐 $\geq 45\text{kW}$ 电机上使用该型启动方式。

该型启动方式有多种模式选择(如键盘或者端子等),具有缺相、过载、超温等多种保护,且启动转矩小,对电网冲击小,可一定程度提高设备的使用寿命。该型启动方式因为需要增加软启动器,故而成本较高,且有谐波干扰,电网波动时可能提高可控硅的故障率,且需要专业人员保养及维护。

Depending on the operational requirements, it is recommended to use this type of starting method for motors of $\geq 45\text{ kW}$.

This starting method offers multiple modes of selection (such as via keyboard or terminals), and provides various protections including phase loss, overload, and over-temperature. It features low starting torque and minimal impact on the power grid, which can, to some extent, extend the service life of the equipment. However, because this starting method requires the addition of a soft starter, it is relatively costly, may introduce harmonic interference, and may increase the failure rate of thyristors during power grid fluctuations. In addition, it requires maintenance and servicing by professionals.

变频启动 VARIABLE FREQUENCY START

启动瞬间通过改变启动频率来调节电机的转速和转矩,对电网冲击较小,可根据具体控制工况让电机启动更加柔和。

因变频器可调整频率继而可实现转速可调。该型启动方式控制效果好,控制方式多样,但该型设备体积大成本高,且可能产生干扰,内部结构复杂,需要专业技术人员保养、维护。

At the moment of startup, the motor's speed and torque are regulated by changing the starting frequency, which has a minimal impact on the power grid and allows for a smoother startup depending on the specific control conditions.

Since the frequency can be adjusted by a variable frequency drive, speed regulation is achievable. This type of startup method offers good control performance and diverse control options; however, the equipment is large in size, costly, may cause interference, has a complex internal structure, and requires maintenance and servicing by professional technicians.

