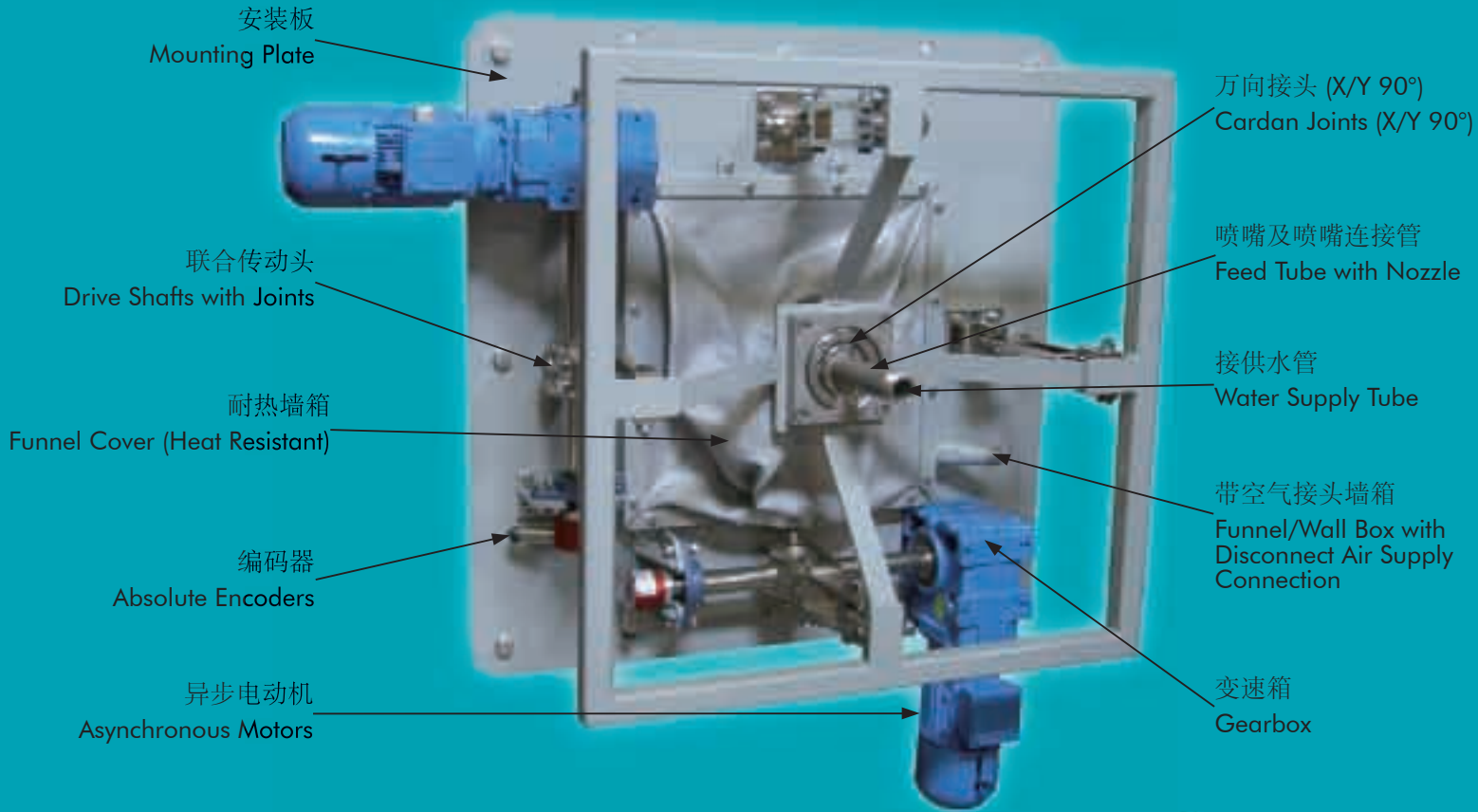


HydrojetTM HJ-EU 1000

Diamond Power
Machine (Hubei) Co., Inc.
a Diamond Power International, Inc. company
戴蒙德电力机械（湖北）有限公司

Hydrojet™ HJ-EU 1000



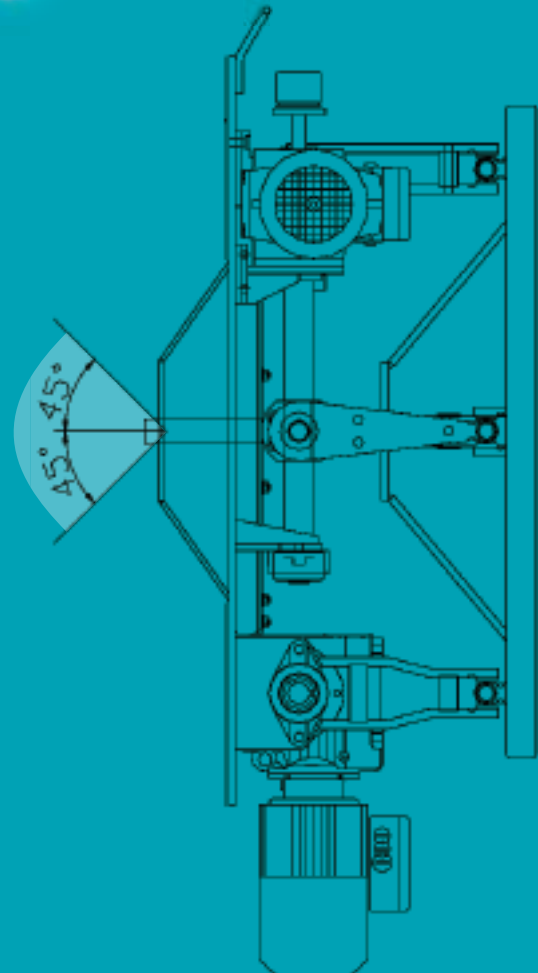
系统描述 System Description

Hydrojet EU-1000 型对冲式锅炉清洁系统是专用于清洁运行中的炉膛水冷壁的高端产品，它坚固耐用且清洁力强、性能可靠。

The Hydrojet EU-1000 is a robust and reliable tool for furnace wall cleaning during boiler operation.

Hydrojet在炉膛上开孔处安装导向型喷嘴，这种导向型喷嘴能够精确控制水流束的喷射。它可向水平和垂直方向调整 $\pm 45^\circ$ （即最大调整角度为 90° ），且能够清洁对墙和侧墙水冷壁上难以触及的部分。Hydrojet的清洁区域面积由锅炉宽度和受热面的情况决定。喷嘴提供最适宜的水流束，能够有效并安全地清洁最远的区域，水流束最远射程超过30米。

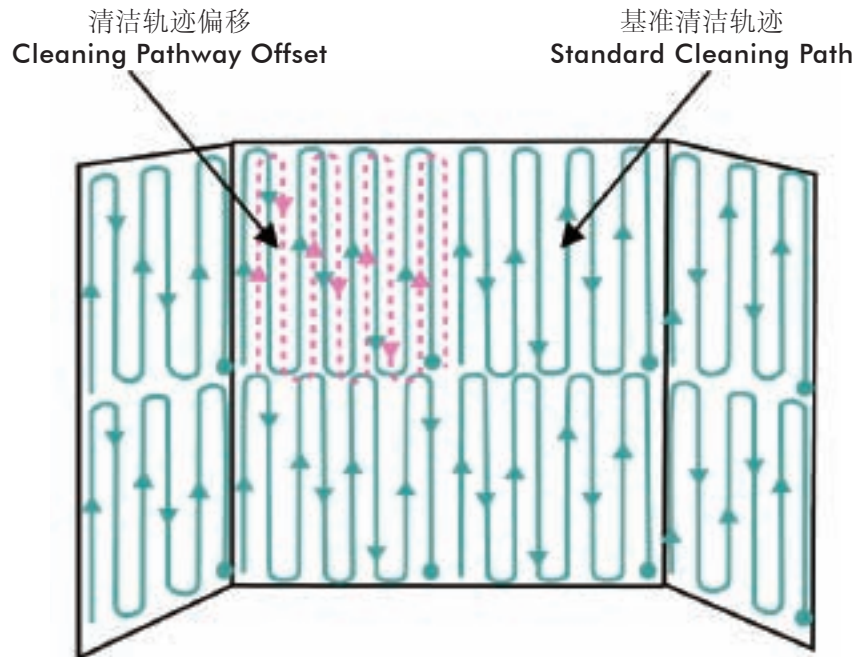
For this purpose, a controlled nozzle which is aligned to the boiler opening window is utilized. The exact positioning of the nozzle enables the precise control of the water jet. With a maximum of $\pm 45^\circ$ degree angle both horizontally and vertically, it is also possible to clean targeted hard-to-reach surfaces on the opposite and side walls of the boiler. The dimensions of the Hydrojet cleaning zones are dependent on boiler width and surface accessibility. The nozzle is designed to provide an optimum water flow to clean the most remote surfaces effectively and safely over a range of 30m.



清洁轨迹图 Cleaning Scheme

右图显示出标准Hydrojet如何沿锅炉管壁清洁炉膛，图中可以看到每次轨迹的偏移以及两次喷射之间的起停点。这种设计避免了前后清洁路径的重叠，也避免溅湿非目标区域。

This figure shows the standard Hydrojet cleaning scheme along the boiler tubes. The offset steps of one pattern and the starting points between 2 sequences are visible. This is necessary to avoid the overlapping of successive cleaning phases, splashing or draining onto unintended surfaces.



清洁轨迹与锅炉水冷壁管平行
Cleaning Path Parallel to the Boiler Tubes

灵活性 Flexibility

除“标准清洁模式”外，Hydrojet清洁系统也能兼顾客户的特殊要求。由于采用两个独特且具有高度灵活性的万向节，使系统具备多样化的清洁模式。针对每片待清洁区域，可分别设定最合适的JPV，并选择不同规格的喷嘴，以达到高效清洁。喷嘴的设计使之能够适应极端高温的工作环境，并且抵御锅炉内的紊流干扰，从而更加彻底地清洁指定区域。通过水流束对顽固积灰结渣的热冲击，锅炉水冷壁管表面得到清洁。

In addition to the “standard cleaning pattern”, special customer requirements can be integrated into the program. With a particularly high degree of mobility due to the two Cardan joints, a large variety of patterns is possible. Each individual cleaning zone is programmed for optimum jet progression velocity. Multiple nozzle sizes are available for effective cleaning. The nozzles are designed to withstand extremely high furnace temperatures and boiler turbulence thereby allowing the nozzle greater access to targeted cleaning zones. The surface of the boiler tubes will be cleaned through the thermal impact of the water on tenacious deposits.

26m 22m 19m 16m 13m



坚固可靠 Robust and Reliable

Hydrojet清洁系统能够适应极端工况。所有系统元件、润滑剂以及密封件的选择都以能够在典型锅炉环境的最极端情况下工作为目标。墙箱材料为超耐高温合金，能够保护其元件。所有机械部件都便于拆装，维护简易。

The Hydrojet cleaning system is designed to withstand the most extreme conditions. All components, lubricants and seals are selected to be resistant to the extremes of a typical boiler environment. The wall box assembly, which shields all other components from the heat, is manufactured from an extremely heat-resistant alloy. The easy accessibility of all mechanical parts simplifies maintenance.

控制 Positioning

电气控制系统包含：控制柜、紧邻Hydrojet的就地断路器开关盒、用作人工控制的操作杆，以及控制柜和每台Hydrojet之间的完整布线。信号灯显示设备是否正在运行中。可按需要装设电力供应以及供水仪表或阀门。操作简便的用户面板可方便改变所有基本功能和进行校准。编码器能够保证Hydrojet的精确定位，即使电力供应突然中断，系统仍能记忆断电前的位置，一旦恢复电力，即可自断电前的停留位置继续清洁。在戴蒙德公司的辅助下，客户可自行选择水束流量、前进速率及吹灰轨迹间距。

The electrical controls includes a control cabinet, a local disconnect box close to the Hydrojet, a joystick for manual operation and the complete wiring between the control cabinet and each Hydrojet. A signal lamp indicates that the Hydrojet is in operation. The power supply and control of water instruments or valves can be accommodated. An easily operated user panel offers the possibility of changing all essential functions and calibrations. An absolute encoder provides the exact positioning of the Hydrojet despite any electrical power interruptions. Once power is restored, the Hydrojet resumes the cleaning cycle from its last position. Jet progression and step size can be selected by the customer with the aid of Diamond Power.

系统优势

Advantages

无需行程开关——可靠性更高

No limit switches needed - high reliability

新型高效喷嘴可选

New optimized nozzles available

强力的异步电机——备件价格低

Robust asynchronous motors - inexpensive spare parts

所有部件易于拆装——低维护成本

Good accessibility of all parts - low maintenance costs

清洁过程极具灵活性

Excellent cleaning flexibility

安装位置与锅炉水冷壁管平行

Penetration parallel to boiler tubes

可自行选择多种清洁轨迹以及清洁区域

Variety of cleaning sequences and selection of cleaning zones

水流束射程超过30米

Concentrated water jet of over 30m reach

hydrojet
drojet
Hydrojet
Hydrojet

控制柜数据

- 保护等级：IP55级保护
- 电流输入：400V，50Hz，带输入滤波器
- 带电源滤波的频率转换器
- 带有模拟接口的编码器
- 通过现场总线进行信号交换

Control Cabinet Data Sheet

- Protection class IP55
- Feeding: 400V, 50Hz with input filter
- Frequency converter with power choke
- Analog drive interface for the absolute encoder connection
- Signal exchange via Profibus

标准型Hydrojet 主要元件

- 所有信号集结的安装板
- 耐热墙箱
- 两台异步发动机，2个变速箱以及2台编码器
- 清除空气系统以及连接附件
- 供水管
- 内管以及喷嘴
- 耐火风箱
- 标准油漆为灰色，也可按照客户要求更换颜色

Main Components (Hydrojet Standard Version)

- Mounting plate with all single assembly groups
- Heat-resistant wall box
- 2 asynchronous motors, 2 gear boxes and 2 absolute encoders
- Purge air system and connecting kit
- Water supply tubes
- Feed tube and nozzle
- Fire resistant air bellows
- Paintwork in gray (standard) or according to customer specifications

其它选择

- 配备全套必需水管配件的“标准”或“超标准”泵站
- 连接所有元件和Hydrojet的管件
- 与当地水源系统的连接
- 控制柜、断路器开关盒以及Hydrojet之间的完整线路
- VPN 客户端远程维护
- 去除供水管和喷嘴中的残留水

Options

- Pump station “standard” or “premium” complete with all necessary water fittings
- Piping between all components and Hydrojet
- Connection to local water supply system
- Complete wiring between control cabinet, disconnect box and Hydrojet
- VPN Client for remote maintenance
- Removal of residual water from water supply tubes and nozzle

更多选项

- 额外的过滤器或者过滤控制器
- 接入现场已有的控制系统
- 装配空调的控制柜
- 锅炉墙箱、弯管

Further Options

- Additional filters or filter controllers
- Integration into local existing controls
- Air conditioned control cabinet
- Supply of boiler wall box and tube bends

如您还有其它任何需求或疑问，请联系我们的销售工程师。 Consult our sales managers for further options and requirements.

与以前的水力清洁设备相比，**Hydrojet**系统的清洁精确度更高，耗水量更低。利用**Hydrojet**，我们能够定向清洁之前很难覆盖到的炉膛区域。**Hydrojet**为锅炉操作人员提供一套更加精确的清洁路线，高度改良的喷嘴以及无可比拟的运行可靠性和清洁灵活性。**30**多年的水力清洁经验，让戴蒙德公司能够不断在新产品研发及设计上推陈出新，并完全满足您的系统需求。

Compared with previous water cleaning systems, the Hydrojet boiler cleaning system possesses a higher accuracy and utilizes significantly less water for similar cleaning results. Previously hard-to-reach interior boiler surfaces can now be targeted and cleaned. The Hydrojet provides the boiler operator with an accurate pattern control, significantly improved nozzles and an unparalleled mechanical reliability and cleaning flexibility. With more than 30 years of water cleaning experience, Diamond Power is continuously developing new products and design enhancements and employs expert knowledge to design cleaning systems which exactly match your requirements.

www.diamondpower.com.cn | 86.27.5922.2295

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戴蒙德电力机械(湖北)有限公司(以下简称“戴蒙德湖北”)成立于1987年，为戴蒙德国际在中国的全资子公司。

Diamond Power Machine (Hubei) Co. Inc. (DPMH) is a wholly-owned Diamond Power International Inc. (DPII) company located in China, founded in 1987.

在锅炉清洁和灰渣处理领域，戴蒙德国际是全球公认的行业先导。一百多年以来，戴蒙德国际始终致力于为电力、造纸等工业锅炉提供锅炉清洁创新技术，解决行业最棘手的技术问题，并带来最佳回报。戴蒙德国际总部位于美国俄亥俄州兰卡斯特，并在世界各地拥有80多个销售、服务支持、分销和生产机构。

Diamond Power International, Inc. is a globally acknowledged market leader in all aspects of boiler cleaning and ash handling. For more than 100 years, DPII has consistently provided innovative technologies for power generation, pulp & paper and industrial boiler designs, proven to solve the most difficult plant challenges while delivering promised benefits. Diamond Power is headquartered in Lancaster, Ohio, U.S. with more than 80 field sales, service support, distribution and manufacturing locations worldwide.

历经百年：“信任源于经验，选择源于性能。”

For more than a century: *Trusted for Experience. Preferred for Performance.*SM



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