



Hydrojet HJ-EU 1000

A product of Diamond Power Germany GmbH

System description

The Hydrojet EU-1000 is the further development of the robust and reliable tool for the cleaning of furnace walls during operation.

For this purpose, a steered nozzle which is aligned to the boiler opening window is utilised. The exact steering of the nozzle enables the precise control of the water jet. With a maximum of ± 45 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.

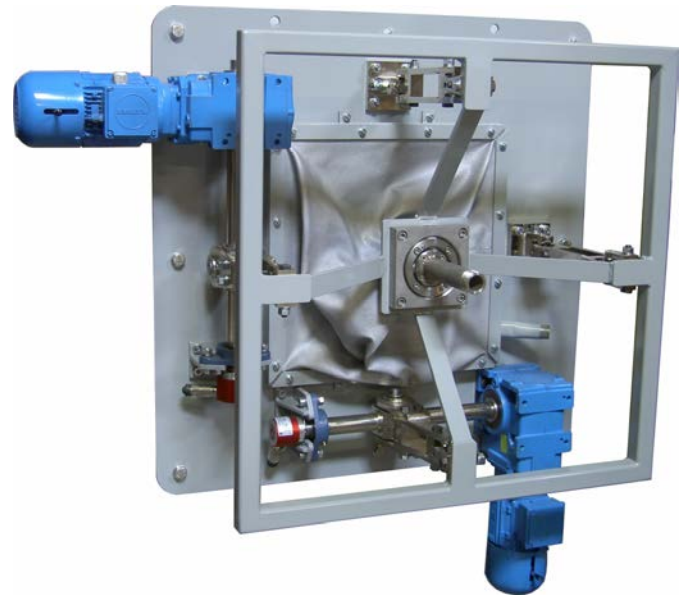
The advantages at a glance

- no limit switches needed → lower fault liability
- new optimized nozzles available
- robust asynchronous motors → inexpensive spare parts
- good accessibility of all parts → low maintenance costs
- adjustment on several wall boxes possible
- excellent cleaning flexibility
- penetration parallel to boiler tubes
- variety of cleaning sequences and selection of cleaning zones
- concentrated water jet of over 30m reach



Cleaning scheme

The following illustration (right) 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.

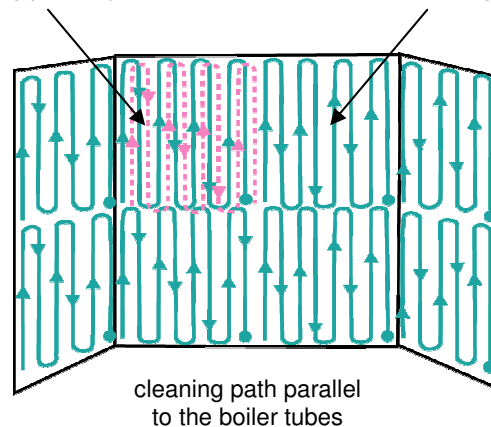


Flexibility

In addition to the “standard cleaning pattern”, special customer wishes can be integrated into the program. With a particularly high grade 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 and multiple nozzle sizes for effective cleaning. The nozzles have been selected to withstand extremely high temperatures and to access targeted zones with the water jet during boiler operation and to withstand boiler turbulences. The surface of the boiler tubes will be cleaned through the thermal impact of the water on tenacious deposits.

cleaning pathway offset standard cleaning path





Robust and reliable

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 good accessibility of all mechanical parts reduces the costs for maintenance.

Steering

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. A Siemens SPS type S7-300 is integrated into the control mechanism. An easily operated user panel offers the possibility of changing all essential functions and calibrations. An absolute encoder transforms the exact positioning of the Hydrojet into electrical signals, allowing the positioning to be reproduced following a power cut. Jet progression and step size can be selected by the customer with the aid of Diamond Power.

Control cabinet data sheet:

- fabrication Rittal; protection class IP55
- feeding: 400V, 50Hz with input filter
- frequency converter with power choke
- analogue drive interface for the absolute encoder connection
- signal exchange via Profibus

Chief 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 (as selected)
- fire resistant air bellows
- paintwork in grey (standard) or according to customer specifications

Options:

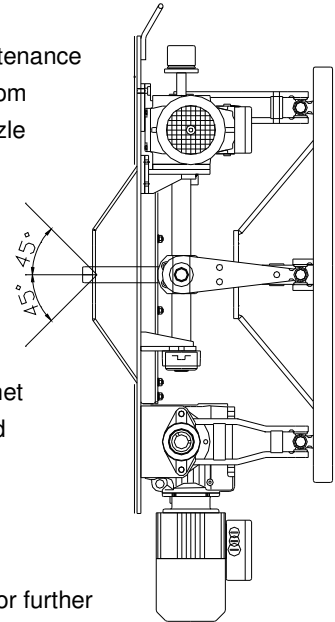
- pump station "standard" or "premium" complete with all necessary water fittings
- piping between all components and Hydrojet
- connection to local water supply system
- complete wiring between control cabinet, disconnect box and Hydrojet
- VPN Client for remote maintenance
- removal of residual water from water supply tubes and nozzle

Further Options:

- additional filters or filter controllers
- integration into local existing controls
- air conditioned control cabinet
- supply of boiler wall box and tube bends

...and a whole lot more

Consult our sales managers for further options and requirements!



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 a 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.

Contact Diamond Power, specify your boiler cleaning requirements and we will help you to find the ideal solution.

Boiler cleaning technology worldwide

For individual solutions for your boiler cleaning requirements, contact the local Diamond Power office or contact our office in Germany at:

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