

Howden Power

High Pressure Washers for Flue Gas Desulphurisation



Howden Power is a world leading supplier of air and gas handling equipment, who specialise in helping power stations to enhance the performance of existing plant. Howden Power is part of the Howden Group of companies - the world's largest and longest established fan manufacturer.

Project Background

Howden Power identified the need to develop a range of high pressure washers better suited to the power station environment. Equipment needs to operate in hostile and potentially hazardous environments. Many applications involve gassed atmospheres that cannot be accessed by operators.

Howden Power asked RMI to work in collaboration with them to develop a range of effective washers that would meet the requirements of this extremely challenging environment.

Howden Power stated that the new high pressure washers needed to:

- Be robust enough to operate effectively in the specific environmental conditions experienced in power stations.
- Be reliable and easy to maintain.
- Have the option of automated control to enable them to be used in areas that cannot be accessed by operators.
- Be flexible to suit different applications and to clean a range of equipment such as fans, flues and heaters.
- Offer simple, error free use without supervision.
- Integrate with existing power station control technology.



Solution

Howden Power and RMI jointly developed a range of high pressure washer systems ideally suited to the power generation sector.

The range includes:

- High pressure washers for gas reheaters or flue gas desulphurisation (FGD) plant.
- High pressure washers for soot blower air heaters.
- Enclosed construction of pump systems prevents ingress from contaminant's and protects against build-up of airborne dust.

The FGD washers are based on RMI's Trimax S50 pumps designed to provide safe and reliable supply of high pressure water. The crankshaft driven reciprocating pumps provide high efficiency pumping at pressures up to 120 bar. RMI's proven history of designing pumps for hostile environments, the range is characterised by heavy-duty design and construction (resistant to attack from heat, water, acidity and dirt etc) which prolongs equipment life and extends the running time between routine maintenance.

Product Advantages

- In addition to being inherently more reliable as a result of its design, the RMI system incorporates built-in health monitoring which integrates with the existing control technology.
- The systems are 'Plug and Play' for ease of use and simple integration.
- System performance data is fed to the power station's District Control System enabling engineers to access information remotely and to plan routine maintenance.
- The washers feature a fully-automated retractable lance. This enables them to be used in gassed atmospheres and other environments that cannot be accessed by operators.
- Flexible range of mounting options to suit the full range of applications, the washers can be supplied skid, base frame or trailer mounted.
- The FGD systems can be used in environments ranging from freezing to high ambient temperatures making them suitable for the full range of power station locations in which they may be expected to operate.

Safety and Reliability

In addition to Health and safety features including pressure relief controls the pump system is designed to ensure that it can only be started under pre-designated safe conditions.

The reliability of the pumping system has been achieved by utilising RMI's expertise in supplying products to the very arduous underground coal mining industry.

Worldwide Success

Since developing the washer systems, Howden has been successful in installing them worldwide in countries including USA, Mexico, Spain, Poland, UK, Finland, Denmark, Canary Islands, India, Hong Kong, China and Eire.

Equipment Installed

- S50 Pumps
- Acoustic enclosure
- Control and safety valves
- Electronic controls

“Developing our product range with Armstrong RMI has enabled us to expand into new markets sectors and help substantially reduce Power Station sulphur emissions.”

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