

New compact paint shop plays integral role in major investment project at Kawasaki Precision Machinery

A brand new paint plant, designed by the Eurospray Group in close alliance with Stewart Gill Conveyors and ITW Industrial Finishing, has been installed recently at the main European base of Kawasaki Precision Machinery (UK), which manufactures hydraulic pumps, motors and valves for the global off-highway, industrial and marine markets.

The Eurospray turnkey paint plant is part of a major €5 million investment programme in new product development and advanced manufacturing facilities at the 70,000 square metre Kawasaki site, situated on the banks of the river Tamar, near Plymouth in Devon.

Kawasaki Precision Machinery (KPM) achieved a turnover increase of 25% in 2003-2004, with a further 25% increase predicted for 2005, following the launch of a number of new products specially designed for the European market. These sales successes are being reflected in the investment programme, which – in addition to the dedicated paint plant – included the installation of multi-purpose machining centres, vertical lathes, precision grinding machines, aqueous component cleaning equipment, a cleanroom assembly area and special production test rigs.

The streamlined and highly compact paint plant is dedicated to the pretreatment and coating of the Kawasaki 'K5V' heavy-duty pump, which is used widely in earth-moving equipment. Because this pump operates in the toughest conditions, its customers demand the very highest standard of finish – during initial trials the new plant was found to provide an enhanced quality of paint finish, produced in a faster time and with significantly lower running costs than with the previous paint line, adding up to a major production benefit.

The assembled pump bodies are transported to the paint plant from an adjacent post-assembly test rig on special skids into a roller conveyor holding area. They are then loaded onto the paint plant's power-and-free overhead conveyor, by means of a drop section of conveyor, which allows them to be attached by the operator to the one-tonne capacity overhead flight bars without the need for manual handling.

Environmental impact minimised

Installed in an area of only 150 square metres – a third of the size of the former paint finishing area – the plant incorporates the Eurospray Group's self-contained and environmentally friendly 'Ecophor' pretreatment system – one of the cleanest metal pretreatment technologies currently available. This uses a special spray-applied pretreatment solution, which degrades, phosphates and passivates in a single process at room temperature. Virtually all of the volatile phase of the solution can be recovered and reused – minimising emissions and effluent.

This environmental aspect, coupled with the energy savings achieved as no solution heating is required, was instrumental in the choice of Eurospray for the paint plant contract, says KPM's Mick Cotgreave, a lean manufacturing specialist, who led the project.

Added Mick: "Since we are located in a particularly environmentally sensitive area close to the river Tamar, it is vital and, indeed, it is corporate policy, that Kawasaki strives to minimise the environmental impact of its manufacturing operations."



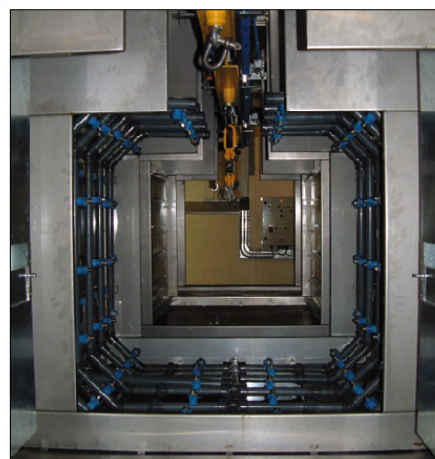
Pump bodies are loaded onto the paint plant's power-and-free overhead conveyor circuit, by means of a drop section, which allows them to be attached by the operator to the one-tonne capacity overhead flight bars without the need for manual handling. The conveyor was manufactured by Stewart Gill.

A manual blow-off booth and an oven follow the Ecophor pretreatment section to ensure that the pump bodies are thoroughly dry, before they progress to the dry filter two-station manual Eurospray 'Whisperbooth' low-noise spray-booth, which utilises Ransburg electrostatic application equipment from ITW Industrial Finishing. The adjacent paint mixing room houses Wiwa airless pumps, and up to six colours can be applied, depending on the particular customer preference. Paint drying in a flash-off tunnel follows before the pumps are lowered for unloading onto another roller conveyor to transport them to the packaging area.

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An overall view of the roller conveyor holding area and load station.



Part of the 'Ecophor' spray pretreatment system – one of the cleanest metal pretreatment technologies currently available.

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Although the new plant occupies only a third of the footprint of Kawasaki's former paint finishing area, it provides for a greater throughput than previously, and, in addition to handling the 'KV-5' pump, it will also accommodate the company's very largest 'Staffa' pumps, which require a 1m³ working envelope, if future production needs require this.

Commented Mick Cotgreave: "The fact that the Eurospray and Stewart Gill team was able to design such a productive and versatile plant to fit into a very compact area, was the major factor in the choice of the company for this project. Added to that, the whole project was completed within a very tight three-month time schedule to meet our start-up date of 1st June, 2005."

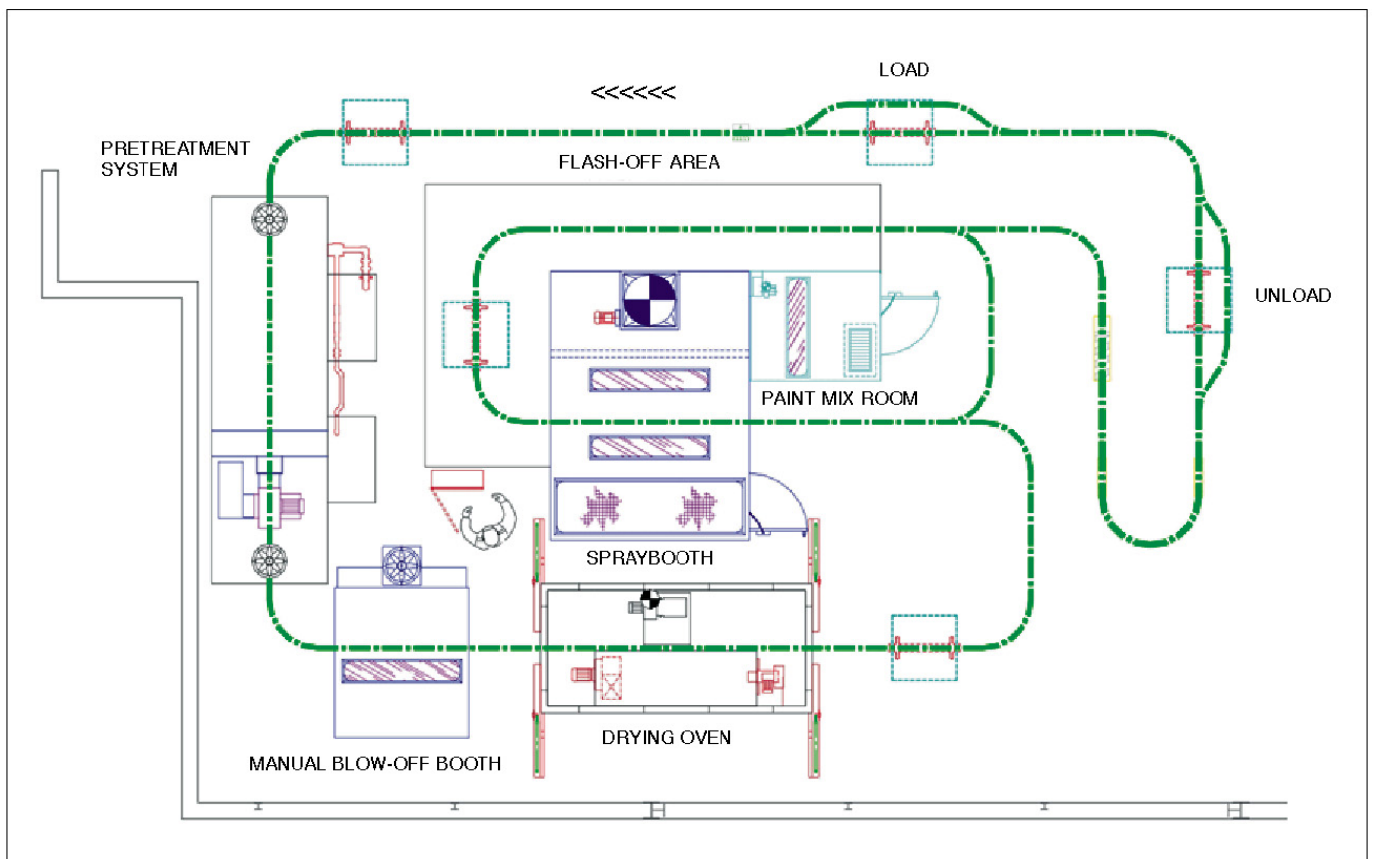
Further expansion of the Kawasaki Precision Machinery UK site in Plymouth, will continue during this rest of this year and into 2006, and plans include the upgrading of the former paint shop. The Eurospray Group is currently working closely with Kawasaki on the design of this second project.



The dry filter two-station manual Eurospray 'Whisperbooth' low-noise spraybooth (left), which utilises Ransburg electrostatic application equipment from ITW Industrial Finishing, and the adjacent paint mixing room, which houses three airless pumps from Wwa.

Enquiry numbers for more details . . .

Eurospray Group – www.eurospraygroup.com	401
Stewart Gill Conveyors – www.stewart-gill.co.uk	402
ITW Industrial Finishing – itweuropeanfinishing.com	403



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