

## Refurbished cooling fans from Rotamec keep semiconductor manufacturer on schedule

**The ability to accurately monitor and manage the ambient temperature of any production facility is important. When that production facility is manufacturing semiconductor wafer then the reliability of environmental management systems is essential to product quality. When Plessey Semiconductors Ltd. scheduled planned maintenance to its cooling tower it called on Rotamec Engineering Solutions to ensure the project stayed on time.**

Regular cleaning of ducting and a pre-emptive schedule of planned maintenance is crucial to ensure the effectiveness of cooling towers and the reliability of component equipment such as fans. Rotamec, an electro-mechanical service provider to industry, has contributed to the preservation of Plessey Semiconductors' planned maintenance programme by promptly refurbishing a set of cooling fans on top of a high cooling tower at its Plymouth facility.

Rotamec was called in by Plessey Semiconductors to complete the overhaul of the fan due to its fast service response and cost-effective approach. Dispatching engineers to site, the scale of the fans and the height of the cooling tower was found to be substantial. First, the fans would require cranes to remove them. Then a complete mechanical rebuild and reinstallation was required. As an added challenge, the overhaul needed to be complete before a scheduled cleaning of the duct work could take place.

Jonathan Whitlock, Exeter Branch Manager at Rotamec, expands: "The units had been operating at the site for around twenty years. During our on-site inspection, it was clear that the fans would require removal by crane. Due to the coastal location, the frame of the fan unit was suffering from corrosion, so a new framework would need fabricating. Furthermore, a new concrete plinth for the fans was required as part of the works. This was all on top of renovating the fan units themselves, which were particularly large - so we were required to manage multiple challenging aspects of the job."

Liaising with the customer and other contractors, Rotamec managed the removal of the fan units via crane. The fans were taken to one of Rotamec's facilities as it offered the capacity and capability to service the large fan units. Once delivered, the fitting, maintenance and fabrication teams at the facility set to work.

The existing cowls and fans were completely overhauled. All shafts were repaired, new bearings installed throughout and all springs were galvanised. Two new 37 kW motors were specified to drive the fans, with Rotamec carrying out full installation. Alignment was carried out, along with the replacement of all belting.

Once complete, the fans were transported back to Plymouth for reinstallation via crane. The units were placed upon a newly welded support framework, accompanied by a new concrete plinth at the top of the cooling tower, each fabricated by Rotamec. To minimise the effects of corrosion from the coastal air, the units were sprayed with marine grade paint to deliver improved resistance and service life.

James Russell, Senior Facilities Manager at Plessey Semiconductors, adds: "Both cooling tower fans are back, re-installed and now working. It was inconvenient that the timescales were tight, but it was imperative that we had the fans operational prior to our tower cleans taking place. All who have seen the fans are impressed with the work completed and how different they look."

Jonathan Whitlock concludes: "By overhauling existing equipment, we could offer increased value for the project. The combination of our on-site engineers, our electro-mechanical repair facilities across the country and a fast response to customer requirements ensures we have the capability to offer a complete package with regards to challenging engineering projects."

**Image 1+2:** The fans were taken to one of Rotamec's facilities as it offered the capacity and capability to service the large fan units.

## About Rotamec

Rotamec is a turnkey stock, supply, service and repair provider for a wide range of engineered products from leading brands. Operating UK facilities in Cheddar, South Wales, Exeter and Redditch, the business provides a 24/7, 365 days a year service to promote customer uptime by delivering cost effective engineering solutions.

Services offered include repair, refurbishment and rewind of AC and DC electric motors plus supply of motors, gearboxes, pumps, bearings and transmission components from leading brands. Site services are another area of expertise, with dedicated service teams on standby to supply and install all types of electrical and mechanical rotational equipment. Operatives undertake in-house training provided by leading industry manufacturers.

Rotamec was founded in May 2000, growing from a rewind and repair company to providing power transmission solutions in 2003. A fast, responsive service and access to nationwide stocks allows customers to control maintenance costs and ensure time efficiency.

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