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Twiflex Unit Refurbishment

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PRODUCTS: Bibby 42-Year-Old Grid Coupling for a Steam Yacht Gondola

In 1980, Great Britain's National Trust recommissioned Gondola, an 1859 steam-powered vessel for 86 passengers styled after a Venetian gondola, on Coniston Water in Cumbria, England. The 86 ft. long vessel is powered by a twin cylinder, 'V-90' configured double-acting steam engine that generates a maximum torque of 8,000 Nm (5,900 lb.ft.) with a service speed of approx. 8 knots.

To bring the boat back to life, a Bibby Resilient Series grid coupling was installed between the steam engine crankshaft and the propeller shaft. The coupling was an excellent choice for the propulsion drivetrain since torsional flexibility and alignment damping were primary concerns for steam engines, which have very high-torque, and significant expansion/contraction characteristics.

Over four decades later in 2022, operators noticed a knocking noise at higher RPMs, and shortly after a change of speed. The grid coupling was suspected to be a possible source of the noise. The boat's manager sent photos of the coupling to Bibby for help in determining whether he needed to replace the coupling.

Upon viewing the photos, a Bibby engineer identified the coupling as a Type C and Size 212. While the coupling's hubs and cover remained in good condition, the gridmember was corroded and worn. It has since been found that the coupling was not the source of the knock, but the gridmember was replaced as a precaution anyway.

**For more information,
download P-8981-BB from
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Photos courtesy of the National Trust

PRODUCTS: Wichita Clutch HBS Brake for River Current Turbine

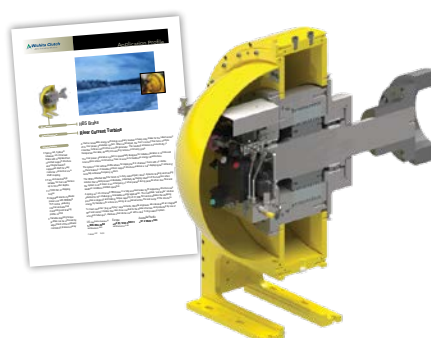
A marine renewable energy technology company, needed a heavy-duty brake for the latest version of its river power generation system. When submerged, the river's current turns multiple crossflow turbines which drive a single generator. The resulting emission-free electricity is transported via cable, directly into existing remote community grids.

The OEM contacted Wichita Clutch for a fully-submerged, robust, dynamic braking and holding solution that would prevent undesirable, potentially damaging rotation of the turbines when the system is shut down in an emergency or when parked during periods when river flow and weather conditions prohibit operation.

A spring-set, oil-immersed HBS brake in a fully enclosed water tight supporting structure was selected for this challenging renewable energy application. The multiplate 'wet brake' solution provides a stopping and holding torque capacity of 27,000 Nm and dissipates the stopping energy by transfer into a store of cooling oil contained within the sump of the structure.

To meet customer 'plug and play' requirements, Wichita engineers also developed an integrated HPU and control module that is close coupled to the brake structure and protected by a stainless steel dome cover.

**For more information,
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PRODUCTS: Twiflex VKSD-FL Spring Applied Brakes for Vessel Towing Winches

Twiflex Ltd. recently supplied brakes to a major offshore winch manufacturer based in the Netherlands for use on ship-to-ship mooring winches. During towing operations, if the tow cable tension is greater than 30 tons, due to the action of the waves between the two vessels, the brakes slip to protect the winch and cable. When the load is below 30 tons, the cable is reeled in.

Twiflex VKSD-FL (floating) spring-applied, hydraulically-released brakes were supplied, each rated at 119 KN braking force for a 2mm pad air gap.

- Each of the two onboard winches utilize VKSD-FL brakes acting on a 1500mm dia. x 40mm thick extended drum flange
- Unique 'parked-off' feature
- Non-asbestos lining materials with large pad areas for maximum heat dissipation

For more information,
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DISTRIBUTOR FOCUS: A+S Vertriebs GMBH



We are pleased to announce that A+S Vertriebs GMBH Hamburg has become a Twiflex Brand reseller. They were founded in 1978 as a service partner for freewheels, backstops and overrunning couplings by Stieber. Since that time, they have evolved into a worldwide acting specialist for power transmission with more than 6.000 different products, all by well-known manufacturers from Germany, Europe and the US.

They are a traditional family business with outstanding customer service.

A+S Vertriebs GMBH attaches particular importance to the highest level of consulting expertise. In this way, niche products and corresponding services can also be delivered with pinpoint accuracy.



SERVICE AND REPAIR: Bibby Coupling Refurbishment at Twiflex

When one of six terminal operators at the massive Bacton Gas Terminal, located on the North Sea coast of the United Kingdom needed one of their couplings refurbished, they approached the Bibby Team. The Terminal processes Gas from nearby offshore drilling platforms delivered via several large diameter pipelines, and can process up to 1,000 mil. cu. ft. of gas per day.



In this case the customer holding local spares mitigates the risk of unplanned downtime by providing a readily available alternative, when crucial operating equipment must be removed from service. The Bibby high performance 305S Torquemeter disc coupling, installed between a gas turbine and a high speed compressor had been in service for more than 23 years. Perhaps worn or damaged by corrosion or contamination, or from operation in an exceptionally harsh environment, it was removed from operation and substituted by the ready-to-use replacement, then returned to the Bibby team for a health check and any necessary refurbishment.

Within two weeks of its arrival at Bibby's Bedford, UK facility, the coupling was disassembled and removed from the bearing casing, and within six weeks, it was on its way back to the customer as a fully working refurbished coupling.

Steps to Recertification

The recertification process returns a coupling to condition comparable to a brand-new unit, at a greatly reduced cost to the customer. In doing so, wear or damage from time-in-service is rectified.

- To determine the extent of this requirement, the process begins with complete strip down and inspection.
- A summary report is generated documenting all the remedial work (and replacement components) required.
- All hardware items are replaced as a matter of course (including the disc packs, shims and fittings).
- MPI inspection of critical components (i.e. those in the torque path) ensure that even hidden damage is identified and addressed.
- Application of the appropriate protective coatings.
- Balancing of the rebuilt coupling is carried out according to the original specification.

Disc couplings are not 'consumables' and may generally be considered maintenance-free. If the wear or damage characteristics highlight an underlying design or operational issue, recertification can be a time to introduce modifications or enhancements that may extend the periods between maintenance interventions.



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