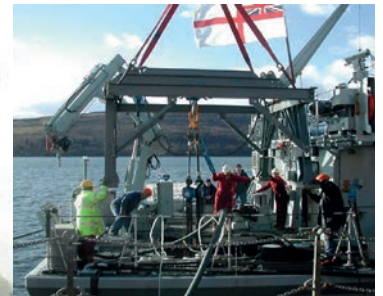


VOITH SCHNEIDER PROPELLER REPAIR AND REPLACEMENT



VSP replacement

Replacement of a VSP unit is carried out afloat using a cofferdam (positioned under the ship by divers) that encloses the entire VSP unit and forms a watertight seal against the surrounding hull.

Once the cofferdam is sealed a lift frame that sits on the deck above the ship's propeller room is used to support the removal of the VSP unit, which is then transferred by crane to a dockside support stand. The replacement task is essentially the reverse of the removal procedure. The procedure and equipment have been successfully used to replace VSP units both in and outside the UK, with timescales similar to those required for dry docking. This equipment provides additional flexibility for maintaining these ships when a dry dock is not readily available.

Condition monitoring

UMC have developed procedures for underwater visual inspection and NDE of VSP blades. The NDE capability, developed in conjunction with a leading British NDE specialist, uses the Alternating Current Field Measurement (ACFM) technique and an inspection probe designed specifically for VSP blade examination.

Blade polishing

UMC's hydraulically powered polishing tool is perfectly suited to removing all forms of soft and hard marine fouling that typically forms on VSP blades. Polishing the blades to better than 1-micron CLA ensures that the efficiency of the VSP unit is maintained and additionally provides the ideal surface to support NDE and visual examination.

Above: Deck mounted lift frame (top first). Aluminium cofferdam (second). Installed VSP unit (third). VSP unit removal (fourth).

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