ADJUSTABLE BOLTED PROPELLER

KONGSBERG

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Adjustable bolted propeller, ABP

FEATURES

- Spare propeller not needed, thus short pay-off compared to FPP
- Slotted holes on the hub allow stepless blade pitch angle adjustment
- Simpler, less costly installation at the shipyard. Match marking not needed
- High strength stainless steel can be used for the blades
- Smaller, lighter components mean lower costs for shipment storage and handling
- Individual blades can be replaced if damaged.
- Easy underwater installation and replacement of blades
- Hollow hub reduces total weight and extends bearing life
- Higher accurancy than a monobloc propeller since individual parts are machined more efficiently

Optimum propulsion efficiency

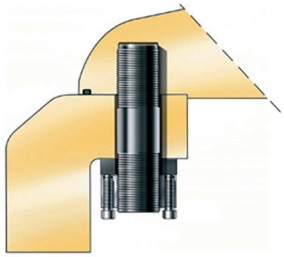
The arrival of Kongsberg Maritime adjustable bolted propeller (ABP) is a major breakthrough for operators of large mechant ships. The ABP has the simplicity of a fixed pitch propeller, yet costs no more to transport and install than a standard controllable pitch propeller. Pitch angle can be adjusted in situ and, in the event of damage, blades can be replaced under water without dry-docking.

An increasing need for larger propellers

Large ships such as oil tankers, bulk carriers and container vessels, are increasingly being equipped with higher propulsive power. This trend is generating a need for large propellers to exploit this power to the full.

Such propellers are typically of monobloc design, i.e. constructed from one casting. They are difficult to machine and their high weight and bulk make handling and transportation a costly enterprise.

At the shipyard, installation of the monobloc propeller is a major project and, once the ship is operational, a spare propel-ler, if any, occupies valuable storage space. Propeller damage often means dry-docking the ship, involving waiting time for a spare propeller and costly downtime for the ship operator.



A unique type of bolt is used to install the blades on the hub. The bolts can be tightened using light hand tools from inside the hub.

ABP – the perfect solution

A new, revolutionary generation of bolted propellers, Kongsberg Maritime adjustable bolted propeller, ABP (patent pending), is similar in concept to a controllable pitch propeller. It consists of a hollow hub mounted on the shaft by a flanged connection with bolted-on blades.

As with all Kongsberg Maritime CP propellers, the blades are optimised for the service speed and customised to the ship's operating profile. The advantages of the ABP are most evident for sizes greater than 5 m diameters.

New technology

Bolted propellers have been on the market for a long time. However, earlier generations were bolted from the outside.

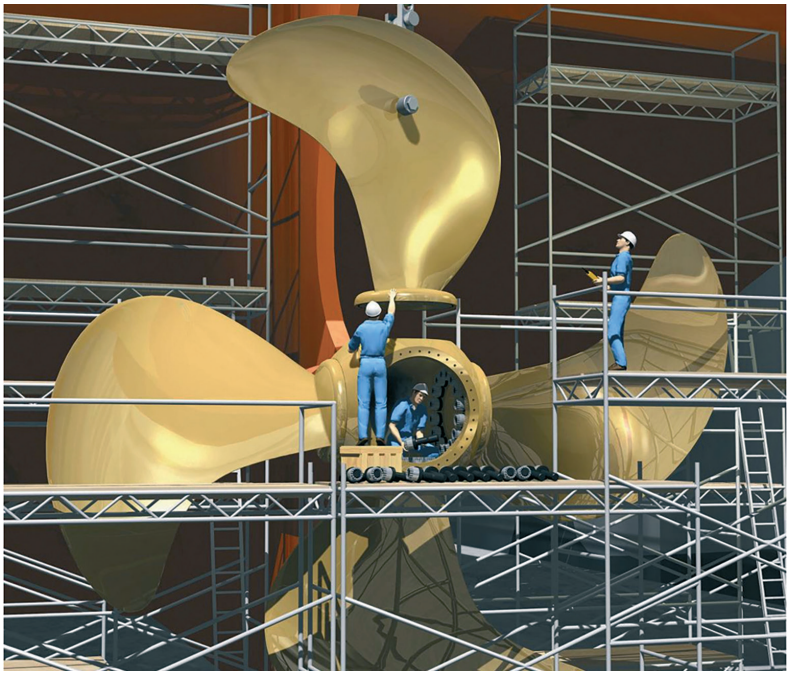
New technology used in the ABP simplifies installation. The secret is a unique type of bolt used to bolt the blades to the hub (see illustration below). It can be tightened using light hand tools from inside the hub.

Simple pitch angle adjustment

When the ship is in service, the slotted holes on the hub enable the blade pitch angle to be adjusted easily to compensate for long-term variations in ship resistance. The task can be performed underwater.

Likewise, if the propeller is damaged, individual blades can be replaced without dry-docking.

Onboard spare parts stocking is simplified and more economical since the ship only needs to stock spare blades instead of a bulky monobloc propeller.



At the shipyard, the ABP offers fast, simple installation compared with a conventional monobloc unit. No match marking is needed

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