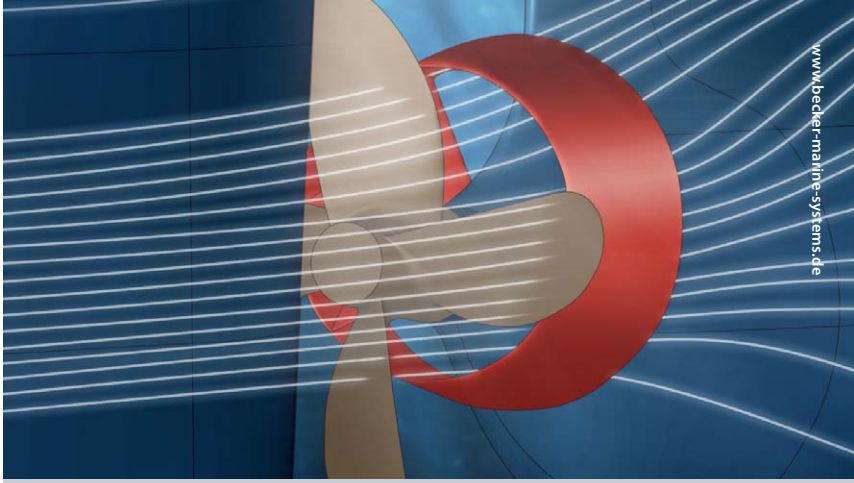
mewis duct improves vessel performance

There are many ways ships can be improved, although the assessment of any option is based on a set of numerous assumptions. Given the fact that ship owners are asked to provide competitive tonnage concepts, charterers appreciate the fact when there is a clear orientation of owners to invest and improve performance and consumption of existing vessels.



Duct and fin system straighten and swirl the hull's wake to produce a net forward thrust.

Krey Schiffahrt, owner of the BBC Ontario and longstanding business partner of BBC Chartering, decided to invest into such technology. In a recent refit project, the owner attached a "Becker Mewis Duct" to the vessel. This is a novel power-saving device which has been developed by Becker Marine System for full-form ships that allows either significant fuel savings at a given speed or alternatively for the vessel to travel faster for a given power level.

"The physical principle is simple and convincing", says Daniel Grensemann, managing director of Krey Schiffahrt. "The Mewis duct consists of two fixed elements. First a duct which is positioned ahead of the propeller and second an integrated fin system within the duct". The duct's job is to straighten and accelerate the hull's wake into the propeller. This produces a net forward thrust. The fin system gives a pre-swirl to the ship's wake. This reduces losses in propeller slipstream. Both effects work together and have an effect on the vessel's performance and consumption," said Mr. Grensemann.

As commercial operators and longstanding charterers of the BBC Ontario, BBC Chartering has been operating the vessel now for just over 6 months since the Mewis Duct modification. "Although the time frame is too short to collect large amounts of comparison data, we can already observe a positive trend indicating efficiency gains of the vessel", said Lars Pittwald, Senior Operator and fleet performance coordinator at BBC Chartering in Leer, Germany.

An approximated consumption curve composed through data points of thrust and consumption values gives a first hint. "In the long run we expect that the Mewis Duct should lead to fuel savings of min. 3-8%, or increase the speed of the vessel respectively", clarified Mr. Grensemann.

"We compare the BBC Ontario with her sister vessels. Many factors influence this data", said Mr. Pittwald, "but we can already safely say that in direct comparison to the BBC Ontario before the modification, she now seems to have higher thrust at a given propulsive power. This is good news"! To draw an intermediate conclusion, the Mewis Duct seems to be an interesting option and worth a thought for owners who seek to improve the performance of their existing full form vessels. This thought might become even more valuable when the fuel prices are set to increase again.

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