



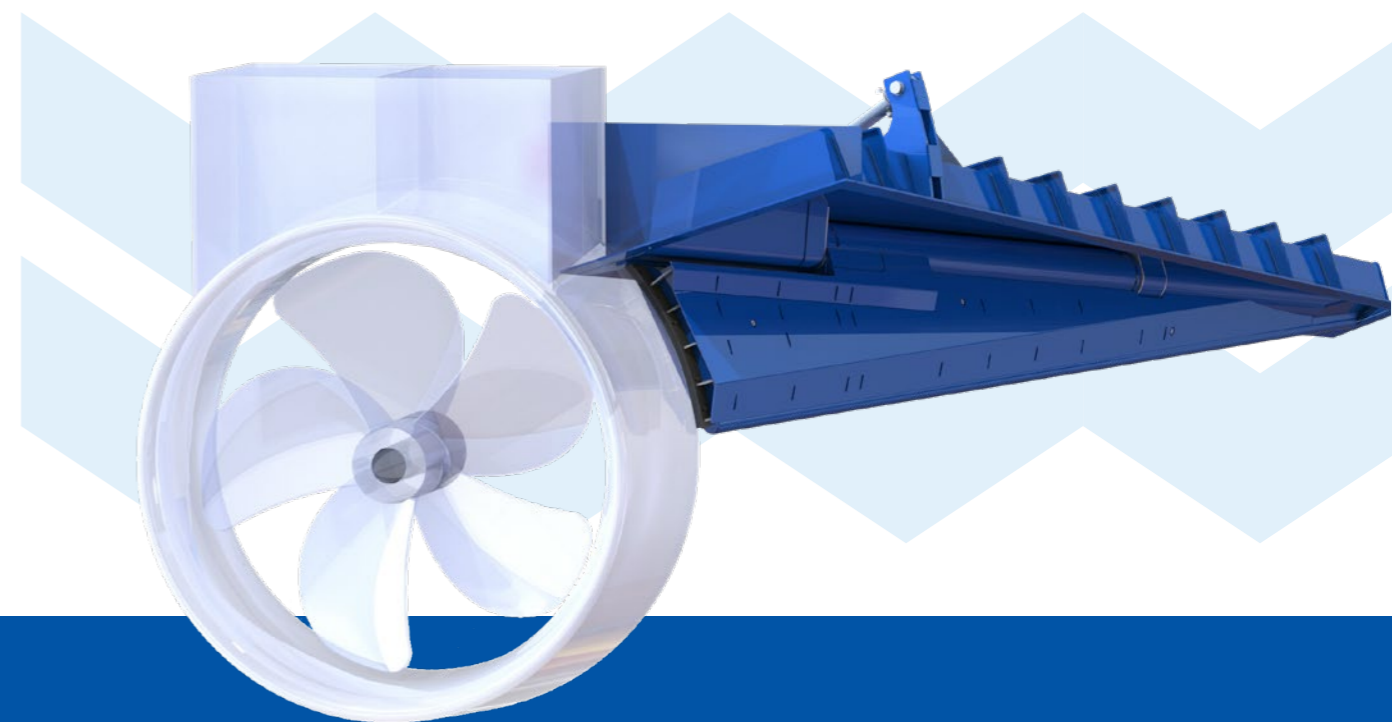
FLEX Tunnel System

EVERY VOYAGE COUNTS


MARINE SYSTEMS
VAN DER VELDEN[®]
REGISTERED TRADEMARK OF DAMEN MARINE COMPONENTS

DAMEN
MARINE COMPONENTS

Van der Velden® FLEX Tunnel



The FLEX Tunnel is developed to be combined and integrated with the Van der Velden® XR rudders and XR spoiler. This complete package ensures optimal

efficiency and considerable fuel savings. See our Inland Rudders and Steering Systems brochure for more information.

With its ability to retract, the FLEX Tunnel has been designed to improve the operational performance of the entire vessel, either by increasing the propulsion efficiency or the performance on shallow water. The flexible deployment of the tunnel allows the captain to choose when and where to set the tunnel into or out of operation.

A retractable tunnel, as opposed to a fixed tunnel, creates the possibility to optimise the total aft ship. In return, the vessel design

will provide considerable reduction of hull resistance, which comes together with significant fuel savings.

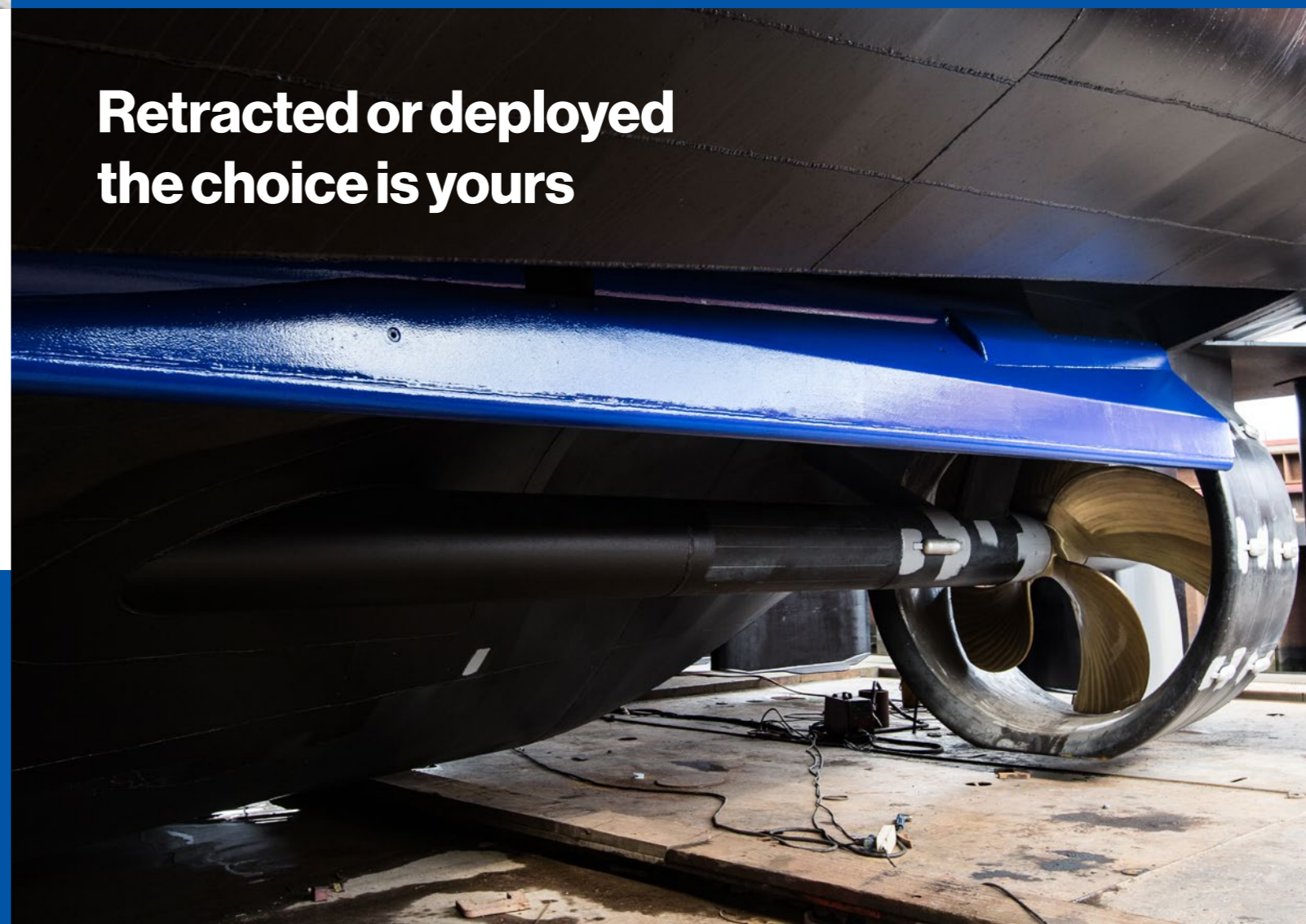
Built to increase efficiency, the FLEX Tunnel ensures sufficient water is brought to the propeller. The airtight seal of the tunnel onto the nozzle creates vacuum, ensuring sufficient water flow to the propeller. Hereby the effective operation of the propeller remains guaranteed, even in shallow waters with minimal cargo.

The emergence of the FLEX tunnel goes back to 2010, when Damen Marine

Components developed the concept together with research institute DST Duisburg. The retractable tunnel was extensively tested at different water depths and speeds in various configurations, also measuring resistance reduction when the tunnel is deployed. There was one clear conclusion; the FLEX Tunnel provides considerably higher operational efficiency for the entire vessel.

For the integration of the FLEX Tunnel, the total hull design should be customised. This innovation is therefore not suited to existing vessels.

Retracted or deployed the choice is yours



KEY FEATURES

- Improved water flow to propellers
- Increased efficiency
- Resistance reduction
- Significant fuel savings

ESPECIALLY SUITED FOR

- Newbuild vessels for inland waterways



FLEX Tunnel touchscreen control panel



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MARINE COMPONENTS

Nijverheidsstraat 5
3371 XE Hardinxveld-Giessendam
The Netherlands

+31 (0)184 67 62 62
info@damenmc.com
damenmc.com