
hullvane
TESTED AND APPROVED
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WE MASTER HYDRODYNAMICS

# benefits

## NAVAL & PATROL VESSELS

Increased top speed

Larger range

Increased operations

## (SUPER) YACHTS

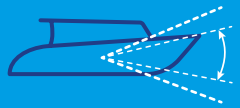
Ultimate comfort

Higher top speeds

Greater range

## COMMERCIAL SHIPS


Reduced fuel costs



Maximum operability


Future ready

**Across yachting, commercial shipping and naval vessels, Hull Vane offers a proven solution to enhance efficiency, sustainability and performance. This innovative hydrodynamic wing, mounted at the stern, reduces hull resistance, improves stability by dampening pitching, heaving, rolling and lowers fuel consumption by 5% to 15% or more. For commercial vessels, the return on investment is just 1 to 3 years, while yachts and naval ships benefit from improved range, comfort and operational effectiveness. Hull Vane® delivers measurable results, making it a key asset for a more efficient and sustainable future in shipping.**

## HYDRODYNAMICS MASTERED

The Hull Vane® originated as a spin-off from research conducted for the prestigious America's Cup and has since become a trusted solution for reducing fuel consumption and enhancing vessel performance. We offer tailored solutions for various vessel types, including commercial ships, superyachts and naval vessels. Using our proprietary AI tool, we can make an initial prediction of the Hull Vane's impact on resistance, stern wave suppression and efficiency.

During the design phase, this is refined and optimised through advanced Computational Fluid Dynamics (CFD) simulations, ensuring maximum performance and measurable results. This structured approach provides ship-owners with a clear understanding of the benefits and a reliable calculation of return on investment.

## INNOVATION

In the first decade, our patented Hull Vane® has been installed on +85 vessels and it has more than proven its effectiveness and durability.

# proven results

## YACHTS


17.5m Sturiër 565 OC - **Hemera**


18.5m Yerseke Offshore 62 - **Colinda**


20m Vripack Trawler - **Amoc**


36m Dynamiq GTT 115 - **Jaaber**


42m Heesen - **Ares**


34m Van der Valk Explorer - **Lady Lene**

DETERMINE WHICH IS THE RIGHT SOLUTION FOR YOUR VESSEL BY USING OUR CONFIGURATOR

## COMMERCIAL

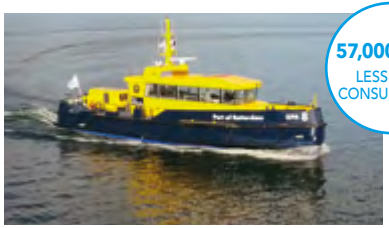

55m FSIV - **Karina**


30m Ferry - **Valais**


59m FSIV - **Ava J. Mcall**

## NAVAL & PATROL

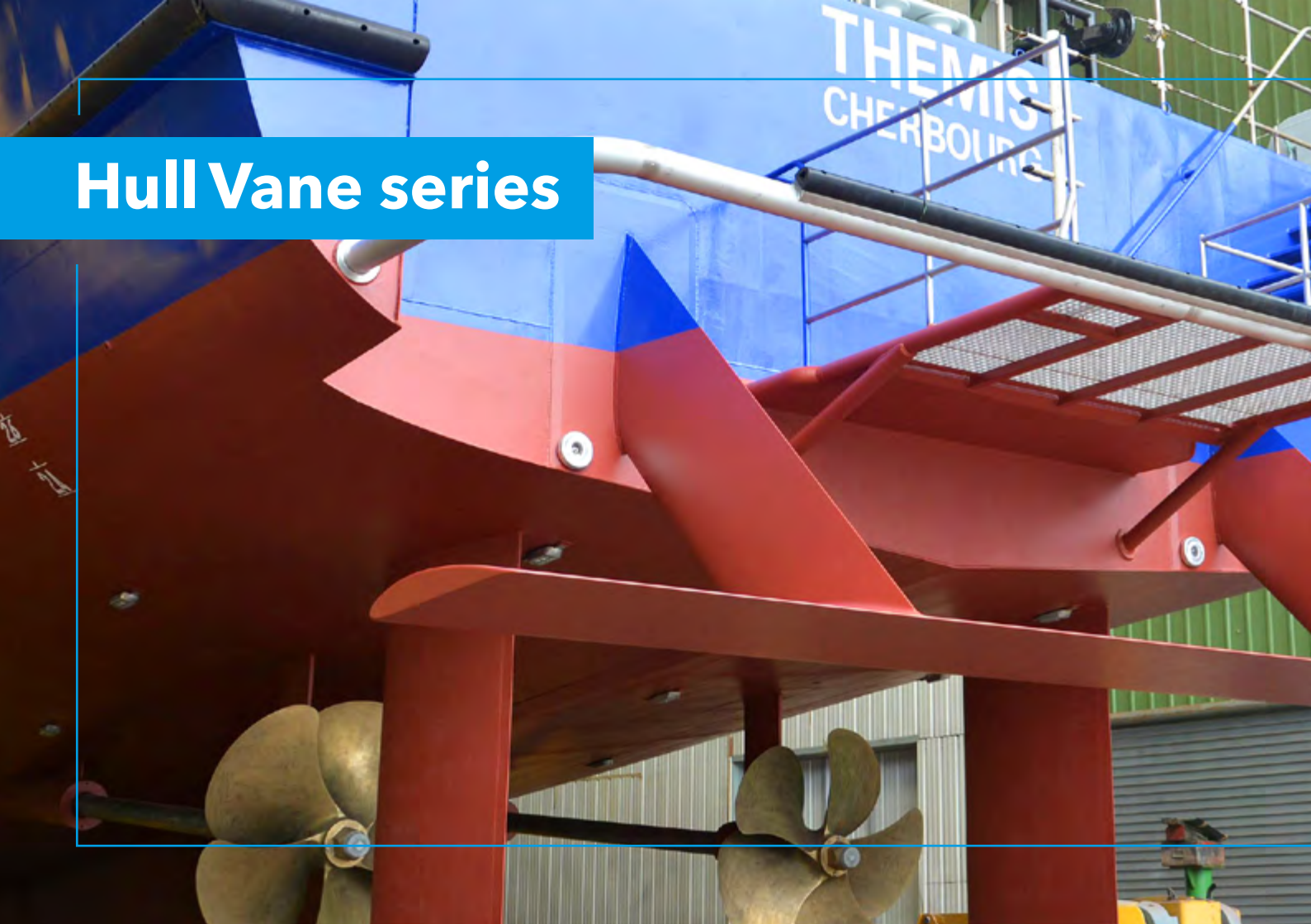

108m OPV - **HNLMS Groningen**




25m Patrol Vessel - **RPA8**


52m OPV - **Thémis**

# Hull Vane series



**The patented Hull Vane® is a proven energy-saving solution for low to medium-speed displacement vessels. Harnessing our in-depth knowledge of hydrodynamics, we deliver the best solution for each application.**

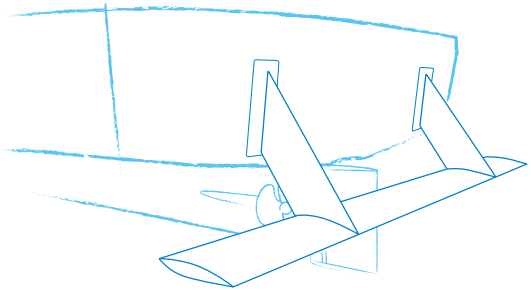
**The Hull Vanes are available in three variants, the T-serie, U-series and Specials.**

## THE SIZE OF HULL VANE® WHICH IS MOST SUITABLE FOR YOU DEPENDS ON THE VESSEL'S LOA.

| | | LOA (metres) | |
|---|---|---|---|
| T-SERIES | U-SERIES | FROM | UP TO |
| T-400 | U-400 | 10 | 22 |
| T-750 | U-750 | 22 | 36 |
| T-1000 | U-1000 | 36 | 49 |
| T-1250 | U-1250 | 49 | 62 |
| T-1500 | U-1500 | 62 | 75 |
| T-1750 | U-1750 | 75 | 87 |
| T-2000 | U-2000 | 87 | 100 |
| T-2250 | U-2250 | 100 | 112 |
| T-2500 | U-2500 | 112 | > |

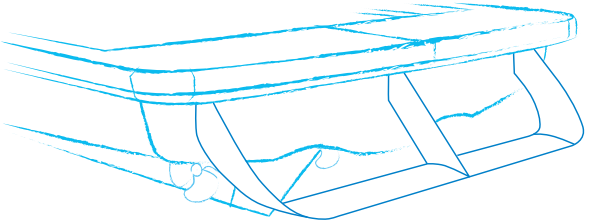
# T-SERIES

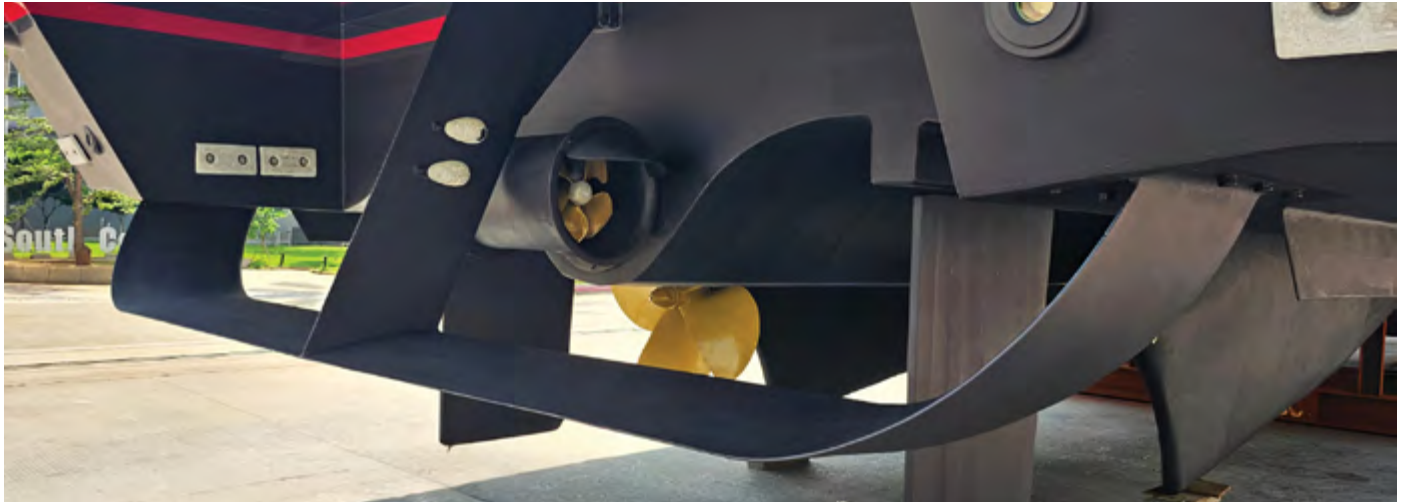
With the **T-shaped Hull Vane®**, the Hull Vane® and the struts are separate profiles. This configuration gives our engineers the most freedom in terms of the distance between positions and the number of struts. When space on the transom is limited, this may be the best option. By default, the Hull Vane® is designed and delivered T-shaped.



# U-SERIES

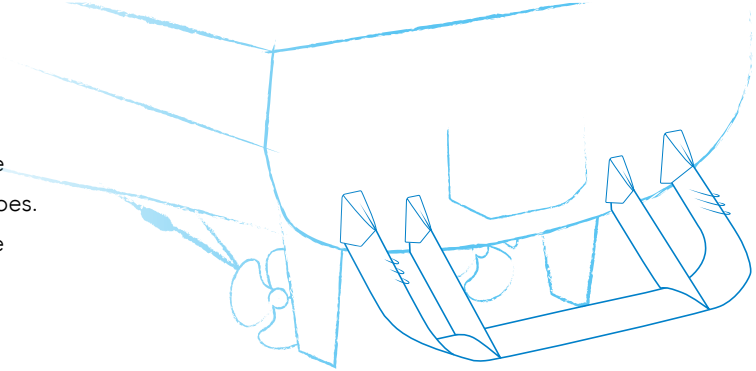
The U-shaped Hull Vane® is applied to achieve even higher performance. Because the struts act as wingtips, there are no wing-tip losses, thereby improving efficiency. With the **U-shaped Hull Vane®**, the Hull Vane's profile is shaped towards the hull and the outer struts are integrated parts of the Hull Vane®. The strut-to-wing connection can be both a rounded and chamfered shape.





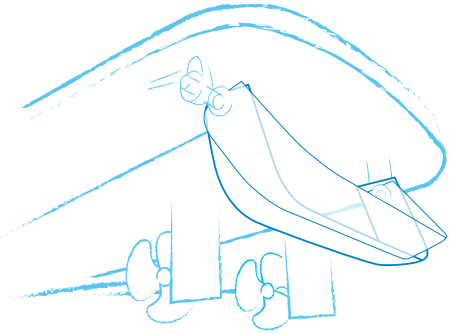
# SPECIALS

The Hull Vanes can be designed and built fully custom for special applications. These Hull Vanes can be delivered in various shapes. **The Special** is offered for vessels that have particular requirements for the application of their Hull Vanes.



# DYNAMIC

With the **Dynamic Hull Vane®**, the in-wave performance is improved even further. All Hull Vanes are available as the Dynamic Hull Vane® option. This solution is used to actively reduce pitching motions. A controller on board continuously varies the angle of the Hull Vane's attack to ensure maximum pitch motion dampening. This improves the performance of sonars, radars, satellite communications and other onboard systems.

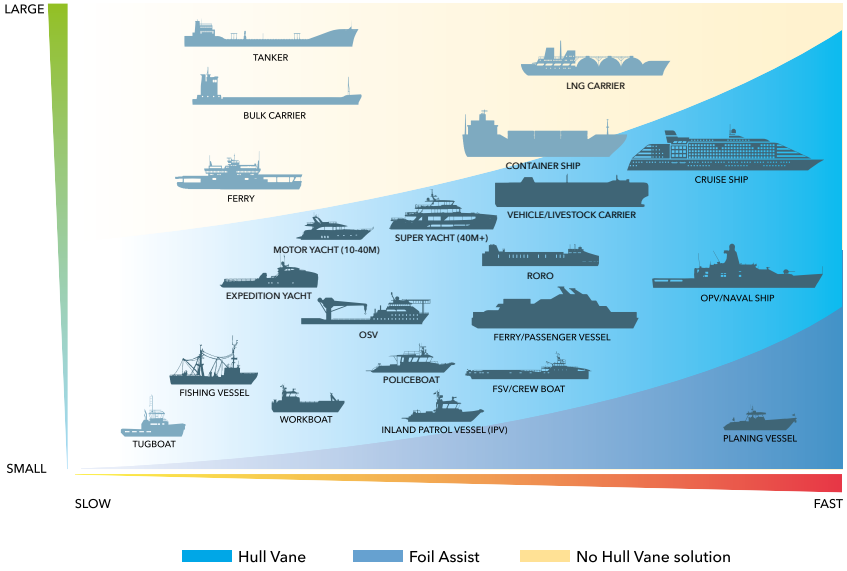


# application range

The Hull Vane® delivers exceptional results on a wide range of vessels, particularly displacement, semi-displacement and fast-displacement designs. Examples of ideal candidates include coastguard ships, naval vessels, passenger ferries, ro-ro ships, expedition cruise ships, fast supply vessels, and motor yachts though its applications extend far beyond these categories.

With energy savings typically ranging from 5% to 15%, and even reaching 20% to 25% in some cases, the Hull Vane® is the smart choice for ship-owners seeking significant cost reductions and greener operations.

## SOLUTION RANGE




NORDSØEN

# financing possibilities

At Hull Vane, we make it easy and cost-effective to enhance your vessel's performance while lowering fuel costs and emissions. Our T- and U-shaped designs, officially recognised by the Dutch government, are revolutionising the maritime industry. By significantly reducing fuel consumption, Hull Vane® offers you the perfect combination of environmental and financial benefits.


Thanks to this recognition, Hull Vane® now qualifies for government-supported financing. With Atradius Dutch State Business as your trusted partner, acquiring a Hull Vane® is fast, straightforward and worry-free.

Choose one of our flexible financing options and start saving on operational costs today. With Hull Vane®, you boost your profitability while contributing to a greener future. Set sail with confidence - Hull Vane® drives your success.

Interested in a tailored financing proposal?
We're happy to help!

# design & build

The T- and U-series Hull Vanes offer standardised solutions designed for fast delivery without compromising on performance. Each unit is precision-engineered for efficiency and durability, with a custom connection application tailored to the specific hull-to-Hull Vane® integration. Standard series are available in steel or aluminium for the 400 series, while composite options can be provided for special requests.

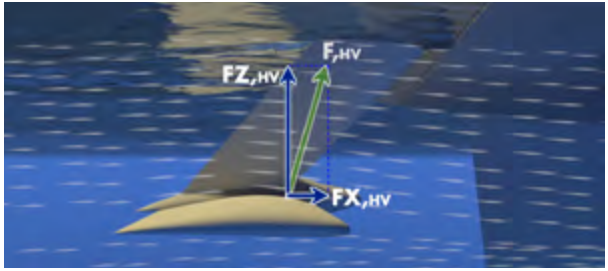
The process begins with a thorough evaluation of your vessel's hull form and a detailed proposal for integrating the Hull Vane®. Early in the design phase, we provide CFD analysis to offer clear insights into fuel consumption, dynamic trim and wave-making characteristics. When fuel efficiency is a priority, we optimise the Hull Vane® for maximum savings and performance.

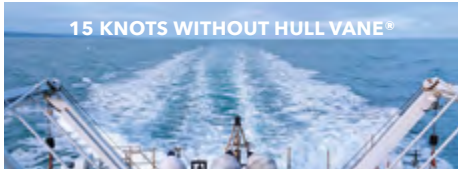
During production, our certified welders and craftsmen ensure that every Hull Vane® meets the highest quality standards, adhering to precise technical specifications and delivering a flawless finish. With meticulous planning and execution, we stay on schedule and reduce risks, giving you confidence in both the quality and timely delivery of your Hull Vane®.

# how

## FORWARD THRUST

At a vessel's stern, water doesn't flow horizontally but at a slight upward angle. The Hull Vane's wing-shaped profile creates lift as the water moves around it. This lift force is directed forward, with a horizontal component that acts as thrust, pushing the vessel forward.



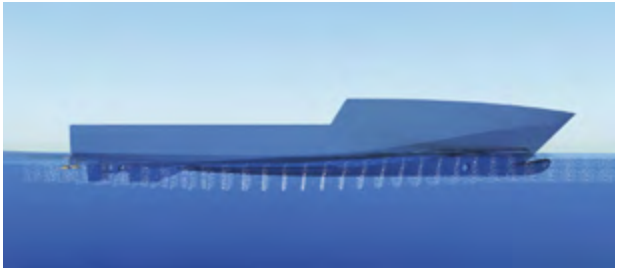


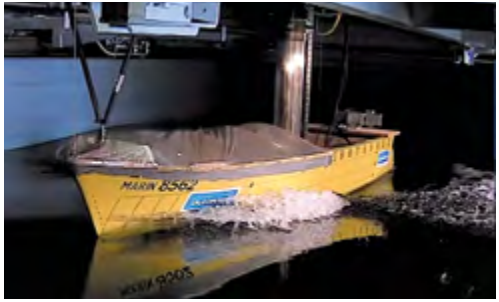
## WAVE REDUCTION

The wing-shaped profile of the Hull Vane® accelerates water flow over its upper surface, creating a low-pressure zone behind the vessel. This interacts with the wake to reduce the stern wave, similar to how a bulbous bow suppresses the bow wave. By reducing the stern wave, fuel consumption decreases. Additionally, a suppressed wake lowers noise levels, reducing disturbances and minimising detectability, particularly for naval vessels and yachts.

## TRIM CORRECTION

The Hull Vane® helps maintain an even keel across the vessel's entire speed range, reducing running trim. Including a Hull Vane® early in the design process enables naval architects to create vessels with minimal trim variations. In shallow waters, the vertical lift component also mitigates the squatting effect, allowing for higher top speeds.





## PITCH STABILISATION

The Hull Vane® reduces pitching motions in waves, cutting down on added resistance from ship movements and improving onboard comfort. This results in less seasickness and enhanced safety, particularly during helicopter operations or when launching / recovering smaller craft. Additionally, when the vessel pitches, the Hull Vane® generates additional forward thrust.

# Hull Vane World Wide

At Hull Vane, we pride ourselves on serving clients across the globe through our trusted network of partners and agents. This global presence ensures that you receive expert advice and local support, no matter where your vessel operates.

To meet your specific needs, we offer flexible production options. While many Hull Vanes® are expertly crafted in Europe, we also provide the possibility of local manufacturing outside of Europe, ensuring efficiency and reduced logistics costs.

For retrofitting projects, we understand the importance of minimising downtime. That's why we've developed multiple installation methods, including options that don't require dry-docking. Our innovative approach helps ship-owners upgrade their vessels with minimal disruption, keeping operations running smoothly while achieving significant performance improvements.

With Hull Vane, you're not just investing in cutting-edge technology, you're partnering with a global team dedicated to optimising your vessel's efficiency, wherever you are in the world.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