

## LAUNCH OF VEEM EXTREME RANGE

### Highlights:

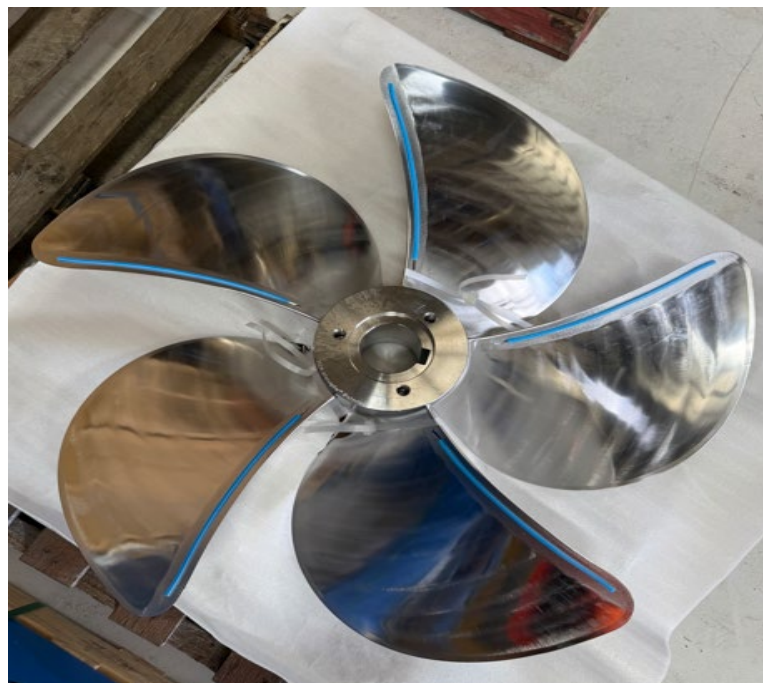
- New VEEM Extreme is VEEM's most efficient propulsion package yet with up to 18.1% fuel efficiency gains.
- VEEM Extreme range manufactured from a proprietary, high-tensile alloy. Available to order now.
- VEEM Extreme encompasses propeller; twisted rudder; V&P brackets and shaft line.

VEEM Limited (ASX: VEE) ('VEEM' or 'the Company') is pleased to announce that it has launched its most efficient propulsion system yet, the VEEM Extreme propulsion package.

The VEEM Extreme propulsion package consists of VEEM propeller, twisted rudder and fully flow-aligned shaft line package including V and P bracket made in VEEM's new proprietary high -tensile alloy which is VEEM's fastest and most fuel-efficient inboard package yet and reduces fuel consumption by **18.1%** against a standard set up. All testing was witnessed by Lloyd's Register on VEEM's test vessel.

At the centre of this advancement is the VEEM Extreme propeller, manufactured from a proprietary high-tensile alloy that enables thinner blade profiles and better performance resulting in fuel efficiency gains; reduced carbon footprint and speed gains.

Compared with an industry-standard, Class 1, hand profiled propeller, the new VEEM Extreme Propellers delivered an 11.9% reduction in fuel burn and carbon footprint with a top speed improvement of 3.36 knots, to 43.05 knots. They also demonstrated improvements in efficiency and speed over the current VEEM fully CNC machined NiBral propellers, with a reduction of 6.2% in fuel burn and speed improvements of 0.89 knots.



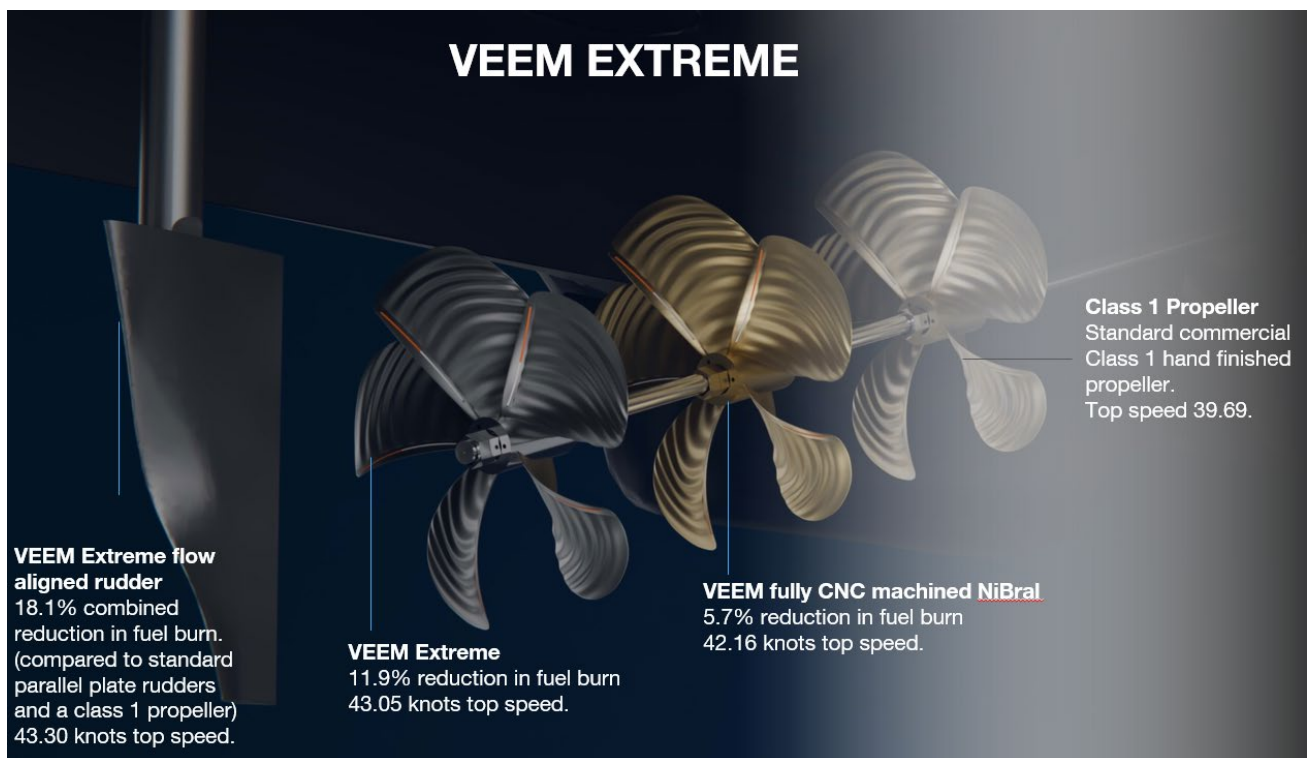
*VEEM Extreme Propeller*

Integrating with the VEEM Extreme propeller is the complete, flow-aligned shaft package, which includes:

- VEEM Extreme flow-aligned rudder with NACA sections manufactured in the VEEM Extreme alloy which resulted in 72% less drag and **6.2%** less fuel burn than a standard parallel plate rudder commonly used in the marine industry.
- VEEM Extreme V and P brackets are also designed in the VEEM Extreme material, are flow aligned and will be tested in the near future with further small gains expected.
- VEEM Extreme shaft that utilises a proprietary registered design to attach to the propeller and coupling, reducing stress by 20% over a standard shaft and keyway design. This allows smaller diameter shafts to be used with smaller bracket and propeller boss diameters and will be tested in the near future with further small gains expected.

VEEM has successfully completed a VEEM Extreme propeller only trial on a Manly Fast Ferry which during trials confirmed the performance gains found on the VEEM test vessel. Manly Fast Ferries is now planning to convert 6 more vessels to VEEM Extreme propellers over the next 18 months, with contract negotiations underway.

Further to this as a result of VEEM's successful VEEM Extreme rudder testing, Manly Fast Ferries have advised they intend to conduct a trial with the VEEM Extreme rudder with a view to including the VEEM Extreme rudder as part of the VEEM Extreme propeller conversions mentioned above, provided the trial result is consistent with VEEM's testing.



*VEEM Extreme vs Industry standard commercial set up*

**VEEM Managing Director Mark Mioceovich said:** “Today’s announcement is the culmination of a tremendous amount of engineering development which sees VEEM remain at the global forefront of the products it produces. We’ve engineered our most efficient inboard shaft driven propulsion system yet and have the witnessed data to prove it. Manly Fast Ferries are an early validation of the product and we are pleased with their intention to add more of the VEEM Extreme range to their vessels.”

*This ASX announcement was authorised for release by the Board of VEEM Limited.*



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**ABOUT VEEM LIMITED (ASX: VEE)**

VEEM is an Australian Defence manufacturer and a designer and manufacturer of disruptive, high-technology marine propulsion and large Gyro stabilization systems for the global defence, yacht, fast ferry and commercial workboat market.

VEEM's market leading Gyrostabilizers significantly reduce the rolling motion of vessels in waves, increasing on-sea time and improving personnel safety and efficiency in a wide range of ocean conditions.

VEEM is also a successful producer of high-performance propellers, fin systems, valves and specialised components for defence delivering consistent profits, cash flow and dividends while also reinvesting in research and development for new products and processes.

Proudly headquartered in Perth, Western Australia, VEEM operates from a 14,700 sqm purpose-built fabrication and manufacturing facility, including Australia's largest non-ferrous foundry. VEEM employs approximately 195 staff in Australia, including graduates and apprentices, and maintains a highly skilled research and development team in-house. Celebrating its 50th anniversary in business in 2018, VEEM listed on the Australian Securities Exchange in 2016. [www.veem.com.au](http://www.veem.com.au)

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