



**Precision.
Perfection.
Performance**





About VEEM LTD

FOUNDED IN 1968, AND OPERATING FROM ITS DEDICATED HEAD OFFICE AND PRODUCTION FACILITY IN WESTERN AUSTRALIA, VEEM LTD IS A HIGH TECHNOLOGY MANUFACTURER OF MARINE PROPULSION AND STABILIZATION SYSTEMS.

They say every great company has a story, one that captures the essence of the business and its culture. VEEM Ltd is no exception. From modest beginnings as a small machine shop specializing in the repair and dynamic balancing of drive shafts and other rotating equipment, the company has grown to become a leading global manufacturer of sophisticated equipment for the aerospace, marine, and oil and gas industries.

VEEM supplies critical components to the Royal Australian Navy, and manufactures technically intensive, large stabilization hydrofoils for superyachts, commercial vessels and fast ferries.

VEEM has also revolutionized fixed pitch propeller technology for boats and yachts with their Interceptor™ propellers, which allow the effective pitch to be altered at any time by a diver, in a matter of minutes, without slipping the vessel. The VEEM Propeller range is designed with ultimate precision, manufactured to absolute perfection, and delivers exceptional performance every time.

Welcome to the new age of propulsion manufacturing

VEEM has been pushing the boundaries of propeller manufacturing innovation for decades, always aiming for higher speeds, better fuel economy, and lower noise and vibration. Our passion for performance and innovation is supported by manufacturing and engineering excellence, the evidence of which is in leading results and outstanding performance for vessels all over the world.

From the earliest days of screw production, propeller manufacturing has relied on the limitations of pattern molding to produce high performance propulsion systems. It was the redefining of this process that took VEEM to the forefront of the marine propulsion industry around the world.

Utilizing advanced CFD (Computational Fluid Dynamics) and FEA (Finite Element Analysis) software together with pattern-less molding, VEEM can warrant propeller performance of every vessel and guarantee absolute repeatability every time.

With propellers already achieving speeds up to 50 knots and better back-down performance than any other propeller on the market, VEEM will continue to push the boundaries of marine innovation to deliver manufacturing perfection, precise designs, and the highest performing propellers in the world.

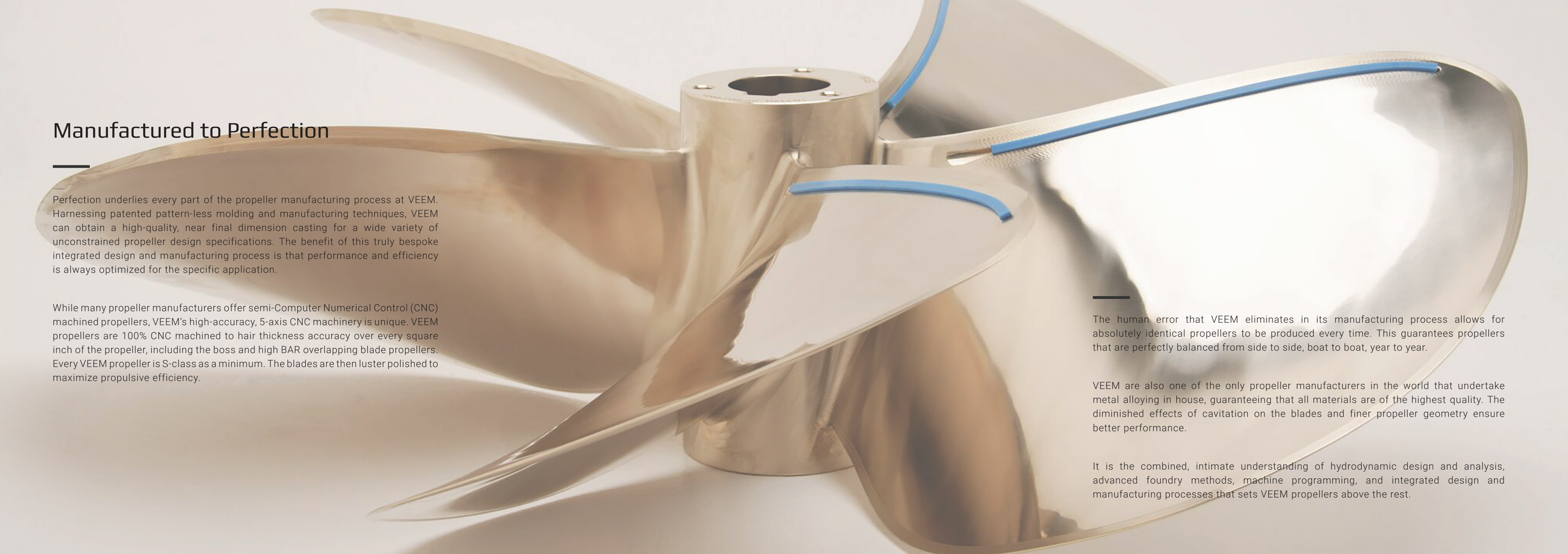
Designed with Precision

VEEM's innovative pattern-less molding techniques have allowed for incredible precision when it comes to designing unique propulsion systems for vessels around the world. By eliminating old-fashioned patterns from our manufacturing process, our team of propulsion design specialists is free to specify exactly what the vessel needs in order to meet its specific performance requirements.

This means every VEEM propeller is custom designed without manufacturing constraint, to precisely match the requirements of the vessel application. These bespoke designs are supported by decades of real-world experience, in-house CFD and FEA software, and a first-class team of highly qualified and experienced designers. Our design team are imbedded in our manufacturing facility allowing them to maximize the leverage of the company's advanced manufacturing processes.

It is no accident that VEEM propellers accelerate faster, achieve the highest speeds, run smoother, maximize range, back-down harder, and perform reliably year-in, year-out. These features are engineered into the propellers.





Manufactured to Perfection

Perfection underlies every part of the propeller manufacturing process at VEEM. Harnessing patented pattern-less molding and manufacturing techniques, VEEM can obtain a high-quality, near final dimension casting for a wide variety of unconstrained propeller design specifications. The benefit of this truly bespoke integrated design and manufacturing process is that performance and efficiency is always optimized for the specific application.

While many propeller manufacturers offer semi-Computer Numerical Control (CNC) machined propellers, VEEM's high-accuracy, 5-axis CNC machinery is unique. VEEM propellers are 100% CNC machined to hair thickness accuracy over every square inch of the propeller, including the boss and high BAR overlapping blade propellers. Every VEEM propeller is S-class as a minimum. The blades are then luster polished to maximize propulsive efficiency.

The human error that VEEM eliminates in its manufacturing process allows for absolutely identical propellers to be produced every time. This guarantees propellers that are perfectly balanced from side to side, boat to boat, year to year.

VEEM are also one of the only propeller manufacturers in the world that undertake metal alloying in house, guaranteeing that all materials are of the highest quality. The diminished effects of cavitation on the blades and finer propeller geometry ensure better performance.

It is the combined, intimate understanding of hydrodynamic design and analysis, advanced foundry methods, machine programming, and integrated design and manufacturing processes that sets VEEM propellers above the rest.

Ultimate Performance

With precise engineering specific for each application, and world leading manufacturing perfection, it is no surprise that VEEM can warrant incredible performance on every propeller they produce.

Unlike other propeller manufacturers, VEEM delivers an entirely bespoke design for every propeller using their integrated design and manufacturing process. Computer generated design geometry is transferred flawlessly into castings via a patented pattern-less molding technique, and then put through extreme accuracy CNC machining of the entire propeller surface. This guarantees the highest accuracy specific to your vessel and in turn, the highest performance.

ACCELERATION & SPEED

Industry-leading geometric accuracy and fairness, and high-strength materials, significantly delay the onset and severity of cavitation.

This allows VEEM propellers to accelerate faster, and achieve high speeds in excess of 50 knots. This is a revolution in propeller technology that extends propeller performance into applications previously dominated by water-jets. This feature of VEEM propellers is becoming more and more important as engine manufacturers increase power density and shipyards optimize hull designs. There is no better way to get power from your engines than with superbly accurate VEEM propellers.

SMOOTHNESS

The pressure and suction sides of blades, as well as the root radii and hub, are all 100% CNC machined. The resulting geometry is perfectly symmetric, true to design and features amazing levels of fairness. Accurate geometry and the absence of even the slightest irregularity in the surface virtually eliminates vibration leading to quieter and smoother performance. Every VEEM propeller is dynamically balanced, even though adjustments are rarely required due to geometrical accuracy.

EFFICIENCY

The propulsive efficiency of VEEM propellers is second to none. The freedom our designers enjoy due to VEEM's proprietary integrated design and manufacturing processes allows the delicate balance of maximum thrust with minimum losses to be carefully and thoroughly considered for every propeller.

Bespoke sections, pitch distribution, profile, skew and tip geometry treatments combine to produce ultra-high efficiency propellers. For displacement vessels this leads to extended range with minimum fuel burn. For high-powered shaft-lines, this leads to maximum transfer of engine power into thrust.

FLEXIBILITY

VEEM's patented Interceptor™ technology allows propellers to be effectively re-pitched without lifting the vessel. A diver can replace the slide-in interceptor strips in minutes, to adjust for variations in vessel displacement, water temperature, hull fouling condition, or even the required operational profile.

The same set of propellers can be optimized for long range cruising or for flat-out speed, according to the owners requirement.



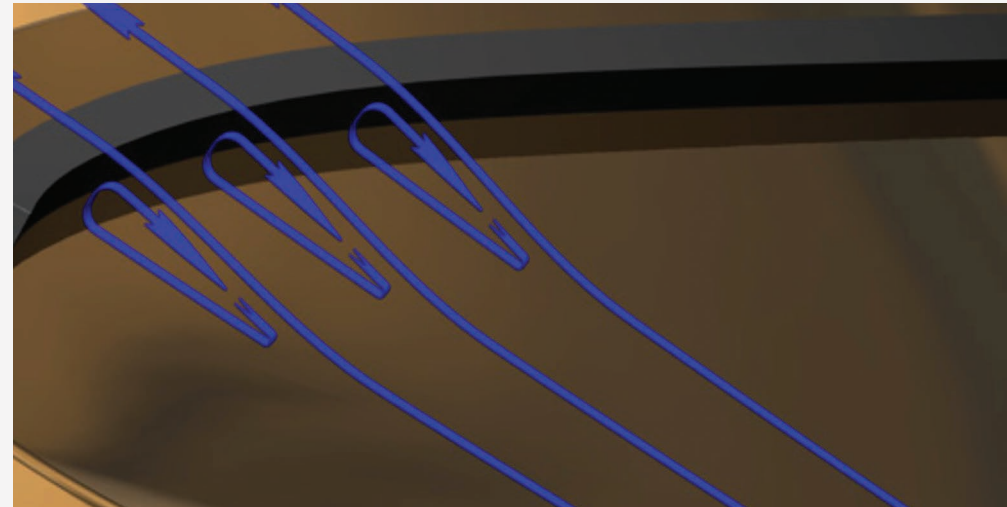
Princess 30M
Image courtesy of Princess Yachts International



Interceptor™ technology

VEEM is constantly pursuing innovation throughout its integrated design and manufacturing processes. One of the most visible innovations at VEEM is the patented Interceptor™ technology.

VEEM Interceptor™ technology has revolutionized high-powered shaft-line propeller applications.



HOW IT WORKS

The Interceptor™ design is an adjustable protrusion on the trailing edge of the pressure face of the blade to produce a surface discontinuity. The protrusion is arranged with an included angle equal to or less than 90 degrees which causes a 'wedge' of circulating fluid to be captured. This 'wedge' of fluid induces a local increase in lift in this region of the foil section, without the associated frictional drag from alternative foil sections. Furthermore, the effective pitch of the blade foil section is dependent on the relative height of the interceptor strip.

PERFORMANCE

Interceptor™ strips come in different heights and shapes, adjusting the relative pitch of each propeller blade and in turn, changing its performance. This means that you can use all the engine power of your vessel regardless of varying conditions like load weight or changing water temperatures.

PROPELLERS FOR FREE?

The cost of lifting a vessel and re-pitching a propeller is very high and is a cost that has to be absorbed by many vessel builders and operators that want to maximize performance and meet class and engine manufacturers requirements. VEEM Interceptor™ technology eliminates this significant cost because pitch can be changed whilst the boat is in the water.

The cost of lifting and re-pitching a propeller can often be higher than the cost of a VEEM propeller. Some of our leading OEM customers report that they save more by avoiding vessel lifts than they spend on our propellers. So when the whole cost of ownership is considered, VEEM propellers are essentially free!

SPLASH AND FORGET™

Interceptor™ fitted propellers are at the forefront of fixed pitch propeller technology around the world, allowing users to 'Splash and Forget™' their boats by providing adjustments to the relative pitch of their installed propellers whilst the boat is in the water, removing the costly need to lift the boat to have the propellers changed or modified.





Applications

VEEM has designed a wide range of propellers to suit a variety of applications and vessels. From graceful, elegant displacement yachts, to high-speed sportsfishers, VEEM can provide propellers that are perfect for the project without compromise.

VEEM's unique 5-axis machining technology allows us to fully CNC machine 100% of the surfaces on complicated propellers, even where the application calls for seven or eight blades.

VEEM can also apply its world-leading manufacturing methods to produce an external design with outrageous accuracy if that is preferred.

Propellers for Displacement Superyachts

Each and every VEEM Superyacht propeller is a unique creation, custom tailored without compromise for the specific project. Our industry-leading design and production process provides our propulsion design specialists with unconstrained freedom to create a fully bespoke propeller for every superyacht project. The combination of computer-design, pattern-less mold production, 5-axis machining, and computerized dimensional checking, the old-fashioned limitations of patterns, human error or the limitations of 3-axis machines are effectively removed. This means every fully bespoke design is produced to a minimum S-class accuracy, leading to the highest performance levels and repeatable accuracy and reliability.

These extreme levels of accuracy eliminate variations of geometry from blade to blade, from side to side, or from time to time. This has a profound effect on removing vibration and noise levels. The 100% robotically machined mould guarantees exceptional fairness of shape, increasing propulsive efficiency and thereby maximising cruising range and minimising fuel burn.



VEEM SUPERYACHT



VEEM STAR



Princess 30M
Image courtesy of Princess Yachts International



Silverfast Luxury Yacht

Propellers for High Speed Displacement Superyachts

High-speed displacement superyachts are demanding applications for propellers as they require the smoothness, quietness and efficiency of a displacement superyacht propeller along with exceptional acceleration, high top speeds and industry-leading efficiency for longer range and lower fuel burn. Both the VEEMSuperyacht and the VEEMStar-C are more than equal to this challenge. The VEEMStar-C is a high-performing propeller with significant thrust generation.

The VEEMSuperyacht-Fast with Interceptors™ is a re-imagination of what is possible for high speed displacement superyachts. VEEM's unique 5-axis machining methods allow our designers to marry the features of the VEEMSuperyacht propeller with VEEM's patented Interceptor technology, creating a whole new breed of propeller. The VEEM helix tip geometry washes off tip vortex drag, minimises pressure fluctuations on the hull, and allows high thrust to be generated with low noise and incredible smoothness.



**VEEMSTAR-C
WITH INTERCEPTORS™**



**VEEMSUPERYACHT-FAST
WITH INTERCEPTORS™**

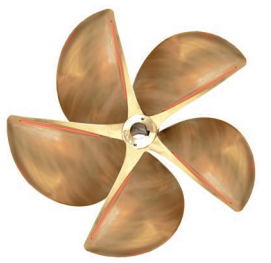
Propellers for Fast Planing Superyachts

For fast planning open superyachts where ultimate luxury is combined with pure exhilaration, VEEM offers two propellers that stand above their peers. The VEEMStar-C is a revolution in high-speed, high-thrust propellers. This propeller has fundamentally re-shaped the boundaries of what is possible. Cavitation delay is achieved by eliminating any surface irregularity with 5-axis machined accuracy that is comfortably inside the requirements for S-class. The Interceptor™ technology allows the propeller to be perfectly matched to the engine curves in minutes, even when hull condition, water temperature and vessel displacement varies.

For surface piercing applications, the VEEMSurf series is unbeatable. Suited to a wide range of surface drive systems, the smoothness and quietness of the VEEMSurf series is rapidly gaining recognition from the worlds' best fast motor yacht builders.



**VEEMSTAR-C
WITH INTERCEPTORS™**



**VEEMSURF
WITH INTERCEPTORS™**



Pershing 70



Viking Yachts 64 Convertible

Propellers for Sportsfishing boats

Sport fishing boats have evolved into sophisticated high-powered, high-performance craft with a series of demanding requirements from the propellers. High acceleration and high maximum speeds are required to beat the fleet to the fishing grounds at the start of the day, and then race back to the club for weigh-in, so that actual fishing time is maximized.

The high thrust generated to achieve this must be delivered smoothly and quietly. While trolling on the grounds, the wake must be clean and quiet to lure in the prize. The propellers must be strong enough in reverse to handle aggressive backing down to land a trophy fish on minimum line size. VEEM is passionate about the design and manufacture of dedicated sport fishing propellers that excel in each of these areas.

MAXIMUM SPEED

Industry-leading geometric accuracy and high-strength materials allow VEEM propellers to achieve high speeds in excess of 50 knots with little to no signs of cavitation erosion on the blades. VEEM provides a unique, fully customized bespoke design for every VEEMSportfish propeller. This is made possible by the VEEM patented, pattern-less molding and 100% CNC machining of the complete blade area and boss. Because we do not use physical patterns, our propeller design specialists are free to specify a propeller design that is precisely tailored to each customers' requirements. This guarantees the highest performance for each project.

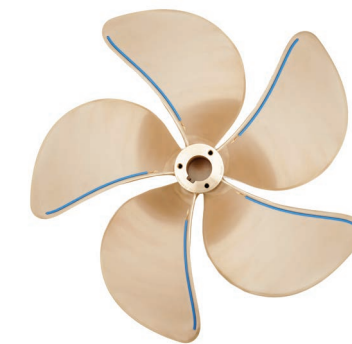
MINIMUM VIBRATION

VEEM's patented, pattern-less molding technology and 5-axis, 100% complete CNC machining ensures industry leading geometric accuracy of the propeller, hub and root sections. The resulting perfect foil sections, and elimination of any imperfections in the fairness of the blades and boss lead to significantly quieter and smoother delivery of thrust. This accuracy and fairness delays the onset of cavitation, reduces its severity, and ensures that it is stable. The speeds achievable have climbed into the previously inconceivable 50 knot plus range.

This has been achieved while minimizing the level of vibration and noise under the hull of the boat. Every VEEMSportfish propeller also incorporates advanced helix geometry, which diffuses the tip vortex, reducing ambient propeller noise (rumbling), and pressure pulses on the hull.

HARD BACK-DOWN

VEEM are one of the only manufacturers in the world that undertake all metal alloying in house, unlike other manufacturers that traditionally use pre-alloyed metals from external suppliers. VEEM's high-strength alloys and advanced propeller geometry, developed using CFD and FEA analysis, mean their propellers have better back-down performance than any other on the market.



VEEMSPORTFISH WITH INTERCEPTORS™

The VEEMSportfish propeller has been designed specifically to meet the demands of modern, high-powered sportfishing vessels.

The VEEMSportfish has demonstrated unrivalled top speeds, manoeuvrability, fuel efficiency, smoothness, and back-down capacity. Blade tip geometry has been optimised to minimise visible vortex signatures, ensuring a clean wake during trolling.

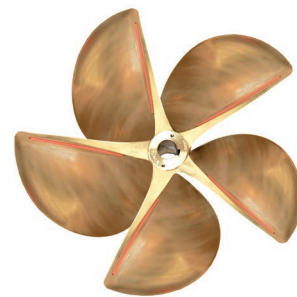
Propellers for Sport Cruisers

Medium to high-speed sport cruisers require custom designs specific to each vessel in order to obtain optimum speed, smoothness and fuel economy. VEEM's sport cruiser designs are created using the latest CFD technology and cavitation tunnel testing. These designs are then validated on full scale trial vessels.

VEEM is highly experienced within the medium to high-speed vessel market and our dedication to product research and development is proof that VEEM is one step ahead of the rest.



VEEMSTAR
WITH INTERCEPTORS™



VEEMSURF
WITH INTERCEPTORS™

Propellers for Military Vessels

VEEM deliver high-quality marine products and services to the military sector. Areas of expertise include propulsion, full shaft-lines, submarine valves, Naval refits and repairs. VEEM's expertise in propeller design and selection has ensured that VEEM propellers are in service on a large number of high performance military vessels. With VEEM's quality management system, extensive experience in the application of Naval Engineering Standards and N.A.T.A.(National Association of Testing Authorities) accreditation, you can rely on VEEM products even in the most demanding service environments.

Military applications require classification approved products of high quality. VEEM's internal processes are pre-approved by many classification societies without third party inspection. Military systems require reliability whilst providing efficiency and performance. VEEM's technology driven manufacturing processes, and ability to provide complete shaft-line packages ensures that a cost effective solution is met.

VEEM offers fully customizable design for military projects or can build to custom designs and specifications.





Propellers for

Commercial Vessels

Trawlers and work boats require a propeller that offers maximum thrust, smoothness and maneuverability, whilst offering maximum fuel economy. VEEM's primary focus is to design propellers with high efficiency. High propeller efficiency translates to improved fuel economy and increased vessel speed. For many vessels, the saving in fuel consumption over one to two years will pay for the cost of a new propeller.

VEEM offer many designs suitable to the fishing and work boat industry which ensures that the optimal solution for each vessel is available. For trawlers, pusher boats, and tugs with nozzles, VEEM offer traditional designs such as the VEEMKaplan, however the VEEMSkewplan design offers the ultimate in thrust, smoothness and efficiency. Low speed work boats without nozzles fitted benefit from VEEMStar designs providing excellent thrust and manoeuvrability.



VEEMSTAR



VEEMKAPLAN



VEEMSTAR-C

Propellers for

Ferries and High Speed Craft

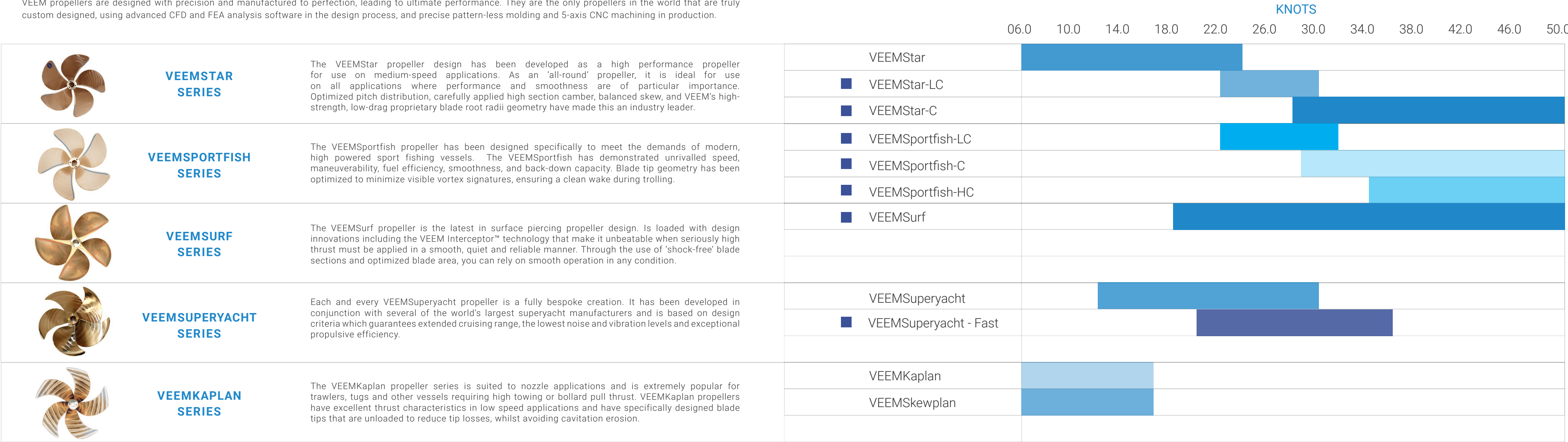
VEEM supplies many of the worlds' leading ferry builders, providing both product and engineering design solutions. Propellers, shaft-lines, and ride control are all available as part of a package. A package solution from VEEM ensures component compatibility, accurate assembly and operational simplicity. VEEM can supply shaft-line components to suit any vessel size, giving ferry builders a one-stop-shop for propulsion systems.

Propellers for this market require customized designs to ensure maximum performance. Base propeller designs suitable to conventional ferry applications are created from the VEEMStar-C. This design operates successfully on ferries constructed by prominent builders around the world.



The VEEM Propeller Range

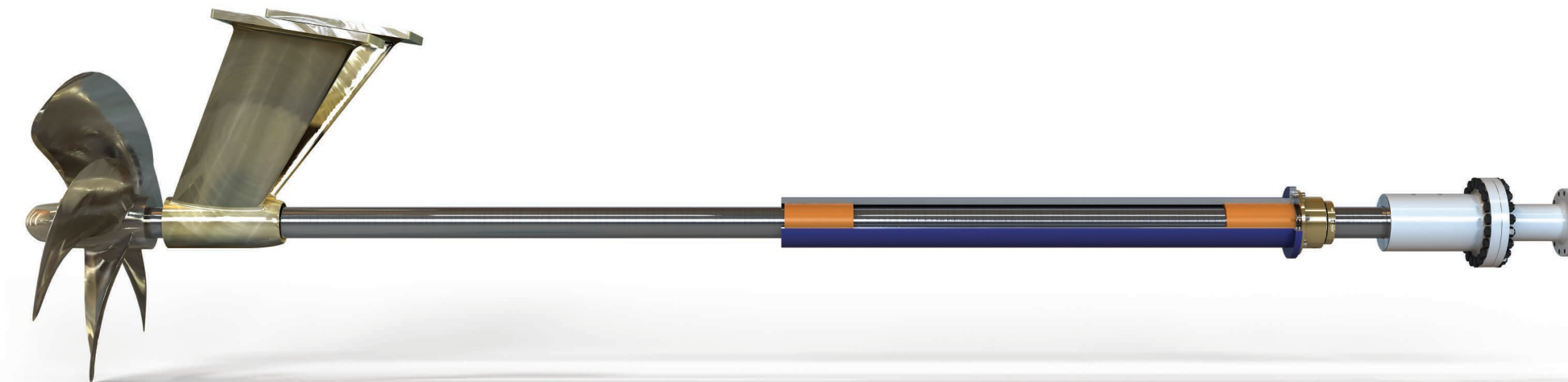
VEEM propellers are designed with precision and manufactured to perfection, leading to ultimate performance. They are the only propellers in the world that are truly custom designed, using advanced CFD and FEA analysis software in the design process, and precise pattern-less molding and 5-axis CNC machining in production.



 = Comes standard with Interceptor™ technology

Comprehensive Shaft-line Packages

Whether your shaft-line includes thrust bearings, shaft joiners, multiple struts, compound seals, shaft breaks, intermediate shafts, stepped/sleeved shafts, PTO's or even hybrid motors, VEEM has the experience and expertise to provide you with an integrated shaft-line package that meets all of your needs.

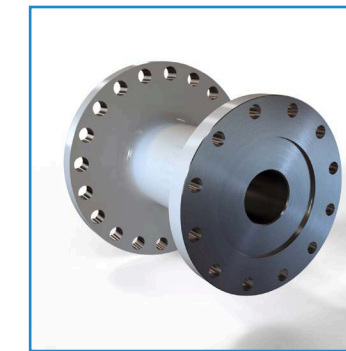
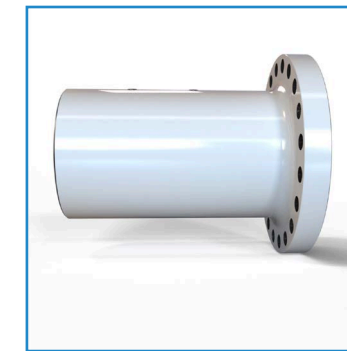


HIGH PERFORMANCE DESIGN

VEEM's comprehensive suite of design, modeling, simulation and analysis software allows a shaft-line solution to be tailored and optimized to suit your particular requirements. With ever more importance being placed on fuel consumption in the yacht industry a shaft-line package with low drag and high propulsive thrust is critical when pushing the limits of yacht fuel efficiency and performance.

BENEFITS OF A VEEM PACKAGE SOLUTION

'Splash and Forget™' is a phrase often used by VEEM and this mantra is what drives us in the design, development and manufacture of complete shaft-line packages. The ability to install a high quality shaft-line package that has been completely tested and pre-assembled, saves the builder countless hours in installation and also avoids the horror of encountering problems such as leaks, vibration and component failure.





VEEM Propeller Calculator

The VEEM Propeller Calculator is the only calculator in the market that can give you a size and price estimate on-the-spot for your vessel.

Input your vessel information and you will be given the optimal propeller diameter for a given engine and gear ratio selection for any vessel over 26 ft.

The calculator is based on over 50 years of extensive test data and research and delivers industry-leading accuracy every time.

www.VEEMPropellers.com/propeller-calculator

Princess V58 Open

Image courtesy of Princess Yachts International



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