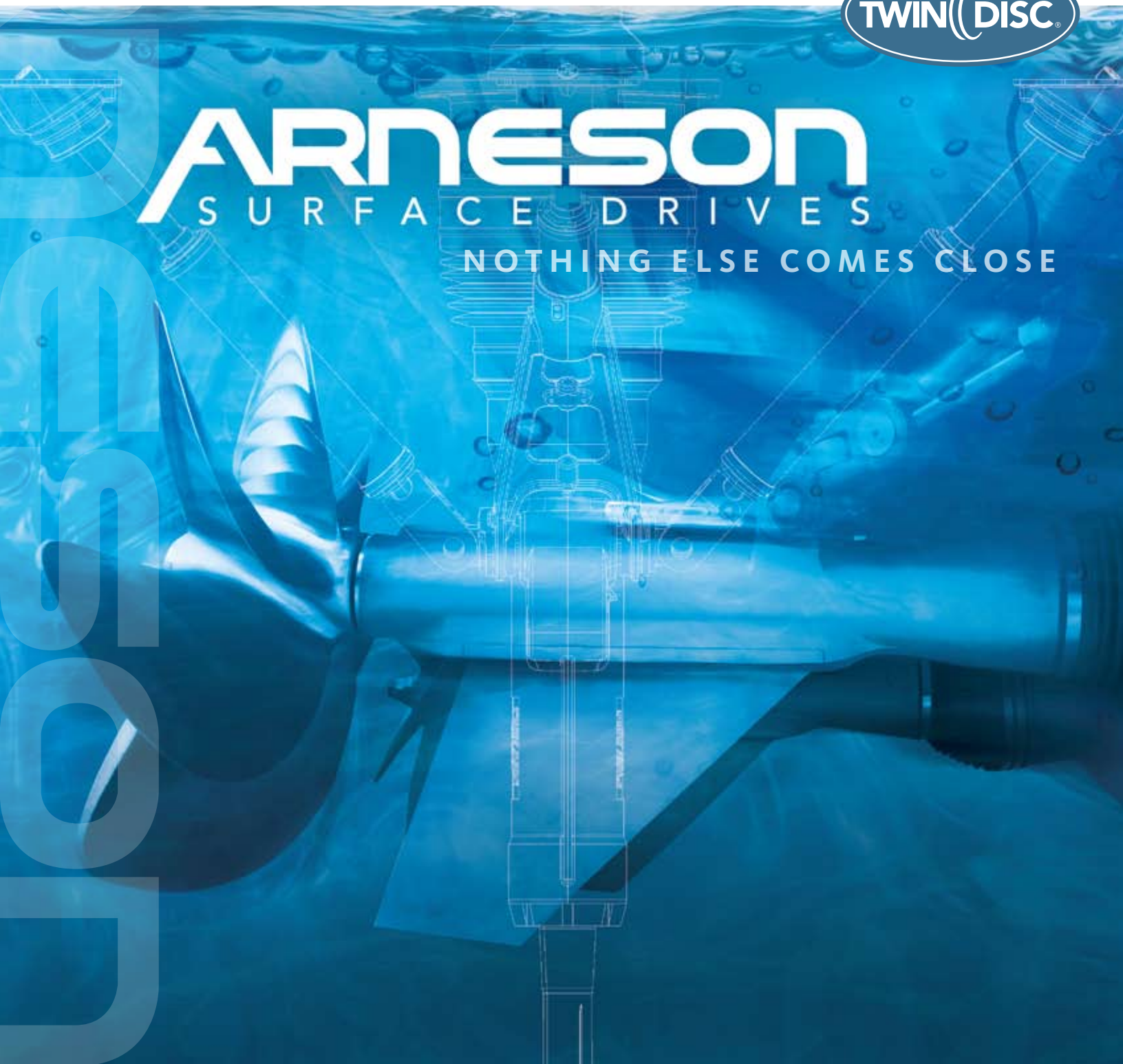
TWIN DISC®

ARNESON
SURFACE DRIVES

NOTHING ELSE COMES CLOSE



It took the vision and determination of acknowledged mechanical innovator and offshore racing enthusiast Howard Arneson to perfect the performance and reliability of *surface-piercing propulsion*.

A WINNING HERITAGE

Arneson personally piloted his unlimited boat to numerous wins as well as the 1987 Offshore World Championship. Along the way his surface-piercing propulsion system quickly became the dominating force in offshore racing. Twin Disc made Arneson Surface Drives available for non-racing applications – pleasure craft, commercial vessels as well as military applications. Today, Arneson Surface Drives are renown as the fastest, most efficient, fuel-friendly propulsion systems on the planet.

SUPERIOR PHYSICS

With conventional systems, a fully submerged propeller at high revolution disrupts or churns the water across the blades, thereby losing bite and sacrificing propulsion. The propeller of an Arneson Surface Drive expells the air/vacuum at the surface portion of the revolution, thereby leaving clean water for the propellers to bite into at the submerged portion of the revolution and enhancing propulsion.

TRIMMABLE PROPELLER SHAFT

With the ability to adjust propeller submergence while underway, you can align the engine power curve to the hull's planing power curve. Converting more power to thrust while the engine is operating within its rated power curve makes for better performance and fuel efficiency.

NO OTHER MARINE PROPULSION SYSTEM IS SO ADAPTABLE TO SUCH A WIDE RANGE OF ENGINE SIZES AND TYPES. THERE'S AN ARNESON MODEL DESIGNED SPECIFICALLY TO FIT VIRTUALLY EVERY POWERPLANT OPTION, ACCOMMODATING TORQUE OUTPUTS EXCEEDING UP TO 30,000 LB-FT.

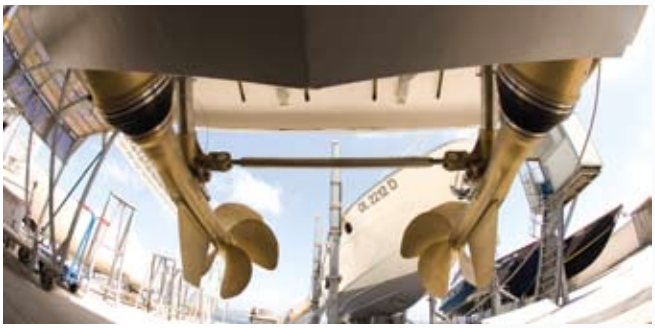
LOWER DRAG

Since there's no conventional underwater shaft, strut and rudder, Arneson Surface Drives reduce underwater drag by as much as 50%. The only surfaces to contact the water besides the hull are the propeller blades and protective skeg. Less drag results in higher overall speed, quicker acceleration and a better payload-to-power ratio. The clean hull requires less draft so it allows greater access to shallow-water harbors and prime cruising grounds.

MORE SPEED FROM LESS HORSEPOWER

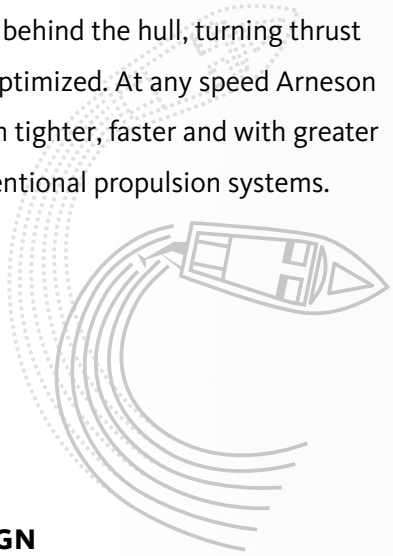
Reduced drag and more efficient thrust gain more propulsion from less horsepower. You can reduce engine costs by spec'ing a smaller powerplant and still get the acceleration and top-end performance you need. Because there's 50% less drag, Arneson Surface Drives can help improve fuel economy up to 15%.

RUNNING CIRCLES ARO



VECTOR THRUST STEERING

Conventional propulsion systems deflect prop thrust off an external rudder, creating indirect, slower and less precise turning dynamics. An Arneson Surface Drive horizontally articulates the propeller shaft in the desired direction to provide direct stern thrust to turn the bow of the boat. Since the propeller is located further aft behind the hull, turning thrust and leverage are optimized. At any speed Arneson Surface Drives turn tighter, faster and with greater control than conventional propulsion systems.

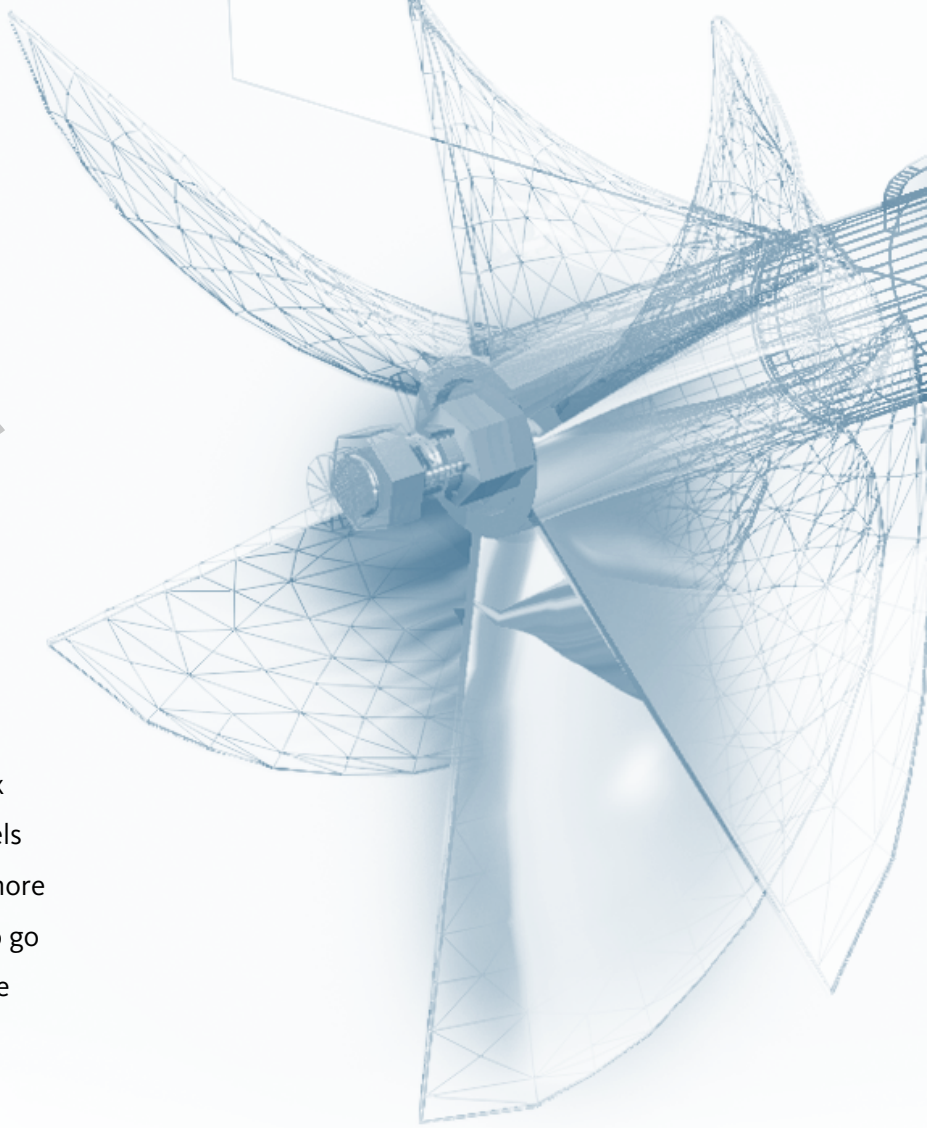


SIMPLE BY DESIGN

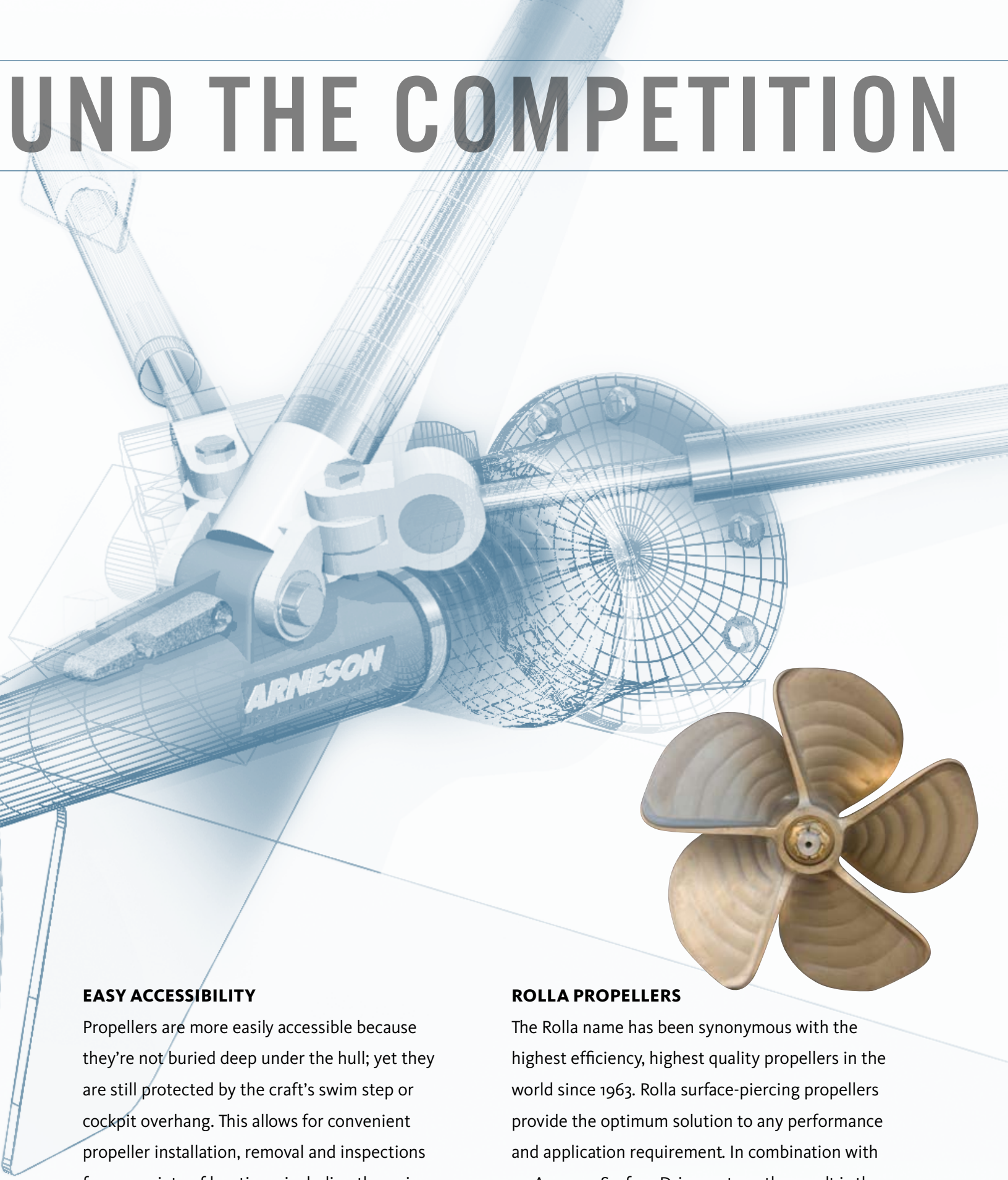
For all their sophisticated performance, Arneson Surface Drives feature a less mechanically complex design than other propulsion systems. Some models have fewer than 20 moving parts. Since there's a more efficient relationship between parts, there's less to go wrong. Low maintenance and lower repair costs are inherent to the design and manufacture.

PROVEN RELIABILITY

Arneson Surface Drives are designed and manufactured for maximum duty applications and to last the life of your vessel. High quality corrosion-resistant materials matched to exacting tolerances are used in all Arneson Surface Drive units. All models are available in manganese bronze for maximum corrosion resistance and strength. Aluminum models are available using a marine grade aluminum alloy.



UND THE COMPETITION



EASY ACCESSIBILITY

Propellers are more easily accessible because they're not buried deep under the hull; yet they are still protected by the craft's swim step or cockpit overhang. This allows for convenient propeller installation, removal and inspections from a variety of locations, including the swim step, dock or in shallow water.

ROLLA PROPELLERS

The Rolla name has been synonymous with the highest efficiency, highest quality propellers in the world since 1963. Rolla surface-piercing propellers provide the optimum solution to any performance and application requirement. In combination with an Arneson Surface Drive system, the result is the ultimate in marine propulsion.

ARNESON FITS

ENDLESS POSSIBILITIES

Arneson Surface Drives provide marine designers, boat builders and boat owners a new freedom of design innovation and flexibility. Compared to installations of competitive propulsion systems, Arneson systems allow greater flexibility of engine placement. This allows maximum utilization of space throughout the vessel and is well suited for modern aft engine-room yachts.

INSTALLATION FLEXIBILITY

Arneson units are easily bolted to the transom of the vessel. There are no complicated intake ducts to construct or shafts requiring critical alignment as with thru-hull water jets. And there are no conventional under-hull limitations such as shaft angle, blade top clearance, draft, etc. to restrict selection of the optimum diameter propeller.

WORRY-FREE CONVERSION

Arneson Surface Drives can bring superior power, better overall performance and improved operating efficiencies to a broad array of boats – pleasure craft, commercial vessels and military applications.

To make sure that your particular installation is appropriate and cost-effective, Arneson system application professionals will thoroughly analyze your boat's design and intended operation. This allows the proper choice of drive, propeller size and installation procedure. More important, it ensures that your Arneson Surface Drive lives up to your expectations.

YOUR FUTURE

PRECISION PERFORMANCE AUTOMATICALLY

NEW TWIN DISC MASTERTRIM™

This Arneson system option automatically adjusts the trim position of the Arneson Surface Drives and the boat's trim tabs for maximum efficiency and effective performance for your boat under various and changing operating conditions.

MasterTrim uses a combination of user-defined positions and sophisticated optimization routines. It senses each operating mode of the boat and places the drives and tabs in the correct position for that mode.

These positions are then fine-tuned automatically to optimize efficiency and performance. This leaves the operator free to focus on the safe navigation of the craft. At any time, the operator can take full control of the drive and tab positions to manually position them.

ARNESON SURFACE DRIVES PROVIDE MARINE DESIGNERS, BOAT BUILDERS AND BOAT OWNERS A NEW FREEDOM OF DESIGN INNOVATION AND FLEXIBILITY.

FOR MORE ABOUT ARNESON SURFACE DRIVES VISIT WWW.TWINDISC.COM

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SPEED IS JUST THE BEGINNING

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