



SWIMGUARD PROPELLER PROTECTOR

For 150-250cv outboard engines. Ø450mm.
High grade aluminium and stainless steel construction.
Can be installed and maintained with boat in the water.
Easy on - No drilling or mounting holes required.
Easy off – Can be taken off and reinstalled quickly, allowing for mission or job specific use.
Durable construction with heavy-duty reinforcements for hard working environments.

Ref.: 266125



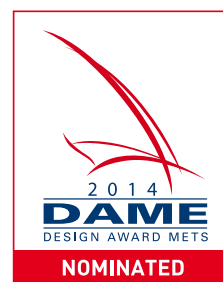
THRUSTOR[®]

MARINE PROPELLER PROTECTOR

The only one that solves the age-old challenge: “having safety without loss of performance” & without a downside.



The marine industry has long believed that any prop guard type device causes drag and hinders performance. William C. Schultz and Terrence L. Smith set out to solve the above challenge in 2006 as a gift to the safe enjoyment of all boaters and passengers.
On large displacement hull ships the Schultz™ Nozzle solution can provide displacement hull ships with fuel-savings and improved sea keeping. Now is ready to introduce into the market the smaller commercial and personal watercraft solution, the internationally patented main propulsion “Multi-Nozzle Venturi System”, brand named the Thrustor[®].



Technology

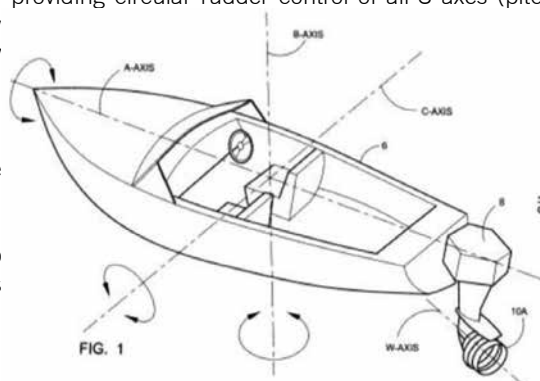
The system consists of two or more hydro-dynamically engineered rigid nozzles, positioned around any boat’s propeller. The Venturi ports between the nozzles draft outside water to the propeller, creating an injection of atmospheric pressure, Venturi Action (VA), add more water to the propulsion column formed by the nozzles.

The Multi-Nozzle Venturi System establishes a 4th axis (the W axis) that becomes the focal point for hull control by providing circular rudder control of all 3 axes (pitch, yaw and roll), fundamentally

eliminating cavitation, vibration and creating vessel stability, while dramatically increasing thrust, power, and overall performance for all propeller-driven boats.

The system design yields lineal feet of hydrofoils that are all paralleled to the prop shaft (W axis) providing directional thrust and side force (the 19.5” Thrustor[®] creates approximately 20 lineal feet).

- The multi-nozzle system integrates 3 hydro-foiled components:
- Safety Ring: forward of propeller, reducing size of possible entry area into propeller, increasing structural integrity, with hydro-foiled struts and trusses for added deflection & entry protection.
- Thrust Nozzle: actually shrouds the propeller itself.
- Exhaust Nozzle: positioned aft of the propeller, trailing by 3 inches.



W Axis created by system application

Material specifications

The Thrustor[®] is made of aluminium casting alloy A356 akadized surface treated and dielectric.
A356: ISO AISi7Mg is a material with excellent cast and weld ability, pressure tightness, and good resistance to corrosion.
Akadized is a revolutionary metal surface process that adds anticorrosion, thermal resistance, and dielectric properties that are beyond the measure of conventionally-coated aluminium.

Tests

For over five years, the U.S. Navy has used the MPT nozzle (Thrustor[®]) in their HM14 (and now HM 15for 2 years) craft. Both groups use MPT’s 19.5” nozzle for their fleets of 7m RHIB workboats. Under heavy tow, over ground speeds in 2+ sea states have doubled.
U.S. Navy Chief Benjamin Moore reported (The US Navy’s Operational Proof: Four years of operations by the Navy’s HM14, anti-mine group, with MPT’s 19.5”): “The deck runs quiet and the sea moves under the boat – does not slam into it.” He also provided annual reports describing how Thrustor[®] solved their vital issues concerning speed, power, shock mitigation, habitability, performance and safety, and without downside.

Performance benefits

For over 50 years, a wide variety of propeller guard designs have been developed with the idea of protecting water sport enthusiasts from injury and deaths caused by propeller strikes, as well as capsized and over-the-side incidents. During this period most of the designs presented to the market have resulted in a significant decrease in vessel performance.

Although the MPT prime objectives are to deliver ecological and safety benefits, when Mr. Schultz and Mr. Smith developed the Thrustor[®] and Schultz Nozzle[™] technology, their design objective was to create a system that would also address vessel performance. In all categories the patented Thrustor[®] system has added a dimension of functionality to hull control and vessel stability (pitch, yaw and roll) previously not considered possible. This unprecedented advancement dramatically increases the vessel's operational abilities, improves habitability and overall safety... especially during challenging wind and surface conditions. The Thrustor[®] assisted drives have the added dynamics of ten to twenty-four lineal feet of hydrofoils surrounding the propeller, creating stern lift, 3 axis trim and directional control of the hull that far exceeds the physical capabilities of any open propeller drive. The multi-nozzle system mitigates chining of the vessel.

The "hole shot" in all categories is faster and maintains visibility over bows. The towing and directional thrust is increased, with the US Navy reporting a 230% increase in speed with a improved seakeeping and habitability: In any weather, sea states 2 and above, Thrustor[®] assisted drives have proven to be a faster, smoother and safer ride. Personnel can count on more platform stability for a successful mission and return.

The sea trials verify that the Thrustor[®] mitigates propeller cavitation and vibration in all categories of vessels (the deck goes quiet, no vibration), predicting a longer life to the gear train, electrical instrumentation and other support systems.



Safety benefits

As a propeller guard the Thrustor[®] has far exceeded the expected strength, and the load increase that can be carried. The skegmount, or skeg lock, integrates the system to the cavitation plate, creating a structure that will support the transom weight of most outboard and stern drive boats, while also shrouding and protecting the propeller.

Reduces propeller strike injury to mammals, especially dolphins and manatees.

Reduces chances of a propeller strike to persons engaged in diving or water sports activities.

Increases planning hull control, thus reducing over-the-side and capsizing incidents.

Ecological benefits

It is anticipated that the patented technology will provide the following ecological and safety benefits.

Reduction of Fuel consumption at cruising speeds due to lower required RPM.

On small craft at a 3500 Cruising RPM, preliminary Thrustor[®] testing resulted in speed increase of 5% or a reduction of up to 300 RPM to maintain the same speed, which will result in additional fuel savings of 5%.

Reduces Hydro Carbon emissions by decreasing fuel consumption.

A reduction in cavitation-vibration reduces potentially dangerous sound frequencies to sea life. These negative effects on sea life are currently under serious study.

Narrows the normally disruptive 360 degree propeller wash into a tight, directional thrust towards the rear which: protects fish/egg habitat; protects shallow-water plant habitat; and reduces beach erosion caused by normal prop wash.

After seven years of successful sea trials have confirmed the following results:

* **The Thrustor[®]** functions as a prop guard that protects persons, sea life and nature from propeller strikes.

* **The Thrustor[®]** will significantly improve vessel handling at all speeds, and it is the only one in the market that performs at medium-high speeds.

* **The Thrustor[®]** increases the vessel performance coming out of the hole.

Model	Max. propeller Ø	HP ranges	
8.75"	8.00"	2 to 8HP	Ref.: 266154
9.75"	8.50"	8 to 10HP	Ref.: 266155
10.75"	9.50"	10 to 15HP	Ref.: 266156
11.75"	10.50"	15 to 30HP	Ref.: 266157
12.75"	11.50"	25 to 60HP	Ref.: 266150
13.75"	12.25"	40 to 60HP	Ref.: 266158
14.75"	13.25"	70 to 115HP	Ref.: 266151
15.75"	14.75"	80 to 115HP	Ref.: 266159
16.50"	15.25"	90 to 300HP	Ref.: 266152
17.00"	15.75"	200 to 350HP ⁽¹⁾	Ref.: 266160
17.75"	16.25"	225 to 350HP	Ref.: 266161
19.50"	18.00"	250 to 440HP ⁽²⁾	Ref.: 266153

(1) The 17.00" Thrustor[®] fits all counter rotating motors with a 14" to 16" Ø propeller & 200+hp. The 17.00" Thrustor[®] also fits 40hp to 90hp mercury big foot motors. Unlike other propeller guards, the Thrustor[®] is designed to improve vessel performance and protect at all speeds.

(2) The 19.50" Thrustor[®] fits Konrad, Bravo-2, Volvo DPH & Yanmar I/O applications.

