

## Competitive Overview - Zeus vs. IPS

Cummins MerCruiser Diesel  
RELIABILITY THROUGH INNOVATION



Feature	Benefit	Zeus	IPS
Rear Facing Propellers	Increased Propeller Protection	✓ Rear Facing	✗ Forward facing
Tunnel Mounted Pods	Increased Pod protection	✓ Tunnel mounted	✗ Exposed
Breakaway Skeg	Increased Pod Protection	✓ Standard	✗ Not available
Joystick Operation	Simplified Docking	✓ Standard	✓ Option
Joystick Auto Yaw Correction	Auto Correction in Changing Conditions	✓ Standard	✗ Not available
Precision Pilot (Autopilot)	Simplified / Integrated Navigation	✓ Standard	✗ 3 <sup>rd</sup> party option
Integrated Auto Trim Tab	Visibility, Acceleration & Fuel Economy	✓ Standard	✗ Not available
Trolling Valve	Precise Speed Control With Joystick	✓ Standard	✗ Not available
Hydraulic Steering Actuation	Increased Reliability and Response Rate	✓ Standard	✗ Not available
Backup Steering Pump	Increased Durability and Protection	✓ Standard	✗ Not available
Overall Pod Configuration	Up to 15% Speed, 30% Fuel Increase	✓ Standard	✓ Standard
Pod Cover	Aesthetics and Component Protection	✓ Standard	✗ Not available
Mounting Points for Lift Eyes	Ease of Installation	✓ Standard	✗ Not available
MerCathode	Active Galvanic Corrosion Protection	✓ Standard	✗ Not available
Idle Exhaust Gas Relief	Vibration Reduction	✓ Standard connection	✗ Not available
Propulsion Power	Cummins 6 Liter Engine Platform	✓ 480 hp	✗ 435 hp
In-water Pod Oil Change	Eliminates costly haul-out	✓ Standard	✗ Not available
Installation Options	Zeus & Inboard Fit Into Same Mold	✓ Standard	✗ Not available
Installation Options	Current Molds Use Zeus Tunnel Inserts	✓ Standard	✗ Not available

Comparison information based on company web sites and industry editorial reviews as of (7/2/07). For updated information, see your local representative. Skyhook available Summer 2008.



## Feature

## Benefit

<b>Rear Facing Propellers</b>	By placing the propellers behind the pod unit, the propellers are not exposed to objects or debris in the water. This position offers a greater level of protection for the propellers without sacrificing performance.
<b>Tunnel Mounted Pods</b>	When the pods are mounted in a tunnel, as opposed to mounting them to the deadrise, the vertical position of the pod is optimized, reducing the hardware exposure below the keel.
<b>Breakaway Skeg</b>	The use of a skeg designed to break away reduces the force transmitted to the pod and hull during mild to moderate encounters with underwater objects.
<b>Joystick Operation</b>	The joystick, for low speed maneuverability, is central to the Cummins MerCruiser Diesel Zeus propulsion system. CMD has included the joystick as a standard feature rather than as an option.
<b>Joystick Auto Yaw Correction</b>	The Cummins MerCruiser Diesel Zeus Pod system will automatically correct for undesired changes in heading when the boat is maneuvered using the joystick control.
<b>Precision Pilot (Autopilot)</b>	An autopilot is integrated into the Cummins MerCruiser Diesel Zeus Pod system, and is a fully functional standard feature. No 3rd party autopilot is required. This eliminates any integration or configuration that might be required otherwise.
<b>Integrated Auto Trim Tab</b>	Cummins MerCruiser Diesel offers an integrated trim tab as part of the Zeus Pod propulsion. When run in the "Auto" mode, the tab will optimize vessel attitude for maximum visibility during all conditions, reduced bow rise during acceleration, and increased fuel economy. No other pod system offers an integrated trim tab.
<b>Trolling Valve</b>	The transmission mounted on the Zeus pod has a trolling valve incorporated. The trolling valve allows for more precise joystick control than systems without a trolling valve. The trolling valve will allow the transmission to spin the propeller shaft at a slower rate than if the transmission was fully engaged or "in gear". This allows the Cummins MerCruiser Diesel system to have smoother and more precise movement under joystick control.



## Feature

## Benefit

<b>Hydraulic Steering Actuation</b>	Cummins MerCruiser Diesel's Zeus pod system uses a hydraulic steering actuator instead of anelectric actuator. The use of hydraulic actuation is better suited to a marine environment, and provides a much faster response rate.
<b>Backup Steering Pump</b>	The Zeus pods have a secondary backup pump mounted on the pod that will provide steering actuation in the event of a failure of the primary pump. This greater level of protection is only offered by Cummins MerCruiser Diesel.
<b>Overall Pod Configuration</b>	The Zeus pod propulsion system, when coupled with Cummins MerCruiser Diesel engines, has proven to provide up to a 15% gain in running speed and a 30% gain in fuel economy when compared to conventional inboard propulsion systems.
<b>Pod Cover</b>	Cummins MerCruiser Diesel includes a protective pod cover for each Zeus pod. This cover provides a clean look to the bilge while offering protection to the pod and its components.
<b>Mounting Points for Lifting Eyes</b>	Cummins MerCruiser Diesel understands that easier installation results in higher quality of the initial build, and a reduction in time requirements for the service events later on. For these reasons, the Zeus pod includes a pair of threaded bosses on the top of the pod unit that allow it to be lifted from the top as well as from underneath providing greater flexibility for installation and removal.
<b>MerCathode</b>	As has been proven on many sterndrive installations, the Zeus pod offers a Zeus specific version of the MerCathode system. This active galvanic corrosion protection system is only offered by Cummins MerCruiser Diesel.
<b>Idle Exhaust Gas Relief</b>	Cummins MerCruiser Diesel's Zeus installations have an integrated exhaust gas bypass. This bypass provides a low resistance exit path for exhaust gasses during idle and low speed operation. By venting the exhaust under these conditions exhaust induced vibration is significantly reduced.
<b>Propulsion Power</b>	Zeus utilizes Cummins MerCruiser Diesel's proven Quantum Series engine technology. With industry leading power density, the Zeus six liter engine platform can offer clean running, EPA Tier 2 emission compliant engines up to 480 horsepower.



## Feature

## Benefit

<b>In-water Pod Oil Change</b>	In an effort to keep maintenance costs low, Cummins MerCruiser Diesel's Zeus system allows for performance of all routine maintenance fluid changes to be done with the boat in the water. This eliminates the need for a costly haul out when regular maintenance is needed.
<b>Installation Options</b>	The Zeus pod propulsion system was designed with all customers in mind. Cummins MerCruiser Diesel has used extensive experience with boatbuilders to design a tunnel system that is compatible with both conventional shaft drive systems as well as the Zeus pod system. This provides the flexibility for an OEM to offer both Zeus pod and inboard shaft drive configurations in the same boat model, and doesn't require special tooling or an additional mold for CMD Zeus systems. That level of flexibility helps the boatbuilder keep their costs low while offering a choice to the customer.
<b>Installation Options</b>	The tunnels used for the Zeus system can be molded in with an insert. Cummins MerCruiser Diesel understands that boat molds are expensive, so the Zeus system was designed to minimize integration costs into new boat models.