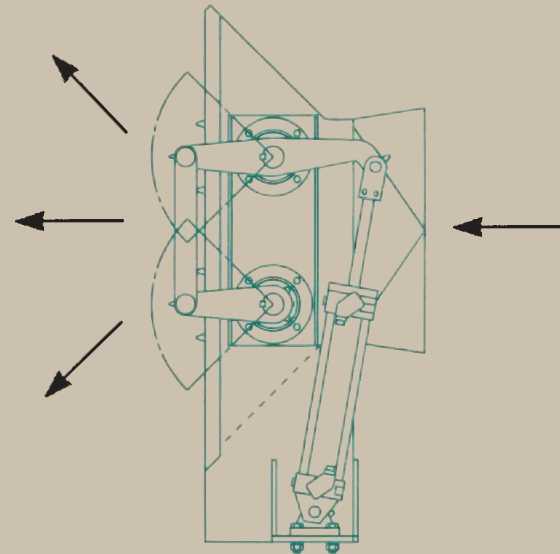
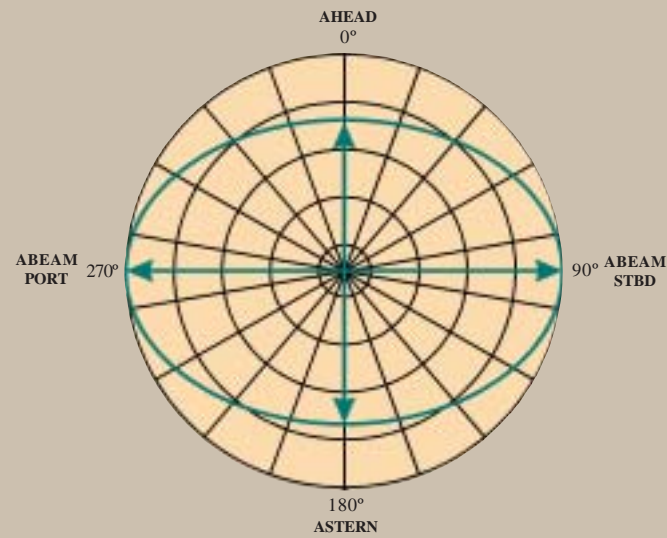




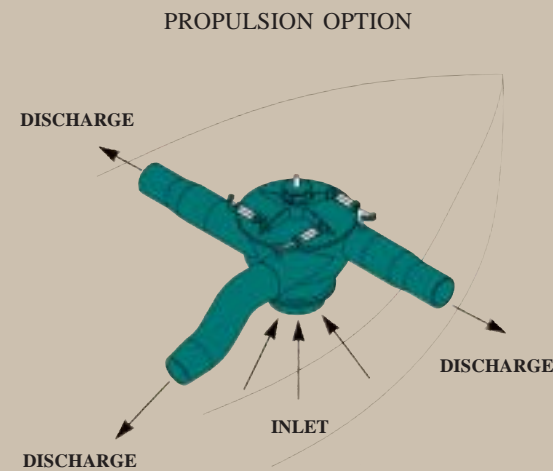
STEERING AND PROPULSION OPTIONS

OmniThruster's unique and patented Thrust Directors add forward and aft auxiliary propulsion to the standard port/starboard system. This is physically accomplished by deflecting the waterjet to the fore or aft which produces an equal and opposite reaction. When the Thrust Directors are coupled with an upgraded control system, a fully proportional 360° maneuvering system results. The polar thrust diagram gives the resultant thrust vectors/magnitudes that can be achieved with the fully proportional system.



THRUST DIRECTOR™

Port and starboard thrusting with Thrust Director™ provides 360° propulsion.



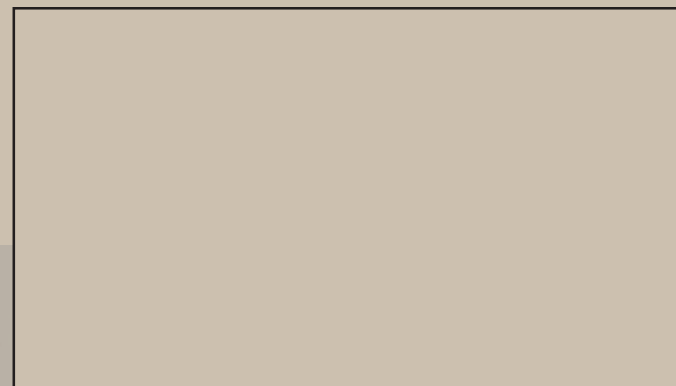
PROPULSION OPTION

The Propulsion Option adds a third discharge to the standard HT unit providing full forward thrust ("Take Home" capability).



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OmniTHRUSTER™
Marine Maneuvering and Propulsion Systems



Welcome to the world of *OmniTHRUSTER*[™] . . . Where It Pays To Compare!

For 25 years *OmniTHRUSTER*[™] has been a world leader in the development of waterjet maneuvering systems. Our unique patented designs, which provide diverse maneuverability and auxiliary propulsion, have been the installation choice on vessels worldwide.

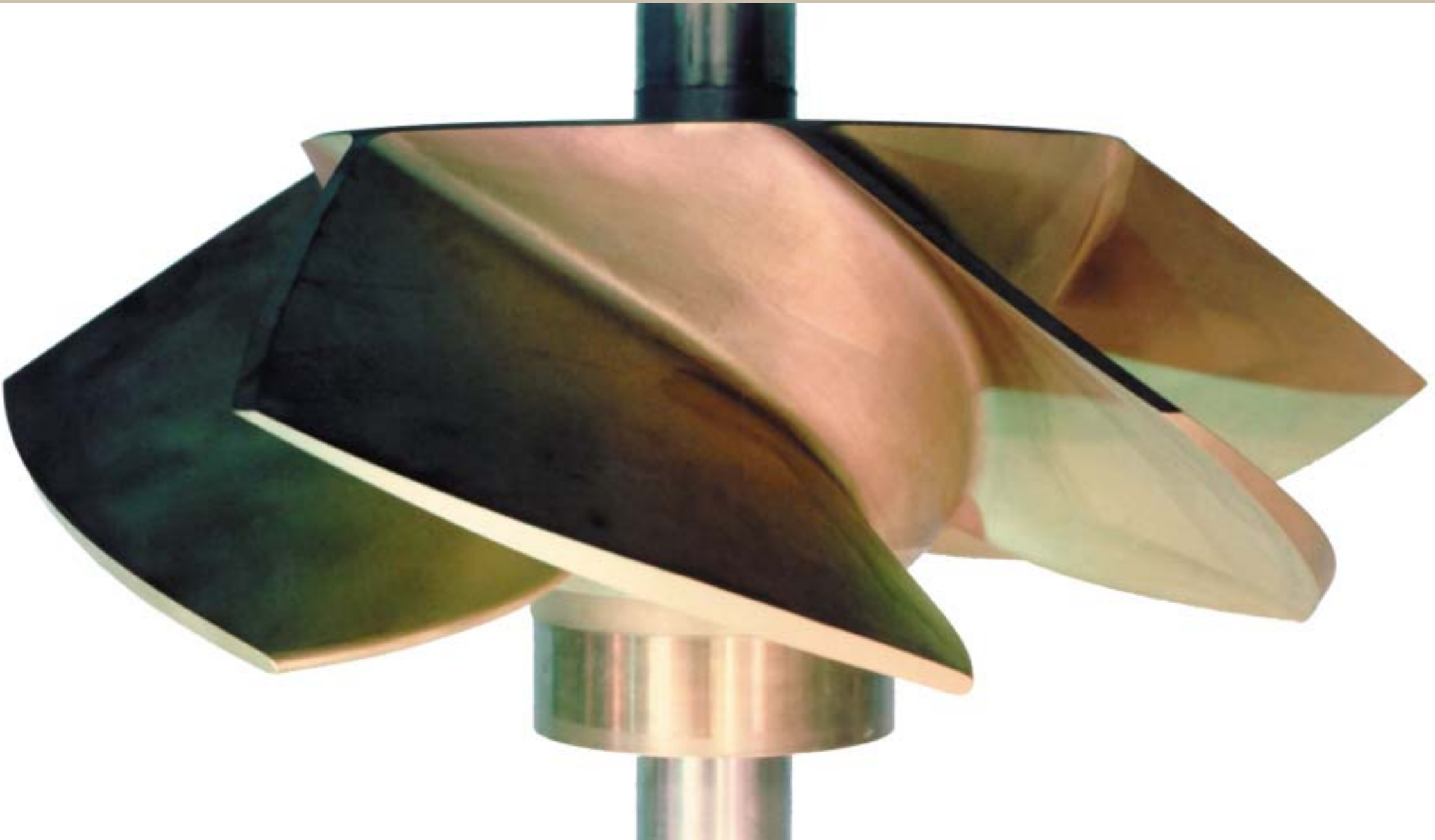
The OmniThruster produces thrust *continuously*. . . with nozzles in or out of the water . . . in rough seas . . . in strong currents . . . while pitching, yawing, rolling, or heaving. The OmniThruster can even produce thrust while the vessel is underway at several knots, a condition in which conventional propeller tunnel thrusters are subject to cavitation and do not effectively produce thrust, if at all.

OmniThruster's patented system consists of five basic proprietary building blocks:

- **Kinetic Converter** takes input shaft energy and produces usable hydraulic energy by the use of a mixed flow impeller.
- **Steering Valves** continuously meter or proportion a percentage of the fluid flow to one or both sides of the vessel.
- **Nozzles** accelerate the mass of water creating a thrust force at the hull interface.
- **Thrust Directors** (*optional*) deflect the water flow forward or aft producing slow speed auxiliary propulsion.
- **Electronic Control System** controls the 360° thrust vector resultant from a fixed or variable speed prime mover rotating continuously in one direction. There are no rotating parts that have to be stopped or started as thrust direction and/or magnitude changes.

No other thruster can provide the superior advantages of incomparable maneuverability, as well as supplementary propulsion, which is available with OmniThruster systems.

The HT Series, built from the fabric of our world renowned JT custom technology, engages all the elements of the OmniThruster principle in a compact, competitively priced package. When your vessel is your livelihood, it pays to compare!



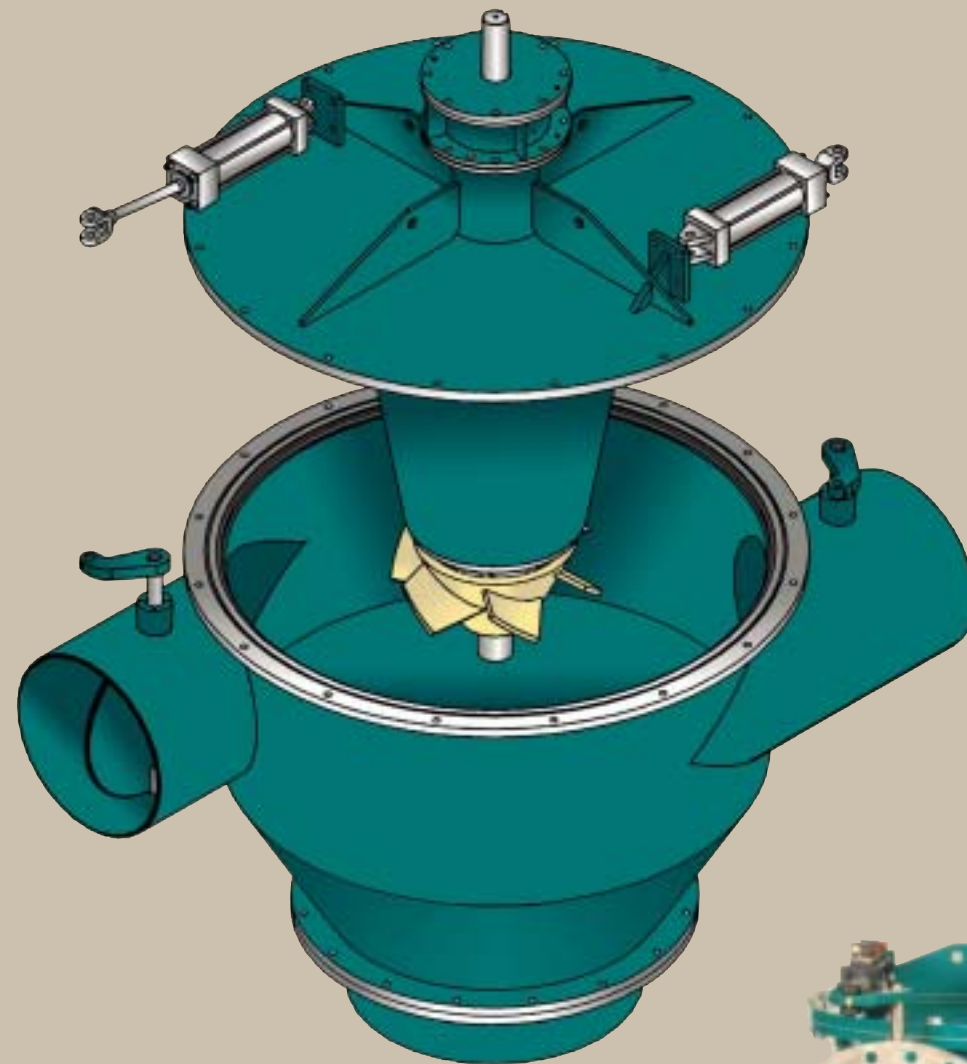
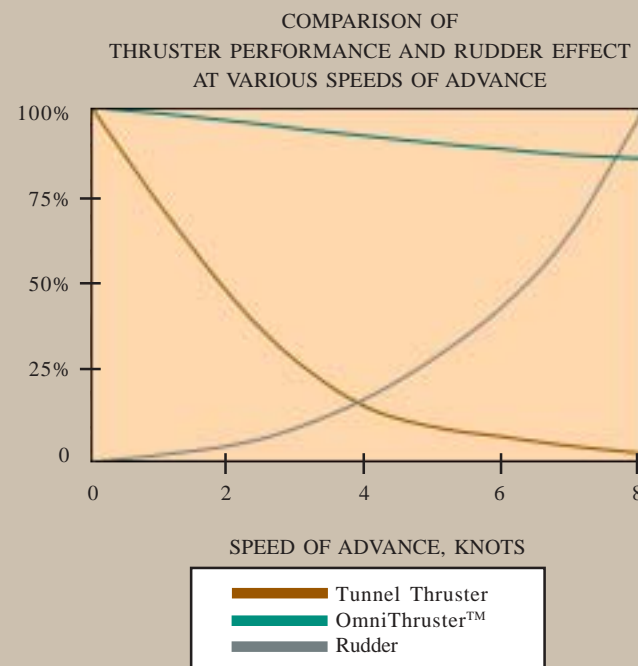
"The Heart of the Matter" - OmniTHRUSTER[™] Mixed-Flow Impeller

Presenting the *OmniTHRUSTER*TM HT Series . . .

The HT Series was developed to provide small vessels maneuvering and auxiliary propulsion capabilities. The unique design features a compact, conical chamber which generates a helical flow pattern resulting in efficient energy conversion. This “Heliconic” approach effectively decreases submergence requirements for full power operation, appealing for shallow draft vessels. The system can be installed either horizontally or vertically making it suitable for SWATH, catamaran, ferry, barge, fishing, research, and small cargo applications.

Thrust Underway

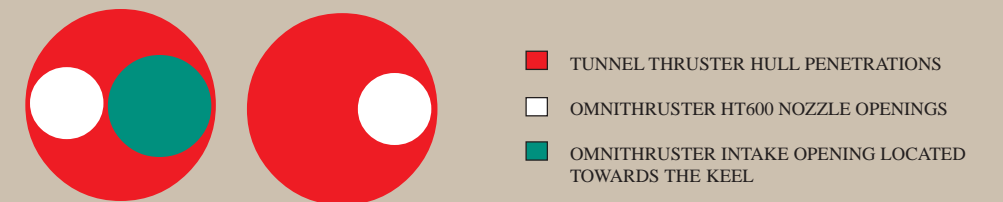
The waterjet velocity of the OmniThruster system is less effected by speeds of advance than conventional thrusters. The result is effective thrust while the vessel is underway. Additionally, the vessel’s rudder is very ineffective at low speeds of advance which can render a ship uncontrollable. The OmniThruster system puts you back in control.



Small Hull Penetrations

The relatively small hull penetrations required for an OmniThruster system reduces the drag on a vessel and subsequently lowers the fuel consumption while cruising. As an example, a 600hp tunnel thruster would require hull openings of approximately 54 inches in diameter. OmniThruster’s *HT600* installation will require only two nozzle openings of 20 inches in diameter with an inlet opening of approximately 29 inches in diameter. The inlet is located towards the keel of the vessel where the effects of drag are at a minimum. This combined with the ability to place the thruster system in hydraulic lock while cruising will result in drag reduction of approximately 3½%! This can add up to substantial fuel savings every year.

COMPARATIVE HULL PENETRATIONS



Maintainability and Serviceability

OmniThruster has designed our *HT Series* with service personnel in mind. All seals and routine maintenance items are accessible and serviceable while the vessel is afloat. In the unlikely event that major repairs are required on the rotating mechanical system, the entire inner casing which houses the thrust/radial bearings, drive shaft, water lubricated cutless bearing and impeller can be removed by breaking one bolted flange. This removal could actually be accomplished afloat by ballasting. The assembly can be repaired in hull, at dock side or completely replaced.

Environmentally Sensitive

OmniThruster is as concerned with the environment as our customers are. With the increase in laws protecting the environment in mind, OmniThruster has designed the *HT Series* to “tread softly” on our oceans and waterways. The *HT Series* utilizes water lubricated bearings and an external thrust bearing, with no submerged gearboxes. Additionally, the low intake velocity reduces the possibility of ingesting foreign objects and is well below dredging velocity.



The Preferred Choice!



The Twin Capes
320' x 68'
Equipped with the HT 600



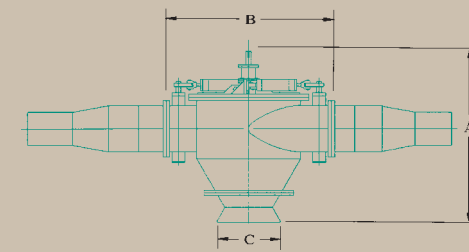
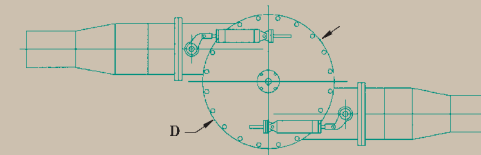
Western Flyer
117' x 53' SWATH
Equipped with Two Aluminum HT 400's



SPECIFICATIONS

TABLE OF DIMENSIONS

HT MODEL NO:		200	400	600
Maximum Power Rating	KW	150	300	450
	HP	200	400	600
Height "A"	MM	1316	1770	1975
	INCH	52	70	78
Width "B"	MM	1320	1727	2058
	INCH	52	68	81
Intake "C"	MM	480	609	737
	INCH	19	24	29
Submergence Requirement	MM	723	890	1016
	INCH	29	35	40
Nozzle Diameter	MM	235	391	483
	INCH	10	16	20
Housing Diameter "D"	MM	933	1220	1525
	INCH	37	48	60
Dry Weight (less nozzles)	KGS.	725	1587	2360
	LBS.	1600	3500	5200

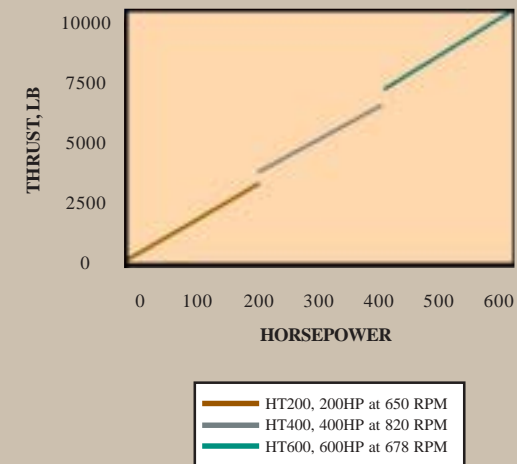


PORT AND STARBOARD THRUSTING



City of Evansville Casino Aztar
310' x 70'
Equipped with the HT 400

HT SERIES POWER RANGES



To supplement the design and installation activity, OmniThruster offers customers and Naval Architects three dimensional, computer generated outline drawings on request.

STANDARD DESIGN / CONSTRUCTION

Design	Standard	ABS, DNV, Lloyds Register
	Impeller Type	Mixed Flow
	Rotation	CCW (as viewed from input shaft)
Features	Thrust Bearing	Tapered Roller
	Shaft Bearing	Water Lubricated Cutless, Rubber
	Shaft Seal	Mechanical Seal
	Steering Vane Shaft Seal	Lip Type Seal
	Coating	Scotchcote® 134 Internal / External
Materials	Orientation	Horizontal or Vertical Installation
	Drive Shaft	17-4 / Nitronic 50
	Casing	A36, Aluminum, NI-AL-BRZ
Controls	Impeller	316 SS, NI-AL-BRZ
	Standard	"PLC" Based Jogging
	Optional	"PLC" Based Fully Proportional
Auxiliary	Wing Stations / Auxiliary Panels Available	