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Your local HamiltonJet Distributor is...

Cover: Korean Coast Guard patrol vessel, South Korea. Twin HT1000 waterjets and twin HM811 boost jets.



HamiltonJet



HT SERIES
1500kW to 5500kW



HamiltonJet

HamiltonJet HT series waterjets represent the next evolution in waterjet propulsion technology.

Developed from the highly successful HamiltonJet HM waterjet range, HT series waterjets incorporate improved efficiency and cavitation performance to enhance the existing benefits of HamiltonJet's superior propulsion systems.



HamiltonJet HT Series.

General Information

HT series waterjets feature a mixed flow pump with a greater nozzle to inlet ratio than comparable size axial flow waterjets. This provides high efficiency over the entire vessel speed range.

A new optimised compact astern deflector retains the performance of HM series type ducts but with reduced weight and width for installation in narrow hulls. The deflector is actuated by two fully inboard hydraulic cylinders.

HT waterjet models are fitted with the class leading JT nozzle steering system, also actuated by two fully inboard hydraulic cylinders. Shafts for both steering and astern deflectors are protected from wear and marine growth through the use of sealed rubber bellows on external shaft surfaces.

Installation of HT series waterjets has been simplified by the use of a compression seal type transom plate arrangement, which allows for an increased tolerance for transom axial alignment.

The transition duct extends from the flat surface aft of the intake opening to an area forward of the front intake screen mount (HT900 & HT1000 only). For an aluminium hull, the transition duct casting is surrounded by a section of 5083 aluminium plate so the shipyard does not need to carry out plate-to-casting welds.

The use of a relatively short transition on the two larger HT models makes these waterjets easier to adapt to warped hull shapes common in larger monohull vessels, and to avoid interference with hull wedges and other appendages.

The intake screen on HT series waterjets features six hydrodynamically profiled bars, which offer high efficiency while maintaining protection of the pumping gear.

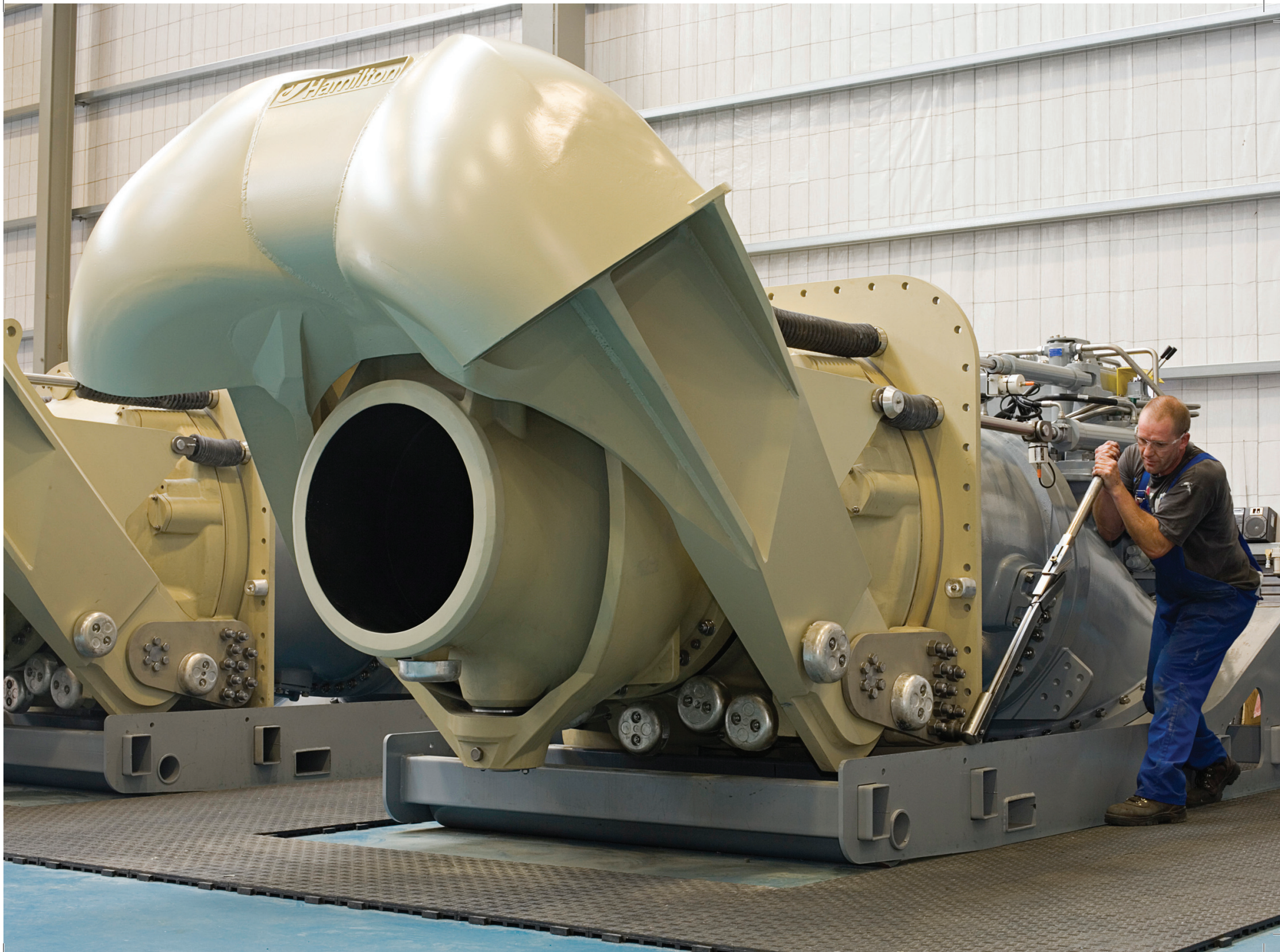
As the HT series waterjets utilise a tapered outside diameter impeller, the mainshaft axial position is adjustable in order to set and maintain impeller tip clearance.

Aluminium anodes are used throughout HT series waterjets, with tailpipe internal anodes able to be replaced without removing the tailpipe.

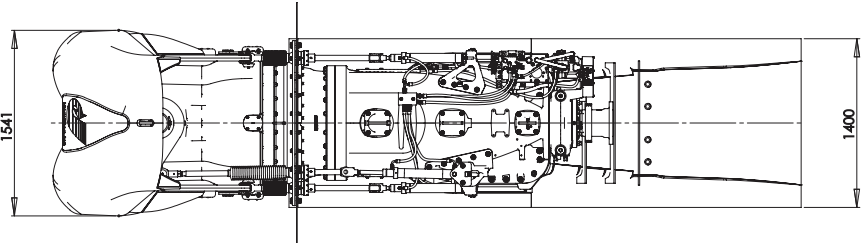
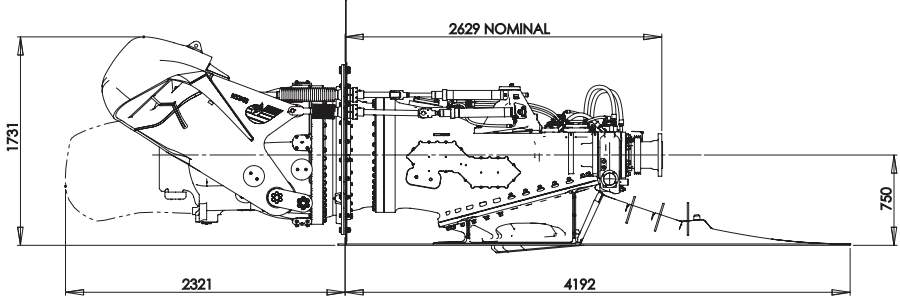
Like other HamiltonJet waterjet models, a jet mounted and driven hydraulic power unit (JHPU), driven via multiple vee-belts from the jet coupling, is used for normal hydraulic operations. An optional auxiliary AC hydraulic pump (one per jet) is also available for actuation of the steering and reverse without the gearbox engaged. Hydraulic and thrust bearing oil cooling is provided by oil coolers integrated on the waterjet.

Thrust bearing oil circulation is provided by a tandem pump mechanically driven by the hydraulic pump.

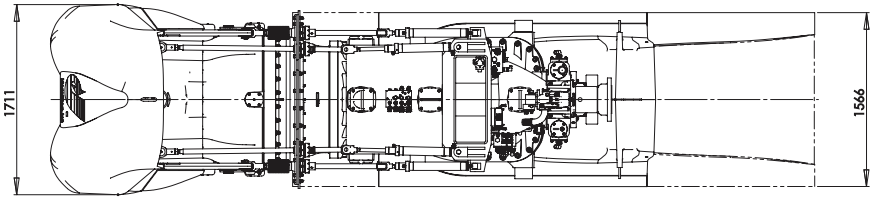
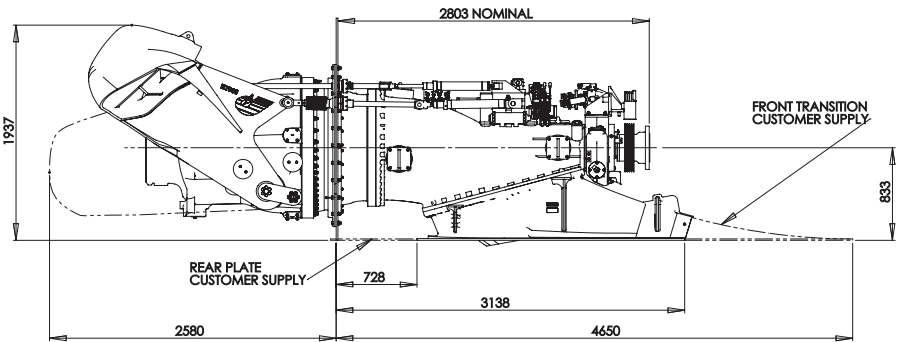
Right: A HamiltonJet HT1000 waterjet in the final stages of assembly in the New Zealand factory



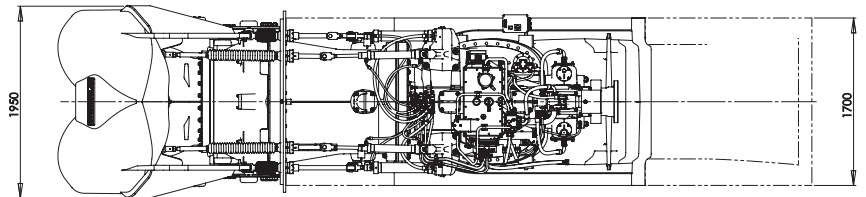
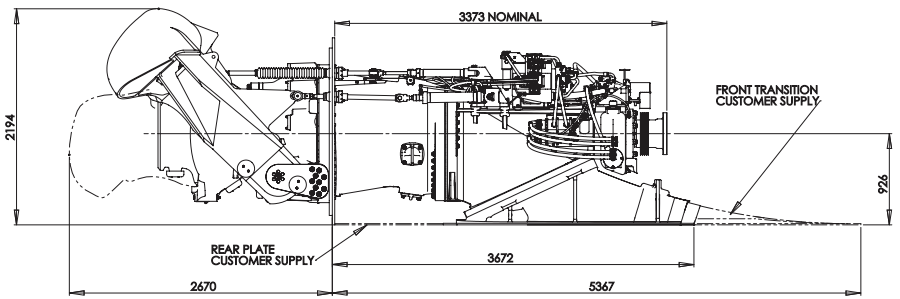
HT810 Dimensions



HT900 Dimensions



HT1000 Dimensions



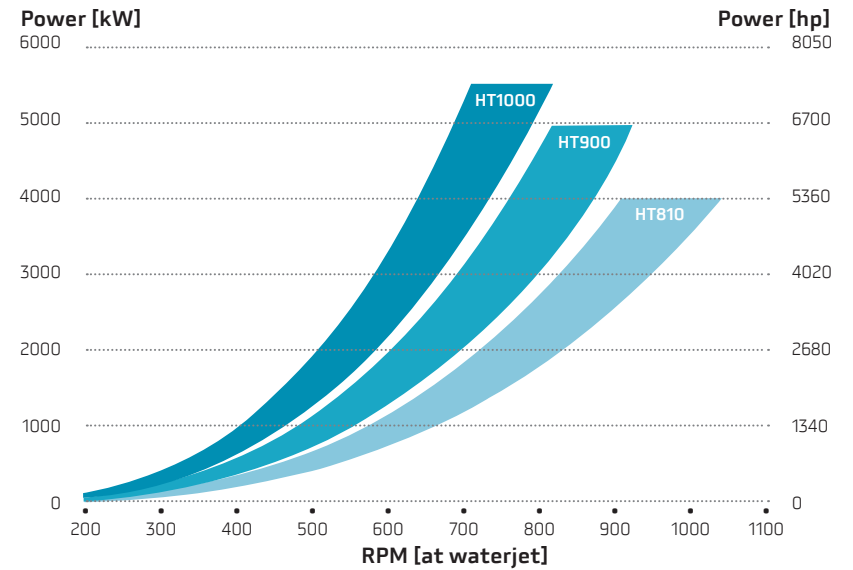
Note: all measurements shown are in mm
 A long Transition Duct option is available for the HT900. Please consult your HamiltonJet Distributor for more information



Above and Below: Crewboat "Aaron McCall" was the first vessel to be fitted with quadruple HamiltonJet HT900 waterjets



HT Series Power / RPM Curves



Material Specifications

Component	Material	Standard
Transition Duct	To match hull material	
Impeller	CF8M Stainless Steel	ASTM A743
Wear Ring	2205 Stainless Steel	ASTM A240
Mainshaft	2205 Stainless Steel	ASTM A276
Stator	EN AC 44100 Marine Grade Aluminium	BS EN 1706
Nozzle	EN AC 44100 Marine Grade Aluminium	BS EN 1706
Steering Deflector	EN AC 44100 Marine Grade Aluminium	BS EN 1706
Astern Deflector	EN AC 44100 Marine Grade Aluminium	BS EN 1706
Thrust Bearing	Spherical roller type	
Rear Bearing	Water lubricated Marine Bearing	
Shaft Seal	Face type mechanical seal	
Anodes	Aluminium	MIL-A-24779(SH)

HamiltonJet HT Series Features

Controls

- Utilises HamiltonJet's proven MECS electronic control system
- Electronic interface module and wiring loom integrated with the waterjet

Thrust Bearing and Water Seal Assembly

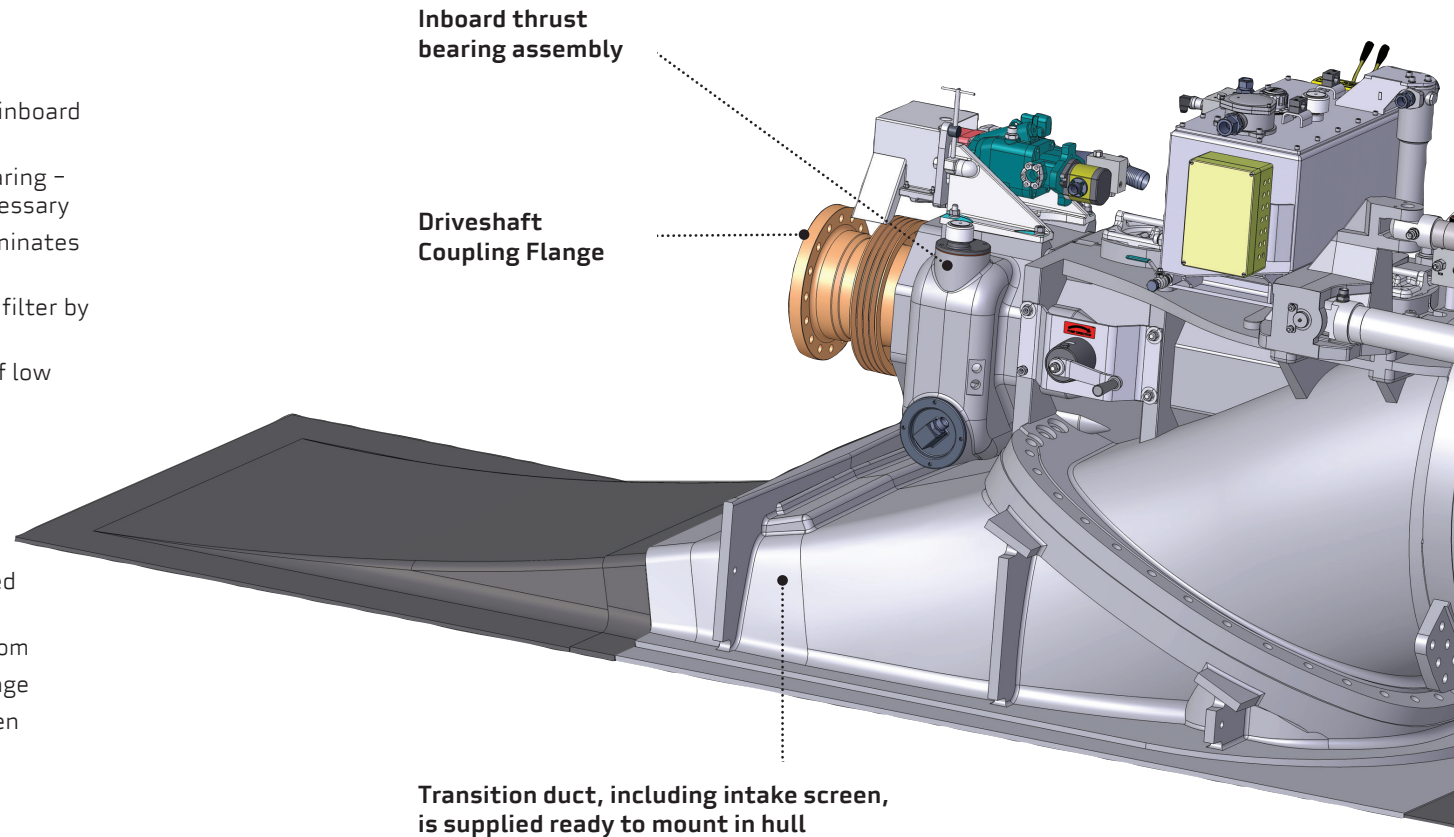
- Thrust loads from the waterjet impeller are taken by the inboard thrust bearing attached to the intake
- Radial loads from the driveline are also taken by this bearing – typically no additional internal support bearings are necessary
- Bearing housing is separate from water seal cavity – eliminates water contamination in case of a faulty seal
- Thrust bearing oil is circulated through an oil cooler and filter by an integrated circulation pump
- Waterseal located at forward end of mainshaft in area of low fluid pressure
- Water seal can be replaced from inside the vessel

Transition Duct

- Factory supplied to suit hull material
- Area forward and aft of the Transition Duct to be supplied by the boat builder to details provided by HamiltonJet
- Transmits waterjet thrust to hull bottom rather than transom
- Designed for optimum performance over a wide speed range
- Includes an integrated removable intake protection screen
- Waterjet intake flush with hull bottom

Low Maintenance

- Absence of exposed propulsion gear reduces risk of impact damage
- Impeller is finely matched to engine power to eliminate engine overload under any conditions
- Inboard hydraulic system, actuators and thrust bearing for minimum maintenance
- A water lubricated rear shaft bearing is utilised for high reliability and low maintenance cost



Inboard steering and ahead/astern hydraulics

Ahead/Astern deflector

JT steering nozzle

Extensive internal and external cathodic protection

Hydraulic System

- Inboard hydraulic sub-assemblies
- Independent hydraulic system on each waterjet for redundancy
- No hydraulic system plumbing required by the shipyard

Complete Integrated Design

- Each HamiltonJet waterjet is a complete packaged, factory tested, propulsion module
- Ahead/Astern & Steering control systems are fully integrated with the jet to simplify installation and maintenance

Ahead/Astern Deflector

- Split-duct astern deflector provides powerful, high efficiency astern thrust under all conditions of boat speed, water depth and throttle setting
- Mounted on waterjet tailpipe - fully independent of steering deflector
- Directs flow under the hull and away from the waterjet intake, preventing recycling of water flow under the vessel
- New narrow design decreases installation space requirements while maintaining high reverse thrust efficiency

JT Steering Nozzle

- JT steering nozzle provides responsive and efficient steering control at all boat speeds
- No central deadband significantly improves steering responsiveness during small course corrections and virtually no loss of boat speed

Excellent Manoeuvrability

- Highly efficient and responsive thrust vectoring at all boat speeds
- Exceptional manoeuvring and docking performance

Mixed Flow Pump Design

- Features a completely new advanced mixed flow pump design that delivers both very high efficiency AND outstanding cavitation performance