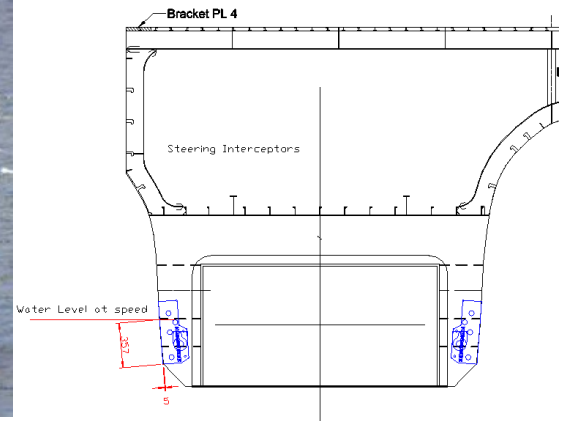


HUMPHREE®

33m Catamaran M/S Njord



Builder: OMA Shipyard Norway no. 532

Humphree Steering Interceptors: 4x HA500mm, 50mm blade deployment
(357mm below waterline during transit)

Propulsion: 2x Water jets

Data:

- Top speed: 33 knots
- LOA: 33 m
- Displacement: 51 000kg
- Passengers: 290

Results:

Speed during turning: - Speed when turning with ONLY interceptors at yaw rate approx. 60 ° / minute: 33 knots - Speed when turning with ONLY Water Jets at yaw rate approx. 60° / minute: 29.5 knots
- This means 12% speed increase using the interceptors instead of the Jets and also a significant fuel saving.

Corresponding Jet bucket deflection:

- Yaw rate at full throttle 60°/minute using only Jets means a bucket deflection of approx. 4°.
- The Humphree steering interceptors provides the same steering as 4° bucket deflection.

Fuel savings reported from operator:

The operator reports that the vessel saves between 3-5% on fuel burn depending on route, by using the Interceptors to steer the vessel for course corrections. While the water jets can be left in neutral position.