

Hydro Impulse

Test and Performance Data

Boat - HI-01 R&D

With our test boat HI-01 R&D, we are putting our revolutionary Hydro Impulse impeller system to the test.

For tests and demonstrations, the Hydro Impulse has been adapted to an existing 20 kW electric outboard system with a 15 kWh battery capacity, and mounted in place of the original lower unit.

Boat - HI-01 R&D: Specifications

Manufacturer	Aquaspirit	Motor manufacturer	e'dyn marine
Model	Spirit 450 S	Model	e'dyn 2035
Hull	Alu RIB	Power (motor input)	24 kW
Length over all	4,42 m	Power (propeller shaft)	20 kW
Beam	2,14 m	Motor weight	45 kg
Draught	0,30 m	Battery capacity	15 kWh
Max engine power	55 kW	Battery weight	120 kg
Boat weight	212 kg	System elements weight	40 kg
Equipment weight	35 kg	Total boat weight	452 kg



Test data - HI-01 R&D: Performance data

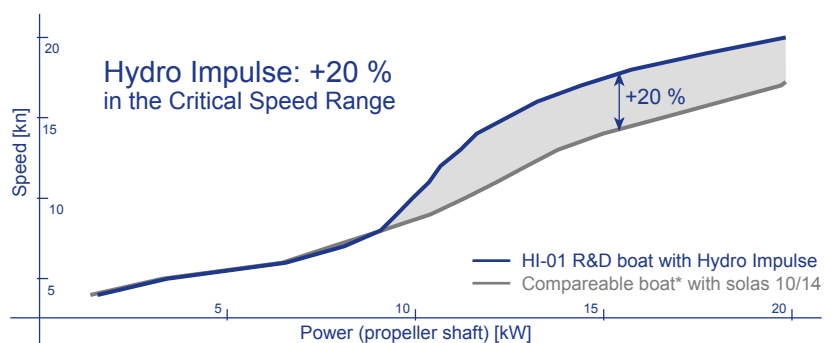
Speed [kn] [km/h]	Power [kW]	Consumption [kWh]	Time [min]	Range [nm] [km]	
8 14,8	9,1	10,7	84	11,3 20,9	
12 22,2	10,7	12,7	70	14,2 26,3	
16 29,6	13,2	15,6	57	15,4 28,5	Max Range
20 37,0	20,0	23,5	38	12,8 23,7	Top Speed

electric
& hybrid marine
AWARDS 2023

Environmental Achievement of the
Year - Propulsion System Design

WINNER

Analysis - HI-01 R&D: Data Insights and Benefits



In addition to the +20% increase in efficiency in the critical speed range, the Hydro Impulse extends the range of electric boats by around 20%. Moreover, it delivers significantly enhanced acceleration from both standstill and cruising speeds, as well as improved precision and responsiveness in steering, enabling noticeably faster slalom course completion.

Tests were carried out under the following conditions:

Test area: Mur at Graz (Austria); Measurements with boat display (e'dyn; consumption) and GPS meter from one iPhone and one iPad; Measurements were carried out 4 times (1 time upstream and 2 times downstream); Mean values were formed; Test load: 1 person; Power: power at propeller shaft; Consumption: motor input; Time and range calculated based on 15 kWh battery capacity without reserve; Weather: 17 degrees, cloudy, no wind

* Comparison boat is similar boat with solas 10/14 standard propeller and same electric outboard system e'dyn 2035 from e'dyn marine.



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