

## R/V NEW OCEAN RESEARCHER 2 --- SHIP OF THE YEAR 2020 in Taiwan



Taiwan SNAME



" R/V NEW OCEAN RESEARCHER 2" is the first research vessel which is designed, built and delivered by CSBC. Taiwan is an island country, surrounded by sea; therefore, ocean resource research and exploration are very important. This vessel not only brings benefit to domestic research institutions and academy, but also improves marine research equipment and capacity, and expands the horizon of marine environment and ecological research.

It's a small vessel, but well equipped with many detectors and equipment, which means, naval architectures shall pay more attentions, to integrate all of them in a limited space. For example, the sonar system is one of the key equipment of this vessel. In order to make sure the accuracy, the flow lines shall be optimized, to avoid the interference caused from air bubbles. In the other hand, to achieve better ship power performance, protective covers are installed at the both end of bow thruster tunnel, to prevent the negative effect generated from cross flow. The background noise of the vessel itself is also minimized, in accordance with the regulations of DNV. GL Ship Surveying Association regulates underwater noise measurement.

Launch and recovery systems (LARS) are installed on the aft deck, including Multi-purpose Crane, A-Frame(at starboard and stern), deep-sea winch, CTD winch, portable winch, etc., to conduct scientific research projects, such as, ocean geography survey, contour mapping, the recovery and deployment of thermo-salt gauges, anchorage instruments, core sampling and other detection projects.

Dual electrical propulsion system has been set up, which is deemed as a better solution in the view of energy saving and environmental protection. The ship is designed with dynamic positioning ability, by the combination of azimuth thrusters and a bow thruster, which means, the vessel can keep, or correct, its position, instantly.

Due to the accident of R/V OCEAN RESEARCHER 5, the human safety specifications of this ship are higher than similar ships.



The propulsion motors are separated into portside and starboard sections, also and the generator arrangement is divided into front and aft sections, to ensure the concept of back-up power source. Hull structure, compartment division, life-saving and fire-fighting equipment, watertight doors and fire protection structures, damage and intact stability of this vessel are designed and complied with the rules and regulations of passenger ship, such as, two lifeboats of 25 people and marine evacuation systems (MES) are installed on the portside and the starboard, to facilitate the rapid evacuation of personnel, also the simulation of cabin escape route and planning. Furthermore, the watertight doors below the Bulkhead Deck are all in sliding type.

The model test of this vessel was carried out in the model basin of NCKU. It is a long-term partner of CSBC, with ISO9001 qualification, certified by Class NK. It is an important domestic ship model basin, who could verify the speed performance. With this project has been executed and the verification has been proceed, domestic parties could accumulate more valuable technics and design experience and learn from that.

Considering the comfort of the people onboard, to reduce the motion sickness, some countermeasures are been set up, such as, the cabins are arranged on the low floors and installing the gyro-stabilizer, to reduce rolling angles when the ship speed is low and worse sea state.

For the operation of deck machinery at stern, the wheelhouse is designed with a circular view of 360 degrees. CSBC is glad and honor to provide this kind of product.

#### PRINCIPAL PARTICULARS

Length, oa	45.00m	Gross tonnage	abt. 800
Length, bp	41.50m	Endurance	3,000 NM
Breadth, moulded	11.20m	Design speed	12.00 kts
Depth, moulded	4.70m	Classification	ABS/CR
Draught, design	3.30m	Flag	ROC
Deadweight, scantling abt.	270MT		

Shipbuilder : CSBC Corporation, Taiwan (Keelung shipyard)

