# Sea Gyro

# Installation Guide for a Sea Gyro

## To ensure the correct operation and installation of your Sea Gyro it is important to follow the below steps.

1. Review the different products on the market and compare the benefits of the various systems.
2. Research the different companies' web sites for comments and sizes. Sea Gyro has a ready calculator for your reference only
3. Engage an experienced boat builder or Naval Architect to assist with the decision making.
4. You should contact Sea Gyro for the correctly sized equipment and other recommendations. A boat "detail form" is available on our web site.
5. Seek advice from the boat builder or Naval Architect about location, boat trim, ventilation and other requirements needed to install heavy equipment. It may be necessary to move existing machinery or cut access ways into the deck.
6. Things to Remember:
   - A. All machinery in a boat needs servicing.
   - B. All machinery needs to be removable from a boat one day
   - C. All machinery makes noise and vibration.
   - D. Most machinery produces heat.
   - E. Heavy machinery alters the trim of the vessel.
   - F. Heavy machinery needs to be fully secured to the structure of the vessel
   - G. The Sea Gyro can produce high loads in all three planes plus rotational torque on all three axis

H. Steel components prefer a dry atmosphere for reduced corrosion.

I. Electrical components do not like water or moist atmospheres.

J. The Sea Gyro needs to be controlled from a convenient location like the helm or main switch panel

K. A local expert (boat builder or Naval Architect.) can assist in making the correct decision in locating the equipment and designing the structural support requirements. They are on-the-spot and can evaluate the situation better than anyone else.

7. Contact the original boat manufacturer for construction details in order to assist the installer and to seek advice on trim and balance.

8. Make a test model of the Sea Gyro's dimensions and examine for fit and installing problems. Remember the equipment is heavy and difficult to manhandle without experience. Cranes are generally required. Access to the boat for cranes needs to be considered.

9. Engage an electrician to determine the power requirements and switchboard needs. A Sea Gyro requires several kilo watts of power. The VFD needs to be installed correctly and with ventilation. A qualified electrician needs to install the electrics as the Sea Gyro is high voltage.

10. Location of the Sea Gyro should be away from accommodation areas, the engine-room's air intakes (moist air) and sleeping areas. Best location is the engine room and the aft section of the boat

11. Preparation of the installation bed is very important. Ensure that the original structure is sound. Additional strengthening is normally required, which may include new webs and girders. The base must be flat with no twist or warp. A non-rigid mount may lead to unwanted resonance between the Sea Gyro and the structure of the vessel.

12. Hollow top-hat stringers near or under the Sea Gyro need to be foam filled so that they do not act as a resonating chamber.

13. The removable front panel of the Sea Gyro needs to be accessible for ongoing maintenance and servicing.

14. Ventilation of the Sea Gyro is via the sides and underneath.

15. Additional sound installation may need to be considered. In sensitive areas additional isolation mounts may have to be installed. An acoustics engineer could be engaged to assist in these recommendations.

16. The Sea Gyro installation may be tested while the boat is on the hard before the boat is launched. Ensure that the boat is well supported in a cradle before commencing. Follow the procedure for “first start” in the Sea Gyro manual.

17. The Sea Gyro should be sea trialed. Starting at low Hz, the base and fastenings should be checked for possible “unsound base construction” or loose bolts. Increase the speed and check at each stage for any excessive heat, noise or vibration. Check for hull flexure.

18. Monitor the power on the VFD display. Compare these readings to the equipment’s specifications. An electrician should confirm the cabling and power levels for the Sea Gyro.

19. Observe the Sea Gyro’s operation manual charts for specific Hz levels and sea states.

20. The roll reduction should be noticeable even at low Hz. Confirmation and actual roll reduction data may be given in a report from your local Naval Architect using an accelerometer.

21. Sea Gyro can be contacted any time for suggestions and advice. However, Sea Gyro will not be responsible for this information and any advice should be ratified by the local experts.

**Lastly, enjoy the benefits of having a Sea Gyro.**