

Hydraulic Steering

Hydraulic steering was once reserved for larger pleasure and commercial vessels and considered an expensive option. However, with the introduction of more manufacturers producing smaller capacity helm pumps and steering cylinders, the benefits of hydraulic steering can be used on almost any vessel.

A typical, simple hydraulic system will consist of a hydraulic helm pump and a cylinder / ram which attaches to the tiller arm of the rudder, outboard or stern drive. Then, hydraulic hose is used to join the parts together. When the wheel is turned, the helm pump sends fluid down one of the two hydraulic hoses to the cylinder. The addition of fluid to the cylinder increases the volume to one chamber, causing the piston to extend, which acts upon a tiller attached to the rudderstock, causing the boat to turn. When the wheel is turned in the opposite direction, fluid is sent down the other hydraulic line to the corresponding chamber, causing the piston to retract, pushing the tiller arm in the opposite direction.

Helm Pumps

Helms are available with different capacities and either with or without non-return valves. Non-return valves prevent the wheel from turning when you let go of the steering wheel, meaning that you don't have to fight motor torque all the time. These are the most commonly requested type. Correctly specified hydraulic steering generally has a lower level of effort required to turn the steering wheel when compared to traditional cable steering. The choice of size of the helm will depend on the capacity of the Ram.

The Ram is the most important item when selecting a hydraulic steering system. Rams differ for Inboard, Outboard and Sterndrive installations. The steering cylinder must be sized correctly to the application; if the steering cylinder is too small, the steering will be too stiff, the cylinder may leak or the steering may not work in astern. If the steering cylinder is too big, there will be no feedback whatsoever at the wheel.



Second Stations and Autopilots

Another benefit of hydraulic steering is the ease that a second station or autopilot can be added. A new helm or hydraulic pump to be used in conjunction with an autopilot can be added in to the line as long as either both helms (and hydraulic pump) have integral non-return valves or a separate non-return valve block is fitted.

If you would like any help in selecting the correct hydraulic steering system for your vessel, please do not hesitate to contact us.