How to choose the right thruster for your boat

LEWMAR®

The boat's wind area, the 'lateral wind draft area' and the thruster's tunnel position in the hull determine the thruster's performance on a boat. By knowing these factors we can calculate the wind pressure on the boat and the centre point of this wind pressure. From these calculations we can determine what thrust is needed to counter the wind pressure with the given thruster position. To gain total control of your boat, install both a bow and stern thruster, leaving the main engines to propel the boat forward and backward.

The main factors that decide correct thruster sizing are:

1 Position of the thruster

The actual position of the thruster will depend on the internal & external construction of the vessel.

For optimal performance the thruster should be mounted within the following:

- As far forward as possible to maximise the lever effect. (Fig 1)
- 1 x Ø (0.75 x Ø minimum) below the waterline to prevent air being sucked into the tunnel. (Fig. 2). Ø=Tunnel Diameter.
- Minimum suggested tunnel length 2 x Ø.

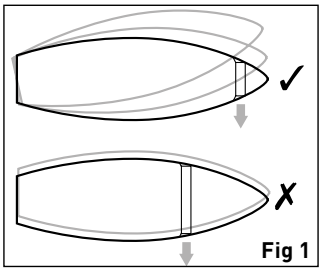


Fig 1

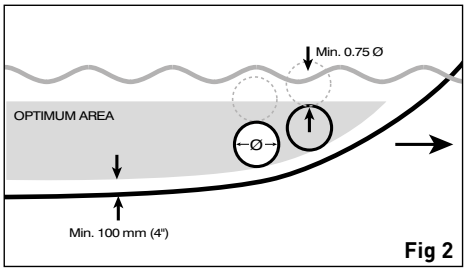
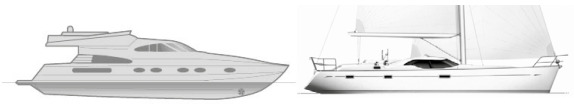
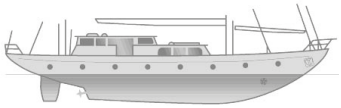


Fig 2

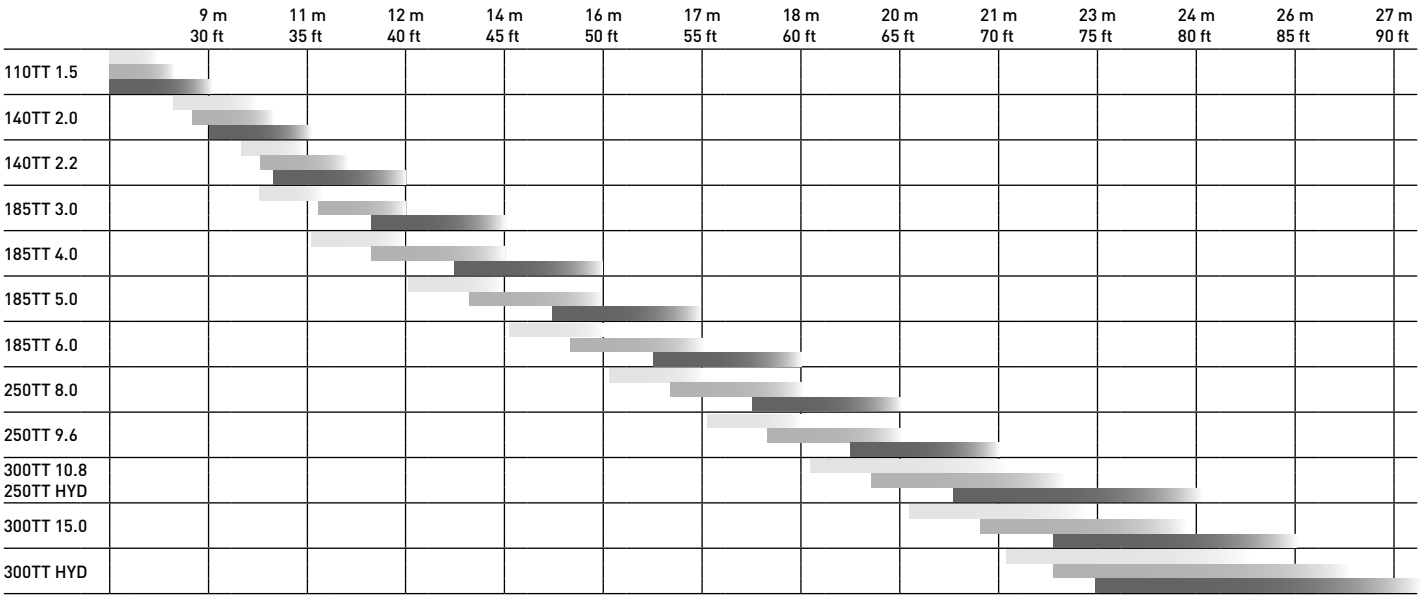
2 Boat size, type and shape

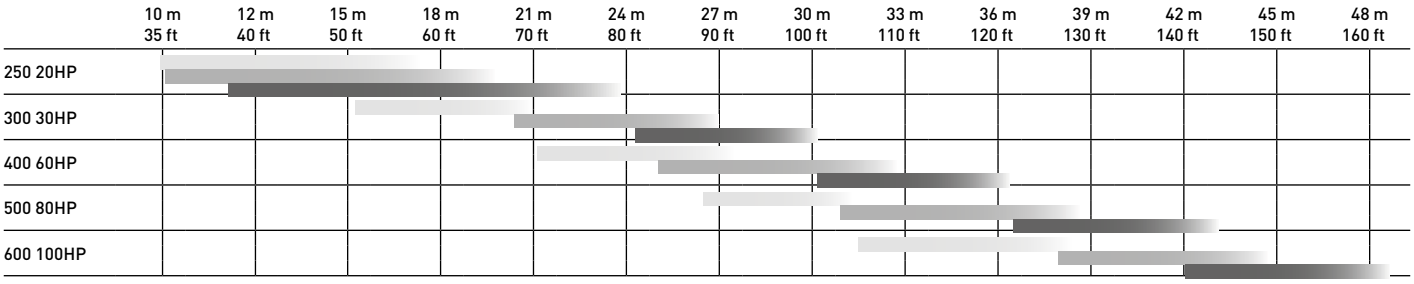
Light displacement / low windage


Medium displacement / Medium windage


Heavy displacement / High windage

Boat length overall



High control / Heavy boat — Medium control / medium displacement — Light control / light displacement

Vertical Retracting and Swing Thrusters size guide