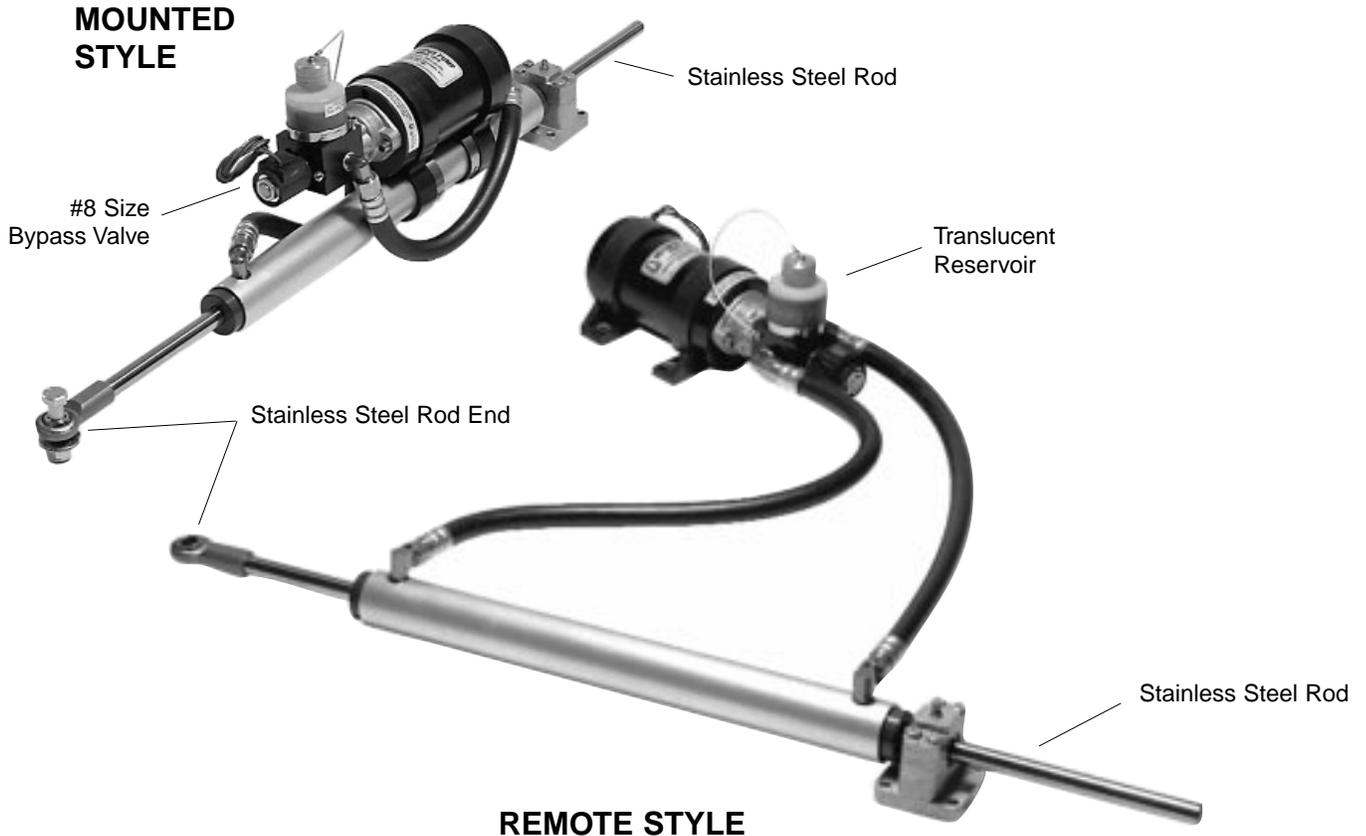


INNOVATORS IN AUTOMATIC PILOT DRIVE SYSTEMS

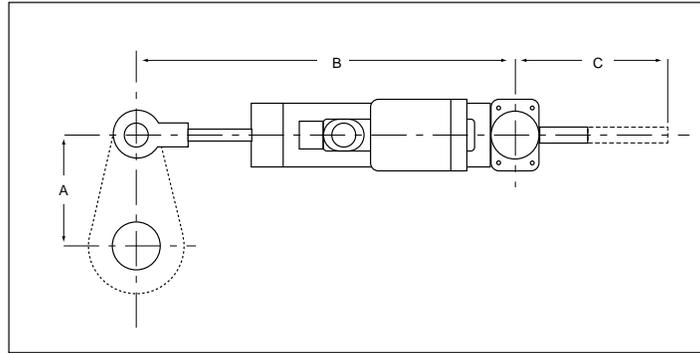
OCTOPUS HYDRAULIC LINEAR ACTUATOR



GENERAL DESCRIPTION

An Octopus Hydraulic Linear Actuator is a simple, effective way to drive the rudder on a boat equipped with a mechanical steering system. The linear actuator is an assembly of an Octopus reversing pump and a marine hydraulic cylinder. This assembly is mounted on the rudder quadrant. When the autopilot is not in use the cylinder runs freely along with the rudder. When the automatic pilot is in use a solenoid valve on the actuator closes and locks the cylinder. Steering signals from the pilot are now fed to the D.C. motor which drives the pump to move the cylinder back and forth. De-energized, the solenoid valve immediately disconnects the automatic pilot from the rudder. The actuator has a small translucent oil reservoir, making it easy to check fluid levels. These actuators have only five moving parts. Mechanical simplicity gives our product reliability and ease of service when compared to complicated gear and screw actuators, making our units a favorite of offshore mariners. These actuators are shipped from our factory completely filled with oil and require no additional plumbing.

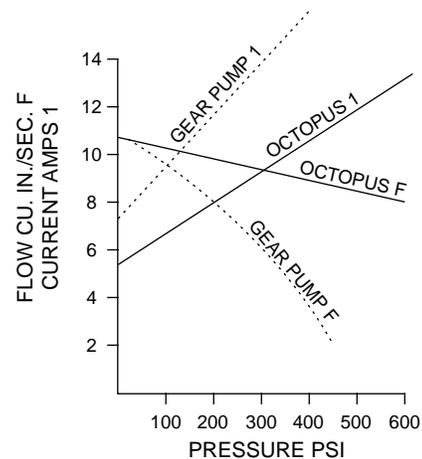
SPECIFICATIONS AND DIMENSIONS



MODEL NUMBER	STROKE MM	THRUST Kg	STROKE TIME/SEC	DIMENSION MM			VESSEL APPLICATION
				A	B	C	
1012LAM7	175	400	8	150	500	160	Up to 45ft
1212LAM12	300	400	14	250	711	292	Up to 60 ft
1012LAR7	175	400	8	150	500	160	Up to 45ft
1212LAR12	300	400	14	250	711	292	Up to 60 ft
2012LAR12	300	600	16	250	720	310	Over 60 ft

EFFICIENCY

An important consideration when choosing a hydraulic actuator for use in a sailing vessel is the efficiency of the pump unit. Tests show that the patented piston pump unit used in the Octopus Linear Actuator is three times more efficient than the gear pump used by a leading competitor. An Octopus Linear Actuator can be expected to steer a vessel more than twice as far on the same battery charge as the competitive unit. The graph shows actual test performance of an Octopus Pump compared with an inefficient gear unit.



ORDERING INFORMATION AND ACCESSORIES

Order a unit using the Octopus model number shown above. To order an actuator with the pump separate from the cylinder substitute the letter 'R' for 'M' in the model number.

For larger yachts see product information sheet on Model CRA02LAR12. This system comprises of a Continuous Running Pumpset and a heavy duty actuator.