

## HD Series Cylinders

This range of cylinders are designed and constructed exclusively for use on boat steering equipment, and are made from the finest marine-grade materials available. They feature 316 stainless steel piston rods (not hard-chromed), high tensile bronze and brass end-caps and mounting brackets, and fully articulated attachments for the most durable performance.

The HD150, 175, 200 and 250 model cylinders are supplied with a spherical rod-end for attachment to the tiller arm and include a heavy duty stainless steel pin and nut set. The unique rod-end is made entirely from bronze and stainless steel, greased through the centre for maximum wear protection, and is fully wear adjustable. The huge HD400 cylinders are supplied with an all-stainless steel spherical rod end with in-built lubrication.

The perfect match for the HD Series helm units, HyDrive cylinders are available in a range of sizes and strokes to cater to a wide range of rudder torque capacities for all types of vessels, power or sail, leisure or commercial.



**CYLINDER CAPACITY, TILLER LENGTH and TORQUES**

**HELM TURNS HO/HO FOR VARIOUS CYLINDERS**

Cylinder Model	Stroke inches	Tiller inches	Torque KgM	Volume cc's	Helm 103	Helm 104	Helm 105	Helm 106	Helm 107
150-9	9	8.0	107	172	4.9	4.0	2.0	1.4	1.0
150-9 x 2	9	8.0	215	344	10	8	4	3	2
150-12	12	10.7	143	229	6.5	5.3	2.7	1.8	1.4
150-12 x 2	12	10.7	286	458	13	11	5	4	3
175-10	10	8.9	185	296	8.4	6.9	3.4	2.4	1.8
175-10 x 2	10	8.9	369	591	17	14	7	5	4
175-12	12	10.7	221	355	10.1	8.2	4.1	2.8	2.1
175-12 x 2	12	10.7	443	709	20	16	8	6	4
200-12	12	10.7	289	463	13.2	10.8	5.4	3.7	2.8
200-12 x 2	12	10.7	578	927	26	22	11	7	6
200-15	15	13.4	362	579	16.5	13.5	6.7	4.6	3.5
200-15 x 2	15	13.4	723	1158	33	27	13	9	7
250-12	12	10.7	506	811	23.2	18.9	9.4	6.5	4.9
250-12 x 2	12	10.7	1012	1622	46	38	19	13	10
250-15	15	13.4	633	1014	29.0	23.6	11.8	8.1	6.1
250-15 x 2	15	13.4	1265	2027	58	47	24	16	12
400-12	12	10.7	1326	2124	60.7	49.4	24.7	17.0	12.9
400-12 x 2	12	10.7	2651	4247	121	99	49	34	26