

Grand Prix Hydraulic Cylinders

Harken cylinders outlast and outperform in distance and buoy racing—after hundreds of thousands of cycles in the lab, they proved themselves on world champion TP52s and winning Grand Prix yachts. Our cylinders stand up to constant high-stress racing and harsh marine environments. Their efficiency, longevity, and reliability are evident in high-quality selection of materials and components.



USES

Harken offers a full range of cylinders for mast, sail, and keel controls.

FEATURES

Graphite-filled Teflon[®] rod seals and bronze-filled Teflon[®] piston seals are extremely low friction and will last longer than polyurethane seals.

Performance O-rings and slant springs in the nonabsorbent Teflon[®] seals maintain a consistent and reliable fit over time.

Smooth anti-snap clevis pins protect rigging and crew.

MATERIALS

Cylinders are available in titanium or Hardkote-anodized, Teflon[®]-impregnated 7075-T6 aluminum.

Rods and pins are made with titanium or Nitronic 50.

OPTIONS

Cylinders include standard clevises (jaws) on both ends but can also be fitted with blocks and different eye types.

Custom mounting hardware such as trunnions and spherical heads are available.

MAINTENANCE

Regularly inspect visible components for material imperfections. The high pressures and exotic materials used in racing hydraulics require service on at least an annual basis. Some components may require more frequent replacement compared to those in less stressful applications. All service and installation should be done by a certified hydraulic technician. Replacement seals are available worldwide.



High-performance O-ring and spring-energized seals



Rods can be fitted with a variety of high-quality Harken end controls

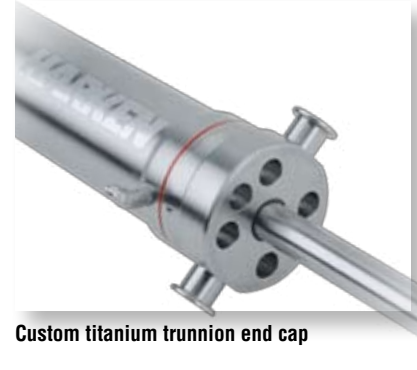
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The table below lists common Grand Prix cylinder configurations. Contact Harken for weights and volumes, as these depend on your specifications for materials, pull force, stroke length, and cylinder diameter. 10,000 psi cylinders are available upon request.

Grand Prix cylinders are only intended for systems with a vigorous maintenance schedule, as they are built for extremely high loads at a minimal weight.



Custom headstay cylinder with spherical mount



Custom titanium trunnion end cap



Jaws are standard but eye ends can be special ordered

Custom material combinations available

Part No.*	Cylinder housing material	Gap/pin		Diameter		Rod		Pull force			
		in	mm	in	mm	in	mm	@ 5000 psi 345 bar		@ 7500 psi 520 bar	
								lb	kg	lb	kg
HYCS7198xxx	7075-T6 aluminum	5/16	7.9	3/4	19	5/16	8	1824	827	2736	1241
HYCST198xxx	titanium	5/16	7.9	3/4	19	5/16	8	1824	827	2736	1241
HYCS72510xxx	7075-T6 aluminum	3/8	9.5	1	25	3/8	10	3375	1531	5062	2296
HYCST2510xxx	titanium	3/8	9.5	1	25	3/8	10	3375	1531	5062	2296
HYCS73211xxx	7075-T6 aluminum	7/16	11.1	1 1/4	32	7/16	11	5384	2442	8076	3663
HYCST3211xxx	titanium	7/16	11.1	1 1/4	32	7/16	11	5384	2442	8076	3663
HYCS73513xxx	7075-T6 aluminum	1/2	12.7	1 3/8	35	1/2	13	6443	2922	9664	4384
HYCST3513xxx	titanium	1/2	12.7	1 3/8	35	1/2	13	6443	2922	9664	4384
HYCS74013xxx	7075-T6 aluminum	1/2	12.7	1 1/2	40	1/2	13	7854	3563	11781	5344
HYCST4013xxx	titanium	1/2	12.7	1 1/2	40	1/2	13	7854	3563	11781	5344
HYCS74514xxx	7075-T6 aluminum	5/8	15.9	1 3/4	45	9/16	14	10784	4891	16176	7337
HYCST4514xxx	titanium	5/8	15.9	1 3/4	45	9/16	14	10784	4891	16176	7337
HYCS75016xxx	7075-T6 aluminum	5/8	15.9	2	50	5/8	16	14174	6429	21261	9644
HYCST5016xxx	titanium	5/8	15.9	2	50	5/8	16	14174	6429	21261	9644
HYCS75518xxx	7075-T6 aluminum	3/4	19.1	2 1/8	55	11/16	18	15877	7202	23815	10802
HYCST5518xxx	titanium	3/4	19.1	2 1/8	55	11/16	18	15877	7202	23815	10802
HYCS76521xxx	7075-T6 aluminum	7/8	22.2	2 1/2	65	13/16	21	21951	9957	32927	14935
HYCST6521xxx	titanium	7/8	22.2	2 1/2	65	13/16	21	21951	9957	32927	14935
HYCS77525xxx	7075-T6 aluminum	1	25.4	3	75	1	25	31416	14250	47124	21375
HYCST7525xxx	titanium	1	25.4	3	75	1	25	31416	14250	47124	21375
HYCS78029xxx	7075-T6 aluminum	1 1/4	31.8	3 3/8	80	1 1/8	29	33379	15141	50069	22711
HYCST8029xxx	titanium	1 1/4	31.8	3 3/8	80	1 1/8	29	33379	15141	50069	22711
HYCS79035xxx	7075-T6 aluminum	1 3/8	34.9	3 1/2	90	1 3/8	35	40681	18453	61022	27679
HYCST9035xxx	titanium	1 3/8	34.9	3 1/2	90	1 3/8	35	40681	18453	61022	27679
HYCS710038xxx	7075-T6 aluminum	1 1/2	38.1	4	100	1 1/2	38	53996	24492	80994	36738
HYCST10038xxx	titanium	1 1/2	38.1	4	100	1 1/2	38	53996	24492	80994	36738

*When ordering, replace xxx with desired stroke length in millimeters.