



HyDrive

HYDRAULIC BOAT STEERING

Commander Series



PERFORMANCE

RELIABILITY

QUALITY

Commander Series

FOR OUTBOARDS

The new Commander Series 500 and 501 helm unit combines the elements of great performance and economic design, consolidating HyDrive Engineering's position as a world-leader in hydraulic boat steering. Two years of design, development and testing have resulted in these helms being selected as the standard helm supplied in the all-new Commander Series kits for outboards and inboards which also feature the new 510, 511 and 512 series cylinders.

The new 511BH cylinder features a radical new design, which not only provides a competitive price, it also includes the most comprehensive range of protection measures against the effects of corrosion and electrolysis in an aluminium cylinder.

The new 516FM cylinder utilises the same materials and technology to provide a powerful front-mount cylinder which offers a highly competitive price, but with superior quality and performance to other alternatives.

The Commander Series is designed to offer a budget range of hydraulic steering to leisure boat users without sacrificing quality and performance. The new range is designed for use on smaller horsepower outboards and also inboards and jets.

For larger outboard applications, you should either select the PRO version of the kit which upgrades the helm units to the model 401 or 101, or choose the Admiral Series model which best suits the motor. *See separate brochure on the Admiral Series which features chrome plated marine brass, bronze and stainless steel cylinders for outboards - giving the maximum corrosion resistance and strength of any outboard steering system on the market.*

The new Commander Series comes with the standard 2 year warranty for leisure use.

Separate Data Sheets are available on request for each kit.

TYPICAL KIT

Each kit includes the following:-

- Model 500 or 501 Helm unit
- 2 litres Ultra-15 hydraulic fluid
- 15 metres high-pressure nylon hydraulic tubing
- The cylinder type of your choice
- All fittings to suit
- Bleeding kit
- All instructions



Manufactured in Australia by
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For High Horsepower and the optimum in power, strength and performance - see the Admiral Series of outboard steering kits such as the **OBKIT-1** and **OBKIT-1-XT** for extreme applications

NON-FEEDBACK

Commander Series Helms

Take control of your boat with a new HyDrive Commander Series hydraulic steering system.

Hydrive, Australia's largest selling hydraulic steering for small boats, offers the finest in smooth, powerful steering manufactured in Australia using the highest quality materials.

It doesn't matter whether you have a small boat with a small outboard, or a larger craft with multiple large HP outboards, there is a HyDrive system to suit. Everything you need to handle virtually any boat using outboards, inboards, sterndrives or jet units from 4-15 metres - delivered in a single carton.

COMMANDER SERIES

The *Commander Series* features the use of the model 500 (20cc/rev) 501 (28cc/rev) Helm unit combined with a series of cylinders to suit a boat's requirements. This unique 7-piston pump has a highly efficient combination of features designed to provide maximum performance and longevity for leisure boat users. It is not designed for commercial users or for very large HP outboards.

COMMANDER-PRO SERIES

The *Pro Series* features the model 400 (20cc/rev) 401 (28cc/rev) and 402 (35cc/rev) helm units. These helms feature high performance bearings and components designed for use in commercial and high HP applications where optimum performance is required.

Why fit HyDrive?

The unique, saltwater resistant design and precision manufacturing offer the most corrosion resistant steering cylinders on the market, resulting in greater product longevity in the harsh marine environments of the world.

Designed as a complete Do-It-Yourself installation, everything you need is supplied including detailed step-by-step instructions.



Model 500 & 501 Helm unit



Model 400, 401 & 402
Pro Series Helm unit

COMMANDER HELM OPTIONS

Commander Series Helms

FEATURES:

Compact front-mount design

Unique high-tech composite alloy body for total corrosion resistance

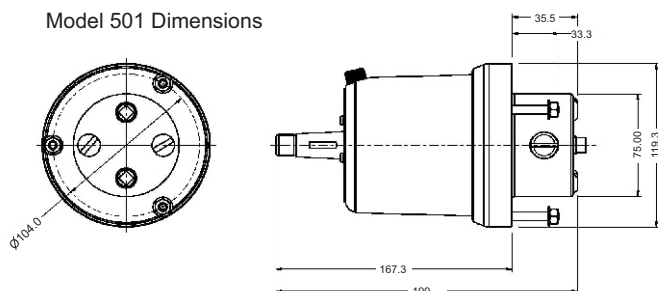
In-built lock valve prevents torque feedback - the wheel stays where you put it.

Field replaceable shaft seal

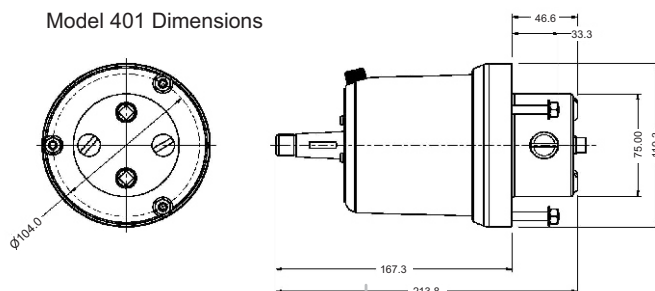
Rear-mount kit available

Wedge kit available

Model 501 Dimensions



Model 401 Dimensions



Front-mount Cylinders

BULL-HORN STYLE



512BH Bullhorn Cylinder

UP TO 150HP

For single outboard motors up to 150HP, the 512BH is an ideal choice for leisure boats - offering the advantage of full hydraulic control of your boat at an economical price. Installation is simple, performance is great and handling is direct with only 3 turns HO/HO. The 512BH cylinder comes in kit form with all necessary fittings including high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 500 helm unit and detailed instructions.

COMKIT-6 - supplied with 500 Helm unit - or **COMKIT-6-PRO** supplied with 400 Helm unit for commercial use. *Check the model selection chart for confirmation of the correct version to suit your particular motor.*



511BH Bullhorn Cylinder

UP TO 200HP

For larger outboard motors up to single 200HP, or twin motors up to 400HP total (counter-rotating), the 511BH is an ideal choice for leisure boats - powerful steering control and great value. Installation is simple and performance is impressive compared to conventional cable steering. The 511BH cylinder comes in kit form with all necessary fittings - including high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 501 helm unit and detailed instructions.

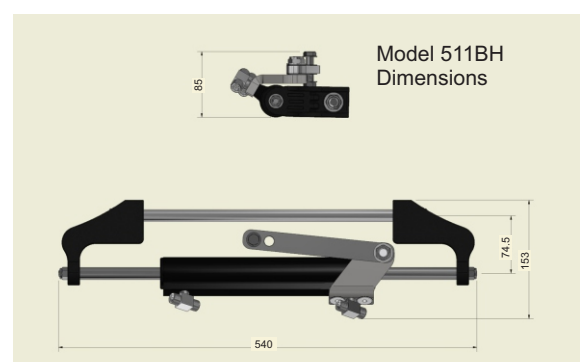
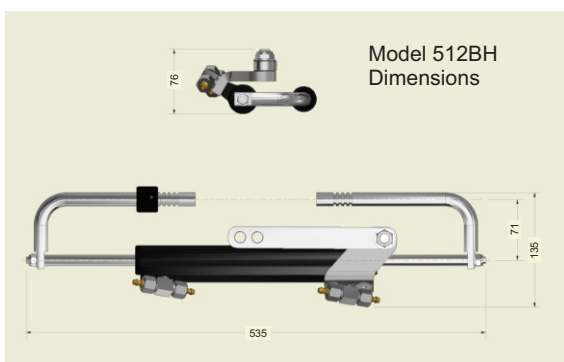
COMKIT-1 - supplied with 501 Helm unit for pleasure use only. *Check the model selection chart for confirmation of the correct version to suit your particular motor.*

PRO SERIES OPTION

For Larger Outboards or Commercial use

COMKIT-1-PRO supplied with model 401 Helm unit for commercial use and for larger HP outboards up to single 300HP or twin motors up to 600HP total (counter-rotating). *Check the model selection chart for confirmation of the correct version to suit your particular motor.*

UP TO 300HP



FOR OUTBOARDS

NON-FEEDBACK

Front-mount Cylinders



516FM Front-Mount Cylinder

UP TO 200HP

The 516FM is designed for installation directly onto most V4 and V6 outboards and mounts to the front of the motor using 4 small bolts. Attaches to the outboard motor's tiller arm using the motor's existing drag-link.

The cylinder requires more room than the bullhorn style cylinder, however the hoses remain stationary making it an ideal choice for wider engine wells. Installation is simple and performance is impressive when compared with conventional cable steering.

The 516FM cylinder comes in kit form with all necessary fittings including 15 metres high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 501 helm unit and detailed instructions.

COMKIT-5 - supplied with 501 Helm unit for leisure use.

PRO SERIES OPTION For Commercial use

Side-mount Cylinders



512T Side-Mount Cylinder

UP TO 135HP

The 512T is designed for installation directly onto the tilt-tube of the outboard motor in the same way as conventional cable steering. Attaches to the outboard motor's tiller arm using the motor's existing drag-link. Suitable for use on a single outboard up to 135HP or twin motors (counter-rotating) up to 250HP total.

The cylinder requires sufficient side clearance to fit, however the hoses remain stationary which makes it an ideal choice for many small boats. Installation is simple and performance is impressive when compared with conventional cable steering.

The 512T cylinder comes in kit form with all necessary fittings including high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 500 helm unit and detailed instructions.

COMKIT-SPORT - supplied with 500 Helm unit for leisure use.

PRO SERIES OPTION For Commercial use

UP TO 175HP

COMKIT-SPORT-PRO supplied with 400 Helm unit for commercial use and up to single 175HP or twin (counter-rotating) up to 300HP total.

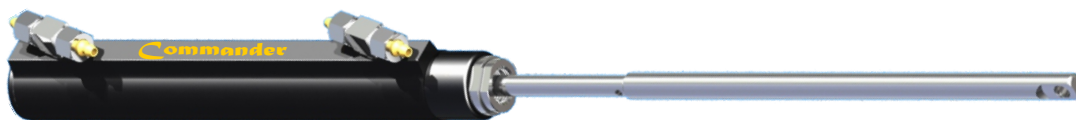
Note: **COMKIT-SPORT** system can be used to control power steering on stern-drives and connects very simply to the same bracket as a conventional cable steering unit. The use of this system allows the easy fitting and operation of an autopilot as well as providing superior control of the original power steering system.

FOR OUTBOARDS

FOR OUTBOARDS & STERN-DRIVES WITH POWER STEERING

NON-FEEDBACK

Side-mount Cylinders



UP TO 200HP

510T Side-Mount Cylinder

The 510T is designed for installation directly onto the tilt-tube of the outboard motor in the same way as conventional cable steering. Attach to the outboard motor's tiller arm using the motor's existing drag-link. Suitable for use on a single outboard up to 200HP or twin motors (counter-rotating) up to 400HP total.

The cylinder requires sufficient side clearance to fit, however the hoses remain stationary which makes it an ideal choice for many small boats. Installation is simple and performance is impressive when compared with conventional cable steering.

The 510T cylinder comes in kit form with all necessary fittings including high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 501 helm unit and detailed instructions.

COMKIT-2 - Balanced cylinder - supplied with 501 Helm unit for leisure use.

COMKIT-3 - Single-ended (unbalanced) cylinder - supplied with 501 Helm unit for leisure use.

PRO SERIES OPTION For Larger Outboards or Commercial use UP TO 300HP

COMKIT-2-PRO - Balanced cylinder - supplied with 401 Helm unit for commercial use and for larger HP outboards up to single 300HP or twin (counter-rotating) up to 600HP total.

COMKIT-3-PRO - Single-ended (unbalanced) cylinder - supplied with 401 Helm unit for commercial use and for larger HP outboards up to single 300HP or twin (counter-rotating) up to 600HP total.

Centre-mount Cylinders



UP TO 200HP

510DE Double-Ended Centre-Mount Cylinder

The 510DE is designed for installation between two outboards, and connected by means of two drag-links to the two outboards' tiller arms. The most common position for mounting is under swim platforms, marlin boards or onto the transom. A popular means of hydraulically steering outboard powered catamarans, and relies on the installer to tailor two suitable drag-links or tie-bars to complete the installation.

The 510DE cylinder comes in kit form with all necessary fittings including high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 501 helm unit and detailed instructions.

COMKIT-4 - supplied with 501 Helm unit for leisure use.

PRO SERIES OPTION For Larger Outboards or Commercial use UP TO 300HP

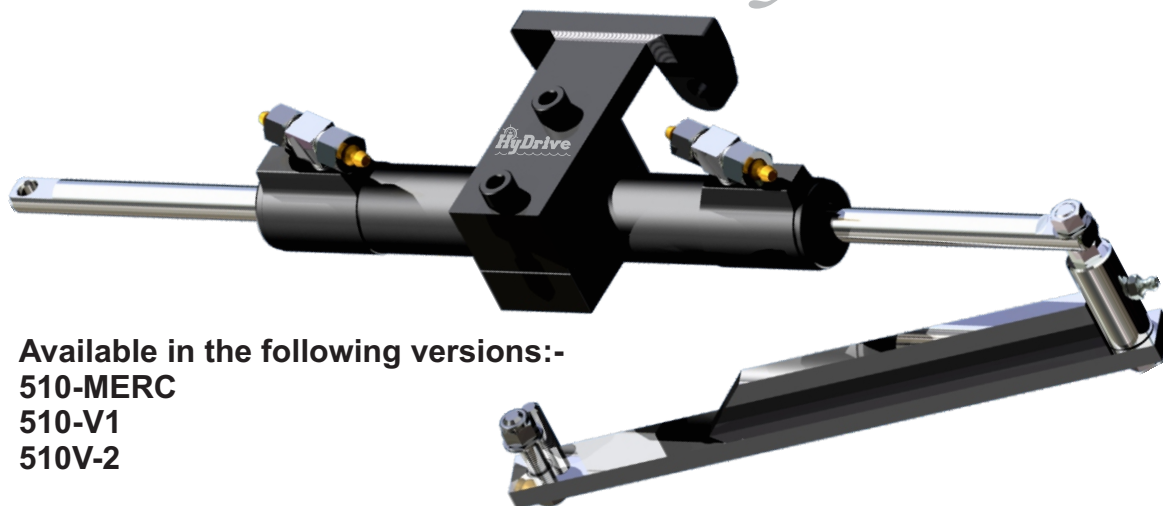
COMKIT-4-PRO - supplied with 401 Helm unit for commercial use and for larger HP outboards up to single 300HP or twin (counter-rotating) up to 600HP total.

FOR OUTBOARDS

NON-FEEDBACK

HyDrive

Stern-Drive Cylinders



Available in the following versions:-

510-MERC

510-V1

510V-2

510- Stern-Drive Cylinders

The new 510 Series cylinder range now includes a stern-drive version to suit both Mercruiser and Volvo stern-drive legs, mounting directly to the transom-shield and keeping the cylinder foot-print to a minimum. Where room is available, standard side-mount cylinders are recommended.

The 510 Stern-drive cylinders come complete with mounting bracket, stainless steel drag link and fittings (except the 510-V1 which uses the standard Volvo drag-link). Stern-drive models are only sold as **PRO** versions due to the higher torque requirements on most stern-drive models - regardless of HP.

COMKIT-MERC-PRO - supplied with the **510-MERC** cylinder

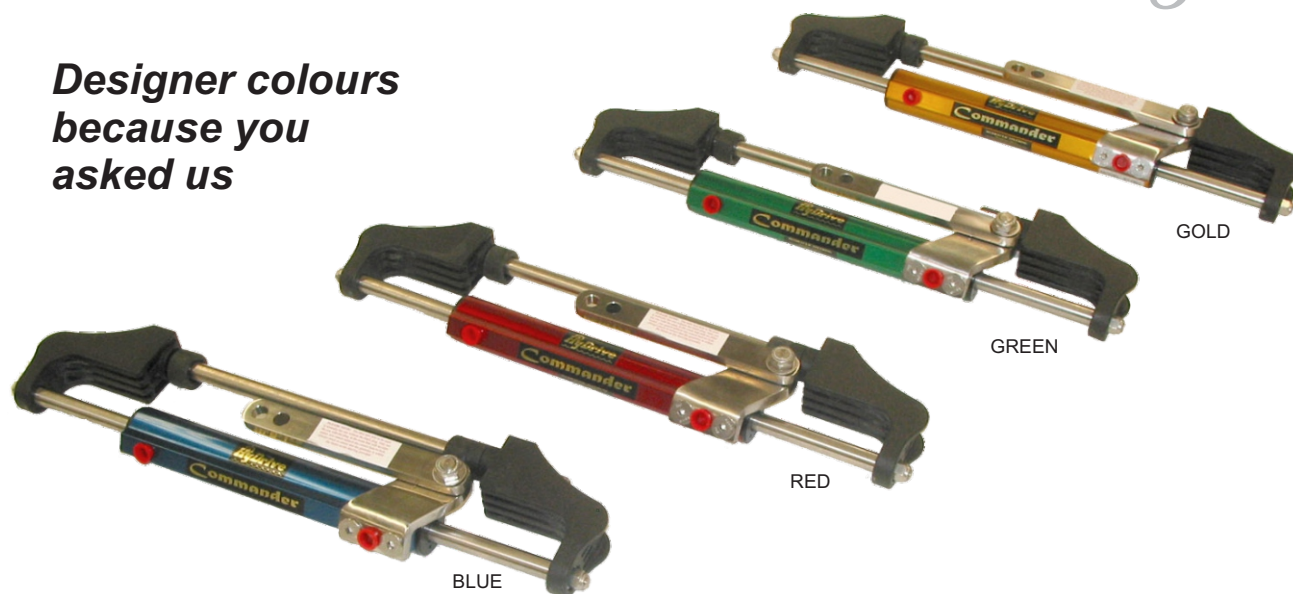
COMKIT-V-PRO-1 -supplied with the **510-V1** cylinder This model suits Volvo **DPS & SX** legs.

COMKIT-V-PRO-2 -supplied with the **510-V2** cylinder This model suits Volvo **DPD & DPE** legs

These kits come complete with cylinders listed and with all necessary fittings, high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 401 helm unit and detailed instructions.

Commander Series Colour range

**Designer colours
because you
asked us**



In response to our customers' requests, HyDrive has introduced a limited range of four designer colours for the Commander Series models **511BH** and **516FM** cylinders. A small colour surcharge applies to the standard price of each model. The new colour series is an ideal option for customers who want to match the gel-coat colour of their boats. To order simply place the colour immediately after the standard part number. e.g. **511BHN8-BLUE** etc.

FOR STERN-DRIVES

NON-FEEDBACK

HyDrive

Inboard & Jet Cylinders



212- Inboard cylinders RUDDER TORQUE TO 30KgM

For small in-board powered boats with rudders, the model 212 inboard cylinder is an ideal choice for rudder torques up to 30KgM. Installation is simple, performance is great and handling is direct with only 3 turns HO/HO. The 212 cylinder comes in kit form with all necessary fittings including high pressure nylon hydraulic hose, 2 litres of Ultra-15 fluid, model 501 helm unit and detailed instructions.

COMKIT-IB1 - for leisure use - supplied with 501 Helm unit - or **COMKIT-IB1-PRO** supplied with 400 Helm unit for commercial use.



212-JET- Jet-Drive cylinders

For small Jet-powered boats, the model 212-JET cylinder is an ideal choice. Small 4" (100mm) stroke and small footprint makes installation simple. Performance is great and handling is direct with only 1.7 turns HO/HO. The 212-JET cylinder comes in kit form with all necessary fittings including high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 501 helm unit and detailed instructions.

COMKIT-JET - for leisure use - supplied with 501 Helm unit - or **COMKIT-JET-PRO** supplied with 401 Helm unit for commercial use.



510- Inboard cylinders RUDDER TORQUE TO 70KgM

For small to medium in-board powered boats with rudders, the model 510 inboard cylinder is an ideal choice for rudder torques up to 70KgM. Installation is simple, performance is great and handling is direct with only 5.4 turns HO/HO. The 510 cylinder comes in kit form with all necessary fittings including high pressure nylon hydraulic tubing, 2 litres of Ultra-15 fluid, model 501 helm unit and detailed instructions.

COMKIT-IB1 - supplied with 501 Helm unit - or **COMKIT-IB1-PRO** supplied with 401 Helm unit for commercial use and increased rudder torque of 85KgM.

DUAL STATIONS and AUTOPILOTS

You can fit dual stations to any of the steering kit combinations with the addition of one extra helm unit and a dual-station fitting-kit. Each helm unit is fitted with internal lock valves and is ready to accept either a second station or an autopilot pump unit.

FOR INBOARDS

NON-FEEDBACK

HyDrive

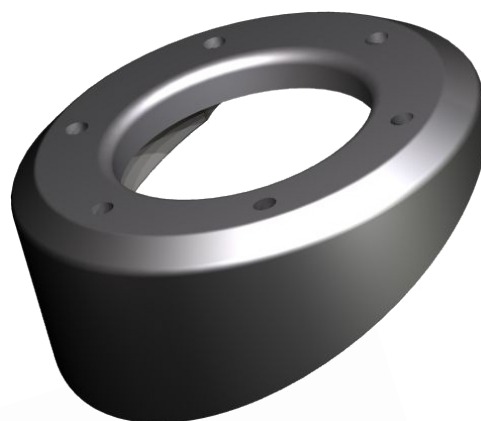
Accessories



REAR-MOUNT KIT

The **REAR-MOUNT KIT** fits any model 401, 402 or 501 helm unit and is adjustable from low-profile to full protrusion for maximum flexibility in helm placement. Simply trim the spacers and studs to adjust the amount of protrusion into the helm position. The front dash or console ring is fully O-ring sealed against pump body to prevent water ingress to the rear of the console. Easy to fit, easy to adjust and looks great.

20 DEGREE WEDGE



The **WEDGE-401** 20-degree wedge kit is designed for mounting from fully horizontal to fully vertical installations and fits any standard model 401, 402 and 501 helm unit.

DO-IT-YOURSELF TIE-BAR KITS



- 1:-Stainless outer tube
- 2:- Stainless threaded rod
- 3:- Locking sleeves
- 4:- Rod-ends
- 5:- Tiller bolts (not shown)

The HyDrive UNITIEBAR is available for tie-bars up to maximum of 700mm between centres and up to twin 175HP outboards. For larger HP outboards - ask for a data sheet on our HD tie-bar kits.

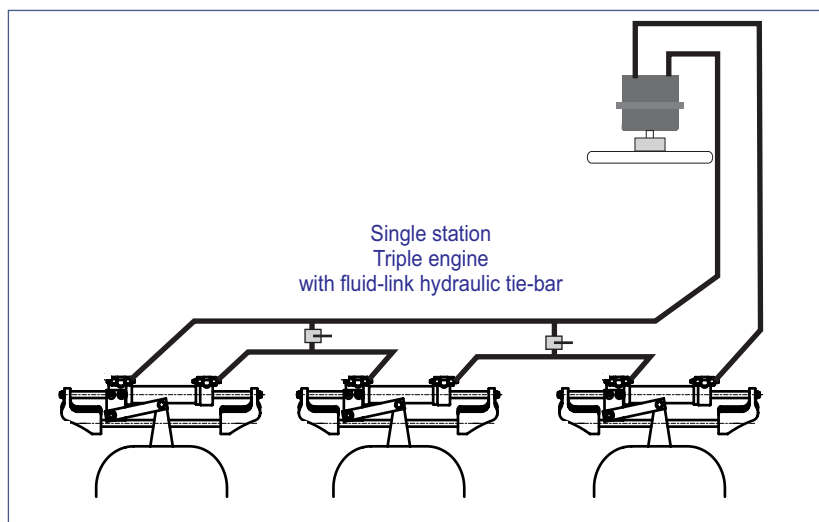
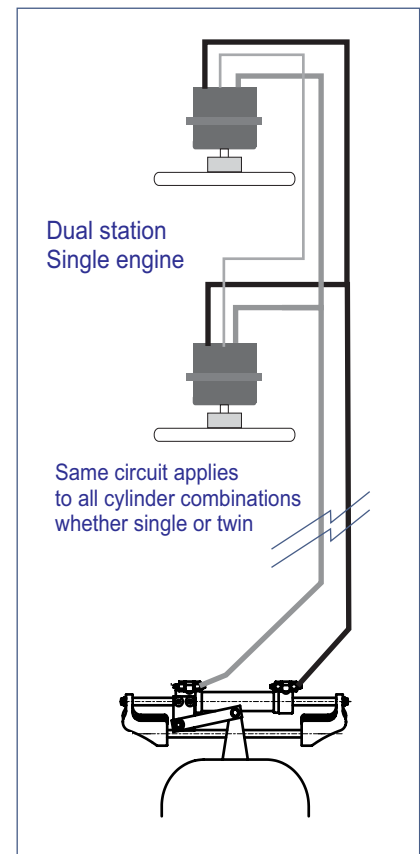
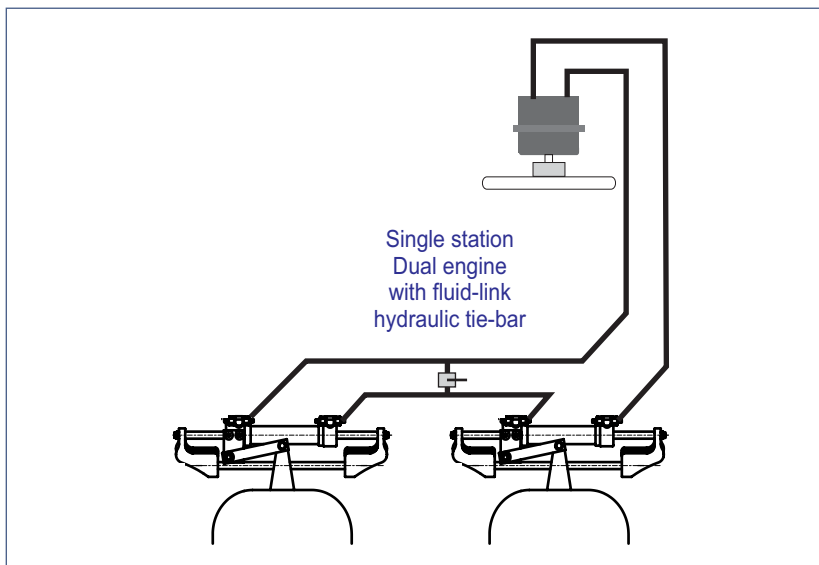
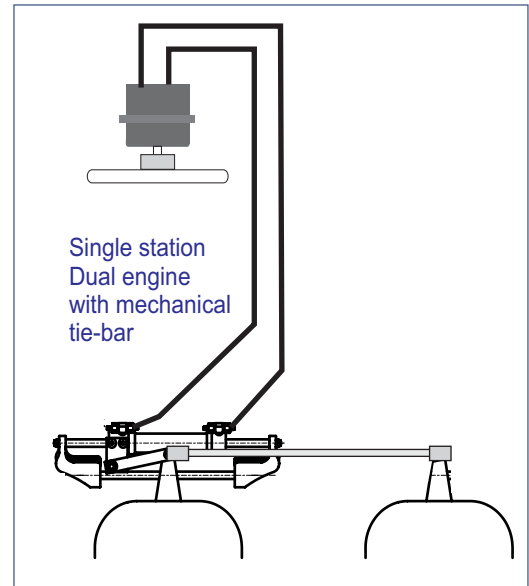
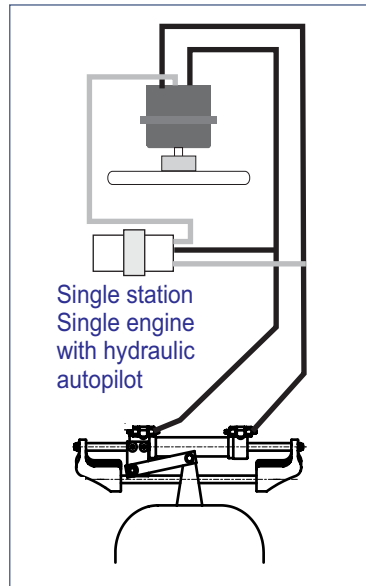
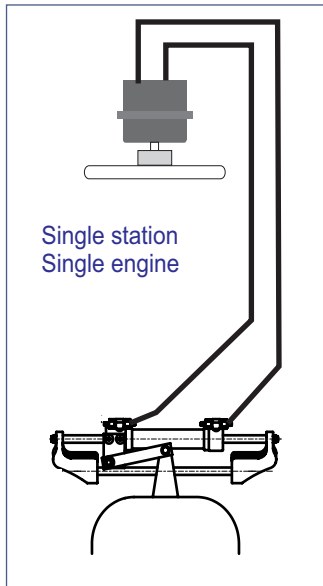
FOR HELM UNITS

Some System Options

Typical steering circuits for outboard motors

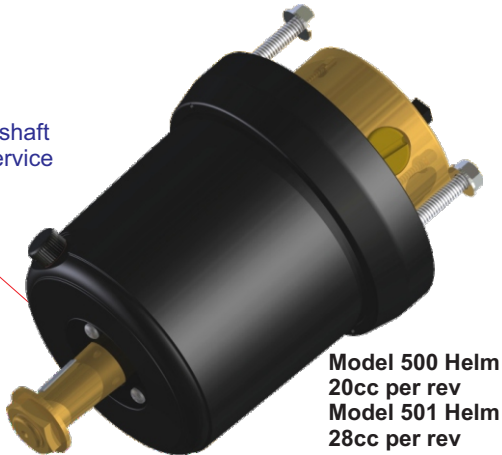
Bullhorn type cylinders pictured but same circuits can be used on all cylinder types

FOR OUTBOARDS

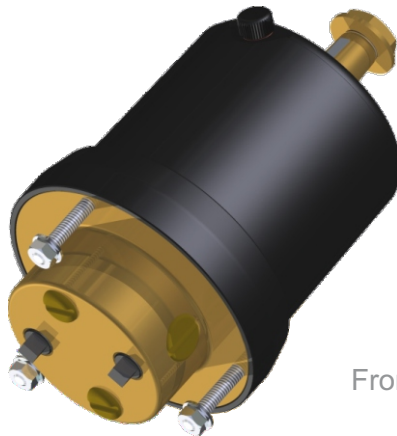


Product Features

Field-replaceable shaft seal for ease of service



Model 500 Helm
20cc per rev
Model 501 Helm
28cc per rev



Sleek new shape to match modern console designs

Front-mount design for maximum appeal

Hi-Tech composite alloy housing material which is stronger than aluminium and totally corrosion resistant for maximum exposure to the elements

Cadmium plated wheel nut and washer
High tensile anodised Aluminium steering shaft
Anti-splash filler cap for rough conditions
Unique assembly design for ease of service and maximum performance
Stainless steel studs, nuts & washers pre-fitted for convenience
Highly efficient non-return valves for non feedback of helm unit - eliminates all torque from the steering cylinder

FOR HELM UNITS



Bull-horn style mounting

Model 511BH

Totally new cylinder barrel construction offering increased strength and compact design
Anodised high tensile aluminium for performance and protection

New design polished stainless steel mounting plate and tiller arm - high strength and good looks

Unique design for maximum electrical protection against electrolysis in harsh environments

Precision ground and polished 316 stainless steel piston rods for maximum service life. This is not chrome-plated lower-grade stainless which can flake and damage seals.

FOR CYLINDERS



Front-Mount style

Model 516FM

Totally new cylinder barrel construction offering increased strength and compact design

Anodised high tensile aluminium for performance and protection

Precision ground and polished 316 stainless steel piston rods for maximum service life. This is not chrome-plated lower-grade stainless which can flake and damage seals

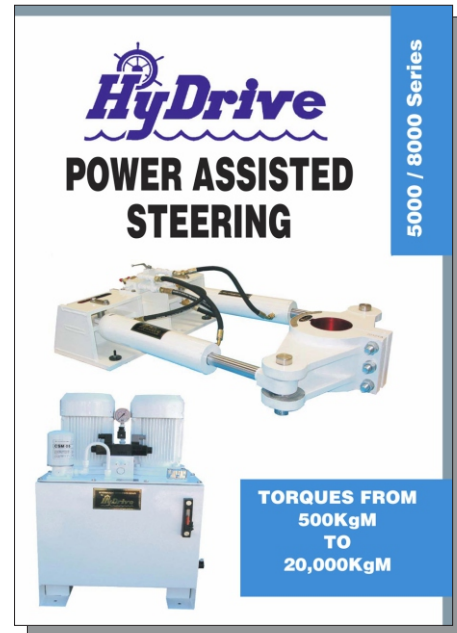
HyDrive

More HyDrive Steering

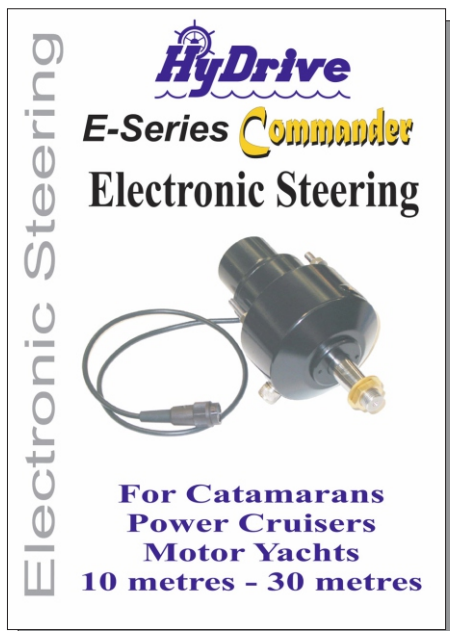
Request a catalogue for the range of HyDrive steering systems available for larger vessels



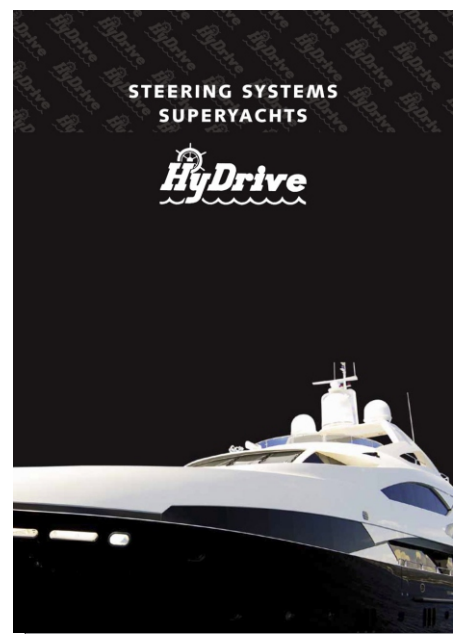
HyDrive's Admiral Series manual hydraulic steering for small to medium boats, including the HD Series for sail boats, fishing boats, large leisure cruisers and commercial craft.



HyDrive's range of Power-Assisted and Electro-hydraulic power steering equipment for larger vessels from 20 metres to 200 metres.



HyDrive's Commander Series Electronic Steering for simple upgrading of existing power steering systems or supplied complete for new vessels.



HyDrive's E-Series fully integrated electronic steering designed for fly-by-wire steering for all types of leisure and commercial vessels.

For Data sheets, brochures or further information on any of our range of steering, contact your HyDrive distributor.

HyDrive
www.hydrive.com.au